From: Jeffrey Delapena
To: "Tim Trohimovich"; Cnty 2025 Comp Plan
Cc: Brooke Frickleton; Oliver Orjiako; Jose Alvarez
Subject: RE: Comments on Comp Plan Update
Date: Thursday, July 30, 2026 1:08:00 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image007.png

Good day, Tim,

Thank you for providing Futurewise's feedback and enclosures related to tonight's Planning Commission Work Session regarding the Comprehensive Plan Chapter and Appendices Review.

I am forwarding to additional members of Staff. Your comments will be brought to the attention of the Planning Commission ahead of tonight's meeting. This will also be added to the Index of Record.

Best,

Jeff Delapena
Program Assistant
COMMUNITY PLANNING

564.397.4558

NOTICE OF PUBLIC DISCLOSURE: This e-mail account is public domain. Any correspondence from or to this e-mail account may be a public record. Accordingly, this email, in whole or in part may be subject to disclosure pursuant to RCW 42.56, regardless of any claim of confidentiality or privilege asserted by an external party.

From: Tim Trohimovich <Tim@futurewise.org>
Sent: Thursday, July 30, 2026 12:32 PM
To: Cnty 2025 Comp Plan <comp.plan@clark.wa.gov>; Jeffrey Delapena <Jeffrey.Delapena@clark.wa.gov>
Cc: Brooke Frickleton <brooke@futurewise.org>
Subject: Re: Comments on Comp Plan Update

EXTERNAL: This email originated from outside of Clark County. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Here is the sixth and final set.

Again, thanks for considering our comments.

Tim Trohimovich, AICP
Director of Planning & Law
Futurewise
1201 3rd Ave #2200, Seattle, WA 98101
(206) 343-0681
tim@futurewise.org

From: Tim Trohimovich <Tim@futurewise.org>
Sent: Thursday, July 30, 2026 12:30 PM
To: Cnty 2025 Comp Plan <comp.plan@clark.wa.gov>; Jeffrey Delapena <jeffrey.delapena@clark.wa.gov>
Cc: Brooke Frickleton <brooke@futurewise.org>
Subject: Re: Comments on Comp Plan Update

Here is the fifth.

Tim Trohimovich, AICP

Director of Planning & Law

Futurewise

1201 3rd Ave #2200, Seattle, WA 98101

(206) 343-0681

tim@futurewise.org

From: Tim Trohimovich <Tim@futurewise.org>

Sent: Thursday, July 30, 2026 12:29 PM
To: Cnty 2025 Comp Plan <comp.plan@clark.wa.gov>; Jeffrey Delapena <jeffrey.delapena@clark.wa.gov>
Cc: Brooke Frickleton <brooke@futurewise.org>
Subject: Re: Comments on Comp Plan Update

Here is the fourth.

Tim Trohimovich, AICP

Director of Planning & Law

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1201 3rd Ave #2200, Seattle, WA 98101

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tim@futurewise.org

From: Tim Trohimovich <Tim@futurewise.org>
Sent: Thursday, July 30, 2026 12:28 PM
To: Cnty 2025 Comp Plan <comp.plan@clark.wa.gov>; Jeffrey Delapena <jeffrey.delapena@clark.wa.gov>
Cc: Brooke Frickleton <brooke@futurewise.org>
Subject: Re: Comments on Comp Plan Update

Here is the third.

Tim Trohimovich, AICP

Director of Planning & Law

Futurewise

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(206) 343-0681

tim@futurewise.org

From: Tim Trohimovich <Tim@futurewise.org>
Sent: Thursday, July 30, 2026 12:27 PM
To: Cnty 2025 Comp Plan <comp.plan@clark.wa.gov>; Jeffrey Delapena <jeffrey.delapena@clark.wa.gov>
Cc: Brooke Frickleton <brooke@futurewise.org>
Subject: Re: Comments on Comp Plan Update

Here is the second set of documents.

Tim Trohimovich, AICP

Director of Planning & Law

Futurewise

1201 3rd Ave #2200, Seattle, WA 98101

(206) 343-0681

tim@futurewise.org

From: Tim Trohimovich <Tim@futurewise.org>
Sent: Thursday, July 30, 2026 12:22 PM
To: Cnty 2025 Comp Plan <comp.plan@clark.wa.gov>; Jeffrey Delapena <jeffrey.delapena@clark.wa.gov>
Cc: Brooke Frickleton <brooke@futurewise.org>
Subject: Re: Comments on Comp Plan Update

Hi:

Here is the first supporting document sent as enclosures.

Tim Trohimovich, AICP
Director of Planning & Law
Futurewise
1201 3rd Ave #2200, Seattle, WA 98101
(206) 343-0681

tim@futurewise.org

From: Tim Trohimovich <Tim@futurewise.org>
Sent: Thursday, July 30, 2026 12:20 PM
To: Cnty 2025 Comp Plan <comp.plan@clark.wa.gov>; Jeffrey Delapena <jeffrey.delapena@clark.wa.gov>
Cc: Brooke Frickleton <brooke@futurewise.org>
Subject: Comments on Comp Plan Update

Dear Staff and Planning Commissioners:

Enclosed please find Futuirewise's comments on Chapter 1 Land Use Element, Chapter 2 Housing Element, Appendix I Climate Element Resource Documents, and Appendix K-Density Targets of the Clark County Comprehensive Plan Update. We will be enclosing selected documents in separate emails.

Thank you for considering our comments. If you require additional information, please contact me.

Tim Trohimovich, AICP (he/him)
Director of Planning & Law

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futurewise.org

July 30, 2026

Karl Johnson, Chair
Clark County Planning Commission
Clark County Community Planning
PO Box 9810
Vancouver, Washington 98666-9810

Dear Chair Johnson and Planning Commissioners:

Subject: Comments on Chapter 1 Land Use Element, Chapter 2 Housing Element, Appendix I Climate Element Resource Documents, and Appendix K-Density Targets of the Clark County Comprehensive Plan Update
Sent via email: comp.plan@clark.wa.gov; jeffrey.delapena@clark.wa.gov;

Thank you for the opportunity to comment on the Introduction, Chapter 1 Land Use Element, Chapter 2 Housing Element, Appendix I Climate Element Resource Documents, and Appendix K-Density Targets of the Clark County Comprehensive Plan Update. Futurewise works throughout Washington State to support land-use policies that encourage healthy, equitable, and opportunity-rich communities, and that protect our most valuable farmlands, forests, and water resources. Futurewise has members and supporters across Washington State including in Clark County.

This letter will first summarize our recommendations. It will then provide more detailed comments to support the recommendations.

Summary of the Recommendations

Futurewise has the following comments and recommendations on the Introduction, Chapter 1 Land Use Element, Chapter 2 Housing Element, Appendix I Climate Element Resource Documents, and Appendix K-Density Targets:

- Futurewise strongly supports including a Tribal Land Acknowledgement that has the agreement of the Tribes and Indian Nations affected by the county comprehensive plan.
- Because urban area expansions are not needed, the Land Use Element and Future Land Use Map cannot expand the urban growth areas (UGAs). Expanding the UGAs would violate the Growth Management Act (GMA). Please see page 3Because urban area expansions are not needed, the Land Use

Element and Future Land Use Map cannot expand the urban growth areas (UGAs). of this letter for more information.

- The UGAs must not be expanded onto agricultural lands of long-term commercial significance and the Land Use Element and Future Land Use Map should designate the "Agricultural Land Base" lands that meet the criteria for agricultural lands of long-term commercial significance as agricultural lands of long-term commercial significance. This is necessary to comply with the GMA. Please see page 4 of this letter for more information.
- The Land Use Element and Future Land Use Map must designate adequate land for affordable housing within the existing urban growth areas (UGAs). This is necessary to comply with the GMA. Please see page 5 of this letter for more information.
- The Land Use Element and Future Land Use Map should focus these densities and housing units in transit-oriented development locations within the UGAs. This is necessary to comply with the GMA. Please see page 6 of this letter for more information.
- The Land Use Element, the Future Land Use Map, and the Rural Element should better protect working farms. This is needed to better protect farmers and the agricultural industry. Please see page 7 of this letter for more information.
- The comprehensive plan housing element and the development regulation updates must identify sufficient land for housing affordable to the zero to 30, 30 to 50, 50 to 80, 80 to 100, and 100 to 120 percent of the Area Median Income (AMI) income bands or categories for unincorporated Clark County. This is necessary to comply with RCW 36.70A.070(2). Please see page 8 of this letter for more information.
- The comprehensive plan and development regulations should incorporate the strategies identified in the *Clark County 2022 Greenhouse Gas Emissions Analysis* to reduce greenhouse gas pollution not included in the comprehensive plan and development regulations. This is necessary to comply with the GMA requirements for the greenhouse gas emissions reduction subelement. Please see page 10 of this letter for more information.
- Reduce planned rural growth and capacity. This will help protect the environment and comply with the GMA. Please see page 15 of this letter for more information.
- Some of the resiliency subelement provisions do not comply with RCW 36.70A.070(9)(e)(i). So they do not comply with the GMA requirements for the resiliency subelement. Please see page 19 of this letter for more information.

- This update needs to include development regulations to implement the new climate goals and policies. This is required to meet community needs and to comply with the GMA. Please see page 20 of this letter for more information.
- Many of the densities in Appendix K-Density Targets are too low to provide housing affordable to families earning 80 percent or less of the Area Median Income (AMI). This means that jurisdictions will not be able to "[i]dentif[y] sufficient capacity of land for housing including, but not limited to, government-assisted housing, housing for moderate, low, very low, and extremely low-income households" or "[m]ake[] adequate provisions for existing and projected needs of all economic segments of the community" as RCW 36.70A.070(2)(c) and RCW 36.70A.070(2)(d) require. Please see page 21 of this letter for more information.

Detailed Recommendations

Comments on the Introduction

Futurewise strongly supports including a Tribal Land Acknowledgement that has the agreement of the Tribes and Indian Nations affected by the county comprehensive plan.

Comments on Chapter 1 Land Use Element

Because urban area expansions are not needed, the Land Use Element and Future Land Use Map cannot expand the urban growth areas (UGAs).

The Washington State Supreme Court wrote "we hold a county's UGA designation cannot exceed the amount of land necessary to accommodate the urban growth projected by [the Washington State Office of Financial Management] OFM, plus a reasonable land market supply factor."[1] A comparison of the total 2023-2045 housing unit needs in the *2025 Population, Housing and Employment Allocation – Issue Paper 5* with the "2023 VBLM Capacity" shows that existing capacity can accommodate or is within a few housing units of accommodating the planned housing growth.[2] And the cities and unincorporated urban growth areas will likely

[1] *Thurston Cnty. v. W. Washington Growth Mgmt. Hearings Bd.*, 164 Wn.2d 329, 352, 190 P.3d 38, 49 (2008).
[2] Clark County Comprehensive Plan 2025 Update Planning for growth 2025 – 2045 *2025 Population, Housing and Employment Allocation – Issue Paper 5* prepared by Community Planning p. 5; Clark County 2025 Allocation based on VBLM and HAPT Method A p. *1 last accessed on June

need to increase their capacity for low-rise multifamily and mid-rise multifamily dwellings to meet the affordable housing requirements which will increase the housing capacity in the cities and unincorporated urban growth areas.[3] Further, Vancouver, Camas, and Washougal were required to adopt their new middle housing zoning by December 31, 2025, further increasing their housing capacity.[4] So, there is no need to expand the county's urban growth areas. Without a need to expand the urban growth areas, Clark County lacks the legal authority to expand the urban growth areas (UGAs).[5]

The UGAs must not be expanded onto agricultural lands of long-term commercial significance and the Land Use Element and Future Land Use Map should designate the "Agricultural Land Base" lands that meet the criteria for agricultural lands of long-term commercial significance as agricultural lands of long-term commercial significance.

The *Clark County Agricultural Lands Study* documents "that 98 percent of the 101,844-acre Agricultural Land Base (99,900 acres) is classified as having Prime or Statewide Importance soils. A nearly identical share, 96 percent (31,400 acres), is found within the existing 32,589-acre Agricultural Designations. This near-universal prevalence indicates that from a soil-capability perspective, the vast majority of lands identified in the study area are physically well-suited for agricultural production."[6] The other factors also show that these lands qualify as agricultural lands of long-term commercial significance.[7] The Land Use Element

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17, 2026, at: https://clark.wa.gov/sites/default/files/media/document/2024-02/Allocation%20Housing_Method%20A.pdf and at link on the last page of this letter with the filename: "Allocation Housing_Method A.pdf."

[3] Washington States Department of Commerce, Local Government Division Growth Management Services, *Guidance for Updating Your Housing Element: Updating your housing element to address new requirements* p. 36 (Aug. 2023, updated Jan. 2026) last accessed on June 17, 2026, at: https://www.commerce.wa.gov/growth-management/housing-planning/housing-guidance/ and at the link on the last page of this letter with the filename: "1220_Book2_Housing Element Update_230823 Final_updated 260112.docx."

[4] Washing State Department of Commerce Middle Housing Update Deadlines last accessed on April 23, 2026, at: https://deptofcommerce.app.box.com/s/bv7g03x1h176hwy2lgm8chraykr8ki50 and at the link on the last page of this letter with the filename: "Middle Housing Update Deadlines by Year - Updated May 2025.pdf."

[5] *Thurston Cnty. v. W. Washington Growth Mgmt. Hearings Bd.*, 164 Wn.2d 329, 351 – 52, 190 P.3d 38, 48 – 49 (2008).

[6] ECOnorthwest, *Clark County Agricultural Lands Study* pp. 62 – 63 (Clark County Planning & Development Department: Nov. 2025) last accessed on June 17, 2026, at: https://clark.wa.gov/sites/default/files/media/document/2025-11/final-agricultural-lands-study-technical-report-2025.11.04-1.pdf and at the link on the last page of this letter with the filename: "final-agricultural-lands-study-technical-report-2025.11.04-1.pdf."

[7] *Id.* pp. 66 – 73.

and Future Land Use Map must retain the existing agricultural lands of long-term commercial significance designation and add the "Agricultural Land Base" that meet the criteria for agricultural lands of long-term commercial significance to the designated agricultural lands of long-term commercial significance.

The 519 acres that Ridgefield and La Center are requesting to pave over forever are prime agricultural lands and farmlands of statewide importance and meet the other criteria for agricultural lands of long-term commercial significance.[8] Consequently, these lands cannot be legally dedesignated under WAC 365-190-040(10)(c). Since the lands cannot be dedesignated legally, they cannot be legally added to the UGAs unless the land added has been protected for agricultural use through the adoption of a purchase or transfer of its development rights.[9]

In the past Clark County was able to dedesignate agricultural lands of long-term commercial significance that continued to meet the criteria and have them annexed before the Growth Management Hearings Board and the courts found that these dedesignations violated the Growth Management Act. That is no longer possible because dedesignations and urban growth area expansions do not take effect until after the Growth Management Hearings Board appeals are resolved.[10] So, dedesignations that violate state law are now a waste of time and money as they will be appealed and overturned and cannot be annexed during the appeal period.[11]

The Land Use Element and Future Land Use Map must designate adequate land for affordable housing within the urban growth areas (UGAs).

RCW 36.70A.070(1) requires that the comprehensive plan "shall" include a land use element [and map] designating the proposed general distribution and general location and extent of the uses of land, where appropriate, for agriculture, timber production, housing, ... The land use element shall include population densities, building intensities, and estimates of future population growth." The State of Washington Department of Commerce has documented that to provide housing affordable to families and individuals earning 80 percent or less of the area median income requires low-rise multifamily and mid-rise multifamily housing

[8] *Id.* pp. 62 – 73.
[9] RCW 36.70A.060(5).
[10] RCW 36.70A.067.
[11] RCW 36.70A.067.

and potentially accessory dwelling units.[12] To provide housing affordable to families earning more than 80 to 120 percent AMI requires townhomes, duplexes, triplexes, and quadplexes.[13] These multifamily housing types are urban, not rural or resource lands uses. Given the affordable housing targets applied to the Clark County urban growth areas, the Land Use Element and Future Land Use Map must designate adequate land for affordable housing within the urban growth areas.

The Land Use Element and Future Land Use Map should focus these densities and housing units in transit-oriented development locations within the UGAs.

These housing densities when located with mixed uses along transportation corridors and designed consistent with Transit Oriented Development principles is also an important method of reducing greenhouse gas pollution.[14] So the County can provide for affordable housing and reduce greenhouse gas pollution. This will also help comply with the requirements to reduce per capita vehicle miles traveled (VMT) in RCW 36.70A.070(1) and RCW 36.70A.070(9)(c) and (d)(i)(B) and to reduce greenhouse gas pollution in RCW 36.70A.070(9)(c) and (d)(i)(A). Indeed, the most effective way to reduce per capita VMT is to focus growth into existing cities and towns because they allow shorter automobile trips and encourage walking, bicycling, and transit use thereby reducing per capita VMT.[15]

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[12] Washington States Department of Commerce, Local Government Division Growth Management Services, *Guidance for Updating Your Housing Element: Updating your housing element to address new requirements* p. 36 (Aug. 2023, updated Jan. 2026) last accessed on June 17, 2026, at: https://www.commerce.wa.gov/growth-management/housing-planning/housing-guidance/ and at the link on the last page of this letter with the filename: "HB 1220_Book2_Housing Element Update_230823 Final_updated 260112.pdf."

[13] *Id.*

[14] Wash. State Dep't of Commerce Growth Management Services, Clark County 2022 Greenhouse Gas Emissions Analysis p. 26, pp. C-1 – C-2 (v3.5.1) last accessed on June 17, 2026, at: https://www.commerce.wa.gov/growth-management/climate-planning/climate-policy-tools/ enclosed at the link on the last page of this letter and in a separate email with the filename: "CountyGHGAnalysisReport_Clark_20260123.pdf."

[15] Arthur C. Nelson, *Compact Development Reduces VMT: Evidence and Application for Planners—Comment on "Does Compact Development Make People Drive Less?"*, 83 JOURNAL OF THE AMERICAN PLANNING ASSOCIATION 36 pp. 36 – 38 (2017), DOI: 10.1080/01944363.2016.1246378 enclosed at the link on the last page of this letter with the filename: "Compact Development Reduces VMT Evidence and Application for Planners Comment on Does Compact Development Make People Drive Less.pdf." The Journal of the American Planning Association is peer-reviewed. Journal of the American Planning Association Instructions for authors webpage enclosed at the link on the last page of this letter with the filename: "JAPA Instructions for Authors June 2017.pdf."

The Land Use Element, the Future Land Use Map, and the Rural Element should better protect working farms.

The Growth Management Act requires Clark County "*to assure the conservation of agricultural lands and to assure that the use of adjacent lands does not interfere with their continued use for the production of food or agricultural products.*[16] Clark County's BERK report documents that the 20-acre minimum lot size and non-agricultural uses allowed by the Agriculture (AG-20) comprehensive plan designation and zone fails to conserve agricultural land of long-term commercial significance because they allow "non-productive rural uses."[17] "Given onsite development or other non-productive rural uses (e.g. dwellings, manicured lawns associated with dwellings, etc.) there is a greater area zoned AG and a lesser area inventoried by [the Washington State Department of Agriculture] WSDA in agricultural use. WSDA inventoried acres make up between 15-27% of the AG 10 zone area [which was zoned AG-20 when the BERK report was written]."[18] The BERK report also found based on the Census of Agriculture that "1.5% of the [Clark County] farms are large, representing 72% of the total commodity outputs. ... The loss of large farms corresponds to a loss in commodity totals. In 2007 dollars, the value of agriculture dropped from $62.3 million in 1997 to $52.7 million in 2007, and again to $45.9 million in 2012."[19] Converting large farms to small farms and 20-acre estates with manicured lawns as the AG-20 zone allows will not conserve agricultural lands and encourage the agricultural economy as the GMA requires. Clark County should increase the minimum lot size to 40 acres and remove the nonagricultural uses from the comprehensive plan designation and zone.[20]

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[16] *King County v. Central Puget Sound Growth Management Hearings Bd. (Soccer Fields)*, 142 Wn.2d 543, 556, 14 P.3d 133, 140 (2000) emphasis in original.
[17] BERK Consulting, *Clark County Comprehensive Plan 2016 Update Planning for Growth 2015 – 2035: Clark County Agriculture and Forest Land Supplemental Mapping and Data Analysis – Issue Paper 9* p. 18 (June 23, 2016) last accessed on June 17, 2026, at https://www.clark.wa.gov/sites/default/files/dept/files/community-planning/2016-update/Plan%20Adoption/Final%20documents-maps/Issue%20Paper_9_Supplemental%20Resource%20Land%20Info_2016_0623_CLEAN.pdf enclosed at the link on the last page of this letter and in a separate email with the filename: "Issue Paper_9_Supplemental Resource Land Info_2016_0623_CLEAN.pdf."
[18] *Id.* at p. 18.
[19] *Id.* at p. 6.
[20] Arthur Nelson, *Preserving Prime Farmland in the Face of Urbanization: Lessons from Oregon* 58 JOURNAL OF THE AMERICAN PLANNING ASSOCIATION 467, 471 – 74 (1992) enclosed at the link on the last page of this letter and in a separate email with the filename: "Preserving Prime Farmland in the Face of Urbanization Lessons from Oregon JAPA.pdf." The Journal of the American Planning

Comments on Chapter 2 Housing Element

The comprehensive plan housing element and the development regulation updates must identify sufficient land for housing affordable to the zero to 30, 30 to 50, 50 to 80, 80 to 100, and 100 to 120 percent of the Area Median Income (AMI) income bands or categories for unincorporated Clark County.

The Growth Management Act in RCW 36.70A.070(2)(c) requires the county comprehensive plan housing element, and the county development regulations,[21] to "[i]dentif[y] sufficient capacity of land for housing including, but not limited to, government-assisted housing, housing for moderate, low, very low, and extremely low-income households, manufactured housing, multifamily housing, group homes, foster care facilities, emergency housing, emergency shelters, permanent supportive housing, and within an urban growth area boundary, consideration of duplexes, triplexes, and townhomes[.]" RCW 36.70A.070(2)(d) requires the county comprehensive plan housing element, and the county development regulations,[22] to: "(d) Make[] adequate provisions for existing and projected needs of all economic segments of the community, including: (i) Incorporating consideration for low, very low, extremely low, and moderate-income households[.]" The Growth Management Hearings Board addressed what adequate provisions mean for a county comprehensive plan that did not have sufficient capacity for affordable housing:

> While the GMA does not specifically define what it means to make adequate provisions, Merriam-Webster defines "adequate" as "sufficient for a specific need or requirement." To Commerce, this means jurisdictions "must use the tools at their disposal to create the conditions that make it feasible for developers to build the kinds of housing needed at all income levels." Here, that need is 1,345 housing units to specifically provide for this community's most vulnerable members who have been left out of the equation. Thus, it appears to this Board that the Legislature has made it clear, a local jurisdiction can no longer align population allocations "over time." Instead, local jurisdictions must account for their allocated population either within

Association is a peer-reviewed journal. Journal of the American Planning Association - Instructions for authors webpage pp. 3 – 4 of 9 enclosed at the link on the last page of this letter and in a separate email with the filename: "JAPA Instructions for Authors.pdf."
[21] RCW 36.70A.130(1)(a), (e).
[22] RCW 36.70A.130(1)(a), (e).

> their Comprehensive Plan or demonstrate how the local jurisdiction's development regulations will make adequate provisions for the existing and projected needs of all economic segments of the community.[74] A deficit is no longer permitted to languish unresolved.
> [74] RCW 36.70A.070(2)(d).[23]

Consequently, the Kitsap County comprehensive plan violated the Growth Management Act because it had capacity deficits of 1,179 housing units for the zero to 80 percent of the Area Median Income (AMI) brackets and a 166-unit shortfall in the moderate density zones for the 80 to 120 percent AMI brackets.[24]

Unfortunately, the draft housing element does not document that the county has sufficient land for housing affordable to the zero to 30, 30 to 50, 50 to 80, 80 to 100, and 100 to 120 percent of the Area Median Income (AMI) income bands allocated to the unincorporated County by the Housing For All Planning Tool in Appendix J. It maybe that this information is available elsewhere in the comprehensive plan, but RCW 36.70A.070(2)(c) requires the county comprehensive plan housing element to "[i]dentif[y] sufficient capacity of land for housing including, but not limited to, government-assisted housing, housing for moderate, low, very low, and extremely low-income households, manufactured housing, multifamily housing, group homes, foster care facilities, emergency housing, emergency shelters, permanent supportive housing, and within an urban growth area boundary, consideration of duplexes, triplexes, and townhomes[.]" The housing element must identify that sufficient capacity is available by income group.

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[23] *Kitsap Alliance of Property Owners; William M. Palmer; Futurewise; Terry Y. Yamamoto; and Yamamoto Hydroseeding, v. Kitsap County*, Growth Management Hearings Board Central Puget Sound Region (GMHBCPSR) Case No. 25-3-0005c, Final Decision and Order (Aug. 8, 2025), at 12 – 13 of 24 fn. 73 omitted last accessed on Feb. 9, 2025, at: https://eluho2022.my.site.com/casemanager/s/eluho-document/a0Teq000000eEsNEAU/20250808-final-decision-and-order and at the link on the last page of this letter with the filename: "2025-08-08 Final Decision and Order.pdf."
[24] *Id.*, at 10 – 13 of 24.

Comments on Appendix I Climate Element Resource Documents; Resource Document 1: List of Climate Goals and Policies Across All Chapters

The comprehensive plan and development regulations should incorporate the strategies identified in the *Clark County 2022 Greenhouse Gas Emissions Analysis* to reduce greenhouse gas pollution not included in the comprehensive plan and development regulations. Please see Resource Document 1: List of Climate Goals and Policies Across All Chapters pp. 1 – 52.

RCW 36.70A.070(9)(d)(i) requires

> (d)(i) The greenhouse gas emissions reduction subelement of the comprehensive plan, and its related development regulations, must identify the actions the jurisdiction will take during the planning cycle consistent with the guidelines published by the department pursuant to RCW 70A.45.120 that will:
> (A) Result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction but without increasing greenhouse gas emissions elsewhere in the state;
> (B) Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse gas emissions elsewhere in the state; and
> (C) Prioritize reductions that benefit overburdened communities in order to maximize the cobenefits of reduced air pollution and environmental justice.

To "identify" is to "link in an inseparable fashion : make correlative with something ...."[25] An "action" is "the bringing about of an alteration by force or through some natural agency ...."[26] So the subelement must include goals and policies bringing about of an alteration linked or correlated to "[r]esult in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction ..."[27] The subelement must "[p]rioritize reductions that benefit overburdened communities ...."[28] As the Washington State Department of Commerce (Commerce) writes "meeting your obligation to reduce [greenhouse

[25] WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY p. 1123 (2002).
[26] WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY p. 21 (2002).
[27] RCW 36.70A.070(9)(d)(i)(A).
[28] RCW 36.70A.070(9)(d)(i)(C).

gas] GHG emissions will require implementation of tangible actions. A set of policies limited to 'study' or 'consideration' will not reduce GHG emissions."[29]

To assist counties and cities with this requirement, Commerce has prepared a greenhouse gas emissions analysis which projects greenhouse gas emissions and then includes scenarios identifying local strategies to reduce greenhouse gas emissions.[30] The scenario that most closely matches the *Clark County* greenhouse gas reduction requirements is the "local action" scenario.[31] To achieve the County's greenhouse gas reduction goals, we recommend that the comprehensive plan include policies and adopt regulations that match the "Local Action Scenario And GHG Emission Reductions ($MTCO_{2E}$) - All Emissions."[32]

Some of these Local Strategies are not adequately incorporated into Resource Document 1: List of Climate Goals and Policies Across All Chapters and the comprehensive plan and development regulations. The first strategy from the Local Action Scenario is to electrify 100 percent of the new buildings by 2050.[33] The comprehensive plan does not provide for electrifying 100 percent of new buildings.[34] We have not been able to find an analysis showing the proposed policies will result in the electrification of 100 percent of the new buildings. The closest it comes is proposed Policy 14.17.4: "Incentivize new construction to be 'future-ready' through incorporation of design elements that support building owners and renters to easily adapt to changing energy needs, preferences, and conditions over time ...."[35] Some other policies call for promoting and supporting energy efficiency and providing education, but incentivizing, promoting, and supporting will not achieve the electrification of all new buildings.[36] These policies will not carryout the strategy of electrifying 100 percent of the new buildings by

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[29] Wash. State Dep't of Commerce, *Climate Element Planning Guidance* p. 64 (Dec. 2023 — Intermediate Version V3.1).
[30] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* pp. 25 – 26 (v3.5.1) last accessed on July 29, 2026, at: https://deptofcommerce.app.box.com/s/7ldu8wigqhvfikj4omrovl4szfpt7d8s and at the link on the last page of this letter and in a separate email with the filename: "CountyGHGAnalysisReport_Clark_20260618.pdf."
[31] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 26 (v3.5.1).
[32] *Id.* p. 26.
[33] *Id.* p. 26.
[34] Resource Document 1: List of Climate Goals and Policies Across All Chapters pp. 1 – 52.
[35] Resource Document 1: List of Climate Goals and Policies Across All Chapters p. 48.
[36] Resource Document 1: List of Climate Goals and Policies Across All Chapters pp. 46 – 48.

2050. In describing applicable goals and policies, Commerce recommends the following goals and policies among others:

> Goal: Maximize solar access of site design, where practicable, for new solar-ready residential and commercial buildings. [Goal ID# G]
> • Direct solar development onto lands identified as having "least conflict" through the Least-Conflict Solar Siting process on the Columbia Plateau. [Policy ID# G.02]
> • Require solar panels on buildings with large rooftops, as well as within or over parking areas. [Policy ID#G.03]
> Goal: Prioritize the adaptive reuse of buildings, recognizing the emission-reduction benefits of retaining existing buildings. [Priority Goal ID# F]
> • Prioritize the preservation and weatherization of housing in overburdened communities, particularly at higher densities, to reduce emissions and increase resilience. [Priority Policy ID# F.02]
> Goal: Ensure that buildings use renewable energy, conservation, and efficiency technologies and practices to reduce greenhouse gas emissions. [Priority Goal ID# E]
> • Require zero greenhouse gas emissions features for all new residential and commercial structures.
> [Priority Policy ID# E.01]
> • Maximize renewable energy sources for the supply of electricity and heat to new and existing buildings.
> [Policy ID# E.02]
> • Retrofit buildings for energy efficiency. [Priority Policy ID# E.03]
> • Develop local microgrid solar and battery storage facilities in low-impact sites. [Policy ID# E.04]
>
> ...
> • Establish agreements to procure low-carbon-intensity power supply. [Priority Policy ID# E.11]
> • Encourage use of Combined Heat and Power (CHP) Systems in new and existing developments. [Priority Policy ID# E.12]
> • Require energy labeling for new residential buildings. [Policy ID# E.13][37]

[37] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* pp. C-4 – C-5 (v3.5.1).

We recommend adopting these directive goals and policies in addition to the other policies.

The second strategy is to reduce energy use in existing buildings by 45 percent by 2050.[38] Again, no goal or policy incorporates this strategy.[39] We have not been able to find an analysis showing the proposed policies will result in reducing energy use in existing buildings by 45 percent by 2050. Proposed Policy 14.16.3 does provide "[c]ollaborate with local utilities and community based organizations to support programs that provide weatherization, energy efficiency upgrades, and heat capture for commercial and residential buildings."[40] Commerce provides that "[y]ou should use strong and directive verbs in your policies, where possible, and amend development regulations such as zoning or building standards to ensure that your measures achieve reduction in GHG emissions and per-capita VMT …"[41] Commerce also provides that "[p]lans should contemplate how to create fully weatherized, electrified homes built to manage energy demand and resilient to climate impacts in extreme heat or cold."[42] This provision fails both standards. It is not specific, collaborate and support, is not specified and the policy does not include how weatherization and upgrades will be provided.

The third strategy is to electrify existing buildings with 95 percent of buildings using fossil fuels converted to electricity by 2050.[43] No goal or policy incorporates this strategy.[44] We have not been able to find an analysis showing the proposed policies will result in 95 percent of buildings using fossil fuels converted to electricity by 2050.

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[38] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 26 (v3.5.1).
[39] Resource Document 1: List of Climate Goals and Policies Across All Chapters pp. 1 – 52.
[40] Resource Document 1: List of Climate Goals and Policies Across All Chapters p. 46.
[41] Wash. State Dep't of Commerce Growth Management Services, *Climate Element Planning Guidance* p. 59 (Dec. 2025 V.3) last accessed on July 29, 2026, at: https://www.commerce.wa.gov/growth-management/climate-planning/climate-planning-guidance/ and enclosed at the link on the last page of this letter and in a separate email with the filename: "2025 Climate Planning Guidance.pdf."
[42] Wash. State Dep't of Commerce Growth Management Services, *Climate Element Planning Guidance* p. 91 (Dec. 2025 V.3).
[43] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 26 (v3.5.1).
[44] Resource Document 1: List of Climate Goals and Policies Across All Chapters pp. 1 – 52.

The fourth strategy is to reduce industrial emissions by 50 percent by 2050.[45] The comprehensive plan does not provide for reducing industrial emissions by 50 percent.[46] We have not been able to find an analysis showing the proposed policies will reduce industrial emissions by 50 percent. While the Climate Commitment Act will reduce greenhouse gas pollution from industrial uses and has been incorporated into the modeling, it and other state and federal programs will not achieve the needed reductions.[47]

The fifth strategy is to reduce passenger vehicle miles traveled (VMT) by 20 percent by 2050.[48] While the comprehensive plan includes policies related to VMT reduction, the comprehensive plan does not provide for reducing VMT by 20 percent.[49] We have not been able to find an analysis showing the proposed policies will reduce VMT by 20 percent.

Some policies are so contingent as to be ineffective. For example, Policy 5.7.1 provides: "Reduce or remove parking requirements where appropriate to support more dense, mixed land use. To implement this policy, the county must: a) Conduct a parking and/or parking requirement analysis to inform next steps; b) Consider the positive and negative impacts of possible options through an environmental justice and climate lens; and c) Develop an approach in collaboration with the community and consistent with all applicable laws."[50] This policy has no assurance that parking requirements will be reduced or eliminated even where appropriate. In contrast, Commerce recommends "[r]educe parking requirements where there are multimodal options available. [Priority Policy ID# AC.02]"[51] This is a policy that contains a commitment to act and reduce VMT where there are multimodal options. We recommend that the County adopt this policy in the place of proposed Policy 5.7.1.

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[45] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 26 (v3.5.1).
[46] Resource Document 1: List of Climate Goals and Policies Across All Chapters pp. 1 – 52.
[47] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. B-4, 25 (v3.5.1).
[48] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 26 (v3.5.1).
[49] Resource Document 1: List of Climate Goals and Policies Across All Chapters pp. 24 – 26.
[50] Resource Document 1: List of Climate Goals and Policies Across All Chapters p. 25.
[51] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. c-3 (v3.5.1).

Reducing or eliminating parking also makes housing more affordable.[52] A study using American Housing Survey data found that "[m]inimum parking requirements in municipal zoning codes drive up the price of housing ...."[53]

We also urge the other Commerce recommendations such as "[p]rioritize permitting for transit-oriented development (TOD) proposals. [Priority Policy ID# I.24][54]

More areas within the existing urban growth areas should be planned and zoned for more mixed use transit-oriented development. We recognize that 1.3.2 provides "[d]evise specific policies and standards to promote higher density urban, commercial and mixed-use development and to support pedestrian and transit travel within high-density residential and commercial areas" which is transit-oriented development. But the deadline for policies, standards, and regulations was December 1, 2025, not some undefined future date.[55] These provisions should be part of this comprehensive plan and development regulations update.

In addition, rural and natural resource growth targets should be reduced to also reduce VMT. Indeed, the most effective way to reduce per capita VMT is to focus growth into existing cities and towns because they allow shorter automobile trips

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[52] National Academies of Sciences, Engineering, and Medicine, *Effects of TOD on Housing, Parking, and Travel* p. 6 (Washington, DC: The National Academies Press: 2008) last accessed on July 30, 2026, at https://doi.org/10.17226/14179 and in at the link on the last page of this letter with the filename: "14179.pdf."

[53] C. J. Gabbe & Gregory Pierce, *Hidden Costs and Deadweight Losses: Bundled Parking and Residential Rents in the Metropolitan United States* 27 HOUSING POLICY DEBATE 217, 217 (2017) (page 2 in the enclosed version) last accessed on July 30, 2026, at: https://scholarcommons.scu.edu/cgi/viewcontent.cgi?article=1040&context=ess and at the link on the last page of this letter with the filename: "Hidden costs and deadweight losses_ Bundled parking andresidentia.pdf." Housing Policy Debate is peer reviewed. Housing Policy Debate Aims and scope webpage last accessed on Aug. 15, 2024, at: https://www.tandfonline.com/action/journalInformation?show=aimsScope&journalCode=rhpd20 and at the link on the last page of this letter with the filename: "Housing Policy Debate About this Journal webpage.pdf."

[54] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. c-3 (v3.5.1).

[55] RCW 36.70A.130(1), (5)(b).

and encourage walking, bicycling, and transit use thereby reducing per capita VMT.[56]

We do support the Comprehensive Plan's transit policies.

Strategy six is to electrify 100 percent of the passenger vehicles sold in 2050.[57] While the county does include policies to address this strategy, they do not call for electrifying 100 percent of the passenger vehicles sold in 2050.[58] Nor where we able to find an analysis showing that the proposed goals and policies would achieve this strategy. As part of this strategy, Commerce recommends requiring "electric vehicle charging infrastructure in all new and retrofitted buildings."[59] We recommend adopting a policy to carry this out. The proposed policy can read:

X.X.X. Require electric vehicle charging infrastructure in all new and retrofitted buildings. For commercial and industrial buildings and facilities with fleets or where shipments or transshipments will occur, the electric charging infrastructure shall be sized for freight and service vehicles.

Thurston County just adopted regulations requiring electric vehicle charging infrastructure in most new buildings.[60]

Strategy seven calls for electrifying 80 percent of the freight and service vehicles sold in 2050.[61] While proposed Policy 5.8.4 calls for collaborating with state, regional, and local agency on the electrification of non-personal vehicles such as transit (bus, train, ferry) and freight (truck and rail)," it does not call for

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[56] Arthur C. Nelson, *Compact Development Reduces VMT: Evidence and Application for Planners—Comment on "Does Compact Development Make People Drive Less?"*, 83 JOURNAL OF THE AMERICAN PLANNING ASSOCIATION 36 pp. 36 – 38 (2017), DOI: 10.1080/01944363.2016.1246378 enclosed at the link on the last page of this letter and a separate email with the filename: "Compact Development Reduces VMT Evidence and Application for Planners Comment on Does Compact Development Make People Drive Less.pdf." The Journal of the American Planning Association is peer-reviewed. Journal of the American Planning Association Instructions for authors webpage enclosed at the link on the last page of this letter with the filename: "JAPA Instructions for Authors June 2017.pdf."
[57] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 26 (v3.5.1).
[58] Resource Document 1: List of Climate Goals and Policies Across All Chapters p. 26, p. 48.
[59] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. C-3 (v3.5.1).
[60] Thurston County Ord. No. 16575 Attachment A.
[61] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 27 (v3.5.1).

electrifying 80 percent of the freight and service vehicles sold in 2050.[62] Nor does this policy indicate how this strategy could possibly be achieved. Policies to achieve this strategy are needed to meet the greenhouse gas pollution reduction requirements. As part of this strategy, Commerce recommends requiring "electric vehicle charging infrastructure in all new and retrofitted buildings."[63] The proposed policy above incorporates this recommendation.

Strategy eight calls for electrifying 90 percent of the transit vehicles sold in 2050.[64] While proposed Policy 5.8.4 calls for collaborating with state, regional, and local agency on the electrification of non-personal vehicles such as transit (bus, train, ferry)," it does not call for electrifying 90 percent of the transit vehicles sold in 2050.[65] Policies implementing this strategy should be adopted.

Strategy nine calls for reducing offroad equipment carbon emissions by 95 percent in 2050.[66] Proposed Policy 14.6.1 does call for "[f]acilitating collaboration with community partners to provide support for low- or zero-greenhouse gas emitting farming and landscaping equipment rental, repair, and access, including equipment shares" which we support.[67] Commerce recommends "[p]has[ing] out the use of municipal gas-powered landscaping equipment and replace with electric or otherwise sustainable alternatives. [Policy ID# Z.05]"[68] We suggest adopting this policy and also phasing out gas-powered landscaping equipment as some cities and counties have done for gas powered leaf blowers.[69] Our recommendation is shown below:

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[62] Resource Document 1: List of Climate Goals and Policies Across All Chapters p. 26.
[63] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. C-3 (v3.5.1).
[64] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 26 (v3.5.1).
[65] Resource Document 1: List of Climate Goals and Policies Across All Chapters p. 26.
[66] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 26 (v3.5.1).
[67] Resource Document 1: List of Climate Goals and Policies Across All Chapters p. 38.
[68] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. C-6 (v3.5.1).
[69] See City of Portland, OR webpage About the Equitable Gas Leaf Blower Phase-out last accessed on July 29, 2026, at: https://www.portland.gov/bps/climate-action/leaf-blowers/glb-phase-out and at the link on the last page of this letter and in a separate email with the filename: "About the Equitable Gas Leaf Blower Phase-out _ Portland.gov.pdf."

X.X.X Phase out the use of gas-powered landscaping equipment and replace with electric or otherwise sustainable alternatives over the next ten years.

Strategy ten calls for diverting 85 percent of the construction and demolition (C & D) waste from landfills by 2050.[70] While we recognize that waste reduction policies are proposed, they do not call for an 85 percent reduction.[71] To implement this strategy, Commerce recommends a policy of "[d]evelop a program that will enable recycling of all construction and demolition debris by [insert target].[72] We recommend a similar policy be adopted.

Strategy eleven calls for diverting 95 percent of recyclable and compostable materials from landfills by 2050, although no greenhouse gas reductions are identified for this strategy.[73] While we recognize that waste reduction policies are proposed, they do not call for a 95 percent reduction.[74] One is needed and our recommendation follows.

X.X.X Adopt regulations and implement programs to divert 95 percent of recyclable and compostable materials from landfills by 2050.

Strategy twelve calls for improving soil management to reduce 75 percent of emissions by 2050.[75] We recognize that several policies call for improving soil health and carbon sequestration, which we support.[76]

Policies addressing reducing greenhouse gas emissions from the conversion of agricultural land are also needed. Commerce recommends "[p]reserve land outside of the unincorporated UGA for long-term agricultural use, recreation, open spaces,

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[70] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 26 (v3.5.1).
[71] Resource Document 1: List of Climate Goals and Policies Across All Chapters p. 21, p. 38. pp. 49 – 50.
[72] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* C-5 (v3.5.1).
[73] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 27 (v3.5.1).
[74] Resource Document 1: List of Climate Goals and Policies Across All Chapters p. 21, p. 38. pp. 49 – 50.
[75] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. 26 (v3.5.1).
[76] Resource Document 1: List of Climate Goals and Policies Across All Chapters p. 39. p. 43.

forestry, mineral resources, and other uses consistent with rural character."[77] Commerce also recommends "[s]upport funding to protect agricultural land from conversion to other uses, and assist farmers in transferring and accessing land."[78] We recommend adopting both policies as shown below:

X.X.X Preserve land outside of the unincorporated UGA for long-term agricultural use, recreation, open spaces, forestry, mineral resources, and other uses consistent with rural character.

X.X.X Support funding to protect agricultural land from conversion to other uses, and assist farmers in transferring and accessing land.

Strategy thirteen calls for reducing tree loss by 90 percent by 2050.[79] We appreciate and support the policies addressing trees and tree canopies.[80] However, we are concerned that proposed Policy 14.9.2 which calls for "[d]evelop[ing] and adopt[ing] a tree plan and implementing ordinance to maximize planting and protection of trees ..." does not have a deadline for undertaking these actions.[81] As was noted above, the deadline for plans and regulations was December 1, 2025, not some undefined future date.[82] We recommend that proposed Policy 14.9.2 include as a deadline the deadline for the first implementation progress report required by RCW 36.70A.130(9)(a).

Some of the resiliency subelement provisions do not comply with RCW 36.70A.070(9)(e)(i).

RCW 36.70A.070(9)(e)(i) provides in relevant part that:

> The resiliency subelement must prioritize actions that benefit overburdened communities that will disproportionately suffer from compounding environmental impacts and will be most impacted by natural hazards due to climate change. Specific goals, policies, and programs of the resiliency subelement must include, but are not limited to, those designed to:

[77] Wash. State Dep't of Commerce Growth Management Services, *Clark County 2022 Greenhouse Gas Emissions Analysis* p. C-7 (v3.5.1).
[78] *Id.* p. C-7.
[79] *Id.* p. 26.
[80] Resource Document 1: List of Climate Goals and Policies Across All Chapters pp. 41 – 44.
[81] *Id.* p. 42.
[82] RCW 36.70A.130(1), (5)(b).

> (A) Identify, protect, and enhance natural areas to foster resiliency to climate impacts, as well as areas of vital habitat for safe passage and species migration;
> (B) Identify, protect, and enhance community resiliency to climate change impacts, including social, economic, and built environment factors, that support adaptation to climate impacts consistent with environmental justice; and
> (C) Address natural hazards created or aggravated by climate change, including sea level rise, landslides, flooding, drought, heat, smoke, wildfire, and other effects of changes to temperature and precipitation patterns.

Complying with these requirements will require new and amended regulations especially to protect and enhance natural areas, to protect and enhance community resiliency, and to address the natural hazards.[83]

Goal 1.5 Policies 1.5.1 and 1.5.2 on page 3 violate RCW 36.70A.070(9)(e)(i).

Some of the proposed goals and policies are not consistent with RCW 36.70A.070(9)(e)(i). Proposed Goal 1.5 and Policies 1.5.1 and 1.5.2 encourage, seek to reduce, and periodically review climate hazards. RCW 36.70A.070(9)(e)(i)(C) requires "[s]pecific goals, policies, and programs" that "must" "[a]ddress natural hazards ...." To "address" means "to make right ...."[84] But this goal and these policies do not make anything right. Instead they encourage and in some cases postpone action to some undefined future date. While future evaluation makes sense given the uncertainties of climate change, we know now many ways that climate change has and will continue to adversely affect the people and properties in Clark County. We recommend that this goal and the policies be revised to address climate hazards now.

This update needs to include development regulations to implement the new climate goals and policies.

We are concerned that this update does not include development regulations to implement the new climate element. As part of the 2025 comprehensive plan

[83] RCW 36.70A.130(1)(a).
[84] WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 24 (2002). When the legislature has not defined a term in a statute, the courts "apply its common meaning, which may be determined by referring to a dictionary." *Quadrant Corp. v. State Growth Mgmt. Hearings Bd.*, 154 Wn.2d 224, 239, 110 P.3d 1132, 1140 (2005). The supreme court consulted Webster's Third New International Dictionary. *Id.*

update, Clark County is required to adopt a greenhouse gas emissions reduction subelement and related development regulations.[85]

As part of the 2025 comprehensive plan update, Clark County is required to adopt a resiliency subelement.[86] Complying with this requirement will require new and amended regulations especially to protect and enhance natural areas, to protect and enhance community resiliency, and to address the natural hazards.[87]

Comments on Appendix K-Density Targets

Many of the densities in Appendix K-Density Targets are too low to provide housing affordable to families earning 80 percent or less of the Area Median Income (AMI).

The Washington State Department of Commerce has documented that to provide housing affordable to families and individuals earning 80 percent or less of the area median income requires low-rise multifamily and mid-rise multifamily housing and potentially accessory dwelling units.[88] These housing types typically have densities of 18 to 70 housing units per acre.[89] Affordable housing will be very difficult at the low end of this range. Each jurisdiction needs to provide densities that can produce housing affordable to all income groups. Each jurisdiction should have an upper density range of at least 50 housing units per acre to permit affordable housing in all cities and towns.

Thank you for considering our comments. If you require additional information, please contact me at telephone 206-343-0681 or email: tim@futurewise.org.

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[85] RCW 36.70A.095.
[86] RCW 36.70A.070(9)(c).
[87] RCW 36.70A.130(1); RCW 36.70A.120.
[88] Washington States Department of Commerce, Local Government Division Growth Management Services, *Guidance for Updating Your Housing Element: Updating your housing element to address new requirements* p. 36 (Aug. 2023, updated Jan. 2026) last accessed on July 29, 2026, at: https://www.commerce.wa.gov/growth-management/housing-planning/housing-guidance/ and at the link on the last page of this letter and in a separate email with the filename: "HB 1220_Book2_Housing Element Update_230823 Final_updated 260112.pdf."
[89] JHP, *Density Guide* pp. *4 – 5 last accessed on July 8, 2026, at: https://jhparch.com/density and at the link on the last page of this letter and in a separate email with the filename: "JHP-Density Guide.pdf."

Very Truly Yours,



Tim Trohimovich, WSBA No. 22367
Director of Planning & Law

Enclosures at this link and for some in separate emails:

Clark Comp Plan

No gas leaf blowers in Portland until wet leaf season
Only electric blowers are allowed in Portland until October 1 (with full ban in 2028). If you receive an estimate or invoice from a contractor with a surcharge, this is not from City of Portland.

About the Equitable Gas Leaf Blower Phase-out

Information



Switching from gas to electric equipment will benefit our local environment and improve quality of life for workers and neighbors. The new policy begins January 1, 2026.

Translate this page

English Español Русский Tiếng Việt 简体中文

The City of Portland and Multnomah County developed this ordinance, which will help Portland transition away from gas leaf blowers to electric leaf blowers.

What Portlanders need to know

- **When does the policy take effect?** In 2026 and 2027, gas leaf blowers will be permitted from October through December. In 2028, gas leaf blowers will be banned year-round.
- **Can I use an electric leaf blower?** Electric leaf blowers are permitted all year-round.
- **Who does this policy apply to?** The policy applies to all property owners in Portland. This means that a property owner must ensure

Contact

Leaf Blower Phase-out Help Desk

gasleafblowers@portlandoregon.gov

Related

GLB Frequently Asked Questions

Recent news

Blog post

Portland's gas leaf blower policy: What you need to know

February 4, 2026 9:33 am

News article

Administrative Rules Adopted for Gas Leaf Blower Policy

Updated: January 29, 2026 8:54 am

See all news for this page

that any contractor or property manager they hire does not use gas leaf blowers.
- **Why doesn't the full ban go into effect until 2028?** At the time the policy was passed, electric leaf blowers were not powerful enough to handle peak wet leaf season. This is especially true for large commercial property owners that rely on leaf blowers to keep walkways clear for safety. The phased approach gives time for electric leaf blower technology to improve.
- **What about noise?** All leaf blowers, whether gas or electric, must comply with the Noise Code. You can submit noise complaints online.

The City of Portland does not include any surcharge as part of the equitable gas leaf blower phase-out policy. If you receive an estimate or invoice from a contractor noting a surcharge for the equitable gas leaf blower phase-out program, that is not imposed by the City of Portland. Rather, it may be a fee the contractor adds to cover the cost of leaf blower electrification.

Health impacts, environmental justice, and equity

Electrification of lawn equipment provides health benefits to leaf blower operators and residents by reducing noise and air pollution. Gas leaf blowers may be a nuisance to neighbors, but their negative health impacts are disproportionately felt by landscape workers and other GLB operators. With 46% of landscape workers nationally identifying as Latino, this ordinance is vital to address the equity and environmental justice impacts that disproportionately affect workers of color.

Gas leaf blowers are widely known to emit unhealthy levels of noise and air pollution. Gas leaf blowers produce low frequency noise that can lead to negative health outcomes such as stroke, high blood pressure, heart attack, tinnitus and hearing impairment. The higher frequency noise created by electric leaf blowers has less severe health impacts on users compared to GLBs.

Gas leaf blowers also emit significant amounts of air pollution. A recent study demonstrated that running a GLB for just one hour produces the same level of pollution as driving a midsize sedan 1,100 miles – the equivalent of Portland to San Diego. Exhaust from GLBs also poses significant health risks to operators and the public, including stroke, cardiovascular and respiratory disease, cancer, neurological conditions and prenatal development issues.

Past events

Public meeting

Public Meeting: Gas Leaf Blowers Administrative Rules – December 3, 2025

December 3, 2025
6:00 pm – 7:00 pm
Available online

Public hearing (council present)

City Council Hearing - Equitable Gas Leaf Blower Phase-out

March 13, 2024
9:30 am
Available online

Public hearing (council present)

City Council Hearing - Equitable Gas Leaf Blower Phase-out

March 6, 2024
2:00 pm – 3:30 pm
Available online

Translations

Eliminación progresiva del uso de sopladores de hojas que funcionan con gasolina para una mayor equidad (Spanish)

Поэтапный равноправный отказ от бензиновых воздуходувок (Russian)

Việc Loại Bỏ Dần Máy Thổi Lá Chạy Gas Công Bằng (Vietnamese)

公平逐步停用汽油吹叶机 (Chinese)

Policy background

View the code







JHP

Density Guide

Residential density is a useful planning tool to help determine what housing type fits the needs and scope of a site. Reference this guide to see what housing type(s) might be right for your project.











Residential Density can be thought of as the number of housing units per acre of land. Choose a density that matches the scale and purpose of your project.

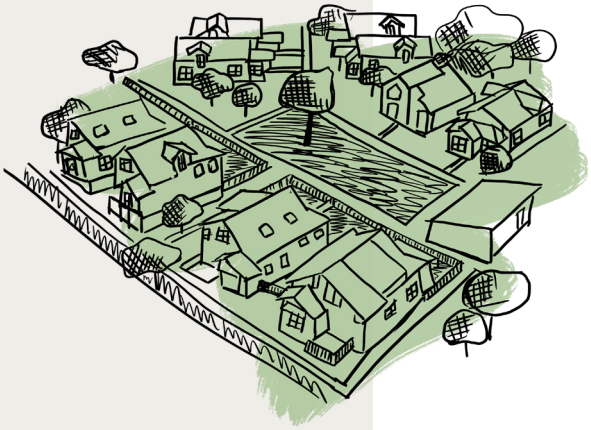
What is density? In simple terms, it is the ratio of housing units per acre of land. Different housing types (e.g. single family homes, garden apartments, high-rise apartments) yield different densities, and density should always be chosen based on the scale and purpose of the project. Whatever you develop, it should fit nicely into the surrounding built and natural environment.

The following pages are density rules of thumb for various housing types. We cover standout features, pros and cons of:

- Single Family Cluster Housing
- Townhomes/Rowhouses
- Cluster/Manor Homes
- Garden Apartments
- Village Cluster/Urban-Suburban Homes
- Four Story Apartments with Central Garage Structure
- Five Story Apartment with Central Garage Structure
- Four/Five Story Apartments over Podium Garage
- Mid-Rise Housing
- High-Rise Housing

However, every project has unique needs, and it should be noted that this document is not the be-all and end-all when it comes to density. Just because a specific housing type meets your desired density, does not mean it is the right type of housing for your project.

Contact us for a real evaluation and to discuss the unique factors of your site.



Single Family Cluster Housing

10-12 units/acre

Cluster housing provides the benefits of a townhome with the privacy of a single family home. Usually smaller than a single family home, cluster housing is situated around courtyards and parking courts.

- Single family, detached homes
- Front-facing with walkable streets
- One or two story homes
- Private patios or limited small yards



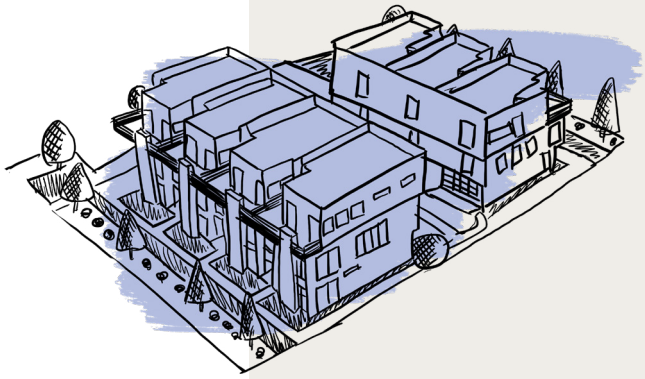


Townhomes or Rowhouses

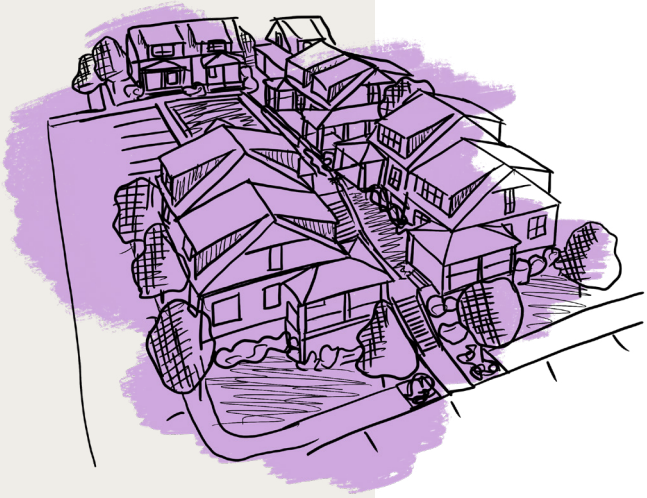
12-18 units/acre

Townhomes or rowhouses combine lower maintenance needs with valuable community amenities and an urban location at a lower price point than a traditional single family home in exchange for less privacy and space.

- Single family, attached rowhouses with garage or tuck-under parking from rear alley
- Front-facing with walkable streets
- Small, private patios
- Limited curb cuts along streets







Cluster or Manor Homes

15-22 units/acre

Cluster homes, or Manor homes, are smaller walk-up style multifamily buildings. They fit multiple residences in a mansion-scale structure.

- Smaller multifamily buildings, sometimes clustered around courtyards
- Front-facing with walkable streets
- Two to three stories; walk-up
- Organized with parking courts behind and with parallel on-street parking







Garden Apartments

18-25 units/acre

Garden apartments are what is currently thought of as the “typical” suburban multifamily structure. They are a good option for larger sites.

- Not inherently walkable
- Smaller buildings, with 4 units per level around stairways
- Two to three stories; walk-up with open-air stairways
- Organized with surface parking in front and around











Village Cluster or Urban-Suburban Homes

28-35 units/acre

Village clusters or urban-suburban multifamily homes are a hybrid option between garden-style apartments and structured parking solutions.

- Multifamily buildings oriented towards streets in a walkable setting
- Typically three or four stories; walk-up or limited elevators
- Corridor style buildings, either open-air or conditioned
- Organized with parking courts behind, and/or tuck-under rear ground floor parking, with parallel on-street parking







Four Story with Central Garage Structure

45-70 units/acre

Called the “Texas Donut” Wrap, this is a four story structure in which housing wraps around a central parking structure. This scenario provides ample parking on-site while still hiding parking from street level.

- Four stories of Type VA wood construction
- Multilevel parking structure (typically concrete)
- Urban Form facing walkable streets











Five Story with Central Garage Structure

80-95 units/acre

A five story building with a central garage structure utilizing Type IIIA construction. Building to this height is dependent upon local fire codes as it is not allowed by all municipalities.

- 5 stories of Type IIIA non-combustible wood construction
- Multilevel parking structure (typically concrete)
- Urban Form facing walkable streets





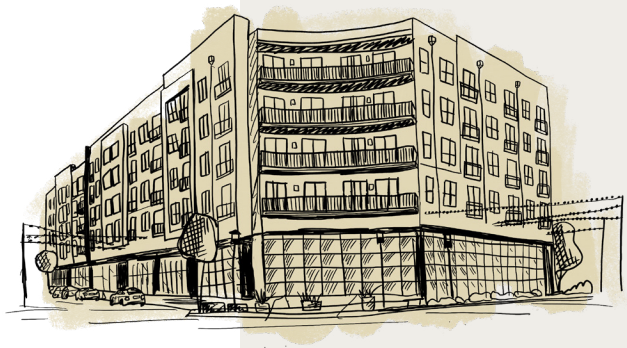


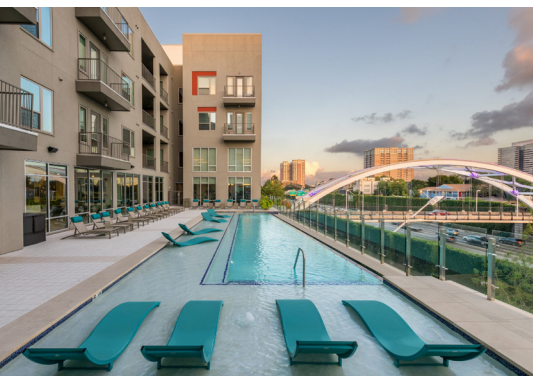
Four or Five Story over Podium Garage

90-110+ units/acre

This four or five story building places residences on top of a garage podium. It efficiently uses the site up to the maximum height for “wood” construction.

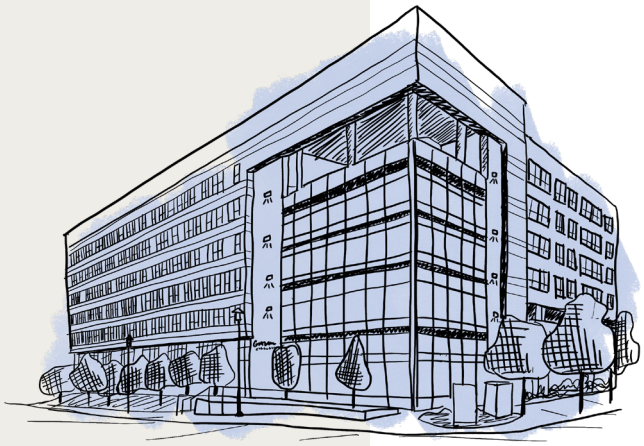
- 4 stories (Type VA) or 5 stories (Type IIIA) wood construction over garage podium and/or below grade garage
- Podium is directly beneath housing
- Allows for maximum density while still in wood construction
- Height can be an issue and depends upon various local codes. Some municipalities amend downward the High Rise height limit of 75ft to top floor level to 55ft.











Mid-Rise Housing

125-150+ units/acre

Mid-Rise housing is a great option for very urban or transit sites and features seven to eight stories above a parking podium and/or below grade parking.

- Typically limited to 7 or 8 stories stories (Type I or III) metal or concrete construction below the High-Rise code of 75ft (maximum floor level)
- Multilevel podium parking structure is directly beneath housing
- Allows for very efficient utilization of smaller sites
- Height can be an issue and depends upon local codes







High-Rise Housing

140-200+ units/acre

High-Rise housing is ideal in very dense, very urban locations but of course comes with higher construction costs. It provides the biggest return in terms of units per acre.

- Height and stories (Type I) steel or concrete construction usually limited by Zoning height limits or construction economics
- Multilevel parking structure is either directly beneath housing (above or below grade)
- Allows for maximum density
- High-Rise code and structural requirements apply with increased costs





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Washington State Department of Commerce

We strengthen communities

Guidance for Updating Your Housing Element

Updating your housing element to address new requirements

LOCAL GOVERNMENT DIVISION
GROWTH MANAGEMENT SERVICES

v3.4

About this document

The Washington State Department of Commerce's Growth Management Services (GMS) team assists and guides local governments, state agencies and others to implement the Growth Management Act (GMA).

In 2021, the Washington Legislature changed the way communities are required to plan for housing. House Bill 1220 (HB 1220)[1] amended the GMA to require local governments to "plan for and accommodate" housing affordable to all income levels. This significantly strengthens the previous goal, which was to "encourage" affordable housing.

Organization of the guidance

This guidance is part of a suite of documents ("Books") that guide local jurisdictions on how to update their housing elements:

- **Book 1:** Establishing Housing Targets for your Community
  - Countywide Planning Policies*
  - Housing Needs Projection Methodology & Housing for All Planning Tool (HAPT)
  - Guidance for Allocating Projected Countywide Housing Needs to Local Jurisdictions
- **Book 2: Guidance for Updating your Housing Element (this document)**
  - Updated Housing Element Requirements with HB 1220
  - Guidance for Evaluating Land Capacity to Accommodate all Housing Needs
  - Guidance for Making Adequate Provisions to Accommodate all Housing Needs
  - Housing Needs Assessment (see also Guidance for Developing a Housing Needs Assessment[2])*
  - Housing Element Review*
  - Updating Goals and Policies*
  - Identifying Strategies to Implement Your Policies*
  - Adopting, Implementing and Monitoring Your Housing Element*
- **Book 3:** Guidance to Address Racially Disparate Impacts[3]
  - Recommended Process
  - Step 1: Engage the Community
  - Step 2: Gather and Analyze Data
  - Step 3: Evaluate Policies
  - Step 4: Revise Policies
  - Step 5: Review and Update Regulations

**Items are updated from the* Guidance for Updating Your Housing Element[4] *(2021, Commerce).*

For additional information on the GMA housing programs, please visit the GMS Planning for Housing Webpage[5] or contact Anne Fritzel, Housing Section Manager, at Anne.Fritzel@commerce.wa.gov.

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[1] https://lawfilesext.leg.wa.gov/biennium/2021-22/Pdf/Bills/Session Laws/House/1220-S2.SL.pdf?q=20211209114015
[2] https://deptofcommerce.box.com/s/mop7xrkzh170th1w51ezbag3pmne9adz
[3] https://deptofcommerce.box.com/s/1l217l98jattb87qobtw63pkplzhxege
[4] https://deptofcommerce.app.box.com/s/ig3pd55wrngxacxjwnt6hv98ue8swaj6
[5] https://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/planning-for-housing/

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To submit a request, please call 360-725-4000 (TTY 360-586-0772).

Published August 2023. Updated September 2024 and January 2026.

Version changes

September 2024

- Chapter 3 was updated from the August 2023 version to clarify:
  - When assumptions in Exhibits 12 and 13 are used to provide guidance relating housing types to affordability levels, that the information should be tailored to individual jurisdiction market conditions.
  - Options available if there is insufficient land capacity.
  - When an emergency housing land capacity analysis is required.
  - Small amounts of vacant or under-utilized commercial space may be considered for emergency housing or shelter capacity.

January 2026

- Chapter 1 was updated to clarify the required and recommended topics of a housing element (see Exhibit 1).
- Chapter 3 was updated to clarify:
  - Planning for population and housing growth can be accommodated with a land capacity analysis for housing, provided housing needs are derived from Commerce's Housing for All Planning Tool (HAPT). A separate land capacity analysis for population is not needed.
  - When a land capacity analysis should be performed in areas outside of urban growth areas (UGAs). Changes are noted in Step 1.
  - Additional steps local governments should take in their land capacity analysis to be consistent with 2025 Growth Management Hearings Board (GMHB) cases related to housing elements. The main changes are included in a new Step 7.
  - Guidance for jurisdictions who do not have sufficient land capacity. Changes are included after Step 6.
- Chapter 4 was updated to clarify:
  - Additional steps local governments should take in their adequate provisions work to be consistent with 2025 GMHB cases related to housing elements. Changes are added to Step 2 and 3 related to identifying local funding gaps for housing needs and when actions must be taken to implement a jurisdiction's adequate provisions.
  - Additional tools local governments can use to address barriers to local housing needs in Exhibit 28.
- Chapter 6 was updated to add new state housing laws since the original publication in August 2023.
- Chapter 9 was updated to clarify updated guidance for implementing a jurisdiction's housing element, specifically related to adequate provisions and implementation progress reports in RCW 36.70A.130.
- Appendix B: "Adequate provisions checklists," was updated to include an additional barrier to affordable housing development and an additional funding source for affordable housing.
- Appendix C: "Housing element example policies," was updated to include example policies on racially disparate impacts, displacement and exclusion.
- Appendix D: "Resources for funding affordable housing in Washington state," was updated with additional funding sources and updated web links.
- Appendix E: "Housing law and case law," was updated to include an overview of new legal housing cases since the original publication in August 2023.

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Chapter 1. Introduction and housing element requirements

Housing is the most basic of human needs. When people can secure stable and affordable housing near locations of jobs and opportunity, they are able to focus on achieving other life goals, such as education, career advancement, health and wellness, or raising a family. Without stable and affordable housing, people face significant and sometimes insurmountable challenges to achieving these life goals.

Local governments do not provide housing, but they can set conditions in place to encourage the market to develop housing affordable to all members of the community. Housing planning and policymaking are integral functions of cities and counties, and essential for supporting inclusive, diverse and economically vibrant communities. Reviewing, evaluating and updating housing plans, policies, and associated development regulations helps jurisdictions meet evolving community needs for housing variety and affordability, as well as achieve other planning goals for land use, economic development, transportation and the environment.

The Growth Management Act (GMA), adopted in 1990, provides the statewide framework for Washington state to manage its growth, including planning for future housing needs. In 2021, House Bill 1220 (HB 1220) changed the requirements for those jurisdictions required to fully plan under the GMA.[6,7] Under this framework, counties and cities in Washington state must review and revise their comprehensive plans and development regulations every ten years (see RCW 36.70A.130).

During this periodic review, jurisdictions should review their housing element policies and assess their performance in implementing development regulations

Reader's Guide

This guidebook is a resource to support cities and counties updating the housing element of their comprehensive plan, with a focus on the 2021 updates to housing element requirements and the legal and policy framework in Washington state. It is organized in nine parts:

Chapter 1: Introduction and housing element requirement: Overview of the guidebook, purpose of preparing a housing element and the housing element requirements.

Chapter 2: Housing needs assessment: Required and recommended topics, relationship to projected housing needs and available resources to support preparation.

Chapter 3: Land capacity analysis: Recommended steps to demonstrate a jurisdiction has enough land capacity to meet housing needs of all incomes.

Chapter 4: Adequate provisions: Recommended steps of this updated requirement, including how to identify barriers to existing and projected housing needs and document programs, actions and funding needed to achieve housing availability.

Chapter 5: Housing element review: Guidance for evaluating your current housing element, including alignment with needs, consideration of new trends and opportunities, and new policy requirements.

Chapter 6: Updating goals and policies: Best practices for evaluating and updating existing goals and policies and creating clear and effective new ones.

Chapter 7: Identifying strategies to implement your housing policies: How to select strategies to implement your policies.

Chapter 8: Adopting your housing element: Recommendations for managing the adoption process, including public engagement.

Chapter 9: Implementing and monitoring your housing element: Guidance for developing an effective implementation plan and monitoring program.

[6] House Bill 1220: https://lawfilesext.leg.wa.gov/biennium/2021-22/Pdf/Bills/Session%20Laws/House/1220-S2.SL.pdf?q=20230828212744

[7] Cities and counties required to "fully plan" are shown in dark blue, light blue and green on this regional variation map. See https://deptofcommerce.app.box.com/s/96tan14gkwzr2y15rj7a785gf255a0gt.

and programs. Local governments may also amend their comprehensive plans annually in order to address pressing needs and/or requests from the community.

This guidance is a resource to support cities and counties in Washington state to review and update the housing element of their comprehensive plan, particularly with regard to the new housing element requirements in RCW 36.70A.070. This guidance (Book 2) complements two other resource documents, "Establishing Housing Targets for Your Community" (Book 1) and "Guidance for Addressing Racially Disparate Impacts" (Book 3).[8]

Purpose of a housing element

Every city and county in Washington has its own unique housing context and challenges. Our state's natural beauty, temperate climate and healthy economy continue to attract new residents, but Washington's housing production has not kept pace with growth. This has increased competition for existing housing, resulting in higher prices and increased demand for more housing and a wider variety of housing types. When grappling with the complications of accommodating this projected growth, local governments must take into account the needs of all economic segments of the community while managing impacts to neighborhood character and quality of life.

The housing element provides the opportunity to prioritize local housing problems and trends, and to design solutions appropriate to the local context. Such solutions usually involve a mix of strategies that can work together to shape opportunities for development and encourage the kinds of housing production in greatest need.

Recognizing that most communities already have a comprehensive plan and housing element they need to update, the comprehensive planning process provides an opportunity to evaluate existing housing policies and analyze what has changed within the housing context as well as incorporate updated requirements. This exercise may demonstrate a need to strengthen the policies by adding more specificity, shifting policies in a new direction and/or adding policies to address the new requirements.

The main objectives in preparing or updating a housing element are to:

- Understand the countywide housing market(s) and the local community's role in it.
- Identify the jurisdiction's projected housing needs by income level from the countywide allocation process.[9]
- Update the local housing needs assessment (HNA) to understand how the community's housing stock does or does not meet the needs of the population.
- Assess the amount of land available to meet projected housing needs by income level and make adjustments to land use designations and zoning to accommodate those needs.
- Identify barriers to achieving the affordable housing needs of the community and document programs and actions to address those needs.
- Identify policies and regulations that result in racially disparate impacts, displacement and exclusion and identify policies and regulations to begin to undo them.
- Identify areas at higher risk of displacement and establish policies to address those risks.[10]

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[8] Establishing Housing Targets for Your Community is available at: https://deptofcommerce.box.com/s/chqj8wk1esnnranyb3ewzgd4w0e5ve3a, Guidance for Addressing Racially Disparate Impacts is available at: https://deptofcommerce.box.com/s/1l217l98jattb87qobtw63pkplzhxege.

[9] See "Establishing Housing Targets for Your Community" (Book 1).

[10] Bullets 6 and 7 of this list are addressed in "Guidance for Addressing Racially Disparate Impacts" (Book 3).

- Adopt or update local housing goals, policies and implementation strategies that provide solutions to existing problems and guidance to future housing development.

Ultimately, there is substantial flexibility in how local communities create their housing elements. Beyond integrating the components listed above, there is no prescribed format for the element. Each community should choose an approach that fits its unique context and needs, ensuring the housing element is consistent with the land use element and supported by the other elements of the plan.

Updated requirements for a housing element under GMA

Cities and counties fully planning under the GMA[11] must include a housing element in their comprehensive plans. RCW 36.70A.070(2) sets out the requirements for a housing element, which must include the following components. Those components that are new or updated with the updated housing element requirements in 2021 are underlined.

- **Housing needs assessment (HNA)**: An inventory and analysis of existing and projected housing needs by income level as provided by the Department of Commerce that identifies the number of housing units necessary to manage projected growth.
- **Goals, policies and objectives:** A statement of goals, policies, objectives and mandatory provisions for the preservation, improvement and development of housing, including policies for moderate density housing options in urban growth areas.
- **Residential land capacity analysis**: Analysis to identify sufficient land to accommodate projected housing needs by income level.
- **Provisions for all economic segments:** Adequate provisions to address existing and projected needs of households at all income levels, including documenting programs and actions needed to achieve housing availability, consideration of housing locations in relation to employment locations and consideration of the role of accessory dwelling units (ADUs) in meeting housing needs.
- **Address racially disparate impacts, exclusion, displacement and displacement risk:** Identify policies and regulations that result in racially disparate impacts, displacement and exclusion, and implement policies and regulations that begin to undo these impacts. Also, identify areas that may be at higher risk of displacement and establish anti-displacement policies.

Exhibit 1 lists both required and recommended topics for a housing element based on RCW 36.70A.070(2) and WAC 365-196-410.[12]

[11] Requirements for who must plan under GMA are defined in RCW 36.70A.040. See footnote #7 on page 6.
[12] WAC 365-196-410 will be updated in 2024 to reflect the new changes to RCW 36.70A.070(2) adopted in 2021.

Exhibit 1. Required and recommended topics for a housing element

Topic	Guidance	Notes
Housing needs assessment, including an inventory of existing and projected housing needs	● Required	See Chapter 2. Housing needs assessment and Chapter 3. Land capacity analysis. For details on required and recommended contents for an HNA, see Exhibit 2.
Land capacity analysis	● Required	See Chapter 3. Land capacity analysis.
Outreach and engagement		See "Public engagement" in Chapter 8. Adopting your housing element, as well as Guidance for Developing a Housing Action Plan. See RCW 36.70A.130(2) and RCW 36.70A.140 for engagement requirements.
Adequate provisions for all economic segments		See Chapter 4. Adequate provisions.
○ Consideration for low, very low, extremely low, and moderate-income households	● Required	
○ Document programs and actions needed to achieve housing availability including gaps in local funding, barriers such as development regulations and other limitations	● Required	
○ Consider housing locations in relation to employment locations	● Required	
○ Consider the role of ADUs in meeting housing needs	● Required	To be implemented with HB 1337 (2023).
Address racially disparate impacts, exclusion, displacement and displacement risk		See Guidance for Addressing Racially Disparate Impacts (Book 3).
○ Gather and analyze data to determine racially disparate impacts, exclusion, displacement and displacement risk, and engage with the community.	*Recommended*	
○ Evaluate and review policies to assess if they contribute to identified impacts	● Required	
○ Identify areas that may be at higher risk of displacement	● Required	
○ Revise and update policies to address identified impacts and establish anti-displacement policies	● Required	
Housing element review		See Chapter 5. Housing element review.
○ Evaluate progress to meet housing targets (including types and units) and achievement of housing goals and policies	*Recommended*	
Goals, policies, objectives and mandatory provisions for:		See Chapter 6. Updating goals and policies.
○ The preservation, improvement and development of housing	● Required	
○ Moderate density housing options including duplexes, triplexes and townhomes in urban growth areas	● Required	
Implementation and monitoring		See Chapter 9. Implementing and monitoring your housing element.
○ Schedule of programs and actions to implement housing policies	*Recommended*	See WAC 365-196-410 subsection (2)(f).
○ Monitoring program to track progress towards goals and objectives as well as outcomes of implemented policies	*Recommended*	See WAC 365-196-410 subsection (2)(f).

Source: RCW 36.70A.070(2); WAC 365-196-410

Chapter 2. Housing needs assessment

This chapter reviews requirements for cities and counties planning under GMA to conduct a housing needs assessment (HNA) as part of their comprehensive plan update. It also provides guidance for evaluating progress towards your housing targets. For detailed guidance on preparing an HNA, see the separate report from Commerce: Guidance for Developing a Housing Needs Assessment.[13]

An HNA identifies current and future housing needs to serve all economic segments of the community. To do this task, your HNA should answer the following kinds of questions:

- Who lives and works here, and what are their demographic and socioeconomic characteristics?
- What types of housing currently exist in the community?
- Are there groups of people unable to find safe and affordable housing that meets their household needs? If so, what are their housing needs?
- How many new units are needed to accommodate current needs, as well as planned population growth over the 20-year planning horizon? How is this broken down by income level?
- What types of housing could accommodate these needs and price points?
- Is there enough buildable land capacity to accommodate this growth and housing diversity?

Answering these questions typically involves quantitative analysis of data from the Census, county assessor, city permit records or other sources. However, jurisdictions can gain important insights through engagement with community members and service providers that can describe challenges not reflected in available data. See the "Public engagement" section of Chapter 8 of this guidance for a more detailed discussion of public and stakeholder engagement.

An HNA typically includes a land capacity analysis (LCA) to determine if a jurisdiction has enough buildable land capacity to accommodate future housing needs by income level. Find the detailed steps of how to conduct an LCA in Chapter 3.

Incorporating findings from your HNA in the housing element

Jurisdictions often choose to include some information from the HNA in their housing element to provide clear information about the community at the time of the plan. This information also provides context for the goals and policies.

At a minimum, jurisdictions should include in their housing element an inventory of their existing housing, how many units are needed to accommodate its share of countywide housing need in the future and how this need is broken down by income level.

Requirements for an HNA

The HNA should assess the existing and future housing needs of the community and compare those needs to existing housing inventory and the zoning capacity to accommodate future needs.[14] This includes:

- *An inventory and analysis of existing and projected housing needs that identifies the number of housing units necessary to manage projected growth, as provided by the department of commerce, including:*
  - *Units for moderate, low, very low, and extremely low-income households; and*
  - *Emergency housing, emergency shelters, and permanent supportive housing.*

[13] Find "Guidance for Development a Housing Needs Assessment" on the Commerce website at: https://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/planning-for-housing/
[14] RCW 36.70A.070(2)

- *Identification of sufficient land for housing including, but not limited to, government-assisted housing, housing for moderate, low, very low, and extremely low-income households, manufactured housing, multifamily housing, group homes, foster care facilities, emergency housing, emergency shelters, permanent supportive housing, and within an urban growth area, consideration of duplexes, triplexes, and townhomes.*

Jurisdictions should prepare their HNA as a first step to the comprehensive plan update. The HNA should consider population and housing growth targets and how that will impact land use and capital facility investments.

The Washington Administrative Code (WAC) provides advisory guidance for completing a housing element.[15] It recommends that jurisdictions complete an inventory and HNA, and identifies specific components for analysis. The inventory should include information about current housing including number of units, types of housing and affordability. It should also include information about housing for populations that may have special needs such as the elderly, differently abled or people with low incomes. A needs assessment should also identify housing needs as determined from the allocation process of countywide housing needs provided by the Department of Commerce. See "Establishing Housing Targets for your Community" (Book 1).

Exhibit 2 provides a detailed list of information to consider including in your HNA. It notes which of these topics are required or recommended for cities and counties preparing an HNA as part of their GMA comprehensive plan update (see the "GMA Housing Element" column). For a more detailed description about what each topic entails, see Commerce's Guidance for Developing a Housing Needs Assessment.

These required and recommended topics for a housing element are similar to those included in a Housing Action Plan (HAP), a voluntary housing strategy document described in RCW 36.70A.600(2).[16] Those cities who have prepared a HAP may use the same HNA to support their subsequent housing element update if the data is determined to be up to date and representative of current conditions. Exhibit 2 also indicates where data for a housing element overlaps with a Housing and Urban Development (HUD) Consolidated Plan.[17] Jurisdictions who receive funding directly from HUD generally complete a Consolidated Plan.[18]

[15] WAC 365-196-410
[16] Housing Action Plans were funded through a grant program by the Washington state Legislature in 2019-2021 and 2021-2023.
[17] A Consolidated Plan is designed to help local jurisdictions assess their affordable housing and community development needs and market conditions, and to make data-driven, place-based investment decisions.
[18] https://www.law.cornell.edu/cfr/text/24/91.2.

Exhibit 2. Comparison of various housing planning requirements

Housing Needs Assessment	GMA Housing Element	HB-1923 Housing Action Plan	HUD Consolidated Plan
Community Profile			
Population Characteristics			
Count of population	•	•	•
Population by age group		•	•
Popualtion diversity: Race, ethnicity, languages spoken, etc		o	•
Population forecasts	20-year	Planning period	5 -year
Household Characteristics			
Household count	•	•	•
Household sizes		•	•
Household types		o	
Household tenure (rental versus ownership)	•	•	•
Overcrowding estimates			•
Household income and cost burden	•	•	•
Extremely low-, low-, moderate-, and middle-income families	•	•	•
Displacement risk		•	
Special Housing Needs			
Groups with special housing needs	o	o	•
Individuals and families experiencing homelessness	o	o	•
Workforce Profile			
Local workforce characteristics		o	
Jobs to housing ratio	o	o	
Employment trends and projections	o	•	
Housing Supply			
General Housing Inventory			
Unit count by type (single or multifamily, manufactured)	•	•	•
Size (number of bedrooms)	•	•	•
Housing Market Conditions			
Housing development trends		o	
Sales prices	o	o	
Rental rates	o	o	
Vacancy rate		o	
Housing condition			
Housing production			o
Housing affordability	o	o	o
Special Housing Inventory			
Subsidized/public housing units	•	•	•
Group homes or care facilities	•	•	•
Housing for homeless individuals: shelters, transitional housing, etc	o	o	
Gap analysis			
Quantity of housing units available to various income brackets	•	•	•
Alignment of household size to housing unit sizes	o	o	•
Units needed for special demographic groups	o	o	•
Projection of future housing demand	•	•	
Land capacity analysis			
Land available to meet housing unit demand	•	•	
Land available to meet special housing needs	o	o	

Legend
- • Requirement
- o Recommendation

Sources: WAC 365-196-410, RCW 36.70A.600, HUD Consolidated Plan 24 CFR Part 91

Housing needs

Typically, the first step in a jurisdiction's comprehensive planning process is to understand the amount of growth they need to be planning for in their plan. As indicated in RCW 36.70A.110 and RCW 36.70A.115, county officials must select a 20-year GMA population growth target within the Low- and High-growth projections prepared by the Washington State Office of Financial Management (OFM). From there, counties and cities use their own process to allocate the projected population to each jurisdiction based on how much the county determines it will grow over the 20-year planning period.

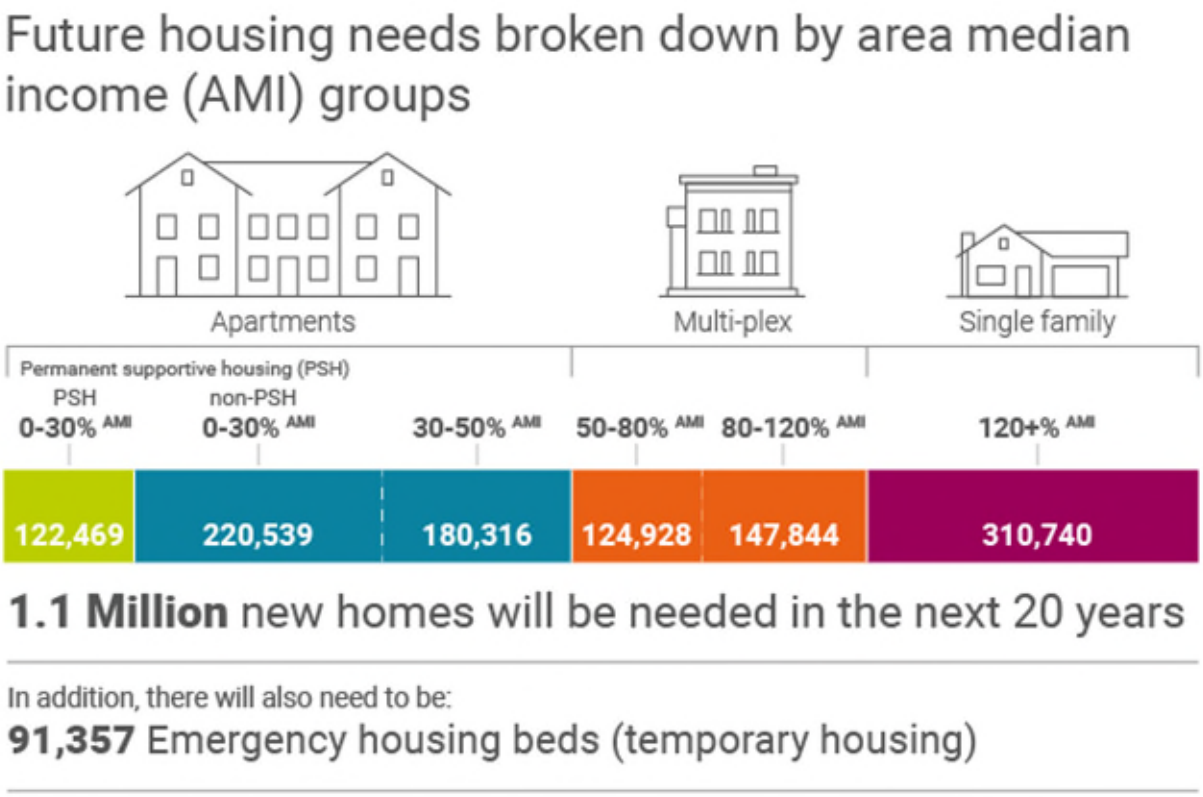
The Department of Commerce will provide the county with future housing needs by income level associated with their chosen population projection. See "Projected housing needs" in "Establishing Housing Targets for Your Community" (Book 1). From there, counties will need to work with their cities and towns to allocate the housing needs by income level to each jurisdiction. See the chapter titled "Allocating housing needs" in the document referenced above.

Based on the allocated housing needs, individual jurisdictions should ensure that their capacity of land and capital facilities can accommodate their portion of the housing needs by income level.[19] This analysis will include an evaluation of what income level housing needs may develop on available land and whether that capacity of housing at each income level is sufficient to meet the housing needs. More details on this analysis are available in Chapter 3 Land capacity analysis.

Based on many different factors, including the fact that incomes have not kept up with housing costs and housing production has not kept up with demand for the past 15 years, a large portion of projected housing needs in jurisdictions will fall below 80% of area median income (AMI). See the statewide housing needs by 2044 in Exhibit 3.

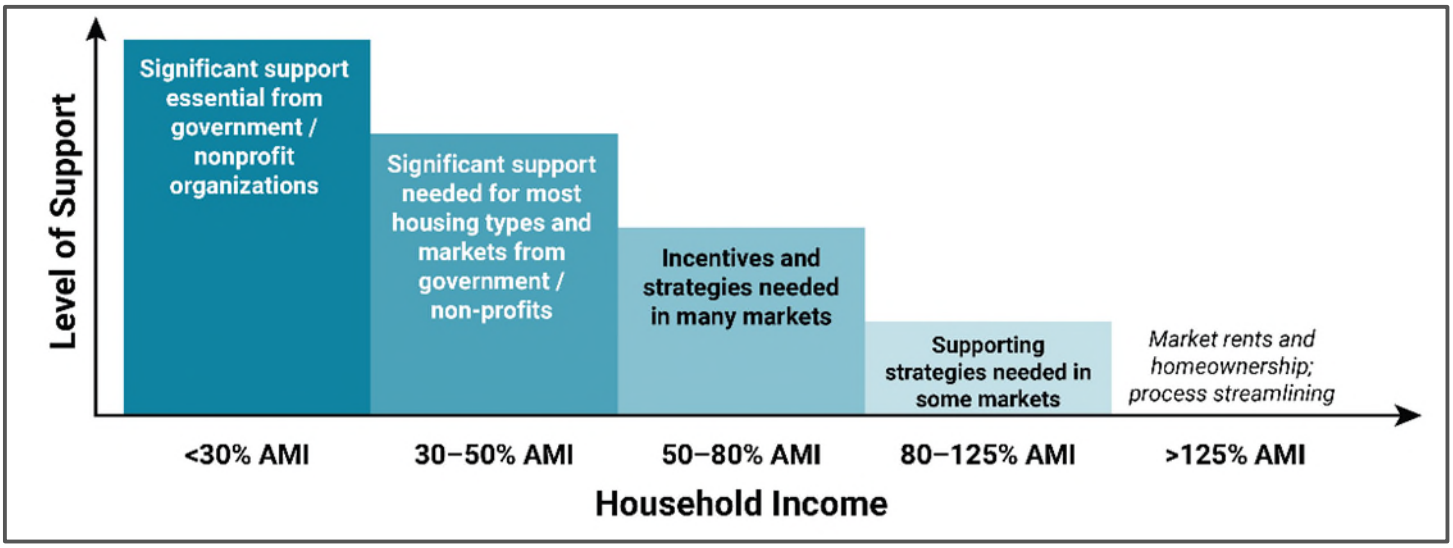
[19] See WAC 365-196-410 (2d)

Exhibit 3. Statewide housing needs by income level



Special measures will be needed to encourage and enable production of new housing or rehabilitation of existing housing to meet the needs of these groups. Exhibit 4 below notes that jurisdictions need subsidies, incentives and partnerships to achieve housing for lower income segments (80% AMI and below). In addition to new production, "filtering" may help meet the needs of lower income segments in some markets. Filtering is the idea that as new market-rate housing is built, higher-income people move into it, leaving behind older housing stock for lower-income people. Strategies to address these needs will be discussed more in Chapter4. Adequate provisions and Chapter 7 Identifying strategies to implement your housing policies.

Exhibit 4. Strategies needed for different income segments



Source: BERK, 2020

Evaluating progress toward future housing needs

After identifying future housing needs, jurisdictions should use permit records to evaluate their progress towards their housing production targets to meet these needs. It is important to know whether the jurisdiction's rate of growth puts it on track to meet or exceed its planned housing needs. Data about historic housing production can be in city or county permit records or summarized in annual housing unit estimates from OFM.[20] When using permit data, make sure to subtract demolished units to calculate the net new housing units added during the period of analysis.

Exhibit 5 below provides an example summarizing net new units with City of Yakima permit data between 2015 and 2019. During this period, a total of 1,391 net new units were produced, or about 278 units per year. This is slightly short of the 290 units needed each year to reach the city's housing target. However, the last two years analyzed show an uptick in housing production of attached and multifamily types, following adoption of the city's comprehensive plan in 2017 and subsequent implementing actions. Continued monitoring of this trend will help determine whether Yakima needs to take additional actions to encourage an increase in housing production or if additional incentives are necessary to guide production towards attached units for people with lower incomes.

[20] https://ofm.wa.gov/washington-data-research/population-demographics/population-estimates/april-1-official-population-estimates

Exhibit 5. Permitted housing units in City of Yakima, 2015 - 2019

Housing Type	2015	2016	2017	2018	2019	Total
Single Family	114	107	90	144	89	544
Duplex	26	40	32	70	96	264
Multifamily with 3 & 4 units in structure	3	0	3	36	35	77
Multifamily with 5 + units in structure	0	0	0	15	616	631
Mobile Home	15	10	18	15	16	74
Total New	**158**	**157**	**143**	**280**	**852**	**1,590**
Demolitions (all types)	40	29	27	48	55	199
Net New Units (all types)	**118**	**128**	**116**	**232**	**797**	**1,391**
Average Annual Net New Units (2015-2019)			278			

Source: City of Yakima; BERK 2020

If the City of Yakima had adopted targets by housing type, rather than a total housing production target, then this same type of analysis could be used to determine whether there has been an over- or under-production of units within any of those types compared to the targets.

Chapter 3 Land capacity analysis links this information with income levels able to afford each of these housing types. This information determines whether jurisdictions need to take additional steps to allow certain types of housing production to meet future housing needs by income level. Chapter 4, Adequate provisions discusses how jurisdictions will then evaluate whether they need to encourage production of various housing types to meet housing needs by income level.

Chapter 3. Land capacity analysis

The Growth Management Act (GMA) requires comprehensive plans to include a housing element that identifies "sufficient capacity of land" to accommodate all projected housing needs during the twenty-year planning horizon (RCW 36.70A.070(2)(c)).

In other words, jurisdictions should evaluate whether they have sufficient land capacity available to allow for the types and amount of new housing needed to meet identified housing needs. The 2021 housing element updates amended this section of the Act to require the housing element to include explicit consideration of capacity for the following household needs and building types:

- Moderate, low, very low, and extremely low-income households;
- Permanent supportive housing;
- Emergency housing and emergency shelters; and
- Duplexes, triplexes and townhomes (within an urban growth area boundary).

In this guidance, all references to "housing needs" refer to the jurisdiction's allocated share of countywide housing needs. Counties and cities are expected to work together to allocate countywide projected housing needs to individual jurisdictions, as detailed in Commerce's guidance titled "Establishing Housing Targets for your Community" (2023). These housing need allocations are derived from population projections. Therefore, so long as jurisdictions show sufficient land capacity for their housing and employment growth, jurisdictions are not also required to show sufficient land capacity for population.

After counties and cities work together to allocate countywide housing needs, each individual jurisdiction is then required to document sufficient capacity to accommodate all housing needs allotted to them. This section details how a jurisdiction can document the availability of capacity in accordance with RCW 36.70A.070(2)(c).

What is a land capacity analysis?

Counties and cities must conduct a Land Capacity Analysis (LCA) to measure and document capacity for new housing development on vacant, partially used or under-developed lands. This analysis considers the potential for land within a community's boundaries to accommodate new housing growth, given what is allowed under current zoning and development regulations and what can reasonably be anticipated based on past development and factors that may cause trends to change in the future.[21]

Unlike a Buildable Lands Analysis, which looks backward at performance under the previous period's comprehensive plan, an LCA looks forward to the land uses and development types planned for the next planning period, as described in WAC 365-196-325.[22] While the focus of an LCA is on the potential for new development under current regulations and zoning, past trends and other factors should be considered to ensure that projected capacity is realistic. RCW 36.70A.070(2)(d) includes separate requirements for analyzing barriers and limitations that prevent new development from achieving planned densities and housing types. These requirements are covered in Chapter 4. Adequate provisions, and are separate from the LCA.

[21] See WAC 365-196-310(4)(b)(ii)(E). At the time of publication, this section had not yet been updated to reflect new GMA requirements for measuring land capacity for different income levels and housing types.
[22] Note, at the time of publication, WAC 365-196-325 had not yet been updated to reflect new GMA requirements for measuring land capacity for different income levels and housing types.

During development of this guidance, Commerce already had detailed guidance for performing an LCA in its Urban Growth Area (UGA) Guidebook (2012), starting on page 84.[23] This new LCA guidance builds on the framework of the UGA Guidebook to provide additional recommendations for how to demonstrate capacity for housing production by income level and for specific housing types, consistent with new GMA requirements.[24]

Under the GMA, jurisdictions must adopt and implement any necessary changes to achieve enough land capacity to accommodate all housing needs by their comprehensive plan periodic update deadline.[25] Cities and counties must "ensure that, taken collectively, adoption of and amendments to their comprehensive plans and development regulations provide sufficient capacity of land suitable for development within their jurisdictions to accommodate their allocated housing and employment growth…" (RCW 36.70A.115).

For example, if a jurisdiction's comprehensive plan identifies a residential land capacity deficit for middle housing types to serve the projected number of moderate-income households, then the implementing development regulations must at least include changes to the zoning code, zoning map and other associated development regulations, as needed, to allow sufficient middle housing to overcome that deficit. That additional capacity should be allowed "by right" to ensure that there are minimal hurdles to building the needed capacity.

This chapter has two sections. The first provides a methodology for evaluating capacity to accommodate allocated housing needs, including housing needs at all income levels; permanent supportive housing; and, within urban growth areas, duplexes, triplexes and townhomes.[26] The second section addresses capacity for emergency housing and emergency shelter, which provide temporary accommodations for those who are homeless or at imminent risk of becoming homeless. Emergency housing is treated differently in Commerce's guidance, as discussed in more detail in that section below.

[23] The UGA Guidebook is located at: https://deptofcommerce.app.box.com/s/pnkar5j81ghxrgfdgr3ofa7pmw5v37da
[24] As of January 2026, Commerce is finalizing an update to the 2012 UGA Guidebook. The Draft UGA Guidebook (2025) is located here: https://deptofcommerce.app.box.com/s/0psahjxca4rk0wwnv1vjxadp38brexmr, with guidance on LCAs starting on page 36. The final version will be published in early 2026.
[25] RCW 36.70A.130(1)(a): Except as otherwise provided, a county or city shall take legislative action to review and, if needed, revise its comprehensive land use plan and development regulations to ensure the plan and regulations comply with the requirements of this chapter according to the deadlines in subsections (4) and (5) of this section.
[26] See RCW 36.70A.070(2)(c).

Defining household income segments

The land capacity requirements of the housing element in RCW 36.70A.070(2)(c) reference moderate, low, very low and extremely low-income households. RCW 36.70A.030 provides definitions for households by income level relative to "median household income adjusted for household size, for the county where the household is located, as reported by the United States department of housing and urban development." The Department of Housing and Urban Development (HUD) publishes this income standard, referred to as Median Family Income or Area Median Income (AMI), for each county on an annual basis.

Exhibit 6 presents the definitions for each income level as stated in RCW 36.70A.030. These are the same income thresholds used for Commerce's projected housing needs, with the exception that Commerce breaks out Moderate Income into two groups: >80-100% of AMI and >100-120% of AMI.

Exhibit 6. Income level definitions in RCW 36.70A.030

Household income segment	Income relative to area median income (AMI)
Extremely low-income	0-30% of AMI
Very low-income	>30-50% of AMI
Low-income	>50-80% of AMI
Moderate income	>80-120% of AMI

In addition to these income segments, RCW 36.70A.070(2)(c) notes that land capacity analyses now need to take into consideration permanent supportive housing (PSH), emergency housing and emergency shelters. As noted in Establishing Housing Targets for your Community (Book 1),

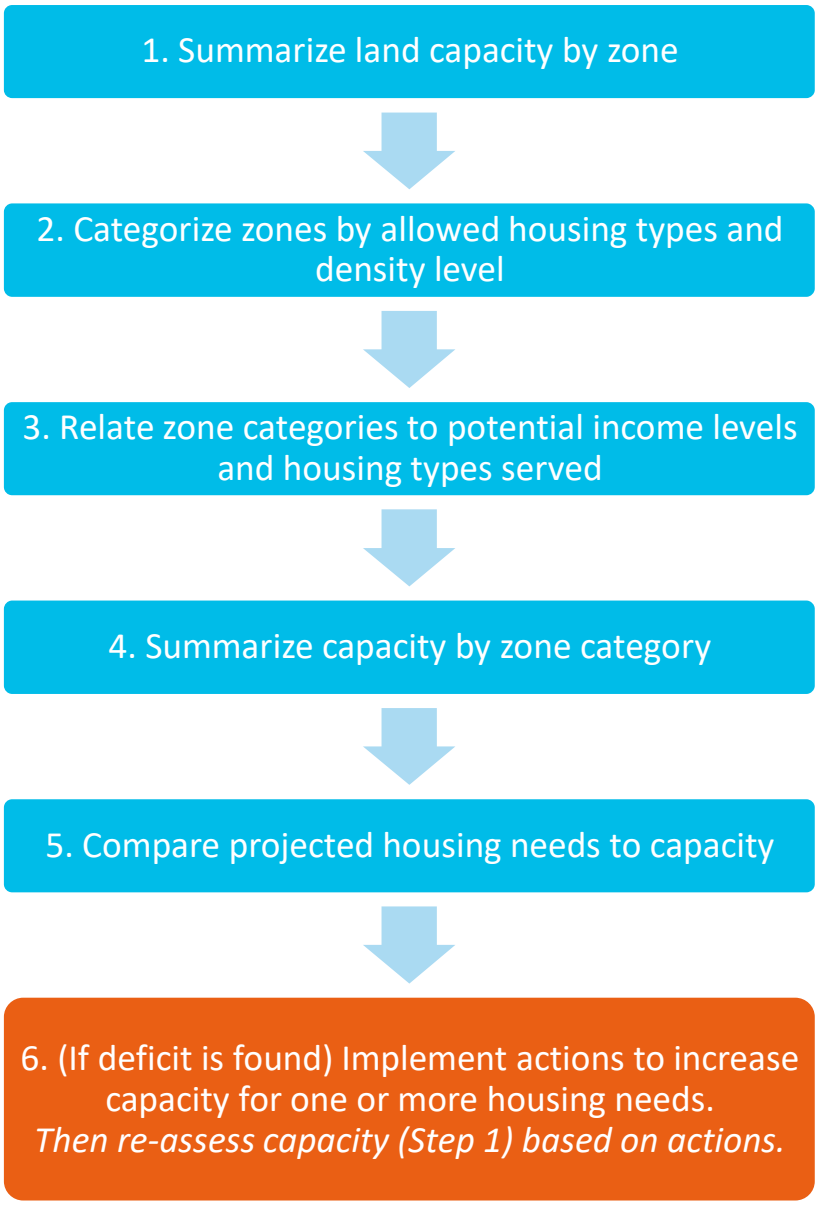
- PSH needs are a subset of the total 0-30% AMI housing needs. While some households in PSH may have incomes higher than 30% AMI, the majority of these households are likely to be in the 0-30% AMI bracket as this is where disability incomes would fall, and RCW 36.70A.030 requires PSH participants to have "complex and disabling" conditions and service needs. Therefore, the 0-30% AMI housing needs are split into two categories: PSH and Non-PSH.

- Both emergency housing and emergency shelter include temporary accommodations. In implementation, there may be overlap between what could be considered emergency housing versus emergency shelter. For this reason, emergency housing and emergency shelter are considered a single category and referred to throughout this guidance as "emergency housing."

Evaluating capacity for housing needs for all income levels

Commerce recommends that counties and cities complete each of the steps shown in Exhibit 7 to analyze and assess their capacity by income level. Each step is described in more detail in the sections that follow. Buildable lands counties subject to RCW 36.70A.215 or those that have already completed a land capacity analysis may have already completed the analysis needed for Step 1. In that case, they can use the output from that analysis to complete the remaining steps.

Exhibit 7. Steps for demonstrating sufficient capacity to meet all housing needs by income level



The goal of this process is to show quantitatively whether the jurisdiction has enough capacity to meet its allocated housing needs at each income level.[27] If, at the conclusion of Step 5, the analysis shows a deficit of capacity for one or more income levels, then the jurisdiction must identify actions that can increase capacity. This may include rezoning areas to allow for new housing types or higher densities or taking other effective steps. Then the jurisdiction must return to Steps 1-5 to recalculate capacity and compare to needs.

[27] Permanent supportive housing (PSH) units are grouped with 0-30% AMI housing units in this methodology.

Analyzing land capacity in rural areas

Housing development in rural areas often consists of a single-family home on a minimum of five acres. Given today's construction prices, new housing development in rural areas will typically serve households with income levels of >120% AMI. Therefore, a land capacity analysis of rural areas is only required when counties need to show sufficient land capacity for their housing needs below 120% AMI. If this land capacity analysis is needed, Commerce recommends considering the following guidance.

- Building or placing new housing for households below 80% AMI in rural areas is only suitable in Local Areas of More Intense Rural Development (LAMIRDs), master planned resorts, fully contained communities, and tribal areas, unless documentation is provided to show that this is feasible for new construction in other areas.
    - When considering housing capacity in LAMIRDs, jurisdictions should confirm that existing public facilities and services are available to support the proposed housing and the housing is consistent with rural character (RCW 36.70A.070(5)(d)(i)(C)).
    - Residential capacity in master planned resorts must support the on-site recreational nature of the resort (RCW 36.130.360(3)).
    - New fully contained communities must be consistent with RCW 36.70A.350.
    - Tribal areas are not required to plan for or accommodate countywide housing needs but may choose to do so in agreement with the county.
- For housing needs between 80-120% AMI, jurisdictions should provide supporting information that the housing capacity outside of UGAs can be affordable to households at these income levels. Possibilities include:
    - A very small percentage of capacity can be assumed to be met by new rural accessory dwelling units (ADUs) assuming the rent would likely support households in the 80-120% AMI range.
    - Local governments may use manufactured homes as a portion of their 80-120% housing needs in rural areas if there is evidence of siting manufactured homes at these prices. It is appropriate to assume a rate of manufactured home placement in rural areas that is consistent with trends.
- Farmworker housing permitted by the Department of Health (DOH) is not considered housing for purposes of an LCA because it is not considered permanent, all-year housing.

However, changes to the GMA in 2021 allow for redevelopment and infill within local areas of more intense rural development (LAMIRDs) that have public facilities and services. Therefore, some counties may consider applying this LCA methodology to evaluate potential capacity for housing production in select LAMIRDs that can support new development.

Step 1. Summarize land capacity for housing production by zone

Residential land capacity is a combination of the amount of land available for development, the housing types and densities allowed under applicable development regulations, and any encumbrances on the land that limit the ability to develop, such as environmental constraints, infrastructure requirements or local market forces. In this step, jurisdictions should summarize land capacity by zone as follows:

1.1 Identify residential land supply and assign development status

Identify parcels in zones where residential uses are permitted, including parcels in mixed-use zones. Classify each parcel in the residential land supply as either vacant, partially-used, under-developed, pipeline or

developed. Classification is based on a combination of current development characteristics for each parcel and the applicable zoning regulations. Classification typically involves the following steps:

- Calculate the current density of permitted development on the parcel (dwelling units per acre or floor-area-ratio). If the property is currently undeveloped, it should be classified as vacant.

- Compare the current density of non-vacant land to the density allowed under applicable zoning. If the current achieved density is substantially below allowed density, the property may be classified as partially-used or under-developed. Jurisdictions are responsible for setting reasonable thresholds for this determination, but the following guidelines are commonly used:

  - Vacant – Parcels of land that contain no structures or have buildings with low value. The Commerce UGA Guidebook (2012) includes lands with improvement values of less than $500 in the vacant classification. Jurisdictions may set different improvement value thresholds based on local knowledge and market characteristics, but these should be consistent with any applicable county-level land capacity analysis or buildable lands report.
  - Partially-used – Parcels occupied by a use, but which include enough land to be further subdivided for additional development without rezoning. For example, a 1-acre lot zoned for four units per acre that contains one single-family home could be subdivided to allow development of up to three additional units.
  - Under-developed – Parcels that are likely to redevelop to a more intensive land use than that which currently occupies the property, either due to market forces or because applicable zoning allows a more intensive use than the current development. Examples of under-developed properties include:

    - A single-family home on property in a multifamily zone.
    - A multifamily residential property developed at a density below that allowed by the applicable zone. Jurisdictions may set this threshold according to local conditions. For example, King County's 2021 Urban Growth Capacity Report recommends a ratio of allowed density to achieved density of at least 1.5:1 as a reasonable minimum threshold, but less urban jurisdictions with less active development markets may consider higher thresholds.
    - A property with relatively low improvement value compared to the value of the land (a ratio less than 1:1 is a commonly used threshold, as described in the 2012 Commerce UGA Guidebook).

  - Pipeline – Parcels that are currently engaged in the permitting process (for example, permit applications under review or engaged in pre-application consultation) and are anticipated to be developed in the near future. These properties should be excluded from the land capacity analysis. Because they represent future development, jurisdictions may count units anticipated to develop on pipeline properties toward their projected housing needs (see Step 5).

    If the base year of the LCA is later than 2020, residential development since 2020 may also be considered in the same manner as pipeline. See Step 5 for detailed guidance.

Technical resources

Draft UGA Guidebook **(Department of Commerce, 2025; final expected early 2026) -** Detailed guidance for land capacity analysis methodology can be found starting on **page 36.**

Buildable Lands Guidelines **(Department of Commerce, 2018)** - Guidance on methodology starts on **page 30.**

Housing Memo: Issues Affecting Housing Availability and Affordability **(Department of Commerce, 2019)** - Considerations for housing trends in your community.

- Developed – Parcels that have been developed for a primary use and do not meet the criteria for the categories above. These parcels are assumed to have no capacity for additional development under current zoning regulations.

1.2 Exclude lands unlikely to develop

Some properties (or portions of properties) will have characteristics that make them unlikely to develop in the near future or ever, and such lands should be excluded from the available land supply. Conditions that prevent development often include the following:

- Critical areas – Environmental constraints regulated under the jurisdiction's critical areas regulations, such as wetlands, fish and wildlife habitat conservation areas, geological hazardous areas, frequently flooded areas, etc. that preclude significant development.

- Public use – Lands owned by a government or public agency that are used and managed for public purposes, such as parks, schools or utility facilities. Most land owned by governments or public agencies is unlikely to be developed for housing in the near future and should therefore be excluded from the available land supply. Other local factors such as historic districts, conservation easements or ownership by a non-profit organization should also be considered when identifying public-use properties.

  However, any properties owned by governments and public agencies that are intended for housing production, such as land owned by a housing authority, should be included in the LCA. Similarly, public properties that have been declared surplus and are otherwise suitable for residential development may be included in the available land supply.

- Capital infrastructure – Easements, rights-of-way and other major facilities associated with public utilities or transportation infrastructure. Jurisdictions are not required to conduct detailed plat research to identify all easements across private property, but major utility corridors and known easements with the potential to affect development of the property should be identified and considered.

1.3 Identify gaps in utility infrastructure and services

Gaps in infrastructure for utilities and public services can inhibit development, keeping achieved densities below the level planned by the jurisdiction and allowed by development regulations. The GMA requires comprehensive plans to plan for the capital facilities needed to serve anticipated levels of growth during the planning period (RCW 36.70A.070(3)). Further, jurisdictions planning under the Review and Evaluation Program (RCW 36.70A.215), also referred to as "buildable lands" jurisdictions, are required to consider infrastructure gaps when evaluating whether sufficient land is available to meet growth targets, including the presence of transportation, water, sewer and stormwater infrastructure (RCW 36.70A.215(3)(b)(i)).

This guidance recommends that all cities and counties identify what portions of their planning area, if any, are affected by infrastructure gaps that have the potential to prevent planned densities from being achieved during the planning period and engage in coordination with any utility service providers operating within the jurisdiction. This includes review of comprehensive plan capital facilities or transportation elements, as well as applicable utility system plans, to determine if any service or infrastructure improvements to address these gaps are planned. If infrastructure gaps are identified, and no corrective capital improvements are planned, jurisdictions should take one of the following actions:

- For areas that are already developed at urban densities, determine the maximum residential density that is feasible without infrastructure improvements and apply this density assumption when calculating capacity for these areas when new infrastructure is unlikely within the planning period;[28] or
- For underserved and undeveloped areas where reaching planned densities requires infrastructure, calculate land capacity using planned densities for the applicable zone and commit to providing infrastructure adequate to support this level of growth within the planning period. This commitment should include updates to applicable capital facilities and system plans that identify necessary capital improvement projects and funding sources, to be delivered concurrently with adoption of the comprehensive plan update. If a jurisdiction is unable to provide this commitment, the area should generally not be included with the UGA.[29]

If a city or county elects to apply reduced residential density assumptions to areas affected by infrastructure gaps, they are still required to demonstrate adequate overall capacity to meet projected housing needs, and zoning changes may be necessary elsewhere in the jurisdiction to supply the needed capacity.

[28] If a jurisdiction opts for this scenario, they are still required to provide urban areas with adequate public facilities. See WAC 365-196-320(1)(d) and (f).
--Section (d): "At a minimum, adequate public facilities in urban areas should include sanitary sewer systems, and public water service from a Group A public water system under chapter 70A.120 or 70A.125 RCW because these services are usually necessary to support urban densities. The services provided must be adequate to allow development at urban densities and serve development at densities consistent with the land use element and meet all regulatory obligations under state and federal law."
--Section (f): "The obligation to provide urban areas with adequate public facilities is not limited to new urban areas. Counties and cities must include in their capital facilities element a plan to provide adequate public facilities to all urban areas, including those existing areas that are developed, but do not currently have a full range of urban governmental services or services necessary to support urban densities.
[29] Critical areas would not need to be removed from the UGA due to lack of infrastructure.

1.4 Calculate gross residential capacity by zone

For each zone, calculate the amount of available residential development capacity according to the following steps:

A. Developable acreage – Calculate total acreage of developable land available by development status (vacant, partially-used and under-developed). As described previously, developable acreage should exclude areas encumbered by critical areas and easements that prohibit significant development based on the guidelines below.

- If the jurisdiction's development code permits housing development based on net density (total parcel area minus constrained areas), all encumbered areas should be excluded from developable acreage. (For example, a 10-acre parcel with 2 acres occupied by wetlands and associated buffers would have 8 acres of developable area.)
- If the jurisdiction's development code permits housing development based on gross density (total parcel area), only completely encumbered properties should be excluded. Partially-constrained properties should be included at their full acreage.
- If parcel-level data on environmental constraints is not available, jurisdictions may determine the total acreage of critical areas for each zone and deduct this from the total developable land supply for the zone.

B. Apply deductions for infrastructure needs and land unavailable for development – New development generally requires new infrastructure improvements (roads, utilities, etc.). These improvements occupy land, reducing the acreage available for housing development. The amount of the deduction for infrastructure can vary by location and development status. For example, redevelopable land and infill vacant lots in urban areas may already be partially or fully served by existing infrastructure and may require a smaller deduction than greenfield areas.

Deductions for infrastructure may be further reduced (or unnecessary) if a jurisdiction regulates housing development based on gross density, rather than net density.[30] Similarly, in areas where infrastructure gaps have been identified (Step

Incorporating HB 1110 (2023) into the LCA

The LCA guidance was developed prior to passage of the middle housing bill, HB 1110 (2023). This bill requires certain jurisdictions to allow multiple units per lot, changing the typical density calculations from units per acre or floor area ratio to units per lot. Until further guidance is developed, jurisdictions may want to consider using the following approach - drawn from the Puget Sound Regional Council's (PSRC) impact analysis of HB 1110 - to help determine the capacity impacts of this bill.

When considering additional density because of middle housing regulation changes, consider:

1. Which lots would be potentially redevelopable (i.e., those without Homeowners Association (HOA) restrictions, those that are vacant or have only one dwelling unit, those with a developable area over 2,000 square feet, etc.).

2. Of the lots in Step 1, determine which subset of lots may economically make sense to redevelop. A starting point for this analysis could be where the land value is greater than the improvement value and the built square footage is less than 1,400 square feet.

3. Estimate the total development potential of lots selected through Step 2, i.e., the maximum number of dwelling units allowed to be developed on these lots net of existing units. Then determine what percentage of the total development potential (or net maximum dwelling units) could reasonably be expected to redevelop over the 20-year planning period. A conservative estimate could be 25%, but tailor this factor to what is most appropriate for your jurisdiction and local market conditions.

Also see the Middle Housing User Guide, section 4.4 on pages 94-96, for additional information on land capacity analysis for middle housing.

[30] Jurisdictions may regulate the allowed density of development in a variety of ways. Gross density is measured as the number of housing units divided by total land area, without any deductions. Net density is calculated after first deducting non-buildable areas from the total amount of land, including environmentally critical areas and associated buffers, land needed for roads, stormwater detention

1.3), a smaller deduction for infrastructure needs would be appropriate if corrective capital improvements are not planned.

If a deduction is applied for infrastructure, a jurisdiction may determine this percentage based on recent development activity, being careful that infrastructure percentage deduction factors are based on land not constrained by critical areas.

Likewise, after application of deductions for necessary infrastructure, some portion of the remaining developable land supply may remain unavailable for development during the planning period due to site conditions, economic factors or unwillingness to develop or sell on the part of the property owner. Jurisdictions should refer to the discussion of market factors presented in the 2012 Commerce UGA Guidebook for guidance on establishing appropriate deduction values. Based on examples presented in the UGA Guidebook, the following market factor deductions are reasonable assumptions:

- Vacant properties: 15%
- Partially-used and under-developed properties: 25%

Alternatively, if a community has conducted specific market factor analysis, such as analysis performed under the requirements of the buildable lands program, the results of that evaluation may be used here, provided the jurisdiction documents the analysis and associated assumptions. Additional consideration for market challenges and their relationship to local regulatory or process barriers is in Chapter 4. Adequate provisions.

C. Calculate total residential capacity for developable land by zone – Calculate total capacity for residential development by multiplying the developable acreage of land by an assumed density level expressed in units per acre.[31] Jurisdictions should establish assumed densities for each residential zone. The 2012 Commerce UGA Guidebook and WAC Sections 365-196-210(6), 365-196-310(4)(b)(ii)(E) and 365-196-325(2) establish guidance on the factors that should be considered when establishing growth assumptions for a land capacity analysis:

- **Since the LCA is a forward-looking analysis, jurisdictions should focus on the level of development expected to occur during the planning period.** Assumed densities for use in the LCA should consider the maximum densities allowed under zoning, and historic trends and achieved residential densities, as well as factors, which may cause trends to change in the future. In some cases, achieved densities will be similar to maximum allowed densities. However, many factors beyond the control of cities and counties can influence the level of future development. Therefore, compare allowed densities to achieved densities to identify zones that have historically underperformed relative to planned levels of development.
- At a minimum, assumed densities should reflect the current achieved residential densities for each zone but should not exceed the maximum density allowed by right under the development code.

and utilities. The GMA does not mandate a particular way to measure density, so jurisdictions should use a method for the LCA that is consistent with their adopted development regulations and any existing Buildable Lands analysis (as applicable).

[31] At the time of publication, WAC 365-196-210(6) states that: "'Assumed densities' means the density at which future development is expected to occur as specified in the land capacity analysis or future land use element. Assumed densities are also referred to in RCW 36.70A.110 as densities sufficient to permit the urban growth that is projected to occur."

- Jurisdictions may consider the availability of density bonuses and incentive programs related to the provision of affordable housing units. Such bonuses and incentives may be used to justify assumed densities up to (but no higher than) the maximum allowed base density of the zone if documentation is provided on past trends of affordable housing production under these incentives.
- Jurisdictions planning under the Review and Evaluation Program (RCW 36.70A.215) should incorporate information from applicable buildable lands reports when establishing assumed densities for the LCA. See sidebar.
- If information on achieved density or historic development trends is not available (e.g., when a zone is newly adopted or recently amended), jurisdictions should review recent examples of permitted projects in similar zones or in peer jurisdictions as models of future development densities.

In mixed-use zones and areas regulated under form-based codes, assumed residential densities must consider the potential development of non-residential uses. To avoid counting more residential capacity than will develop over the planning period, jurisdictions must account for non-residential uses when calculating capacity in these zones. Mixed-use and form-based development regulations can vary by geography and urban context, so jurisdictions should choose an approach that is most consistent with their development code.

If a mixed-use zone establishes separate standards for maximum residential density and maximum non-residential Floor Area Ratio (FAR), the jurisdiction could determine an assumed residential-commercial split for the zone based on permitting trends or other local information. This ratio could then be used to adjust either the assumed density of the zone or the amount of developable land available:

- Adjusted density assumption: For example, if future development in the zone is expected to be 60% residential and 40% commercial, the jurisdiction could select a residential density assumption equal to 60% of what would be achieved if the zone were 100% residential and apply that adjusted density to the full developable acreage. If the zone allows up to 40 units per acre, applying this split on a 10-acre developable site would yield the following:

  40 units/acre permitted x 60% residential = 24 units/acre
  10 developable acres x 24 units/acre = 240 units

- Adjusted developable acreage: Similarly, the jurisdiction in the example above could instead choose to apply the residential-commercial split to the amount of developable land available and calculate capacity using the full planned density for the zone:

  10 developable acres x 60% residential = 6 residential acres
  6 residential acres x 40 units/acre = 240 units

If you are in a "buildable lands" county, subject to RCW 36.70A.215, then your jurisdiction has extra responsibilities. These counties (which include Clark, King, Kitsap, Pierce, Snohomish, Thurston and Whatcom) and the cities and towns within their boundaries, must gather data on the density and type of development that is occurring to understand whether development is occurring as planned.

Unlike the LCA, which looks forward at how your current capacity and new population targets will work as you update your plan, buildable lands looks back at how your current comprehensive plan is functioning and whether the jurisdiction met their assumed density goals.

If actual development patterns are different from those planned for in the comprehensive plan, the jurisdiction must adopt "reasonable measures" that will address those inconsistencies during the next update period.

Any observations on development patterns and achieved densities are useful for making assumptions about undeveloped land and can be used for completing an LCA.

Mixed-use zones focused on combined residential and commercial uses within the same building or development site may instead establish a maximum FAR standard for the entire property, regardless of use. Similar to the examples above, the jurisdiction should estimate the relative share of future residential development in the zone (e.g., 60%) and adjust the FAR assumption used in the capacity analysis to reflect only the residential share. Apply the total developable acreage for the zone to this adjusted FAR assumption to derive the anticipated square footage of residential development and then convert to housing units based on an assumed average unit size.

> 3.0 Maximum FAR x 60% Residential = 1.8 Residential FAR
> 10 developable acres (435,600 sq ft) x 1.8 Residential FAR = 784,080 residential sq ft
> 784,080 residential sq ft / 800 sq ft per unit = 980 units

Jurisdictions using form-based codes must likewise establish assumptions about the mix of residential and commercial uses and the expected density of residential development in these zones. Similar to mixed-use zoning described above, these assumptions should be based on residential density or non-residential FAR requirements in the code itself (if they exist) that are expected to occur (e.g., assumed density) and/or on historic development trends in these zones or similar zones with similar market factors.

Exhibit 8 shows an example of the process for calculating gross residential capacity by zone described in steps 1.4.A – 1.4.C above.

Exhibit 8. Example calculation of gross residential capacity by zone

Zone	Gross developable land (acres)		Infrastructure/ land availability deduction factor	Net developable land (acres)		Assumed density (units/acre)	Gross residential capacity (units)
Single Family Residential (R-4)	Vacant	760	15%	646	2,924	2.5 units/acre	7,310
	Partially-used	1,288	25%	966			
	Under-developed	1,749	25%	1,312			
Medium Density Residential (R-8)	Vacant	311	15%	264	1,201	6 units/acre	7,206
	Partially-used	715	25%	536			
	Under-developed	535	25%	401			
Multifamily Residential (R-12)	Vacant	144	15%	122	611	10 units/ acre	6,110
	Partially-used	325	25%	244			
	Under-developed	327	25%	245			
Multifamily Residential (R-30)	Vacant	78	15%	66	267	25 units/ acre	6,675
	Partially-used	96	25%	72			
	Under-developed	172	25%	129			

Data availability
This guidance recognizes that the collection of data necessary to prepare the LCA may pose a challenge for some jurisdictions. In such cases, jurisdictions should use the best and most accurate information available and may use substitute sources, if all data sources and assumptions are thoroughly documented.

For example, if complete parcel-level information is not available on existing housing unit counts, jurisdictions may estimate achieved densities by evaluating a sample of representative parcels or by reviewing recently issued development permits in each zone. Similarly, jurisdictions may review a sample of representative mixed-use projects when setting assumptions about expected residential densities.

1.5 Calculate net residential capacity by zone

For each zone, subtract existing housing units from total residential capacity determine net residential capacity.

1.6 Calculate additional capacity for ADUs on developed lots (Optional)

Changes to the housing element in 2021 call for jurisdictions to consider the role of accessory dwelling units (ADUs) in meeting housing needs. Changes in 2023 require jurisdictions to allow up to two ADUs per lot in urban growth areas, with the option for separate sale. Although capacity for ADUs has not typically been measured in a land capacity analysis, they are very likely to become important in meeting housing needs.

ADUs can be added to a developed parcel with an existing single-family home, and they may provide a lower cost housing option in areas where housing is typically more expensive, providing a way to help pay for a mortgage.

The optional methodology below provides general guidance for developing a reasonable estimate of capacity for new ADU production over the planning horizon. Jurisdictions should customize the assumptions described in the methodology below based on the best information available that reflects their local regulatory and market conditions.

- **Estimate total developed single-family lots where ADUs could be added.** Jurisdictions should document the zones where ADUs are allowed and estimate how many developed lots in these zones could add ADUs (either attached, detached, or conversion), based on local conditions. The feasibility of establishing an ADU on a given property depends on many site-specific factors, as well as the type of ADU to be added. Jurisdictions should generally consider the following factors, as applicable:

  - What are the prevailing lot sizes and built square footage compared to maximum allowed lot coverage? (i.e., is there space to construct an attached or detached ADU?)
  - Are there restrictions on the development of ADUs by local Homeowners Associations (HOAs)? And are they enforced?
  - Are there septic drain fields or other utility infrastructure that would limit the construction of accessory structures?
  - Any other site-level requirements established by the jurisdiction that would affect the ability to construct an ADU (property access, setbacks, etc.)?

  Jurisdictions should thoroughly document all assumptions and screening criteria used, including data sources.

- **Determine a reasonable participation factor to account for owner preferences and site constraints.** Many property owners who can legally establish new ADUs on developed lots may choose not to do so, given the

significant associated cost and effort. Recommended participation factors could be as low at 1% in relatively weak real estate markets or as high as 10% in strong markets where lot sizes and infrastructure are conducive to ADUs. [32]

The historic rate of ADU production or any recent gradual increase in ADU production in a jurisdiction may inform the starting point for a participation factor. Also consider the scope of changes to a city's ADU regulations that will be required based on 2023 legislative changes in HB 1337 and the impact those changes will have within the jurisdictions housing market.[33]

It may also be helpful to develop different participation factors for each zone based on the different characteristics of housing in each zone. For example, zones with a lot of new development may have homes that have maximized the available lot coverage and have limited ability to add ADUs, therefore a low participation factor may be more appropriate compared to a zone that is primarily a first ring suburb with lots that have more space to build an ADU.

Apply the participation factor to the number of lots where ADUs could be constructed to estimate the number of lots likely to add ADUs during the planning period. For example, if the jurisdiction estimates 4,000 lots could accommodate ADUs and sets a 10% participation factor based on local market factors and flexibility in ADU development regulations, potential ADU lots would be calculated as follows:

4,000 lots x 10% participation factor = 400 potential ADU lots

- **Account for the average number of ADUs permitted per lot.** Within urban growth areas, jurisdictions must allow up to two ADUs per lot over the next planning period based on recent changes to ADU regulations passed in 2023.[34] If this is the case in your jurisdiction, look at permitting applications or trends, demographic and housing data, and/or conduct resident surveys to determine what is the best assumption for the average number of ADUs that can be expected to be developed on lots that may have ADU production. Multiply this by the number of available lots to calculate ADU capacity:

  400 potential lots x 1.25 ADUs per lot = 500 total ADUs over 20 years

1.7 Summarize total residential capacity

Jurisdictions should compile a summary of development capacity information for each zone and for ADUs in all zones (if applicable). Exhibit 9 shows an example development capacity summary table.

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[32] According to a study conducted by the Terner Center for Housing Innovation and the Urban Land Institute, in Portland, Seattle, and Vancouver, BC, ADUs accounted for only 3.0%, 0.8%, and 0.6%, respectively, of issued housing permits in 2009. In 2015, following key reforms in all three cities, this share had risen to 10.9%, 2.1%, and 6.3%, respectively. See Jumpstarting the Market for Accessory Dwelling Units report located here: https://ternercenter.berkeley.edu/wp-content/uploads/pdfs/Jumpstarting_the_Market_--_ULI.pdf.

[33] Seattle's ADU production rate increased significantly after ADU reforms in 2019. Total ADU permits, which had been largely steady for the past four years, increased by approximately 350% from 280 in 2019 to 988 in 2022. See Seattle's 2022 ADU Annual Report for more details: https://www.seattle.gov/Documents/Departments/OPCD/OngoingInitiatives/EncouragingBackyardCottages/OPCD-ADUAnnualReport2022.pdf. Cities such as Olympia, Burien, Tacoma and Kirkland have also seen increases in the permitting and production of ADUs after regulations were changed to make it easier to construct ADUs, but not to the extent that Seattle has.

[34] HB 1337 (2023), requires jurisdictions to allow two ADUs per lot within urban growth areas, by six months after the next periodic update due date. See 1337.SL.pdf (wa.gov) at https://lawfilesext.leg.wa.gov/biennium/2023-24/Pdf/Bills/Session%20Laws/House/1337.SL.pdf?q=20230602124224.

Exhibit 9. Example summary table of development capacity by zone

Development capacity by zone

Zone	Net developable land (acres)	Assumed density (units/acre)	Gross residential capacity (units)	Existing housing on developable land (units)	Net residential capacity (units)
Single Family Residential (R-4)	2,924	2.5 units/acre	7,310	310	7,000
Medium Density Residential (R-8)	1,201	6 units/acre	7,206	206	7,000
Multifamily Residential (R-12)	611	10 units/acre	6,110	110	6,000
Multifamily Residential (R-30)	267	25 units/acre	6,675	75	6,600

ADU Capacity (all zones)

Lots available for ADUs	Participation factor	Potential ADU lots	Average ADUs per lot	Total ADU capacity
4,000	10%	400	1.25	500

Accounting for vacation homes and short-term rentals (Optional)

In some communities, a significant share of housing units are used as vacation homes or short-term rentals (STRs). These homes are effectively unavailable to house full-time residents. This constrains the local housing supply. Commerce's projected housing needs data accounts for the estimated number of existing vacation homes and short-term rentals in the baseline housing stock based on available Census data, and removes them from the current supply of units available to meet projected needs. However, Commerce's calculations of net new housing need only account for housing needed for the current and projected future full-time population. They do not account for any expected future demand for additional vacation homes or short-term rentals.

Jurisdictions that expect continued demand for new homes that will not be used for full-time residents have a few options for accounting for this demand in their housing elements.

- Treat this issue as a barrier to housing availability for full-time residents and refer to Chapter 4. Adequate provisions in this guidance to identify appropriate actions to overcome this barrier and implement these actions with the comprehensive plan.
- Analyze historic trends and/or conduct a market study to estimate the demand for these kinds of units over the planning period. Then subtract this number of units from capacity in the specific zones where the demand is expected. For example, if the demand appears to be exclusively in single-family areas with large lots, then subtract the estimated demand for housing from the capacity in only those relevant zones.

It may be appropriate to use some combination of both options, particularly if it is expected that actions are expected to take several years to implement and/or will not solve the problem entirely.

Note that if a jurisdiction accounts for demand for future vacation homes and STRs in their land capacity analysis, they cannot expand urban growth areas without documenting that the expansion is needed to accommodate capacity for allocated population and employment growth only (exclusive of vacation home/STR demand). See RCW 36.70A.115(1) and WAC 365-196-310(2)(e).

Step 2. Classify zones by allowed housing types and density level

Housing costs and affordability can vary significantly by housing type, and housing types and densities are determined in part by zoning and other local development regulations. For example, subsidized affordable housing projects are most feasible to produce in low-rise or mid-rise multifamily zones that allow for multi-unit housing production, such as apartment buildings.[35]

The next step is to identify which housing types are allowed in each zone to facilitate relating each zone category to potential affordability levels.

The simplest approach is to classify zones into three or four categories, as shown in Exhibit 10. The first three categories may be most appropriate for smaller cities or suburban areas. Larger metropolitan cities may need one or more of the remaining categories, or to make other adjustments to categories to reflect local market conditions.

Exhibit 10. Example categories for classifying zones by housing types allowed

Zone category	Typical housing types allowed*
Low Density	Detached single-family homes
Moderate Density	Townhomes, duplex, triplex, quadplex
Low-Rise Multifamily	Walk-up apartments or condominiums (up to 3 floors)
Mid-Rise Multifamily	Apartments or condominiums in buildings with ~4-8 floors (~40-85 feet in height)
High-Rise/Tower**	Apartments or condominiums in buildings with ~9 or more floors (>85 feet in height) and requiring steel frame construction

* Manufactured homes are not listed as a housing type because by law they should be allowed in all zones.
** High-Rise/Tower zones are likely to be relevant only in major metropolitan cities.

After you identify appropriate zone categories for your jurisdiction, the next step is to associate each residential land use zone in the jurisdiction with a specific zone category. Exhibit 11 provides an example of how four different land use zones within a city could be classified using the first three zone categories from Exhibit 10.

When summarizing which housing types are allowed in each land use zone (column 2 in Exhibit 11), Commerce recommends focusing on housing types that are permitted by right, and not those that are only allowed by conditional use.[36] Note that there may be some level of judgement necessary to assign zone categories to appropriate land use zones. For example, the Medium Density (R-8) zone in this example allows for both single family and duplex construction. However, the zone does not allow for most of the housing types in the Moderate Density zone category. When assigning zone categories, also consider the predominant housing type developed in the zone. If historical trends show that homebuilders are almost exclusively building detached single-family units in this zone, then it would be most appropriate to classify it as Low Density for evaluating capacity to meet housing needs.

[35] High-rise zones that allow for building heights that require steel frame construction are not typically supportive of affordable housing production due to the higher cost per square foot.
[36] Only allowing a certain housing type by conditional use is a barrier that reduces the likelihood that housing type is included in new residential development.

Exhibit 11. Example of classifying land use zones using example zone categories

Land use zone	Housing types allowed	Max density level allowed	Assigned zone category
Single-Family Residential (R-4)	Detached single-family homes	4 units/acre	Low Density
Medium Density Residential (R-8)	Detached single-family homes, duplexes	8 units/acre	Low Density
Multifamily Residential (R-12)	Detached single-family homes, townhomes, duplexes, triplexes, quadplexes, 6-plexes	12 units/acre	Moderate Density
Multifamily Residential (R-30)	Apartments, townhomes	30 units/acre	Low-Rise Multifamily

In the Exhibit 11 example, the R-12 zone allows for several additional moderate density housing types than the R-8 zone and a maximum density level that is more typically associated with moderate density housing. This zone has characteristics that fall more clearly in the Moderate Density zone category; therefore, it should be classified that way.

Of course, it is possible historical trends could show that much of the development has been detached single-family production. If that were the case, it would still be appropriate to classify this zone as Moderate Density for summarizing capacity for future housing production because the zone allows for several moderate density housing types. However, it would be important for the jurisdiction to conduct an analysis of barriers to achieving the production of moderate density housing types and work to remove those barriers. Guidance on how to analyze these barriers and identify actions to address them is available in Chapter 4. Adequate provisions.

Step 3. Relate zone categories to potential income levels served

In order to ensure land capacity for all income segments, we need to make assumptions about the types of housing each household is likely to occupy. The goal of this step is to answer, based on local market conditions, the following questions:

- Which income levels are likely to be served by new market-rate housing production in each zone category?[37] For example, a zone category that allows single family housing will likely serve new market rate housing serving income levels of >120% AMI and possibly 80-120% AMI, while new multifamily housing may serve households earning 80-120% AMI and possible 50-80% AMI.
- In which zone categories is it feasible for affordable housing developers to produce new income-qualified affordable housing projects, assuming typical sources of funding and financing are available? [38, 39]

[37] The cost of market-rate housing is dependent upon the balance of supply and demand. Housing shortages lead to increases in market-rate housing costs. If a jurisdiction provides additional capacity and reduces barriers to more market-rate housing development, this would be expected to reduce housing costs compared to taking no action. However, these market dynamics are complex and outside of the scope of a land capacity analysis.

[38] As discussed in Updating Housing Targets for your Community (Housing Element Book 1), some jurisdictions, working alone or in collaboration with neighboring jurisdictions, may consider the provision of vouchers to low-income households to help meet their housing needs. This kind of solution is not an alternative to showing capacity for new housing to meet projected housing needs at each income level. Vouchers are simply one way to subsidize housing, not a way to show capacity for housing at lower incomes.

[39] Income qualified affordable housing projects typically serve households making 0-30% and 30-50% AMI, and may also serve households making 50-80% AMI.

- In which zone categories is it feasible to produce new permanent supportive housing (PSH), assuming typical sources of funding and financing are available?[40]

Answering these questions requires an analysis of local housing market conditions and housing affordability levels, as well as outreach to local affordable housing developers. Exhibit 12 provides an example of how the findings of this analysis can be summarized, based on typical housing market conditions in many parts of Washington state as of 2022. The final column summarizes a direct relationship between zone category and income level served.

These assumptions may be used as a starting point to estimate the affordability levels of new development if a more detailed market analysis is not possible in your jurisdiction. Commerce recommends jurisdictions customize the table based on the best available information for your jurisdiction as discussed in sections 3.1 and 3.2 below.[41]

Exhibit 13 shows a separate set of example assumptions for communities with relatively higher housing costs compared to the rest of the state (e.g., Seattle, East King County). [42]

Inclusionary zoning and capacity
If a jurisdiction has an inclusionary zoning (IZ) program, can they include some of the capacity in that zone as <80% AMI?

--**If a jurisdiction has a mandatory IZ program,** it may assume that IZ requirement proportion as capacity in the <80% AMI bracket, so long as the IZ program requires housing at that affordability level. In other words, if a jurisdiction requires 10% of development in the H-1 zone be reserved for households making <80% AMI, 10% of the capacity in the H-1 zone can be categorized as <80% AMI housing. In this case, that proportion of capacity could be shown in a separate IZ Zone Category or added to an existing Zone Category that has an assumed affordability level of low income (<80% AMI).

--**If a jurisdiction has a voluntary IZ program**, it can include that portion of capacity that is likely to use the IZ program as low-income capacity (<80% AMI). In this case, jurisdictions should examine what their current voluntary IZ program (or a neighboring jurisdiction) has produced in terms of <80% AMI housing and use those same participation rates going forward.

In other words, if records show that only 5% of development in a zone has used the voluntary IZ program, only about 5% of the future capacity can assume to use IZ. If you layer on the requirement that 10% of that development is affordable to <80% AMI, then 0.5% of the development capacity in that zone can be assumed to quality for the 0-80% AMI housing (10% of 5%).

A jurisdiction may also use a slightly increased amount of participation in a voluntary IZ program if it can document that market and regulations have changed enough to support that increase.

These same principles can be used for affordable housing density bonuses.

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[40] Based on section 3 of HB 1220 (2021), RCW 35A.21.430 states, "A code city shall not prohibit transitional housing or permanent supportive housing in any zones in which residential dwelling units or hotels are allowed." Therefore, the LCA can treat PSH housing need as equivalent to other 0-30% AMI housing need in cities that allow PSH in zones that allow residential development. In other words, a zone that is suitable for providing capacity for 0-30% AMI housing should also be considered suitable for PSH. If a jurisdiction has occupancy, spacing or intensity of use restrictions on PSH, jurisdictions must analyze land capacity for PSH separately. Emergency housing is treated differently in this guidance, as described under Evaluating Capacity for Emergency Housing below.
[41] Note that the final column in Exhibit 12 and Exhibit 13, "Assumed affordability level for capacity analysis," is typically based on the "Lowest potential income level served with subsidies." However, jurisdictions have discretion to select assumptions that best align with local conditions. For example, communities that expect much of the capacity in a zone would be absorbed by future market rate housing development that is more expensive than the affordability level possible with subsidies may wish to account for this fact during Step 5. One way to do this would be reviewing market-rate development trends in that zone and calculating how much of the capacity would be expected to be absorbed by new market-rate housing if those trends continue throughout the planning period. This expected housing could be added to the capacity for a higher income band and subtracted from the capacity available for lower income levels, such that the total capacity for new housing in the jurisdiction remains unchanged.
[42] In expensive jurisdictions with high land costs, it may be necessary to define a density level threshold for determining which zones can support feasible affordable housing projects. For example, local affordable housing developers may indicate that they need zoning that allows at least 30 units per acre to make their typical projects pencil out. In this case, it may be appropriate to include density level criteria when grouping zones by category in Step 2.

Exhibit 12. Example of relating zone categories to housing types and income levels served in moderate-cost communities

Zone category	Typical housing types allowed	Lowest potential income level served		Assumed affordability level for capacity analysis
		Market rate	With subsidies and/or incentives	
Low Density	Detached single family homes	Higher income (>120% AMI)	Not typically feasible at scale*	**Higher income (>120% AMI)**
Moderate Density	Townhomes, duplex, triplex, quadplex	Moderate income (>80-120% AMI)	Not typically feasible at scale*	**Moderate income (>80-120% AMI)**
Low-Rise Multifamily	Walk-up apartments, condominiums (2-3-floors)	Low income (>50-80% AMI)	Extremely low and very low income (0-50% AMI)	**Low income (0-80% AMI) and PSH**
Mid-Rise Multifamily	Apartments, condominiums	Low income (>50-80% AMI)	Extremely low and very low income (0-50% AMI)	**Low income (0-80% AMI) and PSH**
ADUs (all zones)	Accessory Dwelling Units on developed residential lots	Low income (>50-80% AMI)	N/A	**Low income (>50-80% AMI) – Group with Low-Rise and/or Mid-Rise Multifamily**

* See discussion in 3.2 below.

Exhibit 13. Example of relating zone categories to housing types and income levels served in higher-cost communities

Zone category	Typical housing types allowed	Lowest potential income level served		Assumed affordability level for capacity analysis
		Market rate	With subsidies and/or incentives	
Low Density	Detached single family homes	Higher income (>120% AMI)	Not feasible at scale*	**Higher income (>120% AMI)**
Moderate Density	Townhomes, duplex, triplex, quadplex	Higher income (>120% AMI)	Not typically feasible at scale*	**Higher income (>120% AMI)**
Low-Rise Multifamily	Walk-up apartments, condominiums (2-3-floors)	Moderate income (>80-120% AMI)	Extremely low, very low, and low-income (0-80% AMI)	**Low income (0-80% AMI) and PSH**
Mid-Rise Multifamily	Apartments, condominiums	Moderate income (>80-120% AMI)	Extremely low, very low, and low-income (0-80% AMI)	**Low income (0-80% AMI) and PSH**
High-Rise/Tower	Apartments, condominiums	Higher income (>120% AMI)	Moderate income (>80-120% AMI)	**Moderate income (>80-120% AMI)**
ADUs (all zones)	ADUs on developed residential lots	Moderate income (>80-120% AMI)	N/A	**Moderate income (>80-120% AMI)**

* See discussion in 3.2 below.

Note that to count a zone's capacity towards the 0-30% PSH housing need in later steps requires the jurisdiction to allow PSH to be allowed in that zone.

3.1 Calculate the affordability of housing by type/zone category (Optional)

To develop customized assumptions about the income levels served by different types of new housing, jurisdictions can start by reviewing available data about the median rents and list prices for housing in their communities. Exhibit 14 includes recommended data sources that are available in many communities across Washington. However, jurisdictions can also reference the rents or sales prices of newly developed homes to get a more accurate assessment of what the market is producing in their area.

Exhibit 14. Recommended data sources for local market-rate housing costs

Housing type / Zone category	Data sources (select one per category)	Notes
Detached Single Family	Washington Center for Real Estate Research, Market Data Toolkit – Housing Prices by Area	Identify the median sales price for single-family homes in your city/place.
	Redfin, Monthly Housing Market Data	
Townhome / Middle Housing	Washington Center for Real Estate Research, Market Data Toolkit – Housing Prices by Area	Identify the median sales price for townhomes in your city/place.
	Redfin, Monthly Housing Market Data	
Apartments and Accessory Dwelling Units (ADUs)[43]	Washington Center for Real Estate Research, Market Data Toolkit – Rental Housing Markets Zillow Observed Rent Index (ZORI)	Identify the median or average rent for your city/place.

Next, convert these median housing costs to affordability levels based on the county area median income. For rental housing, the Washington State Housing Finance Commission (WSHFC) and the U.S. Department of Housing and Urban Development (HUD) publish regional rent thresholds that determine the maximum rent that is affordable to a household of a given size with income at a given percentage of AMI.[44]

For ownership housing, there are many calculators online for determining the income needed to afford a new home.[45] For example, Fannie Mae has a Mortgage Calculator where you enter the home purchase price, down payment, loan term and interest rate.[46] It then calculates the total monthly payment. The formula to convert a monthly payment to household income needed is:

Annual Household Income Needed = (Monthly payment / 0.3) * 12

Then you can calculate the income level as a percentage of AMI as follows:

Income level as percent of AMI = Annual household income needed / Area Median Income (AMI)

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[43] Assume that ADU rents are on par with apartment rents unless a better local source of information is available.
[44] To view income and rent limits for your county, go to https://www.wshfc.org/managers/map.aspx and click "Full List of 2023 Limits by County." In these tables, "Median Income" represents AMI for the county. Income level relative to AMI is shown in the "Set-aside Percentage" column. To determine income limits by household size for 120% of AMI, simply multiply the income limit for 80% AMI by 1.5.
[45] Examples include Fanny Mae Mortgage Calculator (https://fm.fanniemae.com/homeownership/resources/financial-calculators/mortgage-calculator), Zillow Mortgage Calculator (https://www.zillow.com/mortgage-calculator) or Redfin's How much house can I afford? (https://www.redfin.com/how-much-house-can-i-afford).
[46] These calculators typically provide current interest rates, down payment and local tax assumptions that can be adjusted if you have better local data available.

You can use these formulas to calculate income levels needed to afford a single-family home or townhome using data from one of the sources listed in Exhibit 14. This approach assumes a 4-person household. However, the average household size in most jurisdictions is closer to three people. Therefore, it may be appropriate to first adjust AMI to reflect a 3-person household. To do this, multiply AMI by 0.9.[47]

If your jurisdiction is too small to be included among those covered by the data sources in Exhibit 14, there are a few options to consider:

- Use the default assumptions in Exhibit 12 or Exhibit 13.
- Assume housing costs are equivalent to those of the surrounding county and use one of the data sources above to pull data about median housing costs countywide.

You may choose to use a pro-forma tool developed by Cascadia Partners in coordination with Commerce to determine how affordable middle or infill housing might be with custom regulatory inputs.[48] In other words, a jurisdiction can enter information about the density, height, setback, parking and other restrictions of a zone, in combination with land values, and determine what income level housing in that zone could serve. More details on this tool are available on Commerce's middle housing webpage under "Middle Housing Resources."[49]

Middle housing legislation and additional capacity for affordable units

With the next periodic update, jurisdictions required to implement middle housing with HB 1110 (2023) must allow increased development potential if some of the units are affordable. Although generally middle housing will not support households earning under 80% of AMI, in these specific circumstances that assumption would not remain true.

So how much capacity under 80% AMI can a jurisdiction count with HB 1110 middle housing legislative updates?

If there is a precedent in a jurisdiction for affordable housing density bonuses to yield affordable housing, or a comparable jurisdiction with a similar housing market yields such housing, a jurisdiction may use this information to assume a very small percentage of new units might develop in the <80% AMI income bracket.

For general recommendations on projecting capacity under HB 1110 (2023), see the sidebar with Step 1.4 Calculate gross residential capacity by zone (above).

3.2 Identify zone categories that can support feasible subsidized affordable and supportive housing (Optional)

There are two primary sources of information to help jurisdictions identify zoning characteristics that make subsidized affordable housing projects most feasible, including permanent supportive housing (PSH).[50] First, review completed affordable housing projects built in your jurisdiction or other jurisdictions with similar market characteristics and identify the types of housing and achieved densities (units/acre) that have proven feasible in the past.[51] Second, conduct outreach to local or regional affordable housing developers and ask what zoning

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[47] This is consistent with HUD's methodology for adjusting HUD Median Family Income for household size.
[48] Pro-forma tool for the state: https://deptofcommerce.box.com/s/csphjl2vbr47yovggxtszdd5s7w03g9o.
[49] https://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/planning-for-middle-housing/.
[50] The 2021 housing element updates identify permanent supportive housing (PSH) and emergency housing as housing types localities must plan for and accommodate. Permanent supportive housing is subsidized, leased housing for people who are experiencing homelessness or are at risk of homelessness and living with a disabling condition. PSH a long-term housing solution and included in the housing need projections as a subset of 0-30% AMI housing units. Emergency housing is temporary accommodations for households who are experiencing homelessness or are at imminent risk of becoming homeless. These facilities are described in a later section of this guidance, and the ability of localities to accommodate projected needs for emergency housing is evaluated independently from permanent housing supply.
[51] Note that development feasibility for affordable housing projects depends upon more than just density level. Other development regulations such as parking requirements can also have a major impact. The impacts of these regulations are considered in the following chapter on identifying barriers to housing production.

characteristics they look for when identifying locations for feasible affordable housing projects, given the kinds of funding and financing resources that are typically available.

Keep in mind, in some communities, nonprofit affordable housing developers such as Habitat for Humanity build affordable housing projects at moderate or low-density levels. However, these projects are typically very small in scale, particularly compared to the overall volume of housing need. Higher density zoning that allows for multi-unit housing types like apartments is typically necessary to support projects that make the most efficient use of subsidies by reducing the cost of new housing per unit.

The findings of this analysis may prompt reconsideration of the categories or thresholds in Step 2. For example, if local affordable housing providers indicate that they really need at least 30 units per acre in allowed density to make their projects feasible, it may make sense to include density level thresholds for grouping land use zones by zone category. It may also make sense to add an additional zone category in Step 2.

Step 4. Summarize capacity by zone category

The next step is to summarize land capacity for housing unit production by zone category. Exhibit 15 provides a simple example that builds on the land use zones and zone categories shown in Exhibit 11.

Exhibit 15. Example of summarizing capacity by zone category

Zone	Unit capacity	Assigned zone category	Capacity in zone category
Single Family Residential (R-4)	7,000	Low Density	14,000
Medium Density Residential (R-8)	7,000		
Multifamily Residential (R-12)	6,000	Moderate Density	6,000
Multifamily Residential (R-30)	6,600	Low-Rise Multifamily	6,600
ADUs	500	ADUs	500

Step 5. Compare projected housing needs to capacity

In this step, compare the jurisdiction's projected housing needs by income level to capacity to determine if there is sufficient capacity to accommodate needs at all income levels. Exhibit 16 extends the same example from above to show this comparison.

The "Projected housing need" column shows the jurisdiction's allocation of need by income group, as well as for PSH. These needs are aggregated into the zone categories that match those in the leftmost column of Exhibit 12. Next, it shows total housing needs for all income levels in each zone category in the "Aggregated housing needs" column and the capacity for those zone categories from Exhibit 15. The rightmost column simply compares capacity to housing need to calculate the surplus or deficit of capacity by zone category.

Exhibit 16. Example comparison of projected housing needs to capacity

Income level (% AMI)	Projected housing need	Zone categories serving these needs	Aggregated housing needs	Total capacity (From Exhibit 15)	Capacity surplus or deficit
0-30% PSH	2,000	Low-Rise Multifamily + ADUs	13,000	7,100	**-5,900**
0-30% Other	4,000				
>30-50%	3,000				
>50-80%	4,000				
>80-100%	2,000	Moderate Density	5,000	6,000	1,000
>100-120%	3,000				
>120%	6,000	Low Density	6,000	14,000	8,000
Total	24,000		24,000	27,100	3,100

When total projected housing needs (24,000) are compared to total capacity for housing growth (27,100), this analysis shows a surplus of capacity overall. However, when capacity for each zone category is compared to housing need at the associated income levels, this analysis shows a significant deficit of capacity for housing with potential to serve households at 80% AMI or below, and a significant surplus of units in the Low-Density category. This indicates there is not enough appropriately zoned capacity to meet all the housing needs in this jurisdiction. The jurisdiction will need to do additional work to show how it can provide capacity to meet all housing needs and document the necessary actions in its housing element. Step 6 below provides a detailed discussion of the process for applying corrective actions to address a lack of capacity.

If a jurisdiction has sufficient land capacity after Step 5, proceed to Step 7 and identify the number of units that need subsidies or incentives to be built. This information is needed to complete a jurisdiction's adequate provisions work under RCW 36.70A.070(2)(d).

Contributing funds to regional affordable housing

Creation of affordable housing involves many funding sources and organizations. Therefore, some jurisdictions in Washington have decided to pool resources and local funding streams to fund affordable housing in a region, even though the affordable housing may not be developed in every jurisdiction that contributes resources. In this and similar cases, jurisdictions may decide collectively how the contribution to affordable housing can be documented consistently by all jurisdictions who have pooled resources.

This contribution does not change each jurisdiction's responsibility to plan for and accommodate the housing needs allotted to the jurisdiction with respect to land capacity. In other words, each jurisdiction must still have sufficient land capacity for their share of countywide housing needs, irrespective of contributions. It may, however, provide a way to shift needs to the recipient jurisdiction at the countywide level in the allocation process.

Each jurisdiction may acknowledge their contribution in their housing element to show part of their efforts to "make adequate provisions for existing and projected housing needs." Nevertheless, this documentation of contribution does not eliminate the need for a jurisdiction to show sufficient capacity for their share of countywide housing needs and complete the identification of barriers and actions to address affordable housing needs, including gaps in funding.

Addressing residential growth in the development pipeline and development since 2020
As described in Step 1.1, properties in the permit pipeline should be assumed to develop consistent with their permit applications and should be excluded from the land capacity analysis. While these properties do not provide capacity for future residential development yet, the anticipated development may be counted toward meeting a jurisdiction's projected housing needs.

Similarly, residential development that has occurred since April 1, 2020 (the base year for the projected housing needs) may be classified as pipeline development and counted toward meeting projected housing needs. For example, if a city or county prepares their LCA using 2023 parcel data, properties that were developed in 2021-2023 would be classified as pipeline, and these housing units would be deducted from the jurisdiction's projected housing needs.

When comparing projected housing needs to capacity in Step 5, jurisdictions should account for pipeline development as follows:

- **Assign pipeline units to potential income levels served:** Using the guidelines in Step 3, assign the housing units for each pipeline project to the income level they are likely to serve, as shown in Exhibit 12, Exhibit 13, or the cities custom developed crosswalk table. This assignment should be based on the type of housing units (rather than zoning) and whether the units are market-rate or subject to subsidies/incentives.
- **Calculate remaining projected housing need by income category:** Calculate the total number of pipeline housing units in each of the income categories shown in Exhibit 16 and deduct these units from the corresponding projected housing need by income category. This represents the housing need remaining to be met during the planning period.
- **Compare residential capacity to remaining housing need:** Compare the available residential capacity in each income category to the remaining housing need, as described in Step 5.

Step 6. Revise zoning if needed to address unmet housing needs

If the comparison in Step 5 above shows a lack of capacity in one or more income categories, jurisdictions must identify and implement actions to address the projected deficit. This could be accomplished by rezoning selected developable lands to higher densities (e.g., from Single Family Residential (R-4) to Multifamily Residential (R-12)) or by amending existing zones to allow greater density (e.g., change the maximum density for the entire Moderate Density Residential zone from 8 units per acre to 12 units per acre).

Under GMA, it is required that any zoning changes necessary to show sufficient capacity be implemented prior to or concurrent with the adoption of the comprehensive plan or periodic update.[52] The action could be in connection with major planning efforts already scheduled or in progress (subarea plans, planned actions, comprehensive plan periodic updates, etc.). Jurisdictions should also be aware that amendments to zoning or associated development regulations may also require additional time for environmental review under the State Environmental Policy Act (SEPA), including analysis of infrastructure conditions.

Jurisdictions should document the extent of any such zoning actions, the anticipated net increase in capacity as a result, and the assumptions used to calculate the additional capacity, including analysis of infrastructure conditions.

[52] RCW 36.70A.115 states that "Cities and counties must "ensure that, taken collectively, adoption of and amendments to their comprehensive plans **and development regulations** provide sufficient capacity of land suitable for development within their jurisdictions to accommodate their allocated housing and employment growth…"

Exhibit 17 illustrates example rezoning adjustments to residential capacity to address an identified deficit. In this example, a jurisdiction chose to increase zoning capacity across zones, focused on increasing capacity around transit and amenity areas. By increasing zoning capacity in these areas, the jurisdiction is adding capacity in areas with increased transit options, supporting services and infrastructure. Overall, this approach results in a net increase in capacity in the Multifamily Residential (R-30) zone that offsets the identified deficit in the under 80% AMI housing need category.

Specifically, these changes include:

- Shifting 200 acres from the Single Family Residential (R-4) zone to the Medium Density Residential (R-8) zone,
- Shifting 200 acres from the Medium Density Residential (R-8) zone to the Multifamily Residential (R-12) zone, and
- Shifting 240 acres from the Multifamily Residential (R-12) zone to the Multifamily Residential (R-30) zone.

The change reduced capacity in the moderate-income category (>80-120% AMI) and the above 120% AMI category, but not enough to eliminate the existing surplus at these income levels.

What if capacity exceeds housing needs?
It is likely with zoning changes to allow increased capacity for lower-income housing needs, jurisdictions may have more capacity than their housing needs allocation. Although comprehensive plans are to plan for a twenty-year period, land use decisions extend beyond twenty years. It is important that we make the best use of land that is designated for urban uses, recognizing that urban growth areas can only be increased if they lack capacity for twenty years of growth. Therefore, as long as jurisdictions have sufficient capacity to meet their housing needs at all income levels, there is no requirement that jurisdictions need to downzone other areas if capacity exceeds housing needs.

Jurisdictions should consider the above information collectively with any countywide and/or multicounty planning policies that direct growth patterns. For jurisdictions in the Central Puget Sound area, please see PSRC Plan Review and Comprehensive Plan's Frequently Asked Questions, specifically the questions on Growth Targets, Capacity and Housing.

Exhibit 17. Example of adjusted residential development capacity by zone

Zone	Zoning changes (developable acres)*	Net zoning changes (acres)	Assumed density (units/acre)	Residential capacity adjustment (units)	Zone category
Single Family Residential (R-4)	-200 ac (to R-8)	-200	2.5 units/acre	-500	Low Density
Medium Density Residential (R-8)	+200 ac (from R-4) -200 ac (to R-12)	0	6 units/acre	0	Low Density
Multifamily Residential (R-12)	+200 ac (from R-8) -240 ac (to R-30)	-40	10 units/acre	-400	Moderate Density
Multifamily Residential (R-30)	+240 ac (from R-12)	+240	25 units/acre	+6,000	Low-Rise Multifamily

* Note: This column refers to the number of acres that would need to be rezoned after accounting for any relevant deductions for critical areas, infrastructure, or market factor. Therefore, the full gross acres rezones would likely need to be higher. This table is simplified and shows the net acres (after deduction).

Income level (% AMI)	Projected housing needs	Zone categories serving these needs	Aggregated housing needs	Capacity prior to zoning adjustment (From Exhibit 15)	Rezoning capacity adjustments	Adjusted capacity surplus or deficit
0-30% PSH	2,000	Low-Rise Multifamily + ADUs	13,000	7,100	+6,000	100
0-30% Other	4,000					
>30-50%	3,000					
>50-80%	4,000					
>80-100%	2,000	Moderate Density	5,000	6,000	-400	600
>100-120%	3,000					
>120%	6,000	Low Density	6,000	14,000	-500	7,500
Total	**24,000**		**24,000**	**27,100**	**+5,100**	**8,200**

When developing a re-zoning proposal, jurisdictions must consider the potential for displacement as well as appropriate mitigation strategies. See Commerce's Guidance for Addressing Racially Disparate Impacts for guidance on policies to reduce or mitigate displacement risk.

Step 7. Identify future housing capacity that requires subsidies

Since land capacity alone is insufficient to serve extremely low, very low and some low-income households, jurisdictions should also identify the amount of housing capacity that would likely require subsidies or incentives to serve the households at planned income levels.[53], [54] To determine the number of units that would likely require subsidies or incentives, use the information from previous LCA steps.

In Step 3, each jurisdiction identified in which zoning categories it is feasible for affordable housing developers to produce new income-qualified affordable housing projects, assuming typical sources of funding and financing are available. For example, if a jurisdiction's housing market aligned with moderate-cost communities (Exhibit 12), housing in the low-rise and mid-rise multifamily zoning categories could serve households in the 0-30% and 30-50% AMI income levels with subsidies as shown in Figure 18. These subsidies or incentives would allow for the combination of zoning and incentives to result in new development serving households at these incomes.

Note that it is unlikely that subsidies in many communities would serve single-family homes, moderate density housing such as duplexes and townhomes, or ADUs at a scale that would have a significant impact on a jurisdiction's housing needs.[55] If subsidies generally serve these households in your jurisdiction at any scale, Commerce recommends including a discussion of these subsidy patterns in the land capacity analysis if your jurisdiction assumes affordability patterns different than those in Exhibits 12 and 13.

[53] Futurewise, Kian Bradley, and Trevor Reed v. City of Mercer Island (2025), p. 23.
[54] In some very high-cost communities, some moderate-income housing (80-120% AMI) may require subsidies or incentives to be produced at prices affordable to those households.
[55] See discussion in LCA Step 3.2.

Exhibit 18. Future housing needs that are feasible with subsidies or incentives

Exhibit 12. Example of relating zone categories to housing types and income levels served in moderate-cost communities

Zone category	Typical housing types allowed	Lowest potential income level served		Assumed affordability level for capacity analysis
		Market rate	With subsidies and/or incentives	
Low Density	Detached single family homes	Higher income (>120% AMI)	Not typically feasible at scale*	**Higher income (>120% AMI)**
Moderate Density	Townhomes, duplex, triplex, quadplex	Moderate income (>80-120% AMI)	Not typically feasible at scale*	**Moderate income (>80-120% AMI)**
Low-Rise Multifamily	Walk-up apartments, condominiums (2-3-floors)	Low income (>50-80% AMI)	Extremely low and Very low income (0-50% AMI)	**Low income (0-80% AMI) and PSH**
Mid-Rise Multifamily	Apartments, condominiums	Low income (>50-80% AMI)	Extremely low and Very low income (0-50% AMI)	**Low income (0-80% AMI) and PSH**
ADUs (all zones)	Accessory Dwelling Units on developed residential lots	Low income (>50-80% AMI)	N/A	**Low income (>50-80% AMI) – Group with Low-Rise and/or Mid-Rise Multifamily**

Using this information, identify the number of future housing units that require subsidies or incentives from Step 5 or 6. Using the example from above, Exhibit 19 shows that in addition to the zoning to allow the capacity, at least 9,000 units of the example jurisdiction's total future housing needs would require subsidies or incentives to be built.

Exhibit 19. Future housing needs that are feasible with subsidies or incentives

Income level (% AMI)	Projected housing needs	Zone categories serving these needs	Aggregated housing needs	Rezoning capacity adjustments	Adjusted capacity surplus or deficit	Units requiring subsidies or incentives
0-30% PSH	2,000	Low-Rise Multifamily + ADUs	13,000	+6,000	100	2,000
0-30% Other	4,000					4,000
>30-50%	3,000					3,000
>50-80%	4,000					0
>80-100%	2,000	Moderate Density	5,000	-400	600	0
>100-120%	3,000					0
>120%	6,000	Low Density	6,000	-500	7,500	0
Total	**24,000**		**24,000**	**+5,100**	**8,200**	**9,000**

If a jurisdiction's analysis indicates units will require some sort of subsidy or incentive to be built and operate at rents that are affordable to households, jurisdictions should evaluate the subsidies, incentives, and funding gaps that could serve these households in the Adequate Provisions section of their housing element (see Chapter 4).

What if there is not enough capacity?

If your land capacity analysis shows there is insufficient capacity to meet new housing demand or does not allow for the types of housing in greatest need, you should first consider increasing allowed residential densities and housing types within existing zones to increase capacity. When new capacity is added, it is beneficial for jurisdictions to evaluate if the new capacity is in areas with the greatest opportunity. To do this, map land capacity along with "opportunity" factors such as public transportation, job centers, schools and amenity clusters. Note the areas in the community where zoned capacity is low, while opportunities are present. These may be focus areas for zoning and land use changes.

These zoning changes should consider the housing types and densities that will meet the unmet capacity needs identified in Step 5. To be consistent with GMA goals, these increases in density and housing types should first be focused around areas with jobs, transit and infrastructure to allow more people close access to these community services.

Other options to explore additional capacity for housing needs include the following sequence:

1) Examine other zones that are under-developed, such as areas with excess commercially-zoned land that have the potential for mixed-use or residential development. Increasing densities in existing zones or encouraging redevelopment of excess commercial land can leverage your existing infrastructure investments.
2) Consider increasing capacity in areas that are zoned low density and that have infrastructure.
3) Consider planning new infrastructure for areas with under-developed or undeveloped parcels. In the case of planning new infrastructure to serve capacity, address needed public investments in infrastructure in the capital facilities element.
4) Review urban growth areas to determine if adjusting UGA boundaries may allow the inclusion of areas more suitable for urban development through an UGA boundary revision under RCW 36.70A.110(8) (i.e., UGA swap).
5) Review if excess capacity exists in UGAs within the county and adjust allocations of housing need within existing UGAs.[56, 57]
6) Only once all other steps have been considered, jurisdictions may consider expanding the UGA boundary in areas suitable for development if there is insufficient capacity to accommodate growth. Expanding UGA boundaries should include coordination with neighboring jurisdictions and the county and consideration of the cost of providing infrastructure in new areas. For more information, refer to Commerce's Draft Urban Growth Area Guidebook (2025).

Additionally, if an examination of affordability shows there are not enough ownership units at the low end of the spectrum, then increasing density through land use and zoning changes to allow smaller and more

[56] RCW 36.70A.130(3)(c)(vi): The urban growth area is not larger than needed to accommodate the growth planned for the succeeding 20-year planning period and a reasonable land market supply factor.
[57] WAC 365-196-310(5)(d)(iv): If future growth forecasts exceed the current combined capacities of unincorporated county and city lands, counties and cities should first consider the potential of increasing capacity of existing urban areas through allowances for higher densities, or for additional provisions to encourage redevelopment. If counties and cities find that increasing the capacity of existing urban areas is not feasible or appropriate based on the evidence they examine, counties and cities may consider expansion of the urban growth area to meet the future growth forecast.

attached units may be an important strategy. When adding attached units as an allowed use, it may be useful to reconsider the use of unit-per-acre based densities (e.g., seven units per acre). Instead consider minimum lot size (e.g., 6,000 square feet) or "unit density" (e.g., minimum number of dwelling units on a lot, not on a per acre basis[58]) so that a given parcel is able to add units through attached housing types and not be limited by density restrictions. Consider infrastructure with these changes.

Land available to meet other housing needs

In addition to reviewing land capacity for all income levels, jurisdictions should also review if they have land zoned to allow for the development of other housing types within the jurisdiction. The housing element requires fully planning local governments to identify "sufficient land for housing, including, but not limited to, … manufactured housing, multifamily housing, group homes, foster care facilities, emergency housing, emergency shelters, [and] permanent supportive housing" (RCW 36.70A.070(2)).

In response to HB 1220 (2021), cities will need to allow emergency housing and shelters as discussed in the following section and allow permanent supportive housing (PSH) and transitional housing in all zones that allow residential development and hotels. [59]

Additionally, this is the opportunity for communities to examine the gap between the community's housing needs and housing inventory in a jurisdiction's housing needs analysis to see if there are sufficient facilities for community needs such as group homes, memory care or assisted living facilities, or unique other housing needs such as behavioral health care facilities. The land capacity analysis provides the opportunity to determine whether there is enough land zoned to allow construction of these other types of needed housing.

During this analysis, jurisdictions should also consider if available land for these housing types is located in areas with sufficient infrastructure and amenities, such as transit and other services.

Evaluating capacity for emergency housing needs

This section provides guidance on demonstrating capacity for emergency housing needs. This guidance treats these needs somewhat differently in part because they are treated differently in Commerce's housing needs projection methodology (see that titled section in Commerce's Establishing Housing Targets for your Community, 2023). Specifically, the methodology for projecting emergency housing assumes that all jurisdictions make only limited progress in addressing housing needs for all income levels.

Due to that assumption, each county's projection of future emergency housing needs is higher than it would be if that county were successful at building enough housing affordable at each income level. This is because the lack of availability of affordable housing is a primary driver of homelessness and housing instability. Therefore, if each jurisdiction planned for enough capacity to meet their entire allocation of housing needs at each income level (including permanent supportive housing) and planned for enough additional capacity to accommodate its full allocation of emergency housing needs, then it would be providing more than sufficient capacity to accommodate all projected housing needs.

To address this issue, this guidance for demonstrating land capacity for emergency housing needs is designed to avoid double-counting housing needs that would be accommodated if the jurisdiction were successful at providing for housing needs at all income levels.

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[58] As introduced with HB 1110 (2023) or with HB 1337 (2023).
[59] See RCW 35.21.683 and RCW 35A.21.430 for these requirements.

Statutory requirements for emergency housing

While HB 1220 (2021) included requirements for all fully planning jurisdictions (counties and cities) to plan for current and projected emergency housing needs, it also added new requirements only for cities that limit development regulations related to the siting of emergency housing and emergency shelter. These requirements are codified as RCW 35A.21.430 and RCW 35.21.683. Specifically, a city may not prohibit indoor emergency housing (which includes traditional shelter arrangements) in any zones in which hotels are allowed, except in such cities that have adopted an ordinance authorizing emergency housing in a majority of zones within a one-mile proximity to transit.[60, 61]

While it is mandatory that cities make changes to zoning regulations to comply with this requirement, they may adopt reasonable occupancy, spacing and intensity of use requirements by ordinance on indoor emergency housing and indoor emergency shelters to protect public health and safety. However, these regulations must not be so restrictive that they prevent the development of a sufficient number of emergency housing beds to meet the community's identified needs.

Additionally, the housing element updates in 2021 updated the land capacity requirements in RCW 36.70A.070(2)(c) to require that each jurisdiction identify sufficient capacity of land for a variety of housing types, including emergency housing and emergency shelters. Therefore, if a city receives an allocation of emergency housing need but does not allow indoor emergency housing or indoor emergency shelters in their jurisdiction, they will need to revise their development regulations to allow for such uses.

If a city chooses not to allow hotels and has no transit, per the two requirements of sections RCW 35A.21.430 and RCW 35.21.683, the city must still show sufficient capacity for the allocated emergency housing need to be consistent with the updated housing element requirements on land capacity (RCW 36.70A.070(2)(c)).[62]

Commerce recommends the same standards noted above be used by counties that must plan for emergency housing needs.

Engagement with service providers

Prior to this capacity analysis, jurisdictions are encouraged to understand the specific emergency housing demands, constraints and opportunities within their communities by engaging with their local providers of shelter services and street outreach. These groups can inform the local details of emergency housing and shelter development feasibility and the assumptions in this capacity analysis. Feedback from these stakeholders and current providers can help the jurisdiction understand whether emergency shelters or emergency housing may be more likely to be developed and at what densities. A jurisdiction may also choose to set their local emergency housing need higher than the need allotted to them based on this local feedback.

[60] In this section, "emergency housing" is inclusive of both indoor emergency shelters and indoor emergency housing as referenced in HB 1220 (2021).
[61] HB 1220 (2021) – see Sections 3 and 4, now codified as RCW 35A.21.430 and RCW 35.21.683.
[62] Some jurisdictions may choose to coordinate with neighboring jurisdictions to collectively address emergency housing needs. While such actions are encouraged, these actions do not release individual jurisdictions from the requirement to show capacity to address their own allocation.

Guidance for occupancy, spacing and intensity regulations

Jurisdictions may adopt reasonable occupancy, spacing and intensity of use requirements by ordinance on indoor emergency housing and indoor emergency shelters to protect public health and safety. When considering these regulations, the jurisdictions should carefully consider RCW 35A.63.240 (code cities) and RCW 36.70.990 (counties). These statutes state no city or county "may enact or maintain an ordinance, development regulation, zoning regulation or official control, policy, or administrative practice which treats a residential structure occupied by persons with handicaps differently than a similar residential structure occupied by a family or other unrelated individuals." As used in these sections, "handicaps" are as defined in the federal fair housing amendments act of 1988.[63]

Consider the following additional guidance when placing occupancy, spacing and/or intensity of use requirements on emergency housing or emergency shelters.

Occupancy

Commerce recommends occupancy for emergency shelters and emergency housing be established as required by the jurisdiction's adopted building, fire and safety codes. Jurisdictions should carefully consider RCW 35.21.682, RCW 35A.21.314 and RCW 36.01.227. These statutes state cities and counties may not regulate or limit the number of unrelated people that may occupy a dwelling unit except as provided for in state law, for short-term rentals or by occupant load per square foot.

Spacing

Spacing with respect to emergency housing refers to the distance between facilities. Emergency housing and shelters meet a broad spectrum of service needs and may have an unpredictable demand for services. Therefore, requiring spacing between uses of a similar type or between emergency housing and shelters and support services may increase the likelihood of loitering, littering and camping around service delivery sites. This is particularly true in communities where there is a significantly higher demand for services than can be met. Allowing for campus type settings, where a variety of services can be provided at the same site, will likely remove some of the external impacts felt by neighbors.

If any spacing requirement is adopted, Commerce recommends connecting any spacing requirements directly to public health and safety, but they should not exceed the spacing required by RCW 9.94A.030(6), which create community protection zones of 880 feet from incompatible uses that have a clear connection to public safety.

Intensity

Intensity with respect to emergency housing may refer to the density of people, transportation and/or services needed by the participants who live in a single location or facility. Commerce does not recommend any blanket intensity regulations for these use types. Some neighborhoods may feel they are being asked to accommodate more than their fair share of these housing types because of a unique combination of historical development trends, market conditions, property values, zoning and land use regulations. Standards adopted to encourage a scattered approach to the siting of these services to ensure they are not located in only one area of the jurisdiction may become necessary. Other appropriate intensity regulations may include encouraging

[63] The 1988 amendments add protections for families with children and persons with physical or mental disabilities. It defines handicap as: (1) a substantially limiting physical or mental impairment; (2) a record of having such an impairment; or (3) being regarded as having such an impairment. The law stipulates that the following shall not be considered a handicap: (1) current illegal use of or addiction to a controlled substance; and (2) transvestism. https://www.congress.gov/bill/100th-congress/house-bill/1158

emergency shelter and housing close to transit, employment, social and health services, and other resources that help in stabilization.

Intensity regulations may become useful as a jurisdiction nears or exceeds achievement of the allocated emergency housing and shelter needs, supporting a focus of future development on permanent supportive housing units rather than emergency shelters and housing.[64]

Determining whether an LCA for emergency housing is necessary

Fully planning jurisdictions must do a quantitative LCA for emergency housing needs to show sufficient capacity for their allotted share of countywide emergency housing needs (RCW 36.70A.070(2)(c)). An LCA for emergency housing should be completed at the same time as the LCA for all housing needs described in Steps 1-6 above.

Recommended LCA approach for emergency housing

The following process is the recommended approach to document sufficient land capacity for a jurisdiction's local share of countywide emergency housing needs.[65] This analysis should be included with the LCA performed for permanent housing needs in a jurisdiction's housing element supporting documentation. Alternative capacity analysis methods are possible with sufficient documentation.

When completing an emergency housing LCA, land included in the general residential land capacity analysis may also be counted as land for the emergency housing LCA.[66]

Recommended emergency housing capacity analysis steps

1) Selection 1 – Identify all parcels in zones that allow indoor emergency housing and indoor emergency shelters.
2) Selection 2 - From the parcels identified in Selection 1, narrow the search to vacant parcels, hotels and motels, significantly under-developed or under-utilized parcels, developed parcels with no active business licenses, and those sites that have been declared a nuisance.[67]

    - Remove any properties from the selection that are sufficiently encumbered by environmentally critical areas to preclude additional development.
    - In some urban areas, under-used hotels and motels can be repurposed for emergency housing. If such sites exist in the community, the jurisdiction may, after consultation with the property owner, include these sites in the selection due to their potential for future conversion to emergency shelters or emergency housing.
    - A small portion of under-developed or under-utilized commercial spaces can be counted as capacity for redevelopment to emergency shelter or emergency housing. If a jurisdiction chooses to do this, the commercial area should be excluded from the employment capacity analysis performed for the

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[64] Alternatively, Commerce recommends converting surplus emergency housing into permanent low-income housing when possible.
[65] The methodology for conducting an LCA for emergency housing is different from permanent housing for a number of reasons. First, in many communities, emergency housing needs are not addressed through new development. Instead, they are addressed through the acquisition and conversion of existing facilities, such as older motels or hotels or rehabilitation of underused or vacant buildings. In other cases, these emergency housing needs are met through the development of temporary shelter units in tiny home villages, which are built as a conditional use that does not conform to regular residential density standards.
[66] This is allowed to avoid double-counting housing needs that would be accommodated if the jurisdiction were successful at providing for all permanent housing needs.
[67] Jurisdictions use public nuisance declarations on sites to encourage redevelopment or rehabilitation of sites that endanger public health and safety. See RCW 9.66.010: Public nuisance.

comprehensive plan update. If pursued, describe how the portion of commercial space conversion was determined considering such factors as the scale of emergency housing projects in your area and the likelihood a portion of the jurisdiction's emergency housing needs would develop in this way over the planning period.

3) Selection 3 – Amend Selection 2 based on the following:

   - Add any parcels that have pending development permits for emergency shelter or emergency housing. Consider these parcels in the development pipeline and, once completed, count them towards a jurisdiction's local emergency housing need.
   - Remove any parcels that have pending development permits for land uses other than emergency housing or shelters.

4) Selection 4 - Apply any adopted spacing or intensity requirements to the parcels from Selection 3 to identify the maximum number of potential sites where emergency housing would be allowed. This step should account for spacing around any existing emergency housing or shelters, as well as any hotel or motel sites identified for conversion to emergency housing. Depending on the required spacing and the number of sites identified in Selections 1-3, multiple configurations may be possible.
5) Complete one of the two following processes to determine how many emergency shelter beds or emergency housing units could be accommodated. Your approach should consider community and/or service provider demonstrated preference for emergency shelter or emergency housing facilities. Jurisdiction calculations may reflect this preference and the associated occupancy, intensity and/or capacity considerations.

   - Option A (occupancy/intensity method): Using the sites identified in Selection 4, perform a simple site-level analysis of how many emergency shelter beds or emergency housing units could be accommodated based on any adopted occupancy and intensity requirements.
     - Identify developable area of the sites. Similar to the LCA for permanent housing, exclude non-buildable areas of the site (critical areas and their buffers, required landscaping and parking areas, setbacks, etc.) from developable area.
     - Identify a building envelope based on local regulations that maximizes available building capacity on the site.
       - Assume a portion of the envelope would be used for communal support spaces and remove that from the building envelope.
       - Assume construction will not exceed local trends in building height or make reasonable assumptions based upon the height limit in the zoning code.
     - Use the jurisdictions maximum occupancy rate as allowed by adopted codes to determine the maximum number of emergency beds or units possible in each building envelope.[68]
   - Option B (assumed density method): Use assumptions about what type of emergency housing and/or emergency shelters are likely to be developed in the jurisdiction and perform a capacity analysis of the sites identified in Selection 4 based on probable development typologies that may be used.
     - First, jurisdictions should develop density assumptions (units or beds per acre) that do not exceed adopted occupancy or intensity standards based on:

[68] Consult your local building official to confirm adopted occupancy by square foot standards.

- Allowed densities for hotels and motels in their local jurisdiction,
- Densities achieved by existing emergency housing or shelters in the local region, and/or
- A density or mix of emergency housing densities based on likely emergency housing or emergency shelter typologies in the jurisdiction, drawn from examples shown in Exhibit 20 or interviews with local developers of emergency housing.

- Based on a combination of emergency housing typologies and densities (see Exhibit 20 for some examples), or a single density assumption of the most likely emergency housing or emergency shelter typology for the community (e.g., converted hotel or motel, congregate shelter, etc.), determine the number of emergency beds or units possible on each site from Selection 4.

6) Add up the capacity from all available sites identified in Step 5. See Exhibit 21 for an example summary.
7) At the end of this calculation, document the capacity for emergency shelter and emergency housing in the jurisdiction compared to the allocated emergency housing need. If the capacity for emergency shelter and emergency housing does not meet or exceed that portion of the jurisdiction's allocated emergency housing need, regulations will need to be amended to allow sufficient capacity and steps 1-7 will need to be repeated with the new regulations to show capacity.

Note that sites assumed to be developed for emergency shelter and housing uses in the emergency housing land capacity analysis should be removed from sites available for commercial uses and employment growth in other capacity or planning work for the comprehensive plan. This change may also affect revenue projections, specifically from travel or other hospitality taxes if hotels are converted to shelters or other types of housing.

Exhibit 20. Example densities of emergency shelters and emergency housing

Project name	Location & context	Zoning	Housing type	Units/beds	Site size (acres)	Density	Facility characteristics
Emergency congregate[69] shelter							
Tri-City Union Gospel Mission	Pasco, urban	Light Industrial District	Emergency congregate shelter	162 beds	6.3 acres	25 beds/acre	New 1 story building, lots of parking, open space
Serenity House of Clallam County	Port Angeles, suburban	Residential Moderate Density (RMD)	Emergency congregate shelter	70 beds	1.89 acres	37 beds/acre	Clustered 2 story buildings, parking, open space
Benedict House	Bremerton. suburban	Residential-10	Emergency congregate shelter	24 beds, + 3 respite beds	0.21 acres	128 beds/acre	2-story single family home conversion
House of Charity	Spokane, urban	Downtown General	Emergency congregate shelter	108 beds	0.71 acres	152 beds/acre	2 stories, very small outdoor space, parking space for staff

[69] Congregate housing means more than one household per room.

Project name	Location & context	Zoning	Housing type	Units/beds	Site size (acres)	Density	Facility characteristics
Hope House	Spokane, urban	Downtown South	Emergency shelter on 1st floor, 3 floors PSH above	100 beds	0.45 acres	200 beds/acre	4 story multi-family style development, no parking or outdoor spaces
Emergency housing							
North King County Enhanced Shelter	Shoreline, suburban	Mixed Business	Nursing home conversion	60 beds,	2.66 acres (used area: 2.39 acres)	23 beds/acre (used area: 25 beds/ acre)	1-story former nursing home, open space and parking
The Gateway in Honor of Tenaya Wright	Seattle, urban	Commercial 1-55	Hotel conversion	115 units; 135 beds	2.25 acres	51 units/acre or 60 beds/acre	3-story former hotel with parking
Quince Street Village	Olympia, urban	Downtown Business	Microhomes (8ft x 8ft)	100 units	1.41 acres	71 units/acre	Common showers, restrooms, laundry, providers offices
Permanent supportive housing at densities for consideration							
Orting Veterans Village	Orting, small town	Public Facilities	Tiny home village	35 units, each with bathroom (single room occupancy or SRO)	3.2 acres (portion with project)	11 units/acre plus community facilities	29 homes are 176 SF, 6 are 256 SF; community building, open space, parking
Quixote Village	Olympia, urban	Light Industrial	Tiny home village	30 units, each with ½ bath	2.17 acres	14 units/acre plus community facilities	All homes are 144 SF; 2,500 SF community building; open space, garden and parking

Example emergency housing capacity analysis

Exhibit 21 and Exhibit 22 illustrate an example of how a community may work to complete the LCA for emergency housing. In this example, the community has an allocated emergency housing need of 300 units.

After completing steps 1-4, the jurisdiction finds that an existing hotel might convert to emergency housing in the future and three sites totaling approximately 3 acres are zoned to allow emergency housing and shelters and meet the city's 1,000-foot spacing requirements. Using the assumed density approach (Option B), with a mix of densities for emergency housing likely to be built in the jurisdiction based on example densities in this report and neighboring jurisdictions, Exhibit 21 illustrates how this community finds it has a capacity deficit.

Exhibit 21. Example summary of emergency housing capacity

Site grouping	Acres	Density	Capacity (beds or units)	Total capacity	Total need	Capacity surplus or deficit
Existing hotel conversion			60	240	300	-60
Tiny shelter villages	3	60 units/acre	180			

Based on this deficit, the city reviews its spacing requirements, which had limited the number of available sites to three based on a 1,000-foot spacing requirement. The city evaluates a spacing requirement of 500 feet instead and recalculates the LCA for emergency housing as shown in Exhibit 22.

Exhibit 22. Example summary of revised emergency housing capacity

Site grouping	Acres	Density	Capacity (beds or units)	Total capacity	Total need	Adjusted capacity surplus or deficit
Existing hotel conversion			60	312	300	12
Tiny shelter villages	4.2	60 units/acre	252			

The changes to spacing allow the jurisdiction to have sufficient emergency housing capacity to meet the allocated need. The jurisdiction reduces the spacing requirements for emergency housing and emergency shelters in the community from 1,000 feet to 500 feet with the development regulation updates that accompany the comprehensive plan periodic update.

Chapter 4. Adequate provisions

RCW 36.70A.070(2)(d) requires jurisdictions planning under the GMA to include in their comprehensive plan a housing element that "[m]akes adequate provisions for existing and projected needs of all economic segments of the community, including:

(i) Incorporating consideration for low, very low, extremely low, and moderate-income households;

(ii) Documenting programs and actions needed to achieve housing availability including gaps in local funding, barriers such as development regulations, and other limitations;

(iii) Consideration of housing locations in relation to employment location; and

(iv) Consideration of the role of accessory dwelling units in meeting housing needs."

The following guidance helps jurisdictions address these requirements. Several checklists in Appendix B: Adequate provisions checklist support documentation of a jurisdiction's analysis.

Consideration for low, very low, extremely low and moderate-income households

There are two ways in which jurisdictions should present and incorporate "consideration for low, very low, extremely low and moderate-income households." Each of these overlaps with other requirements, so as jurisdictions document compliance with the other sections of RCW 36.70A.070, they are also addressing RCW 36.70A.070(2)(d)(i).

1) **Identify in their housing element the number of housing units necessary to manage both current and projected housing needs, broken down by income bracket.** These housing needs will be identified through the countywide allocation process discussed in Establishing Housing Targets for your Community (Housing Element Book 1) using Commerce's published countywide housing needs found in the Housing for All Planning Tool (HAPT).[70] Exhibit 23 shows an example of allocated housing needs. This presentation should include each income level as well as PSH and emergency housing needs.[71]
2) **Document sufficient land capacity to accommodate appropriate housing types for meeting the housing needs** identified in #1 above, as discussed in Chapter 3 Land capacity analysis. The capacity findings should be included in the housing element and indicate that with any necessary amendments to their development regulations, a jurisdiction has sufficient capacity for their allocated housing needs.[72] More detailed documentation of the land capacity analysis can be presented in an appendix to the comprehensive plan.

[70] Housing for All Planning Tool (HAPT): https://deptofcommerce.box.com/s/48o8fzedzxnh63xth6aofi2jc2npcjoa
[71] Emergency housing needs includes both emergency housing and emergency shelter housing needs required under statute.
[72] RCW 36.70A.115 reads "Counties and cities that are required or choose to plan under RCW 36.70A.040 shall ensure that, taken collectively, adoption of and amendments to their comprehensive plans and/or development regulations provide sufficient capacity of land suitable for development within their jurisdiction to accommodate their allocated housing and employment growth, …"

Exhibit 23. Example presentation of projected housing needs by income level

Income level	Percent area median income	Net new units needed, 2020-2045
Extremely Low	0-30% Permanent Supportive Housing (PSH)	2,000
	0-30% Other (non-PSH)	4,000
Very Low	>30-50%	3,000
Low	>50-80%	4,000
Moderate	>80-100%	2,000
	>100-120%	3,000
Above Moderate	>120%	6,000
Total		24,000

Temporary housing needs*	Net new beds needed, 2020-2045
Emergency Housing/Shelter	1,000

* Note that emergency housing/shelter projections and allocation assume current trends with regards to meeting all housing needs at each income level. If the jurisdiction succeeds in providing enough housing to meet all permanent housing needs at all income levels, then it is not expected to need as many emergency housing beds.

Documenting programs and actions needed to achieve housing availability

Jurisdictions are not required to construct housing or ensure housing is produced. However, they are required to identify barriers to housing production and make adequate provisions to accommodate all housing needs. This means they must use the tools at their disposal to create the conditions that make it feasible for developers to build the kinds of housing needed at all income levels.

RCW 36.70A.070(2)(d)(ii) states that jurisdictions must assess "barriers such as development regulations, and other limitations" as part of "documenting programs and actions needed to achieve housing availability." This section describes how jurisdictions are to identify barriers to production and appropriate actions to remove those barriers. Just as the land capacity assessment breaks down total housing unit capacity by zone category based on housing types or density levels allowed, your barriers assessment should consider factors that may negatively affect production for each type of housing allowed in your community.

Because local governments are required to make adequate provisions for all economic segments as part of the periodic update, any changes to development regulations identified as part of the actions to address barriers or adequate provisions must be adopted **with the periodic update**.[73, 74]

[73] RCW 36.70A.130(1)(a)
[74] Futurewise, Kian Bradley, and Trevor Reed v. City of Mercer Island (2025), p. 41.

For example, a city may see a lot of detached single-family housing production on vacant land and therefore determine that there are no significant barriers to single-family home construction. However, the same city may be seeing very little production of moderate density housing types such as townhomes or triplexes in zones where those types are allowed. If the city's housing element is relying on capacity for those housing types to meet the needs of moderate-income households, then its housing element should also assess barriers specific to those housing types as well as actions to help overcome those barriers.

Exhibit 24 provides a summary of Commerce's recommended steps for documenting programs and actions to achieve housing availability. Conduct these three steps for each housing type and affordability level. However, it is possible that the types of barriers identified and the actions to overcome them will be relevant to more than one housing type or affordability level.

Appendix B: Adequate provisions checklist provides checklists to use in documenting barriers and programs and actions to achieve housing availability, as well as examples of how to complete each of these steps and document the work. **Documentation of the barriers to housing availability and the programs or actions needed to overcome these barriers must be included in the housing element,** and any additional analysis may be included as an appendix to the comprehensive plan housing element.

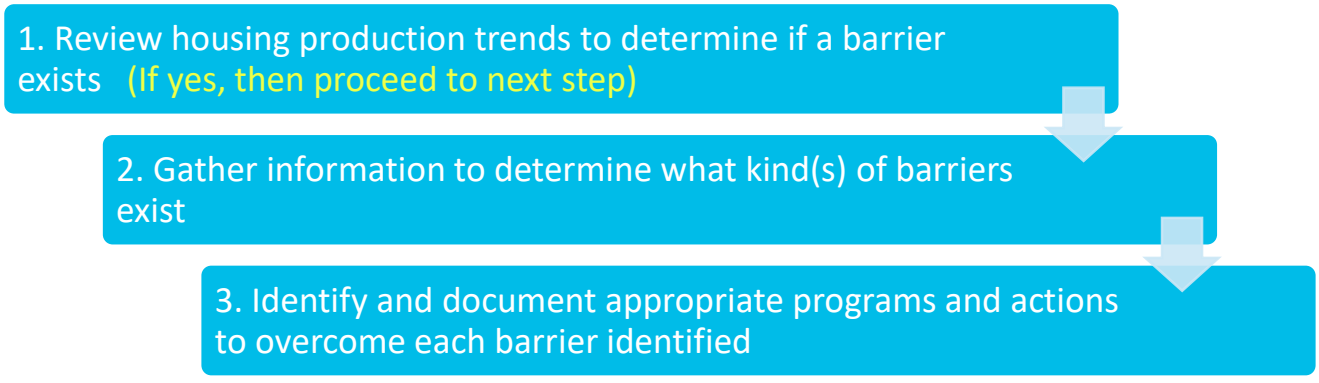
The role of local jurisdictions in housing production

While local governments do not typically build housing, they do influence the regulatory environment in which housing is built. Local governments set requirements for building uses, parking and site design, aesthetics, scale, density and other characteristics that constrain what developers can build, regardless of market demand. Local governments also impose fees for development and control key parts of the permitting process.

In these and other ways, local government decisions affect the cost of development and the predictability of the process, and ultimately influence which housing projects are feasible.

Jurisdictions can encourage certain housing development types by amending these regulations or offering density bonuses, cost reductions or other incentives that impact the developers' bottom line.

Exhibit 24. Recommended steps for documenting programs and actions to achieve housing availability



Step 1: Review housing production trends to determine if a barrier exists

The first step to completing a housing barriers assessment is to review production trends and compare them to the average annual housing production needed. Conduct this review for each type of housing identified in your land capacity analysis as necessary to meet your jurisdiction's allocated housing needs.

Exhibit 25 provides an example comparison of production trends to housing needs. It follows from the same example used through the land capacity guidance to show how a jurisdiction can build on their land capacity analysis work when evaluating if barriers exist.

- In this example, projected housing needs are first aggregated in three groups based on the zone category and housing type(s) assumed to be most appropriate for meeting the need, based on the LCA.
- Next, it divides the total need by 25 years (2020-2045)[75] to calculate annual unit production needed.
- Then it includes data about actual historic average annual unit production. This information could come from an analysis of completed building permits for each type of housing over the past five to ten years.
- The final column summarizes if a barrier is found through this analysis. If annual unit production needed is higher than historic average annual unit production, then the column shows a "Yes" to indicate there is a barrier present. If annual unit production needed is lower than historic average annual unit production, then the column shows a "No" indicating there is no significant barrier to building enough of that type of housing to meet housing needs.

This example shows there are barriers to production for Low-Rise, Mid-Rise and Moderate Density housing types, and there are no barriers for Low Density housing types. Therefore, this jurisdiction should move on to the next step to identify relevant barriers for Low-Rise, Mid-Rise and Moderate Density housing.

Exhibit 25. Example comparison of production trends to housing needs to determine if barriers exist

Income level (% AMI)	Projected housing need (2020-2045)	Housing type(s) that best serve these needs	Aggregated housing need (2020-2045)	Annual unit production needed	Historical average annual unit production	Is there a barrier to sufficient production?
0-30% PSH	2,000	Low-Rise and Mid-Rise (walk-ups up to 3 stories, apartments and condominiums)	13,000	520	120	Yes
0-30% Other	4,000					
>30-50%	3,000					
>50-80%	4,000					
>80-100%	2,000	Moderate Density (townhomes, duplex, triplex, 4-plex) + ADUs	5,000	200	80	Yes
>100-120%	3,000					
>120%	6,000	Low Density (single family)	6,000	240	720	No

A jurisdiction should also conduct additional analysis to identify whether housing production meets the affordability levels of the allocated housing needs, as well as PSH and emergency housing. This analysis is needed because it is possible that a jurisdiction has seen sufficient production of a housing type such as

[75] Although comprehensive plans plan for a twenty-year period, the best available data for projecting housing needs was the decennial Census. Therefore, the base year for the projected housing needs is 2020.

apartments to meet projected housing needs, but the production may be entirely or predominantly market-rate units that do not meet lower income housing needs.[76] This indicates there are still barriers to meeting needs at affordability levels below which the market is typically providing, such as 0-30% AMI and 30-50% AMI.

Exhibit 26 provides an example of this analysis. It compares annual unit production needed for four affordability levels of housing not likely to be served by the market to historical average annual unit production. In this case, base the production trend only on the historical production of relevant housing types, such as PSH units or subsidized affordable units for households with incomes at or below 50% of AMI.

Data collection on historical production may come from multiple sources, such as local affordable housing and emergency housing/permanent supportive housing facility developers or records from incentive programs. In addition to local data availability, the Washington Center for Real Estate Research (WCRER) publishes an inventory of the supply of subsidized rental housing in cities with populations greater than 10,000 as well as all counties in Washington.[77] Each county's Five Year Homeless Housing Plan also has information on PSH and emergency housing facilities.[78] PSRC also has a database of subsidized rental housing in the four-county region (Income Restricted Housing Inventory).[79]

Exhibit 26. Example comparison of sub-market rate housing needs to production trends to determine if barriers exist

Income level (% AMI) and supportive housing needs	Projected housing need (2020-2045)	Annual unit production needed	Historical average annual unit production	Is there a barrier to sufficient production?
Emergency housing/shelter*	1,000	40	25	Yes
0-30% PSH	2,000	80	0	Yes
0-30% Other	4,000	160	40	Yes
>30-50%	3,000	120	80	Yes

*Projected emergency housing and shelter needs may be accommodated through conversion of existing buildings such as hotels and not solely new production.

For any housing type or affordability level where a barrier to sufficient production is identified, the jurisdiction should proceed to the following step and gather information to determine what kind(s) of barriers exist.

If you are already certain there are barriers that need to be addressed for a given housing type or income level, this step can be skipped. However, jurisdictions should document this review to support any claim that no barrier exists for a given housing type, and therefore no action is needed to ensure housing availability.

[76] Although filtering may help free up units at lower price points, the number of lower-income units created as higher-income or market rate inventory comes online is generally small.
[77] The focus of the WCRER inventory is on the supply of subsidized rental housing; hence, the inventory seeks to list units in projects that receive subsidies as distinct from units rented by households who receive demand-side subsidies (such as housing vouchers). See https://wcrer.be.uw.edu/housing-market-data-toolkit/subsidized-rental-housing-profile/.
[78] https://www.commerce.wa.gov/serving-communities/homelessness/local-government-5-year-plans/.
[79] https://www.psrc.org/our-work/income-restricted-housing-puget-sound-region.

Step 2: Gather information to determine what kind(s) of barriers exist

There are several types of barriers that can limit or effectively prohibit the production of housing needed to serve all economic segments. Barriers to housing production will vary by community based on local context. Typically, these barriers increase the cost of development, which makes some projects infeasible. Jurisdictions have various options on how to reduce barriers and therefore development costs, as described in Step 3.

Identify barriers through a combination of data collection, staff experience, code review, evaluation of existing permitting process and resources, comparisons with neighboring jurisdictions and developer interviews. Developer feedback should include for-profit, non-profit, affordable housing, emergency housing, permanent supportive housing and small developers (such as residential property owners) to ensure a thorough understanding of the potential barriers to housing development. Guiding questions and checklists for this review are provided in this section and Appendix B: Adequate provisions checklists for jurisdictions to reflect on and discuss with their communities.

Below is a description of several of the most common kinds of barriers to consider in the review. They are organized into four categories:

- development regulations,
- process obstacles,
- limited land availability and environmental constraints, and
- funding gaps.

Development regulations

Some development regulations limit or effectively prohibit the production of housing types needed to serve all economic segments. Examples of these limitations include:

Unclear development regulations

Regulations should be clear and consistent. Use terms consistently across all code sections and add new definitions as codes are amended. Regulations should also clarify the code interpretation process and which code sections should take precedence in the event of a conflict, because this can help to prevent disagreements during the permitting phase.

Restrictive development standards

Restrictive development regulations often make it more difficult, if not impossible, to construct certain types of moderate density and higher density housing types. These regulations can be a result of community opposition: see “Barriers and community buy-in” in the blue box under “Process obstacles” below for more details.

These regulatory barriers can exist in many forms, many of which may need to be addressed as the result of new legislation limiting restrictions such as design review, owner occupancy and parking:

Other factors outside of local jurisdiction control

In addition to the barriers described in this section, there are other factors that influence housing production and affordability that are outside of the control of local jurisdictions.

These factors might include state-level regulations, inadequate regional transit investments, lack of builder capacity and workforce to meet housing demands, disruptions to building material supply chains, rising labor and materials costs, population growth, employment trends, economic downturns, interest rates, and/or lack of service providers (such as healthcare, mental health treatment, or case management) to support affordable housing and PSH projects. Housing production is also dictated by development market preferences, as some housing types and price points are more profitable than others.

However, regardless of these other factors, under RCW 36.70A.070(2)(d)(ii), jurisdictions must document local programs and actions needed to achieve housing availability. As described in Exhibit 26: Barriers and strategies matrix, there are many actions that jurisdictions can take to influence housing production.

- High minimum lot sizes[80]
- Low maximum densities or low maximum floor area ratio
- Low maximum building heights
- Large setback requirements
- High off-street parking requirements[81]
- Lack of alignment between building codes and development codes[82]
- Restrictive ADU standards, including:
  - larger setback requirements for ADUs than the primary dwelling
  - Owner-occupancy requirements
  - Prohibiting existing structures from being converted into ADUs
  - Additional requirements for middle housing and multifamily housing that are not imposed on single-family housing, such as landscaping, parking and outdoor space regulations
- Spacing requirements, restrictions on support spaces (such as offices), arbitrary limits on number of occupants (in conflict with RCW 35A.21.314) and other restrictions on emergency shelters, emergency housing, transitional housing and permanent supportive housing that effectively prohibit or limit capacity of these housing types so they cannot meet the projected needs.
- Other barriers, depending on community context and regulation rigidity, such as ground-floor retail requirements, complex design standards, maximum impervious surface cover, tree retention regulations and historic preservation requirements.

Barriers and community buy-in

Community opposition to allowing certain housing types can be an obstacle to implementing actions and programs necessary to achieve housing availability for all income levels. Jurisdictions should consider how best to involve community members in the process. For example, community engagement during regulation and policy development allows jurisdictions to address resident concerns prior to permitting. This helps build early community buy-in and provides more predictability for housing development during the permitting process once new development regulations are adopted and implemented.

When engaging community members, it is important to seek input from a broad spectrum of residents, not just those with the loudest voices. See Chapter 2 of Commerce's Housing Action Plan guidance and this guidance from PSRC's Housing Innovations Program for best practices.

Community opposition can be a more significant impediment to housing production in communities with discretionary development approval processes, such as housing only allowed by conditional use, design review requirements, or the need to provide approved community benefits. Streamlining approval of housing development that meets clear objective local design standards and regulatory requirements can reduce delays for individual project proposals and increase predictability for developers.

Process obstacles

The permitting process can be a major barrier for housing production for both larger and smaller developers. Limitations relating to permitting may be due to complex, unclear or onerous processes; high fees; lengthy review and processing times; or staffing challenges.

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[80] Minimum lot sizes in urban areas inflate the cost of housing by reducing supply and increasing land costs per unit. In some jurisdictions, minimum lot sizes are actually larger than historic platting patterns.

[81] The cost of parking minimums is high: parking in a new development can cost up to $40,000 or more per stall depending on site characteristics. Additionally, the more parking that is required on site, the less housing that is possible. To remove barriers to housing provided by parking requirements, best practices are to set parking requirements very low and allow the market to determine how much, if any, parking is needed.

[82] Examples of development regulations that may not align with building codes include limitations on the number of stories of wood frame construction, sprinkler requirements, requirements for double-loaded corridors versus point-access blocks, elevator requirements for mid-sized buildings, or articulation requirements that reduce floorplan efficiencies and increase construction and operating costs.

Conditional use and other discretionary permit processes
Though a conditional use is not outright prohibited, the discretionary conditional use permit process adds unpredictability as well as costs and time to a proposed housing project. A range of other quasi-judicial permit public hearing processes, including planned unit development, planned residential development and special use permits, have similar effects. These processes result in strong disincentives for developers to propose a project in the first place and can make an otherwise feasible project financially infeasible.

In addition, conditional use permits have sometimes been required for transitional housing and permanent supportive housing specifically because of the use type. Communities can consider using development and design standards to control for impacts, which should be administered by staff instead of requiring a hearing. However, a city, county or other local governmental entity or agency may not adopt, impose or enforce requirements on an affordable housing development that are different than the requirements imposed on housing developments generally.[83] Different types of conditional use permits have different implications on the development process: the conditional use permit public hearing process requires more steps than administrative conditional use permits.

Design review
Design review, when required, can delay bringing new housing onto the market if it is complex or overly prescriptive. In more extreme instances, an overly onerous design review process may lead an applicant to withdraw a permit application or pursue development somewhere else. Providing clear guidance to developers on how to meet design review requirements can help to make this process easier and clearer.

With any design review, jurisdictions should be aware that as of 2023, fully planning counties or cities must update their regulations within six months after the next periodic update so that they apply only clear and objective design regulations to the exterior of new residential development (HB 1293, 2023).[84]

Lack of clear and accessible information about processes and fees
Transparency and clear information about fees and steps in the permitting process can help facilitate the creation of new housing and shorten the permitting process. Guidance materials that outline in plain language all submittal requirements needed for a complete application as well as costs and steps in the process, an efficient online permit processing system, and timeline estimates can help to make the process more predictable for developers and mitigate risks for constructing housing.

Permit fees, impact fees and utility connection fees
The costs associated with permitting new housing can impact whether a potential housing project is feasible. This hurdle applies to for-profit developers as well as non-profit affordable housing developers. Jurisdictions may choose to reevaluate such fees or provide exceptions for needed housing types that are not as easy to develop, such as income-restricted affordable housing. Fees can also be scaled according to the impact or size of a dwelling, which can help minimize costs.[85]

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[83] RCW 36.130.020.
[84] A clear and objective regulation "must include one or more ascertainable guideline, standard, or criterion by which an applicant can determine whether a given building design is permissible under that development regulation; and may not result in a reduction in density, height, bulk, or scale below the generally applicable development regulations for a development proposal in the applicable zone." See the Final Bill Report on ESHB 1293 here: https://lawfilesext.leg.wa.gov/biennium/2023-24/Pdf/Bill%20Reports/House/1293-S.E%20HBR%20FBR%2023.pdf?q=20230720162657.
[85] For an example of this, see King County's latest impact fee policies for wastewater charges where the capacity charge rate structure will use average persons per household as the new basis of the capacity charge effective Jan. 1, 2021. See https://kingcounty.gov/services/environment/wastewater/capacity-charge/review-studies.aspx.

Moving forward, six months after the next periodic comprehensive plan updates (2024-2027), local governments must publish a schedule of impact fees which reflects the proportionate impact of new housing units (SB 5258, laws of 2023, amends RCW 82.02.060). Therefore, impact fees shall reflect the proportionate impact of smaller units such as multifamily and condominium units, based on the square footage, number of bedrooms or trips generated.[86]

System development charges, while not required, can also be scaled for the size of the unit to encourage smaller, multi-unit housing development that is typically more affordable.

Processing times and staffing challenges
Long processing times, often impacted by staffing limitations, can be an obstacle to housing development, especially if timelines are unpredictable. Jurisdictions may identify this as a barrier to development and begin to make associated changes to improve processing times, thereby encouraging more housing development by increasing permitting timeline predictability and reducing carrying costs for developers.

SB 5290 amends RCW 36.70B to improve clarity on the timelines around complete permit applications. For applications received after January 1, 2025, RCW 36.70B now sets out time periods and application fee portions for different types of permit processing. Jurisdictions will also need to report permit processing information to Commerce. Cities and counties are also encouraged to take additional measures to enable timely permit processing, with additional direction to improve permitting over time.[87]

State Environmental Policy Act (SEPA) process
SEPA review helps agencies identify the likely environmental impacts of projects and policy decisions. The SEPA Rules (WAC 197-11-800(1)(c)) allow cities and counties to raise their exemption thresholds for minor new construction, thereby reducing costs and time in the development process. Many jurisdictions have already modified their exemption thresholds, but some have not. Not raising SEPA exemption thresholds may create additional unnecessary processing time and costs for the permitting of some new housing.[88] Jurisdictions may also consider using the optional Determination of Non-significance (DNS) process (under WAC 197-11-355) as appropriate, which allows for a single integrated comment period for the notice of application and the threshold determination.

Limited land availability and environmental constraints

While a jurisdiction may have enough land capacity to accommodate all housing needs on paper, in some cases that land is difficult to develop. This may occur when sewer is not available to allow higher density or when most of the capacity is on under-developed parcels that would need to be assembled to provide for feasible multifamily housing development. Environmental constraints, such as the location of critical areas, may affect the feasibility of development on available lands.[89] If local conditions do not provide suitable sites, developers may look elsewhere. Flexible regulations, such as Planned Unit Development and cluster subdivisions, can help mitigate site constraints, or expansion of infrastructure to enable higher density development.

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[86] See section 10 of the Final Bill Report on E2SSB 5258 located here: https://lawfilesext.leg.wa.gov/biennium/2023-24/Pdf/Bill%20Reports/Senate/5258-S2.E%20SBR%20FBR%2023.pdf?q=20230720170239.
[87] For more information, see Final Bill Report on 2SSB 5290 here: https://lawfilesext.leg.wa.gov/biennium/2023-24/Pdf/Bill%20Reports/Senate/5290-S2%20SBR%20FBR%2023.pdf?q=20230720164530.
[88] Several new SEPA exemptions and appeals protections have been added in the past few years. Please see Commerce's Washington State Housing Laws of 2019 through 2022 here: https://deptofcommerce.app.box.com/s/jfd6j7vsgpiotketm4c09eekocovd4lc.
[89] PSRC has guidance and resources on stormwater facility planning, which may be relevant where stormwater capacity is an environmental constraint. See https://www.psrc.org/our-work/stormwater-parks.

Gaps in local funding

RCW 36.70A.070(2)(d)(ii) requires that local jurisdictions document "gaps in local funding" in their list of programs and actions needed to achieve housing availability. Typically, most affordable housing funding comes from state and federal sources.[90] However, local funding can also play an important role. A lack of available public funding can be a barrier to housing production and meeting all housing needs in several ways. Some examples include:

- Infrastructure or service costs: Lack of public funding can be a barrier to infrastructure or service level improvements necessary to make new housing development feasible.
- Capital costs for new affordable housing development: This gap includes public subsidies to support the development of new housing for low-income households that cannot afford local market-rate housing costs. Available federal, state and local funding and financing tools are currently insufficient to support construction of enough homes to meet the needs of all low, very low and extremely low-income households.[91]
- Operational costs for affordable and supportive housing: Rents for moderate (80-120% AMI) and some low-income (50-80% AMI) units are typically high enough to cover operational costs for housing. However, in many communities, rents for units affordable to very low (30-50% of AMI) and extremely low (0-30% of AMI) income households are not enough to cover operational costs. Additionally, PSH and emergency housing require additional support services for residents.[92] These services may include basic case management or coordination with medical, behavioral health or other service providers to remain stable and safely housed. Communities or developers may be reticent to build or acquire properties without commitments to provide services in place. Therefore, even if funding is available to build these kinds of housing, lack of funding for operational costs can make these types of housing infeasible.

To address the requirements of RCW 36.70A.070(2)(d)(ii), Commerce recommends that all jurisdictions complete a checklist to document which available local funding tools or incentives are already being used, and which tools can be implemented to help close the funding gap. These tools may include ways to raise additional funds for supporting affordable housing development as well as tools to reduce the cost of affordable housing development, such as impact fee waivers and multifamily property tax exemption. While Commerce recognizes that local tools alone are likely to be insufficient for supporting enough subsidized housing production to meet all housing needs, local funding can play an important role. For example, local funding can often be critical during the pre-development phase to make projects more competitive in attracting additional state, federal or private funding.

Appendix B: Adequate provisions checklists provides a recommended checklist that all jurisdictions complete and include in their housing element. Jurisdictions are encouraged to add additional local options for closing

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[90] For a listing of federal, state and local funding options for housing available as of 2020, see Appendix D: Resources for funding affordable housing in Washington state.

[91] In addition to exploring funding mechanisms for subsidized housing, jurisdictions may consider acquiring or surplusing property that can be used (wholly or in part) for income-restricted, permanent supportive or emergency housing. This work is possible in partnership with one or more organizations or local governments using affordable housing funds from a local housing tax levy or sales and use tax available for income-restricted housing. In addition, some religious or nonprofit organizations have available land they would be willing to provide, either in fee simple or under a long-term lease, for needed housing. Under state law, religious organizations are entitled to a bonus density over what local zoning would otherwise permit, when the use would be for low-income housing (RCW 35A.63.300).

[92] In 2022, Commerce performed an analysis of the property operations and maintenance costs and tenant supportive services costs for affordable housing projects that receive funding from the Washington State Housing Trust Fund. This report, titled Washington State Investments in Housing Operations and Tenancy Support Services (2022), is located here: https://deptofcommerce.box.com/shared/static/1eutafumw7kf5btvqw5i4p4h2lbqkas3.pdf.

the funding gap to this list. This same Appendix includes an example of this checklist completed for a hypothetical city.

Methodology for estimating affordable housing funding gap

In addition to the proposed method for identifying gaps in local funding for housing needs, jurisdictions should also estimate the gap in funding associated with capital costs for new affordable housing development. Jurisdictions may use the following proposed methodology or another methodology that identifies gaps in funding needed to make adequate provisions for housing needs that are unlikely to be provided by the market. This methodology does not include operational costs and is not relevant for emergency housing.[93]

1) **Total annual affordable housing units needed:** Identify the total number of housing units needed at affordability levels below what the market will provide using information from Step 7 of the land capacity analysis in Chapter 3. This should typically include at least units affordable from 0-50% AMI, but in high-cost areas (relative to other parts of the state) it may also include a portion of the housing units affordable in the 50-80% AMI bracket and even a portion of the units in the 80-120% AMI bracket. Then divide by the number of years in your planning period to determine the average number of new affordable units that are needed each year to meet your allocated needs.
2) **Average annual units produced:** Find data about recent affordable housing production in your community to calculate an average annual production rate.[94] This is the average number of affordable housing units per year developed in your community with support of any local, state, federal or philanthropic funding or financing, including low-income housing tax credits (LIHTC).
3) **Gap in annual affordable housing production:** Subtract your Average Annual Units Produced (#2) from Total Annual Units Needed (#1) to calculate the total gap in average annual production.
4) **Gap in funding:** To calculate the total gap in funding, multiply the Gap in Annual Affordable Housing Production (#3) by an assumed total cost per unit.[95] To support this step, Commerce summarized data from the Washington State Housing Finance Commission about the average project cost per unit of LIHTC projects completed between 2015 and 2022 in Exhibit 27.[96] Jurisdictions can use values from this table for this calculation. A jurisdiction can either select the average cost per unit for their own county or the statewide average if data is not available for their county. If better local data is available, that cost figure may be used with documentation of the cost data per unit.

It is important to note that this methodology will result in a rough estimate of funding gaps in 2022 dollars. More recent data is available for some counties in the Annual Affordable Housing Cost Data from 2024 by the Washington State Housing Finance Commission (WSHFC).[97] If jurisdiction's use the values in Exhibit 27, jurisdictions may choose to adjust the total value based on recent inflation costs because construction costs

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[93] Costs for emergency housing are not included in these figures as those needs are better planned for in the county level 5-year homeless housing plans required under RCW 43.185C.050.

[94] Ideally, you should analyze five or more years of data to determine the average annual rate of units produced.

[95] If a jurisdiction is seeing a surplus of housing production serving market rate households, a jurisdiction may consider the gap in funding needed to subsidize this surplus housing at lower (non-market) income ranges as part of its calculation.

[96] The data analyzed is based on Total Residential Project Cost, which includes the total cost of the residential portion of a project, including land, capitalized reserves and offsite infrastructure improvements. Data is available for 22 counties as well as statewide. The other 17 counties did not have LIHTC projects for new construction completed during the period for which data was available (2015-2022). Unit costs are presented in 2022 dollars. Construction costs have escalated rapidly in recent years, so the total gap in funding will quite likely be higher assuming that units are built over time during the entire planning period.

[97] This 2024 WSHFC report includes updated values for the following counties: Chelan, Clark, Grant, King, Pierce, Skagit, Snohomish, Spokane, Walla Walla, Whatcom, and Yakima.
https://app.leg.wa.gov/ReportsToTheLegislature/home/GetPDF?fileName=WSHFC%20Cost%20Data%20Report%20FY%202023-24_9e039903-663c-409c-ab2b-508f426f6431.pdf

and interest rates have been escalating rapidly. The methodology also does not consider rents paid by tenants that can offset the total amount of public subsidy needed.

Exhibit 27. Average cost per unit for new construction LIHTC projects completed between 2015 and 2022

County	Total project count	Average units per project	Total units	Inflation adjusted cost per unit (2022$)
Adams	1	86	86	$ 212,217
Benton	5	90	448	$ 205,397
Chelan	1	67	67	$ 274,816
Clallam	2	42	84	$ 359,266
Clark	15	79	1,184	$ 244,098
Franklin	1	38	38	$ 318,104
Grant	2	50	99	$ 242,595
Island	1	26	26	$ 346,717
King	79	130	10,262	$ 340,579
Kittitas	1	49	49	$ 275,122
Lewis	1	35	35	$ 285,141
Okanogan	4	24	96	$ 498,625
Pierce	12	121	1,456	$ 281,780
San Juan	1	45	45	$ 418,433
Snohomish	23	174	4,001	$ 297,224
Spokane	20	83	1,665	$ 217,419
Stevens	1	40	40	$ 349,962
Thurston	6	117	702	$ 260,916
Walla Walla	2	54	108	$ 316,272
Whatcom	5	42	212	$ 475,818
Whitman	1	56	56	$ 238,676
Yakima	6	50	302	$ 265,586
Statewide	190	111	21,061	$ 307,407

Source: Washington State Housing Finance Commission, 2022; BERK, 2022.

Note: The Inflation-Adjusted Average Cost per Unit includes all costs associated with development, such as land, construction, permit fees and financing. It also adjusts for construction cost inflation to the year 2022 based on the average of two multi-family construction cost indices available from the Census Bureau: Fisher and Laspeyres (https://www.census.gov/construction/cpi/). There were no

LIHTC projects for new construction during the analysis period for counties missing from this list. For more details about data source, see Affordable Housing Cost Data (Commerce, 2019), see: http://www.commerce.wa.gov/wp-content/uploads/2020/01/Affordable-Housing-Cost-Data-Report.pdf.

Step 3: Identify and document appropriate programs and actions to overcome each barrier identified

RCW 36.70A.070(2)(d)(ii) requires that all jurisdictions document programs and actions needed to achieve housing availability. These programs and actions should be designed to address and overcome local barriers to housing development identified by the jurisdiction such as those described above. **The actions should be clearly identified in a comprehensive plan and implemented in a jurisdiction's periodic update.** For barriers related to development regulations, changes to regulations must be made and adopted with the periodic update. For barriers related to programs or other actions, Commerce recommends these actions be scheduled for implementation within the next one to three years.[98] More information about implementation planning is in Chapter 9. Implementing and monitoring your housing element.

Counties and cities subject to the Review & Evaluation Program of RCW 36.70A.215 are responsible for a somewhat similar requirement to identify and implement "reasonable measures," which are actions necessary to reduce the difference between actual development patterns and assumptions and targets that may be contained in the countywide planning policies and city and county comprehensive plans.[99] Some reasonable measures that focus on addressing residential development trends may also be relevant to addressing barriers to achieving housing availability. Therefore, the same action(s) can appear in both lists.

However, the requirements for reasonable measures are somewhat different than the requirements in the housing element under RCW 36.70A.070(2)(d)(ii). So, jurisdictions that have adopted reasonable measures related to residential development should carefully review the findings of their barriers analysis to determine whether additional programs and actions to achieve housing availability for all housing types and incomes are needed, and if so, which actions or programs are most appropriate.

Exhibit 28 identifies some examples of programs and actions that may be used to address the barriers to housing production discussed above. This information may support jurisdictions in identifying appropriate programs and actions based on their unique barriers. This list indicates which strategies may be more effective in addressing the identified barriers. Many of these actions overlap with strategies for addressing racially disparate impacts, displacement or exclusion required in housing elements.[100]

Keep in mind that market conditions vary, and some actions or programs may not be as relevant in your community. Commerce's June 2020 Guidance for Developing a Housing Action Plan provides a more detailed discussion about selecting actions and strategies that are a good fit for your community type.[101] It may also be appropriate for jurisdictions to select and document other programs or actions that do not appear in this list.

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[98] RCW 36.70A.130(1)(a) states that "Except as otherwise provided, a county or city shall take legislative action to review and, if needed, revise its comprehensive land use plan and development regulations to ensure the plan and regulations comply with the requirements of this chapter according to the deadlines in subsections (4) and (5) of this section."
[99] See Buildable Lands Guidelines (Commerce, 2018) for more information: https://deptofcommerce.box.com/shared/static/3admh8ew6olyoqh48js4v6fs4lzcu664.pdf.
[100] See Commerce's Guidance to Address Racially Disparate Impacts (2023).
[101] https://deptofcommerce.box.com/shared/static/pophc16jetggsctctmnbjomm0qa7tpu8.pdf.

Exhibit 28: Barriers and strategies matrix[102]

Matrix legend: Potential high impact ★ Strategy	Development regulations	Process obstacles	Limited land availability & environmental constraints	Funding gaps
Reduce minimum lot sizes (HAP Guidance Exhibit 22: Z-1 and page 65)	★		★	
Require a minimum density (HAP Guidance Exhibit 22: Z-2 and page 67)	★			
Upzone (HAP Guidance Exhibit 22: Z-3 and page 70)	★		★	
Increase building height (HAP Guidance Exhibit 22: Z-4 and page 73)	★		★	
Integrate or adjust floor area ratio standards (HAP Guidance Exhibit 22: Z-5 and page 75)	★		★	
Increase allowed housing types in existing zones (cottages; 2, 3, 4-plexes; townhouses; micro-housing) (Commerce's middle housing guidance and HAP Guidance Exhibit 22: Z-6 and page 77)	★		★	
Allow co-living (RCW 36.70A.535) (See Commerce Co-living Guidance, sample co-living user guide and model ordinance, and other co-living resources)	★		★	
Increase or remove density limits (HAP Guidance Exhibit 22: Z-7 and page 93)	★		★	
Revise ADU standards (RCW 36.70A.680, 681) (Commerce's ADU Guidance and ADU resources)	★			
Offer density and/or height incentives for desired unit types (HAP Guidance Exhibit 22: Z-9 and page 98)	★		★	
Reduced requirements for conversion of commercial to residential (RCW 35A.21.440, RCW 35.21.990) Allow dwelling units to be added to existing non-residential buildings zoned for commercial or mixed use.	★		★	
Reduce off-street parking requirements (See New parking laws 2025) (Commerce's residential parking resources and HAP Guidance Exhibit 22: R-1 and page 99)	★		★	
Relax ground floor retail requirements (HAP Guidance Exhibit 22: R-2 and page 101)	★			

[102] More information is available in the Guidance for Developing a Housing Action Plan.

Matrix legend: Potential high impact ★ Strategy	Development regulations	Process obstacles	Limited land availability & environmental constraints	Funding gaps
Reduce setbacks, lot coverage and/or impervious area standards (HAP Guidance Exhibit 22: R-3 and page 103)	★		★	
Adopt clear and objective design review (RCW 36.70A.630 and RCW 36.70B.160) Require clear and objective standards and limit time impacts from design review.	★	★		
Use a form-based approach (HAP Guidance Exhibit 22: R-5 and page 108)	★	★	★	
Planned Unit Development (PUD) / Planned Residential Development (PRD) and cluster subdivisions (HAP Guidance Exhibit 22: R-6 and page 111)	★		★	
Implement Transit-Oriented Development (TOD) (RCW 36.70A.840 and 842) (See Commerce TOD resources)	★		★	
Manufactured home and tiny house communities (HAP Guidance Exhibit 22: R-7 and page 112)	★		★	
Allow a variety of housing types in more areas (adult family homes, transitional housing, senior housing, etc.)	★		★	
Allow for building design exceptions (RCW 36.70A.810, 812, 813, 815) Accommodations for existing building retrofits, passive house requirements, roof-mounted solar, and façade modulation and upper-level setbacks.	★			
Adopt regulations making it easier for affordable housing development (all required) • Treat affordable housing the same as housing development generally (RCW 36.130.020) • No requirements on unrelated persons that may occupy a housing unit (RCW 35.21.682, RCW 35A.21.314 and RCW 36.01.227) • No limits on the sizes of affordable housing units (RCW 36.70A.819)	★			
SEPA threshold exemptions (HAP Guidance Exhibit 22: P-1 and page 115, see MRSC for most up-to-date information)		★		
SEPA infill exemption (HAP Guidance Exhibit 22: P-2 and page 117)		★	★	
Subarea plan with non-project environmental impact statement (EIS) (HAP Guidance Exhibit 22: P-3 and page 119)		★		

Matrix legend: Potential high impact ★ Strategy	Development regulations	Process obstacles	Limited land availability & environmental constraints	Funding gaps
Planned action (HAP Guidance Exhibit 22: P-4 and page 121)		★		
Protection from SEPA appeals on transportation impacts (HAP Guidance Exhibit 22: P-5 and page 123)		★		
Permitting process streamlining (RCW 36.70B.070, 080, and 160) New state requirements for processing permits. Also, streamlining permitting for affordable housing. (Commerce's Local Project Review / Permitting webpage and guidebook, and HAP Guidance Exhibit 22: P-6 and page 124)		★		
Subdivision process streamlining (HAP Guidance Exhibit 22: P-7 and page 125)		★		
Allow unit-lot subdivisions (RCW 58.17.060) Provides for dividing standard-sized lots into portions for sale, such as ADUs. (Commerce's Unit lot subdivision fact sheet)		★	★	
Allow lot-splitting (RCW 58.17.145) One-time administrative lot split that may be processed concurrent with review of building permit.		★		
Multifamily housing tax exemption (MFTE) (Commerce's MFTE webpage and MFTE Workbook)				★
Density bonuses for affordable housing (HAP Guidance Exhibit 22: A-2 and page 130)	★			★
Alternative development standards for affordable housing (HAP Guidance Exhibit 22: A-3 and page 132)	★			
Adopt proportional impact fees (RCW 82.02.060(1)) (Commerce's Residential Proportional Impact Fees and System Development Charges Guidebook)				★
Fee waivers for affordable housing (HAP Guidance Exhibit 22: A-4 and page 133)				★
Allow affordable housing on religious owned property (RCW 36.70A.545, RCW 35.21.915, RCW 36.01.290) Increased density bonus for affordable housing and additional allowances for encampments	★		★	
Inclusionary zoning (HAP Guidance Exhibit 22: A-5 and page 134)	★			

Matrix legend: Potential high impact ★ Strategy	Development regulations	Process obstacles	Limited land availability & environmental constraints	Funding gaps
Local option taxes, fees and levies This may include: • Housing and related services sales tax (RCW 82.14.530) • Affordable housing property tax levy (RCW 84.52.105) • Real Estate Excise Tax 2 (REET 2) (RCW 82.46.035) – GMA jurisdictions only • Affordable Housing Sales Tax Credit (HB 1406 in 2019) – was only available to jurisdictions through July 2020 • Lodging Tax (RCW 67.28.150 and RCW 67.28.160) • General funds (including levy lid lift for affordable housing) • Mental Illness and Drug Dependency Tax – jurisdictions with a population over 30,000 • Sales and Use Tax Deferral for conversion of underutilized commercial property to affordable housing (RCW 82.59) (See HAP Guidance Exhibit 22: F-1 and page 137, MRSC – Funding Local Affordable Housing Efforts, MRSC – Affordable Housing Funding Sources, and AWC – Homelessness and Housing Toolkit)				★
Tax Increment Financing (TIF) and other infrastructure funding tools Local financing tools to fund public infrastructure in targeted areas to encourage private development and investment. (See Washington State's Department of Revenue overview of TIF Type Programs in Washington and MRSC's article on TIFs)				★
Surplus land and other opportunities Including: • Donating surplus public land for affordable housing development[103] • Acquiring and assembling properties and donating to an affordable housing developer (HAP Guidance Exhibit 22: F-3 and page 139)				★
Partner with local housing providers (HAP Guidance Exhibit 22: F-4 and page 141)				★
Strategic infrastructure and service investments (HAP Guidance Exhibit 22: O-1 and page 144)		★	★	
Simplify land use designation maps (HAP Guidance Exhibit 22: O-2 and page 144)	★			

[103] Affordability level of units produced can be a required condition of sale or donation under a contract with the developer.

Matrix legend: Potential high impact ★ Strategy	Development regulations	Process obstacles	Limited land availability & environmental constraints	Funding gaps
Local programs to help build missing middle housing, including demonstration projects (HAP Guidance Exhibit 22: O-3 and page 145)		★		
Strategic marketing of housing incentives (HAP Guidance Exhibit 22: O-4 and page 146)	★			★
Allow temporary emergency housing (HAP Guidance Exhibit 22: O-5 and page 146)	★			
Allow emergency Shelters, Transitional housing, Emergency housing and Permanent Supportive Housing (STEP) (RCW 36.70A.070(2)(c), RCW 35A.21.430, RCW 35.21.683) (See Commerce STEP resources, including STEP Model Ordinance, User Guide and Best Practices Report)	★	★		
Short-term rental regulations (see this resource from MRSC and Regulating Short-Term Rentals: A Guidebook for Equitable Policy from the Sustainable Economies Law Center)	★			
Coordination with 5-year homelessness plans This process can help identify and prioritize funding gaps, particularly gaps for support services.				★
Urban growth area swaps Under SB 5593, communities can swap out environmentally sensitive areas that may not develop. See this Commerce fact sheet for more information.			★	
Other resources for potential actions include: • Local Housing Solutions, a library of housing strategies • PSRC Housing Innovations Program (HIP), a collection of planning resources to support housing affordability and choice • Commerce's Guidance for Developing a Housing Action Plan				

Barrier review checklists and example

Checklists are a useful way to document the barrier review and findings. Appendix B: Adequate provisions checklists, includes checklists for common housing types for accommodating lower- and moderate-income housing needs, as well as PSH, emergency housing and ADUs.

For each housing type you identified as having insufficient production to meet housing needs, Commerce recommends that you make a copy of the corresponding checklist in Appendix B and include it as an appendix to your housing element. For example, if you found that there is not enough moderate density housing production to meet the projected needs of moderate-income households, you would use the Moderate Density Housing Barrier Review Checklist. For some housing types, it may be appropriate to complete multiple checklists (e.g., if you expect PSH to be built in a mid-rise zone, then you should review barriers to mid-rise

development in addition to the PSH checklist). It is important that, while completing the checklists, you consider barriers to both market-rate and sub-market rate housing development.

To provide evidence to indicate the presence or absence of a barrier, you might:

- Reference your buildable lands analysis (for counties and cities that conduct this analysis)
- Document permitting timelines and interview permitting staff
- Review existing code and resources that explain the permitting process to prospective developers
- Compare your code and processes to neighboring jurisdictions
- Review data about permit processing timelines
- Interview local market rate, affordable housing, non-profit and emergency shelter/emergency housing/transitional housing/PSH developers and resident property owners that have prior experience with the needed housing type(s). You may look to developers who work in neighboring areas if there are few in your jurisdiction. Jurisdictions may also choose to work together and interview developers as a group.

Note that, although developer interviews are a source of information about barriers, jurisdictions are not expected to modify regulations to accommodate every developer request. The interview process is intended to better understand the barriers and jurisdictions have a menu of options on how to address these, as described in Exhibit 28: Barriers and strategies matrix above.

Questions for developer barrier information

Guiding questions for developer outreach could include the following:

- Development regulations
  - What regulatory barriers, either state or local, have had a significant impact on the design, timeline or cost of projects?
  - What regulatory changes or incentives would make this housing type development more feasible to build?
  - How do the current parking minimums affect your projects? Would lowering parking requirements make projects more feasible? Could you build more units on a site if parking minimums were reduced?
- Process obstacles
  - What could be improved about the permitting process?
  - Are you able to accurately estimate permitting costs prior to application?
  - Is it easy to find clear information about permitting and what is required of applications?
  - How do permitting and impact fees compare to nearby jurisdictions?
  - Are design review requirements clear?
  - How long has it taken for projects to go through design review?
  - How does the conditional use permit process impact your project(s)?
  - How do the SEPA thresholds influence your project(s)?
- Land availability and environmental constraints
  - How have environmental constraints affected your project(s)?
  - Do you experience any challenges with finding suitable land in this jurisdiction for single-family residential / moderate density / high density / emergency housing or PSH facility development?

- Affordable housing funding gaps
    - What kinds of local funding or incentives have you found to be most effective in supporting project feasibility?
- What role(s) can our jurisdiction play in more effectively supporting the financial feasibility of affordable housing projects?
    - Have you built or attempted to build (selected housing type) in this jurisdiction in the past? If yes, what processes and regulations could be improved?
    - Would you consider building new projects that are undersupplied in this jurisdiction in the future? Why or why not?
    - Are there other factors that have made affordable projects more challenging from a design, construction or permitting perspective?

Appendix B: Adequate provisions checklists includes an example of a complete barriers review checklist.

Housing locations in relation to employment location

The third adequate provision required by RCW 36.70A.070(2)(d) is the consideration of housing locations in relation to employment location. Commerce recommends jurisdictions analyze these issues and document their findings in their HNA. These questions may also prompt possible countywide planning policies and/or housing element policies.

Allocating housing needs with consideration for employment location

First, counties and cities should consider employment location during the housing needs allocation process, as detailed in the "Allocating housing needs" chapter of Commerce's Establishing Housing Targets for your Community (2023) guidebook. Some considerations include:

- Consider increasing capacity and encouraging housing production near employment centers and areas of planned employment growth. This includes housing types that are affordable to the local workforce.
- Consider the location of transit routes and high-capacity transit serving employment centers. It may be appropriate to focus more housing growth in jurisdictions that have high quality transit serving employment centers than elsewhere in the county.
- Consider the wage level of jobs in each jurisdiction,[104] and the alignment with local housing affordability. This consideration can inform the allocation of housing need by income level. One great source of information about local job counts and wage levels is Census OnTheMap.[105] You can use this tool to select a city or Census defined place, and then see a breakdown of jobs located inside those boundaries. LEHD Origin-Destination Employment Statistics are another potential source.[106]

For PSRC jurisdictions, additional direction is provided in VISION 2050 and the Regional Growth Strategy.[107]

[104] Note that this number will be different from the median income for residents, since many residents commute to jobs outside of their own home jurisdiction.
[105] https://onthemap.ces.census.gov/.
[106] https://lehd.ces.census.gov/.
[107] https://www.psrc.org/planning-2050/vision-2050.

Planning for housing within your jurisdiction

Jurisdictions can also show consideration of housing locations in relation to employment location by conducting several kinds of analysis that can be documented in your HNA and referenced in your housing element. Recommended analysis includes:

- **Evaluating housing proximity/access to employment locations within the jurisdiction.** Identify job centers within your jurisdiction as well as major transit routes that connect to job centers. Identify areas zoned for moderate and higher density housing. Are the areas zoned for higher density housing within walking or biking distance of the job centers or connected via transit? What other neighborhoods are connected to job centers either via proximity or transit? Are there opportunities for increased housing density and diversity in these areas?

- **Evaluating housing proximity/access to employment locations outside of the jurisdiction.** Identify job centers outside the jurisdiction but within reasonable commute distance. Identify major transit routes that connect to outside job centers. Identify areas zoned for higher density housing. Are the areas zoned for higher density housing within commute distance of job centers or connected via transit? What other neighborhoods are connected to job centers either via proximity or transit? Are there opportunities for increased housing density and diversity in these areas?

- **Evaluating housing needs of local workforce.** Planners should also examine the wage levels and types of jobs located inside their jurisdictional boundaries[108] as well as the housing needs of these workers. What kinds of housing are most affordable to people earning those wages and are those housing types available within your jurisdiction? Does a broader diversity of housing options need to be allowed and encouraged in your jurisdiction? Where do these housing units need to be located to provide adequate access to these local jobs?

Consideration of the role of ADUs in meeting housing needs

Housing elements must also consider the role of accessory dwelling units (ADUs) in meeting housing needs according to RCW 36.70A.070(2)(d)(iv). In 2023, HB 1337 changed the way local governments planned for ADUs. See sidebar for more information on these changes and Commerce's Periodic Update checklist for what to consider when updating your ADU regulations.[109]

Commerce recommends all jurisdictions consider the issues and questions outlined below. Answers to the following questions, can help jurisdictions to develop defensible assumptions about the role that ADUs can realistically play in meeting housing needs. For additional guidance, see Commerce guidance on ADUs (2023).[110]

[108] Census OnTheMap is a good source of information about local job counts, job types and wage levels. You can use this tool to select a city or Census defined place, and then see a breakdown of jobs located inside those boundaries. https://onthemap.ces.census.gov/
[109] https://www.commerce.wa.gov/serving-communities/growth-management/periodic-update/.
[110] Commerce's ADU guidance is available on the Middle Housing webpage: https://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/planning-for-middle-housing/.

Questions to consider

What kinds of ADUs are likely to be developed in your community?

You can review ADU permit data to understand the types of ADUs that are being produced in your community, but be aware this will change with updates required with HB 1337 (2023).[111] Answer questions such as:

- Where are new ADUs being produced? Which zones have lots large enough for detached ADUs?
- Is the local market strong enough to produce ADUs if they are allowed?
- Is there potential for new attached or basements suites within existing housing?
- Are there students or other populations that would increase the demand for ADUs?
- Is it likely that new ADUs could be sold as condominiums for separate ownership than the primary housing unit or subdivided off from large lots in your community?

Answers to these questions will help you understand what kinds of new housing are being created through new ADU production, and therefore what kinds of households might be accommodated.

How are ADUs being used?

While available data may be limited, it is important to understand how ADUs are being used in your community.

- What is the typical rent for ADUs? What is the affordability relative to AMI? See Step 3 in the preceding Land Capacity chapter for recommended methodology.
- What segment(s) of the population do they seem to be serving? (for example: what is the typical age or household size of residents?)
- Are many ADUs being used as short-term rentals and not available for long-term tenants?[112]

Consideration of ADUs in light of HB 1337

In 2023, HB 1337 directed all jurisdictions to make significant changes to ADU regulations. Among other changes, jurisdictions must allow two ADUs per lot in all GMA urban growth areas, may not require the owner to occupy the property, may not prohibit the sale as independent units, must allow an ADU of at least 1,000 square feet, and must limit required parking based on distance from transit and lot size.

Since jurisdictions are not required to make these changes until six months after or at the time of the periodic update, the impacts of these changes will not be evident yet. As jurisdictions consider the role of ADUs in meeting future housing needs, Commerce recommends jurisdictions document what will change for the jurisdiction as a result of HB 1337 and the areas in which they expect an increase in ADUs. For example, newer subdivisions may be less likely for new ADU production whereas older subdivisions may have space for ADUs.

Recommended steps for addressing ADUs in your housing element

Commerce recommends that jurisdictions take, at minimum, the following steps to meet this ADU requirement.

- Summarize your estimated capacity for ADU production. See Step 1.6 in Chapter 3 Land capacity analysis for details.
- Complete the barriers checklist in Appendix B: Adequate provisions checklists for ADUs, and document programs or actions to overcome those barriers.

[111] https://lawfilesext.leg.wa.gov/biennium/2023-24/Pdf/Bills/Session%20Laws/House/1337.SL.pdf?q=20230828130502.
[112] One way to answer this question is to browse listings for your community on one or more popular short-term rental websites like AirBnb and VRBO.

- Identify the typical affordability level of ADUs in your jurisdiction, using best available data.[113]
- Include a narrative explaining the potential role of ADUs in meeting housing needs in the jurisdiction's HNA and reference in the housing element.

[113] See Step 3.1 in the previous Land Capacity chapter for guidance on determining affordability. Per the footnote in that section, Commerce recommends jurisdictions assume that ADU rents are on par with apartment rents unless a better local source of information is available.

Chapter 5. Housing element review

Any jurisdiction undergoing a comprehensive plan update should review and evaluate the current housing element. The best time to conduct this review is after completing a preliminary HNA and after the county has developed new countywide planning policies (CPPs) that address housing and population growth (see the chapter 1 titled "Countywide planning policies" in Book 1: "Establishing Housing Targets for Your Community"). This chapter provides guidance on how to carry out a housing element review.

Purpose of a housing element review

A housing element review can serve several purposes:

- Assess the alignment of goals and policies with:
  - Growth Management Act goals
  - CPPs and multi-county planning policies (MPPs) (for jurisdictions in the Central Puget Sound region)
  - New housing element requirements that require jurisdictions to address housing equity and displacement in planning[114]
  - Other comprehensive plan elements
  - Current and projected housing needs in your region and jurisdiction
  - Community vision and engagement findings
  - Regional plans and initiatives
- Evaluate progress in meeting housing needs or various housing types
- Consider new opportunities that were not foreseen by the current comprehensive plan
- Review the future land use map and designations for potential to meet housing needs
- Identify related infrastructure or service needs, including those that are barriers to new housing development
- Consider reasonable measures identified in buildable lands reports

The findings from a housing element review can inform the development of new goals and policies (see Chapter 6 Updating goals and policies) as well as strategies for effective implementation.

[114] See "Guidance for Addressing Racially Disparate Impacts" (Book 3) and the new requirements in RCW 36.70A.070(e)-(h).

Alignment with GMA

First, the housing element review should determine whether the element reflects the GMA goal for housing (see sidebar). This goal directs local governments to take more action to plan for their housing needs. During this review, consider the following questions:

- Do housing element policies reflect the GMA goal for:
  - Housing production;
  - A variety of housing types, densities and price points; and
  - Housing preservation?
- Does the housing element have policies to reflect the newly added housing element requirements that jurisdictions:
  - Implement policies and regulations to address and begin to undo racially disparate impacts, displacement and exclusion in housing caused by local policies, plans and actions; and
  - Include anti-displacement policies?[115]
- Does the housing element update comply with the latest GMA requirements (tip – see Commerce's Periodic Update Webpage)?[116] The legislature frequently updates the GMA and new requirements may require policy updates.

GMA housing goal

In 2021, the Legislature changed the GMA housing goal from "encourage the availability of affordable housing" to "plan for and accommodate affordable housing."

The housing goal now reads: "plan for and accommodate housing affordable to all economic segments of the population of this state, promote a variety of residential densities and housing types, and encourage preservation of existing housing stock."

Growth Management Act Housing Goal, RCW 36.70A.020(4)

[115] See "Guidance for Addressing Racially Disparate Impacts" (Book 3) and the new requirements in RCW 36.70A.070(e)-(h).
[116] https://www.commerce.wa.gov/serving-communities/growth-management/periodic-update/

Alignment with CPPs and MPPs

As discussed in Commerce's "Updating Housing Targets for Your Community" guidebook, the housing element must be consistent with and help to implement countywide planning policies. Therefore, the housing element review should consider whether the goals and policies are consistent with CPPs (and MPPs, where applicable). It should also consider whether those goals and policies help to implement CPPs/MPPs at the local level.

For example, during the City of Auburn Housing Element Update (2015), planners reviewed housing policies from PSRC VISION 2040, including MPP-H-1: "Provide a range of housing types and choices to meet the housing needs of all income levels and demographic groups within the region." The city's own housing element partially implemented this policy (e.g., mixed use, ADUs, manufactured homes) and needed some adjustment to add additional housing types (e.g., single family - small lots, townhomes, cottages, and other attached homes) to further promote housing diversity.

Therefore, the city identified a new policy in its housing element update: "Policy H-11. Promote opportunities for home ownership through single family detached and semi-attached housing, fee-simple cottages and townhouses, and condominium apartments." This is an example of the types of findings that a housing element review can reveal. Exhibit 29 provides additional details about Auburn's housing element review process.

Ensuring vitality and character of established residential neighborhoods

In their efforts to align with GMA, some communities approach housing policy as a balancing act between encouraging new types of housing development to meet housing needs and "ensuring the vitality and character of established residential neighborhoods" as called for in RCW 36.70A.070(2).

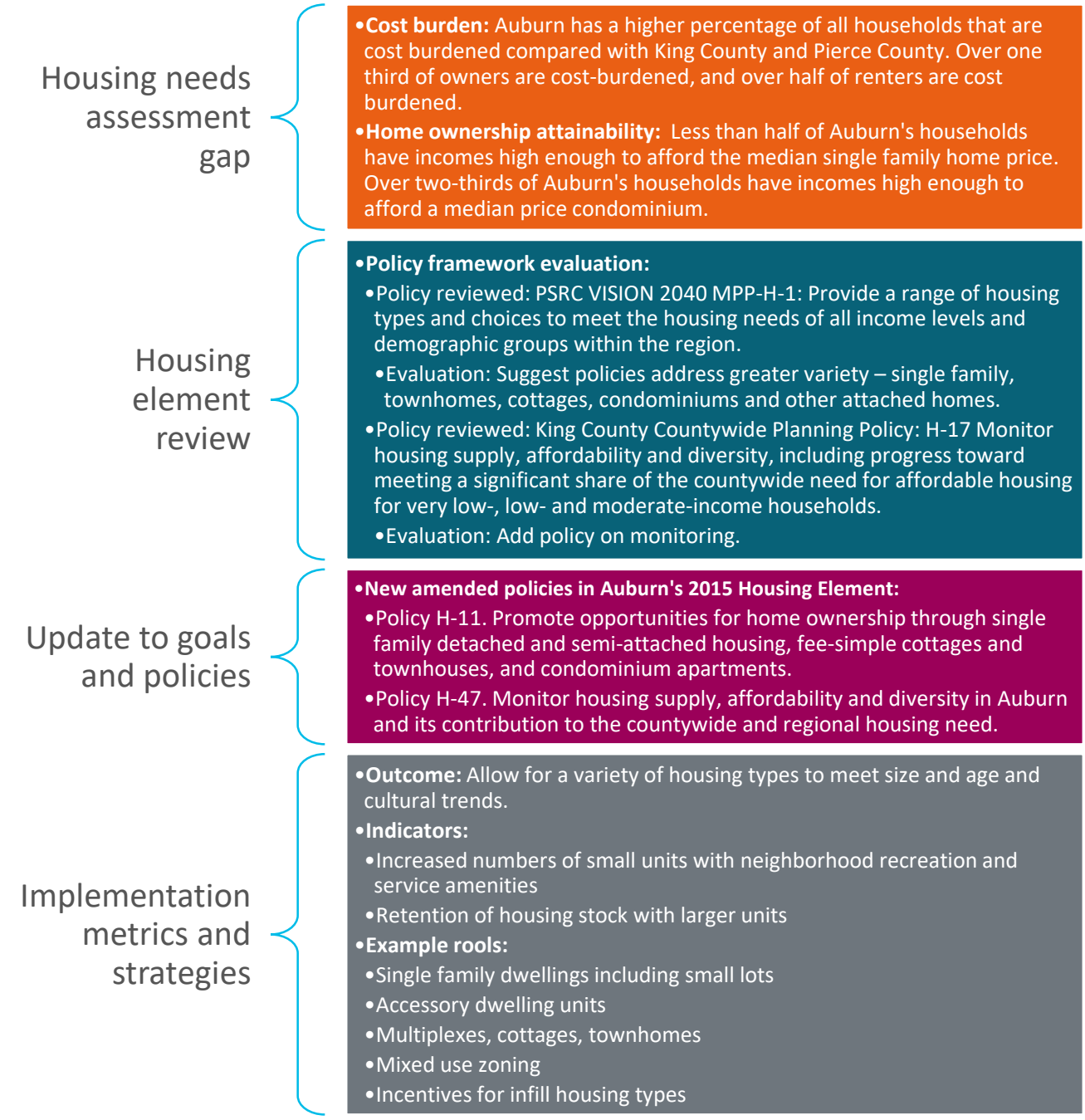
It is important to keep in mind that these two goals do not necessarily conflict. All neighborhoods and communities in Washington will change over time as residents come and go and the demographic profile of our population continues to change.

Planners have an important role to play in making sure that our neighborhoods can change over time to adapt to the changing needs of residents. Policies that seek to preserve neighborhoods from new forms of development can contribute to housing supply shortages, exclusion and the displacement of long-time residents when housing costs escalate. These outcomes fail to align with the GMA housing goal and can detract from the vitality and character of established neighborhoods.

Vison 2040 has evolved into Vision 2050 and applies to King, Pierce, Snohomish and Kitsap counties, as well as cities, towns, ports, state and local transportation agencies, and tribal governments within the region. It includes 12 housing policies to guide the development of countywide planning polices and local policies (Exhibit 2 in "Updating Housing Targets for Your Community"). It also includes five local actions to address the housing policies at the local level. This progressive and comprehensive document is likely to be useful to other Washington jurisdictions as they develop countywide planning policies and comprehensive plan goals and policies.

WAC 365-196 defines consistency as: "…no feature of a plan or regulation is incompatible with any other feature of a plan or regulation. Consistency is indicative of a capacity for orderly integration or operation with other elements in a system."

Exhibit 29. Example: Auburn housing element update, 2015



This example walks through how the City of Auburn's housing element review aligned with findings from their HNA, updated policies, and ultimately developed implementation metrics and strategies.

Source: City of Auburn 2015 Comprehensive Plan Update; BERK, 2020

Alignment with housing needs

The most effective housing element policies recognize the diverse housing needs of its population including affordability, life cycle, cultural desires and others. The HNA is the primary way to identify these needs and gaps.

Review existing policies to see whether they guide and authorize actions to address these needs, or if they need updates to reflect changes in the community. The example from Auburn's 2015 Comprehensive Plan Update (Exhibit 29) shows the link between gaps identified in their HNA and new housing policies selected to address those gaps.[117]

Many jurisdictions may not have policies to address and support development of the lowest income housing needs. See sidebar on homelessness planning and Appendix C: Housing element policy examples for some examples of policies that support a jurisdiction in accommodating the housing needs of the lowest income segments.

Alignment with community vision and engagement findings

Through the public engagement process, planners may find qualitative housing needs not seen in data and the interrelationships of housing and services. For example, Auburn found in its housing needs and characteristics assessment a concern about the cost of assisted living with seniors, and a desire for improved safety and children's play areas affecting quality of life for a Latinx community. Insights like this help inform the housing element review and development of updated goals and policies.

Alignment with regional plans and initiatives

The review should also consider whether the housing element is aligned with, and implements, regional plans and initiatives, such as regional transportation plans or countywide homeless housing plans (see sidebar). For example, consider questions such as:

- Does your housing element and comprehensive plan concentrate higher densities of housing in areas of opportunity such as designated centers and transit hubs?
- Does your housing element promote greater access to jobs and services, particularly among residents with low- and moderate-incomes?

Homelessness planning

In 2006, the Washington state Legislature passed the Homeless Housing and Assistance Act (RCW 43.185c) directing Commerce to grant document recording fees to local governments to help meet the need of homeless families and individuals.

This includes writing a local five-year plan to address homelessness (due in 2024), responsibility for administering the annual Point-in-Time Count, reporting client data in the Homeless Management Information System (HMIS), conducting outreach to landlords, ensuring coordinated entry and more. Lead grantees are also responsible for ensuring their homeless crisis response system prioritizes people most in need and that services meet funders' performance expectations.

As your housing element should consider the housing needs of people experiencing homelessness, it is important that policies be consistent with the needs identified in the local five-year and Continuum of Care (CoC) plans. Countywide planning policies should also be considering these plans to align strategies and approaches on a countywide basis. Therefore, Commerce recommends coordination between planners and the human services staff who normally develop these plans.

The Homelessness & Housing Toolkit for Cities produced by Association of Washington Cities (AWC) and Municipal Research and Services Center (MRSC) (2020) provides resources and case studies to help communities address homelessness and affordable housing issues.

[117] https://www.auburnwa.gov/city_hall/community_development/zoning__land_use/auburn_s_comprehensive_plan.

- Does this analysis identify logical places for higher density housing with infrastructure or priorities for investment in capital facilities to further the regional and local land use plan?
- Are the land use, transportation and capital facilities elements also consistent with the regional plan?

Rural housing

Rural elements must protect rural character and provide for a variety of rural densities (RCW 36.70A.070(5)). Counties should define rural development both in terms of its visual character and in terms of the density and intensity of uses (WAC 365-196-425 (2)(c)).

Clustering and density transfer are potential tools to protect rural character. Counties should establish a limit on the size of residential cluster so that a cluster does not constitute urban growth in a rural area; although it is possible to have multiple smaller clusters that are separated from each other and use a different access point (WAC 365-196-425 (5)(b)).

As of 2022, infill development or redevelopment in limited areas of more intensive rural development (LAMIRDs), which recognize pre-GMA villages, is allowed and may be encouraged if there is sufficient capacity of existing providers of public facilities and services to serve the new development or redevelopment.

Plan accessory dwelling units (ADUs) carefully in rural areas to limit service demands and extra density. Attached ADUs have not been challenged, but any detached ADUs should share sewer, well, driveways, yard and parking so they are clearly not creating an additional primary unit that increases rural density. See Commerce's ADU Guidance for more on ADUs in rural areas.

Alignment with the comprehensive plan

Comprehensive plans must be internally consistent.[118] This means that all elements of the plan include goals and policies that are consistent and mutually supportive. An important step in the housing element review is to compare the goals and policies in the housing element to those in other elements, such as land use, capital facilities and economic development.

For example, this review could identify issues such as whether the land use element and future land use map designate sufficient land for higher density housing development to meet identified housing needs, and whether that housing capacity is focused in areas with investments in public transportation and other supporting facilities. Have you considered programming investments in areas that need facilities in order to develop? Along with the land use element, counties should also review rural elements at the same time as the housing element update. (See "Rural housing" sidebar above.)

Review for new housing element requirements related to racially disparate impacts and displacement

With the passage of HB 1220 in 2021, jurisdictions need to evaluate if any of their policies contributed to or resulted in racially disparate impacts, displacement or exclusion in housing. If so, they will need to identify policies to address and begin to undo these impacts.

[118] RCW 36.70A.070

If jurisdictions do not already have anti-displacement policies, they will need to add policies to prevent and address displacement. More information on how to do this work can found in Step 3 (Evaluate Policies) of Commerce's "Guidance to Address Racially Disparate Impacts" guidebook (Book 3).

Consider opportunities and trends not foreseen by the comprehensive plan

The housing element review can reveal new opportunities for development including surplus public land, changing land needs and other trends not addressed in the last comprehensive plan update. The need for specific land uses may have changed, and new opportunities for housing may present themselves. For example, vacant or under-used commercial areas, former military or institutional sites, power and utility properties and others can be repurposed as new housing opportunities. Major transportation investments may also bring opportunities for new transit-oriented development (TOD). See sidebar for examples.

Societal and cultural trends can also shape housing needs and land use implications. For example, previous comprehensive plans likely did not anticipate the rapid shift to widespread teleworking that occurred in 2020 due to COVID-19. This shift has permanently affected some economic sectors, including increasing use of retail delivery. Also look for increased use of short-term rentals, which may take available homes off the market. A quick review of some of the rent by owner websites can tell you whether this is an issue in your community. Municipal Research and Services Center (MRSC) provides guidance on this topic.[119]

Examples of new opportunities

Non-residential sites converted to mixed use

- Vista Field, Kennewick, former airport
- Southport, Renton, former power plant

Major transportation investments and TOD

- Bothell's State Route 522 and State Route-527 improvements and downtown revitalization plan
- Seattle's Othello Station light rail station and transit oriented development

Other housing trends to consider as housing costs remain high compared to wages and vacancy rates remain low is potential evictions as federal pandemic stimulus support expires. Local governments can develop policies and programs to support those who may be displaced, or at a minimum provide a zoning and land use framework to encourage more multifamily housing production. In addition, as many individuals or households have reduced housing mobility due to the tight housing market, some jurisdictions see more multigenerational households and residents living with roommates. This trend could impact household demand patterns and needed neighborhood amenities and services.[120]

Evaluating progress towards housing needs

With the changes to the housing element to plan for all economic segments based on housing needs provided by Commerce, jurisdictions now have targets or objectives for housing growth. These may be found in countywide planning policies and will also now be detailed in comprehensive plans. Chapter 4. Adequate provisions provides guidance on how to measure progress towards these targets.

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[119] See MRSC's 12 Examples of Short-term Vacation Rental Regulations and other webpages. https://mrsc.org/Home/Stay-Informed/MRSC-Insight/November-2017/Short-Term-Vacation-Rental-Sample-Regulations.aspx

[120] See American Planning Association's 2023 Trend Report for Planners, starting on page 31: https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/2023-Trend-Report-For-Planners.pdf.

The housing element review should consider the findings of this analysis and its implications for progress towards achieving goals and policies. Jurisdictions may need to make adjustments to goals, policies or implementing actions when housing production does not keep pace with targets, or when the diversity of new housing produced does not align with housing needs.

Review the future land use map and designations

Future land use maps and corresponding designations function like the "heart" of a comprehensive plan and are usually found in a plan's land use element. A well-crafted land use map and corresponding designations can simplify the development process and facilitate production of the types of housing necessary to address community needs.

Using the findings from your community's HNA, including the land capacity analysis, how can you update the map and designations to meet those needs? Beyond a general need to increase the overall densities to address the lowest income housing needs, the HNA may illustrate gaps in specific types of housing that will guide map and land use designation updates. The solution likely involves a combination of strategies. Utilize the following guiding principles to review and revise land use maps and designations.

- **Alignment with goals, policies and growth targets:** As discussed above, examine whether the designations and map align with the community's allocated housing needs from the countywide process, housing needs from the HNA, vision and engagement findings, and regional transportation system and countywide planning policies. From a mapping perspective, do you need to make adjustments to:
  - Change the characteristics of a land use zone to address findings in the land capacity analysis?
  - Update the boundaries of existing designations?
  - Change to another designation?
  - Create a new designation? Sometimes, key sites or areas warrant creation of a new designation to help fit the evolving context and community needs and priorities.
  - Simplify and/or reduce the list of land use designations? Ideally, comprehensive plan future land use maps are not the same as zoning maps. When they are, each rezone will require a comprehensive plan amendment, a lengthy process that delays new housing. The plan works better when it employs broad, not narrow, land use designations. For example, two or three implementing zones under one land use designation allow more flexibility with future rezones and responses to unforeseen market changes (see Prosser sidebar at right).
  - Completely update the map and designations to fit new approach? In some cases, the map and designations are so out of date that communities seek a new approach to fit the evolving context and community needs and objectives.

Example of simplifying land use designations:
The City of Prosser's recent comprehensive plan update simplifies land use designations by consolidating residential areas into two designations: (1) Residential, and (2) Steep Slope Residential. This allowed for three higher density rezones and the City's first private affordable housing development, which would have previously been prohibited.

- **Make the map and designations clear and usable.** Many land use maps and designation text are not easy to read. The best maps have:
  - Easy to follow designations and legends.
  - Logical colors, patterns and order of land use designations.
  - Simple and descriptive naming conventions.

- **Include descriptive purpose statements, including a summary of principle uses and densities.** Although not required, land use designation purpose statements can prove a useful communication tool and helpful in describing unique locational attributes and/or community intentions that may apply. It is important to provide a useful description without too much detail.

Identify related infrastructure or service needs

When evaluating the housing element, be sure to support the type and location of housing with necessary infrastructure and capital facilities planning, or it may impede the timing, cost and quality of housing.

Evaluating infrastructure needs in already built communities can help support infill development and keep existing housing affordable. Anticipating new infrastructure needs in redeveloping or newly developing areas helps facilitate desired growth, housing variety and supply.

Costs: After determining what infrastructure is needed to support your growth strategy, it is important to estimate the cost. Communities then must decide how to allocate those costs between new development and existing residents and ratepayers. Impact fees, system development charges, certificates of concurrency or SEPA mitigation are all different strategies to finance the construction of needed infrastructure to bring housing plans to fruition.

To support affordable housing, local governments can structure fees to recognize differences in demand and costs and housing goals (see sidebar), as well as consider deferrals and exemptions.[121] Develop policy to guide these structures.

Some examples of jurisdictions with already restructured fees to support more affordable housing include the following:

- King County provides impact fee exemption/reduction for low- and moderate-income housing (Sec 21A.43.080).
- Tukwila waives park impact fees for accessory dwelling units (Ordinance 2599).
- Port Townsend allows deferrals of connection fees for affordable housing until units are occupied (PMC 13.03.115).

Accurately assessing the effect of impact and utility connection fees

For the sake of simplicity, communities tend to base impact fees on average impacts of a residential unit when the marginal impact of a particular unit can vary greatly. The structure of how these charges are assigned to duplexes, triplexes and ADUs can influence the development of these types of units.

For example, a new unit on an existing lot near the center of town with good transit access can generate significantly less demand for infrastructure than a new unit on a relatively large lot on the edge of town. Lower average trip distance, compact development patterns and use of existing infrastructure all tend to reduce marginal cost of serving infill development.

The City of Spokane has recognized this correlation and implemented significantly reduced transportation impact fees for housing in the downtown area, compared to areas outside of the downtown.

A system reliant on average costs will tend to subsidize expensive development types (such as large single-family homes at the periphery) and overcharge less expensive development types (such as infill ADUs), creating an incentive to build more costly housing types.

Carefully examining how you calculate the charge for different housing types in different parts of the community can help identify when you are sending signals to the market at cross purposes with your community goals. This same type of review can be applied to connection fees as well.

[121] See SB 5258 (2023), which requires local governments adopt impact fee schedules where there are proportionally lower impact fees for smaller housing units: https://app.leg.wa.gov/billsummary?BillNumber=5258&Initiative=false&Year=2023.

Find more information on reduction or waivers of fees on MSRC's webpage on Affordable Housing Techniques and Incentives.[122]

Gaps, phasing and urban densities: Local governments can review gaps in the sewer, water, transportation and other systems and prioritize funding and phasing mechanisms through policies in both the housing and capital facilities elements. First, prioritize appropriate areas for infrastructure to support higher density housing.

Where urban infrastructure is not yet fully available, jurisdictions can set regulatory standards to maintain the ability to achieve urban densities in the long run while allowing for some incremental development in the meantime. Examples include requiring building placement that preserves the ability to achieve future urban densities and allowing for interim water and septic systems provided such systems allow for full-service connections in the future (called shadow platting). Example communities with such standards include Pierce County interim urban septic systems and City of Chelan rural to urban transition standards.

If certain areas are too difficult or too expensive to serve, consider their removal from the urban growth area. Review WAC 365-195-320, which notes the limited circumstances in which reduced infrastructure is acceptable, and review Commerce's 2012 Urban Growth Area Guidebook.

[122] More information and a few other examples of impact fee waivers and reductions and reduced infrastructure connection charges are available on MRSC's "Affordable Housing Techniques and Incentives" webpage located here: https://mrsc.org/explore-topics/planning/housing/affordable-housing-techniques-and-incentives#fee-reduction.

Chapter 6. Updating goals and policies

This chapter provides guidance for designing clear and effective goals and policies for your housing element.

What are goals and policies?

Goals and policies in a housing element describe how the community plans to address its identified needs and wants. They articulate local priorities for the production of specific housing types, housing affordability, housing design, preservation of existing housing and allocation of local resources to support housing goals.[123]

When updating your housing element, take a step back and consider how goals and policies differ from each other. Consider the following definitions:

- **Goal.** Goals state desired outcomes or intended achievements. For example: "Provide for a range of housing options to address the needs of all economic segments of the community."
- **Policy**. Policies establish guiding actions and commitment to these actions. Policies provide the framework for future decision making and authorization for regulations to implement the policies. Policies may express intent, such as: "Encourage townhouses and multifamily development that have a similar design and scale as the surrounding neighborhood." Policies may also describe an action to be taken. For example: "Allow townhouses and multifamily development designed and scaled consistent with the surrounding neighborhood."

Each goal may have a number of associated policies. For example, if the goal is to zone for a variety of housing densities and types, the relevant policies may address a number of related issues and local priorities regarding that goal.

Goals and policy statements intended to describe a future accomplishment may be very specific, or more general if intended to provide direction to later planning efforts and decisions. Depending on the purpose and desired outcome, communities must decide how specific to be in expressing goals and policies.

When crafting or reviewing goals and policies, the strength of the words makes a difference**:**

- Language like "encourage," "consider" and "should" are tentative, exploratory words that could articulate policies that the community would like to consider and include in their plan, but is not yet ready to implement.
- Language such as "allow," "ensure" or "require" are stronger and point to policies to implement in the near future.

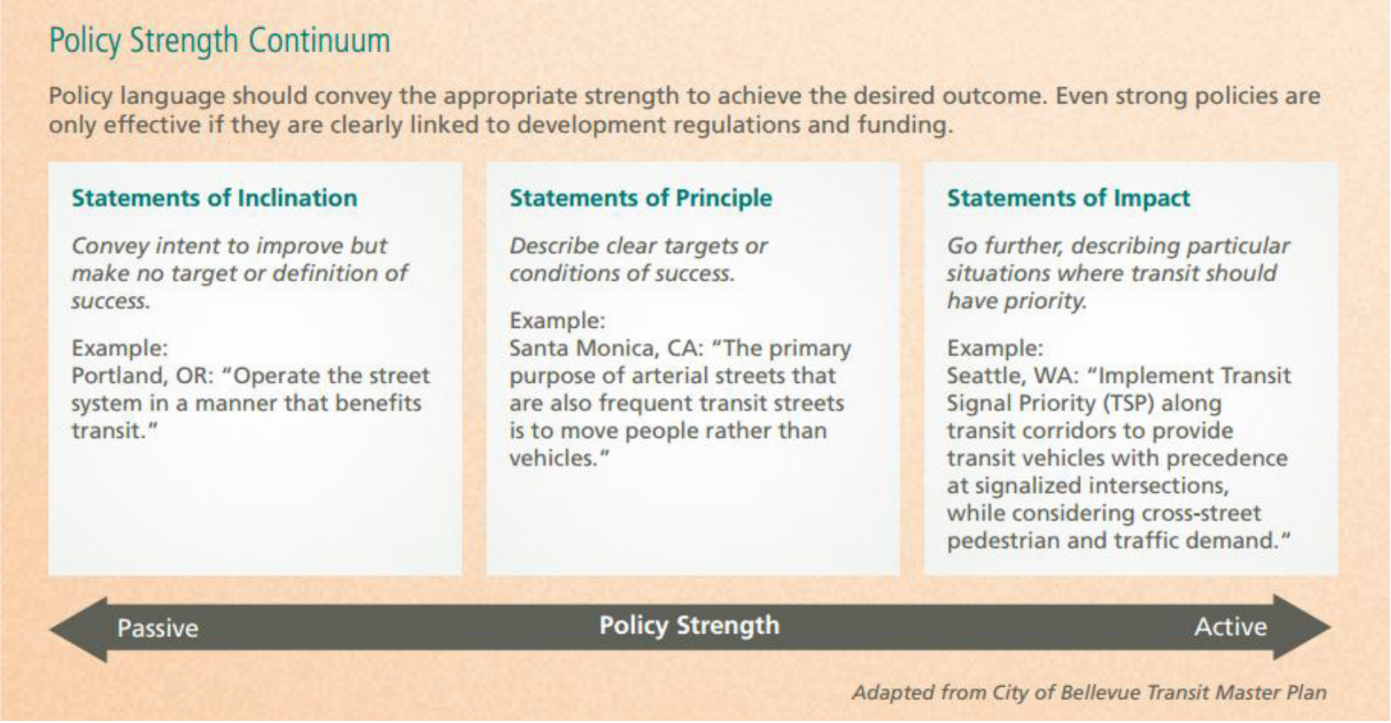
When reviewing your housing element, consider strengthening and adjusting policies by changing the words based on alignment with state law and alignment with your community's vision.

Regardless of the degree of specificity, clearly and accurately describe the intended outcome of goals and policies. Many older comprehensive plans suffer from overly vague policy language that offers minimal guidance to future decision making. The more specific your policies, the greater likelihood of producing results

[123] Some of the content in this section is adapted from Washington's Department of Community Development's 1993 Housing Element Guide. (https://www.ezview.wa.gov/Portals/_1976/Documents/Guidance/Housing%20Your%20Community%20-%20A%20Housing%20Element%20Guide-1993-Commerce.pdf)

that meet the desired intent. Exhibit 30 below, adapted from the City of Bellevue Transit Master Plan and illustrated in PSRC's 2014 Housing Element Guidance, provides guidance on crafting strong, active policies.

Exhibit 30. Policy strength continuum



Source: PSRC, 2014

Housing goals and policies should be written to allow the evaluation of progress toward achieving the housing element's goals and policies.[124] Clear language will help the jurisdiction to review whether policies have been implemented. See Chapter 9. Implementing and monitoring your housing element.

Requirements and guidelines for housing goals and policies

The GMA provides direction on what to include in the housing element. The housing element goal is to plan for and accommodate housing affordable to all economic segments of the population of the state, promote a variety of residential densities and housing types and encourage preservation of existing housing stock.

Countywide planning policies should be consistent with and reflect this statewide goal. The GMA countywide planning requirement is that these policies "consider the need for affordable housing, such as housing for all economic segments of the population and parameters for its distribution."[125] Ensure local policies align with this cascading policy hierarchy while also reflecting local needs and goals.

The GMA requirements for the housing element must include a statement of goals, policies, objectives and mandatory provisions for the preservation, improvement and development of housing, including single-family

[124] WAC 365-196-410(2)(a)(iv)
[125] RCW 36.70A.210(3)(e)

residences and moderate density housing. Given that direction, housing goals and policies should address the following:

- Working towards housing that is affordable to all economic segments of the population, with special consideration for low, very low, extremely low, and moderate-income households, recognizing that the market will not provide this without policy direction.
- Zoning for a variety of housing types and densities to allow the development of a variety of housing.
- Within urban growth areas, policies specifically for moderate density housing options including, but not limited to, duplexes, triplexes, and townhomes.
- Ensuring the vitality and character of established residential neighborhoods, recognizing that neighborhoods will change over time.
- Preserving and improving existing housing, especially affordable housing.
- Considering other local goals for housing to address local needs.

In addition to the above guidelines for housing element goals, jurisdictions should consider the following guidelines for housing element goals and policies from WAC 365-196-410 when updating their housing element:

- Goals and policies should guide the creation and adoption of development regulations and may also guide the exercise of discretion in the permitting process.
- Housing goals and policies of counties and cities should align with countywide planning policies and, where applicable, multicounty planning policies.
- Housing goals and policies should address at least the following: affordable housing and provision of a variety of housing types along with a variety of densities.
- Housing goals and policies should allow for the evaluation of progress toward achieving the housing element's goals and policies.

Recent updates to housing planning laws

Some things are not policy choices and are required by law. Local jurisdictions should review their policies on a regular basis to ensure they do not conflict with any housing laws. Below are some recent updates, but you should also review recent laws noted in the periodic update checklists from the Growth Management Services (GMS) periodic update webpage and the Washington State Housing Laws of 2019 through 2025. Also see Appendix E: Housing law and case law. When considering policies on these topics, you may want to provide information about how your jurisdiction would apply these laws.

- **Transit-oriented development (TOD):** Requires higher minimum densities around transit stations (0.5 miles from rail or 0.25 miles from bus rapid transit stations); requires new buildings in station areas to require at least 10% of the units be affordable or workforce housing for 50 years; mandates a 20-year multi-family tax exemption (MFTE) for residential and mixed-use buildings constructed within a station area. Creates a SEPA exemption to encourage mixed-use and housing development within these areas. See Commerce's TOD web page. It must be implemented in Vancouver by June 30, 2026, in Spokane by June 30, 2027, and in all other required cities by June 30, 2029. (HB 1491, 2025, codified in RCW 36.70A.840, 841, 842)
- **Unit lot subdivisions and lot splits:** All cities and towns must adopt procedures for unit lot subdivisions to allow division of a parent lot into separately owned unit lots, or owned in common by the owners of the lots. (SB 5559, 2025; SB 5258, 2023) All cities, towns and counties must also allow increased housing options through a one-time administrative lot split of a lot into two lots meeting minimum lot size, which may be processed concurrent with the review of a residential building permit. See Commerce's unit lot

subdivision fact sheet and residential lot split fact sheet. This bill must be adopted by summer of 2027. (SB 1096, 2025, codified in RCW 58.17.060(3))

- **Parking reforms for larger cities:** Reduces or eliminates the minimum number of parking spaces cities and counties with a population of 30,000 or more residents can require for multi-family units, single-family units, and commercial space, with some allowable exceptions. See Commerce's new parking laws 2025 fact sheet. Other Commerce parking guidance can be found on Commerce's middle housing web page. The deadline for adoption for jurisdictions with a population over 50,000 is January 27, 2027, and July 27, 2028, for jurisdictions with a population between 30,000 and 50,000. (SB 5184, 2025, codified in RCW 35.21.994, RCW 35A.21.445, and RCW 36.01.397)
- **Building code and development regulations**: Requires GMA-planning jurisdictions to modify setback, height limit, and gross floor area calculation requirements for certain developments to encourage energy efficiency; modifies off-street parking and affordable housing unit size requirements. Most sections of this bill must be implemented with by the sooner of six months after the periodic comprehensive plan update after bill adoption or six months after the implementation progress report. (HB 1183, 2025, codified in RCW 36.70A.810, RCW 36.70A.812, RCW 36.70A.813, RCW 36.70A.815, RCW 36.70A.817, RCW 36.70A.819, RCW 36.70A.820)
- **Conversion of commercial to residential:** Requires cities to allow existing buildings to be used for residential purposes in commercial, mixed-use, or residential zones. Local regulations may not require a change of use permit for the conversion of an existing building to residential purposes, may not require current energy code for unchanged portions of the building, may not require restrictions on housing unit density that prevents the addition of housing at a density up to 50% more than what is allowed, and may not impose other limits to parking and design standards. Updates are required by June 30, 2026. (HB 1757, 2025, codified as RCW 35A.21.440 and RCW 35.21.990; HB 1042, 2023, codified in RCW 35.21.440 and RCW 35.21.990)
- **Co-living:** Requires cities and counties to allow co-living on any lot located within an urban growth area that allows at least six multifamily residential units, including on a lot zoned for mixed use development. Co-living is defined as a residential development with sleeping units that are independently rented and lockable and provide living and sleeping space, and residents share kitchen facilities with other sleeping units in the building. See Commerce's co-living guidance and suite of co-living resources on Commerce's middle housing web page. Co-living regulations must be implemented by December 31, 2025. (HB 1998, 2024, codified as RCW 36.70A.535)
- **Detailed parking rules:** Cities and counties must provide detailed parking rules in the interest of reducing development costs by their next periodic update. (SB 6015, 2024, codified in RCW 36.70A.622)
- **Middle housing:** Cities over 25,000 and those cities contiguous with Everett, Seattle, Spokane and Tacoma must allow middle housing in designated areas. See the GMS middle housing web page. Middle housing regulations must be implemented by the periodic update deadline, or June 30, 2025, for jurisdictions with 2024 periodic update deadlines. (HB 1110, 2023, codified in RCW 36.70A.635, 636, 637, and 638)
- **Two ADUs in UGAs:** Fully planning cities and counties:

  - must allow two ADUs per lot within urban growth areas,
  - may not require the owner to occupy the property,
  - may not prohibit sale as independent units,
  - must allow an ADU of at least 1,000 square feet,
  - must set consistent parking based on distance from transit and lot size, and
  - may not charge more than 50% of the impact fees charged for the principal unit.

  See Commerce's ADU checklist for a complete list of requirements, Commerce's ADU guidance (2023), and Commerce's ADU web page for more information. Updated ADU regulations must be implemented by the

periodic update deadline, or June 30, 2025, for jurisdictions with 2024 periodic update deadlines. (HB 1337, 2023, codified in RCW 36.70A.680, 681, and 696)

- **Streamlining housing development:** Local governments must streamline local design review processes, requiring "clear and objective" standards that do not reduce development capacity otherwise allowed. Any design review process must be conducted concurrently, or otherwise logically integrated, with the consolidated review and decision process for project permits set forth in RCW 36.70B.120(3). No design review process may include more than one public meeting. Jurisdictions must comply with these requirements beginning six months after their next periodic update required under RCW 36.70A.130. (HB 1293, 2023, codified in RCW 36.70A.630 and RCW 36.70B.160)
- **Impact fees for housing:** Local governments must publish a schedule of impact fees that reflect the proportionate impact of new housing units. This includes multifamily and condominium units, based on square footage, number of bedrooms or trips generated, to produce a proportionally lower impact fee for smaller housing units. Local governments must adopt this schedule within six months after the periodic update due date. (SB 5258, 2023, codified in RCW 82.02.060)
- **Local Areas of More Intense Rural Development (LAMIRDs):** Any development or redevelopment of building size, scale, use or intensity may be permitted within a LAMIRD, with a few retail exceptions, subject to all existing providers of public facilities and services having confirmed that the existing service capacity is sufficient to accommodate the new development or redevelopment. Changes in use are allowed if the new use is consistent with the local character. See RCW 36.70A.070(5)(d).
- **Affordable housing on religious property:** Communities must provide a density bonus for affordable housing located on property owned by a religious organization. Updates to regulations must be implemented by the periodic update deadline. See RCW 36.70A.545.
- **New definitions** for affordable housing, low-, very low- and extremely low-income households at RCW 36.70A.030.
- **Tiny homes and recreational vehicles:** Cities and towns may regulate tiny homes and recreational vehicles in manufactured home parks, and may regulate the creation of tiny home communities according to RCW 35.21.686.
- **Surplus land for affordable housing:** local governments can sell or give land for a public benefit, defined as affordable housing in RCW 39.33.015.
- **No impact fees for emergency housing:** RCW 82.02.090 provides an exemption from impact fees for emergency housing.

Hearings board and court decisions also have an impact on your local housing policies. Stay current on recent decisions. Refer to Appendix E: Housing law and case law for a list of important decisions.

Update existing housing goals and policies

Some comprehensive plan updates require only modest adjustments to the housing goals and policies, whereas other situations may call for a complete update. The nature of the update depends on a variety of factors:

- **Age and quality of the existing housing element.** Outdated or hard to read plans may warrant a complete update. These factors, along with changing housing needs and evolving community objectives, made it an easy decision for the City of Anacortes (see Exhibit 31 below) to start fresh in their most recent update.
- **Changing physical context, including growth**. Rapidly growing outer suburb communities are a good example of a type of community that may need a complete update as their housing inventory and population change. Land-locked established suburbs with slower growth or population change, on the

other hand, may only require some strategic adjustments to align with changing state laws or regional policies, as well as evolving local housing needs and community priorities.

- **Alignment with GMA, CPPs and MPPs**. Review the future land use map, land use designations, and goals and policies to ensure they are consistent with changes to state law, or applicable county and multi-county planning policies. See "Countywide planning policies" in Commerce's Establishing Housing Targets for Your Community (Book 1) for details, as well as the previous section on "Recent updates to housing laws." You may want to simplify the number of land use designations in the comprehensive plan to reduce the need to amend the comprehensive plan when a change in zoning is needed. Fewer zones are also helpful.
- **Changing demographics and housing needs**. As referenced in Chapter 2, the HNA identifies the housing needs and gaps beyond the existing housing element. Looking at the results of the land capacity analysis will also point to specific housing need gaps. It is important to integrate goals and policies to address evolving gaps, particularly lower income housing needs and special needs housing (e.g., senior housing, farmworkers, homelessness, and adults with disabilities), as discussed in Chapter 5.
- **Addressing racially disparate impacts, exclusion, displacement and displacement risk.** As of 2021, housing elements need to include policies to address and begin to undo racially disparate impacts, displacement, exclusion and displacement risk. See Steps 3 and 4 in Guidance to Address Racially Disparate Impacts (Book 3).
- **Changing community objectives**. The public engagement process is likely to lead to adjustments to goals and priorities. Examples include a greater emphasis in missing middle housing types, housing affordability, housing design and compatibility, and the location and type of growth.

In some cases, housing goals may still be valid, but new policies may be needed to address identified housing needs and priorities. For example, you may need policy support to authorize the community to adopt tax incentive programs, inclusionary zoning or other programs. WAC 365-196-410 emphasizes that goals and policies serve as a guide to the creation and adoption of development regulations and may also guide decision-making in the permitting process. See RCW 36.70A.120 and WAC 365-196-800 for requirements and guidance on consistency between the plan, regulations and capital budget.

Exhibit 31. Example: housing affordability policies in Anacortes' Comprehensive Plan

The City of Anacortes's recently updated its comprehensive plan based on the age of the previous plan, the evolving housing context and changing community objectives. The plan included the following affordable housing goal and policies.

While most of the policies are advisory, they provide enough detail to guide future decision making. The column of strategies on the right provides details that do not fit in the policy format. These policies later proved useful in the land use code update and other affordable housing actions.

Goal H-3. Housing Affordability. Provide for a range of housing opportunities to address the needs of all economic segments of the community.

Policy H-3.1. Encourage preservation, maintenance, and improvements to existing affordable housing.

Policy H-3.2. Develop meaningful, measurable goals and strategies that promote the development of affordable workforce housing to meet local needs and monitor progress toward meeting those goals.

Policy H-3.3. Support non-profit agencies and public/private partnerships to preserve or develop additional housing for very low, low and moderate income households.

Policy H-3.4. Support both rental and ownership forms of affordable housing in a variety of types and sizes.

Policy H-3.5. Locate affordable housing throughout the city and especially in areas with good access to transit, employment, education, and shopping.

Policy H-3.6. Consider a housing levy to provide ongoing funding for affordable housing.

Policy H-3.7. Consider developing an inclusionary zoning program as a means of increasing the City's affordable housing supply.

Policy H-3.8. Require that affordable housing achieved through public incentives or assistance remains affordable for the longest possible term.

Policy H-3.9. Evaluate land owned by the City and other public entities for use for affordable housing utilizing a community land trust,-or similar, -type model.

Possible Workforce & Affordable Housing Strategies:

Incentive zoning. *Development Incentives such as increased height or floor area ratio, could be tied to the provision of affordable housing or payment of a fee-in-lieu to an affordable housing fund.*

Inclusionary zoning. *Requires that a given share of new construction is set aside to be affordable to low to moderate income households.*

Multi-family Tax Exemption (MFTE) Program. *Washington state law authorizes this program, which offers a limited 12-year tax exemption from ad valorem property taxation if 20% of the housing is affordable.*

Fee reduction or waivers. *Costs associated with the development process, such as impact fees and building permit fees, can be reduced or eliminated to encourage selected types of development.*

Source: City of Anacortes, 2016

What policy changes might you need in other comprehensive plan elements?

Changes to housing element policies may make it necessary to change policy in other related elements of the comprehensive plan, and vice versa.

The community's land use element sets the future land use designations, identifies growth targets and is a key element to consider in tandem with the housing element. Housing growth is also supported by, and should be consistent with, capital facilities, utilities and transportation elements. The housing needs identified by an HNA impact and may require changes to other elements in the comprehensive plan. You may need to amend policies in other elements that address land use types and patterns to ensure consistency with the updated housing element and the GMA. Common scenarios might include:

- **Higher density land use designations and corresponding transportation and/or capital facilities investments**: Where the HNA and housing policy evaluation show greater housing affordability is required, you may need to reconsider the land use element to add higher density designations, particularly in places of opportunity. This higher density designation change may also require improvements to transportation systems, water, sewer or stormwater infrastructure.

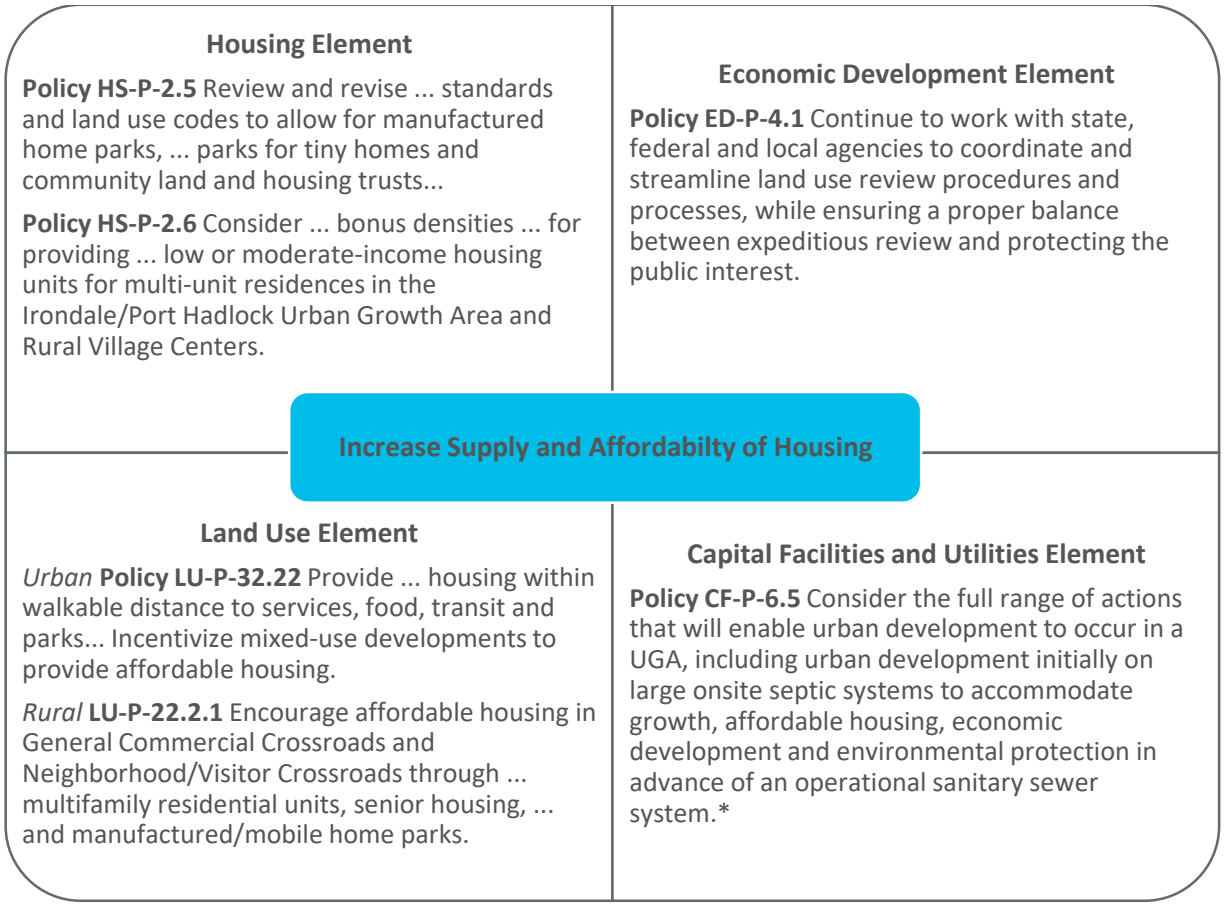
- **Smaller dwelling units and opportunity for walkable districts with amenities:** Compact development with greater numbers of smaller housing units could increase demand for services and amenities. In many areas, you may need amenities and an improved design context to attract new housing investments. Such amenities could include strategic streetscape improvements and sidewalks along with updated standards to accommodate more intensive development patterns. More people means demand for more services, such as coffee shops, restaurants, grocery stores and daycares, and therefore the potential need to adjust zoning for neighborhood centers.

- **More public open space and connectivity:** As private open space gets smaller with compact development, access to public open space such as parks, trails or complete sidewalks becomes more important to support housing development. Amendments to the parks and recreation plan and transportation improvement plan could focus on providing more frequent park or amenity spaces, or high quality but potentially smaller amenities in proximity to higher intensity neighborhoods. Such changes could support multiple goals and policies across several elements including reducing sprawl, reducing greenhouse gas emissions, increasing walkability and supporting active living.

- **Balancing jobs with housing:** Some communities may wish to seek a greater balance of jobs and housing for more complete neighborhoods where people can live and work in the same area. This proximity improves work-life balance, reduces greenhouse gas emissions and improves overall quality of life. This may require stronger policies to support new businesses and appropriately zoned land. If the economic development strategy will attract more employers and new jobs, it should also consider housing for those new workers and their prospective incomes.

See Exhibit 32 illustrating how the housing policy framework is integrated in multiple elements of a comprehensive plan, a consideration when setting up a policy review.

Exhibit 32. Example: Jefferson County housing policy framework integrated in multiple comprehensive plan elements



Note: *In 2020, the state of Washington's capital budget included funding for design and engineering of the Port Hadlock sewer project.
Source: Jefferson County, 2018

Additional housing policy issues

Beyond those factors noted above, below are additional considerations in updating your housing goals and policies:

- **Address special needs housing**. Every community contains its own mix of special needs housing issues (e.g., senior housing, permanent supportive housing, homelessness, and farmworkers). With aging populations and increasing economic pressures, addressing these needs requires increasingly proactive efforts. Policies may include barrier-free design to allow people of various abilities to use the housing stock. See Exhibit 33 for Bellingham's special needs housing goal and policies.

- **Address inequality and equity**. Historic and contemporary housing and land use practices have contributed to patterns of inequality in many communities, as identified in Appendix A: Zoning and Race in Commerce's Guidance for Addressing Racially Disparate Impacts (Book 3). Policies that help expand the supply and diversity of housing, preserve existing affordable housing and protect existing communities and households are the primary ways that communities can address existing inequalities. Policies that promote diverse housing options in areas with access to transportation, parks, schools and amenities are also particularly important. Tacoma's Goal H-2 from One Tacoma Housing Element in Exhibit 34 illustrates

policies focusing on equity issues. See Step 3 and 4 of Commerce's Guidance for Addressing Racially Disparate Impacts for more policy guidance on promoting equity in housing policy.

- **Address displacement.** For the many Washington communities facing rapidly increasing rental and for-sale housing prices, displacement is a critical issue. Step 5 of Commerce's Guidance for Addressing Racially Disparate Impacts examines a great variety of strategies to minimize and mitigate displacement. Policies H-2.5 and H-2.6 illustrated in Tacoma's housing element in Exhibit 34 address displacement.

- **Monitor housing supply and affordability.** Policies that monitor progress towards achieving goals and growth targets are important to realizing your community's vision. See Chapter 9. Implementing and monitoring your housing element for more details on monitoring.

- **Address housing design and compatibility**. As many communities have limited quantities of vacant land and upzone existing neighborhoods to accommodate growth and housing that may be more affordable, policies that emphasize compatible design may become more important. Such policies could provide guidance on the types of lot and building design provisions to address in implementing zoning codes and design standards or guidelines.[126] While compatibility is important, design policies can add complexity and expense to housing development. Your community may wish to balance these objectives.

- **Plan for housing away from natural hazards.** Hazards could include wildfire, floods or steep slopes.

EXAMPLE POLICIES IN APPENDIX C

- Preservation *(Maintenance and Code Enforcement)*
- Variety of Housing Types *(ADUs, Tiny Homes and Manufactured Housing, Infill Development and Density Near Places of Opportunity)*
- Home Ownership
- Accommodate Growth
- Housing Location and Transportation and Land Use *(Location of Affordable Housing, Jobs/Housing Balance)*
- Infrastructure *(College Housing, Rural and Farmworker Housing)*
- Affordable or Subsidized Housing *(Incentives or Requirements, Funding or Financing, Prevent Barriers)*
- Vulnerable Populations and Homelessness *(Special Needs Housing, Homeless Focus, Aging Adults Focus, Surplus Land and Non-Profit Housing)*
- Equity, Racially Disparate Impacts, and Displacement
- Regional Coordination and Fair Share
- Design and Development Standards *(Sustainable Housing, Historic Preservation)*
- Tracking and Monitoring

- **Encourage sustainable housing models.** Consider solar access, passive solar design, energy efficiency and net zero buildings.

Appendix C: Housing element policy examples includes additional housing policy examples from jurisdictions in Washington. The National American Planning Association (APA) Housing Policy Guide (2019) also includes policies for local governments to consider.[127]

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[126] When developing housing policies regarding design, keep the following new state laws in mind. (1) Design regulations must be "clear and objective" and not reduce development capacity otherwise allowed (HB 1293, 2023). (2) For jurisdictions who are required to implement middle housing because of HB 1110 (2023), design standards must also not be more restrictive than those required for detached single-family residences.

[127] https://www.planning.org/publications/document/9178529/.

Exhibit 33. Example: Bellingham's 2016 Comprehensive Plan special needs housing policies

Special housing needs and homelessness *(excerpt from Bellingham's Comprehensive Plan 2016)*

Special needs citizens include people who require some assistance in their day-to-day living such as the mentally ill, people with developmental or physical disabilities, victims of domestic violence, at-risk youth, veterans and the elderly. Housing for special needs citizens may or may not incorporate supportive services, and may be permanent or transitional. Examples include adult family homes, assisted living facilities and group homes for people with developmental disabilities.

Due to rising housing costs and general unavailability of affordable housing for low-income households, homelessness is recognized as the most basic and extreme housing problem. According to the 2015 point-in-time count, there are least 651 homeless persons (a person may be part of a family household or an unaccompanied individual) and 449 homeless households (a household may include one or more persons) in Whatcom County. Twenty-six percent of all homeless households are considered chronically homeless. According to the 2015 Annual Report by the Whatcom County Coalition to End Homelessness, point-in-time counts generally underestimate the number of people who are homeless.

GOAL H-4: Support housing options for special needs populations.

Policy H-46: Work with agencies, private developers and nonprofit organizations to locate housing to serve Bellingham's special needs populations, particularly those with challenges related to age, health or disability.

Policy H-47: Allow housing opportunities for special needs populations in appropriate locations throughout the community.

Policy H-48: Encourage and consider incentives for the dedication of a portion of housing in new projects to special needs housing.

Policy H-49: Support implementation of the Whatcom County Plan to End Homelessness.

Policy H-50: Continue to encourage and support the development of emergency, transitional and permanent supportive housing with appropriate on-site services for people with special needs and the homeless throughout the City and county. Moving people into permanent housing as quickly as possible should be a priority.

Policy H-51: Maintain an inventory and expand the city's supply of interim housing for target populations.

Policy H-52: Foster and support partnerships that have proven to be successful in reducing homelessness, preventing homelessness and assisting the chronically homeless with needed care.

Policy H-53: Support a range of housing types for retirees and seniors, including townhomes, condominiums and assisted living and independent living communities near daily needs and transit.

Policy H-54: Support ways for older adults and people with disabilities to remain in their homes and the community as their housing needs change by encouraging universal design and home retrofits for lifetime use.

Source: City of Bellingham, Bellingham Comprehensive Plan 2016, updated 2019

Exhibit 34. Example: Tacoma Comprehensive Plan's anti-displacement policies

GOAL H–2 **Ensure equitable access to housing, making a special effort to remove disparities in housing access for people of color, low-income households, diverse household types, older adults, and households that include people with disabilities.**

Policy H–2.1 Foster inclusive communities, overcome disparities in access to community assets, and enhance housing choice for people in protected classes throughout the city by coordinating plans and investments with fair housing policies.

Policy H–2.2 Support barrier-free access for all housing consistent with the Americans for Disabilities Act (ADA). Consider additional actions to increase access such as implementation of visitability and universal design features.

Policy H–2.3 Coordinate plans and investments with programs that prevent avoidable, involuntary evictions and foreclosures.

Policy H–2.4 Evaluate plans and investments and other legislative land use decisions to identify potential disparate impacts on housing choice and access for protected classes.

Policy H–2.5 Evaluate plans and investments for the potential to cause displacement in areas with concentrations of communities of color, low- and moderate-income households, and renters.

Policy H–2.6 When plans and investments are anticipated to create neighborhood change, pursue corrective actions to address involuntary displacement of under-served and under-represented people. Use public investments, incentives, and programs, and coordinate with nonprofit housing organizations, to mitigate the impacts of market pressures that cause involuntary displacement.

Policy H–2.7 Encourage a range of housing options and supportive environments to enable older adults to remain in their communities as their needs change.

Policy H–2.8 Help people stay in their homes through expanded tenant's protections, providing resources for households experiencing a crisis, increasing community organizing capacity, and other means.

Source: City of Tacoma, https://www.cityoftacoma.org/UserFiles/Servers/Server_6/File/cms/Planning/OneTacomaPlan/1-5%20Housing.pdf

Evaluating your goals and policies

In summary, as you review existing goals and policies for a potential update, consider the following:

- Are all the goals and policies consistent with the state laws and GMA requirements?
- Are all the goals and policies consistent with countywide planning policies and multi-county planning policies (if applicable)?
- Do the goals and policies reflect the needs identified in the HNA and the jurisdiction's share of countywide allocated housing needs?
- Are some policies no longer relevant, or do some need updating due to changing community needs?
- Are there policies to address all income levels of housing need, including emergency housing and permanent supportive housing?
- Are there policies that address equity in housing and affordable housing in proximity to opportunity, specifically as it relates to racially disparate impacts, exclusion, displacement and displacement risk?
- Are any of the policies inconsistent with each other or other parts of the plan?
- Can you make policies stronger by increasing the strength of the words?
- Do policies clearly describe their implementation in your development regulations, permitting processes, development fee structures and other programs?
- How will you measure success? Identify specific goals or policies to measure, such as the number of new accessory dwelling units or the number of new units permitted at varying densities.

Chapter 7. Identifying strategies to implement your housing policies

To effectively implement goals and policies, select realistic strategies to help you move toward your goals. Housing strategies are individual actions that jurisdictions take to encourage and facilitate the kinds of housing production identified in policy to achieve housing element goals. Strategies are strongest when included in the policies themselves. Alternatively, they can be listed in comments associated with policies or selected later through local implementation.

Commerce's 2020 Guidance for Developing a Housing Action Plan[128] ("HAP Guidance")[129] provides detailed recommendations to identify and select strategies with the greatest potential to address housing needs given your community's unique characteristics and market conditions. It also describes a wide-range of possible strategies for jurisdictions to use to achieve housing supply, diversity and affordability goals, including case studies and tips for most effective implementation.

In addition to identifying strategies to meet specific housing needs, look at housing strategies to reduce or remove barriers to achieving housing needs. Exhibit 28: Barriers and strategies matrix identifies how the housing strategies in the HAP Guidance, plus a few new strategies, can be used to remove barriers to affordable housing needs in a community.

Strategies should work together

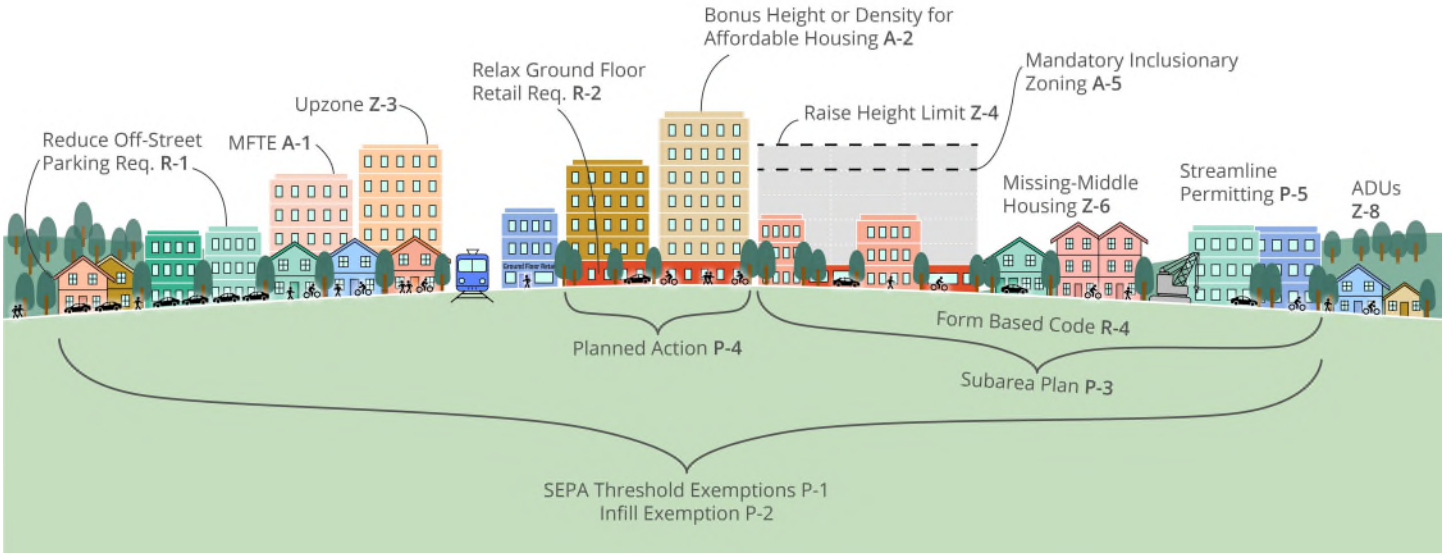
Just as no single housing policy addresses all of a community's needs, no single housing strategy is a complete solution. Housing strategies do not generally work in isolation. Multiple strategies work together to shape opportunities for development and encourage the kinds of housing production in greatest need.

The unique size, demographic, and physical and political context of each community means that the most effective combination of strategies will also be unique. Exhibit 35 shows examples of how multiple housing strategies can encourage the development needed to reach a community's housing goals and remove existing barriers to meeting a community's affordable housing needs. Exhibit 36 shows how a single housing policy may call for more than one strategy for successful implementation.

[128] https://deptofcommerce.box.com/shared/static/pophc16jetggsctctmnbjomm0qa7tpu8.pdf

[129] In 2019 and 2021, funding was provided for cities to develop housing action plans as described in RCW 36.70A.600(2). Cities that received grant funding were required to identify strategies to encourage housing development that meets housing needs, as well as a plan for implementing those strategies. This chapter adapts and summarizes key material from the HAP Guidance.

Exhibit 35. Example: A mix of interrelated housing strategies



Note: The letters and numbers next to each strategy correspond to Commerce's Guidance for Developing a Housing Action Plan (2020)
Source: MAKERS, 2020

Exhibit 36. Example: Linking housing policies to implementation strategies

Housing policy: Promote more opportunities for home ownership through single-family detached housing, middle housing, fee-simple cottages and townhouses, accessory dwelling units, and condominium apartments.
Strategy 1. Reduce minimum lot sizes in residential zones.
Strategy 2. Allow for additional housing types in residential zones, including fee-simple cottages, middle housing and townhouses.
Strategy 3: Add unit lot subdivisions to the subdivision ordinance to allow separate sale of ADUs and middle housing.

Types of housing strategies

The HAP Guidance includes six categories of housing strategies, as described below. A full list of these strategies is in Exhibit 37 below. See the HAP Guidance report for detailed descriptions of individual strategies, including tips for prioritization and effective implementation.

1. **Revising zoning standards**: Strategies for regulating building heights, density levels and permitted uses.
2. **Additional regulatory strategies**: These include adjusting other regulatory standards such as parking requirements, setbacks and design standards that may affect the feasibility of projects.
3. **Process improvements:** Strategies to provide for a smoother, faster or more predictable permitting process for developers seeking to build housing that is consistent with jurisdictional goals. Many developers maintain that providing for predictability is the most important thing jurisdictions can do to encourage housing production. Therefore, jurisdictions should consider the value of discretionary processes such as design review and determine whether there are other ways to achieve similar goals.
4. **Housing incentives**: Strategies to encourage and support multifamily and affordable housing development, particularly income-restricted affordable housing, such as fee waivers, multifamily tax exemptions or inclusionary zoning. Housing incentives are important for encouraging production of lower income housing units that the market would not provide on its own.
5. **Funding options for affordable housing development**: These are options to directly fund or subsidize affordable housing production, including grants, loans and new revenue generation.
6. **Other strategies**: Such as strategic infrastructure investments or programs to support homeowners with ADU financing, design, permitting and/or construction.

Often strategies are most successful when implemented with the support of partners. Examples might include engaging a housing authority or not-for-profit developer to identify specific changes to regulations or incentives that would allow more affordable housing types to be developed.

Identifying strategies for implementing housing policies

Several common themes and needs are identified in housing policies across the state, including the need for:

- Increasing housing supply
- Housing diversity
- Affordable homeownership
- Middle-income rental housing
- Senior housing
- Very low-income housing

Exhibit 37 provides a table to help identify housing strategies that will help to address these common themes and needs. Use this table to identify the kinds of housing strategies most effective for implementation based on your community's needs.

Exhibit 37. Housing strategies for implementing housing policies

Matrix Legend: ★ Potential high impact ☆ Potential moderate impact Strategy name and number from HAP Guidance	Increase housing supply	Distinct Housing Needs				
		Housing diversity	Affordable homeownership	Middle-income rental housing	Senior housing	Very low-income housing
Revised Zoning Standards						
Reduce Minimum Lot Sizes (Z-1)	☆	☆	★	☆		
Require a Minimum Density (Z-2)	☆		☆			
Upzone (Z-3)	★	☆	☆	☆		
Increase Building Height (Z-4)	☆			☆		
Integrate or Adjust Floor Area Ratio Standards (Z-5)	☆	☆		☆		
Increase Allowed Housing Types in Existing Zones (Z-6) (cottages; 2, 3, 4-plexes; townhouses; micro-housing)	☆	★	★	★	★	
Increase or Remove Density Limits (Z-7)	★	☆	☆	★		
Revise ADU Standards (Z-8)	☆	☆	☆	★	★	
Offer Density and/or Height Incentives for Desired Unit Types (Z-9)	☆		☆	★	☆	☆
Additional Regulatory Strategies						
Reduce Off-Street Parking Requirements (R-1)	☆	☆		★	★	
Relax Ground Floor Retail Requirements (R-2)	☆			☆		
Reduce Setbacks, Lot Coverage and/or Impervious Area Standards (R-3)	☆	☆	☆	☆		
Adopt Design Standards (R-4)		☆				
Use a Form-Based Approach (R-5)	☆			☆		
PUD/PRD and Cluster Subdivisions (R-6)	☆	☆				
Manufactured Home and Tiny House Communities (R-7)	☆	☆	☆	☆	☆	★
Process Improvements						
SEPA Threshold Exemptions (P-1)	☆	☆	☆	☆	☆	☆
SEPA Infill Exemption (P-2)	☆	☆	☆	☆		

Matrix Legend: ★ Potential high impact ☆ Potential moderate impact Strategy name and number from HAP Guidance	Increase housing supply	Distinct Housing Needs				
		Housing diversity	Affordable homeownership	Middle-income rental housing	Senior housing	Very low-income housing
Subarea Plan with Non-Project EIS (P-3)		☆	☆	☆		
Planned Action (P-4)	☆★	☆	☆	☆		
Protection from SEPA Appeals on Transportation Impacts (P-5)	☆		☆	☆		
Permitting Process Streamlining (P-6)	☆	☆	☆	☆	☆	☆
Subdivision Process Streamlining (P-7)	☆		☆			
Affordable Housing Incentives						
Multifamily Tax Exemption (A-1)	★		☆	★	★	☆
Density Bonuses for Affordable Housing (A-2)	★	☆	☆	☆	☆	☆
Alternative Development Standards for Affordable Housing (A-3)		☆	☆	☆		☆
Fee Waivers for Affordable Housing (A-4)			★	☆	☆	★
Inclusionary Zoning (A-5)	☆		☆	★		☆
Funding Options for Affordable Housing						
Local Option Taxes, Fees and Levies (F-1)	☆		☆	☆	☆	☆
Local Housing Trust Fund (F-2)	☆		☆	☆	☆	☆
"Found Land": Surplus Land and Other Opportunities (F-3)	☆		☆	☆	☆	★
Partner with Local Housing Providers (F-4)	☆		☆	★	★	★
Other Strategies						
Strategic Infrastructure Investments (O-1)	☆		☆	☆		☆
Simplify Land Use Designation Maps (O-2)	☆	☆	☆	☆		☆
Local Programs to Help Build Missing Middle Housing (O-3)	☆	☆	☆	☆	☆	☆
Strategic Marketing of Housing Incentives (O-4)	☆	☆	☆	☆	☆	☆
Temporary Emergency Housing (O-5)						☆

Chapter 8. Adopting your housing element

A comprehensive plan may only be amended once per year, but must be reviewed, and if needed, updated according to the schedule in RCW 36.70A.130. Planners navigate the periodic review or annual amendment process frequently, and each agency will have its own approach to ensure a transparent and predictable review process. Routine amendments may be straightforward, while other amendments may garner more public interest. Below are some universal tips for managing the adoption process to a successful conclusion.

- **Plan for adoption at the beginning**: Preparing for adoption should begin when establishing the project plan and schedule and public participation plan at the start of the project. Establish a critical path and work backward from desired legislative action dates with the city council. Allow for some cushion in case more time is needed to respond to public and decision maker comments. Ensure that any administrative appeal periods for environmental review are accounted for as well.
- **Engage decision makers along the way:** Addressing critical housing needs and defining strategic actions can inspire enthusiasm and concern from a range of stakeholders, including elected and appointed officials. Engaging with decision makers early and continuously will create a smoother path for the adoption process.
- **Simplify the process:** Integrating the requirements of environmental review and planning can reduce paperwork and align public comment opportunities, which creates a streamlined schedule and a more accessible process for members of the public. See discussion of SEPA/GMA integration below in the "Adoption process" section below.

Tips for adoption success

Inform and empower participants using simple, legible graphics and narrative allowing them to critically assess the housing system.

Go on tours, either real or virtual to provide a more concrete and less threatening image of possible future outcomes.

Test preferred concepts such as with a pro-forma analysis.

Bring in experts to answer questions.

Be clear about what policy options will mean to people.

Provide strong visual examples.

Deal with controversy early, ensure diverse representation on committees, avoid jargon and use the planning process to cultivate advocates.

Public engagement

When community members and stakeholders help shape a housing element's policies, it reflects their interests and they become its advocates. Public engagement is an important part of gathering and verifying information, highlighting and addressing inequities, and building support for policies and an implementable plan. A well-rounded public engagement approach includes developing a public participation program as one of the first steps, engaging a wide spectrum of the public and stakeholders, particularly people who have trouble finding housing that meets their needs. It is important to reflect this public input in the housing element updates so it can be included in the final decision-making process.

This section summarizes a more complete description of public engagement recommendations in the Guidance for Developing a Housing Action Plan. As you develop a public participation program, also review Step 1 of the Guidance to Address Racially Disparate Impacts (Book 3), which covers how to identify and engage with those who have been adversely impacted by housing and land use policies.

Develop a public participation program

RCW 36.70A.140 states: "*Each county and city that is required or chooses to plan under RCW 36.70A.040 shall establish and broadly disseminate to the public a public participation program identifying procedures providing for early and continuous public participation in the development and amendment of comprehensive land use plans and development regulations implementing such plans. The procedures shall provide for broad dissemination of proposals and alternatives, opportunity for written comments, public meetings after effective notice, provision for open discussion, communication programs, information services, and consideration of and response to public comments.*"

Though this statute refers to the whole comprehensive plan, applying this statute is also required when a single element is being revised. Regardless of whether you are updating just your housing element or your entire comprehensive plan, early and continuous public involvement is essential.

Though the public participation plan is created early to set the direction, be ready to revisit it throughout the process and update as needed to fill in emerging gaps. An engagement plan should identify:

- Public engagement goals
    - Audience(s) for engagement, including community members, stakeholders, staff, boards, commissions, council, any advisory committees and other parties involved (e.g., state agencies)Planners should also strive to identify those within the community who have been subject to historical injustices, different racial identities or those most impacted by housing struggles to ensure the housing element addresses racially disparate impacts, exclusion and displacement
- Appropriate engagement activities, such as open houses, surveys, web-interface community meetings and web pages
- Draft engagement schedule with re-evaluation opportunity(ies)
- Media contacts and timelines for communication about the project

A useful tool for considering public engagement plan goals and types of engagement is the International Association for Public Participation's (IAP2) Spectrum of Public Participation; see Exhibit 38. All stages on the spectrum are valuable. Depending on whether you are educating about options ("informing"), extracting information about community preferences ("consulting") or problem-solving together ("collaborating"), you will choose your venues and design your methods and activities for the right level of communication. Regardless of where you are on the spectrum, listening to community members with an open mind is an important skill.

Exhibit 38. Spectrum of public participation

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
					
GOAL	To provide balanced and objective information in a timely manner.	To obtain feedback on analysis, issues, alternatives and decisions.	To work with the public to make sure that concerns and aspirations are considered and understood.	To partner with the public in each aspect of the decision-making.	To place final decision-making in the hands of the public.
PROMISE	"We will keep you informed"	"We will listen to and acknowledge your concerns."	"We will work with you to ensure your concerns and aspirations are directly reflected in the decisions made."	"We will look to you for advice and innovation and incorporate this in decisions as much as possible."	"We will implement what you decide."

Source: International Association for Public Participation, www.iap2.org

Identify audiences

Though housing policy affects all members of a community, focusing your engagement efforts helps set a timely, budget-efficient and equitable process. The Stakeholder Prioritization Chart (Exhibit 39) offers a way to narrow your efforts by identifying important stakeholders and defining an approach to their engagement.

Shifting decision making power toward traditionally at-risk groups (the "Prioritize" quadrant) and truly listening to their needs and interests is fundamental to creating socially equitable housing policies. These steps ensure that their needs are met and help the project team to understand potential unintended consequences of housing policies.

At the same time, powerful influencers (the "Collaborate" quadrant) must also be heavily involved to ensure the policies are feasible and implementable. This means higher levels of engagement and true collaboration are important with these two groups. Those in the "Monitor for Change" and "Leverage" quadrants are important for verifying data and building advocates, so informing and consulting are appropriate levels of engagement with these groups.

Exhibit 39. Stakeholder prioritization chart



Source: MAKERS, 2020, adapted from multiple versions, including Kapwa Consulting's emphasizing a social equity lens and the original "power-interest" matrix (Mendelow, 1991).[130]

Prioritize at-risk communities

The people most impacted by housing policies — the "at-risk communities" in the stakeholder prioritization chart — often have the most challenges to participate in traditional meetings and outreach methods. For that reason, extra effort should be made to identify populations and stakeholders who could be most affected by housing policies and potential barriers to participation.

[130] Mendelow, A. "'Stakeholder Mapping', Proceedings of the 2nd International Conference on Information Systems." Cambridge, MA 5, no. 2 (1991): 61.

Collaboration with people who have historically been left out can lead to more creative and productive problem solving. Good practices and goals include:

- Identify communities at risk of displacement, who may have been subject to historical injustices (e.g., redlining), different racial identities, and those most impacted by housing struggles
- Build capacity for disadvantaged communities to meaningfully participate and affect decisions — i.e., prioritize engagement with at-risk communities
- Gather input from identified communities to identify root causes of disparate impacts in housing and their input on potential policy solutions
- Identify potential unintended consequences of proposed strategies (e.g., displacement of vulnerable populations and/or affordable community spaces with redevelopment, construction impacts to local businesses, etc.)
- Jointly find housing solutions and strategies to prevent and/or mitigate negative impacts

Ways to engage at-risk communities include:

- **Value participants' time and expertise:** Pay participants for their time and expertise, especially when they come from communities that have been systemically underserved. Compensation can range from stipends (e.g., $50 per meeting) for participating in a stakeholder work group, consultant funding for engaging their community, raffles and gift cards for attending an event, to providing food at events.
- **Avoid engagement fatigue:** Some community leaders and organizations feel they have been asked for their opinion in numerous processes, but often do not see how their input has been used or results from their efforts. This is leading to "engagement fatigue." The best way to prevent future engagement fatigue is to show that participants' efforts were fruitful. Throughout the process, show how participants' needs, ideas, preferences and solutions are being incorporated.
- **Make engagement methods accessible:** Consider hiring community liaisons, providing translations, offering childcare, providing food, etc.
- **Focus efforts:** When developing your plan, consider and plan for the various barriers to participation. Not every barrier can be mitigated, and regardless of how welcoming events are, people have competing demands on their time. To prioritize your efforts, consider what will help you meet these basic needs: gather the information needed to understand the full housing picture in your community, build advocates and empower at-risk communities.

Engage stakeholders

How much you engage people will vary by audience and point in the process, as well as the nature and extent of the housing element update or amendment process. The size and type of community, complexity of housing issues and strategies under consideration will also factor into your engagement plan.

Think strategically about who will be involved, which methods to use and at what times. Consider the most basic engagement needs — to gather information, build plan "authors"/advocates and empower underserved communities. Also consider your more specific desired outcomes to match stakeholders/community members with appropriate engagement activities, timing and level of effort.

The methods listed below are ordered roughly from broadest to most in-depth and focused. More details on each of these can be found in the HAP Guidance, Chapter 2. The engagement plan should include a mix of engagement methods depending on the engagement goals for different audiences and phases of the project.

- Online presence, including project website
- Focus groups and interviews

- Social media
- Online engagement platforms
- Public open house
- Public workshop
- Pop-up at community hotspot
- Piggyback on public events
- Piggyback on pre-existing meeting/community conversations
- Community liaisons

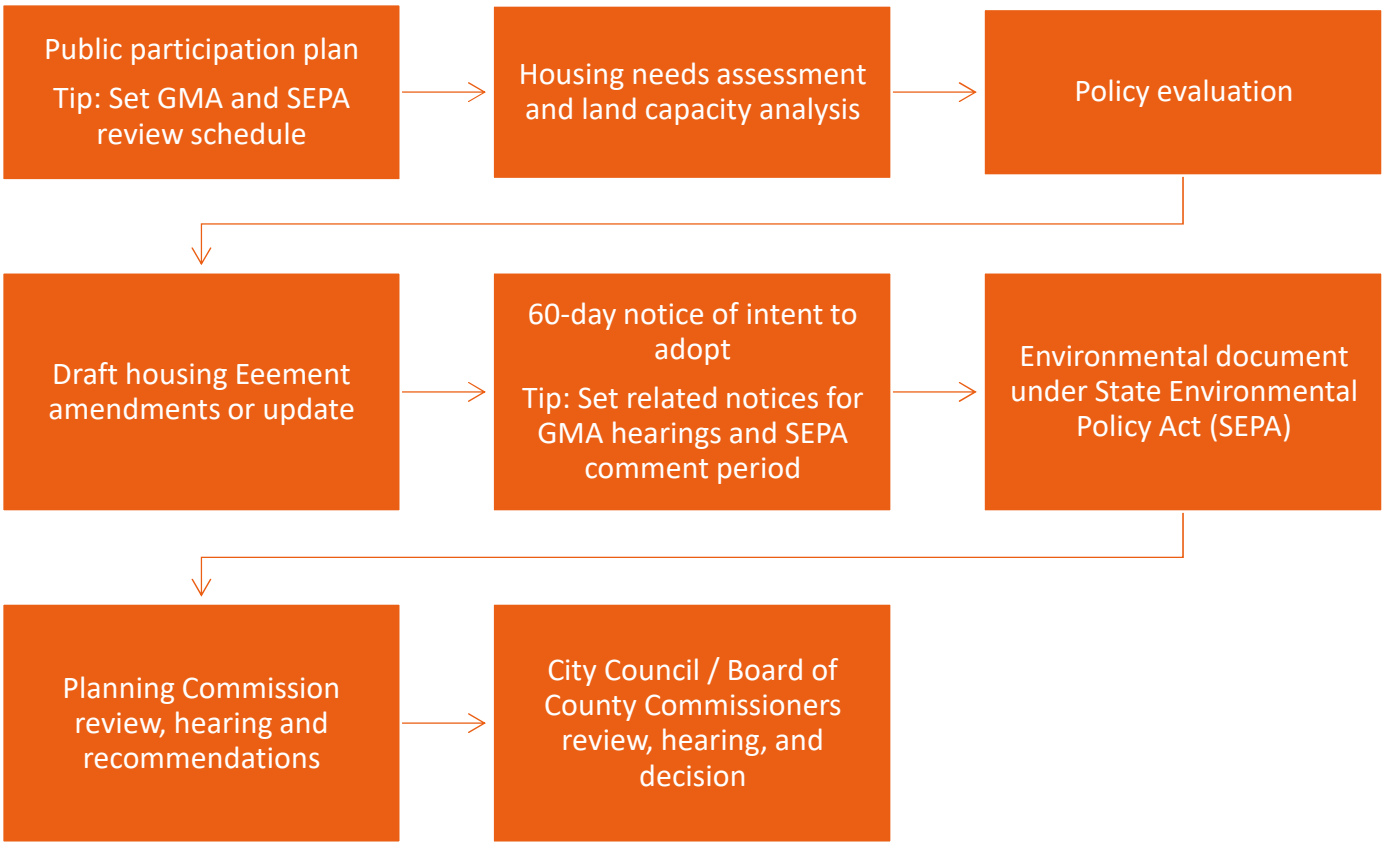
Adoption process

Opportunities for public comment and engagement with the public and stakeholders, as well as review and recommendations by the planning commission, ultimately culminate in a review and decision by the city council. Generally, there will have been opportunities for public engagement in reviewing the HNA and considering policies. The final draft of the housing element will require at least one public hearing prior to adoption (RCW 36.70A.130(1)(b)). The planning commission typically holds a hearing, and the city council or board of county commissioners may also hold a hearing depending on whether there are substantial changes to planning commission recommendations and the nature of the local government's procedural regulations.

Adoption of a comprehensive plan or single elements must be part of the annual comprehensive plan amendments or the periodic updates and must be adopted by ordinance. See Exhibit 40 for an example adoption process.

Two examples of adoption ordinances include Anacortes' Ordinance 2982, adopting a complete update to the Comprehensive Plan in 2016, and Island County's 2018 Ordinance C-97-18, updating the housing element after a comprehensive review of housing affordability. The final adopting ordinance may include key findings from the HNA as the rationale for adopting the amendments or update.

Exhibit 40. Housing element update or amendment: adoption steps flow chart



SEPA integration with adoption

In tandem with preparing the housing element update or amendments, planners will need to conduct non-project environmental review under the State Environmental Policy Act (SEPA) (RCW 43.21c). SEPA (RCW 43.21c) helps government agencies consider the environment before taking actions. SEPA considers the adoption of plans, policies and programs under any law to be non-project actions,[131] and SEPA applies to these types of actions.

Amendments to the comprehensive plan, including the housing element, are considered a non-project action and require SEPA review. A jurisdiction may have several options for completing the SEPA process:

- **Relying on existing relevant SEPA documents** and adopting, adding an addendum or supplementing them along with threshold determinations as appropriate (WAC 197-11-600).
- **Creating a new SEPA document** and threshold determination addressing the housing element update or amendments as a new non-project proposal. This may mean a determination of non-significance (DNS) and a checklist (WAC 197-11-340). Potentially a determination of significance (DS) and environmental impact statement (EIS) could be prepared if the housing element identified substantial proposed changes in policies and regulations such that it was important to review the proposals early (WAC 197-11-360).

[131] See description of non-project actions at WAC 197-11-060. SEPA also applies to "project" actions like development proposals (WAC 197-11-060(3))

Local governments are encouraged to integrate SEPA and GMA requirements so that the decisions benefit from environmental information and the engagement process is seamless for the public (WAC 197-11-235 et seq.). SEPA/GMA integration could include:

- Preparing studies that inform both GMA and SEPA procedures,
- Identifying early the features of the legislative proposal and potential alternatives for the decision making and environmental review process,
- Considering the likely threshold determination at the beginning,
- Preparing a complete analysis of likely impacts even if using a non-project checklist,[132]
- Determining the associated schedule of document and notice preparation (see Exhibit 41), and
- Early identification of policy or code-based mitigation measures (e.g., compatibility measures for different density housing types, etc.).

Environmental Review Resources

- SEPA Handbook (2018 update)
- SEPA Frequently Asked Questions
- WAC 197-11: SEPA Rules
- WAC 197-11-210 thru 235: GMA / SEPA integration

See the tips on SEPA/GMA integration in Exhibit 41, as well as the SEPA Handbook for more information.[133]

Exhibit 41. SEPA/GMA integration tips

- **Integrated process:** Required notices and public meetings or comment opportunities can be combined to meet SEPA and GMA requirements. For example, if the local government issues a DNS with a 14-day comment period, that could overlap the periodic review or annual amendment hearing(s) so that the public comment opportunities are in alignment and people can comment on both the proposal and the environmental review.

- **Integrated document:** An integrated SEPA/GMA process can also mean an integrated document where the proposed policies and regulations are integrated with the SEPA-required analysis in one document. More commonly, GMA and SEPA documents are issued in separate volumes and at the same time for coordinated review. They could also be integrated in the same document, which may be more complex for future housing element amendments.

[132] See OLYMPIANS FOR SMART DEVELOPMENT & LIVABLE NEIGHBORHOODS, et al., Petitioners, v. CITY OF OLYMPIA, Respondent: Final Decision and Order, Case No. 19-2-0002c, available at: https://www.gmhb.wa.gov/search/case.
[133] SEPA Handbook, 2018: https://ecology.wa.gov/DOE/files/4c/4c9fec2b-5e6f-44b5-bf13-b253e72a4ea1.pdf.

Chapter 9. Implementing and monitoring your housing element

Adopting an updated housing element is only the first step toward achieving your new housing goals, policies and objectives. Jurisdictions must also adopt development regulations that implement the comprehensive plan including any new statutory requirements with their periodic update consistent with RCW 36.70A.130(1)(a).[134]

Moving from adoption of new or updated goals and policies to seeing new housing production that meets your community's needs can be more effective with an implementation and monitoring plan. While not required for a GMA housing element, identifying implementation steps and monitoring performance are important ways to help your community work toward housing goals. WAC 365-196-410(2)(f) lists a series of potential implementation steps and suggestions for monitoring. Some communities include an implementation and monitoring plan directly in their housing element or elsewhere in the comprehensive plan. Others treat this step as separate from, and subsequent to, the adoption of the housing element or comprehensive plan. Either approach can be appropriate.

This chapter provides guidance for what is expected to be implemented with a comprehensive plan. This chapter also provides guidance for the development of an implementation plan and monitoring framework to help track progress towards meeting community goals and needs. It also includes information on the relationship of the comprehensive plan requirements to the implementation progress report required for some counties and cities five years after the adoption of the periodic comprehensive plan update.

Guidance for implementation planning

The GMA requires counties and cities required or choosing to plan under RCW 36.70A.040 to adopt a comprehensive plan including a housing element that identifies sufficient capacity of land for all housing needs. RCW 36.70A.115 further clarifies that those fully planning jurisdictions shall ensure that, taken collectively, the comprehensive plan and development regulations provide sufficient land capacity to accommodate their allocated housing need. Under RCW 36.70A.130(1)(a), comprehensive plans and development regulations must be consistent with the GMA when they are adopted at the periodic update.

Based on these statutory requirements, both the comprehensive plan and implementing development regulations must be adopted no later than the periodic update deadline to ensure GMA compliance. For example, if a jurisdiction's comprehensive plan identifies a residential land capacity deficit for middle housing types to serve the projected number of low to moderate-income households, then the adopted implementing development regulations must include changes to the development regulations to allow a sufficient amount of middle housing to overcome that deficit. That additional capacity should be allowed "by right" to ensure that there are minimal hurdles to building the needed capacity.

Similarly, jurisdictions must also make adequate provisions for existing and projected needs for all economic segments of the community with their periodic update.[135] Therefore, jurisdictions must make development

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[134] RCW 36.70A.130(1)(a): "… Except as otherwise provided, a county or city shall take legislative action to review and, if needed, revise its comprehensive land use plan and development regulations to ensure the plan and regulations comply with the requirements of this chapter according to the deadlines in subsections (4) and (5) of this section."

[135] This section of Guidance for Updating Your Housing Element was updated in January 2026 to be consistent with the Growth Management Hearings Board findings in Futurewise, Kian Bradley, and Trevor Reed v. City of Mercer Island (2025).

regulation changes necessary to implement the housing element, including the actions that were identified to address housing barriers in RCW 36.70A.070(2)(d)(ii):

- Documenting programs and actions needed to achieve housing availability including gaps in local funding, barriers such as development regulations and other limitations.

Comprehensive plans and implementing development regulations necessary to provide sufficient land capacity and make adequate provisions must be adopted by the periodic update deadline. Non-regulatory changes, such as adopting affordable housing levies or implementing public-private partnerships, may be implemented soon after the periodic update.

Develop an implementation plan

An implementation plan identifies specific actions that will be needed to carry out the policies and/or strategies. It also organizes and prioritizes them in the form of a work plan that can guide next steps. When drafting your implementation plan, consider including the components below. Keep in mind that public and stakeholder engagement are essential for developing a successful implementation plan. See Chapter 8. Adopting your housing element for recommendations on stakeholder engagement.

Implementation planning matrix

An implementation planning matrix is a useful framework for organizing and prioritizing actions needed to implement the housing element. Each housing policy and its associated strategies can require several actions to support effective implementation. A planning matrix is a way to identify, for each action, the responsible party (or parties), resources needed, implementation steps and a target timeline for completion. The same matrix can be used to track progress toward implementation in annual reports or as a live document on your website. Topics to consider in your implementation planning matrix include:

- An action's **priority** is determined by how critical it is for accomplishing the housing goals or objectives.
- The anticipated **timeline** for each action refers to how long it will take to implement that action. For example, categorizing actions as near-term (0-2 years), medium-term (3-5 years) and long-term (6-10 years).
- The matrix should identify **responsible parties** for each action. These can be departments or organizations that are key players in completing this step. Categorize parties as primary and secondary according to their needed level of involvement.
- The **method of accomplishing the action** is helpful to include, such as legislative, administrative or partnership development.
- It is important to assess and plan how much **investment** and the level of effort an action requires, including staff and volunteer hours and financial resources, which can affect the action's timeline. This may be measured as a gradation of effort - minimal, moderate or significant.
- **Comments** such as potential resource needs, challenges, opportunities or other considerations.

Exhibit 42 shows a simple example format for an implementation planning matrix for organizing this information. After identifying these elements for each action, they can be grouped to reveal priorities and responsible parties. You can use this tool to begin allocating resources and starting processes necessary to accomplish the actions you have identified to meet your community's housing needs.

Exhibit 42. Example format for an implementation planning matrix

Policy H-3: Encourage the development of workforce housing supply in **mixed-use centers.** *Strategy H-3.1: Create a density bonus to incentivize new workforce housing production by private developers.*					
Action H-3.1.1: Conduct a market study to determine which kinds of incentives would maximize impacts.					
Priority	***Timeline***	***Type***	***Lead Party***	***Who can assist?***	***Investment***
High	6 months	Administrative	Community and Economic Development Department		Staff – 0.5 Full-time employee (FTE) or $75,000 consultant led work
Action H-3.1.2: Develop and adopt new density bonus program.					
Priority	***Timeline***	***Type***	***Lead Party***	***Who can assist?***	***Investment***
High	1 year	Legislative	City Council	Community and Economic Development Department	Staff – 0.5 FTE

Implementation schedule and work plan

A good example of a schedule and implementation work plan is shown in the Bainbridge Island 2017 Comprehensive Plan, which identified 56 action items.[136] In order to provide clarity about what would be necessary to achieve these items, each element of the comprehensive plan includes a work plan. The work plans consist of a matrix describing each action, along with tasks necessary to complete the action, tasks currently in progress and any completed tasks. The work plan also includes a graphic schedule, showing timing and required staff effort from different departments for each high-priority action. Progress toward implementation is reported annually. Exhibit 43 shows some excerpts from the comprehensive plan and annual work plan priorities report. Beginning in 2019, the city now provides a report on progress to implement the actions identified within the comprehensive plan.

When developing your schedule, think about the following:

- Whether there are any windows of opportunity or time constraints that might motivate the scheduling of a high-priority action
- Steps, tasks and processes that will be required to implement the action
- Investment needed for each program or action (staff time, budget, etc.)
- Annual resources available (staff time, budget, partner capacity)
- Sequencing of actions with other actions, plan updates or work priorities

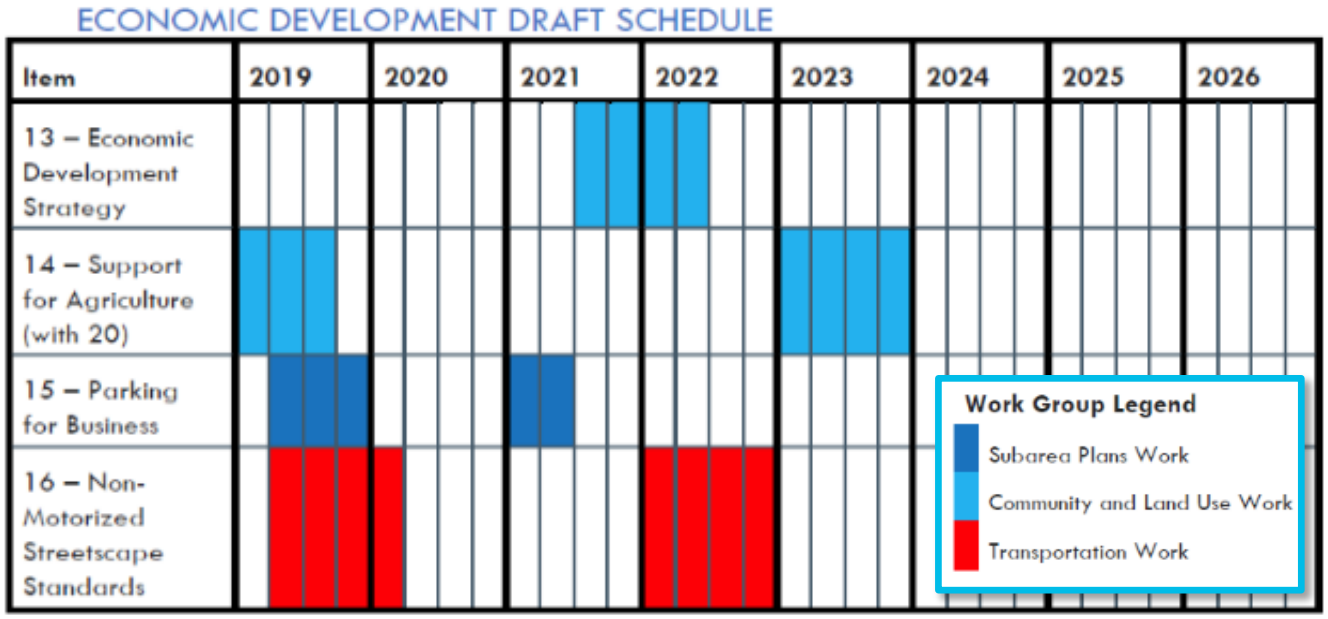
Next, start putting actions on the calendar, making sure to avoid overcommitting annual resources available to support implementation. The economic development draft schedule in Exhibit 43 is a simple example.

[136] See https://www.bainbridgewa.gov/162/Comprehensive-Plan.

Exhibit 43. Bainbridge Island 2017 Comprehensive Plan economic development element work plan and 2019 year-end plan priorities

	Implementing Actions	Tasks to Complete	Tasks in Progress	Completed Tasks
15	High Priority EC Action #3 Assure that adequate parking is available to support businesses.	Begin strategy development Develop code updates	Implement medium term strategies	Winslow parking study
16	High Priority EC Action #4 Identify capital projects and streetscape standards to implement Policy EC 11.1, to improve non-motorized facility links between the ferry terminal, downtown Winslow, and the harbor.	Transportation Improvement Plan Update Update streetscape standards	Capital Improvements Plan (CIP) Update	

Source: City of Bainbridge Island, Economic Development Element Workplan and Schedule, 2019, p. EC-1



Source: City of Bainbridge Island, Economic Development Element Workplan and Schedule, 2019, p. EC-2

Task 2.3.2

Jan 01, 2019 - Dec 31, 2019 | Completed | Progress 100%

EC Action #3 - **Task 2**

Implement Medium Term Parking Strategies

During mid-2019, City staff met with downtown Winslow stakeholders to review options for short-term parking initiatives identified in the 2017 parking study. There was no consensus from community stakeholders to support the proposed changes. No further action is planned.

Source: City of Bainbridge Island, 2019 Year End Report Comprehensive Plan Implementation Update, p. 16

Another example of a housing implementation plan is included in Appendix D of Redmond's Housing Action Plan, which includes the recommended actions, the phase of Redmond 2050, implementation timeframe, who is responsible, the amount of city resources needed, considerations and next steps, challenges, regulatory impacts and staff notes.[137]

Develop a monitoring program

An important step of implementing your housing element is developing a program to monitor outcomes. A monitoring program can be designed to track progress toward achieving housing goals and evaluate the effectiveness of implementing actions.

Identify performance metrics

For each implementing action, identify performance metrics to track progress or outcomes over time. To identify appropriate metrics, first consider what change the action is designed to make in your housing system. Then consider the best available data source for tracking outcomes associated with that change.

Exhibit 44 includes a simple example of a performance. It links a housing action to a measurable goal and an appropriate performance metric for which data is already being collected. It also provides a goal to evaluate whether the action is working well enough or whether additional actions are needed.

WAC 365-196-410(2)(f)(iv): "The housing element should include provisions to monitor the performance of its housing strategy."

Exhibit 44. Example framework for performance measurement

Action	Goal	Performance metric	Performance target
Allow two ADUs in all residential zones	Increase the diversity of housing options available, particularly in historically single-family neighborhoods	ADU permits	Permit 200 new ADUs before 2028 (25 units per year)
Allow duplexes in more than 50% of single-family residential zones	Increase the diversity of housing options available in historically single-family neighborhoods	Permits with two or more units on a lot in residential zones	Permit 20 new duplexes or higher density middle housing types before 2028

Redmond's Final Housing Action Plan (HAP) includes another example of potential indicators to consider for monitoring housing progress that can be applied to a housing element monitoring plan. A sampling of the general performance metrics and potential indicators in that report are included in Exhibit 45.

Exhibit 45. Redmond's Final HAP potential indicators for monitoring progress

General plan performance metrics	Potential indicators
Increase affordable housing units	Number of properties or units acquired/preserved by City, King County, A Regional Coalition for Housing (King County) (ARCH) or other organizations (report by AMI). Potential Data Sources: Assessor's data, ARCH, City of Redmond Data.
	Share of rent-burdened residents. Potential Data Sources: Census Data.

[137] https://www.letsconnectredmond.com/housing.

General plan performance metrics	Potential indicators
	Share of racial and ethnic diversity as compared to King County and region. Potential Data Sources: Census.
	Number of new affordable housing units built via MFTE and through the Inclusionary Housing/Zoning policy (report by AMI). Potential Data Sources: ARCH, City of Redmond Data.
	Number and description of affordable housing projects and partnership driven projects (describe partners and contributions). Potential Data Sources: King County, ARCH, Community Partners, City of Redmond, Assessor's Data.
Increase both market-rate and affordable housing production	Number of new market-rate and affordable homes in Redmond. Potential Data Sources: Assessor's Data, Agency Partners, Census Data.
Support TOD and investments in transit corridors	Number of new market-rate and affordable homes within ½ mile proximity/10- to 15-minute walk to transit stations. Potential Data Sources: Assessor's Data, Agency Partners, Census Data.
Increase housing options and choices	Number and type of new homes produced and total within the City over time - location, tenure, size, sale price/asking rent, and unit type (ADUs, backyard homes, condos, duplex, triplex, quadplex, townhome, etc.). Potential Data Sources: Assessor's Data, City of Redmond Data, CoStar, Census Data, or the State Office of Financial Management Data.
	Share of homebuyers receiving assistance (e.g., down payment assistance). Potential Data Sources: ARCH, King County, Community Partners.
Increase in home-ownership support (targeting households not considered high-income)	Amount of funding and number of households supported by home-ownership programs. Potential Data Sources: ARCH, King County, Community Partners.
Increase in education and awareness on housing topics	Number of fact sheets and educational materials released (including languages). Potential Data Sources: City of Redmond, ARCH.
	Number of meetings, training/educational workshops, events. Potential Data Sources: City of Redmond, ARCH, Community Partners.
	Number of participants, views to city website, requests for information. Potential Data Sources: City of Redmond.

Source: Redmond's Final Housing Action Plan, 2021

In some cases, it does not make sense to have a unique performance metric and goal for each individual action. For instance, a city may adopt a series of different incentives for affordable housing production that are meant to work together as a package. The strategic objective of the entire package is to increase the number of new income-restricted affordable units built. Therefore, it makes sense to use an individual performance metric (affordable units built) for evaluating the effectiveness of the package.

In this case, it may also make sense to track how often developers use the individual incentives to determine if some are created in a way that makes them difficult to use. Interviews with housing developers following

implementation can also be helpful to get feedback on what is working well and where there may still be barriers.

Integrate your monitoring program with established practices

One challenge many communities face is maintaining a monitoring program after the planning process is complete. This challenge is particularly acute in smaller jurisdictions with limited or no spare capacity for taking on additional tasks. One solution is to select performance metrics and a schedule for monitoring that builds on existing activities that are already being tracked. These could include:

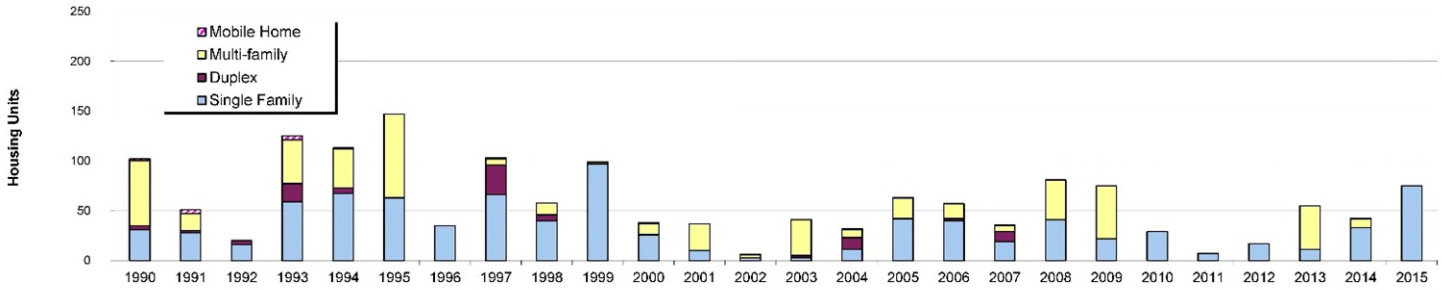
- Comprehensive plan monitoring programs
- Buildable lands reports
- Annual reports or updates to elected officials
- Growth monitoring
- Priority-based budgeting[138]

By building your monitoring program on established practices or efforts within your jurisdiction, you can gain efficiencies, promote coordination and consistency between initiatives, and decrease the chances that your ongoing monitoring program will be deprioritized in years to come.

Example: Integrating performance measures into a growth monitoring report

Snohomish County and cities have adopted housing targets for the number of units to go into each community.[139] Snohomish County has also committed to track the provision of affordable housing units in its policy HO 4.B.1 to assess whether an adequate supply of housing affordable to residents of the county with lower incomes and special needs is being provided. Snohomish County also tracks development of residential units in its Growth Monitoring Reports.[140] The example from the City of Snohomish and its UGA shows the numbers of duplex, multifamily and single-family units built year to year (Exhibit 46).

Exhibit 46. Snohomish UGA (City and Unincorporated UGA) – New housing units permitted by type 1990-2015



Source: Snohomish County Tomorrow, 2016

Report on outcomes

There are three main ways to track and report on outcomes in your monitoring program. Each serves an important purpose.

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[138] For examples see: Baily, Mike. 2015. Building the Budget around the Community it Serves.
[139] Snohomish County Municipal Code, Appendix D: Growth Targets, https://snohomish.county.codes/CompPlan/GPP-AxD
[140] https://snohomishcountywa.gov/1360/Growth-Monitoring-Reports.

1. Track and report on progress
Track and report on progress toward implementation of actions identified in your plan. As discussed in the implementation plan section above, this includes identifying whether work on an action has begun, what tasks or portions of the work have been completed, or whether the action is complete. Exhibit 43 (above) includes an example from Bainbridge Island Comprehensive Plan.

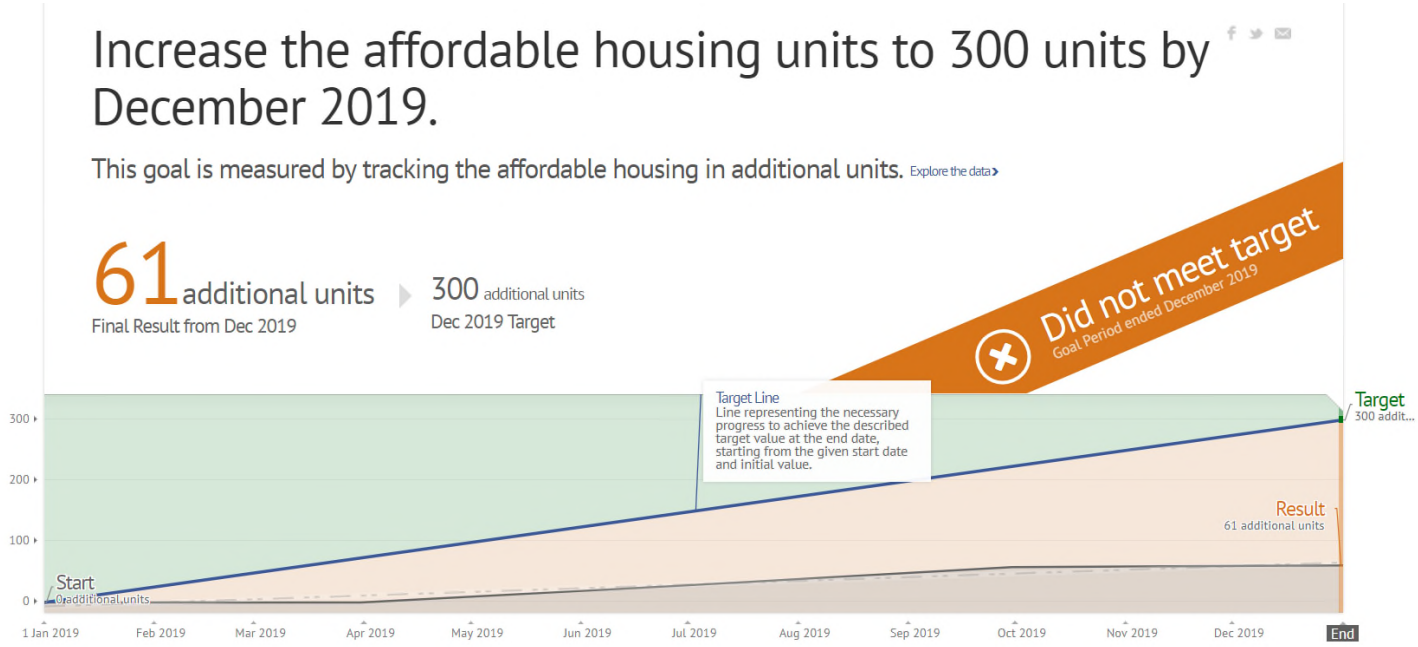
2. Measure progress toward an outcome goal
Assess whether you are on track to achieve an outcome goal, such as a target number of new affordable units built by a certain year. The city of Tacoma does this in its Results 253 website for performance monitoring across multiple city programs.[141] Exhibit 47 shows an example visualization of cumulative progress over time. The city also includes a discussion about the actions it has taken to achieve the goal.

3. Monitor outcomes over time
In addition to measuring progress from implementation toward a target goal, it can be helpful to track and visualize a performance metric over time, including before and after implementation of an action. This can be useful for understanding whether the actions taken had their intended effect or not. An example of this kind of tracking can be seen in the "Draft Reasonable Measures Assessment" conducted in support of the Kitsap County comprehensive plan update in 2015 (Exhibit 48).[142] The visualizations clearly show the peak of units generated in 2005 followed by fluctuation. The dotted black line showing non-single-family unit permits as a percentage of all permits provides useful context, since all permit activity reduced during the last economic recession.

This kind of performance monitoring is best for supporting a diagnosis of what may be the cause of outcomes. For instance, there may have been a change in permit staffing levels one year and an inconsistency in the way applications were handled. Alternatively, a peak may be due to a single atypical development that is not expected to be a trend.

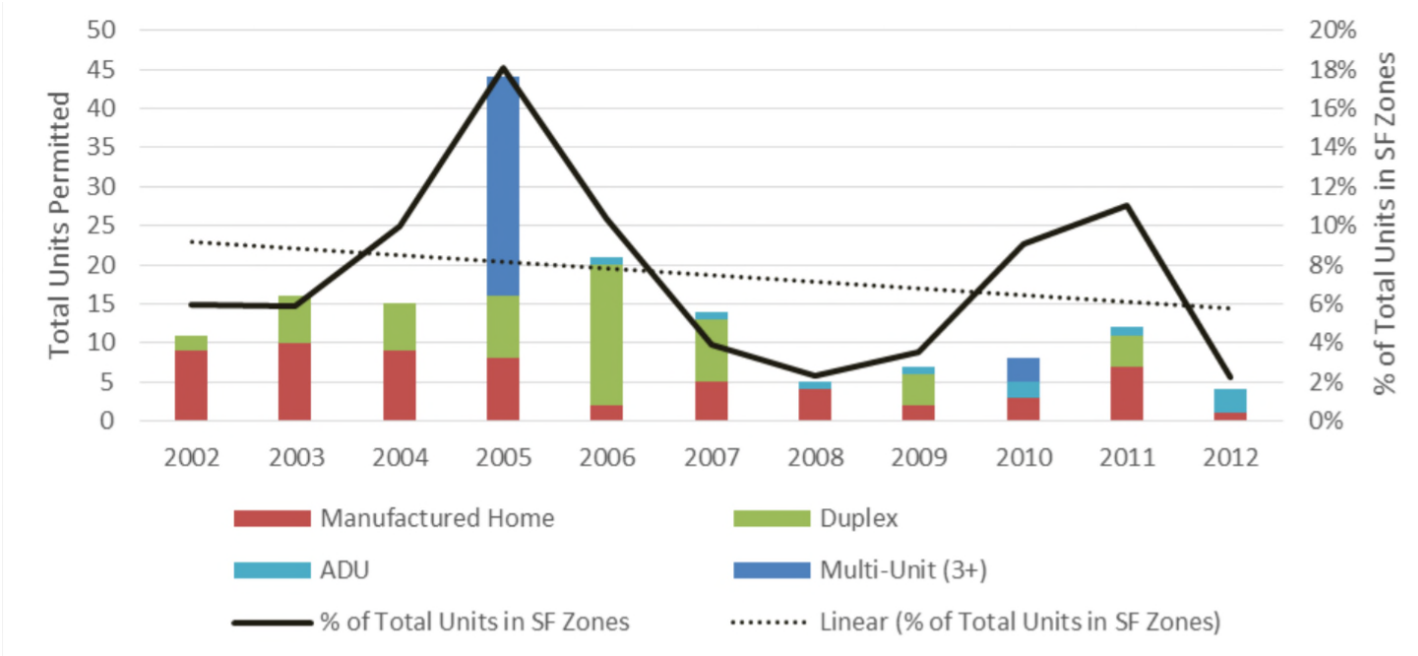
[141] https://data.cityoftacoma.org/.
[142] http://compplan.kitsapgov.com/Documents/Appx_G_Reas_Meas_2015_11_DSEIS.pdf.

Exhibit 47. Affordable housing stock goal in Tacoma's Results 253 data portal



Source: City of Tacoma, 2020

Exhibit 48. Housing diversity: non-single-family units permitted in UGA within single-family zones by housing type: 2002-2012



Source: Kitsap County Draft Reasonable Measures Assessment, 2015

Additional examples of monitoring programs

- Skagit County and cities: The Skagit Council of Government's Housing Action Plan (2017) has an annual growth monitoring report that includes population, housing and jobs, as well as households by income level and units available by affordability level.[143]
- The city of Chelan's Comprehensive Plan (2017) identifies measurable objectives for evaluating the implementation of the plan.[144] These include several measures related to housing and affordability. See Exhibit 1-4.
- Snohomish County releases annual Growth Monitoring Reports that include residential development profiles showing unit mix produced for each city/UGA.[145]
- King County tracks a variety of different data points on its Regional Affordable Housing Dashboard including how the county as a whole and individual cities are achieving progress on their Five Year Action Plan to address affordable housing.[146] This dashboard includes an assessment of how the regional actions are having their intended impact and provides jurisdictional housing affordability snapshots.

Implementation progress reports

In 2022, RCW 36.70A.130(9) was added to the GMA to require that certain jurisdictions[147] provide the Department of Commerce with a report detailing the progress they have achieved in implementing their comprehensive plan five years after its adoption. The implementation progress report must cover:

- The implementation of previously adopted changes to the housing element and any effect those changes have had on housing affordability and availability,
- Permit processing timelines, and
- Progress towards implementing any actions to achieve reductions to meet greenhouse gas and vehicle miles traveled requirements as provided for in any element of the comprehensive plan under RCW 36.70A.070.

This implementation progress report requirement does not change the requirement in RCW 36.70A.130(1)(a) to implement development regulation changes identified in the adequate provisions section of the housing element. Instead, the implementation progress report is intended to evaluate the effectiveness of the updated development regulations and the effect those changes had on housing affordability and availability within the jurisdiction.

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[143] https://www.scog.net/skagit-county-housing-action-plan/ and https://www.scog.net/growth-management/growth-monitoring-program/.
[144] https://cityofchelan.us/pdfdocs/2017/11/1-B_Consolidated_Elements_2017_1101-_CleanwCover-PDF-for-web.pdf.
[145] https://snohomishcountywa.gov/DocumentCenter/View/44881/9---2016-GMR---UGA-Residential-Developement-Profiles?bidId=.
[146] https://kingcounty.gov/depts/community-human-services/housing/affordable-housing-committee/data.aspx.
[147] Larger counties and cities within them with a population over 6,000. These larger counties include King, Pierce, Snohomish, Kitsap, Whatcom, Thurston, Clark, Benton, Franklin and Spokane.

What is monitoring telling you?

As you conduct annual monitoring, you should be looking at what the results tell you about policy implementation. Are you noticing the trends you expected because of policy changes? Are there other sources of data that might inform your progress and understanding of the trends you are seeing? Are there ways you can tweak the performance metrics to help understand barriers or track new trends?

If you are not seeing progress towards your housing goals with monitoring, jurisdictions should evaluate which actions as identified in Chapter 4. Adequate provisions they have completed, which are underway, and which have made no progress and develop an updated plan to implement remaining actions. It may also be helpful to re-evaluate the barriers to affordable housing. You may also want to re-evaluate what housing strategies from Chapter 7 Identifying strategies to implement your housing policies could help achieve your community's housings goals.

Appendix A: Acronyms

ADU - accessory dwelling unit
AMI - area median income
CPP - countywide planning policies
DNS - determination of non-significance
EIS - environmental impact statement
FAR - floor area ratio
GMA - Growth Management Act
GMS - Growth Management Services at the Department of Commerce
HAP - housing action plan
HB - House Bill
HNA - housing needs assessment
HOA - homeowners association
HUD - Housing and Urban Development
IZ - inclusionary zoning
LAMIRD - local area of more intense rural development
LCA - land capacity analysis
LIHTC - low-income housing tax credit
MFTE - multifamily property tax exemption
MPP - multicounty planning policies
MRSC - Municipal Research and Services Center
OFM - Office of Financial Management
PRD - planned residential development
PSH - permanent supportive housing
PSRC - Puget Sound Regional Council
PUD - planned unit development
RCW - Revised Code of Washington
REET - real estate excise tax
SB - Senate Bill
SEPA - State Environmental Policy Act
SRO - single room occupancy
STR - short-term rental
TOD - transit-oriented development
UGA - urban growth area
WAC - Washington Administrative Code
WCRER - Washington Center for Real Estate Research
WSHFC - Washington State Housing Finance Commission

Appendix B: Adequate provisions checklists

This appendix provides checklists to use in documenting barriers and programs and actions to achieve housing availability (RCW 36.70A.070(2)(d)), as well as examples of how to complete each of these steps and document the work. These checklists include the following:

- Exhibit B1: Moderate Density housing barrier review checklist
- Exhibit B2: Low-Rise or Mid-Rise housing barrier review checklist
- Exhibit B3: Supplemental barrier review checklist for PSH and emergency housing
- Exhibit B4: Accessory dwelling unit barrier review checklist
- Exhibit B5: Checklist for local option tools for addressing affordable housing funding gaps
- Exhibit B6: Example completed Moderate Density barriers review checklist
- Exhibit B7: Example completed local option tools for addressing affordable housing funding gaps checklist

Documentation of the barriers to housing availability and the programs or actions needed to overcome these barriers must be in the housing element. A more detailed analysis, such as these checklists, can be included as an appendix to the comprehensive plan housing element.

Exhibit B1: Moderate Density housing barrier review checklist

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
DEVELOPMENT REGULATIONS			
Unclear development regulations			
Prohibiting some moderate density housing types, such as: ○ Duplexes ○ Triplexes ○ Four/five/six-plexes ○ Townhomes ○ Cottage housing ○ Live-work units ○ Manufactured home parks			
High minimum lot sizes			
Low maximum densities or low maximum FAR			
Low maximum building heights			
Large setback requirements			
High off-street parking requirements			
High impervious coverage limits			
Lack of alignment between building codes and development codes			
Other (for example: complex design standards, tree retention regulations, historic preservation requirements)			

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
PROCESS OBSTACLES			
Conditional use permit process			
Design review			
Lack of clear and accessible information about processes and fees[148]			
Permit fees, impact fees and utility connection fees			
Processing times and staffing challenges			
SEPA process			
LIMITED LAND AVAILABILITY AND ENVIRONMENTAL CONSTRAINTS			
Lack of large parcels for infill development			
Environmental constraints			
Infrastructure investments in underserved areas			

[148] For example: guidance resources are unclear or difficult to find, no digital permit tracking system, staff do not provide fee estimates or permitting time estimates are unavailable or inaccurate.

Exhibit B2: Low-Rise or Mid-Rise housing barrier review checklist

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
DEVELOPMENT REGULATIONS			
Unclear development regulations			
High minimum lot sizes			
Low maximum densities or low maximum FAR			
Low maximum building heights			
Large setback requirements			
High off-street parking requirements			
High impervious coverage limits			
Lack of alignment between building and development codes			
Other (for example: ground floor retail requirements, open space requirements, complex design standards, tree retention regulations, historic preservation requirements)			
PROCESS OBSTACLES			
Conditional use permit process			
Design review			
Lack of clear and accessible information about processes and fees			

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barrier.
Permit fees, impact fees and utility connection fees			
Process times and staffing challenges			
SEPA process			
LIMITED LAND AVAILABILITY AND ENVIRONMENTAL CONSTRAINTS			
Lack of large parcels for infill development			
Environmental constraints			
Infrastructure investments in underserved areas			

Exhibit B3: Supplementary barrier review checklist for PSH and emergency housing

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
DEVELOPMENT REGULATIONS			
Spacing requirements (for example, minimum distance from parks, schools or other emergency/PSH housing facilities)[149]			
Parking requirements			

[149] Note that RCW 35A.21.430 expressly states requirements on occupancy, spacing, and intensity of use may not prevent the siting of a sufficient number of permanent supportive housing, transitional housing, indoor emergency housing or indoor emergency shelters necessary to accommodate each code city's projected need for such housing and shelter under RCW 36.70A.070(2)(a)(ii). The restrictions on these uses must be to protect public health and safety.

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
On-site recreation and open space requirements			
Restrictions on support spaces, such as office space, within a transitional or PSH building in a residential zone			
Arbitrary limits on number of occupants (in conflict with RCW 35A.21.314)			
Requirements for PSH or emergency housing that are different than the requirements imposed on housing developments generally (in conflict with RCW 36.130.020)			
Other restrictions specific to emergency shelters, emergency housing, transitional housing and permanent supportive housing			

Exhibit B4: Accessory dwelling unit barrier review checklist

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
DEVELOPMENT REGULATIONS			
Consistent with HB 1337 (2023) ○ Must allow two ADUs on each lot in urban growth areas. ○ May not require the owner to occupy the property, and may not prohibit sale as independent units, but may restrict the use of ADUs as short term rentals. ○ Must allow an ADU of at least 1,000 square feet. ○ Must set parking requirements based on distance from transit and lot size. ○ May not charge more than 50% of the impact fees charged for the principal unit. ○ Must permit ADUs in structures detached from the principal unit. ○ May not restrict roof heights of ADUs to less than 24 feet, unless that limitation applies to the principal unit. ○ May not impose setback requirements, yard coverage limits, tree retention mandates, restrictions on entry door locations, aesthetic			

Barrier	Is this barrier likely to affect housing production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
requirements, or requirements for design review for ADUs that are more restrictive than those for principal units. ○ Must allow an ADUs on any lot that meets the minimum lot size required for the principal unit. ○ Must allow detached ADUs to be sited at a lot line if the lot line abuts a public alley, unless the city or county routinely plows snow on the public alley. ○ Must allow conversions from existing structures, even if they violate current code requirements for setbacks or lot coverage; and ○ May not require public street improvements as a condition of permitting ADUs.			
Unclear development regulations			
Large setback requirements			
Off-street parking requirements			
Other (for example: burdensome design standards, tree retention regulations, historic preservation requirements, open space requirements, etc.)			
PROCESS OBSTACLES			
Lack of clear and accessible information about processes and fees			
Permit fees, impact fees and utility connection fees that are not proportionate to impact			
Processing times and staffing challenges			

Exhibit B5: Checklist for local option tools for addressing affordable housing funding gaps

Local option tools for addressing affordable housing funding gaps*	Implementation status	Plans for implementation
Housing and related services sales tax (RCW 82.14.530)		
Affordable housing property tax levy (RCW 84.52.105)		
REET 2 (RCW 82.46.035) – GMA jurisdictions only and only available through 2025		
Affordable Housing Sales Tax Credit (RCW 82.14.540) – was only available to jurisdictions through July 2020		
Lodging Tax (RCW 67.28.150 and RCW 67.28.160) to repay general obligation bonds or revenue bonds		
Mental Illness and Drug Dependency Tax (RCW 82.14.460) – jurisdictions with a population over 30,000		
Sales and Use Tax Deferral for Conversion of Underutilized Commercial Property to Affordable Housing (RCW 82.59)		
Donating surplus public lands for affordable housing projects (RCW 39.33.015)		
Impact fee waivers for affordable housing projects (RCW 82.02.060)		
Application fee waivers or other benefits for affordable housing projects (RCW 36.70A.540)		
Multifamily Tax Exemption (MFTE) with affordable housing requirement (RCW 84.14)		
General funds (including levy lid lifts to increase funds available)		

* Some tools may be unavailable to certain jurisdictions. For example, only GMA jurisdictions can use REET 2, or the surrounding county may have already implemented the housing and related services sales tax. See MRSC's summary of Affordable Housing Funding Sources for more details and the Association of Washington Cities (AWC)/MRSC booklet on Homelessness & housing toolkit for cities (2022).

Completed checklist examples

Exhibit B6. Example Moderate Density barriers review

Barrier	Is this barrier likely to affect production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
DEVELOPMENT REGULATIONS			
Unclear development regulations	Yes	We reviewed our zoning code for inconsistencies and missing definitions and found several that relate to moderate density housing.	Updates to development regulations will add missing definitions and remove inconsistencies.
Prohibiting some moderate density housing types, such as: ○ **Duplexes** ○ **Triplexes** ○ **Four/five/six-plexes** ○ **Townhomes** ○ **Cottage housing** ○ **Live-work units** ○ **Stacked flats** ○ **Manufactured home parks**	No	All of these housing types, except for manufactured home parks, are allowed outright in all residential zones. Mobile home parks are allowed in the Mobile Home Park zone. Developers indicated that [jurisdiction name] has much more flexible zoning than surrounding jurisdictions for moderate density housing.	N/A
High minimum lot sizes	No	This topic did not emerge in developer engagement.	N/A
Low maximum densities	No	This topic did not emerge in developer engagement.	N/A
Low maximum building heights	No	This topic did not emerge in developer engagement or discussions with development review staff.	N/A
Large setback requirements	Yes	Three out of four developers and all five individual property owners we spoke with indicated that required setbacks have presented a barrier for them, particularly for moderate density housing types.	New comprehensive plan policy H.2.B includes actions to add flexibility to development regulations.

Barrier	Is this barrier likely to affect production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
			Updates to development regulations will include reduced setbacks in the R-4, R-8, R-12, and RM zones.
Large off-street parking requirements	Yes	Three out of four developers and all five individual property owners we spoke with indicated that parking minimums have presented a barrier for them, particularly for moderate density housing types. The developers advocated for eliminating parking minimums for all moderate density housing types.	New comprehensive plan policy H.2.C includes actions to add flexibility to parking minimums (but not eliminate them) for housing in areas served by major transit lines. Updates to development regulations will include reduced parking minimums for moderate density housing in areas served by major transit lines
High impervious coverage limits	Yes	Two out of four developers and three out of five individual property owners we spoke with indicated that high impervious coverage limits presented a barrier to moderate density housing types.	New comprehensive plan policy H.2.B includes actions to add flexibility to development regulations, specifically impervious coverage limits. Coordination with the Department of Ecology is needed before changes to development regulations are implemented.
Lack of alignment between building and development codes	No	Developer interviews did not reveal any issues with lack of alignment between building and development codes. Staff are also not aware of any specific inconsistencies.	N/A
Other (for example: complex design standards, tree retention regulations, historic preservation requirements)	Yes	All four developers and all five individual property owners we spoke with indicated that the design standards were complex and difficult to meet without requesting any variances.	The jurisdiction will update its design standards to be clear and objective to be consistent with RCW 36.70A.630. The jurisdiction will work in partnership with stakeholders in this process.
PROCESS OBSTACLES			

Barrier	Is this barrier likely to affect production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
Conditional use permit process	No	Moderate density housing types are all allowed outright in residential zones and no conditional use permit is required.	N/A
Design review	Yes	All four developers and all five individual property owners we spoke with indicated that the design review process was slow and costly for their projects.	New comprehensive plan policy H.4.F includes actions to clarify and simplify the steps for design review. The jurisdiction will also update its design standards to be clear and objective, include no more than one public meeting, and concurrently conduct design review with the consolidated review and decision process to be consistent with RCW 36.70A.630.
Lack of clear and accessible information about processes and fees[150]	No	[Jurisdiction name] implemented a new permitting system in 2019, which addressed many of the known issues experienced by users in the past. Staff also provide cost estimates for permitting at pre-application meetings, which developers and property owners have said they found to be helpful and similar to final costs. Our discussions with developers and individual property owners revealed that the new system is working well.	N/A
Permit fees, impact fees and utility connection fees	Yes	[Jurisdiction name] revisited permit fees in 2020, substantially reducing them with special exceptions for affordable housing developers.	To comply with SB 5258 (laws of 2023) (RCW 82.02.060), the jurisdiction will study the most appropriate way to scale impact fees (based on square footage or type of unit), instead of a standard fee per unit, and implement these changes

[150] For example: guidance resources are unclear or difficult to find, no digital permit tracking system, staff do not provide fee estimates, permitting time estimates are unavailable or inaccurate.

Barrier	Is this barrier likely to affect production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
		However, as development has increased, so has the need for water, sewer and storm sewer infrastructure. To address this, impact fees were raised substantially in 2022. Our discussions with triplex and four-plex developers indicated that these impact fees are prohibitively expensive.	so that impact fees reflect the proportionate impact of new housing units.
Processing times and staffing challenges	Yes	All four developers mentioned that permit timelines have slowed since 2020, and the timeline estimates on the permit site are inaccurate in their experiences. We are currently understaffed and having trouble filling two permit technician positions.	Work with human resources to fill the two open permit technician positions and/or hire contracted technicians until permanent positions can be filled. Create streamlined onboarding training to bring new staff up to speed quickly. Also, provide better communication on permit timelines and update the permit website with more accurate estimates.
SEPA process	No	Our jurisdiction has already modified SEPA exemptions in line with the flexible exemption thresholds (WAC 197-11-800(1)(c)). We typically combine the DNS and notice of application comment periods where appropriate. We have also engaged in a subarea plan with non-project EIS for a transit-oriented development center to simplify the SEPA process for later development.	N/A
LIMITED LAND AVAILABILITY AND ENVIRONMENTAL CONSTRAINTS			
Lack of large parcels for infill development	No	When asked, developers expressed that they do not have challenges finding large enough parcels for their projects.	N/A

Barrier	Is this barrier likely to affect production? (yes or no)	Why or why not? Provide evidence.	Actions needed to address barriers.
Environmental constraints	Yes	The Land Capacity Analysis found that many otherwise buildable parcels contain wetlands. Developers mentioned that, in combination with setbacks, wetland buffers sometimes make development very difficult if not impossible.	Review code provisions for clustering and other site design provisions and modify the regulations for more flexibility. Consider other areas where upzoning may be appropriate to accommodate more moderate density housing. Update the LCA data so that unbuildable parcels are reflected accurately in that analysis.
Infrastructure investments in underserved areas	Yes	To achieve the planned densities in the R-8, R-12, and RM zones, additional sewer and water infrastructure is needed along Pacific Avenue.	The capital facilities and utilities elements have been updated to account for long-term plans to address infrastructure constraints along Pacific Avenue.

Exhibit B7. Example local option tools for addressing affordable housing funding gaps checklist

Local option funding tools for affordable housing	Implementation status	Plans for implementation
Housing and related services sales tax (RCW 82.14.530)	Implemented. An affordable housing sales tax was adopted by ballot measure in 2019.	None.
Affordable housing property tax levy (RCW 84.52.105)	Not implemented	New comprehensive plan policy H.6.E includes an action to complete a study on the feasibility of affordable housing funding tools.
REET 2 (RCW 82.46.035) – GMA jurisdictions only	Not implemented	New comprehensive plan policy H.6.E includes an action to complete a study on the feasibility of affordable housing funding tools.

Local option funding tools for affordable housing	Implementation status	Plans for implementation
Affordable Housing Sales Tax Credit (RCW 82.14.540) – was only available to jurisdictions through July 2020	County implemented this tool and manages these funds through an inter-jurisdictional process that our city participates in.	None.
Lodging Tax (RCW 67.28.150 and RCW 67.28.160) to repay general obligation bonds or revenue bonds	Not implemented	New comprehensive plan policy H.6.F includes an action to implement affordable housing taxes, such as this lodging tax. After adoption of the comprehensive plan, the city will evaluate when imposing this tax is appropriate given a financial review of the lodging industry in the city and developing a plan for how the funds will be used.
Mental Illness and Drug Dependency Tax (RCW 82.14.460) – jurisdictions with a population over 30,000	Not implemented	New comprehensive plan policy H.6.F includes an action to implement affordable housing taxes, such as this lodging tax. After adoption of the comprehensive plan, the city will authorize the tax and coordinate dispersion of funds in coordination with the county program that dedicates funds as grants to develop and operate new supportive housing with mental health treatment programs.
Sales and Use Tax Deferral for Conversion of Underutilized Commercial Property to Affordable Housing (RCW 82.59)	Not implemented	New comprehensive plan policy H.6.E includes an action to complete a study on the feasibility of affordable housing funding tools. Therefore, evaluate the costs and benefits a sales and use tax deferral for conversion of underutilized commercial property for affordable housing and explore what steps are required to implement this new program.
Donating surplus public lands for affordable housing projects (RCW 39.33.015)	Not implemented	New comprehensive plan policy H.6.B prioritizes the disposal of surplus public lands for affordable housing. The city will then evaluate the feasibility of surplus public land for affordable housing and identify potential parcels for donation, as well as coordinate land assembly as needed.

Local option funding tools for affordable housing	Implementation status	Plans for implementation
Impact fee waivers for affordable housing projects (RCW 82.02.060)	Implemented. Ordinance No. 14583 exempts qualified affordable housing projects from Building Fees, Traffic Impact Fees, Parks Impact Fees and Sanitary Sewer System/ Facilities Charges subject to funding availability.	Assess if the budgeted general funds are sufficient to meet all demand for fee waivers in 2023 and adjust 2024 budget accordingly.
Application fee waivers or other benefits (RCW 36.70A.540)	Not implemented	Evaluate the costs and benefits of application fee waivers for affordable housing projects and determine at which scale waivers should be applied. Adopt ordinance if budgeted general funds are sufficient to meet all demand, as comprehensive plan policy H.6.D already supports this action.
Multifamily Tax Exemption (MFTE) with affordable housing requirement (RCW 84.14)	Implemented. 12-year MFTE requiring at least 20% of units affordable at 80% of AMI is available in the Downtown residential target area.	New comprehensive plan policy H.6.G includes an action to review the MFTE incentive program and designate additional residential target areas within ½ mile of frequent transit service.
General funds (including levy lid lifts to increase funds available)	The 2023 city budget includes $1,000,000 to offset waived impact fee revenue for qualified affordable housing projects.	See above.

Appendix C: Housing element policy examples

The Department of Commerce has collected a variety of housing element policies as examples. **The policies are arranged by topic and then arranged from strong policies to softer, longer-range policies.** See where in the range your community would fit within the ranking of the policies, based on their strength.

- Preservation
  - Maintenance and code enforcement
- Variety of housing types
  - ADUs, tiny homes and manufactured homes
  - Infill development and density near places of opportunity
- Home ownership
- Accommodate growth
- Housing location and transportation and land use
  - Location of affordable housing
  - Jobs/housing balance
- Infrastructure
  - College housing
  - Rural and farmworker housing
- Affordable and subsidized housing
  - Incentives or requirements
  - Funding or financing
  - Prevent barriers
- Vulnerable populations and homelessness
  - Special-needs housing
  - Homeless focus
  - Aging adult focus
  - Surplus land and nonprofit housing
- Equity, racially disparate impacts and displacement
- Regional coordination and fair share
- Design and development standards
  - Sustainable housing
  - Historic preservation
- Tracking and monitoring

PRESERVATION

Policy text quote	Source
Continue to fund the repair and rehabilitation of single-family and multi-family housing using federal, state, and local funding sources.	Public Service Policy PS8.1, Olympia Comprehensive Plan, 2019
Coordinate with local organizations and agencies to provide sufficient and affordable home maintenance and support services.	Housing Element - Goal H-3, Policy A, Program 2, City of Ellensburg Comprehensive Plan, 2019
Pursue public-private partnerships to preserve existing affordable housing stock and develop additional units.	Housing Element Policy H20, Shoreline Comprehensive Plan, 2012
In conjunction with public and private housing providers, the City should identify and encourage preservation of affordable units in publicly assisted (subsidized) housing developments that are at risk of converting to market rate housing.	Housing Element Policy 4.2.1, Mount Vernon Comprehensive Plan, 2016
Promote the maintenance, repair, and rehabilitation of the City's existing housing stock. Pursue financial incentives and funding for housing improvement programs, especially for low-income households.	Housing Policy H-2.2, Prosser Comprehensive Plan, 2018
Encourage and support efforts to maintain opportunities for lower-cost housing where relatively affordable housing exists through preservation or other efforts and particularly in centers where most redevelopment pressure will occur.	Housing Policy HO-41, Redmond Comprehensive Plan, 2011
Encourage homeowners to take advantage of existing maintenance and preservation programs, services, and resources including the Wenatchee Housing Rehabilitation Loan Program.	Housing Element – Maintenance & Preservation: Policy 3, Wenatchee Urban Area Comprehensive Plan, 2014
Encourage the rehabilitation, relocation and reuse, rather than demolition, of existing housing.	Housing Chapter Policy H-34, Bellingham Comprehensive Plan, 2016

NOTE: Be careful of policy language that is about protecting character or seems exclusionary.

Maintenance and code enforcement

Policy text quote	Source
Enforce the City's Rental Registration and Safety Inspection Program to ensure that rental housing units comply with life and fire safety standards and provide a safe place for tenants to live.	Housing Chapter Policy H-30, Bellingham Comprehensive Plan, 2016
Develop minimum property maintenance standards to ensure the safety and suitability of existing housing stock.	Housing Element Policy 2.2, Walla Walla Comprehensive Plan, 2018

VARIETY OF HOUSING TYPES

Policy text quote	Source
Accommodate changing demographic trends and housing preferences by allowing accessory units, co-housing, and other nontraditional housing types in appropriate locations.	Housing Element Policy H-3.3, Yakima Horizon 2040, 2017
Provide incentives for developers that include a mix of housing types within new housing developments such as a broader assortment of housing sizes, accessory apartments, duplexes, etc.	Housing Element Policy H-3.6, Yakima Horizon 2040, 2017
Develop and implement regulations that encourage diversity of new housing types and expand housing choices throughout Wenatchee.	Housing Element – Housing Affordability: Policy 1, Wenatchee Urban Area Comprehensive Plan, 2014
Ensure policies, codes and ordinances allow for a compatible mix of uses and housing types in neighborhoods.	Housing Element Policy H-3.1, Yakima Horizon 2040, 2017
Allow a variety of housing types to meet needs of households of varying sizes, income levels and preferences. Create regulations that allow alternatives to single-family detached housing such as attached housing, townhomes, cottage or cluster housing, accessory dwelling units, manufactured housing, floating homes, housing in multiuse projects, and other innovative housing types.	Housing Policy HO-6, Ridgefield Comprehensive Plan, 2016
Support variable lot sizes in new subdivisions and housing type diversity within development projects.	Housing Element – Housing Equity: Policy 3, Wenatchee Urban Area Comprehensive Plan, 2014
Provide an array of housing choices such as apartments, small lot single-family housing, accessory dwelling units, townhomes, manufactured homes, and cottages to meet the needs of people of all incomes throughout their lifespan.	Housing Element Policy 1.1, Walla Walla Comprehensive Plan, 2018
Provide for a range of housing types and densities for all economic segments of the population. Encourage equal and fair access to housing for renters and homeowners.	Housing Policy H-1, Vancouver Comprehensive Plan, 2011
Promote a wide range of housing types and housing diversity to meet the needs of the diverse population and ensure that this housing is available throughout the community for people of all income levels and special needs.	Housing Element Policy H 1.18, Spokane Comprehensive Plan, 2017

ADUs, tiny homes and manufactured homes

Policy text quote	Source
Support the creation and preservation of manufactured home parks as an important source of affordable housing in the city.	Housing Element – Maintenance & Preservation: Policy 5, Wenatchee Urban Area Comprehensive Plan, 2014

Policy text quote	Source
Allow one accessory dwelling unit as an ancillary use to single-family homes in all designated residential areas as an affordable housing option.	Housing Element Policy H 1.20, Spokane Comprehensive Plan, 2017
Promote the development of accessory dwelling units (ADUs) within new and existing single-family developments. Consider incentives for new housing developments that include a percentage of ADUs as part of the new construction, as well as explore opportunities to promote ADU construction in existing homes.	Housing Policy HO-32, Redmond Comprehensive Plan, 2011
Integrate smaller housing types, such as cottages, duplexes, townhouses, and accessory dwelling units, into residential neighborhoods.	Housing Element Policy H-1.3, Anacortes Comprehensive Plan, 2016
Facilitate lifecycle or "cradle to grave" neighborhoods and community stability by promoting alternative living arrangements such as accessory dwelling units (ADUs), shared housing, cohousing, and smaller housing types.	Housing Element – Housing Equity: Policy 2, Wenatchee Urban Area Comprehensive Plan, 2014
Allow development of single-room occupancy units in downtown Spokane and in other areas where high-density housing is permitted.	Housing Element Policy H 1.21, Spokane Comprehensive Plan, 2017
Consider the potential for development of tiny houses in selected areas of the city.	Housing Element Policy H-1.4, Anacortes Comprehensive Plan, 2016
Consider regulations that would allow cottage housing in residential areas, and revise the Development Code to allow and create standards for a wider variety of housing styles.	Housing Element Policy H6, Shoreline Comprehensive Plan, 2012
Encourage demonstration projects of innovative housing types or programs, such as co-housing, tiny houses, or others.	Housing Element Policy H-1.9, Anacortes Comprehensive Plan, 2016

NOTE: Manufactured homes must be allowed on all lots. Manufactured housing must not be regulated differently from site-built housing, but jurisdictions may require certain standards. Jurisdictions may not use setbacks limits to prohibit placement of a manufactured home on an existing lot. See RCW 35A.21.312, RCW 35A.63.145, RCW 35.63.160-161, RCW 36.01.225 and RCW 35.21.684.

Infill development and density near places of opportunity

Policy text quote	Source
Actively support residential rehabilitation and infill. Incentives such as reduction of System Development Charges (SDC) and Traffic Impact Fees (TIF) for infill projects can ease the financial burden of such developments enough to make these profitable and attractive for developers. The City can also actively seek grants and funding from State and Federal sources to partially subsidize development or redevelopment of infill lots.	Housing Policy HO-9, Ridgefield Comprehensive Plan, 2016
Promote residential development of infill sites throughout the urban area by increasing densities where appropriate.	Housing Element – Housing Affordability: Policy 3, Wenatchee Urban Area Comprehensive Plan, 2014

Policy text quote	Source
Encourage residential infill development on existing lots in the City, including the preparation of an inventory of potentially available lots with utilities, adoption of a zone code amendment that facilitates development of substandard lots for infill residential development, and amendments to appropriate codes to simplify and encourage consolidation of substandard lots to facilitate residential infill.	Housing Element Policy Implementation 4.3, Fife Comprehensive Plan, 2005
Encourage infill as a redevelopment concept. Appropriate development regulations that accomplish infill should consider: 1. The Impact on older/existing neighborhoods; 2. Development that is compatible with the surrounding residential density, housing types, affordability or use characteristics; 3. Encouragement of affordable units; 4. The provision of development standards and processes for infill regardless of the sector (public, not-for-profit, or public sectors) creating it; and, 5. Compatibility with historic properties and historic districts.	Housing Element Policy H-3.2, Yakima Horizon 2040, 2017
Encourage infill housing on vacant or underutilized parcels having adequate services, and ensure that the infill development is compatible with surrounding neighborhoods.	Housing Element Policy 2.1.1, Mount Vernon Comprehensive Plan, 2016
Consider adopting regulations such as flexible lot sizes that encourage infill development on small lots consistent with the neighborhood's character.	Housing Element Policy 2.1.3, Mount Vernon Comprehensive Plan, 2016
Review commercial zoning regulations that require commercial development along with residential development. Consider adding criteria that would allow, in certain circumstances, residential uses to develop independently or within commercial flex space.	Housing Chapter Policy H-6, Bellingham Comprehensive Plan, 2016
Encourage increased density residential development in mixed-use and town center zones, especially those located within the City's Regional Growth Center, subject to compliance with appropriate development and design standards. Discourage or prohibit new detached single-family dwellings in these areas to promote more intensive use of commercial and mixed-use properties in order to accommodate an increasing share of the City's anticipated future population growth.	Housing Element Policy HS2D, University Place Comprehensive Plan, 2015

HOME OWNERSHIP

Policy text quote	Source
Create opportunities for ownership housing in a variety of settings, styles, sizes and affordability levels throughout Redmond.	Housing Policy HO-12, Redmond Comprehensive Plan, 2011
Provide information to residents, including underserved populations, on affordable housing opportunities and first-time homeownership programs.	Housing Chapter Policy H-23, Bellingham Comprehensive Plan, 2016
Help low-income and special needs residents find ways to purchase housing, such as shared or limited-equity housing, lease-purchase options, co-housing, land trusts, and cooperatives.	Public Service Policy PS9.6, Olympia Comprehensive Plan, 2019

Policy text quote	Source
Encourage existing housing providers and private lenders to provide homebuyer education seminars for potential first-time homebuyers; include outreach to current renters.	Housing Element Policy YKH 1.2, Yakima Horizon 2040, 2017
Promote opportunities for home ownership and owner occupancy of single- and multifamily housing.	Housing Policy H-7, Vancouver Comprehensive Plan, 2011
Explore with the County, other local jurisdictions, and private lending institutions the availability and enhancement of educational programs for first time homebuyers.	Housing Element Policy 4.3.5, Mount Vernon Comprehensive Plan, 2016

ACCOMMODATE GROWTH

Policy text quote	Source
Support increasing housing densities through the well-designed, efficient, and cost-effective use of buildable land, consistent with environmental constraints and affordability. Use both incentives and regulations, such as minimum and maximum density limits, to achieve such efficient use.	Housing Policy PL16.1, Olympia Comprehensive Plan, 2019
Provide a continuous and adequate supply of residential land to meet long-range multifamily and single-family housing needs for the City's anticipated population growth. The City shall adopt policies and regulations to meet the following objectives: • New overall density target of six units per net acre. • No more than 75% of new houses shall be of a single housing type. • A minimum density of four units per net acre (10,890 sq. ft. average lot size) for single-family dwellings in any single development.	Housing Policy HO-1, Ridgefield Comprehensive Plan, 2016
Prohibit any rezone that results in a reduction in residential capacity without first approving another rezone or rezones, resulting in at least a replacement of the lost residential capacity elsewhere in the city.	Housing Policy HO-17, Redmond Comprehensive Plan, 2011
Consider the impacts on Citywide housing capacity, affordability and diversity when making land use policy decisions and code amendments.	Housing Chapter Policy H-13, Bellingham Comprehensive Plan, 2016
Consider minimum density requirements for residential zones and commercial zones where residential development is allowed.	Housing Chapter Policy H-5, Bellingham Comprehensive Plan, 2016
Promote a mix of new residential units and use other strategies that are designed to at a minimum meet the targets called for in the King County Countywide Comprehensive Planning Policies for creating residences that are affordable to low- and moderate-income households.	Housing Policy HO-2, Redmond Comprehensive Plan, 2011

HOUSING LOCATION AND TRANSPORTATION AND LAND USE

Policy text quote	Source
Direct new residential development into areas where community and human public services and facilities are available.	Housing Element Policy H 1.4, Spokane Comprehensive Plan, 2017
Ensure that plans provide increased physical connection between housing, employment, transportation, recreation, daily-needs services, and educational uses.	Housing Element Policy H 2.4, Spokane Comprehensive Plan, 2017
Provide for development of multifamily housing in areas close to shopping, employment, services and public transportation.	Housing Element Policy H-1.7, Anacortes Comprehensive Plan, 2016
Create opportunities for housing developments to be easily accessible from both vehicle and bike/ped transportation corridors.	Housing Policy H-5.5, Prosser Comprehensive Plan, 2018
Support high-density and mixed commercial/residential development in the City's urban villages, high capacity transit corridors connecting the villages and other appropriate areas that allow people to work, shop and recreate near where they live.	Housing Chapter Policy H-1, Bellingham Comprehensive Plan, 2016
Encourage and provide incentives for residences above businesses.	Housing Policy PL16.8, Olympia Comprehensive Plan, 2019
Encourage residential development in commercial and mixed use zones, especially those within proximity to transit.	Housing Element - Goal H-2, Policy B, City of Ellensburg Comprehensive Plan, 2019
Promote accessible and affordable housing in areas that are close to services and the rest of the community.	Housing Element - Goal H-3, Policy A, Program 1, City of Ellensburg Comprehensive Plan, 2019
Consider the impacts of transportation costs on housing affordability and accessibility of services and other opportunities when planning for housing.	Housing Chapter Policy H-17, Bellingham Comprehensive Plan, 2016
Increase the supply of affordable rental and ownership housing that is context sensitive throughout the City, especially in areas with good access to transit, employment, education and services.	Housing Chapter Policy H-16, Bellingham Comprehensive Plan, 2016

Jobs/housing balance

Policy text quote	Source
Ensure an appropriate supply and mix of housing and affordability levels to meet the needs of people who work and desire to live in Redmond, especially near existing and planned employment centers, such as Downtown, Overlake and SE Redmond.	Housing Policy HO-18, Redmond Comprehensive Plan, 2011
Encourage development of housing at pricing levels affordable for workers in a variety of sectors in Ridgefield, to increase the percentage of people who work in Ridgefield that can also find suitable housing in Ridgefield. Work with employers to promote residential options in Ridgefield to their employees, and to understand the housing needs of their employees.	Housing Policy HO-5, Ridgefield Comprehensive Plan, 2016

Policy text quote	Source
Encourage the creation of mixed-use areas throughout the City characterized by living wage jobs, mixed income housing, and ample public open spaces all within a walkable urban context.	Housing Element Policy 3.1.1, Mount Vernon Comprehensive Plan, 2016
Encourage Redmond employers to develop employer-assisted housing programs and provide technical assistance to employers wishing to obtain information on model programs.	Housing Policy HO-20, Redmond Comprehensive Plan, 2011

Location of affordable housing

Policy text quote	Source
Locate affordable housing throughout the city and especially in areas with good access to transit, employment, education, and shopping.	Housing Element Policy H-3.5, Anacortes Comprehensive Plan, 2016
Integrate housing for lower and moderate income households and those with special needs into a variety of geographical locations throughout the city.	Housing Element Policy 2.1, Walla Walla Comprehensive Plan, 2018

Note: Policy choices may include providing affordable housing in a variety of locations around the city, preferably with a special focus on areas close to transit and other services. Be careful of language that may seem exclusionary or "not in my backyard" (NIMBY).

INFRASTRUCTURE

Policy text quote	Source
Provide physical infrastructure, recreational and cultural amenities, and educational facilities in Downtown and Overlake to support the creation of attractive neighborhoods for residents of all ages, incomes and household types.	Housing Policy HO-16, Redmond Comprehensive Plan, 2011
Support public and private investment in improved infrastructure and amenities in existing neighborhoods, particularly in areas with high concentrations of low-income housing.	Housing Chapter Policy H-29, Bellingham Comprehensive Plan, 2016
Leverage private investment in distressed neighborhoods through strategic infrastructure and service improvements.	Housing Element – Maintenance & Preservation: Policy 4, Wenatchee Urban Area Comprehensive Plan, 2014
Work closely with local governments and the private sector to extend infrastructure and provide other services to accommodate residential growth, particularly in Urban, Rural Settlement and Rural Transitional areas which are suitable for higher density development.	Housing Element Policy H-1.5, Yakima Horizon 2040, 2017

College housing

Policy text quote	Source
Work with local institutions of higher education to develop a comprehensive strategy addressing issues associated with off-campus student housing, including adequate off-campus housing that is high quality and compatible with its surroundings (see Land Use Chapter).	Housing Chapter Policy H-43, Bellingham Comprehensive Plan, 2016

Rural and farmworker housing

Policy text quote	Source
Continue to allow seasonal and accessory farm worker accommodations in rural and agricultural resource areas, with the requirement that one or more persons in each household must be employed by the property owner.	Housing Element Policy H-7.1, Yakima Horizon 2040, 2017
Work with the agricultural community to develop criteria and a process for siting permanent and migrant farm worker housing in rural and agricultural resource areas with consideration given to neighborhood and project security, health and sanitation, availability of public services, access, child care, and the availability of affordable housing in a nearby urban area.	Housing Element Policy H-7.2, Yakima Horizon 2040, 2017
Provide a siting process to expedite farm worker housing projects using preapproved designs for housing of both temporary and permanent farm workers employed by the property owner.	Housing Element Policy H-7.3, Yakima Horizon 2040, 2017
Continue to work with state and local agencies to remove barriers to providing farmworker housing, and explore innovative approaches to meeting farm worker housing needs.	Housing Element Policy H-7.4, Yakima Horizon 2040, 2017
New, residential construction adjacent to designated forest, agricultural or mineral resource lands should be designed and sited to reduce potential conflicts between residents and adjacent resource lands.	Housing Element Policy H-5.1, Yakima Horizon 2040, 2017
Housing in designated agriculture, mineral or forest lands should be considered secondary to the primary use of those areas.	Housing Element Policy H-5.2, Yakima Horizon 2040, 2017

AFFORDABLE OR SUBSIDIZED HOUSING

Policy text quote	Source
Develop and implement a detailed affordable housing program that identifies specific actions to increase the supply of housing that is affordable to low to middle-income individuals and families.	Housing Element Policy H-3.10, Anacortes Comprehensive Plan, 2016

Policy text quote	Source
Provide affordable housing by formulating innovative policies, regulations and practices, and establishing secure funding mechanisms. Target affordability programs toward households with incomes below the median.	Housing Policy H-2, Vancouver Comprehensive Plan, 2011
Achieve a minimum of 25 percent of the Pierce County 2030 growth population allocation for University Place through affordable housing -- consistent with CPP AH-3.3.	Housing Element Policy HS3E, University Place Comprehensive Plan, 2015
Develop meaningful, measurable goals and strategies that promote the development of affordable workforce housing to meet local needs and monitor progress toward meeting those goals.	Housing Element Policy H-3.2, Anacortes Comprehensive Plan, 2016
Participate in and promote the development of educational resources and programs that assist low and moderate-income households in obtaining affordable and suitable housing.	Housing Element Policy H 1.5, Spokane Comprehensive Plan, 2017
Where affordable housing is proposed together with market rate housing, affordable housing units should be comparable in design, integrated into the whole development, and should match the tenure of the whole development.	Housing Element Policy 4.1.5, Mount Vernon Comprehensive Plan, 2016
Support both rental and ownership forms of affordable housing in a variety of types and sizes.	Housing Element Policy H-3.4, Anacortes Comprehensive Plan, 2016

Incentives or requirements

Policy text quote	Source
Include a percentage of affordable housing within all new developments that include housing.	Housing Element Policy H 1.8, Spokane Comprehensive Plan, 2017
As part of any rezone that increases residential capacity, consider requiring a portion of units to be affordable to low- and moderate-income households.	Housing Policy HO-38, Redmond Comprehensive Plan, 2011
Maintain and explore enhancing regulatory incentives to encourage the production and preservation of affordable ownership and rental housing such as through density bonuses, impact fee reductions, permit fast-tracking, or other methods.	Housing Element Policy 4.1.6, Mount Vernon Comprehensive Plan, 2016
Provide incentives including density bonuses, parking reductions, and flexible design standards to developments that include a percentage of affordable units to households at 30%, 50%, and 80% of median income.	Housing Element – Housing Affordability: Policy 2, Wenatchee Urban Area Comprehensive Plan, 2014
Offer exemptions or reduced impact fees for construction of affordable housing units in qualifying developments.	Housing Policy HO-49, Redmond Comprehensive Plan, 2011
Create meaningful incentives to facilitate development of affordable housing in both residential and commercial zones, including consideration of exemptions from certain	Housing Element Policy H7, Shoreline Comprehensive Plan, 2012

Policy text quote	Source
development standards in instances where strict application would make incentives infeasible.	
Evaluate the adoption of zoning regulations targeted at otherwise market-rate developments that require or incentivize a minimum percentage of new dwelling units and/or lots that are created (whether multi-family or single-family) be income restricted.	Housing Element Policy 4.1.1, Mount Vernon Comprehensive Plan, 2016
Explore a variety and combination of incentives to encourage market rate and non-profit developers to build more units with deeper levels of affordability.	Housing Element Policy H8, Shoreline Comprehensive Plan, 2012
Consider developing an inclusionary zoning program as a means of increasing the City's affordable housing supply.	Housing Element Policy H-3.7, Anacortes Comprehensive Plan, 2016
Require that affordable housing achieved through public incentives or assistance remains affordable for the longest possible term.	Housing Element Policy H-38, Anacortes Comprehensive Plan, 2016
Consider mandating an affordability component in Light Rail Station Areas or other Transit-Oriented Communities.	Housing Element Policy H18, Shoreline Comprehensive Plan, 2012
Consider revising the Property Tax Exemption (PTE) incentive to include an affordability requirement in areas of Shoreline where it is not currently required, and incorporate tiered levels so that a smaller percentage of units would be required if they were affordable to lower income households.	Housing Element Policy H13, Shoreline Comprehensive Plan, 2012

Funding or financing

Policy text quote	Source
Develop a housing assistance program that helps homeowners with low incomes with small remodeling projects to improve weatherization, increase sustainability, and provide accommodations for disabilities.	Housing Element Policy 2.7, Walla Walla Comprehensive Plan, 2018
Maintain a City housing trust fund for low- and moderate-income housing that is based on the number of affordable units needs to serve Redmond's projected population and job growth changes.	Housing Policy HO-51, Redmond Comprehensive Plan, 2011
Consider a housing levy to provide ongoing funding for affordable housing.	Housing Element Policy H-3.6, Anacortes Comprehensive Plan, 2016
Help educate builders about the availability of funding and incentive programs to promote the construction of affordable housing in Redmond.	Housing Policy HO-47, Redmond Comprehensive Plan, 2011
Use all available federal, state and county programs, as well as private and nonprofit options for financing affordable housing.	Housing Policy HO-53, Redmond Comprehensive Plan, 2011

Policy text quote	Source
Support the development of affordable housing development funding sources.	Housing Element Policy H 1.12, Spokane Comprehensive Plan, 2017
Support and expand low-income housing programs and public funding (e.g., the Housing Levy and HUD entitlement funds).	Housing Chapter Policy H-22, Bellingham Comprehensive Plan, 2016
Advocate for regional and state initiatives to increase funding for affordable housing.	Housing Chapter Policy H-27, Bellingham Comprehensive Plan, 2016

Prevent barriers

Policy text quote	Source
Continue streamlining the regulatory review and building permit process and reviewing the cost of infrastructure improvements and their impact on housing costs.	Housing Chapter Policy H-24, Bellingham Comprehensive Plan, 2016
Periodically review and update the City's residential zoning regulations and design standards to promote quality development with timely and predictable outcomes.	Housing Chapter Policy H-44, Bellingham Comprehensive Plan, 2016
Ensure that policies, codes and procedures do not create barriers to affordable housing opportunities. Ensure that existing regulations, procedures or practices do not increase the cost of housing without a corresponding public benefit. Strive to increase benefits to the community while lowering housing costs by periodically reviewing, at a minimum, the following areas for possible revision or amendment: • Comprehensive plan policies • Zoning and subdivision regulation • Infrastructure requirements • Development standards • Building and fire codes • Administrative procedures • Processing times • Fees and exactions • Inspection procedures	Housing Element Policy HS3M, University Place Comprehensive Plan, 2015
Craft regulations and procedures to provide a high degree of certainty and predictability to applicants and the community-at-large to minimize unnecessary time delays in the review of residential, permits applications, while still maintaining opportunities for public involvement and review.	Housing Policy HO-29, Redmond Comprehensive Plan, 2011
Evaluate barriers to achieving increased density in multifamily residential and mixed use zones and revise regulations if appropriate.	Housing Element Policy H-1.6, Anacortes Comprehensive Plan, 2016
Consider housing cost and supply implications of proposed regulations and procedures.	Housing Element Policy H4, Shoreline Comprehensive Plan, 2012
Consider modifying codes to maximize economical wood frame construction.	Housing Chapter Policy H-8, Bellingham Comprehensive Plan, 2016

Policy text quote	Source
Minimize unnecessary housing development costs through regulations and standards contained in the Zoning Code and other City regulatory documents that are balanced with and maintained in concert with public safety considerations and all other goals of the Comprehensive Plan and Zoning Code.	Housing Policy HO-48, Redmond Comprehensive Plan, 2011

VULNERABLE POPULATIONS AND HOMELESSNESS

Policy text quote	Source
Coordinate and collaborate with private agencies to ensure housing for people with special needs including seniors, people with physical and developmental limitation, victims of domestic violence, and homeless individuals and families.	Housing Element Policy 1.5, Walla Walla Comprehensive Plan, 2018
Continue to encourage and support the development of emergency, transitional and permanent supportive housing with appropriate on-site services for people with special needs and the homeless throughout the City and county. Moving people into permanent housing as quickly as possible should be a priority.	Housing Chapter Policy H-50, Bellingham Comprehensive Plan, 2016
Develop or amend and support codes and ordinances that allow for a continuum of care and housing opportunities for special needs populations in the same manner as standard housing.	Housing Element Policy H-2.1, Yakima Horizon 2040, 2017
Encourage opportunities for assisted housing for people with special needs by: a. Adopting land use policies and regulations that treat government-assisted housing and other low-income housing the same as housing of a similar size and density; b. Permitting group living situations, including those where residents receive such supportive services as counseling, foster care or medical supervision in accordance with State and Federal Laws; and, c. Encouraging developers and owners of assisted housing units to undertake activities to establish and maintain positive relationships with neighbors.	Housing Element Policy 5.1.1, Mount Vernon Comprehensive Plan, 2016
Through building and site plan codes, encourage the development, rehabilitation and adaptation of housing that responds to the physical needs of special populations.	Housing Element Policy H-2.2, Yakima Horizon 2040, 2017
Encourage and consider incentives for the dedication of a portion of housing in new projects to special needs housing.	Housing Chapter Policy H-48, Bellingham Comprehensive Plan, 2016

NOTE: “Treatment of residential structures occupied by persons with handicaps” is not a policy choice; it is a state law (RCW 36.70A.410). Housing needs assessment could pay attention to needs of specific groups, such as elderly and disabled residents, and support housing for those groups.

Special-needs housing

Policy text quote	Source
Include units that are affordable for low-income special need families in all housing developments.	Housing Element Policy H 1.23, Spokane Comprehensive Plan, 2017
Ensure that facilities and services to meet the health care, treatment, social service, and transit needs of households with special needs are part of housing development plans.	Housing Element Policy 5.1.6, Mount Vernon Comprehensive Plan, 2016
Support actions to secure grants and loans tied to the provision of special needs housing by agencies, private developers and nonprofit organizations.	Housing Policy HO-23, Redmond Comprehensive Plan, 2011
Work with agencies, private developers and nonprofit organizations to locate housing in University Place intended to serve the community's special needs populations, particularly those with challenges related to age, health or disability.	Housing Element Policy HS4A, University Place Comprehensive Plan, 2015
Facilitate housing for special needs populations dispersed throughout Vancouver and the region. Such housing may consist of residential-care facilities, shelters, group homes, or low-income housing, and should be located near transportation and other services such as health care, schools, and stores.	Housing Policy H-6, Vancouver Comprehensive Plan, 2011
Encourage, assist, and support social and health service organizations that offer housing programs for targeted populations.	Housing Element Policy H25, Shoreline Comprehensive Plan, 2012

Homeless focus

Policy text quote	Source
Coordinate with the homeless housing task force to implement short and long-term activities as identified in the Plan to End Homeless in Chelan & Douglas Counties.	Housing Element – Coordination: Policy 3, Wenatchee Urban Area Comprehensive Plan, 2014
Work with other jurisdictions and health and social service organizations to develop a coordinated, regional approach to homelessness.	Housing Element Policy HS4I, University Place Comprehensive Plan, 2015
Support development of programs that offer assistance to persons identified as being homeless.	Housing Element Policy YKH 2.1, Yakima Horizon 2040, 2017
Foster and support partnerships that have proven to be successful in reducing homelessness, preventing homelessness and assisting the chronically homeless with needed care.	Housing Chapter Policy H-52, Bellingham Comprehensive Plan, 2016
Support the development of public and private, short-term and long-term housing and services for Shoreline's population of people who are homeless.	Housing Element Policy H29, Shoreline Comprehensive Plan, 2012

Policy text quote	Source
Encourage a strong network of emergency shelter resources for homeless and at-risk families with children, childless adults, unaccompanied youth, and victims of sexual and domestic violence.	Public Service Policy PS7.1, Olympia Comprehensive Plan, 2019 (other shelter/housing policies in Olympia's plan)

Aging adults focus

Policy text quote	Source
Provide for a variety of residential options for older adults in the community including aging in place, assisted living facilities, and age-restricted senior communities. Strategies include: • Promote Universal Design and visitability standards to create new housing stock that allows aging in place. • Review development regulations to address types of housing options allowed and permitting requirements for new construction and accessibility modifications to existing development. • Recruit developers and offer incentives for creation of new senior-oriented residential options.	Housing Policy HO-7, Ridgefield Comprehensive Plan, 2016
Support ways for older adults and people with disabilities to remain in the community as their housing needs change by encouraging universal design or retrofitting homes for lifetime use.	Housing Element Policy H-4.4, Anacortes Comprehensive Plan, 2016
Encourage the development of senior-friendly housing opportunities, particularly in areas near services and amenities.	Housing Element Policy H-4.2, Anacortes Comprehensive Plan, 2016
Encourage a range of housing types for seniors affordable at a variety of incomes, such as independent living, various degrees of assisted living and skilled nursing care facilities. Strive to increase opportunities for seniors to live in specialized housing.	Housing Element Policy HS4F, University Place Comprehensive Plan, 2015
Promote a range of housing types for seniors; e.g., adult family homes, skilled nursing facilities, assisted living, and independent living communities.	Housing Element Policy H-4.3, Anacortes Comprehensive Plan, 2016
Promote the use of universal design principles for new development or redevelopment housing projects.	Housing Element - Goal H-3, Policy A, Program 3, City of Ellensburg Comprehensive Plan, 2019

Surplus land and nonprofit housing

Policy text quote	Source
Identify and catalogue real property owned by the City that is no longer required for its purposes and is suitable for the development of affordable housing for very-low to moderate income households.	Housing Element Policy 4.1.8, Mount Vernon Comprehensive Plan, 2016

Policy text quote	Source
Give priority to the use of surplus, publicly owned land for housing that provides for a range of household incomes, with an emphasis on encouraging housing for low-income families.	Housing Policy HO-54, Redmond Comprehensive Plan, 2011
Explore and identify opportunities for non-profit developers to build affordable housing.	Housing Element Policy Implementation 4.5, Fife Comprehensive Plan, 2005
Support non-profit agencies and public/private partnerships to preserve or develop additional housing for very low, low and moderate income households.	Housing Element Policy H-3.3, Anacortes Comprehensive Plan, 2016
Evaluate land owned by the City and other public entities for use for affordable housing utilizing a community land trust or similar type model.	Housing Element Policy H-3.9, Anacortes Comprehensive Plan, 2016
Encourage establishment and funding of a Community Affordable Land Trust to acquire land and build affordable housing within the urban area.	Housing Element – Coordination: Policy 1, Wenatchee Urban Area Comprehensive Plan, 2014
Explore and identify opportunities to reduce land costs for non-profit and for-profit developers to build affordable housing – consistent with CPP AH7.	… Housing Element Policy HS3K (sub-policies excluded), University Place Comprehensive Plan, 2015
Cooperate with nonprofit housing organizations and regional efforts to develop a long-term management strategy for creating and preserving existing subsidized affordable housing.	Housing Policy HO-42, Redmond Comprehensive Plan, 2011
Support organizations that construct, manage and provide services for affordable housing, including permanently affordable housing.	Housing Chapter Policy H-26, Bellingham Comprehensive Plan, 2016
Encourage self-help housing efforts in which people earn home equity in exchange for renovation or construction work, such as "sweat equity" volunteer programs.	Public Service Policy PS5.5, Olympia Comprehensive Plan, 2019
Pursue creative methods within existing programs, such as the City's transfer of development rights (TDR) program, impact fee waivers, ARCH Housing Trust Fund, and state enabling legislation for property tax relief, as a means to provide direct assistance to builders and leverage funds for construction of affordable housing.	Housing Policy HO-46, Redmond Comprehensive Plan, 2011

EQUITY, RACIALLY DISPARATE IMPACTS AND DISPLACEMENT

Policy text quote	Source
Invest in historically underserved areas to enhance housing affordability, stability, and community amenities. This commitment ensures that current residents can thrive in place, benefiting from improved services, infrastructure, and amenities, while also creating opportunities for public private partnerships to address long-standing investment gaps.	Housing Element Policy HO-45, Everett Comprehensive Plan, 2025

Policy text quote	Source
Prevent discrimination and encourage fair and equitable access to housing for all persons in accordance with state and federal law.	Housing Element Policy HS2H, University Place Comprehensive Plan, 2015
Ensure transparency and involve communities disproportionately affected by housing challenges in planning processes, prioritizing their needs and solutions.	Housing Element Policy HO-41, Everett Comprehensive Plan, 2025
Identify and take action to remove City policies, rules, and programs that exacerbate racially disparate impacts.	Housing Element Policy H4.1, Tukwila Comprehensive Plan 2024
Adopt renter protections to ensure stable housing for Tukwila Renters.	Housing Element Policy H4.9, Tukwila Comprehensive Plan 2024
Prioritize expanding access to neighborhoods of choice and reducing disparities by ensuring equitable distribution of housing options across the City, particularly in historically underserved communities and areas affected by exclusionary practices.	Housing Element Policy H P4.2, Federal Way Comprehensive Plan 2024
Support fair and equal access to housing for all persons, regardless of race, religion, ethnic origin, age, household composition or size, disability, marital status, sexual orientation or economic circumstances.	Housing Chapter Policy H-15, Bellingham Comprehensive Plan, 2016
Participate in relocation assistance to low- and moderate-income households whose housing may be displaced by condemnation or City-initiated code enforcement.	Housing Policy HO-50, Redmond Comprehensive Plan, 2011
Enforce policies[151] that provide financial and relocation help to people who are displaced from their homes as a result of construction and development projects using federal funds.	Public Service Policy PS8.5, Olympia Comprehensive Plan, 2019
Initiate and encourage equitable and inclusive community involvement that fosters civic pride and positive neighborhood image.	Housing Element Policy H21, Shoreline Comprehensive Plan, 2012
Strive to increase class, race, and age integration by equitably dispersing affordable housing opportunities. Discourage neighborhood segregation and the isolation of special needs populations.	Housing Element – Housing Equity: Policy 1, Wenatchee Urban Area Comprehensive Plan, 2014
Continue to support the maintenance, weatherization, rehabilitation, and long-term preservation or replacement of existing housing for low- and moderate-income residents.	Housing Element Policy H4.6, Tukwila Comprehensive Plan 2024
Acknowledge and work to overcome Everett's role in historical events and actions that have led to housing disparities and discrimination and ensure equitable outcomes in housing in all city processes, procedures and regulations while working to undo past harms.	Housing Element Policy HO-47, Everett Comprehensive Plan, 2025

[151] Per section 104(d) of the Housing and Community Development Act of 1974 as amended, requiring the replacement of low- and moderate-income housing units that are demolished or converted to another use, in connection with a Community Development Block Grant project.

Policy text quote	Source
When Community Development Block Grant or Housing and Urban Development-funded buildings are at risk of being converted to market-rate status, inform the tenants of any purchase and relocation options available. When possible, help the Housing Authority of Thurston County and non-profit organizations buy such housing.	Public Service Policy PS8.5, Olympia Comprehensive Plan, 2019
Encourage relocation assistance and replacement housing to be developed, where feasible, to help low-income households when displacement is unavoidable.	Housing Element Policy 4.2.2, Mount Vernon Comprehensive Plan, 2016
Explore opportunities for implementing community preference allowing housing developments to prioritize certain applicants when leasing or selling units in communities at high risk of displacement, and/or right to return policies for displaced residents.	Housing Element Policy H P8.1, Federal Way Comprehensive Plan 2024

REGIONAL COORDINATION AND FAIR SHARE

Policy text quote	Source
Support the Fair Share Housing allocation process and work with other jurisdictions to monitor progress toward achieving agreed upon goals.	Public Service Policy PS5.2, Olympia Comprehensive Plan, 2019
Actively coordinate with public and private partners in efforts to meet regional housing needs.	Housing Chapter Policy H-14, Bellingham Comprehensive Plan, 2016
Partner with private and not-for-profit developers, social and health service agencies, funding institutions, and all levels of government to identify and address regional housing needs.	Housing Element Policy H31, Shoreline Comprehensive Plan, 2012
Coordinate with regional jurisdictions to develop a regional assessment and report to share in the responsibility for achieving a reasonable and equitable distribution of affordable housing to meet the needs of middle and lower income persons.	Housing Element – Coordination: Policy 4, Wenatchee Urban Area Comprehensive Plan, 2014
Work regionally and with other jurisdictions to jointly fund affordable housing.	Housing Element Policy 4.3.3, Mount Vernon Comprehensive Plan, 2016
Cooperate with King County, A Regional Coalition for Housing (ARCH), and other Eastside jurisdictions and housing agencies to assess housing needs, create affordable housing opportunities, and coordinate a regional approach to funding and meeting the housing needs of Eastside Communities.	Housing Policy HO-4, Redmond Comprehensive Plan, 2011
Improve coordination among the County and other jurisdictions, housing and service providers, and funders to identify, promote, and implement local and regional strategies that increase housing opportunities.	Housing Element Policy H28, Shoreline Comprehensive Plan, 2012
Strive to implement the City's "fair share" of affordable housing units as outlined in the cooperative effort among Pierce County jurisdictions.	Housing Element Policy Implementation 5.1, Fife Comprehensive Plan, 2005

Policy text quote	Source
Encourage local and regional affiliations and alliances to provide affordable housing.	Housing Element Policy H-2.1, Anacortes Comprehensive Plan, 2016

DESIGN AND DEVELOPMENT STANDARDS

Policy text quote	Source
Require effective, but not unreasonably expensive, building designs and landscaping to blend multi-family housing into neighborhoods.	Housing Policy PL16.10, Olympia Comprehensive Plan, 2019
Develop design guidelines, standards or other measures to achieve the following benefits: A. Allow growth without sacrificing Anacortes's unique small town character. B. Facilitate compatibility between existing and new housing. C. Integrate and connect multifamily developments with surrounding development to enhance a sense of community in neighborhoods. D. Allow for compatible integration of attached and detached accessory dwelling units in residential neighborhoods.	Housing Element Policy H-2.2, Anacortes Comprehensive Plan, 2016
Develop design guidelines to ensure that all new housing, including that for lower and middle income owners and renters, adheres to good standards of planning, design, and construction.	Housing Element Policy 2.3, Walla Walla Comprehensive Plan, 2018
Promote high quality design that is compatible with the overall style and character of established neighborhoods.	Housing Element - Goal H-1, Policy D, Program 1, City of Ellensburg Comprehensive Plan, 2019
Integrate new development, with consideration to design and scale that complements existing neighborhoods, and provides effective transitions between different uses and intensities.	Housing Element - Goal H-1, Policy A, Program 1, City of Ellensburg Comprehensive Plan, 2019
Allow "clustering" of housing compatible with the adjacent neighborhood to preserve and protect environmentally sensitive areas.	Housing Policy PL16.3, Olympia Comprehensive Plan, 2019
Encourage housing types and design that reinforce and enhance the character and scale of established neighborhood development patterns.	Housing Element Policy H-2.1, Anacortes Comprehensive Plan, 2016
Increase open space requirements for multi-family, high-density development. Locate required open space either on site or in public park space.	Housing Chapter Policy H-38, Bellingham Comprehensive Plan, 2016
Enhance the appearance of and maintain public spaces in residential areas.	Housing Policy H-5.2, Prosser Comprehensive Plan, 2018

Sustainable housing

Policy text quote	Source
Plan for energy efficient housing that is designed to maximize use of renewable resources such as solar and wind power.	Housing Element Policy 2.5, Walla Walla Comprehensive Plan, 2018
Foster innovative housing and mixtures of housing types that preserve natural resources and consolidate open space (e.g., context-sensitive residential clustering).	Housing Chapter Policy H-40, Bellingham Comprehensive Plan, 2016
Encourage housing retrofits that make them more resilient to natural disasters and climate change, are more energy efficient, and provide healthier indoor environments, including good air quality.	Housing Chapter Policy H-37, Bellingham Comprehensive Plan, 2016
Encourage the use of long-lived, low-maintenance building materials; high-efficiency energy systems; and low impact development techniques that reduce housing lifecycle costs and provide better environmental performance consistent with the City's Climate Protection Action Plan.	Housing Chapter Policy H-41, Bellingham Comprehensive Plan, 2016
Encourage health-related improvements to older homes, including the removal of lead-based paint, asbestos, and other potentially harmful materials.	Housing Chapter Policy H-36, Bellingham Comprehensive Plan, 2016
Encourage adapting non-residential buildings for housing.	Housing Policy PL16.13, Olympia Comprehensive Plan, 2019

Historic preservation

Policy text quote	Source
Support the preservation of Ellensburg's historically-significant housing through the City's historic preservation program, which maintains a list of historic properties and districts, and provides education and incentives.	Housing Element - Goal H-1, Policy D, Program 2, City of Ellensburg Comprehensive Plan, 2019
Encourage neighborhoods and property owners to identify high-integrity historic areas that should be protected through the local historic district program.	Housing Chapter Policy H-33, Bellingham Comprehensive Plan, 2016

TRACKING AND MONITORING

Policy text quote	Source
Track the provision of affordable housing units to assess whether an adequate supply of housing affordable to the county's lower income and special needs residents, as defined in the Housing Characteristics and Needs report for Snohomish County, is being provided.	Snohomish County HO Policy 4.B Objective HO 4.B
In support of countywide housing policies, the county shall seek partnerships with other jurisdictions, through the Alliance for Housing Affordability, the Housing Consortium of Everett and Snohomish County, Snohomish County Tomorrow and	Snohomish County HO Policy 4.B Policy 4.B.1

Policy text quote	Source
similar forums, to track the provision of housing by type and affordability. This effort will include an assessment of progress toward meeting the county's housing goals, including housing that addresses the needs of households within the Under 30% AMI, 30-50% AMI and 51-80% AMI segments, as projected in the current Housing Characteristics and Needs Report for Snohomish County.	
Based upon the monitoring and evaluation results from Policy 4.B.1, the county shall evaluate the effectiveness of its zoning regulations to produce housing developments that meet the diverse housing needs identified in the Housing Characteristics and Needs Report for Snohomish County.	Snohomish County HO Policy 4.B Policy 4.B.2
Provide a report annually to the City Plan Commission that monitors progress toward achieving the housing goals and includes recommended policy change if positive direction toward achieving the housing goals is not occurring.	Housing Element Policy H 2.5, Spokane Comprehensive Plan, 2017
Maintain a housing database to inform city officials and the public on the status of the City's housing market and effectiveness of Redmond housing policies and regulations.	Housing Policy HO-9, Redmond Comprehensive Plan, 2011
Monitor the City's housing affordability market, including housing demand by housing type across all income levels and in all neighborhoods, and report on the effectiveness of the City's housing affordability policies.	Housing Chapter Policy H-25, Bellingham Comprehensive Plan, 2016
Monitor housing supply, type and affordability, including progress toward meeting a proportionate share of the countywide need for affordable housing for very low-, low-, and moderate-income households.	Housing Element Policy H-6.2, Anacortes Comprehensive Plan, 2016
Assess the effectiveness in meeting housing demands and monitor the achievement of the housing policies not less than once every 5 years.	Housing Element Policy Implementation 3.1, Fife Comprehensive Plan, 2005
Monitor local data and routinely reassess and adjust policies, strategies and regulations to improve effectiveness of programs to meet local housing needs.	Housing Element Policy H-6.3, Anacortes Comprehensive Plan, 2016
Monitor the number, type, and affordability of housing units being built annually to ensure consistency with the number of planned housing units, particularly in Mixed-Use zones.	Housing Policy HO-10, Redmond Comprehensive Plan, 2011
Provide annual information on affordable homeownership and rentals in the City, including the operative definitions of affordable housing, criteria to qualify for local, state, and federal housing assistance, data on current levels of market-rate and affordable housing, demand for market-rate and affordable housing, and progress toward meeting market-rate and affordable housing goals.	Housing Policy PL16.14, Olympia Comprehensive Plan, 2019

Jurisdictions examined for Appendix C:

Anacortes	Fife	Ridgefield	Vancouver
Bellingham	Mount Vernon	Shoreline	Walla Walla
Ellensburg	Olympia	Spokane	Wenatchee
Everett	Prosser	Tukwila	Yakima
Federal Way	Redmond	University Place	

Appendix D: Resources for funding affordable housing in Washington state

Agency	Program	Description	Eligibility and link to more information
Washington State Department of Commerce (Commerce)	Housing Trust Fund	Provides state and federal funds for affordable housing construction and preservation. HOME Investment and Partnership Program funds are also awarded through the Housing Trust Fund Process.	Low-income and special needs populations. Open to local governments, tribes and non-profits. www.commerce.wa.gov/building-infrastructure/housing/housing-trust-fund/ www.commerce.wa.gov/building-infrastructure/housing/housing-trust-fund/home-program/
Commerce	Connecting Housing to Infrastructure Program (CHIP)	Funds utility improvements for affordable housing projects.	Low-income households. The applicant must be a city, county or public utility district in partnership with an affordable housing project. Additional eligibility requirements are on the grant webpage. https://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/planning-for-housing/chip/
Commerce	Weatherization	Commerce contracts with local agencies that weatherize low-income homes and apartments.	Qualified low-income homes and apartments. https://www.commerce.wa.gov/weatherization/
Commerce	Home Rehabilitation Grant Program (HRGP)	Provides deferred loans to rural, low-income households that need repairs and improvements on their primary residence for health, safety or durability.	Low-income households in specific rural areas. www.commerce.wa.gov/growing-the-economy/energy/weatherization-and-energy-efficiency/rural-rehab/
Commerce	State Home Energy Assistance Program (SHEAP)	Funds help people pay their utility bills and move to low-to-no carbon heating and cooling options.	Low-income individuals and families making up to 80 percent AMI. https://www.commerce.wa.gov/community-opportunities/sheap/
Commerce	Washington (WA) Foreclosure Fairness Program	Provides homeowner foreclosure assistance for offering free housing counseling, civic legal aid and foreclosure mediation.	Washington state homeowners. https://www.commerce.wa.gov/homeownership/foreclosure-fairness/ Low and moderate-income homeowners can also contact statewide civil legal aid at www.nwjustice.org/get-legal-help.
Commerce	Mobile/ Manufactured Home Relocation Assistance Program	Reimburses costs of mobile and manufactured home relocation up to $7,500 for a single-section home and $12,000 for a multi-section home. Also reimburses for demolition, removal and down payment for another manufactured home.	Mobile and manufactured homeowners with incomes of 80% area median income (AMI). Priority is given to parks closed due to health and safety concerns or park owner fraud. www.commerce.wa.gov/building-infrastructure/housing/mobile-home-relocation-assistance/

Agency	Program	Description	Eligibility and link to more information
Commerce	Apple health and homes/permanent supportive housing (AHAH/PSH)	Partnership between healthcare services and housing resources. Creates a combination of resources (capital financing and rental/operations assistance) to provide supportive services through the Health Care Authority's Foundational Community Supports Program.	Serves individuals at or below 30% Area Median Income (AMI). https://www.commerce.wa.gov/permanent-supportive-housing/ahah/
Commerce	Consolidated Homeless Grant (CHG)	The CHG provides resources to fund homeless crisis response systems to support communities in ending homelessness. Grants are made to local governments and nonprofits. Funding is from document recording fees authorized through the Homeless Housing and Assistance Act.	Serves individuals who are experiencing or at risk of homelessness, including households up to 80% AMI. https://www.commerce.wa.gov/homelessness-response/family-adult-homelessness/consolidated-homeless-grant/
Commerce	Homelessness Diversion Program	Grants are provided to non-profits and Tribal governments to provide diversion services to families and individuals facing a housing crisis.	The Diversion Program services families and individuals experiencing homelessness or at risk of homelessness. This program prioritizes service to communities that have a demonstrated disproportionate representation in homelessness, housing instability, and housing affordability. https://www.commerce.wa.gov/homelessness-response/family-adult-homelessness/homelessness-diversion/
Commerce	Brownfield Revolving Loan Fund (BRLF)	Provides technical assistance and low interest loans for cleanup activities on contaminated properties for redevelopment activities, including affordable housing development.	Local and regional governments, ports, tribes, non-profit agencies and private businesses. www.commerce.wa.gov/serving-communities/brownfields-revolving-loan-fund/
Commerce	Transit-oriented development (TOD)	Grant program to assist cities in providing infrastructure, station area planning and staffing necessary to develop and implement transit-oriented development requirements.	RCW.36.70A.841, HB 1491 (2025) As of 2025, no funding has been allocated to the grant program.
Washington State Department of Ecology	Redevelopment Opportunity Zones, Brownfield Renewal Authorities, and BRTF Account	The Brownfield Redevelopment Trust Fund (BRTF) Account can be used within a specified redevelopment opportunity zone (ROZ) designated by local governments. The mechanism allows state and local public moneys, and private or non-profit moneys, to be set aside for cleaning up brownfields located within a ROZ. Moneys in the account may be spent only after appropriation	Local governments must meet the eligibility and other requirements for remedial actions grants codified in Chapter 173-322A Washington Administrative Code (WAC). Overview: https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Brownfields#Funding See https://fortress.wa.gov/ecy/ezshare/tcp/Brownfields/BrownfieldsFundingOpportunities.pdf for a

Agency	Program	Description	Eligibility and link to more information
		by the Legislature and approval by Ecology.	complete list of brownfield funding opportunities in Washington state.
WA Department of Archeology and Historic Preservation (DAHP)	Federal historic tax credit program	A 20% Federal income tax credit on the qualified amount of private investment spent on certified rehabilitation of a National Register listed historic buildings.	Buildings must be listed on national register of historic places, the property must produce income after rehabilitation (no owner occupied) and projects must be substantial. Rehab must be done according to secretary of the interior standards. https://dahp.wa.gov/tax-credits (Web site includes information on other historic tax credit programs including New Market Tax Credit, National Trust Small Deal Fund and Bank of America Historic Tax Credit Fund.)
Washington State Housing Finance Commission (WSHFC)	Low Income Housing Tax Credits (LIHTC)	The nine percent Low-Income Housing Tax Credit Program (LIHTC) allocates federal income tax credit to developers to encourage the construction and rehabilitation of affordable multifamily housing. Housing credit is allocated through an annual competitive process in which projects are evaluated and scored according to the Commission's established criteria.	Affordable housing developers serving very low, low, and moderate-income people. www.wshfc.org/mhcf/9percent/index.htm
WSHFC	Multifamily bond programs	Multifamily Housing Bonds with 4% Low Income Housing Tax Credit provides access to bond and tax credit financing for affordable housing developers.	Affordable housing developers serving very low, low and moderate-income households. www.wshfc.org/mhcf/4percent/index.htm
WSHFC	Bond financing for non-profit facilities	Helps 501(c)(3) nonprofits save money through lower-interest loans for construction, capital improvements and equipment.	Non-Profits: www.wshfc.org/facilities/index.htm
WSHFC	Manufactured home community investment program	The Commission helps preserve manufactured home communities by allowing them to purchase and manage their communities.	Very low, low and moderate-income manufactured home park residents. wshfc.org/mhcf/manufactured.htm
WSHFC	Land acquisition (for housing non-profits)	The Land Acquisition Program assists eligible nonprofit organizations in Washington state to purchase land suited for either multifamily or single-family affordable housing development.	Eligible non-profits serving very low, low and moderate-income households. www.wshfc.org/mhcf/lap/index.htm
WSHFC	Home mortgage loan programs	The Commission currently operates two mortgage loan programs: Home Advantage and House Key Opportunity. The Commission works through a network of participating	Low and moderate-income homebuyers. https://heretohome.org/faqs-homebuyers/ The Commission also provides training to lenders, real estate professionals and nonprofit partners on

Agency	Program	Description	Eligibility and link to more information
		lenders who originate and close the loans.	how to originate WSHFC loans and how to teach a WSHFC-sponsored homebuyer education seminar.
WSHFC	Down payment assistance	Programs vary, but the Commission offers down payment assistance loans for homebuyers who use the Commission's programs.	Low and moderate-income homebuyers. https://heretohome.org/downpayment-assistance/
WSHFC	Homeowner-ship education programs	Through local partnerships, WSHFC helps homebuyers learn how to purchase and maintain a home. Commission-sponsored homebuyer education seminars are free; open to the public; and include information about the Commission's first mortgage programs, down payment assistance, and other loan programs. Individual help for homeowners and homebuyers is also available through the Washington State Homeownership Hotline.	Low and moderate-income homebuyers. https://heretohome.org/events/category/classes/homebuyer-education-classes/ and https://heretohome.org/housing-counseling/
WSHFC	Sustainable Energy Programs	The Commission offers several ways to affordably develop energy-efficient buildings, upgrade existing buildings and create or conserve energy. Smaller loans are available through the Energy Spark home loan program. The Sustainable Energy Trust (SET) provides low-interest loans for energy-efficiency or renewable energy projects and a tax-exempt or tax-credit bond for larger projects (over $1 Million).	Homeowners, developers, multifamily property owners and non-profit facilities. www.wshfc.org/energy/index.htm
WSHFC	Covenant Homeownership Program	Funding to help people become homeowners who have been impacted by state-sanctioned racial discrimination in housing.	Eligibility includes several criteria – check the website for full details. Individuals may be eligible if the individual or a parent/grandparent lived in Washington state before 1968; that person is Black, Hispanic, Indigenous, or in another racial group identified in the Covenant study; and the individual meets income criteria. https://heretohome.org/covenant/
US Department of Housing and Urban Development (HUD)	Section 8, Public Housing	The "Section 8" housing choice voucher program is the federal government's major program for assisting very low-income families, the elderly and the disabled to afford decent, safe and sanitary housing in the private market. Since housing assistance is provided on behalf of the family or individual, participants are able to find their own housing,	Section 8 and Public Housing programs are administered through Washington's pubic-chartered housing authorities. Contact your local housing authority for information on eligibility, population priorities and wait lists. https://www.awha.org/find-a-housing-authority.html

Agency	Program	Description	Eligibility and link to more information
		including single-family homes, townhouses and apartments. Public (site-based) housing provides decent and safe rental housing for eligible low-income families, the elderly and persons with disabilities. Public housing comes in all sizes and types, from scattered single-family houses to high-rise apartments for elderly families.	
HUD	Continuum of Care (CoC) Program	The CoC program provides funding for efforts by nonprofit providers, and State and local governments to quickly rehouse homeless individuals and families.	Adults and families with children experiencing or at risk of homelessness. https://www.commerce.wa.gov/serving-communities/homelessness/continuum-of-care/
HUD	Emergency Solutions Grants (ESG)	Grants of federal funds to provide street outreach, emergency shelter, rental assistance and related services.	Adults and families with children experiencing or at risk of homelessness. www.commerce.wa.gov/serving-communities/homelessness/emergency-solutions-grant/
HUD	HOME American Rescue Plan (HOME – ARP)	Funding supports rural Community Action partnerships to serve people experiencing homelessness in Washington's non-entitlement areas.	HOME-ARP serves four qualifying populations including individuals and families experiencing homelessness, individuals and families at risk of homelessness, persons fleeing domestic violence, and other vulnerable populations. https://www.commerce.wa.gov/homelessness-response/federal-grants/home-arp/
HUD	Section 811 Project Rental Assistance (PRA) demonstration	Federal funds provide project-based rental assistance. The program creates collaboration between Commerce and Department of Social and Health Services (DSHS) that will increase rental housing units for persons with disabilities by integrating Section 811 PRA assisted units within existing, new or rehabilitated multifamily properties.	Extremely low-income, non-elderly disabled households in the DSHS caseload. https://www.commerce.wa.gov/permanent-supportive-housing/section-811/
HUD	Tenant-Based Rental Assistance (TBRA)	Uses federal funds to support communities providing utility, deposit and ongoing rental assistance. Eligible households are referred to TBRA through local coordinated entry systems.	Very low-income households (at or below 50 percent AMI). Find a list of providers at https://www.commerce.wa.gov/homelessness-response/federal-grants/tbra/
HUD	Community Development Block Grant	Provides federal funds for the following activities: housing rehabilitation, homeownership assistance, local connections to	Eligible rural cities and counties serving low- and moderate-income households in CDBG non-entitlement communities. https://www.commerce.wa.gov/cdbg/

Agency	Program	Description	Eligibility and link to more information
	(CDBG)	sewers and affordable housing plans. Can NOT fund new housing construction but can fund infrastructure in support of new affordable housing.	For urban CDBG entitlement programs, contact the local CDBG program manager. https://www.hudexchange.info/grantees/contacts/
HUD	Indian Community Development Block Grant (ICDBG) Program	Provides direct grants for use in developing viable Indian Communities, including decent housing, a suitable living environment and economic opportunities, primarily for low and moderate-income persons.	Low and moderate-income persons in any Indian tribe, band, group or nation (including Alaska Indians, Aleut and Eskimos). www.hud.gov/program_offices/public_indian_housing/ih/grants/icdbg
US Department of Agriculture (USDA) Rural Development	Single Family Housing Guaranteed Loan Program	Assists approved lenders in providing loans to low- and moderate-income households for adequate, modest, decent, safe and sanitary dwellings as their primary residence in eligible rural areas. The program provides a 90% loan note guarantee to approved lenders in order to reduce the risk of extending 100% loans to eligible rural homebuyers.	Low- or moderate-income households living in a rural area should apply through an approved lender. Eligible applicants may build, rehabilitate, improve or relocate a dwelling in an eligible rural area. www.rd.usda.gov/programs-services/single-family-housing-guaranteed-loan-program
USDA Rural Development	Single Family Housing Direct Home Loans (Section 502 Direct Loan Program)	This program, also known as the Section 502 Direct Loan Program, assists low- and very-low-income applicants to obtain decent, safe and sanitary housing in eligible rural areas by providing payment assistance to increase an applicant's repayment ability. Payment assistance is a type of subsidy that reduces the mortgage payment for a short time. The amount of assistance is determined by the adjusted family income.	Low-income individuals in rural areas with populations of less than 35,000. www.rd.usda.gov/programs-services/single-family-housing-direct-home-loans https://www.rcac.org/housing/502direct-packaging-program/
USDA Rural Development	Single Family Housing Repair (Section 504 Home Repair) loans and grants	This program provides loans to very-low-income homeowners to repair, improve or modernize their homes, or grants to elderly very-low-income homeowners to remove health and safety hazards.	Households with a family income below 50% AMI. Homeowner max loan is $20,000, max grant is $7,500, loans and grants can be combined. www.rd.usda.gov/programs-services/single-family-housing-repair-loans-grants
USDA Rural Development	Rural Community Development Initiative (RCDI) Grants	RCDI grants are awarded to help support housing, community facilities, and community and economic development projects in rural areas. It can be used to provide training, such as homeownership education, or technical assistance, such as strategic plan development.	Non-profit housing and community development organizations, low-income rural communities and federally recognized tribes. Must be in a rural area, any area other than a city or town with greater than 50,000 population and urbanized adjacent area to such town/city. 100% match required. www.rd.usda.gov/programs-services/rural-community-development-initiative-grants

Agency	Program	Description	Eligibility and link to more information
Community Development Financial Institution	New Market Tax Credit Program	Permits taxpayers to receive a credit against federal income taxes for making qualified equity investments in designated Community Development Entities (CDEs) in low-income communities. Substantially all of the qualified equity investment must in turn be used by the CDE to provide investments in low-income communities. Investors may not redeem their investments in CDEs prior to the conclusion of the seven-year period.	The credit provided to the investor totals 39% of the cost of the investment and is claimed over a seven-year credit allowance period. In each of the first three years, the investor receives a credit equal to five percent of the total amount paid for the stock or capital interest at the time of purchase. For the final four years, the value of the credit is six percent annually. For more information contact: - New Market Tax Credit Program. https://www.cdfifund.gov/programs-training/Programs/new-markets-tax-credit/Pages/default.aspx
Rural Community Assistance Cooperation (RCAC)	Housing Development (Non-profits)	RCAC provides support to develop rental or for sale affordable housing and community facilities in the rural west. Support includes technical assistance in LIHTC, USDA Rural Development 515, 514/516, HOME, CDBG, AHP, tax-exempt bonds, state housing trust funds, project-based Section 8, local and state resources, and conventional financing.	Non-profit organizations in rural areas, on tribal lands and within colonias. www.rcac.org/housing/housing-development/
RCAC	Section 523 Mutual Self Help Housing	Low-income borrowers work together under the guidance of a non-profit public housing entity (self-help grantee) to build each other's homes. With a construction supervisor on site, building groups perform at least 65% of the construction work required (known as "sweat equity"). In most cases, the grantee also manages the construction loans, develops the building site, provides homeownership training, offers building plans, qualifies the borrower for his/her mortgage and markets the program in the service area.	Under the USDA contract, RCAC assists grantees in the western United States to successfully complete the production of single-family financed housing under the Mutual Self-Help Housing program. (See the Self-Help Western Region Grantee Guide.) www.rcac.org/housing/mutual-self-help-housing/
Local	Sales and use tax for affordable housing	A local vote, or council approval (as of 2020), would authorize a local sales and use tax of up to 0.1 percent per dollar spent. Funds must be used for construction of affordable housing or behavioral health–related facilities for named groups with incomes of 60% or less of county median income.	Counties (or if not used, a city) may pass a local vote or councilmanically authorize the tax. This sales tax previously required voter approval. Counties have the "right of first refusal"; if a county has not imposed this sales tax by September 30, then any city in that county may impose this tax. RCW 82.14.530 (2015), HB 1590 (laws of 2020)
Local	Free or discounted public land	Public agencies (local government or utility) can discount or gift land they own for "public benefit," defined as	Must adopt rules to regulate transfer. RCW 39.33.015 (2018)

Agency	Program	Description	Eligibility and link to more information
		affordable housing for households up to 80% AMI.	
Local	Affordable housing property tax levy	A local vote may authorize a levy of up to $0.50 per $1,000 assessed value for up to ten years to finance affordable housing for very low-income households (equal to or under 50 % AMI). Must declare an affordable housing emergency and have an affordable housing financing plan. Program was expanded in 2020 to allow the use of revenues to include affordable homeownership, owner-occupied home repair, and foreclosure prevention programs for "low-income" households up to 80% of median income.	A county, city or town must pass a local vote to authorize the levy. RCW 84.52.105 (1993), Senate Bill (SB) 6212
Local	Affordable and Supportive Housing Sales and Use Tax	RCW 82.14.540 created a revenue-sharing partnership between the state and counties and cities for affordable and supportive housing investments. It authorized a local sales tax option that is a credit against the state sales tax rate of 6.5%. Housing and services may be provided only to persons whose income is at or below 60% of the median income of the city or county imposing the tax.	A "participating" city or county is one that imposed the affordable housing sales tax credit and completed the two required steps for adoption. 1. Passed a resolution of intent by Jan. 28, 2020 2. Adopted legislation to authorize the maximum capacity of the tax by July 28, 2020 RCW 82.14.540
Local	Sales and Use Tax for Chemical Dependency, Mental Health Services or Therapeutic Courts	RCW 82.14.460 authorized counties to levy a one-tenth of one percent sales and use tax to fund new mental health, chemical dependency, or therapeutic court service. Any county may impose a mental health and chemical dependency sales tax up to 0.1% for mental health and drug treatment purposes.	Counties only, except for a few cities in Pierce County. RCW 82.14.460
Local	Real Estate Excise Tax 2 (REET 2)	A 0.25% REET that may be imposed by any city, town or county fully planning under the Growth Management Act (GMA), to be used for "capital projects" specified in the capital facilities plan element of the jurisdiction's comprehensive land use plan, including affordable housing projects through January 1, 2026. Jurisdictions may only use a portion of REET funds on affordable housing.	For jurisdictions required to fully plan under the GMA, the legislative body may impose REET 2. Any jurisdiction voluntarily planning under the GMA must have voter approval. RCW 82.46.035

Agency	Program	Description	Eligibility and link to more information
Local	Lodging Taxes	Although generally used for eligible tourism-related expenses, lodging taxes or hotel-motel taxes may be used to repay general obligation bonds or revenue bonds issued to finance loans or grants to nonprofit organizations or housing authorities for affordable housing workforce housing within a half mile of a transit station.	"Affordable workforce housing" generally means housing for a household earning 80% or less of the county median income. RCW 67.28.180, RCW 67.28.150, RCW 67.28.160
Local	Rural Counties Public Facilities Sales Tax Credit	Any rural county may impose a sales tax of up to 0.09% for economic development purposes under RCW 82.14.370." The revenues may be used to finance public facilities serving economic development purposes, including financing the construction of affordable workforce housing infrastructure or facilities.	RCW 82.14.370
Local	Impact fee waivers	Impact fee waiver for up to 100% of fees for permanently restricted affordable housing (for rental or purchase) for households earning less than or equal to 80% AMI. 80% may be waived; but if 100% of fees are waived, 20% must be paid with other public moneys. A school district receiving impact fees must approve any exemption.	Counties, cities, or towns charging impact fees. RCW 82.02.060
Local	Multifamily tax exemption program	Program provides a property tax exemption in exchange for the development of multifamily and affordable housing in designated "residential targeted areas." 8-year exemptions to encourage the development of multifamily housing, and 12- and 20-year exemptions to encourage the development of affordable housing.	All cities, many towns, and Clark, King, Kitsap, Pierce and Snohomish counties are eligible to offer an MFTE program. RCW 84.14 and https://www.commerce.wa.gov/growth-management/housing-planning/mfte/
Local	Fee waivers for water or sewer connection (system development charges)	Waiver or delay of tap-in charges, connection or hook-up fees for low-income persons for water, sanitary or storm sewer, electricity, gas or other utility.	No specific income level is detailed (may assume less than 80% AMI). RCW 35.92.380 authorizes fee waivers for cities and towns, while RCW 52.24.080 authorizes them for water and sewer districts.
Local	Sewage and solid waste fees	Assistance with sewer and solid waste fees.	RCW 35.92.020 (5) allows a city or town to provide assistance to aid-low-income persons.

Agency	Program	Description	Eligibility and link to more information
Local	Affordable Housing Incentive Programs	Any GMA city or county may enact or expand affordable housing incentive programs through development regulations or conditions on rezoning or permit decisions, or both, on residential, commercial, industrial, or mixed-use development. The program may include mandatory or optional elements, such as density bonuses within the urban growth area, height and bulk bonuses, fee waivers or exemptions, parking reductions, expedited permitting, or mandatory amount of affordable housing provided by each development.	Incentive or bonuses for housing units are for low-income rental (50% or less of county median family income) or for purchase (80% of county median family income), or other income levels as needed to address local housing market conditions. Housing must remain affordable for 50 years or jurisdiction may accept payments in lieu of continuing affordability. Payment or property in lieu of housing is acceptable. RCW 36.70A.540 (2006)
Local	Community Revitalization Financing (CRF)	The CRF authorizes creation of tax increment areas where community revitalization projects and programs are financed by diverting a portion of the regular property taxes imposed by local governments within the tax increment area.	Counties, cities, towns and port districts. Chapter 39.89 RCW HB 2497 (laws of 2020) added creating or preserving permanently affordable housing to the list of eligible public improvements for this funding, required for at least 40 years for rental housing and 25 years for ownership housing.
Local	Local Infrastructure Financing Tool Program (LIFT)	Provides funding for local infrastructure using sales tax, property tax and selected other excise tax increases generated by an economic development project as part of a revenue development area designated by the sponsoring local government.	Ch. 39.102 RCW See HB 2497 (laws of 2020) amendments. Must apply to the Community Economic Revitalization Board at Commerce. Not presently authorized.
Local	Local Revitalization Tool (LRF)	Authorizes cities and counties to create "revitalization areas" and allows certain revenues to be used for payment of bonds issued for financing local public improvements within the revitalization area.	RCW 39.104 See HB 2497 (laws of 2020) amendments. Must apply to the Community Economic Revitalization Board at Commerce. Not presently authorized.
Local	Deferral of property tax	A claimant may apply to defer payment of 50% of special assessments or real property taxes, or both, provided the household's combined disposable income is $57,000 or less and the claimant must have paid one-half of the total assessments and taxes for the year.	Very low and low-income households. RCW 84.37
Local	Tax deferral for retired persons	Allows eligible agencies to provide tax relief to eligible households (less than 75% AMI).	RCW 84.38

Agency	Program	Description	Eligibility and link to more information
Local	Tax deferral for certain people	Property tax exemption for seniors or veterans with certain qualifications.	RCW 84.36.381
Local	Conversion of underutilized commercial property	Local legislation may adopt a limited sales and use tax deferral program encouraging conversions in targeted urban areas from commercial to multifamily housing units. Projects continuing to provide income-restricted units for 10 years do not have to repay deferred taxes.	RCW 82.59
Local	"Parking to People"	Sales and use tax deferral for underdeveloped urban land redev elopment (RCW 82.92), is a pilot tax deferral program available to owners of underdeveloped land interested in building affordable housing in Bellevue, Kent, Spokane, Tacoma and Vancouver (RCW 82.92.020). “Underdeveloped property” means land used as a surface parking lot for parking motor vehicles off the street or highway that is open to public use with or without charge.	RCW 82.92

Appendix E: Housing law and case law

Washington state housing requirements through 2025[152]

Requirement	GMA	Code cities	Cities & towns	Counties	General provisions
Transit-oriented development: Requires cities with light rail, commuter rail or trolley station areas to designate either a half-mile or a quarter-mile station area, depending on city size, around each station and allow development with a minimum floor area ratio (FAR) of 3.5. For bus rapid transit routes (BRT), cities must designate a quarter-mile station area around BRT stations and allow development with a minimum FAR of 2.5. 3SHB 1491 (2025)	RCW 36.70A.840 and 842				
Unit lot subdivisions: Requires all cities, towns and counties to adopt procedures for unit lot subdivisions to allow division of a parent lot into separately owned unit lots for sale, such as selling an ADU. ESB 5559 (2025), E2SSB 5228 (2023)					RCW 36.70B.060
Lot splits: Increases housing options through the allowance of a one-time administrative lot split which may be processed concurrent with the review of a residential building permit. E2SHB 1096 (2025)					RCW 38.17.145
Parking: Reduces or eliminates parking requirements for cities with a population of 30,000 or more residents. This act repeals RCW 36.70A.620 for those jurisdictions and does not apply to areas within a one-mile radius of SeaTac airport. SSB 6015 also adds detailed parking rules in the interest of reducing development costs. ESSB 5184 (2025), SSB 6015 (2024)	RCW 36.70A.622 Repeals RCW 36.70A.620				
Conversion of commercial or existing buildings to residential: Requires cities to allow existing buildings to be used for residential purposes in commercial, mixed-use, or residential zones. HB 1757 (2025), ESHB 1042 (2023)		RCW 35A.21.440	RCW 35.21.990		RCW 58.17.060

[152] For housing planning laws and requirements between 2019 and 2025, see Commerce's 2019 through 2025 Housing Laws for Planners.

Requirement	GMA	Code cities	Cities & towns	Counties	General provisions
Co-living: Requires communities to allow co-living on any lot located within a UGA that allows at least six multifamily residential units, including on a lot zoned for mixed-use development. ESHB 1998 (2024)	RCW 36.70A.535				
Accessory dwelling units: --Must allow 2 ADUs within all GMA urban growth areas and other changes to regulating ADUs. EHB 1337 (2023) --New GMA definitions and limits to parking limits within ¼ mile of a major transit stop. ESSB 6617 (2020)	RCW 36.70A.680-681, 36.70A.696 – 699.				
Middle housing: Certain cities mut allow middle housing, which means homes that fall between detached single-family houses and large multifamily complexes, such as duplexes or townhomes. E2SHB 1110 (2023)	RCW 36.70A.635				
Proportionate impact fees: Requires local governments to publish a schedule of impact fees which reflects the proportionate impact of new housing units. E2SSB 5228 (2023)					RCW 82.02.060
Permit timelines: Changes to the procedures local governments must use for new housing permit processing. Changes include clarity on timelines around complete permit applications, time periods and application fees for different types of permit processing, and adds reporting requirements for permit processing. SSB 5290 (2023)					RCW 36.70B
Clear and objective design standards: Streamlines local design review processes, requiring “clear and objective” standards that don’t reduce development capacity otherwise allowed. ESHB 1293 (2023)	RCW 36.70A.630				RCW 36.70B.160
STEP: Cities must allow emergency Shelters, Transitional housing, Emergency housing and Permanent supportive housing (STEP) in certain zones. Counties must allow sufficient land capacity for emergency shelters, emergency housing and permanent supportive housing needs. E2SHB 1220 (2021)	RCW 36.70A.070 (2)(c)	RCW 35A.21.430	RCW 35.21.683		

Requirement	GMA	Code cities	Cities & towns	Counties	General provisions
Regulating occupants: Cities, towns and counties may not regulate the number of people within a dwelling unit except for a few certain housing types and any health and safety standards. ESSB 5235 (2021)		RCW 35A.21.314	RCW 35.21.682	RCW 36.01.227	
A local government is limited in the amount of parking it may require for certain types of development occurring within ¼ mile of a transit stop. SHB 2343 (2020) - REPEALED IN 2025 WITH ESSB 5184	RCW 36.70A.620 - REPEALED				
Limits on regulating temporary encampments on religious property. ESHB 1754 (2020)		RCW 35A.21.360	RCW 35.21.915	RCW 36.01.290	
Group homes and inpatient facilities may not be precluded by local zoning. GMA jurisdictions should review list of essential public facilities. Updated in HB 2640 (2020)	RCW 36.70A.200 WAC 365-196-550		RCW 35.64.140		
Permanent supportive housing must not be prohibited in areas zoned for multifamily housing. Definition in RCW 36.70A.030 (33), E2SHB 1923 (2019), and SHB 2343 (2020)		RCW 35A.21.305	RCW 35.21.689		
Manufactured homes must be allowed on all lots. A city or town may not discriminate against consumers' choices in the placement or use of a home. This statute sets out design requirements, but this was revised in 2019 to state that a city may not use setbacks on an existing lot to prohibit a manufactured home. It also sets standards around recreational vehicles and tiny homes. Updates by ESSB 5183 (2019)		RCW 35A.21.312 RCW 35A.63.146 For non-conforming use protections	RCW 35.63.161 RCW 35.21.684	RCW 36.01.225 RCW 36.70.493	
A city or town may adopt an ordinance to regulate the creation of tiny home communities. ESSB 5383 (2019)			RCW 35.21.686		
Communities must allow density bonuses for affordable housing located on property owned by a religious organization. SHB 1377 (2019)	RCW 36.70A.545	RCW 35A.63.300	RCW 35.63.280		

Requirement	GMA	Code cities	Cities & towns	Counties	General provisions
GMA updates to definitions for “affordable housing,” “low-,” “very low-” and “extremely low-income households.” E2SHB 1923 (2019) and permanent supportive housing	RCW 36.70A.030				
Parking near transit: A local government planning under the GMA is limited in the amount of parking it may require for certain types of development occurring within ¼ mile of a transit stop. E2SHB 1923 (2019) - REPEALED IN 2025 WITH ESSB 5184	RCW 36.70A.620 - REPEALED				
Residential structures that are occupied by persons with handicaps must be regulated the same as a similar residential structures occupied by a family or other unrelated individuals. (1993)	RCW 36.70A.410 WAC 365-196-860	RCW 35A.63.240	RCW 35.63.220	RCW 36.70.990	
Family day-care facilities may not be prohibited. No county or city may prohibit the use of a residential dwelling, located in an area zoned for residential or commercial use, as a family day-care provider's home facility.	RCW 36.70A.450 WAC 365-196-865	RCW 35A.63.215	RCW 35.63.185 RCW 35.21.688	RCW 36.70.757	
Accessory dwelling units must be allowed by communities over 20,000 and counties over 125,000 in population. ***NOTE:** This was revised with HB 1337 (2023). See Washington State Housing Laws of 2019 through 2025 or HB 1337 (2023).	RCW 36.70A.400	RCW 35A.63.230	RCW 35.63.210	RCW 36.70.677	
Rent control is prohibited. May not regulate the amount of rent to be charged for single-family or multiple-unit residential rental structures or sites other than properties in public ownership, under public management or properties providing low-income rental housing.			RCW 35.21.830	RCW 36.01.130	
OPTIONAL TOOLS					
GMA cities may enact affordable housing incentive programs. (2009)	RCW 36.70A.540 WAC 365-196-870				
GMA cities may adopt provisions to increase residential capacity. Such provisions are protected from SEPA and	RCW 36.70A.600				

Requirement	GMA	Code cities	Cities & towns	Counties	General provisions
GMHB appeal until April 2023. E2SHB 1923 (2019) and SSB 2343 (2020)					
Disposal of surplus government property for housing. Property may be offered at low or no cost for a public benefit of affordable housing. 3SHB 2382 (2018)					RCW 39.33.015
Exempting emergency housing from impact fees. SHB 2538 (2018)					See RCW 82.02.060 (2)-(3)

Legal cases to consider

In some cases, case law sets the standard for what may or not be included in local policies. A local government can only be held to the decisions of its regional Growth Management Hearings Board, so we recommend reviewing the digests and cases from the regional board, and any subsequent appeals. However, some general themes have emerged that can provide guidance to all jurisdictions.

Local governments must plan for sufficient capacity and make adequate provisions for housing needs of all income levels with their periodic update. Jurisdictions need to identify the role of assumed subsidies and incentives when documenting sufficient capacity and adequate provisions for housing needs for extremely low, very low, low, and moderate-income households. Jurisdictions must also make updates to development regulations to address the adequate provisions findings with the periodic update. [Futurewise, Kian Bradley, and Trevor Reed v. City of Mercer Island, Case No. 25-3-0003, FDO (Aug. 1, 2025), at 1; and Kitsap, et. al., v. Kitsap County, Consolidated Case No. 25-3-0005c, FDO (Aug. 8, 2025), at 1]

City responsibility to "set the table" for the development of affordable housing: "Developing programs that will provide affordable housing opportunities and special needs housing opportunities for the low-income, very low-income, extremely low-income, and disabled and senior citizens of Lakewood is, as the City acknowledges, its responsibility." [LIHI II, 01-3-0023, FDO, at 14]

"The Board recognizes too that the County is not obligated to add to the stock of low-income housing but instead to set the framework in which the market can provide housing for all segments of the population." [Campbell v. San Juan County, Case No. 09-2-0104, FDO at 14 (Jan. 27, 2010)]

Local governments have choices in planning for housing: "RCW 36.70A.020(4) does not require that each and every land use designation of a jurisdiction provide for affordable housing." [LMI/Chevron, 98-3-0012, FDO, at 29.]

"The Act requires cities and counties to preserve existing housing while promoting affordable housing and a variety of residential densities and housing types. No jurisdiction is required to reconcile these seemingly inconsistent requirements by totally focusing on one requirement, for instance preserving existing housing, to the exclusion of other requirements, such as encouraging more affordable housing. Instead, jurisdictions must reconcile the Act's seemingly contradictory requirements by applying and necessarily balancing them." [WSDF I, 94-3-0016, FDO, at 30.]

"…each housing element must be considered on its own merits under a fact-specific analysis, and each city or county necessarily plans and words its housing element differently in order to address local needs." Each jurisdiction "has the discretion to determine the zoning required – whether small lot, duplex, multi-family, or mixed use – so long as the plan includes sufficient land for housing all economic segments of its community..." [Futurewise V, 07-3- 0014, FDO, at 8.]

"A comprehensive plan policy regarding affordable housing must be specific and must be implemented by development regulations to comply with the GMA." [Friday Harbor v. San Juan County 99-2-0010 (FDO, 7-21-99)]

Local housing elements must be consistent with countywide planning policies and must plan for all economic segments: "The City's Housing Element must "make adequate provision" for existing and projected housing needs of this economic segment of the community" The challenged Comprehensive Plan Housing Element was inconsistent with the Countywide Planning Policies for King County because Ordinance O2015-396 failed to establish any numeric or percentage goals for the City's "share" of countywide housing needs in the moderate, low, and very low income housing categories, contrary to RCW 36.70A.100 and RCW 36.70A.210(1). [Paul Stickney and Richard Birgh v. City of Sammamish, Case No. 15-3-0017, affirmed by Court of Appeals of Washington, Division 1, in Stickney v. Cent. Puget Sound Growth Mgmt. Hearings Bd., 11 Wash. App. 2d 228, 453 P.3d 25 (2019)].

More diverse residential landscape: "In the GMA, there are a number of specific references that address housing and residential land uses, some of them more explicit and directive than others. There are at least five sections of the Act that are on point. When these sections are read together, they describe a legislatively preferred residential landscape that, compared with the past, will be less homogeneous, more diverse, more compact and better furnished with facilities and services to support the needs of the changing residential population." [Children's I, 95-3-0011, FDO, at 5.]

Preserving neighborhood character: "The GMA clearly encourages the preservation of existing housing stock (See RCW 36.70A.020(4)) and provides for ensuring the vitality and character of established residential neighborhoods (See RCW 36.70A.070(4)). However, as the Board stated, supra, "any opportunity to perpetuate an "historic low-density residential" development pattern, [in the subarea], ended in 1994 when the County included the area within the UGA." It is clear that existing housing stock and neighborhoods may be maintained and preserved, however existing low-density patterns of development cannot be perpetuated. [MBA/Brink, 02-3-0010, FDO, at 14-15.]

"The requirement to "ensure neighborhood vitality and character" is neither a mandate, nor an excuse, to freeze neighborhood densities at their pre-GMA levels. The Act clearly contemplates that infill development and increased residential densities are desirable in areas where service capacity already exists, i.e., in urban areas – while also requiring that such growth be accommodated in such a way as to "ensure neighborhood vitality and character." [Benaroya I, 95-3-0072c, FDO, at 21.]

Rural ADUs: "All three Hearings Boards have discouraged detached accessory dwelling unit provisions without specific criteria to curtail indiscriminate increased density." [Loon Lake, et al. v. Stevens County, EWGMHB Case No. 01-1-0002c, Order on Motions, at 10 (Oct. 25, 2007)].

Monitoring progress: "The Board observes that the affordable housing percentages for income levels are targets to be adjusted and/or met over the 20-year life of the Plan. One should not expect them to be achieved halfway into the Plan's time horizons. Peaks and valleys in progress will obviously occur over time depending

upon numerous factors. But monitoring progress toward the targets is essential – which the County clearly does as reflected in the Housing Appendix and Benchmarks Reports." [S/K Realtors, 04-3- 0028, FDO, at 36.]

Homelessness: There has been significant work on addressing homelessness. MRSC has a number of blog articles on this topic. The fundamental point is that a local government cannot render homelessness a crime if there are not sufficient housing/shelter options available. From MRSC:

- Is Your Camping Ordinance Constitutional?
- What Are Local Governments Doing in Response to *Martin v. City of Boise*?
- New Legislation on Temporary Homeless Encampments
- Homelessness and the Limits of Enforcement
- Living in Vehicles: How Homestead Rights Affect Municipal Impounds

Appendix F: Federal and state housing policy history

Federal housing policy timeline

1867: In New York City, the first tenement-law regulation in America is enacted to ban the construction of rooms without ventilators and apartments without fire escapes, while also requiring one toilet per 20 people. However, these regulations were not often enforced until 1901 when the city passed the Tenement House Law, which mandated improved sanitary conditions, fire escapes and access to light.[153]

1923: The first U.S. public-housing project is constructed in Milwaukee.[154]

1926: The first significant effort in the country to offer any kind of subsidy for affordable housing when New York State passed the Limited Dividend Housing Companies Act.[155]

> "The federal government has been involved in providing housing assistance to lower-income households since the 1930s. In the beginning, the federal government played a role in supporting the mortgage market (through establishment of the Federal Housing Administration [FHA] and the government-sponsored enterprises) and in promoting construction of low-rent public housing for lower-income families through local public housing authorities (PHAs). Over time, the federal government has shifted away from providing construction-based subsidies toward providing rental subsidies, and private developers and property owners have been playing a larger role."
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> ~Congressional Research Services, "Overview of Federal Assistance Programs and Policy," Overview section

1934: In response to the Great Depression, the National Housing Act established the Federal Housing Administration (FHA), which was created to guarantee loans and ensure mortgages for single-family homes as well as private multi-family housing. At this time, America was primarily renters, with only four in 10 households owning homes. Mortgage loan terms were limited to 50% of the property's market value, with short three- to five-year repayment schedules that ended with a balloon payment.[156]

1937: The Wagner-Steagall Housing Act established the U.S. Housing Authority, the first federal agency devoted solely to housing, and a new Low-Rent Public Housing program. Originally intended to create public housing for families with low incomes, it required partnerships between federal, state and local governments.[157] The U.S. Housing Authority gradually expanded from low-income housing projects to middle-class development in suburban areas during World War II.[158]

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[153] History.com Editors, "Tenements," (updated October 10, 2019; original April 22, 2010), https://www.history.com/topics/immigration/tenements.
[154] Milwaukee County Historical Society, "Daniel Hoan Collection," https://milwaukeehistory.net/unlocking-the-vault/daniel-hoan-collection-text/.
[155] The Nation, "151 Years of America's Housing History," (May 24, 2018), https://www.thenation.com/article/archive/americas-housing-history/.
[156] U.S. Department of Housing and Urban Development (HUD), "The Federal Housing Administration (FHA)," https://www.hud.gov/program_offices/housing/fhahistory.
[157] Congressional Research Service (CRS), "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), p.2, https://crsreports.congress.gov/product/pdf/RL/RL34591.
[158] National History Center, "Housing Policy in the United States," p. 3, https://nationalhistorycenter.org/wp-content/uploads/2018/08/Housing-Policy.pdf.

1942: "The Emergency Price Control Act establish[ed] federal rent control for the first time. By January 1945, Scranton, Pennsylvania, [was] the only city of more than 100,000 residents with unregulated rents."[159]

1944: The GI Bill provided mortgage-loan guarantees for home purchases by veterans.[160]

1949: Following a post-war housing shortage, the Housing Act under Truman's Fair Deal bolstered the Housing Authority's budget and capabilities, allowing the federal government to undertake larger urban renewal projects (replacing slum properties with sites for redevelopment). The Housing Act of 1949 also reactivated the public housing program for families with low incomes (which was on hold during WWII), authorizing subsidies to low-income housing authorities to build housing.[161]

1955: New York state began subsidizing the construction of moderate- and middle-income housing with the introduction of the Mitchell-Lama program that was created by the Limited Profit Housing Act. Under this program, over 105,000 apartments were generated after clearing formerly rundown parts of the city; today, about 45,000 apartments are left.[162]

1959: "The Housing Act of 1959 (P.L. 86-372) was the first significant instance where government incentives were used to persuade private developers to build housing that would be affordable to low- and moderate-income households. As part of P.L. 86-372, Congress created the Section 202 Housing for the Elderly program. Through the Section 202 program, the federal government extended low-interest loans to private nonprofit organizations for the development of affordable housing for moderate-income residents age 62 and older." [163]

1960s: Various other housing acts (1961, 1965, 1968) further expanded the role of the private sector providing housing to multifamily housing of various income levels through the federal government insuring mortgages of private developers of multifamily housing and providing loans to developers at low interest rates (1961), providing rental assistance (1965) and subsidizing private developers' mortgage interest payments (1968).[164]

1965: "The Department of Housing and Urban Development (HUD) was created in a largely symbolic move to bring housing and slum-clearance programs to the cabinet level."[165] It was created to manage public housing and its affairs, as the size of public housing had grown tremendously. FHA was encompassed within this new department.

1968: Congress passed the Fair Housing Act, which outlawed discrimination in housing and in mortgage lending and gave HUD enforcement responsibility. Up to this point, there had been years of governmental and private discrimination in the provision of housing, which limited minority households' opportunities to achieve homeownership and contributed to patterns of racial segregation.[166]

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[159] The Nation, "151 Years of America's Housing History," (May 24, 2018), https://www.thenation.com/article/archive/americas-housing-history/.
[160] Ibid. *(The Nation)*
[161] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), p. 3, https://crsreports.congress.gov/product/pdf/RL/RL34591.
[162] Kamping-Carder, Leigh, "Hit the NYC jackpot: How to get an affordable Mitchell-Lama apartment to call your own," (March 15, 2018), https://www.brickunderground.com/blog/2014/10/mitchell_lama_affordable_housing_guide.
[163] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), p.3, https://crsreports.congress.gov/product/pdf/RL/RL34591.
[164] Ibid, p. 4. *(CRS)*
[165] The Nation, "151 Years of America's Housing History," (May 24, 2018), https://www.thenation.com/article/archive/americas-housing-history/.
[166] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), p. 5, https://crsreports.congress.gov/product/pdf/RL/RL34591.

1969: "The Brooke Amendment, which was included as part of the Housing and Urban Development Act of 1969 (P.L. 91-152), limited tenant contributions toward rent in all rent assisted units (including public housing and all project-based rental assistance units) to an amount equal to 25% of tenant income (this was later raised to 30%). The Brooke Amendment is considered to be responsible for codifying an income-based rent structure in federal housing programs."[167]

1970: The Housing and Urban Development Act of 1970 introduced the Federal Experimental Housing Allowance Program (EHAP). EHAP tested two different versions of housing allowances: the "demand experiment," between 1973 and 1976, and the "supply experiment," between 1974 and 1979. Before the research was complete, Congress moved ahead with legislation in 1974 to create the housing allowance program that we know today as the Housing Choice Voucher (HCV) program (see second 1974 entry on the Section 8 program below).[168]

1973: The Nixon administration issued a moratorium on almost all subsidized-housing programs due to a number of concerns.[169]

1974: The Community Development Block Grant (CDBG) Program was authorized under Title I of the Housing and Community Development Act of 1974, as amended. Prior to this time, numerous federal programs addressed community development issues. CDBG consolidated eight programs under which communities competed nationally for funds.[170]

1974: The Housing and Community Development Act of 1974 also established Section 8 housing programs as a replacement for public housing, creating a tenant-based certificates program to increase low-income tenants' choice of housing. "Although the 1960s had seen rental assistance programs like Rent Supplement and Section 23, the scale of the Section 8 program made it the first comprehensive rental assistance program."[171]

1976: "The Supreme Court rule[d], in Hills v. Gautreaux, that the Chicago Housing Authority contributed to racial segregation in Chicago through discriminatory practices. HUD [began] offering vouchers in the city to address poverty and segregation."[172]

1977: The Community Reinvestment Act (CRA) "affirm[ed] that federally insured [banks] have an obligation to meet the credit needs of the communities in which they are chartered and accept deposits … and require[d] federal banking regulators to assess the extent to which banks are meeting those needs. The enactment of the CRA grew out of concern that banking deposits were funding lending activities across the country at the

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[167] Ibid, p. 5. *(CRS)*
[168] HUD Edge, "Message from PD&R Leadership: Blast from the Past: How the Experimental Housing Allowance Program of the 1970s Can Inform the Moving to Work Expansion Today," https://www.huduser.gov/portal/pdredge/pdr-edge-frm-asst-sec-032017.html.
[169] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), p. 6, https://crsreports.congress.gov/product/pdf/RL/RL34591.
[170] U.S. Department of Housing and Urban Development, "Basically CDBG," (2007), https://www.hud.gov/sites/documents/DOC_16470.PDF.
[171] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), p. 6, https://crsreports.congress.gov/product/pdf/RL/RL34591.
[172] The Nation, "151 Years of America's Housing History," (May 24, 2018), https://www.thenation.com/article/archive/americas-housing-history/.

expense of providing credit in certain areas where deposits were collected, thereby contributing to neighborhood disinvestment."[173]

1982: Under President Ronald Reagan, HUD's budget was slashed to under $40 billion, a decrease of more than 50% from 1976, when it was $83.6 billion.[174]

1983: The Housing and Urban-Rural Recovery Act of 1983 (P.L. 98-181) limited HUD's authority to issue new Section 8 contracts to existing properties only, as the use of Section 8 in new construction and rehabilitation was found too expensive. "The act also created a new demonstration program to test a modified use of Section 8, referred to as vouchers. Vouchers were similar to the use of Section 8 rent subsidies in existing housing, but they provided more flexibility to public housing authorities, particularly by permitting families to pay more than 30% of their incomes in rent. The demonstration was made permanent in 1985."[175]

1986: The Low-Income Tax Credit (LIHTC) program was created as part of the Tax Reform Act of 1986, which remains the primary source of federal funding for low-cost housing today.[176] Giving a large level of control over to states for the first time, the tax credits are allocated to states based on population. While states must prioritize projects to serve low-income populations, states have discretion in setting priorities as to how the credits will be used.[177]

1987: Congress passed the Stewart B. McKinney Homeless Assistance Act, which included funding for several grants that states

> **Mid-1980s:** "By the mid-1980s, federal housing programs had gone through a number of iterations. Some programs had been scrapped as inefficient, subject to fraud and abuse, or too expensive. Shifting federal priorities — toward reducing taxes and increasing military spending in response to the Cold War — reduced funding available for social programs, including housing assistance. Creation of assisted housing with federal funds was on the decline, with production slowing significantly between 1982 and 1988." In addition, existing affordable rental units were being lost as HUD contracts expired or owners chose to repay their low-interest mortgages and charge market rent.
>
> **Late 1980s through 1990s:** State and local governments and other organizations began taking the initiative to develop housing within their communities as a result of reduced federal support for housing. "From the late 1980s through the 1990s, Congress acknowledged the value of local control and gave more decision-making authority over housing policy to state and local governments through the creation of block grants and tax credits."
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> ~Congressional Research Services, "Overview of Federal Assistance Programs and Policy," p. 6-7

[173] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), p. 5-6, https://crsreports.congress.gov/product/pdf/RL/RL34591.
[174] The Nation, "151 Years of America's Housing History," (May 24, 2018), https://www.thenation.com/article/archive/americas-housing-history/.
[175] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), https://crsreports.congress.gov/product/pdf/RL/RL34591.
[176] The Nation, "151 Years of America's Housing History," (May 24, 2018), https://www.thenation.com/article/archive/americas-housing-history/.
[177] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), p. 7, https://crsreports.congress.gov/product/pdf/RL/RL34591.

and localities could use to assist people experiencing homelessness. Grants were available for permanent and transitional housing, as well as supportive services.[178]

1990: Congress authorized the HOME Investment Partnership program through the National Affordable Housing Act of 1990, creating another large, flexible block grant program to states and localities. Funds were apportioned based on a formula and were to be used to assist families at or below 80% of area median income. Use of the funds was broad (including both homeowners/buyers or rental construction or assistance), and municipalities were required to establish plans for spending their funds, including matching requirements and partnerships with local nonprofits.[179]

1992: "Congress authorize[d] the HOPE VI urban-revitalization demonstration program to provide grants to support low-rise, mixed-income housing rather than high-rise public housing to address a severe lack of funding for repairs. Atlanta use[d] its funds to clear slums and construct mostly private housing, an approach copied by cities across the country."[180]

1996: President Clinton signed into law the Housing Opportunity Program Extension Act of 1996, which announced the "one strike and you're out" policy in public housing communities to ensure that tenants who partook in criminal or illegal drug use faced eviction. One year later, 75% of public housing authorities had One Strike policies in place.[181]

1998: As concern over the condition of public housing grew, proposals for public housing reform were considered. After several years of debate, Congress approved public housing reforms through the Quality Housing and Work Responsibility Act (QHWRA) "to reduce segregation by race and income, encourage and reward work, bring more working families into public housing, and increase the availability of subsidized housing for very poor families."[182] "QHWRA also featured the so-called 'Faircloth Amendment,' which prohibited the use of public housing funding for the development of any net new units of public housing."[183]

2004: America's homeownership rate reached a record-high of 69%.[184]

2005: HUD conducted its first official point-in-time count of homeless people in the country.[185]

2007: The housing market crashed and nearly 3 million homes were foreclosed on in both 2009 and 2010.[186] "During the 'Great Recession' of 2008-2013, FHA played an important countercyclical role, propping up the housing market to supply access to mortgage credit when other sources of financing were limited and the capital markets had seized up."[187]

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[178] Ibid, p. 7. *(CRS)*
[179] Ibid, p. 7-8. *(CRS)*
[180] The Nation, "151 Years of America's Housing History," (May 24, 2018), https://www.thenation.com/article/archive/americas-housing-history/.
[181] HUD, "Meeting the Challenge: Public housing authorities respond to the 'One Strike and You're Out' initiative," (September 1997), https://www.ncjrs.gov/pdffiles1/Photocopy/183952NCJRS.pdf.
[182] HUD, "The Federal Housing Administration (FHA)," https://www.hud.gov/program_offices/housing/fhahistory.
[183] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), p. 8, https://crsreports.congress.gov/product/pdf/RL/RL34591.
[184] HUD, "Timeline," https://www.huduser.gov/hud_timeline/.
[185] The Nation, "151 Years of America's Housing History," (May 24, 2018), https://www.thenation.com/article/archive/americas-housing-history/.
[186] Ibid. *(The Nation)*
[187] HUD, "The Federal Housing Administration (FHA)," https://www.hud.gov/program_offices/housing/fhahistory.

2008: The Housing and Economic Recovery Act of 2008 was enacted in response to the subprime mortgage and national financial crisis. The act created the Federal Housing Finance Agency and improvements in federal regulation of mortgage lending institutions.

2010: "The Dodd-Frank Wall Street Reform and Consumer Protection Act (P.L. 111-203) instituted new rules related to mortgages intended to protect consumers and the financial system from some of the lending practices that preceded the financial crisis, among other reforms."[188]

2012: "The Obama administration create[d] the Rental Assistance Demonstration program, which authorize[d] the transformation of public housing into private-sector Section 8 housing."[189]

2012: "The Section 8 waiting lists stretch so long that nearly half of them are simply closed."[190]

Today: "Today's federal housing assistance programs fall into three main categories: rental housing assistance, assistance to state and local governments, and assistance for homeowners. Most of these programs are administered by the Department of Housing and Urban Development (HUD). Current housing assistance programs include Section 8 vouchers and project-based rental assistance, public housing, housing for the elderly (Section 202), housing for persons with disabilities (Section 811), rural rental assistance (the United States Department of Agriculture's Section 521 program), Community Development Block Grants (CDBG), HOME Investment Partnerships Block Grants, Low-Income Housing Tax Credits (LIHTC), homeless assistance programs, Federal Housing Authority (FHA) and Department of Veterans Affairs mortgage insurance, and the mortgage interest deduction in the tax code." [191]

"Most federal housing assistance programs are aimed at making housing affordable for low-income families. Affordability — defined as housing that costs no more than 30% of a family's income — is considered to be the largest housing problem today. Rental assistance programs, which are the largest source of direct housing assistance for low-income families, all allow families to pay affordable, income-based rents; however, different forms of assistance target different types of households including the elderly, persons with disabilities, and families with children."[192]

Housing policy in Washington state

This section covers notable housing policy milestones in Washington state, with a focus on land-use policies or those policies that contribute extensively to affordable housing. Additional policies, including financial policies, can be found in the report titled "There's No Place Like Home… Because There's No Place Like Washington! Summary of Washington State Housing-Related Legislation" (2019) by the Washington State Housing Finance Commission.

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[188] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), p. 9, https://crsreports.congress.gov/product/pdf/RL/RL34591.
[189] The Nation, "151 Years of America's Housing History," (May 24, 2018), https://www.thenation.com/article/archive/americas-housing-history/.
[190] Ibid. *(The Nation)*
[191] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), Overview, https://crsreports.congress.gov/product/pdf/RL/RL34591.
[192] CRS, "Overview of Federal Housing Assistance Programs and Policy," (Updated 2019), Overview, https://crsreports.congress.gov/product/pdf/RL/RL34591.

1939: Public Housing Authorities (RCW 35.82) - In the late 1930s and early 1940s, Washington authorized the creation of public housing authorities in response to an appeal from the federal government to give greater access to affordable housing to residents.[193]

1981: Rent Control (RCW 36.01.130) - Rent control is prohibited.

1982: Creates and Supports Homeless Shelters (Operating Budget) - The state committed a $1 million appropriation for operating support of homeless shelters, the first commitment of public funds for housing in Washington state by the Legislature. Today, the Legislature continues to support homeless shelters through funding sources including the Emergency Shelter Assistance Program (ESAP), Emergency Shelter Homeless Prevention (ESHP) and Overnight Youth Shelter (OYS) programs.[194]

1982: Real Estate Excise Tax 1 (RCW 82.46.010) - Cities and counties were given the option of levying a local 0.25% real estate excise tax (REET) to pay for capital projects. "If a county imposes this tax, it is applied within the unincorporated areas only. This tax may be imposed by the legislative body and does not require voter approval. Almost all cities, towns, and counties in the state have imposed REET 1, with the exception of a few very small jurisdictions. [These] REET 1 revenues are restricted and may only be used for certain purposes. However, the exact purposes depend on the jurisdiction's population and whether or not it is fully planning under the Growth Management Act (GMA)."[195]

1983: Washington State Housing Finance Commission (RCW 43.180) - Washington became one of the last states to establish a housing finance agency, amidst a recession that included high unemployment and mortgage interest rates exceeding 20%. Housing advocates, lenders and businesspeople worked together to establish the commission as a public-private partnership with the intention of helping the economy.[196]

1986: Housing Trust Fund Created (E2SSB 4626; RCW 53.185 & 43.185A) - The Housing Trust Fund and the Housing Assistance Program were "created 'to assist low and very low-income citizens in meeting their basic housing needs.' In 1991, the Housing Trust Fund was expanded to include the Affordable Housing Program, serving households at or below 80% of area median income and creating down payment assistance opportunities. Opened with a $1 million investment in 1986, the Washington Housing Trust Fund (HTF) has become the primary vehicle for the state's direct investment in affordable housing. The HTF supports the construction, acquisition or rehabilitation of more affordable housing every two years when fully funded; creates rental and homeownership opportunities in every region of the state for low-income people (more than 70% of units serve extremely low-income people); and supports special needs housing for clients of the Department of Social and Health Services and the Department of Health."[197]

1990: Growth Management Act (SHB 2929; RCW 36.70A) - The Growth Management Act (GMA) is a series of state statutes that required fast-growing cities and counties to develop a comprehensive plan to prepare for and manage their population growth. Comprehensive plans must address 13 goals, including affordable

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[193] Washington State Housing Finance Commission (WSHFC), "There's No Place Like Home… Because There's No Place Like Washington!" (July 1, 2019), p. 54, http://wshfc.org/admin/LegislationSummary.pdf.
[194] Ibid, p. 54. *(WSHFC)*
[195] MRSC, "Real Estate Excise Tax" (last updated January 19, 2021), http://mrsc.org/Home/Explore-Topics/Finance/Revenues/Real-Estate-Excise-Tax.aspx.
[196] Washington State Housing Finance Commission (WSHFC), "There's No Place Like Home… Because There's No Place Like Washington!" (July 1, 2019), p. 54, http://wshfc.org/admin/LegislationSummary.pdf.
[197] Ibid, p. 53. *(WSHFC)*

housing.[198] Within the comprehensive plans, counties that are required to or have elected to plan must develop housing policies to ensure there is adequate housing for the future.

1993: Authorizing Conversion of Surplus Public Property to Use for Affordable Housing (EHB 1824; Amending RCW 43.63A.510, 36.34.135, and 47.12.063) - "With concern that local governments and school districts may have under-utilized land and buildings, the Legislature directed the Department of Community Development to work on an inventory of state-owned land and buildings for possible lease as sites for affordable housing. In doing so, this act provides a centrally located inventory of state and publicly owned land and buildings that may be suitable to be marketed, sold, leased, or exchanged for the development of affordable housing; and encourages an effective use of publicly owned surplus property."[199]

1993: Housing Policy Act and the Affordable Housing Advisory Board (SB 5584; RCW 43.185B.020, RCW 43.63A) - The Housing Policy Act established "the policy base for the state's involvement in housing" and created the Affordable Housing Advisory Board (AHAB) to advise the Department of Commerce on housing policy issues. With a broad board of 19 representing various public and private housing interests, the group studies housing issues and recommends solutions. "Their recommendations have become the basis for countless pieces of successful housing legislation."[200] This act also established that local governments shall allow accessory apartments or accessory dwelling units in cities over 20,000 and counties over 125,000 in population.

1993: Mobile Home Landlord Tenant Act (SB 5482) - Allowed a qualified mobile home park tenant organization consisting of 60% of tenants to have the opportunity to purchase the park should the park be put up for sale. The tenant organization must provide a fully executed purchase sale agreement to the owner with 1% of the purchase price within 90 days.[201]

1995: Property Tax Exemption Supports Urban Housing Projects (2SSB 5387; RCW 84.14.020) - "The Legislature granted a 10-year property tax exemption for urban housing preservation and renewal projects in locally designated areas. The exemption created an incentive for housing developers to acquire and rehabilitate abandoned buildings or construct new apartments in dilapidated urban centers, bringing residents back downtown. The exemption is an economic development tool for local governments to attract multifamily rental and ownership housing in neighborhoods targeted for growth. The program was for cities with populations above 50,000."[202] This law has had multiple modifications over the years (1997 through SB 6094; 2000 through HB 2505; 2002 through SHB 2466; key changes in 2007 through E2SHB 1910 to create the current eligibility for cities and the current eight- and 12-year tax exemptions; 2012 through SB 6277) and has become what today is often referred to as the Multi-Family Tax Exemption (MFTE) program.

1997: Growth Management Modifications, including Review and Evaluation or Buildable Lands Program (ESB 6094**, RCW 36.70A.215) -** A number of modifications to the Growth Management Act (GMA) were enacted in 1997, including the Review and Evaluation Program under RCW 36.70A.215, which is often referred to as the Buildable Lands Program. The Buildable Lands Program "require[d] that Clark, King, Kitsap, Pierce, Snohomish, Thurston and Whatcom (as of 2017) Counties and the cities within them complete a Buildable Lands report

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[198] MRSC, "Growth Management Act" (last updated January 15, 2020), http://mrsc.org/Home/Explore-Topics/Planning/General-Planning-and-Growth-Management/Comprehensive-Planning-Growth-Management.aspx.
[199] Washington State Housing Finance Commission (WSHFC), "There's No Place Like Home… Because There's No Place Like Washington!" (July 1, 2019), p. 51, http://wshfc.org/admin/LegislationSummary.pdf.
[200] Ibid, p. 52. *(WSHFC)*
[201] Ibid, p. 52. *(WSHFC)*
[202] Ibid, p. 50. *(WSHFC)*

every eight years. The Buildable Lands reports are a look back at actual development to determine if cities and counties have designated adequate amounts of residential, commercial and industrial lands to meet the growth needs incorporated in their comprehensive plans. … Guidelines for local governments were adopted in 2000, and technical summaries were prepared and issued in 2003 and 2007. In 2017 a number of changes were made to the Review and Evaluation Program through E2SSB 5254."[203]

1998: Public Housing Authorities (HB 2175; Amending RCW 35.82) - This law gave the Housing Finance Commission "compliance and enforcement abilities by allowing it to impose covenants running with the land."[204]

1999: Nonprofit Multifamily Low-income Rental Properties Exempt from Property Taxes (HB 1345; RCW 84.36.560)

2002: Real Estate Excise Tax for Affordable Housing (SB 5965; Adding a new section to 82.46 RCW) - "An additional real estate excise tax [was] authorized for counties equal to 0.5 percent of the selling price to be used exclusively for the development of affordable housing, including the acquisition, building, rehabilitation, maintenance and operation of housing for very low, low- and moderate income persons and those with special needs."[205]

2002: Low Income Housing $10 Surcharge - The Affordable Housing for All Surcharge (HB 2060; RCW 36.22.178) - "Recognizing the need for additional housing resources, and also understanding that affordable rents for extremely low-income people are not sufficient to cover the cost of building operations and maintenance, in 2002 the Legislature established a $10 document recording fee to support both the development and operation of affordable housing. At the county level, this funding supports a variety of affordable housing needs for households at or below 50% of area median income. At the state level, fees are used to provide Operating and Maintenance (O&M) grants to subsidize the cost of serving households at or below 30% of area median income."[206] This surcharge was renamed in 2007 (E2SHB 1359) as the Affordable Housing for All Surcharge.

2004: Manufactured Homes Regulation (SB 6593) - "This law require[d] that cities and counties must regulate manufactured homes built to federal manufactured housing construction standards no differently than they regulate other types of homes."[207] See RCW 35.21.684, RCW 35A.21.312 and RCW 36.01.225.

2005: Homeless Housing Task Force (SSB 5787; adding a new Chapter to section 43 RCW) - "Created a homeless housing task force in each county to develop a ten-year plan addressing short- and long-term housing solutions for the homeless; provided guidelines and other conditions for participation or opting out."[208]

2005: Homeless Housing and Assistance Act (E2SHB 2163; RCW 43.185C) - Created with a goal to reduce homelessness, this act created a requirement for a statewide homeless housing strategic plan with performance measures and goals to reduce homelessness. Thirty-seven counties also participate and create

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[203] Washington State Department of Commerce, "Buildable Lands Program Overview." https://www.commerce.wa.gov/serving-communities/growth-management/growth-management-topics/buildable-lands/.
[204] Washington State Housing Finance Commission (WSHFC), "There's No Place Like Home… Because There's No Place Like Washington!" (July 1, 2019), p. 48, http://wshfc.org/admin/LegislationSummary.pdf.
[205] Ibid, p. 44-45. *(WSHFC)*
[206] Ibid, p. 43. *(WSHFC)*
[207] MRSC, "Local Land Use Regulation of Manufactured Housing," (last modified July 2, 2018), http://mrsc.org/Home/Explore-Topics/Planning/Development-Regulations/Local-Land-Use-Regulation-of-Manufactured-Housing.aspx.
[208] Washington State Housing Finance Commission (WSHFC), "There's No Place Like Home… Because There's No Place Like Washington!" (July 1, 2019), p. 42, http://wshfc.org/admin/LegislationSummary.pdf.

their own local homeless housing plans. "The Homeless Housing and Assistance Program is funded by a $10 surcharge for certain documents recorded by the county auditor. The Homeless surcharge generates around $16 million each year to support programs. Of that $10 surcharge roughly 60% remains at the county level and 40% are deposited into the state Home Security Fund. The Department of Commerce uses these funds to create the statewide homeless housing strategic plan, administer the Homeless Housing and Assistance program, measure program performance, provide technical assistance to local governments, and manage the homeless housing grant program."[209]

2006: Inclusionary Zoning Bill (ESHB 2984; Amending RCW 82.02 and adding a section to 36.70A RCW) - "Jurisdictions fully planning under the Growth Management Act may enact or expand affordable housing incentive programs providing for the development of low-income housing units through development regulations under certain income guidelines and other conditions (commonly referred to as the "inclusionary zoning bill").[210]

2007: Affordable Housing Land Acquisition Program (2SHB 1401; RCW 43.185A.110) - The Affordable Housing Land Acquisition Program (LAP) was created as a revolving loan fund to meet the challenge of low-income housing developers obtaining funds quickly enough to purchase and hold land for affordable housing development.[211]

2007: Affordable Housing for All Surcharges (ESHB 1359; RCW 36.22.1791) - "This bill added an additional $8 document recording fee surcharge to support low-income housing projects. Counties must use their funds (90% of the total funds collected) for housing activities which directly accomplish the goals of the county's local homeless housing plan. The portion of revenue due to the state (10%) is remitted to the Home Security Fund and the Department of Commerce uses these funds to provide housing and shelter for extremely low-income households and for program administration, housing and shelter assistance for homeless persons, and the Homeless Housing Grant Program."[212]

2008: The Rapid Response Loan Program (EHB 3142; RCW 43.185A.210) - Similar to the Affordable Housing for All program (2007), this local program was created "to quickly assist Washington nonprofit organizations purchase real property (including land, buildings or mobile home parks) for the preservation or development of affordable housing and community facilities. … Applicant properties must be located in rapidly gentrifying or redeveloping areas, or in communities with a significant low-income population that is threatened with displacement."[213]

2008: Protecting Apartment Dwellers in the Event of "Condominium Conversions" (SHB 2014; RCW 64.34.440) - This program gave existing apartment tenants 120-day notice in the event of a condominium conversion. With this program, the Legislature recognized the right of property owners to convert properties but sought a balance with renters' well-being.[214]

2008: Protecting Manufactured/Mobile Home Communities (E2SHB 1621; RCW 59.20.300) - "E2SHB 1621 require[d] landlords [of manufactured housing communities] to alert the Department of Commerce and the community's tenants if their community is for sale. The bill also require[d] that landlords negotiate in good

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[209] Ibid, p. 41. *(WSHFC)*
[210] Ibid, p. 40. *(WSHFC)*
[211] Ibid, p. 38. *(WSHFC)*
[212] Ibid, p. 37. *(WSHFC)*
[213] Ibid, p. 36. *(WSHFC)*
[214] Ibid, p. 35. *(WSHFC)*

faith either with a tenant organization, a nonprofit organization, local government or Indian tribe interested in preserving the property for manufactured housing. The Legislature went further to incentivize landlords to consider such a sale by exempting sales to these groups from the state and local Real Estate Excise Tax (REET)."[215]

2009: Concerning Affordable Housing Incentive programs (EHB 1464; RCW 36.70A.540) - "Within the GMA, incentive programs were encouraged, in order to facilitate the construction of affordable housing within the larger context of urban planning and zoning. The key language in EHB 1464 is that it changed 'construction' to 'development.' In so doing, the bill changed the law to allow for incentives to be granted even where no new construction was occurring, but where low-income units were being developed (i.e., acquisition/rehab or converting market rate units to affordable units). It also allowed for greater flexibility regarding location of the units (in the general area, as opposed to in adjacent buildings) as well as the type of development within which the units are located. The bill also allowed for a mechanism by which individual jurisdictions could accept money or property from developers who chose not to build affordable housing within the areas designated for the incentive programs, so long as the jurisdiction deemed said payments to achieve a result equal to or better than providing the affordable housing itself."[216]

2010: Homeless Camps on Church Properties (ESHB 1956; RCW 35A.21.360, RCW 36.01.290, RCW 35.21.915) - "ESHB 1956 authorized religious organizations to host temporary encampments for the homeless on any property owned or controlled by such organizations. It went further by precluding counties, cities and towns from enacting regulations that impose any conditions, other than those for health and safety concerns, upon religious institutions; imposing excessive fees for permitting the encampments; or requiring the religious institutions to obtain liability insurance for the encampments or from indemnifying the municipalities against such liability."[217] In 2020, this act was amended with ESHB 1754 to institute additional limitations, public noticing requirements and safety precautions for these temporary encampments.

2012: Creating an exemption from impact fees for low-income housing (EHB 1398; RCW Amend RCW 82.02.060) - Twenty-eight of Washington's 39 counties, and the cities within those counties, are planning jurisdictions defined under the Growth Management Act. "Planning jurisdictions may impose impact fees on development activity as part of the financing of public facilities needed to serve new growth and development. These jurisdictions may provide an exemption for low-income housing and other development activities with a broad public purpose. These exemptions are not required to be paid from public funds other than impact fee accounts. The legislation stipulate[d] that a covenant must be recorded by the developer prohibiting the use of the property for anything other than low-income housing."[218]

2016: Disposing tax foreclosed property to cities for affordable housing purposes (SSB 6337) - "Prior to disposing of tax-foreclosed property, the county legislative authority gives notice to any city in which any tax foreclosed property is located within 60 days of acquiring the property. This notice must offer the city the opportunity to purchase property for the original minimum bid under RCW 84.64.080 plus any direct costs incurred by the county in the sale."[219]

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[215] Ibid, p. 34. *(WSHFC)*
[216] Ibid, p. 32. *(WSHFC)*
[217] Ibid, p. 30. *(WSHFC)*
[218] Ibid, p. 24. *(WSHFC)*
[219] Ibid, p. 18. *(WSHFC)*

2017: Clarifying the type of land eligible for purchase under the affordable housing land acquisition revolving loan program (HB 1616) - "The type of allowable land that loans may be made for, under the Affordable Housing Land Acquisition Revolving Loan Fund Program, is expanded to include vacant or improved land."220

2018: Expanding access to homeless housing and assistance (HB 1570) - An additional increase in real estate document recording fees helped an additional 11,500 people who are experiencing homelessness or at risk of homelessness access housing assistance and services. This surcharge for local homeless housing and assistance in RCW 36.22.179 "is the state's primary source for funding homelessness services and is split between the state and counties so local communities can quickly address their most pressing needs. The increase will generate approximately $26 million each year to fight homelessness. Additionally, this bill remove[d] the expiration date on the fee so that communities have a permanent and reliable source of funding to reduce homelessness."[221]

2018: Tiny homes (HB 1085) - Gave "local governments the authority to modify minimum floor-space requirements to accommodate innovative forms of affordable housing."[222]

2019: Tiny home communities (ESSB 5383) - "Provide[d] that cities and counties may adopt ordinances regulating the creation of tiny house communities, including using the binding site plan method. They may not adopt ordinances that prevent entry or require removal of a tiny house with wheels used as a primary residence in a manufactured/mobile home community if the house contains at least one internal toilet and one internal shower unless these are provided by the community. The owner of the land must make reasonable accommodations for utility hookups in compliance with MHLTA. Tiny houses and tiny house communities are defined in the act and may be subject to certain standards and the State Building Code Council must adopt tiny house standards by the end of 2019."[223]

2019: An act relating to increasing urban residential building capacity (E2SHB 1923) - This act removed barriers to building affordable homes by providing incentives to local jurisdictions to increase housing supply and reduce barriers to developing housing. The act authorized grants to support cities developing and adopting action plan; "exempt[ed] from appeal under state SEPA and GMA certain non-project actions taken by cities to increase residential capacity; authorize[d] grants for certain cities that take certain actions to increase residential building capacity; direct[ed] the WA Center for Real Estate Research at University of Washington to prepare a biennial report on housing supply and affordability; establish[ed] minimum residential parking requirements in certain cities; and, create[d] a document recording fee to be deposited into the GMA Planning and Environmental Review Fund."[224] This act also updated definitions for affordable housing and mandated that cities may not prohibit permanent supportive housing in areas where multifamily housing is permitted.

2019: An act relating to encouraging investments in affordable housing and supportive housing (SHB 1406) - "This act authorize[d] the governing body of a county or city to impose a local sales tax, credited against the state sales tax, for affordable and supportive housing."[225]

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[220] Ibid, p. 14. *(WSHFC)*
[221] Ibid, p. 11. *(WSHFC)*
[222] Ibid, p. 10. *(WSHFC)*
[223] Ibid, p. 8. *(WSHFC)*
[224] Ibid, p. 5. *(WSHFC)*
[225] Ibid, p. 3. *(WSHFC)*

2019: Concerning affordable housing development on religious property (HB 1377) - "Require[d] certain cities and counties engaged in comprehensive planning to allow an increased density bonus for certain affordable housing development on property owned or controlled by a religious organization."[226]

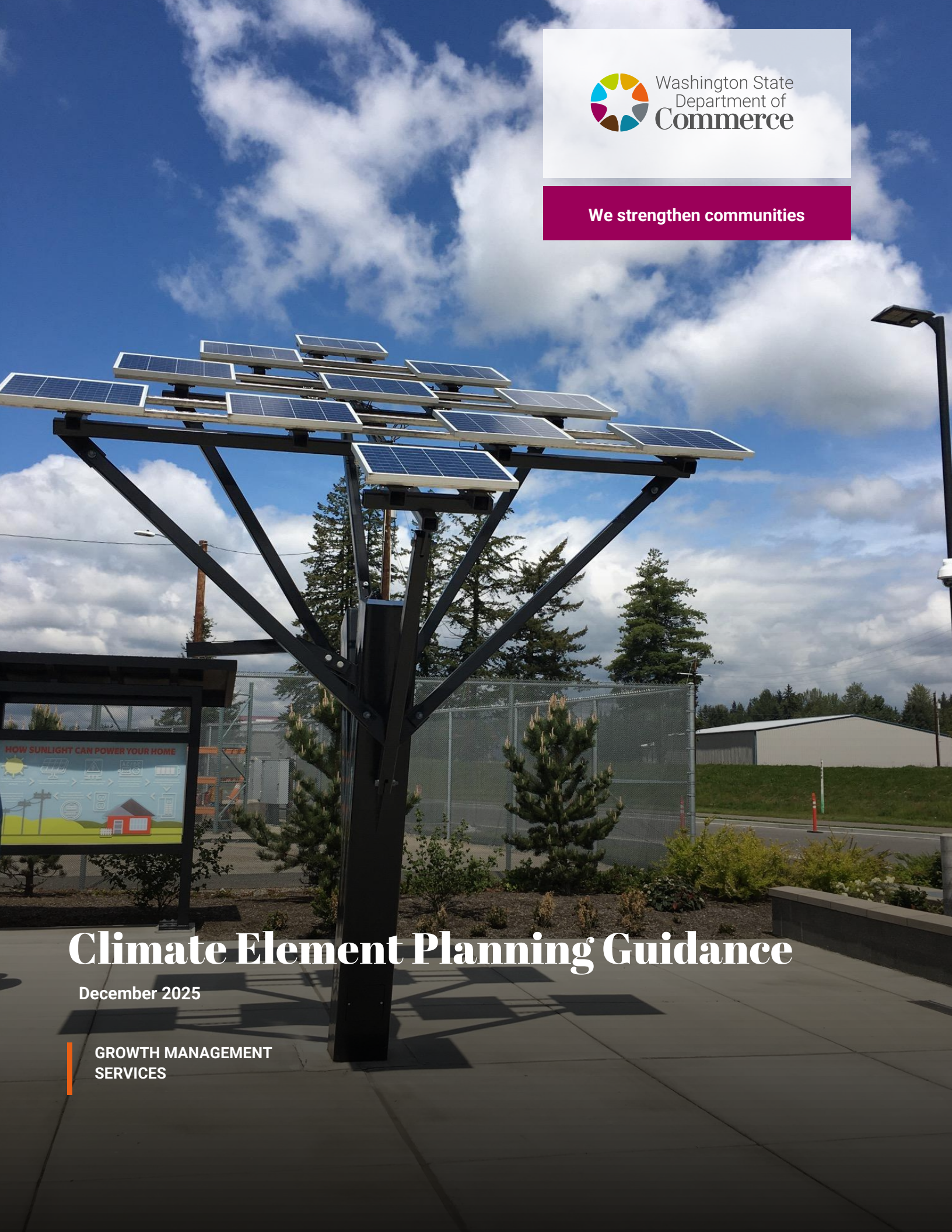
2019: An act relating to providing cities and counties authority to use real estate excise taxes to support affordable housing and homeless projects (EHB 1219) - "Authorize[d] counties and cities required to plan or who are planning under the Growth Management Act to use real estate excise tax (REET 2) revenue for the planning, acquisition, construction, reconstruction, repair, replacement, rehabilitation, or improvement of facilities for persons experiencing homelessness and affordable housing projects until January 1, 2026."[227]

See Commerce's Washington State Housing Laws of 2019 through 2025 for information on the latest housing policy updates.

[226] Ibid, p. 3. *(WSHFC)*
[227] Ibid, p. 3. *(WSHFC)*

Washington State Department of Commerce

We strengthen communities



Climate Element Planning Guidance

December 2025

GROWTH MANAGEMENT SERVICES

About this document

The purpose of this Washington Department of Commerce (Commerce) guidance is to help counties and cities planning under the state's Growth Management Act develop a comprehensive plan climate element with goals and policies that build resilience to climate impacts and reduce local greenhouse gas emissions and per capita vehicle miles traveled. This guidance uses the term "you" to refer to these local governments and "we" to refer to Commerce.

The steps and tasks outlined in this document are recommendations unless noted as RCW or WAC requirements. The guidance uses the terms "must" or "shall" to describe minimum requirements for local governments. Otherwise, the guidance uses the terms "might" or "should" to describe recommended steps and pathways for selecting and prioritizing comprehensive plan climate element policies.

Sections 3 and 4 are organized by steps and underlying tasks, and each task is featured as a tab in the companion Climate Element Workbook (e.g., Section 3, Task 3.1 is shown as "S3, Task 3.1" in the corresponding workbook tab). You should move stepwise through the guidance, showing your completion of each task in the workbook.

This December 2025 version of the climate guidance replaces Commerce's "intermediate" guidance (2023) and reflects the results of a statutory rulemaking process that concluded in 2025. Commerce acknowledges that all resources linked within this document and companion Climate Policy Explorer are functional but could change post-publication. Please reach out if you need help accessing materials.

This guidance and related grants and other resources are supported with funding from Washington's Climate Commitment Act. The CCA supports Washington's climate action efforts by putting cap-and-invest dollars to work reducing climate pollution, creating jobs, and improving public health. Information about the CCA is available at www.climate.wa.gov.



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For people with disabilities, this report is available upon request in other formats. To submit a request, please call 360.725.4000 (TTY 360.586.0772).

COVER PHOTO: Snohomish Public Utility District's Arlington Microgrid and Clean Energy Center project — supported by a Washington Department of Commerce grant — features a "solar tree" (pictured), 500-kilowatt solar array, 1,000-kilowatt lithium-ion battery storage system, and electric vehicle charging stations. The locally generated and stored power increases reliability during emergencies. ***CREDIT:*** *Washington Department of Commerce*

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Section 1: Guidance summary



A winter storm churns the waters and driftwood at Point No Point, Kitsap County, where high tides and wind-driven waves flooded a county park and damaged infrastructure. ***CREDIT:*** *Washington Department of Commerce*

1.1: Introduction: Our changing climate

Washington's social, economic, and environmental systems face serious climate risks, and a dynamic mix of measures is needed to reduce emissions and build resilience. Burning fossil fuels and other human activities are increasing emissions of carbon dioxide and other greenhouse gases (GHGs) that are trapping heat in the atmosphere and changing the climate. Even as Washington's policies and programs encourage residents to drive electric cars, install rooftop solar panels, and take other actions to mitigate greenhouse gas emissions, our state faces unavoidable climate impacts.

Our diverse landscape of snowy peaks, rolling fields, verdant forests, and rugged shores is already witnessing the effects of a warming world in the form of devastating wildfires, deadly heat events, rising seas, and other hazards. Many of the consequences we're seeing today will become more severe over the 21st century, absent climate mitigation and adaptation measures.

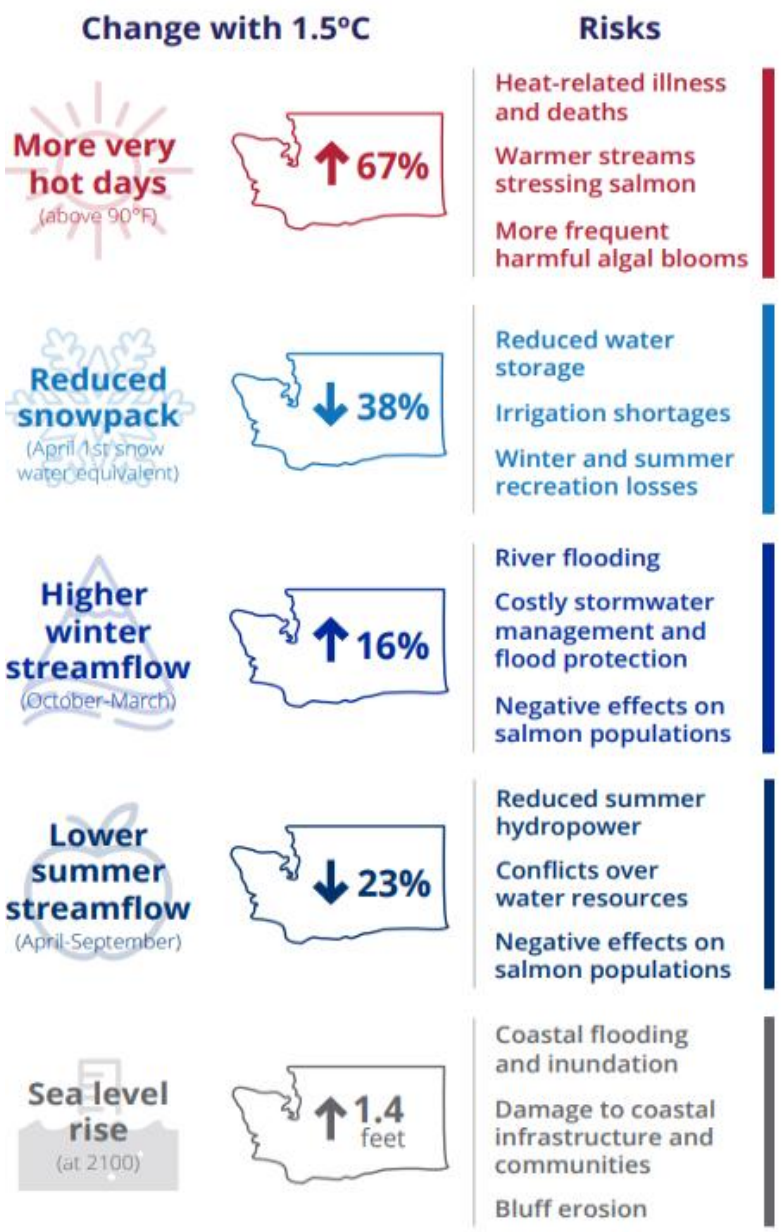
The Earth's average surface temperature in 2024 was the hottest on record — about 1.47°C (2.65°F) warmer than the mid-19th century average (1850-1900).[1] The Paris Agreement on climate change targets international efforts to remain below 1.5°C over the long term, yet even that temperature threshold raises risks for Washington's economy, environment, and human health and well-being [*Figure 1*].[2] For example, just one year of heat-related activity losses in Washington equates to more than $426.1 million in direct losses to industry sales, $178.3 million in lost gross state product, and 1,481 full-time-equivalent jobs, according to model simulation results.[3]

A warming world also impacts Washington's sectors and residents differently.[4] Overburdened communities — such as ones with higher rates of poverty and chronic disease and closer proximity to polluting factories and freeways — are often more vulnerable to extreme heat, wildfire smoke, and other hazards worsened by climate change. For example, there is a more than five-year difference in life expectancy between communities ranked at highest risk versus those at lowest risk in the Washington Department of Health's Environmental Health Disparities Map.[5]

Fortunately, Washingtonians already know effective ways to mitigate our carbon emissions, reduce our risks, and build a more resilient and equitable state. From Port Angeles to Pullman, many local governments are already planning and implementing replicable policies to foster sustainable communities in the face of a changing climate.

We share one planet but many climate solutions. So, let's think globally and act locally.

Figure 1: Washington Climate Impacts Associated with a 1.5°C Temperature Increase



CREDIT: *University of Washington Climate Impacts Group*

[1] NASA news release (accessed July 28, 2025)
[2] United Nations Framework Convention on Climate Change, Paris Agreement (2016)
[3] UW CIG and Washington State University report (2022), Biophysical Climate Risks and Economic Impacts for Washington State
[4] Commerce's climate planning guidance and companion resources, including the Climate Policy Explorer and Climate Mapping for a Resilient Washington tool, use 11 sectors as a framework for organizing climate change impacts and policies. The 11 sectors are listed in WAC 365-196-210 and Section 3, Task 1.2 of this guidance.
[5] Washington State Department of Health Environmental Health Disparities Map (accessed June 1, 2023)

1.2: Washington's climate planning law

E2SHB 1181, signed into law in 2023 and codified in RCW 36.70A, added a climate goal to the state's Growth Management Act (GMA) and requires counties and cities to add a climate change and resiliency element (climate element) to their principal planning document — the comprehensive plan. Depending on your regulatory requirements, your climate element must include one or both of the following subelements — a resilience subelement and a greenhouse gas emissions reduction subelement.[6] You must complete your climate element per the state's periodic update schedule [*see Figure 2*]. Also, depending on your population and location, you might need to update your transportation and land use elements.[7] Commerce's periodic update website includes the following resources:

- Periodic update due date and planning status, by county
- Link to regional planner
- Periodic update FAQ and factsheet
- Partially planning checklist
- Fully planning county checklist
- Fully planning city checklist
- Guidebook for partially and fully planning
- Critical areas checklist

We recommend jurisdictions utilize these additional resources to understand the full extent of requirements under the GMA.



HB 1181, passed by the Washington State Legislature in 2023, requires counties and cities to address climate change in their comprehensive plan. This guidance provides pathways to develop scientifically supported policies to reduce greenhouse gas emissions and build resilience to climate-related hazards. ***CREDIT:*** *Washington Department of Commerce*

Figure 2: Climate element due dates.



CREDIT: *Washington Department of Commerce*

[6] RCW 36.70A uses the term resiliency, which is most often used in academic contexts. This planning guidance generally uses the term resilience, which is more widely used by planners, emergency managers, and other practitioners. The terms are variations of the same word.
[7] RCW 36.70A.095

Resilience subelement

All counties and cities that fully plan under the GMA must include in their climate element a resilience subelement with goals and policies to prepare for, respond to, and recover from climate change impacts. This subelement must be based on the best available science and credible climate projections, and it must enhance resilience to climate change impacts on human communities and ecological systems. Additionally, the subelement must prioritize actions that benefit overburdened communities and vulnerable populations most affected by climate-related hazards.

The resilience subelement must have specific goals and policies to:

- Address natural hazards created or aggravated by climate change, including sea level rise, landslides, flooding, drought, heat, smoke, wildfire, and other effects of changes to temperature and precipitation patterns;
- Identify, protect, and enhance natural areas to foster climate resiliency to climate change impacts, as well as areas of vital habitat for safe species migration; and,
- Identify, protect, and enhance community resiliency to climate impacts, including social, economic, and built-environment factors, which support adaptation to climate impacts consistent with environmental justice.

Jurisdictions can meet these requirements by following this planning guidance's flexible pathways. Following the steps and pathways in this guidance [Section 3] will help a county or city meet RCW 36.70A's minimum requirements by including in the comprehensive plan at least one climate resilience policy for each climate-related hazard (e.g., sea level rise and drought) that is relevant to the jurisdiction.

Greenhouse Gas (GHG) reduction subelement

The state's 11 largest and fastest-growing counties and their cities with more than 6,000 residents (as of April 1, 2021) must also include a greenhouse gas (GHG) emissions reduction subelement in their climate element. These counties include Benton, Clark, Franklin, King, Kitsap, Pierce, Skagit, Snohomish, Spokane, Thurston, and Whatcom.

The GHG reduction subelement must include specific goals and policies that:

- Result in reductions in overall GHG emissions generated by transportation and land use within the jurisdiction but without increasing emissions elsewhere in Washington;
- Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse gas emissions elsewhere in Washington; and,
- Prioritize reductions that benefit overburdened communities to maximize the co-benefits of reduced air pollution and environmental justice.

Each jurisdiction should develop this subelement with a local target of reaching net-zero GHG emissions by 2050 — consistent with the statewide target [Section 4]. Measures should, at a minimum, include goals and policies within the following climate sectors: Built Environment & Energy; Transportation; and, Zoning.[8]

Climate planning grants

Commerce provides local governments climate element planning grants. Eligible activities include: developing and adopting comprehensive plan goals, policies, and development regulations; measuring local greenhouse gas emissions; assessing local assets' climate vulnerability and risk; and, engaging community members. You may also use grants to implement activities related to adopted measures. Learn more about available funding at the Local Government Portal and for information specific to climate planning grants here.

[8] See WAC 365-196-210 and Appendix P for a full list of the 11 climate sectors used in this guidance and companion resources.

1.3: Guidance sections

Climate change impacts everyone, but it does not impact everyone equally.[9] To support environmental justice and equity, this planning guidance starts by recommending how cities and counties should develop a climate policy advisory team [*Figure 3*] and advises how to include overburdened communities and vulnerable populations in early and ongoing efforts to develop and implement a comprehensive plan climate element [Section 2 *and* Appendix G].

Commerce's guidance provides flexible pathways to develop science-informed goals and policies to enhance community preparedness, response, and recovery efforts that build resilience to the impacts of wildfires, floods, and other hazards worsened by global climate change [Section 3]. The next section of the guidance [Section 4] includes pathways toward measuring your local emissions to develop goals and policies that reduce greenhouse gas emissions from land use, transportation, and other sources.

The guidance concludes by advising local governments how to prioritize policies and integrate them into the comprehensive plan [Section 5]. A local government could consolidate its resilience and GHG reduction goals and policies in a single chapter or spread the measures across multiple chapters associated with other GMA elements (housing, transportation, land use, etc.). To help with this work, Appendix C links to a searchable "menu" of model climate goals and policies: the Climate Policy Explorer.

Additional appendices include a workbook for capturing the analysis completed with development of the subelements [Appendix B] and a resource library of climate planning, policy design, funding, and implementation tools [Appendix C].

Finally, Commerce's companion StoryMap [Appendix D] serves as an interactive, abridged version of this guidance document. The StoryMap is intended for any audience, but it is especially useful for members of the general public who want to understand HB 1181 and see examples of local climate planning approaches.

Figure 3: Climate element guidance



1.4: Climate planning concepts

Whether you're creating or updating your comprehensive plan's climate element or talking with community members about climate change, it's important to understand the interrelatedness of key concepts, including climate resilience, adaptation, emissions mitigation, hazard mitigation, and environmental justice. Appendix A is a glossary of the terms used throughout this guidance and the companion Climate Policy Explorer.

Climate mitigation is reducing the amount and rate of future climate change by reducing emissions of heat-trapping gases (GHG emissions reduction) or removing carbon dioxide from the atmosphere (sequestration).[10] This guidance's emissions mitigation strategies [Section 4] recommend principally targeting emissions in the

[9] United Nations Department of Economic and Social Affairs working paper (2017), Climate Change and Social Inequality.
[10] 5th National Climate Assessment

Transportation, Zoning, and Built Environment & Energy climate sectors, which are Washington's biggest sources of emissions.

Climate resilience is the ongoing process of anticipating, preparing for, and adapting to changes in climate and minimizing negative impacts to our natural systems, infrastructure, and communities.[11] Counties and cities can build their resilience capacity by implementing a mix of climate preparedness, response, and recovery policies, including mitigating natural hazards, adapting to unavoidable impacts, and restoring degraded natural areas that provide key ecosystem services — all with an equity lens to account for how climate impacts could vary based on localized experiences of environmental injustice.

The terms hazard mitigation and adaptation both relate to climate change, as discussed in this guidance. The Federal Emergency Management Agency (FEMA) defines hazard mitigation as "any sustained action to reduce or eliminate long-term risk to people and property from natural hazards and their effects." The related concept of adaptation is "the process of adjusting to new (climate) conditions in order to reduce risks to valued assets," which can include everything from roads and buildings, to human health and well-being, to forests and streams.[12] These terms are expanded upon within the resilience subelement guidance [Section 3].

Acknowledging the relationships between these concepts, this guidance and the companion Climate Policy Explorer's model goals and policies aim to promote co-benefits — the additional social, economic, and environmental benefits of a climate policy. Jurisdictions can support potential co-benefits through robust collaboration with communities that center climate and environmental justice as guiding principles.

For example, a GHG reduction policy that supports increasing compact, mixed-use development near transit, helps to reduce building energy consumption and vehicle miles traveled and makes housing more plentiful and potentially affordable. This also improves access to public transportation and improves employment and health outcomes for transit-dependent residents who might otherwise be unable to access these opportunities.



The Vine, a bus rapid transit line on Fourth Plain Boulevard in Vancouver, has catalyzed the development of adjacent housing since opening in 2017. ***CREDIT:*** *Washington Department of Commerce*

A resilience policy that supports planting drought-tolerant street trees to adapt to hotter, drier summers also has climate mitigation co-benefits, as such trees sequester carbon and reduce energy demand in adjacent buildings. Collaborating with community partners early in the process can help refine where planting trees should occur first and how this adaptation activity might create shade for neighborhoods without air-conditioning and potentially prevent heat-related illness and death.

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[11] RCW 70A.65.010
[12] NOAA website (2022), U.S. Climate Resilience Toolkit glossary



Solar panels and sedum plants cover the rooftops of the Gates Foundation's LEED Platinum-certified campus in Seattle's South Lake Union neighborhood. Model climate measures in Commerce's Climate Policy Explorer promote renewable energy and green-building practices to reduce energy use and greenhouse gas emissions. ***CREDIT:*** *Washington Department of Commerce*

Contacting Commerce

If you have questions about the terms and steps in this guidance or the model measures in the Climate Policy Explorer, please reach out to Commerce staff for technical assistance: GMSClimate@commerce.wa.gov.

Section 2: Planning & engagement



Volunteers distribute fliers in Spanish and English for "Resilience Rising" community workshops to help shape the city of Vancouver's comprehensive plan climate element. The Southwest Equity Coalition, Washington Conservation Action (WCA), and Fourth Plain Forward organized and facilitated the spring 2025 workshops using Advancing Meaningful Engagement grants from Commerce. ***CREDIT:*** *WCA*

Counties and cities should establish a work plan that outlines the entire comprehensive plan periodic update process — including any new elements. The work plan should include approximately two years to develop and adopt a new climate element (one year per subelement) concurrent with your broader comprehensive plan update. The work plan should also include a public participation plan that provides for early and continuous engagement.[13]

The best ways to fulfill this requirement are to engage community members early and often and to review and adjust your public participation plan along the way. Work with community partners (e.g., community-based organizations and business and environmental groups) to identify initial engagement gaps and barriers and make course corrections to achieve your desired outcomes.

Efforts that could support meaningful and accessible engagement include providing written and audio materials (e.g., radio ads) in multiple languages and hosting in-person and virtual meetings during the daytime and evening. Read on for additional engagement guidance and strategies.

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[13] RCW 36.70A.035 and 130(2)(2)

2.1: Form climate policy advisory team

Typically, a county or city will form an internal staff team to manage the entire comprehensive plan update process. A jurisdiction will also convene community volunteers and other stakeholders as its primary advisory committee for updating the comprehensive plan.

If you have the capacity, form a dedicated climate policy advisory team to coordinate with the primary advisory committee and broader public-engagement efforts. If you don't have the capacity, then consider recruiting volunteers to serve as climate experts on the primary advisory committee.

The climate policy advisory team's role is to assess climate-related hazards and local emissions, consider public input, and provide goal and policy recommendations. Members of a climate policy advisory team should generally include planners and public works professionals, plus a diverse group of community members with the goal of collaboratively creating a climate element that centers environmental justice and equity in policy development and implementation. Such partners should include:

- Advisory board members with experience reviewing and developing zoning and land use policy;
- Experts in hazard mitigation, health, transportation, habitat, forests, and other areas with a climate nexus;
- Community engagement specialists;
- Tribal representatives;
- Representatives from regional clean air agencies and metropolitan planning organizations (MPOs);
- Legal advisors to ensure that goals and policies are consistent with state and local laws; and,
- Elected officials who will provide oversight and can champion the project from beginning to end.

> ***NOTE:*** *You might also want to ask Commerce and other state agencies to provide periodic technical assistance as your team develops or updates its climate element. As a best practice, partnerships with state agencies should be initiated early in the process of updating your comprehensive plan.*[14]

Include representatives of vulnerable populations and overburdened communities — also known as frontline communities — on your climate policy advisory team. Considering such residents' lived experiences and perspectives can help align your planning process with the GMA's public participation goal (RCW 36.70a.020) and lead to more equitable policy outcomes. Use this guidance's companion Climate Element Workbook to list your climate policy advisory team members *[Appendix B, S2, Task 2.1 tab]*.

Support Community Participants: Regardless of whether there is one or multiple advisory bodies, building an effective and inclusive process will take significant time and trust. Consider collaborating directly with neighboring jurisdictions, your regional planning agency, and community-based organizations (CBOs) to pool resources and coordinate engagement.

Cultivating durable relationships

"Create a foundation for an ongoing relationship, not a one-off transaction designed to extract information and leave. Once a frontline community has provided input, follow up and show them how their participation has led to tangible results. Community members can also be invited to serve on an advisory or implementation task force."

— MRSC, Equity and Engagement in Climate Response

[14] Commerce guidance (2022), A Guide to the Periodic Update Process Under the Growth Management Act

Consider the following ways to support people who serve on your advisory team:

- Pay a stipend for participation in and travel to meetings;
- Host meetings in the evenings, and provide food and childcare;
- Offer meeting translation services, and ensure materials are available in multiple languages and formats;
- Ask what support they would need to participate authentically.

Community-based organizations and representatives of these organizations can be particularly helpful partners and collaborators because of their roles as trusted partners in overburdened communities. They also bring broader community perspectives, not only the perspectives of individual community members. When partnering with CBO members (e.g., as appointed representatives on an advisory workgroup), consider compensating them for their participation.

Resources:

- The **Washington State Office of Equity** has published community compensation guidelines.

Spotlight: Advancing meaningful engagement in comprehensive planning

In 2024, Commerce distributed about $2 million of Climate Commitment Act funding to 24 community-based organizations to help overburdened communities and vulnerable populations engage meaningfully in comprehensive plan updates. This Advancing Meaningful Engagement (AME) pilot grant program helped CBOs build staff capacity and develop bottom-up engagement efforts focused on climate and other comprehensive plan elements. Grantees ranged from Northwest Washington's Vamos Outdoors Project, to South Sound's Mason County Climate Justice, to Southwest Washington's Native American Youth and Family Center. Grantees engaged in activities such as administering surveys and hosting meetings in multiple languages and paying workgroup members participation stipends. Based on the CBOs' lessons learned, Commerce and its partners developed an online toolkit with an animated video, graphic novel, workbook, and other resources to help community members across the state engage more meaningfully in local planning that shapes transportation, land use, housing, and other areas impacted by climate change.



This is an illustration from the Advancing Meaningful Engagement workbook. The online resource helps make comprehensive planning easier to understand for all community members.

CREDIT: *Washington Department of Commerce*

2.2: Establish public engagement strategy

Your planning process should include a strategy to engage a diversity of community members in equitable and meaningful ways. It is important to integrate community members into your planning process early to provide them agency in shaping and implementing policies. It is also important to coordinate climate engagement efforts with any public engagement that is required as part of your comprehensive plan update process.[15]

Use the resources below to identify and recruit frontline community members, representatives from local businesses, neighborhood associations, schools, and other groups, to participate in your process and share their technical expertise, cultural perspective, and lived experience. List these stakeholders in your Climate Element Workbook [*S2, Task 2.2 tab*].

- **Establish goals and outcomes:** Start by establishing equity goals and desired outcomes for your engagement strategy. Next, identify the level of decision-making you're giving to stakeholders (e.g., making policy recommendations directly to your advisory team or elected officials).
- **Design an equitable process:** Ask your stakeholders how they want to participate in your process — for example, as part of the climate policy advisory team, technical or cultural focus groups, or multisector committees. Ensure that all stakeholders have an equitable opportunity to participate collaboratively in your planning process' core steps and policy implementation efforts. Seek out ways to center historically marginalized voices [*see resources below*].
- **Engage broader community:** Consider the following ways to educate and engage the broader community about climate resilience and emissions mitigation:
  - Host interactive events (virtual and in-person meetings and site tours of at-risk areas of the community) to educate residents about local climate impacts and how you will integrate resilience and emissions-reduction goals and policies into your comprehensive plan.
  - Participate in other issue-specific forums — for example, about affordable housing and health — to discuss their nexus with climate change.
  - Work with leaders of community-based organizations to talk directly with residents about climate change and how you can help neighborhoods reduce their dependence on fossil fuels and build resilience.
  - Participate in existing community arts and cultural events [*see following example*] to share draft policy ideas and elicit input from residents.
  - See MRSC's Community Engagement Resources webpage for additional ideas.
- **Utilize equity tools and guides.** Reference online equity tools, guides, and reports for project planning and best practices. Toolkits such as GARE's Racial Equity Toolkit: An Opportunity to Operationalize Equity can help you integrate equity considerations into your community engagement and climate planning. We recommend using this tool as it is geared toward local governments and their equity considerations.

Resources:

- A joint **University of Washington-Front and Centered** report — An Unfair Share: Exploring the Disproportionate Risks from Climate Change Facing Washington State Communities — can help you identify potential stakeholders and address inequities through your planning process and policies. The report explains how community members might be exposed differently to climate change and how race, wealth, education, health status, and other factors could affect a person's ability to cope with climate impacts.
- An **Antioch University New England** paper, Centering Equity in Climate Resilience Planning and Action, recommends additional best practices for balancing power dynamics through participatory planning and centering equity throughout the planning process.

[15] WAC 365-196-600

- The **Washington Department of Health's** HEAL Community Engagement Guide suggests additional public engagement best practices.
- The **National Association of Climate Resilience Planners'** community-driven climate resilience planning framework complements your public-sector process by recommending best practices for how community-based organizations can help residents of vulnerable and impacted communities define for themselves the complex climate challenges they face and the climate solutions most relevant to their unique assets and threats.

Spotlight: Using festivals, books, and games to engage residents and build climate resilience

During Olympia's fall 2017 Arts Walk festival, the Thurston Regional Planning Council (TRPC), Timberland Regional Library, and other partners hosted "Art of Change," an event that merged climate literacy, art, science, and policy. Against the backdrop of an ocean acidification mural painted [*below*] on downtown's Puget Sound Estuarium building, Timberland staff hosted a "pop-up" library where festival visitors could sign up for a card and check out climate books, films, and other resources. Olympia staff members discussed the City's sea level rise strategy, while Arts Walk visitors played a TRPC-created board game called "Resilience Road." The collaborative game enabled players to take *Thurston Climate Adaptation Plan* actions to respond to the impacts of floods, droughts, and other climate-related hazards.



CREDIT: *Washington Department of Commerce*

2.3: Establish tribal engagement strategy



Tribal community members participate in a 2025 city of Vancouver comprehensive plan workshop hosted by Native American Youth and Family Center and supported by a Commerce Advancing Meaningful Engagement grant. The nonprofit provided participation stipends and a family-centered and welcoming space to ensure parents with children could participate in the meetings. ***CREDIT:*** *Native American Youth and Family Center*

Local governments should engage tribes early and often to ensure their voices are heard with regard to anticipated climate change impacts to Treaty-reserved natural resources and habitats that support those resources. Tribal Engagement is an overarching term that encompasses all levels of tribal communication and partnership, from formal government-to-government (G2G) consultation to informal coordination. Formal G2G consultation happens at the federal and state level. Federally recognized tribes retain their rights as sovereign nations to a direct government-to-government relationship with the federal government through treaties and presidential executive orders, independent of the state or local jurisdictions. Washington state tribal relations policy is guided by the Centennial Accord (1989) and Millennium Agreement (1999), and you can find more information at the Governor's Office of Indian Affairs (GOIA).

As sovereign nations, tribes will engage to the degree that benefits their community and at their discretion. If tribes decline to participate in your comprehensive planning process due to capacity constraints or any other issue, you should still share updates and continue to invite input in other ways. You could conduct tribal engagement at a level of formal or informal tribal coordination. Formal coordination involves creating a Memorandum of Understanding (MOU) focused on the climate element of your comprehensive plan. Formal coordination could focus solely on this element or could be broader in purpose. This takes place at the local jurisdiction's governance

level, sometimes referred to as Council-to-Council diplomatic protocol by tribal nations. If you are just beginning or renewing your partnership with the tribes near you and would like additional help in preparing for this step you could contact Commerce's Tribal Planning Coordination Manager for assistance. If you have existing working relationships and/or partnerships, informal coordination might work for you. In both coordination efforts, it is important to understand that tribal engagement is on a separate track than general public engagement.

Defining tribal sovereignty

Tribal sovereignty recognizes American Indian tribes as having the political status of nations; however, it recognizes that Indian nations are geographically located within the territorial boundaries of the United States.

— Washington Tribes, Washington Indian Tribes Today

Engagement with Indigenous people that does belong in the general public engagement process includes working with Indigenous groups that are not tribal governments, such as urban Native American organizations and/or tribal populations not located in their Indian Country. This could include non-federally recognized tribes (which should be included regardless of federal status), Native American non-profits and Indigenous community-based organizations. There is a distinction between working with federally recognized tribes who are self-governing sovereign nations and other Native American groups.

You should reach out to tribes that have reservation lands, ancestral lands and waters, and/or "usual and accustomed areas" that neighbor you. Engage early, often, and with each tribe individually, and document your process in the Climate Element Workbook [*Tab 2.3*]. Local governments have a legal responsibility to uphold sovereignty and treaty rights by consulting with tribal governments to reach consensus. Consider how you can approach this in a culturally appropriate manner by learning about your neighboring tribes through research, talking to mutual contacts, and visiting cultural heritage centers.

Many tribes have their own comprehensive plans that have a climate resilience element, and expertise developing climate adaptation plans. Collaborative planning efforts could help identify mutual priority actions and strategies that can inform neighboring jurisdictions. It's possible that tribes might want to collaborate beyond just the climate element of your comprehensive plan, and tribes can now opt-in to local governments' planning processes as per recent updates to the GMA through SHB 1717 (Ch. 252, Laws of 2022). For more information about tribal participation in overall comprehensive planning visit Commerce's Tribal Planning Coordination webpage and/or contact the agency's Tribal Coordination Manager.

2.4: Develop vision statement

Early in the local planning process, counties and cities often begin by creating a vision statement. In this context, your climate policy advisory team should draft a statement about the values that matter most to your community, including social, economic, and environmental concerns, and unique traditions. Use the Climate Element Workbook [*S2, Task 2.4 tab*] to articulate why and how your community members want to sustain them in the face of a changing climate. The vision statement should include guiding principles or values consistent with those you have articulated already for the comprehensive plan and/or the periodic update in general. This is also an opportunity to revisit those statements and values, and to view them through the lens of climate and equity:

- Ask community members to describe their unique perspectives, assets, and climate-related challenges.
- Ask them to define what climate resilience and community well-being mean to them.
- Ask them how the guiding principles — and, ultimately, the comprehensive plan goals and policies — could better serve their communities' unique needs and priorities and utilize their strengths.
- Ask them how they want to be a partner in implementing climate policies in the community and how you could help.

Section 3: Resilience subelement



Commerce's flexible planning guidance provides communities several climate resilience pathways, each with multiple steps. Pictured: Mink Lake Trail, Olympic National Park. ***CREDIT:*** *Washington Department of Commerce*

3.1: Overview

Washington's cities and counties should use this section to develop comprehensive plan goals and policies that support communitywide climate resilience. The resilience subelement planning guidance (resilience guidance) will help local jurisdictions use climate modeling to identify and prepare for natural hazards influenced by climate change, including floods, droughts, wildfires, and other impacts of changes to temperature and precipitation patterns. The resilience guidance and its companion resources will also help local jurisdictions identify planning and policy approaches to advance environmental justice, adapt to and mitigate the effects of a changing climate, and protect and enhance the environment, economy, and human health and safety.

Defining climate resilience

Climate resilience is the ongoing process of anticipating, preparing for, and adapting to changes in climate and minimizing negative impacts to our natural systems, infrastructure, and communities. Washington's cities and counties can build climate resilience by implementing a mix of preparedness, response, and recovery policies, including mitigating natural hazards, adapting to unavoidable impacts, and restoring degraded natural areas that provide key ecosystem services.

— RCW 70A.65.010

This section provides a common planning framework with linear steps and flexible pathways [*Figure 4*].

Figure 4: Steps and pathways to integrate resilience into comprehensive plans



Steps and pathways:

Washington's cities and counties must create their climate resilience subelement and then review and revise it at least once every 10-year comprehensive plan periodic update cycle, based on best available science, updated climate modeling, and communities' evolving needs and priorities. This section includes five steps for this work: Start by taking the first two steps to explore local climate impacts (Step 1) and identify resilience policy gaps and opportunities (Step 2). Conclude Step 2 by determining whether you need to conduct a climate vulnerability and risk assessment (Step 3) or whether you are ready to select goals and policies (Step 4) for integration into the comprehensive plan (Step 5). You should choose your progression based on your staff capacity, existing body of climate work, budget, and other considerations (e.g., exposure to hazards worsened by climate change).

Minimum requirements for resilience subelement:

This section will help you meet the climate resilience subelement's statutory minimum requirements[16] when including at least one climate resilience policy for each climate-related hazard that is relevant to your jurisdiction. The total number and nature of your resilience goals and policies (measures) will be based on your science-based assessment of local climate impacts and environmental justice considerations. [17]

The resilience subelement must have specific goals and policies to:

- Address natural hazards created or aggravated by climate change, including sea level rise, landslides, flooding, drought, heat, smoke, wildfire, and other effects of changes to temperature and precipitation patterns;
- Identify, protect, and enhance natural areas to foster climate resiliency to climate change impacts, as well as areas of vital habitat for safe species migration; and,
- Identify, protect, and enhance community resiliency to climate impacts, including social, economic, and built-environment factors, which support adaptation to climate impacts consistent with environmental justice.

[16] RCW 36.70A.070(9)(e)(i)
[17] Commerce's guidance uses the term "measures" to apply to both goals and policies. This guidance's model climate element [Section 5.4] and the companion Climate Policy Explorer list underlying policies that can support achieving overarching goals.

Commerce encourages you to address all 11 of the climate sectors used in this guidance — including Agriculture & Food Systems and Economic Development — via your climate resilience subelement goals and policies.[18] This will help ensure your resilience subelement provides beneficial opportunities such as local food security and green job creation and addresses important areas that might not necessarily be included in your hazard mitigation plan.

By working through this section's steps, engaging community members, and adopting relevant climate goals and policies, your resilience subelement must accomplish the following, consistent with state law:

- Equitably enhance the resilience of communities and ecological systems to climate change;
- Prioritize and benefit overburdened communities that will suffer disproportionately from environmental impacts and climate-related natural hazards; and,
- Be consistent with best available science and scientifically credible climate projections and impact scenarios.

3.2: Resilience guidance process

Commerce's guidance adapts the U.S. Climate Resilience Toolkit's "Steps to Resilience" framework and integrates additional best practices recommended by the Association of Washington Cities (AWC), Municipal Research and Services Center of Washington (MRSC), American Planning Association (APA), and other organizations.[19] The resilience guidance provides a linear, yet flexible, approach for jurisdictions to explore climate science, assess impacts on local assets, and consider policy interventions.

This section's steps and associated tasks have corresponding tabs in the companion Climate Element Workbook for you to record your work [Appendix B]. Review the workbook and the corresponding guidance steps before beginning work on this subelement, as part of a broader comprehensive plan update.

The time and sequence of steps needed to complete work on this subelement will vary based on your staff capacity, budget, and body of existing planning work. For example, some jurisdictions might be pulling from a recent, separately completed vulnerability and risk assessment rather than doing this step within their comprehensive plan update cycle.

Coordinating climate planning and shoreline regulations

Counties and cities must ensure alignment of the climate resilience provisions within their comprehensive plans and shoreline master programs (SMPs). Shoreline jurisdictional area and SMP provisions should be considered at each step of the resilience subelement planning process so that outputs can inform future SMP periodic review or amendment processes. For example, you should consider climate impacts to shorelines and shorelands [Section 3, Step 1] and review your SMP during your policy audit [Section 3, Step 2]. Read Appendix O and contact the Washington Department of Ecology for additional guidance regarding SMP requirements, including planning for sea level rise and increased storm severity on people, property, and shoreline natural resources and the environment.

[18] See WAC 365-196-210 and Appendix P for a full list of the 11 climate sectors used in this guidance and companion resources.
[19] The U.S. Climate Resilience Toolkit was developed by the National Oceanic and Atmospheric Administration (NOAA) Climate Program Office. The Washington Department of Commerce adapted into its resilience guidance the NOAA toolkit's Steps to Resilience risk assessment and decision-support framework and integrated best practices published in the October 2022 report, *Implementing the Steps to Resilience: A Practitioner's Guide*. The practitioner's guide includes links to many examples and resources.

Step 1 — Explore climate impacts



In this step, your climate policy advisory team should start with the University of Washington Climate Impacts Group's (UW CIG) Climate Mapping for a Resilient Washington (CMRW) tool to build baseline awareness of how climate change is expected to affect local sectors and their social, economic, and environmental assets in coming decades.[20] Supplement use of the CMRW, as needed, with additional, scientifically credible resources [*see* Task 1.2 *for additional resources*].

Task 1.1: Identify community assets

Use the Climate Element Workbook [*S3, Task 1.1 tab*] to list social, economic, and environmental assets that your community members value and want to protect. In this context, the term "asset" refers broadly to infrastructure, places, natural resources, services, and communities/populations. Your climate policy advisory team should lead this task and seek input from community members to ensure the list is comprehensive.

- Your initial list should include general asset themes (urban forests, wetlands, buildings, roads, etc.) within the 11 climate sectors used in this guidance.[21] You will have an opportunity in Step 3 to refine this general list with specific assets (e.g., a key bridge or hospital), should you decide to conduct a more detailed vulnerability and risk assessment.
- Be sure to include assets regulated by your Shoreline Master Program (e.g., built and natural assets that support water-dependent uses, public access, and ecosystem processes).[22] Likewise, include assets described in the resilience subelement's minimum requirements [Section 3.1], such as natural areas of vital habitat for safe species migration (e.g., streams and forests).
- Consult with special districts and state and federal agencies responsible for managing local assets. For example, some cities have state or federal highways near floodplains and areas that will be inundated by sea level rise. Such municipalities might wish to coordinate with the agency responsible for the facility to understand their plans and to advocate for adaptation actions that align with community needs and priorities.

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[20] Commerce regards CMRW a source of best available science, as per WAC 365-195-900.
[21] See WAC 365-196-210 and Appendix P for a full list of the 11 climate sectors used in this guidance, Climate Policy Explorer, and Climate Mapping for a Resilient Washington tool.
[22] See the Washington Department of Ecology's companion guidance and requirements for addressing the impact of sea level rise and increased storm severity in SMPs.

Resources:

- Your local hazard mitigation and capital facilities plans can help you identify physical and social assets, including gathering places such as community centers, libraries, schools, and parks, as well as social infrastructure such as public health and emergency response systems.
- **Washington Department of Health's** Environmental Health Disparities Map can help you identify local overburdened communities and vulnerable populations.[23] The map provides a cumulative environmental health impact score for each census tract based on environmental and socioeconomic indicators including ozone concentration, poverty rate, disability, and death from cardiovascular disease.
- **Washington Department of Fish & Wildlife's** Washington Habitat Connectivity Action Plan and local habitat connectivity plans can help you identify environmental assets.
- **NOAA's** U.S. Climate Resilience Toolkit report — Implementing the Steps to Resilience: A Practitioner's Guide — provides useful ideas for grouping assets thematically.

Task 1.2: Explore hazards and changes in the climate

In this task**,** you will explore how expected changes in the climate could create or aggravate natural hazards (droughts, floods, etc.) and impact your community in coming decades (ecosystem degradation, infrastructure damage, etc.). You will use this foundational information in subsequent steps and tasks to assess how climate-related hazards impact the local assets you identified in Task 1.1 as important to your community.

- First, we recommend you read summarized climate information from state or regional reports[24, 25] and key takeaways for your area. You might also wish to review your local hazard mitigation plan to understand your assets' current risk exposure and vulnerability to the identified hazards.
- Next, use the CMRW tool to explore county-level information about expected changes in the climate. Consider both near-term (20 years) and long-term (more than 20 years) climate projections, recognizing that planning might be required now to deal with changes expected in coming decades.
    - See UW CIG's CMRW user guide and companion report, "Biophysical Climate Risks and Economic Impacts for Washington State," for information about filtering and customizing the tool.
- Finally, use the Climate Element Workbook [*S3, Task 1.2 tab*] to record your findings:
    - In the workbook tab's first two columns, write the Sector and Hazard you used in your CMRW query. The CMRW tool includes the same 11 climate sectors as this guidance, as well as lists seven hazard options: Drought; Extreme Heat; Extreme Precipitation; Flooding; Reduced Snowpack; Sea Level Rise; and, Wildfire.
    - In the third column, write the Climate Indicator the CMRW tool used in its analysis. If you select multiple climate indicators, enter each on a separate row of your workbook.
    - In the fourth column, describe current and future climate impacts relevant to your community. The CMRW tool's "Understanding the Importance" tab and Appendix P can help you identify climate impacts.[26]
    - In the final column, note which emissions scenario(s) you used. You might also wish to identify potential information gaps that might warrant further analysis using other data [*see breakout box and additional resources below*] and/or via a more detailed vulnerability and risk assessment [Step 3].

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[23] The terms "overburdened community" and "vulnerable populations" are defined in RCW 70A.02.010 and this document's glossary.
[24] The State Climate Summary for Washington could be a helpful starting point, in addition to other statewide and regional reports.
[25] The Washington State Enhanced Hazard Mitigation Plan is also a helpful resource, as it outlines hazards and conditions specific to both the state as well as regions throughout.
[26] This list of climate impacts in Appendix P incorporates and supplements information from UW CIG's 2007 report Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments.

Supplementing the CMRW tool

Commerce regards CMRW as a source of best available science and scientifically credible projections, so the tool is the starting point for local governments creating or updating a climate resilience subelement. Counties and cities could use supplemental resources, as needed, to explore the impacts of climate-related hazards and develop resilience goals and policies. Below are examples of how you could supplement CMRW with government and academic spatial planning tools. See examples of other scientifically credible resources throughout this section and in Commerce's Climate Policy Explorer database.

Flooding: CMRW uses streamflow data to project riverine flooding along stream segments in coming decades but does not show riverine flooding extent or compound flooding hazards. You could supplement CMRW with USGS' Hazard Exposure Reporting and Analytics (HERA) tool and, if available, flood modeling for a specific local study or project.

Sea Level Rise: CMRW shows relative sea level rise likelihood (in feet) along large segments of the coast. You could use NOAA's Coastal Flood Exposure Mapper and Sea Level Rise Viewer to see the extent of projected flooding (in feet) for specific city blocks or addresses, per different scenarios.

Landslides: CMRW does not map projected changes in landslides and smoke the way it does for heat and other hazards because location-specific information on projected smoke and landslide events is not available. You could use extreme precipitation in CMRW as an indicator of how landslide risks are expected to change in the future because heavy rain events reduce slope stability and can trigger landslides. Supplement this information with existing slope and soil information to assess where landslide hazard risks are highest in your community. Washington Department of Natural Resources' Geologic Information Portal includes an interactive map of landslides and geologic hazards across the state.

Smoke: You could use wildfire in CMRW to assess how the frequency of smoke events might change in the future. The Washington Department of Health's Environmental Health Disparities Map could help you identify where populations most vulnerable to smoke live. Stanford University's Environmental Hazard Adaptation Atlas, which shows annual average of wildfire smoke PM2.5 concentrations by U.S. county or census tract, can help you assess historic trends.

Additional Resources:

- **NOAA's** U.S. Climate Resilience Toolkit provides additional online resources, including county-scale climate data via The Climate Explorer.
- **University of Washington's** Climate Health and Risk Tool can help users: describe how climate-related hazards impact health; assess communities' relative vulnerability, exposure, and risk; and, identify policies. Climate Change Impacts and Adaptation in Washington State: Technical Summaries for Decision Makers summarizes existing knowledge about the likely effects of climate change in Washington, and Climate Adaptation Resources for Washington (CAR-Wash) is a curated list of climate adaptation resources.



A fire cloud rises above the Rattlesnake Fire on the Colville Reservation in 2025. ***CREDIT:*** *Washington Department of Commerce*

Task 1.3: Pair assets and hazards and describe exposure and consequences

Pair each of the community assets you identified in Task 1.1 with every climate-related hazard that could affect it. Enter this information into the "S3, Task 1.3" tab of your Climate Element Workbook [Appendix B]. Your list will likely include the same asset several times, and some hazards (e.g., extreme heat) might affect several assets.

Create a numbered row for each asset-hazard pair. Select a relevant climate indicator from the CMRW tool for each asset-hazard pair on your list (e.g., change in the annual number of hot days), and describe factors that affect the asset's exposure to the hazard (e.g., the extent of paved surfaces, tree canopy cover, and other features that worsen or lessen extreme heat).

Defining exposure and consequences

Exposure is the presence of assets in places where they could be adversely affected by hazards. Consequences are the subsequent results (usually negative) that follow from damage to or loss of an asset due to a hazard.

— U.S. Climate Resilience Toolkit

- Where applicable, list non-climate stressors that can worsen the consequences of climate impacts. Non-climate stressors can include population growth, land conversion, and industrial pollution in historically redlined communities.
- Describe potential consequences of the climate impacts in the tab's final column. Factor in exposure, non-climate stressors, and knowledge of how hazards have impacted you historically.

- **Explore:** Use your hazard mitigation plan and the resources below, as needed, to explore the impacts of past hazard events (e.g., the duration and extent of a heat wave and the social, economic, and environmental damage it caused).
- **Engage:** Encourage your stakeholders to describe their experiences to evoke rich details about the consequences of hazards (e.g., the 2021 Northwest heat dome), as this narrative, qualitative information will be useful if your community decides to proceed to Step 3 and conduct a vulnerability and risk assessment.

Resources:

- **FEMA's** National Risk Index provides a comparative risk score for all counties and estimates estimated annual loss — in U.S. dollars — due to hazards.
- **FEMA's** Resilience Analysis and Planning Tool (RAPT) examines the interplay of infrastructure locations and hazards, including historic disasters and estimated frequency of hazard risk.
- **NOAA's** U.S. Climate Resilience Toolkit also has a variety of spatial analysis resources, including sea level rise projections, to assess potential consequences.

Task 1.4: Identify relevant climate hazards

Decide which climate hazards you need to address in your comprehensive plan based on your use of the CMRW tool and consideration of supplemental resources (e.g., your hazard mitigation plan) to assess exposure and consequences — the building blocks of vulnerability and risk. These are the relevant hazards you will focus on in your plan and policy audit [Step 2] and, if desired, your vulnerability and risk assessment [Step 3]. These are also the hazards you must address via your climate resilience policies [Steps 4 and 5].

- Use the Climate Element Workbook's "S3, Task 1.4" tab to document the relevant climate hazards that you will address in your next steps and comprehensive plan.

Step 2 — Audit plan and policies



In this step, you will apply information from Step 1 to assess how well your existing local plans and policies build climate resilience. You will begin by reviewing your comprehensive plan, including your SMP, and other local documents (hazard mitigation plan, watershed restoration plan, etc.), and look for climate resilience opportunities, gaps, and barriers. You will conclude by determining whether to proceed directly to Step 3 or skip to Step 4.

Task 2.1: Review existing plans for resilience gaps, opportunities, and barriers

First, review your comprehensive plan and SMP for goals and policies that explicitly or implicitly build resilience to the climate hazards and impacts you identified in Step 1 as relevant to your community.

- Note which hazards and impacts are not addressed by any policies or where existing policies are insufficient. Focus on these gaps as you review other plans and develop goals and policies.
- Look for maladaptive policies and actions that might increase vulnerability to climate change impacts (e.g., building neighborhoods in areas prone to wildfire or flooding) or create barriers to implementing goals, policies, and development regulations.
- Begin considering where in the comprehensive plan you will add climate resilience goals and policies.

Next, identify and review other plans that could have measures to build climate resilience (e.g., hazard mitigation plan, climate action plan, sustainability plan, community health improvement plan, comprehensive flood hazard management plan, community wildfire protection plan, watershed restoration plan, habitat connectivity plan, stormwater management plan, regional transportation plan, parks and open space plan, electric utility business plan, and water system plan[27]). These plans will include goals, actions, strategies, objectives, recommended projects, and other information that can be adapted or drawn from Step 4 to develop goals and policies for your comprehensive plan.

- Your audit should, at a minimum, include your comprehensive plan (including SMP) and hazard mitigation plan.
- Use the Climate Element Workbook [*S3, Task 2.1 tab*] to list your documents and determine your desired next step for each measure (e.g., amend an existing measure; consolidate with a similar measure; add a new measure; or keep existing measure in comprehensive plan). To help identify opportunities, gaps, and barriers, crosswalk each measure with the relevant climate hazards and impacts you identified in Step 1.

Minding the gaps and requirements

Remember to keep in mind the climate element's minimum requirements as you take each step of this guidance. For example, reviewing habitat connectivity and watershed restoration plans as part of this step can help you identify existing natural areas protections and gaps. This information can help you identify policies that need to be strengthened, implemented, or expanded to support climate resilience — for example, enhancing riparian vegetation to cool streams and replacing culverts to reduce flooding and support salmon migration. See Appendix N for additional guidance.

[27] For Water System Plans initiated after June 30, 2025, systems serving 1,000 or more connections must include a Climate Resilience Element in their Water System Plans (WSP). See the Washington Department of Health's Water System Planning Guidebook 331-068 and University of Washington Climate Impacts Group's companion Climate Resilience Planning Resources for Water Systems website.



When considering which pathway to pursue, think about the body of work you have completed and whether you need more detailed information to select climate resilience goals and policies. The pathway descriptions in this task and the questions in the Climate Element Workbook can help you determine your next step. Pictured: Capitol State Forest **CREDIT:** *Washington Department of Commerce.*

Task 2.2: Determine next step — Proceed to Step 3 or skip to Step 4

You have reached a key decision point: Determine whether to proceed to Step 3 or skip to Step 4. This decision should factor in your initial climate impacts assessment, completed plan and policy audit, and desired pathway(s).

- If you determine you have enough information now to begin choosing climate resilience goals and policies for your comprehensive plan, then proceed to Step 4.
- If you want to first assess your assets' relative vulnerability and risk, then proceed to Step 3.

Read the following description of resilience pathways and use the "S3, Task 2.2" tab of the Climate Element Workbook to answer a set of high-level questions that will help you determine the next step.

Description of resilience pathways

You might find you will need to pursue one or a combination of pathways to adequately address your climate-related hazards and impacts. Pathway 1 will generally require the least amount of time, staff capacity, and budget. Pathways 2 and 3 — in which we recommend incorporating a climate vulnerability and risk assessment (Step 3) — requires more time and resources but could help you prioritize and tailor policies and development regulations that will save time and resources in the long run. All pathways conclude with Step 5 — integrating climate goals and policies into a comprehensive plan — and you could utilize the Climate Policy Explorer as a resource.



Pathway 1: Select and/or adapt existing goals and policies.

This pathway might be preferable if you have already created a climate action plan and/or a climate element in your comprehensive plan. For example, if your Step 1 climate impacts analysis and Step 2 audit showed comprehensive plan resilience gaps, you might opt to select your existing climate action plan goals and policies and/or adapt them using Commerce's Climate Policy Explorer and other resources. If you are drawing goals and policies from existing plans, use the Climate Element Workbook to show how your body of measures meets all the climate resilience subelement planning requirements.

> ***NOTE:*** *To pursue this pathway, you needn't have completed a climate action plan, vulnerability and risk assessment, or other hazard-focused plan or strategy (e.g., a flood or wildfire protection plan). In such a case, you could simply use your foundational work from this section's Steps 1 and 2 to help identify and adapt existing comprehensive plan goals and policies to address locally relevant hazards and support climate resilience. Again, you could use the Climate Policy Explorer to close any remaining gaps.*

Pathway 2: Develop new goals and policies.

This pathway entails developing new climate resilience goals and policies for your comprehensive plan. If you pursue this pathway (or Pathway 3), Commerce recommends that you proceed to Step 3 and conduct a climate vulnerability and risk assessment. Such an assessment will help you identify which local assets have the highest relative vulnerability and risk, so you can prioritize action (e.g., take action now or monitor and reassess the risk periodically) and tailor new comprehensive plan policies and development regulations.

Using maps, indicators, and local knowledge to consider the sensitivity and adaptive capacity of social, economic, and environmental assets can help you better understand who and what are impacted by climate change, when, where, how, and why. For example, reviewing maps that identify areas with less tree canopy, and a higher poverty rate can show where you might want to plant street trees and place community resilience hubs, as such places have higher sensitivity to extreme heat and lower adaptive capacity. As another example, using flood modeling, topographic maps, and socioeconomic data can help you assess the climate exposure, sensitivity, and adaptive capacity of low-elevation, low-income communities. This can help you identify which areas are most vulnerable to flooding and which residents could be most at risk of climate-induced displacement and migration.

> ***NOTE:*** *When evaluating whether and how to proceed with Pathway 2 or Pathway 3 (below), see Appendix O and check with the Washington Department of Ecology regarding its SMP requirements for how to assess sea level rise and severe storm impacts in marine shoreline areas.*

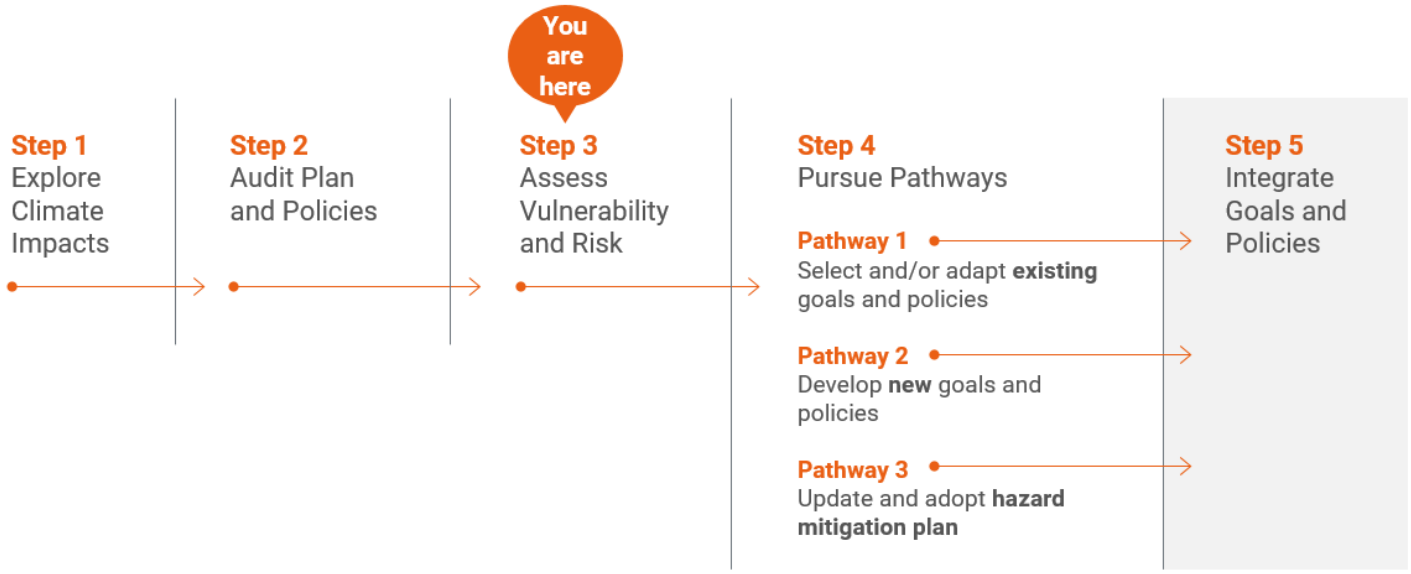
Pathway 3: Update hazard mitigation plan and adopt it in your comprehensive plan.
This pathway entails updating your hazard mitigation plan (HMP) and adopting it, by reference, in the comprehensive plan. Firstly, the HMP must meet federal minimum requirements to get FEMA approval [*see* Appendix E *and FEMA's* guidance]. Given that there are state minimum requirements for the climate resilience subelement that differ from the federal HMP requirements, you will need to add supplemental climate resilience policies to your comprehensive plan if the state requirements are not met in your HMP. Commerce's guidance can help you incorporate climate and equity into your HMP as follows:

- **Planning process:** A local HMP must document an opportunity for stakeholders to be involved in the planning process. Section 2 of Commerce's guidance provides advice on how to meaningfully engage overburdened communities and vulnerable populations throughout the HMP planning process.
- **Plan content:** A local HMP must include a risk assessment with sufficient information to enable the jurisdiction to identify and prioritize hazard mitigation actions. This section's Step 3 vulnerability and risk assessment framework can help you consider how climate change worsens natural hazards and raises risks for local assets.
- **Mitigation strategy:** A local HMP must include a mitigation strategy that provides your blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources. The HMP mitigation strategy must include goals and an action plan with prioritized implementation measures. Commerce's Climate Policy Explorer provides model policies — searchable by hazards, co-benefits, and other attributes — which you could incorporate into your HMP mitigation strategy. Section 5 of this guidance recommends how to prioritize Climate Policy Explorer policies based on environmental justice potential and other criteria, as well as recommends how to adapt policies based on local conditions.



Floodwater from the South Fork of the Palouse River inundates Grand Avenue in downtown Pullman in 2019. ***CREDIT:*** *City of Pullman*

Step 3 — Assess vulnerability and risk



At the end of Step 2, you determined whether to proceed to Step 3 or skip to Step 4. If you're taking this step, you will use the exposure information from Step 1 (and other resources that follow) to consider the sensitivity and adaptive capacity of local assets to assess their vulnerability to climate-related hazards and impacts [*Figure 5*]. You will then characterize risk — the probability and magnitude of hazards [*Figure* 6] — for your most vulnerable assets. This compound, integrated process enables you to identify which local assets have the highest relative vulnerability and risk related to climate-related hazards and impacts — information that can help you shape and prioritize policies and development regulations.

Figure 5: Elements of climate vulnerability

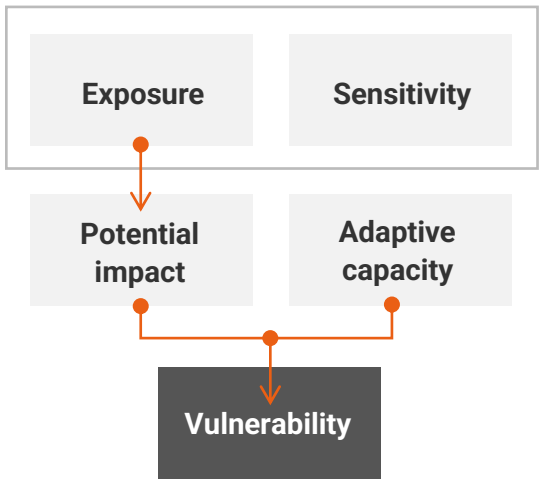
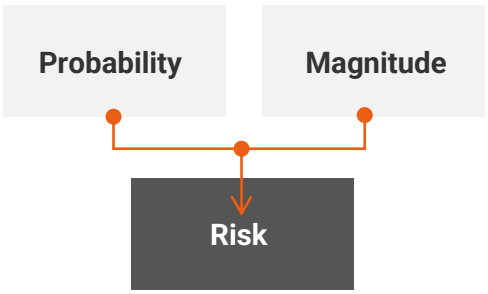


Figure 6: Elements of climate risk



SOURCE *U.S. Climate Resilience Toolkit*

Before you begin the assessment

Before beginning this technical step, review the glossary's key terms [Appendix A] and watch a U.S. Climate Resilience Toolkit primer video to better understand how factors such as sensitivity and adaptive capacity will help you to characterize the vulnerability of assets throughout your community. Commerce considers the U.S. Climate Resilience Toolkit's Steps to Resilience framework a model best practice because it provides a detailed, integrated

approach to assessing both the vulnerability to and risks of climate-related hazards. You could use an alternative methodology[28] or take a limited approach to assess your assets' climate vulnerability and risks. For example, your assessment could focus on a single hazard or climate sector, such as extreme heat impacts on health and well-being or sea level rise and severe storm impacts on coastal assets.[29]

You could also supplement your hazard mitigation plan [Pathway 3] with information gained through this step. For example, you could use the tasks and resources that follow to assess climate vulnerability and risk for sectors and assets that are typically beyond the core focus of a hazard mitigation plan (e.g., winter recreation, active transportation, and urban farms and forests). This can help you to identify comprehensive plan goals and policies to supplement your hazard mitigation plan and address all 11 of this guidance's climate sectors.

Task 3.1: Assess sensitivity

Use the Climate Element Workbook and the following guidance to assess the sensitivity of the asset-hazard pairs you developed in Step 1. The U.S. Climate Resilience Toolkit provides a simple litmus test for sensitivity: If an asset could sustain a negative impact from a hazard, it is sensitive to that hazard.

Defining sensitivity

Sensitivity is the degree to which a system, population, or resource is or might be affected by hazards. For example, the yield of crops with a high sensitivity might be reduced in response to a change in daily minimum temperature during the pollination season.

Your task is to assess the degree of sensitivity in qualitative terms (*low, medium, or high*) for each asset-hazard pair using local knowledge and other available information. Consider using the following approach, which uses indicators and rulesets:

Start by asking a question you could answer for each asset-hazard pair (e.g., transit center — sea level rise). The following example incorporates the U.S. Climate Resilience Toolkit's definition of sensitivity and could be answered qualitatively with a "low," "medium," or "high" response: *"To what degree would this hazard affect this asset?"*

Next, select 1-3 indicators you could use to answer your question. Your indicator(s) should be based on the asset type, hazard, and available information. The following indicators are organized by asset type:

- For physical assets, such as buildings and roads, examples of useful indicators include the asset's: age (*What's the asset's age relative to its design life?*); condition (*What's the condition of the asset — poor, good, or excellent?*); and, physical design (*Is the asset physically protected from the hazard?*).
- For environmental assets, such as forests and wetlands, examples of indicators include the asset's fragmentation, temperature range, and exposure to pests and disease.

Selecting indicators

Using indicators to help assess sensitivity and other components of vulnerability and risk is a common practice. Indeed, some practitioners might decide to use the same indicator in different ways (e.g., using an asset's age to rate its sensitivity or adaptive capacity). Our advice is for you to decide where the indicator works best and use it just once.

---

[28] Methodologies for assessing vulnerability and risk can vary widely in scope and structure — from the U.S. Climate Resilience Toolkit's integrated Steps to Resilience framework, to EcoAdapt's simplified Rapid Vulnerability & Adaptation Tool, to FEMA's narrower risk assessment requirement for local hazard mitigation plans. Depending on the approach and end use, the assessment will generally incorporate community exposure, sensitivity, and adaptive capacity information and/or hazard extent and frequency information.

[29] In some cases, it might be enough to understand expected climate impacts and risks at a communitywide scale. However, in other cases — such as when hazards are present in specific locations and regulations are necessary — a narrower assessment might be needed. Local governments should consult with the Washington Department of Ecology regarding shoreline master program requirements when assessing sea level rise vulnerability and risk to ensure that the assessment will contain information necessary to inform shoreline policies and regulations.

- For social assets, such as community health and well-being, you might want to use air and water quality indicators (e.g., concentration of ozone and particulate matter) and socioeconomic and health indicators (e.g., population age, poverty rate, disability, disease).

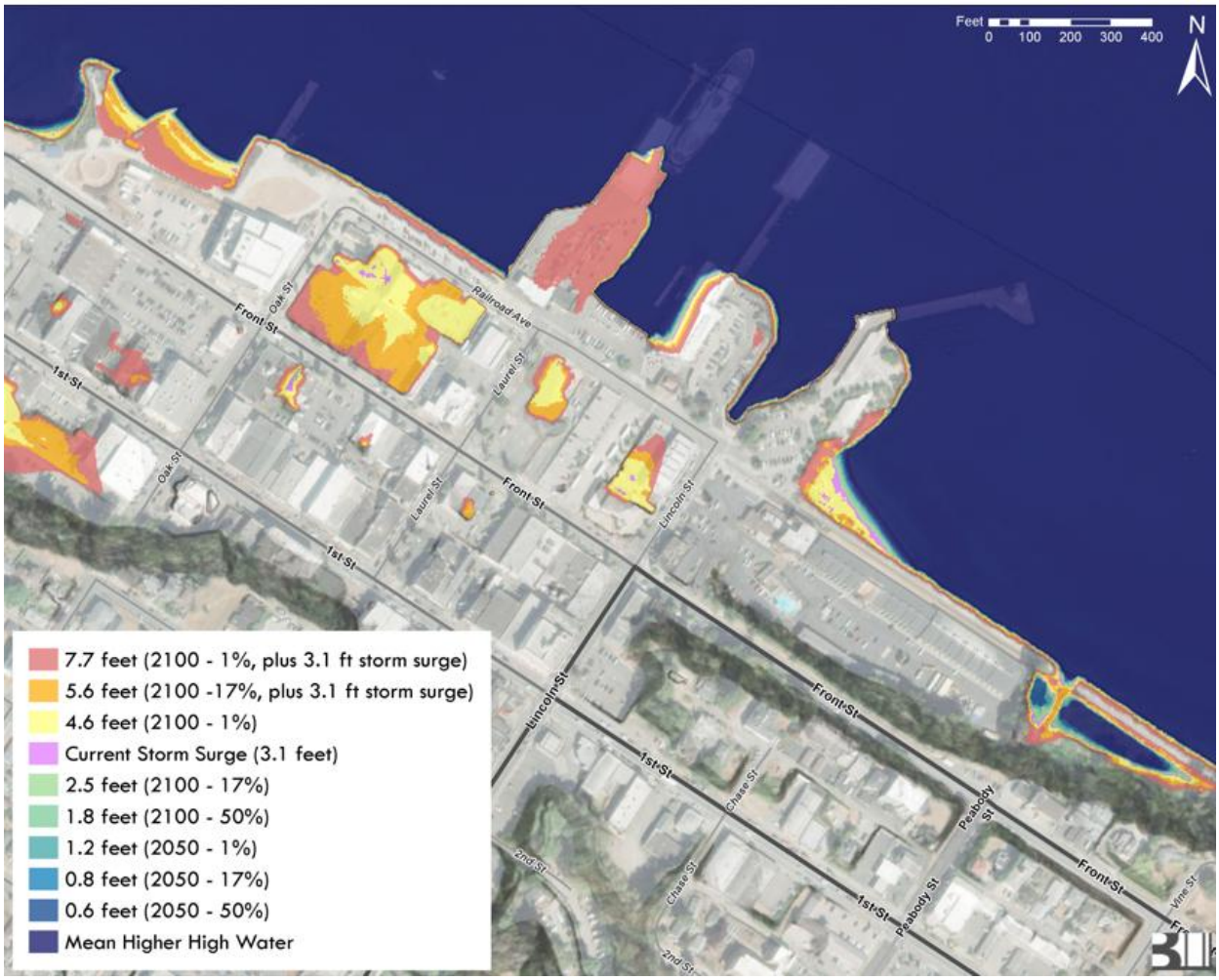
Apply a ruleset for each indicator: For example, if a coastal transit center's age exceeds its design life — the period for which the building was designed — the building could be rated as having "high" sensitivity to sea level rise and flooding. The ruleset's assumption is that the aging asset is more likely to fail after flooding.

If you use more than one indicator, factor the collective information into a composite rating for sensitivity [*Example: Age (high) + Physical Design (low) = medium sensitivity]*. You could repeat this general qualitative approach — and supplement it with quantitative data, if available — to assess adaptive capacity and other vulnerability and risk assessment tasks that follow. Lastly, enter your information into the Climate Element Workbook [*S3, Tasks 3.1-3.3 tab*].

> ***NOTE:*** *When assessing the predisposition of an asset to be harmed by a hazard, you might want to consider time of impact as an indicator. For example, some assets could have low sensitivity within the 20-year comprehensive planning horizon but have higher sensitivity within a longer timeframe.*
>
> ***NOTE:*** *This is a good time to consider supplementing the asset-hazard pairs you created in Task 1.3, based on your chosen pathway and sensitivity assessment. For, example, you might want to include specific assets among your list of general asset themes (e.g., a transit center or repetitively flooded structures within your buildings theme) if you want to use this step to help update your hazard* mitigation *plan or such assets might warrant a unique comprehensive plan policy or detailed implementation action(s). See Appendix E for FEMA's requirements for updating local hazard* mitigation *plans.*

Resources:

- **Headwaters Economics'** Neighborhoods at Risk online spatial analysis tool shows census tract-level data for indicators including tree canopy cover and impervious surfaces, overlaid with socioeconomic data. The tool can help identify communities where people could experience unequal impacts from climate-related flooding and extreme heat.
- **PolicyMap's** online spatial analysis tool shows census tract-level data for a wide range of indicators within categories that include housing, lending, education, economy, and quality of life.
- The **U.S. Census Bureau** provides online data profiles for all geographies, down to the city and town level. Users can access socioeconomic, housing, and business data via interactive maps and tables.



This map shows how rising sea levels could exacerbate coastal flooding in downtown Port Angeles over the 21st century. City of Port Angeles staff — working with staff from Commerce, BERK and Cascadia Consulting Group — used the map to assess vulnerability and risk for the transit center, ferry terminal, wharf, coastal parks, and other downtown assets *[see Appendix G]*. ***CREDIT:*** *BERK, Cascadia, Port Angeles, Clallam County.*

Task 3.2: Assess adaptive capacity

Adaptive capacity is the ability of an asset (individual assets as well as populations and systems) to adjust to a hazard, take advantage of new opportunities, or cope with change. For example, if a coastal transit hub could be raised or relocated as the sea level rises, the asset has adaptive capacity.

- Use indicators and rulesets, as you did with sensitivity, to assess adaptive capacity qualitatively (*low, medium, high*). Record this rating in the Climate Element Workbook [*S3, Tasks 3.1-3.3 tab*].
- Your core question for each asset-hazard pair on your list could be: *"What is the ability of this asset to adjust to the hazard, take advantage of new opportunities, or cope with change?*
- Examples of indicators to assess adaptive capacity include design flexibility, financial resources availability, planning staff capacity, and back-up power capability.

Resources:

- The **National Wildlife Federation** report, Incorporating Nature-based Solutions into Community Climate Adaptation Planning, provides useful examples and advice for assessing the adaptive capacity of forests, marshes, and other assets that provide nature-based solutions to climate change. NWF and EcoAdapt prepared the report in support of the U.S. Climate Resilience Toolkit's Steps to Resilience planning framework.
- **Headwaters Economics'** Rural Capacity Map assesses rural jurisdictions with low capacity and high risk of climate-related hazards, specifically wildfires and floods. The interactive map assesses a jurisdiction's adaptive capacity through several indicators, including poverty level, educational attainment, health insurance, and planning staff capacity.

Task 3.3: Characterize vulnerability

Now that you have assessed exposure, sensitivity, and adaptive capacity, use the Climate Element Workbook [*S3, Tasks 3.1-3.3 tab*] to characterize the vulnerability of each asset-hazard pair with a composite, qualitative rating (*low, medium, or high*). For example, you might determine that assets with high sensitivity and low adaptive capacity have high vulnerability. The U.S. Climate Resilience Toolkit defines vulnerability as *"the propensity or predisposition of assets to be adversely affected by hazards."*

Task 3.4: Characterize risk

It is now time for you to narrow your focus and characterize risk for each asset-hazard pair with "medium" or "high" vulnerability. The U.S. Climate Resilience Toolkit explains that risk is a compound concept — encompassing a hazard's probability and magnitude of occurrence — which describes the chance of sustaining a substantial loss.

Probability: To characterize probability, consider how often a hazard occurred in the past (frequency) and how likely (likelihood) it is to occur in the future. Recognize that climate change could alter the frequency and likelihood of your identified hazards.

- Use the resources below to consider past frequency, and draw upon other information in your local hazard mitigation plan about past wildfires and other hazards.
- Use the resources below to consider future likelihood, and draw upon the climate projections you explored in Step 1. You might also want to consult your local hazard mitigation plan for timeframes, probability, and risk information so that the climate information in your comprehensive plan corresponds to that in your hazard mitigation plan. You might even want to specifically cross-reference your hazard mitigation plan and your comprehensive plan.
- The U.S. Climate Resilience Toolkit recommends using a simple ruleset to characterize probability consistently. The following Toolkit example incorporates timeframes that are useful for comprehensive plans:
  - Characterize hazardous events that are likely to occur within 5 years as "high" probability.
  - Characterize events that are likely to occur just once in 5 to 20 years as "medium" probability.
  - Characterize events that are likely to occur less frequently than once in 20 years as "low" probability.

Resources:

- **NOAA's** U.S. Climate Resilience Toolkit includes a database of spatial analysis tools — searchable by topic (ecosystems, health, water, etc.) and function (e.g., past conditions and applied forecasts).
- **FEMA**'s National Risk Index provides annualized frequency figures for droughts, heat waves, and more than a dozen other natural hazards. The figures are derived from the number of recorded hazard occurrences over a given period or the modeled probability of a hazard occurrence each year.

The value of a simple, qualitative rating

Using a qualitative rating is useful for several reasons when assessing climate risk:

Future changes in the climate cannot be projected with the exactness that is needed to precisely quantify the probability of a risk at any given future time.

You might need to manage many distinct risks, and it would be prohibitively expensive to scientifically quantify the likelihood of each one.

The public is typically less interested in statistical probability.

With participants in the process, it likely will be easier to agree on a qualitative rating (e.g., low, medium, high) than on whether mathematical calculations of likelihood or consequence were done correctly.

The key is not to overcomplicate the process. Define what you mean by your scale and communicate these definitions to your stakeholders and regulators.

— **U.S. Environmental Protection Agency**, Being Prepared for Climate Change: A Workbook for Developing Risk-Based Adaptation Plans

- The **UW CIG** report, "How to Choose: A Primer For Selecting Sea Level Rise Projections for Washington State," can help you make three critical choices when using sea level rise data: choosing an emissions scenario, selecting a time frame, and weighing the probabilities of different sea level rise projections against the risk. This general approach could be applied to other hazards and datasets.

Magnitude: To characterize magnitude — which the U.S. Climate Resilience Toolkit also refers to as magnitude of impact or loss — you could draw upon your Step 1 work describing hazard consequences. Think about hazard events comparatively. For example, you might deem a high-impact hazard event as a costly, major disruption and a low-impact event as comparatively less costly and disruptive.

- Indicators that can help you assess magnitude include the asset's redundancy (*e.g., if a roadway's pavement buckles due to extreme heat, is there an alternative route?*), replacement cost (*e.g., assessor's parcel value*), and criticality. You could develop your own rulesets for these and other indicators (*e.g., if an asset meets FEMA's critical facility definition, this indicator's rating could be "high"*) and use the resources below.

Resources:

- **FEMA**'s National Risk Index provides qualitative ratings and dollar values (for building and agricultural assets and population fatalities and injuries) for a community's expected annual loss associated with a given natural hazard. The online mapping application also measures community resilience and social vulnerability.
- **FEMA**'s Hazus software — a GIS-based desktop application — identifies areas of high risk and estimates the physical, economic, and social impacts from hazards.
- Your hazard mitigation plan can also help with this task.

Matrix Plot: After characterizing risk for your most vulnerable asset-hazard pairs, plot them on the 3x3 matrix in your Climate Element Workbook [*S3, Tasks 3.4-3.5 tab*].

Task 3.5: Decide course of action

Based on your risk characterization matrix, decide which risks are more or less acceptable and categorize them as ones to address now or as ones to address later and monitor in the meantime. As with other tasks, it's important to engage your community stakeholders as part of this critical decision.

- **Decision point:** Limit your course of action ruleset to either "Take action" or "Accept risk," and note your decision in the Climate Element Workbook [*S3, Tasks 3.4-3.5 tab*]:

  - **Take action** means deciding to address the risk's impacts in a shorter timeframe with comprehensive plan policies (and, if desired, detailed implementation actions for a hazard-specific strategy). For example, you might choose to prioritize all risks of higher magnitude and probability.
  - **Accept risk** means deciding to monitor and reassess the risk periodically (for example, as part of your comprehensive plan's periodic update process) and not addressing the risk with an action in the near term. You might decide this is the right path forward for risks of lower probability and magnitude.

Now that you've completed a vulnerability and risk assessment, you have a clearer understanding of your local assets' *relative* vulnerability and risk to climate-related hazards and impacts. This information can help you understand what's most important to protect in your community over the short- and long-term and develop and prioritize comprehensive plan policies in subsequent steps.

Step 4 — Pursue pathways



In this step, you will pursue an individual pathway or a combination of pathways to select goals and policies that build climate resilience. Use the guidance below and the Climate Element Workbook to complete your work. Share interim updates with your planning commission and city/county council, so they're familiar with draft measures that are discussed during Step 5.

Pursuing resilience pathways

All pathways lead to the same destination: a resilience subelement with at least one resilience policy for each climate-related hazard that is relevant to your jurisdiction [*see* Section 3 introduction]. Your set of policies must meet the subelement's minimum requirements and prioritize actions that benefit overburdened communities that will suffer disproportionately from compounding environmental impacts and will be most impacted by natural hazards due to climate change. High-priority policies marked in the Climate Policy Explorer factor in their environmental justice potential and other criteria.

Pathway 1 — Select and/or adapt existing goals and policies.

Pursuing this pathway means addressing your climate hazards and impacts with existing goals and policies from your adopted comprehensive plan or other associated plans.

- Based on Step 2's audit, list in the Climate Element Workbook [*S3, Tasks 4.1-4.2 tab*] the relevant comprehensive plan goals and policies you're retaining and the goals and policies from other existing local plans (climate action plan, hazard mitigation plan, etc.) you're adding to your comprehensive plan. Note any edits you're making to adapt these existing goals or policies to better support climate resilience.
- Follow Task 4.1 only if you opt to develop new goals and policies to supplement your existing ones (e.g., to address any remaining gaps and barriers identified by your audit).
- Follow Task 4.2 to identify your policies' co-benefits.

Pathway 2 – Develop new goals and policies.
Pursuing this pathway means developing new climate resilience goals and policies for your comprehensive plan (and other documents, if desired). If you conducted a vulnerability and risk assessment, you could use it to help develop, prioritize, and tailor your measures.

- Use Tasks 4.1-4.2 to develop goals and policies, and list them in the Climate Element Workbook [*S3, Tasks 4.1-4.2 tab*].
- Remember, you can supplement your list of new goals and policies with ones from existing local plans [*Pathway 1*], the Climate Policy Explorer, or other sources. See Section 5 for additional guidance on selecting and customizing Climate Policy Explorer policies.

Pathway 3 – Update hazard mitigation plan
Pursing this pathway means updating your hazard mitigation plan and adopting it, by reference, in your comprehensive plan.

- Use Tasks 4.1-4.2 to help craft climate resilience measures for your hazard mitigation plan, and ensure that they meet FEMA Local Mitigation Planning Policy Guide requirements (e.g., identify implementation lead, funding source, timeframe). You should work with the Washington Emergency Management Division, FEMA, and other state and local partners while preparing and submitting a hazard mitigation plan for approval [Appendix E].
- Next, list in the Climate Element Workbook [*S3, Step 5 tab*] how your updated hazard mitigation plan's measures address each climate-related hazard that is relevant to your jurisdiction (as determined by Step 1); this will help ensure you're meeting the statutory minimum requirements for the resilience subelement.

NOTE: *If your updated hazard mitigation plan does not include at least one climate resilience policy within each of the 11 climate sectors (e.g., Agriculture & Food Systems and Cultural Resources & Practices), you could choose to integrate the missing sector measures directly into your comprehensive plan. These supplemental goals and policies could be organized in a climate chapter or dispersed across several other chapters (e.g., housing, land use, transportation).*

Resilience as cohesion, connectivity and capacity

Whether you are revising existing goals and policies or crafting new ones, it's helpful to think about climate resilience holistically. Think about equitable ways to build your communities' connectivity, cohesion, and capacity to reduce, withstand, respond to, and recover from climate impacts. Look for policy solutions within your authority to implement or influence that provide multiple co-benefits and achieve multiple goals. For example, planting drought-tolerant street trees to adjust to hotter, drier summers in frontline communities has climate mitigation and adaptation co-benefits: Such trees store carbon (*reduce*), use less water (*respond*), and provide cooling shade (*withstand*). Supporting community-run resilience hubs in these neighborhoods provides places to gather, build relationships, and share resources (*connectivity and cohesion*) year-round — not just when climate hazards and impacts occur.

Task 4.1: Select goals and policies

In this two-part task, you will choose comprehensive plan goals and supportive policies to achieve those goals. This task draws upon Section 5, as well as the work you completed in previous sections of this guidance. Remember, your suite of goals and supportive policies must meet the resilience subelement's minimum requirements [Section 3.1] and accomplish the following, consistent with state law:

- Equitably enhance the resilience of communities and ecological systems to climate change;
- Prioritize and benefit overburdened communities that will suffer disproportionately from environmental impacts and climate-related natural hazards; and,
- Be consistent with best available science and scientifically credible climate projections and impact scenarios.

Including at least one climate resilience policy for each climate-related hazard that is relevant to your jurisdiction will help you meet the minimum requirement to: *"Address natural hazards created or aggravated by climate change, including sea level rise, landslides, flooding, drought, heat, smoke, wildfire, and other effects of changes to temperature and precipitation patterns."*

Utilizing the body of work completed in Section 3 and the multicriteria analysis framework presented in Section 5 can help you meet the minimum requirement to: "*Identify, protect, and enhance community resiliency to climate impacts, including social, economic, and built-environment factors, which support adaptation to climate impacts consistent with environmental justice.*" The Climate Policy Explorer [*see* Section 5] enables you to sort model measures by their environmental justice potential, climate sector (e.g., Health & Well-being, Economic Development, and Built Environment & Energy), and other attributes.

Finally, incorporating measures within this guidance's 11 climate sectors — including Ecosystems and Water Resources — can help you meet the minimum requirement to: "*Identify, protect, and enhance natural areas to foster climate resiliency to climate change impacts, as well as areas of vital habitat for safe species migration.*" The Climate Policy Explorer enables you to sort measures using search terms such as "natural areas" and "species habitat" [*also see* Appendix N].

If you created guiding principles in Section 2, revisit them to develop resilience goals. Choose at least one supportive policy for each goal and list them in the Climate Element Workbook [*S3, Tasks 4.1-4.2 tab*]. Ensure that your collective suite of resilience goals and supportive policies addresses: the climate hazards and impacts you identified in Step 1; the gaps, opportunities, and barriers identified in Step 2; and, if applicable, the vulnerabilities and risks identified in Step 3.

- Start by revising your existing goals and policies to better support climate resilience.
- Supplement your initial list of goals and policies with Climate Policy Explorer measures or ones suggested by local tribes and stakeholders, who could offer their expertise based on their knowledge of past hazardous events and their communities' unique needs and assets. Section 5 can help you select, customize, and prioritize Climate Policy Explorer goals and policies.
- Where appropriate, identify next action steps, such as revising development codes and design standards to implement policies.

Resources:

- The Climate Policy Explorer lists model policies and links to implementation and development tools. Such tools include: model ordinances (e.g., Sustainable Development Code); guidance on protecting and enhancing and natural areas that support wildlife habitat and species migration (e.g., Washington's Urban Forest Pest Readiness Plan and WDFW's Shrubsteppe and Grassland Restoration Manual for the Columbia River Basin); and, guidance on and identifying, designing, and investing in natural and traditional infrastructure that supports community resilience to climate impacts (e.g., U.S. EPA's green infrastructure toolkit and FEMA's Building Community Resilience with Nature-Based Solutions guide).
- Additional resources include: MRSC's interactive map of Washington local and tribal governments' climate plans; and, Georgetown University's Adaptation Clearinghouse.

Task 4.2: Identify co-benefits

Commerce and its partners identified co-benefits associated with every model policy in the Climate Policy Explorer. The list of co-benefits identified includes:

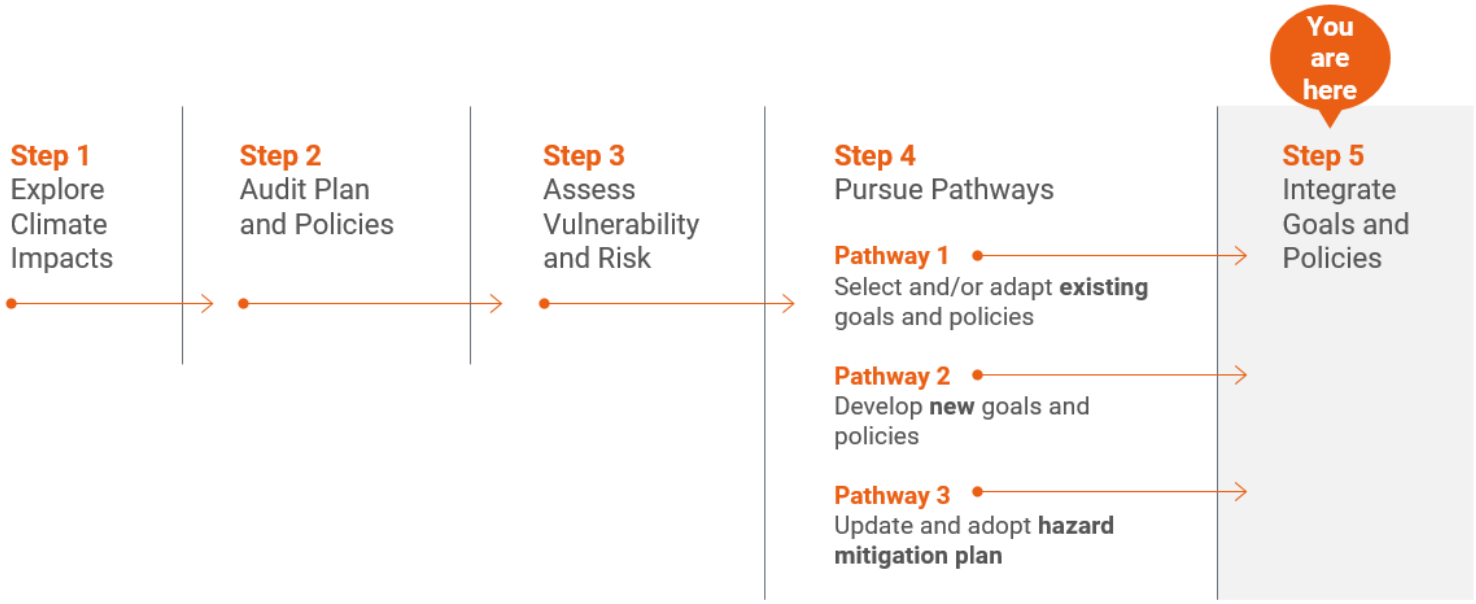
- Reduces emissions
- Sequesters carbon
- Enhances resilience
- Improves salmon recovery
- Promotes economic development
- Promotes equity and justice
- Provides cost savings
- Provides ecosystem services
- Protects tribal treaty rights
- Improves public health and well-being
- Improves air quality
- Builds community knowledge
- Protects water quality
- Supports housing supply and diversity

In the Climate Element Workbook [*S3, Tasks 4.1-4.2 tab*], note every co-benefit associated with each of your policies — including ones you've developed or selected from the Climate Policy Explorer or other sources.



A mosaic of agricultural and working forest land provides habitat connectivity in the North Fork Nooksack watershed. ***CREDIT:*** *WDFW*

Step 5 — Integrate goals and policies



In Step 4, you built a list of climate resilience goals and policies. In this step, you will decide where you intend to integrate your measures in your comprehensive plan and SMP. As a reminder, you could choose to list all of your climate element goals and policies (GHG reduction and resilience) in one chapter or could choose to integrate them into several chapters/elements (Land Use, Housing, Transportation, etc.).

- Enter your climate resilience goals and policies into the Climate Element Workbook [*S3, Step 5 tab*], and note how they meet the resilience subelement's minimum requirements. In the tab's "Climate Policy Explorer Nexus" column, note each measure's Climate Policy Explorer ID#, if applicable.
- If you choose to integrate your climate resilience goals and policies into several comprehensive plan chapters/elements, provide an index of all adopted climate goals and policies to Commerce for plan review. You should provide this index as a memo with the comprehensive plan and preserve it as a record of adoption. Use the Climate Element Workbook's "Measures Index" tab to create this index.
- See Section 5 for a model climate element example.
- See Section 6 for guidance on evaluating progress implementing your resilience policies.

Resource:

- The Washington State Climate Resilience Strategy highlights state agency-led efforts that could support implementation of resilience policies in local jurisdictions. This could include actions, grant programs, data sources, technical guidance, and other examples that are highlighted in the strategy.

Section 4: GHG emissions reduction subelement



Wind turbines rise above the Columbia River's John Day Dam, as viewed from Lewis-and Clark Highway (SR-14) in Klickitat County. Generating electricity from wind farms, hydropower dams, solar panels, and other renewable energy technologies is critical to helping Washington hit its economywide target of net-zero greenhouse gas emissions by 2050. ***CREDIT:*** *Washington Department of Commerce*

4.1: Overview

Washington's cities and counties should use this section to evaluate and mitigate local greenhouse gas (GHG) emissions and per capita vehicle miles traveled (VMT) to develop comprehensive plan goals and policies.

RCW 36.70A.070(9)(d)(i)(A) requires climate mitigation measures to include, at a minimum, goals and policies within the following climate sectors: Built Environment & Energy; Transportation; and Zoning. These are the climate sectors where local action can make the biggest impact.[30] The subelement should be developed with an overall target of reaching net-zero emissions by 2050.

Defining climate mitigation

Measures to reduce the amount and rate of future climate change by reducing emissions of heat-trapping gases or removing carbon dioxide from the atmosphere.

— 5th National Climate Assessment

Commerce's Climate Policy Explorer includes model polices with a demonstrated ability to reduce emissions. Such climate mitigation measures — which are within local governments' authority to implement or influence via development regulations and other actions — will help make Washington more resilient by reducing the rate and extent of climate change.

[30] See WAC 365-196-210 and Appendix P for a full list of the 11 climate sectors used in this guidance and Climate Policy Explorer.

Minimum requirements for GHG emissions reduction subelement:

RCW 36.70A.070(9)(d)(i)(A-C) requires that your GHG reduction subelement and its related development regulations must identify actions the jurisdiction will take during the planning cycle that will:

- Result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction but without increasing emissions elsewhere in Washington;
- Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse gas emissions elsewhere in Washington; and,
- Prioritize reductions that benefit overburdened communities in order to maximize the co-benefits of environmental justice and reduced air pollution.

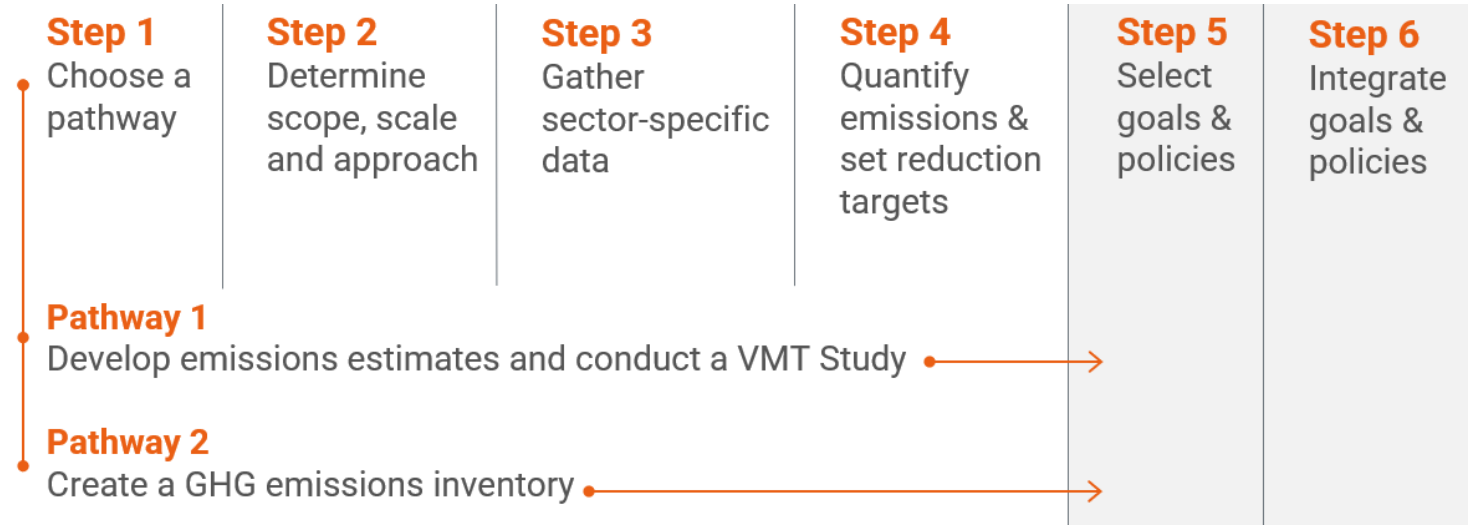
You could develop your own goals and policies, as well as select ones from Commerce's Climate Policy Explorer, to address these requirements. Policies that are not specifically included in the Climate Policy Explorer will be considered consistent with this guidance if they are supported by scientifically credible projections and scenarios that indicate their adoption will likely result in reductions of GHG emissions or per capita VMT equivalent to the measures in the Climate Policy Explorer.[31] We recommend including in your record of adoption an appendix of the sources you relied upon as a basis for the climate measures that ultimately move forward into the comprehensive plan.

4.2: GHG reduction guidance process

This section includes six steps and provides two pathways [*Figure 7]* to guide the creation of a GHG emissions reduction subelement. These steps provide a linear framework for assessing current emissions, and selecting, prioritizing, and adopting climate mitigation goals and policies. The pathways provide flexibility in how you can assess local emissions [Steps 2-4].

This section's steps and associated tasks have corresponding tabs in the companion Climate Element Workbook [Appendix B] for you to record your work and emissions data. We recommend that you review the workbook and the corresponding guidance steps before beginning work on this subelement.

Figure 7: Pathway Summary



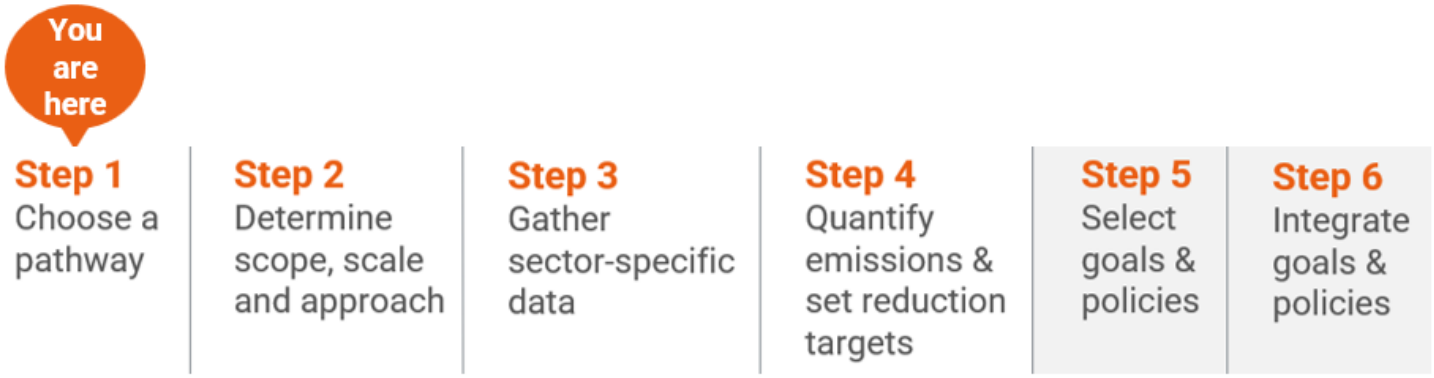
[31] RCW 36.70A.070(9(d)(ii).

With each pathway, you should refer to Section 2 to conduct early and ongoing engagement. This will help ensure that policymakers and members of the public support your process, recommendations, and subelement iterations. Below are some recommendations for your planning process:

- Designate internal staff members who could create technical graphics to help communicate emissions data in compelling ways. A jurisdiction might also consider hiring staff, even for a limited duration, to support engagement efforts.
- Identify and engage community-based organizations, local nonprofits focused on environmental issues, school districts, and local business networks that can be effective partners in sharing out your climate measures and supporting implementation efforts.
- Design and convene workshops with overburdened communities and vulnerable populations to help develop and implement climate mitigation measures that support environmental justice and equity. Refer to Section 2 and the Washington Department of Health's Environmental Health Disparities Map to identify frontline communities and engagement best practices.

> ***NOTE:*** *The Environmental Health Disparities Map is not fully comprehensive with regard to tribal information, so the map should be complemented by consultation with tribes and guidance from the Environmental Justice Council.*

Step 1 — Choose a GHG emissions pathway



In this step, you should select one of two pathways to assess local GHG emissions: Pathway 1 entails using high-level emissions estimates and conducting a VMT study, while Pathway 2 entails developing a comprehensive GHG emissions inventory. Your regulatory requirements will help determine your pathway:

- **Voluntary jurisdictions:** Counties and cities that are not required to create a GHG reduction subelement could pursue any of the pathways, taking into account available emissions data, staff capacity, budget, and other factors.
- **Mandatory jurisdictions:** Counties and cities that are required to create a GHG reduction subelement should pursue Pathway 2. Indeed, if you plan to voluntarily seek Commerce's approval of the GHG reduction subelement, you must pursue Pathway 2 and create an inventory of local emissions.[32] You could use your own inventory, or a Commerce-provided inventory (if available) to apply for approval.

Use the Climate Element Workbook [Appendix B] "S4, Step 1 Pathway Selection" tab to learn about available and recommended pathways based on the applicability of Growth Management Act requirements.[33]

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[32] RCW 36.70A.096
[33] RCW 36.70A.095

All pathways depend on a multidisciplinary team [*see* Section 2], and sometimes a consultant, to gather and evaluate climate planning data. The information below can help inform your pathway selection:

Pathway 1: Develop GHG emissions estimates and conduct a VMT study

- Advantages

  - Not as technically rigorous as an inventory (Pathway 2) for determining emissions
  - Might be able to perform emissions analysis in-house and not need a consultant
  - A VMT study is repeatable and provides a reliable baseline to track VMT reduction progress[34]

- Limitations

  - Baseline GHG emissions are harder to establish as all emission sources are not addressed due to data limitations.
  - Downscaling emissions from state and county inventories might overestimate or underestimate emissions based on the differences between the nature of GHG-generating activities and processes in your jurisdiction (e.g., agriculture activities and industries) and those in your county or the state.
  - Difficult to monitor progress toward emissions-reduction targets, as reductions will not be accurately captured (i.e., impact of any actions taken by your jurisdiction to reduce emissions will not be accurately reflected in emissions estimates generated by downscaling emissions from your county or the state inventory)
  - Might require a consultant to conduct a VMT study

Pathway 2: Create a GHG emissions inventory

- Advantages

  - Provides a comprehensive analysis of emissions from all sources
  - Repeatable process
  - Progress can be tracked more reliably toward emissions-reduction targets

- Limitations

  - Technically rigorous. A jurisdiction might need to hire a consultant or additional technical staff members.
  - There might be shortcomings with the level of the data (for example: scaled at national, state, or region) and timing of when data is released.

Jurisdictions have approached developing and reporting of their emissions inventories in many ways, including:

- Conducting and maintaining GHG emissions inventories, primarily internally;
- Joining an organization such as ICLEI[35] to obtain software and expertise for completing an inventory; and,
- Contracting with a consulting firm to complete the inventory and generate reports for the jurisdiction.

Appendix H provides an example RFP that you might adapt to solicit bids for consultants to complete an inventory.

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[34] A VMT study could also be done in conjunction with an inventory to enhance transportation data, especially data related to passenger vehicles.

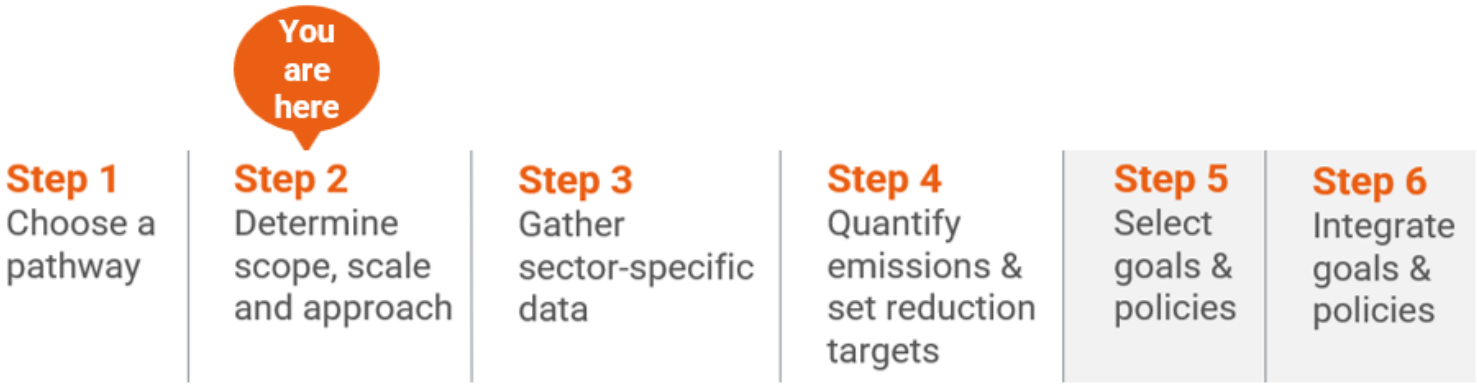
[35] ICLEI used to stand for International Council for Local Environmental Initiatives, but now is simply known as ICLEI - Local Governments for Sustainability. Information about this organization can be found here: https://icleiusa.org.

Resources:

- County inventories are available through Commerce for Benton, Clark, Franklin, King, Kitsap, Pierce, Skagit, Snohomish, Spokane, Thurston, and Whatcom counties
- Regional planning organizations and Clean Air Agencies (CCAs) might have existing resources and could provide technical assistance to support a jurisdiction's emissions inventory.
- Below are examples of city inventories:

  - City of Spokane (consultant-prepared)
  - City of Bainbridge Island (consultant-prepared, ongoing ICLEI membership and in-house updates)

Step 2 — Determine scope, scale, and approach



As per your selected pathway, you should determine:

- The study area or the scale for conducting your emissions assessment. For a VMT analysis, you should decide zones of traffic analysis and VMT of concern (e.g., resident-based, employment-based, and pass-through). For an inventory, it includes defining or identifying the geography (e.g., city limits or growth boundaries) to include in the inventory.
- The scope (the extent of factors or emissions sources) to include in the inventory
- The base year for assessing emissions (Commerce recommends a 2022 baseline)
- The methodology for assessment

Use the "S4, Steps 2-4 Pathway 1" or "S4, Steps 2-4 Pathway 2" tab in Climate Element Workbook [Appendix B] to document your work on Step 2 tasks.

Following Pathway Tasks

This section's Pathway 1 tasks are labeled with the letter "a." Pathway 2 tasks are with the letter "b."

Pathway 1: GHG emissions estimates and VMT study

Task 2.1a: Define study area and project scope

Determine the area that you will consider for developing estimates. This can be your incorporated area, UGA boundary, or any other geography. For a VMT Study, start by establishing an appropriate size and number of zones/areas in the jurisdiction. For this analysis:

- Geography usually means either city boundaries or cities plus unincorporated areas for a county.
- Define modeling purposes; what are the existing model traffic analysis zones?
- Identify which VMT your jurisdiction should focus on (VMT of concern), including people who live, work, and travel through the area.

Task 2.2a: Select baseline year

For both the emissions estimate and VMT study, Commerce recommends that you use the baseline year of 2022 to best align with the available inventories. If data are not available for 2022, data from another recent year could be used for generating the estimates.

Pathway 2: Emissions inventory

Your ability to effectively mitigate climate change and monitor progress depends largely on having access to GHG emissions data. An emissions inventory provides such data and enables you to understand the sources of emissions and the effectiveness of different actions (measures) to remove or reduce emissions within a specific geography and time period. This is generally referred to as a "Geographic Analysis" and is a more commonly used method for creating an inventory.

Task 2.1b: Define the study area and scope of emissions

To create an inventory, you must first identify the geographic extent for the inventory and analysis. Identify whether the inventory will be based on the boundary of your jurisdiction or other geographies. You must also define the scope, which refers to the extent of factors or emissions sources to include in the inventory [*Figure 8*].

The scope could include: 1) Only the area fully within the boundary of the jurisdiction [*Scope 1*]; 2) the area of the jurisdiction, plus electricity supplier [*Scopes 1 and 2*]; or, 3) The area of the jurisdiction, plus indirect sources that a jurisdiction contributes to or is affected by [*Scopes 1, 2, and 3*]. These scopes are described in more detail below, and a jurisdiction could choose to analyze one or more of these.

Scope 1: These are emissions generated within the jurisdictional boundary and include: industrial processes and stationary fuel combustion that emit greenhouse gases; transportation within the jurisdictional boundary; emissions sources and sinks associated with land uses such as forestry and agriculture; and, waste and wastewater generated within the jurisdiction. Jurisdictions could distinguish emissions sources according to what is directly under their control, and what emissions are generated from the community's residences and businesses, as follows:

- A municipal inventory that accounts for GHG emissions resulting from government operations. This can help the city or county understand emissions stemming from activities that are entirely within its control, such as fleet vehicle emissions and municipal building operations.
- A communitywide inventory includes emissions from government operations, as well as all activities of community residents, businesses, and non-municipal organizations. This includes things such as fuels used by vehicles traveling within the community, solid waste generated by the community, and emissions tied to home heating and electricity.

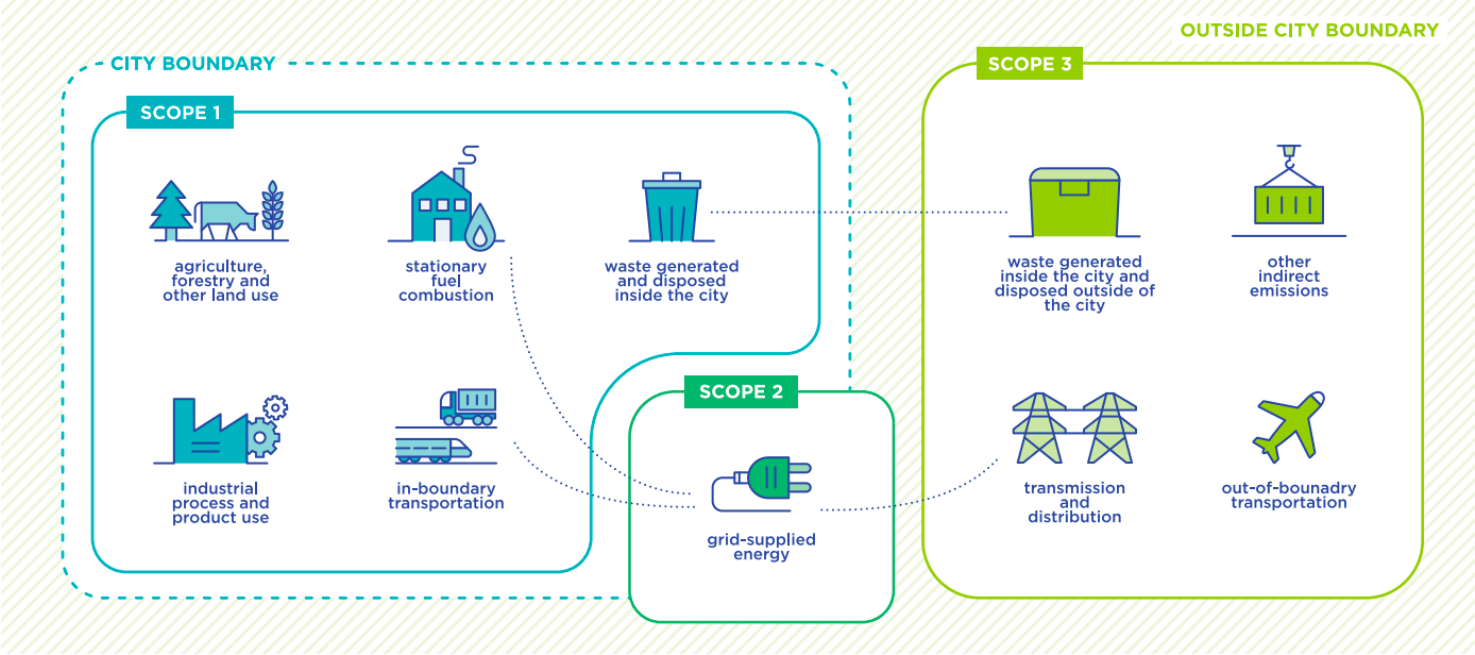
Scope 2: These are emissions associated with grid-supplied electricity. Most jurisdictions do not generate electricity within their jurisdictional boundary, but rather they purchase it from a utility that generates electricity and associated GHG emissions elsewhere. These emissions are counted as part of a jurisdiction's Scope 2 emissions.

Scope 3: These are emissions embedded in the goods and services that are consumed within the community but generated outside of it. This includes things such as food and other household purchases and includes activities such as airline travel in which community members are engaged but that occurs outside the jurisdictional boundary.

The GHG emission scope(s) that you choose to incorporate into your emissions inventory should be driven by the fundamental question laid out in the beginning of this guidance: What are the goals of the jurisdiction in creating this inventory? For example, if you are primarily interested in reducing emissions from sources over which you have direct control, an inventory focused on Scope 1 and 2 municipal emissions could be the most appropriate. If a

complete picture of community emissions is desired, then a communitywide inventory that considers all three scopes would be the right approach. As gathering Scope 3 data can be a resource-intensive process, you should at least consider Scope 1 and 2 emissions for a communitywide inventory. This guidance focuses mostly on Scope 1 and 2 emissions but recommends including key Scope 3 emissions (such as from aviation activity and solid waste generation) if data is available.

Figure 8: GHG emissions scopes for determining the extent of inventory analyses within jurisdictional geographies/boundaries



SOURCE: *C40 Cities Climate Leadership Group*

Task 2.2b: Select baseline year

It is important to select an emissions inventory baseline year as the benchmark against which future emissions are compared. You should use a 2022 baseline year to best align with state data and Commerce inventories. It is likely easier to find more complete and accurate data to support an emissions inventory from a more recent timeframe, as methods of tracking data for common emissions sources, such as energy and transportation, have become increasingly digitized and available online in recent years.

Task 2.3b: Identify study methodology

It is critical that your accounting methods are accurate, repeatable, and verifiable, regardless of the inventory's study area and scope. It is also helpful for your inventory to be comparable across multiple jurisdictions or regions. Jurisdictions should use an inventory tool or protocol that ensures emissions are reported in a consistent, verifiable, and credible way.

For a communitywide inventory, Commerce recommends using ICLEI's U.S. Community Protocol for Accounting and Reporting of GHG Emissions (USCP) and The Greenhouse Gas Protocol's Global Protocol for Community-Scale Greenhouse Gas Inventories (GPC). Appendix I provides a methodology recommended by Commerce for creating a communitywide inventory based on these protocols. For a government operations inventory, Commerce recommends using ICLEI's Local Government Operations (LGO) Protocol.

Step 3 — Gather sector-specific data



This step includes guidance on how you can collect data to assess emissions from different emissions sectors (such as buildings, transportation, and other activities) and sources (such as electricity, vehicles, waste management and other fuels, equipment, and processes). Use the "S4, Steps 2-4 Pathway 1" or "S4, Steps 2-4 Pathway 2" tab in Climate Element Workbook [Appendix B] to document your work for tasks in Step 3. The tabs also include resources in Commerce notes (italicized red text) to help with your assessment.

Pathway 1: GHG emissions estimates and VMT study

Task 3.1a: Gather population and agricultural land data

To estimate emissions for a city, you should start by gathering population data for the baseline year and the agricultural land acreage for your jurisdiction and county. To estimate emissions for a county, gather population data and agricultural land acreage for your county and the state.

Task 3.2a: Gather emissions data from inventories and information from secondary sources

Next, you should gather emissions data for your county or the state. Commerce provides inventories for the 11 counties that are required to develop a GHG subelement and the state inventory can be sourced from Ecology's webpage. You could develop high-level emissions estimates for your jurisdiction by downscaling emissions from your county or the state inventory using "proxy" variables, such as population and agricultural land information.

> ***NOTE:*** *The advantage of this approach is that it is generally easier to compile information from established inventories and determine how emissions sources in your jurisdiction can be compared to those in these inventories. However, generating high-level emissions estimates by downscaling emissions has major limitations. This approach might overestimate or underestimate emissions based on the differences between the nature of emissions-generating activities and processes in your jurisdiction and those in your county or the state.*

You might also rely on other secondary emissions or activity data from regional, state, and federal agencies for estimating emissions. This approach is specifically recommended for estimating transportation and industry emissions in this pathway:

- **Transportation**: Gather VMT data from your Regional Travel Demand Model (travel model) or Highway Performance Monitoring System (HPMS) and the Motor-Fuel Use data for Washington from the Federal Highway Administration. For estimating transit emissions at the county level, gather annual fuel use and vehicle miles traveled for your transit agency from the National Transit Database (NTD).
- **Industry**: Gather emissions data from Ecology reports (for facilities with emissions of more than 10,000 MTCO2e per year).

Document and organize your data in the "Data Collection Worksheet" and the "Methodology Changes Worksheet" [*S4, Steps 2-4 Pathway 1 tab*] of the Climate Element Workbook. Ensure documentation of your data sources and

data changes over time, and any relevant methodological information in the workbook. This critical step will help you while updating the estimates in the future and tracking changes over time. Upon completion of the assessment, keep final records in an accessible location, such as your archives.

Task 3.3a: Collect data for VMT of concern

Collect baseline data for current per capita VMT for your study. You should use 2022 as the baseline year. To determine significant VMT sources, collect, at minimum, per capita VMT data associated with the travel of people who live in the area and the travel generated by employers. You could use VMT data from private data vendors such as StreetLight or Replica to collect home- and employee-based VMT information. Use the "VMT Data Collection Worksheet" [*S4, Steps 2-4 Pathway 1" tab*] of the Climate Element Workbook to organize your data.

Pathway 2: Emissions inventory

Task 3.1b: Collect data

The data you collect will depend on the scope determined in Step 2. All primary emissions-generating activities should be included in a communitywide inventory. Consult with local stakeholders and tribes as you collect data. Refer Appendix I for data sources recommended by Commerce for each emission sector and source. Use the "Data Collection Worksheet" [*S4, Steps 2-4 Pathway 2 tab*] of the Climate Element Workbook to organize your data and to document data sources and process for guiding future updates.

Below is a list of community emissions sources, associated activities, and examples of data sources:

1. Use of Electricity and Natural Gas

- **Emissions Sources:** Power-generating facilities and utilities that supply electricity and natural gas
- **Examples of Data Sources:** Utilities for electricity and natural gas consumption and emission factors

2. Use of fuel in residential and commercial stationary combustion equipment

- **Emissions Sources:** Boilers, furnaces, propane tanks, and generators.
- **Examples of Data Sources:** Propane supply companies, community survey of consumers or industries, and downscaled state-level data

3. Use of on-road passenger and freight motor vehicles and marine vessels

- **Emissions Sources:** On-road passenger, transit, and freight vehicles operating within the inventory geography and marine vessels operating within the inventory geography
- **Examples of Data Sources:** Federal HPMS data, regional travel model, downscaled state or regional studies, and service operators

4. Treatment of wastewater

- **Emissions Sources:** Wastewater infrastructure operations and septic systems
- **Examples of Data Sources:** Wastewater treatment plant operators

5. Generation of solid waste

- **Emissions Sources:** Solid waste disposal facility operations and solid waste transportation (could be counted in motor vehicle category above)
- **Examples of Data Sources:** Solid waste vendor

Jurisdictions also need to form and maintain relationships with key vendors and other partners for data collection and tracking. Obtaining data regarding electricity usage from public utilities could be easier than obtaining data from private entities. The level of effort for obtaining data also depends on the reporting requirements and accounting formats of vendors. Remember to keep records of data sources and contact information for data collection in the "Data Collection Worksheet" [*S4, Steps 2-4 Pathway 2 tab*].

Other governmental or taxing entities in the jurisdiction might already be conducting their own emissions inventory or collecting data that could be useful for a local emissions inventory. Entities such as school districts, park districts, fire districts, and utility districts might also have a community greenhouse gas inventory.

Task 3.2b. Develop GHG emissions inventory management plan

A primary reason for creating an emissions inventory is to provide a tool for benchmarking progress toward climate goals and targets. The inventory should be updated regularly, so progress can be measured and shared. Primary components of an emissions inventory management plan should include:

- Identifying an inventory update interval
- Managing data quality
- Reviewing and testing inventory assumptions and limitations
- Sharing results with the broader community
- Archiving the final inventory report, supporting data, and documentation for long-term reference

Use the "S4, Steps 2-4 Pathway 2" tab of the Climate Element Workbook to document your work for task 3.2b.

1) Identify Update Interval

Emissions inventories are intended to be replicated in a consistent manner to report progress. The frequency of inventory updates should be driven by jurisdictional goals. The goals should include benchmarks for emissions reductions, which will be important for evaluating progress.

You should identify a reporting interval that is informative, realistic based on given resources, and aligns with the climate action goals and targets. Shorter inventory intervals, such as every 3-5 years, are useful to obtain more regular input and information on the emissions over which the jurisdiction has the most influence.

Many jurisdictions set ultimate and interim goals and targets regarding emissions reductions that inform the frequency with which inventories are conducted. For example, the city of Spokane has set a GHG emissions-reduction target of 45 percent by 2030, 70 percent by 2040, and net-zero (or 95 percent) by 2050 from its 2016 baseline. To monitor progress, Spokane decided to update its inventory every two years.[36]

2) Ensure Data Quality Management

Adherence to data quality standards, including a plan for collecting and managing data, is essential for transparency and accountability. This will also ensure the creation of an emissions inventory that accurately reflects emissions and is repeatable in a manner that is consistent and valid for tracking emissions over time. The greenhouse gas inventory protocols noted in this section have guidelines regarding the integrity of inventory data.

Plan components for collecting and managing data:

- **Data:** Information regarding activity levels and emissions factors is the foundation of an emissions inventory. The design of your inventory should facilitate and support consistent data collection and maintenance procedures, including the methods and review processes.
- **Methods:** You should select and design methods for estimating emissions that accurately represent the characteristics of their emission sources. It is quite possible that collection methods will change over time.

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[36] City of Spokane (2025). City of Spokane's Greenhouse Gas Inventory: The Latest Community Climate Pollution Reporting.

- **Inventory Processes and Systems:** An inventory should have technical and managerial consistency in the ways in which data are collected and managed. Assign responsibility for ongoing updates to your inventory. It might make sense, based on jurisdictional operations, to house this data management with staff who already conduct similar functions for other data collected and processed within the organization.
- **Quality Assurance/Quality Control (QA/QC):** QC activities include regular checks on the consistency of the data being collected, whether from external sources or generated internally; and ensuring that widely accepted standardized procedures are being used for calculations, estimating uncertainties, and reporting. QA activities include reviewing methods and results before publication.

3) Review and Test Inventory Assumptions and Limitations

Conducting regular reviews of the assumptions and limitations of an inventory will ensure its continued relevance and accuracy. Inventory data can change over time, which has meaningful implications for changes in emissions. Some ways in which data can change over time include:

- Changes in vendors used for jurisdictional services
- Changes in internal government operations
- Changes in services offered to the community (e.g., new public infrastructure or transit)

Integrating a review of scope and sources of the inventory is critical. It might be possible to embed this review in the QA/QC processes discussed above. Jurisdictions could access independent technical expertise that can incorporate this review into their process.

Components such as emissions factors or regional emissions projections used in setting benchmarks and climate action goals are similarly subject to change as climate modeling and policy continue to develop. Hence, a regular review of protocols to ensure the inventory uses the most up-to-date science, methodology, and policy information is important. Use the " Data Quality Management Worksheet" [*S4, Steps 2-4 Pathway 2 tab*] of the Climate Element Workbook to document your work for ensuring data quality and reviewing assumptions as well as documenting limitations related to your data/methodology.

4) Share results with the broader community

Data that is visually engaging and meaningful to a wide audience and is actionable is key in communicating results.

5) Archive information

Ensure that the final inventory report, supporting data and documentation is archived in your permanent records.

Step 4 — Quantify emissions & set reduction targets



GHG emissions are calculated by multiplying activity data by the fuel or activity-specific emissions factors. For Example:

- Kilowatt-hours (kWh) of electricity use x CO2/kWh = CO2 from electricity use
- Gallons of gasoline consumed by vehicles x CO2 per gallon = CO2 from transportation
- Natural gas therms consumed by buildings x CO2 per therm = CO2 from natural gas use in building
- Tons of waste generated by a community x CO2 per ton = CO2 from solid waste

The most common greenhouse gases are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), water vapor (H2O), and halogen-bearing gases (e.g., fluorocarbons from industrial activities).[37] These gases have different warming potentials in the atmosphere and are typically calculated and reported in units of metric tons of carbon dioxide equivalents (MT CO2e).

As mentioned earlier, you can also develop high-level emissions estimates for your jurisdiction by downscaling emissions from a larger scale inventory using "proxy" variables. This step describes how you can downscale emissions from inventory data or use activity or consumption data collected in the previous step to calculate emissions by multiplying with emission factors. It also provides guidance on how jurisdictions can set reduction targets. Use the "S4, Steps 2-4 Pathway 1" or the "S4, Steps 2-4 Pathway 2" tab in Climate Element Workbook [*Appendix B*] to document your work for tasks in Step 4. The tabs also include resources in Commerce's notes to help with your assessment.

Pathway 1: GHG emissions estimates and VMT study

Task 4.1a. Estimate emissions

After collecting data in Step 3, you should estimate emissions from all key sectors and sources. The list below provides an approach for estimating emissions for each sector/source and notes limitations:

- **Electricity and natural gas use:** Downscale residential, commercial, and industrial building emissions for electricity and natural gas from your county or the state inventory using population as the proxy variable (i.e. county-to-city or state-to-county population ratio). This approach might overestimate or underestimate emissions based on the nature of residential, commercial, and industrial land use in the jurisdiction (e.g., big versus small homes, hospitality versus office space, large versus small warehouses). This approach will not capture all emissions from electricity and natural gas use for industrial processes.
- **Propane, fuel oil, and other petroleum products:** Downscale emissions for propane and fuel oil use from your county inventory or for buildings' petroleum use from the state inventory using population as the proxy variable.

[37] Center for Climate and Energy Solutions fact sheet.

This approach might overestimate or underestimate emissions based on the number and nature of buildings that are unsupported by utilities in the jurisdiction. This approach will not capture emissions from propane, fuel oil, and other petroleum products use for industrial processes.

- **Industry**: Use Ecology reports for industry-related emissions in your jurisdiction for facilities with emissions of more than 10,000 MTCO2e. This approach might underestimate emissions, as this approach will not include emissions from smaller industrial facilities and from industrial electricity use.
- **On-road vehicles:** Use VMT data from your travel model or the HPMS and Motor-Fuel Use data for Washington to estimate fuel use for travel in your jurisdiction. Use emission factors from EPA's GHG Emission Factors Hub to calculate emissions. This approach might underestimate emissions, as fuel sales from outside the state are not included.
- **Transit:** For estimating city-level transit emissions, downscale transit emissions from your county inventory using population as the proxy variable. For estimating county-level transit emissions use annual fuel use and vehicle miles traveled for your transit agency from the National Transit Database (NTD) and emission factors from EPA's GHG Emission Factors Hub. This approach might overestimate or underestimate emissions based on transit service in your city.
- **Solid waste management**: Downscale the solid waste emissions from your county or the state inventory using population as the proxy variable. This approach might overestimate or underestimate emissions based on the nature of waste-generating activities (e.g., construction) and any waste-diversion programs (e.g., recycling) in your jurisdiction that are different from your county or the state.
- **Wastewater treatment:** Downscale wastewater emissions from your county or the state inventory using population as the proxy variable. This approach might overestimate or underestimate emissions based on the nature of water consumption by land use (e.g., presence of industrial operations, nature of commercial activities) and population in your jurisdiction that depends on septic systems.
- **Agricultural activities:** Downscale agriculture emissions from your county or the state inventory using agricultural land acreage as the proxy variable. This approach might underestimate or overestimate emissions, as the nature of agricultural activity in your jurisdiction (e.g., cropland and livestock) is not considered.

Use the "Emissions Calculations Worksheet" [*S4, Steps 2-4 Pathway 1 tab*] of the Climate Element Workbook to calculate GHG emissions for different sources and document any limitations. Remember, you could modify the worksheet, as needed, to record and evaluate the data you gather. You should also include a summary table of emissions data in your comprehensive plan.

Task 4.2a. Conduct a comprehensive VMT assessment

Conduct a Travel Market Assessment by identifying large employers (already listed in the Commute Trip Reduction program), large residential areas, tourist activities, and other large trip generators. To determine opportunity areas for reducing per capita VMT, consider which locations are not well-served by transit and active-transportation facilities to understand how strategies would affect different areas; for example, locations with poor or limited transit service options and minimal protected bicycle facilities could benefit from demand strategies such as carpooling, teleworking, providing flexible work hours, or by improving active-transportation options. Use the "Travel Market Assessment Worksheet " [*S4, Steps 2-4 Pathway 1 tab*] of the Climate Element Workbook to document your work. You should include a summary table of VMT assessment within your comprehensive plan.

Task 4.3a. Set reduction targets

Based on the emissions estimates, you should set an overall emissions-reduction target. You should:

- Focus on reducing your "Core" emissions, which includes sectors and sources that county and city governments typically have influence over through their policies and related mechanisms (such as zoning codes and other regulations). See Appendix J for information on typical Core and Non-core emissions sectors and sources for counties and cities.

- Set incremental targets that lead to achieving net-zero emissions in 2050, or 95 percent below a jurisdiction's baseline levels. Throughout the guidance, we suggest using 2022 as the baseline year given the level of data available and consistency with statewide efforts. Maintaining the initial results of your emissions estimate and updating the inputs every five years can help track progress toward your jurisdiction's targets. However, it is likely that reductions from implemented strategies will be averaged over a larger scale (county or state), lowering their overall impact on communitywide emissions.
- Consider potential reductions from existing federal and state actions that will impact local emissions. Review and evaluate existing state and federal climate actions and targets. This will help you understand what emissions sources should already be reduced or eliminated by the target dates you choose. Use the "Federal/State Policies Worksheet" [*S4, Steps 2-4 Pathway 1 tab*] of the Climate Element Workbook to document relevant policies and plans and expected reductions from them. Appendix K includes a list of federal and state policies and plans that you could consider.
- Evaluate strategies being considered for their emissions-reduction potential using Appendix L (The Western States Handbook) or other scientifically credible resources. Document strategies and potential reductions in the "Strategy GHG Emissions Reduction Potential Worksheet" [*S4, Steps 2-4 Pathway 1 tab*] of the Climate Element Workbook.

You could also choose to develop per capita VMT reduction targets that can be achieved in the near term (five years) and longer term (10 years). To set VMT targets, you should:

- Consider matching the implementation timeframes of your jurisdiction's targets with those of the other comprehensive plan goals for a 20-year horizon.
- Refer to WSDOT's guidance that assists local jurisdictions in establishing local VMT reduction targets and provides options for local jurisdictions to achieve the targets.
- Collaborate with your Regional Transportation Planning Organization (RTPO) to set VMT reduction targets.

Use the "Reduction Targets Worksheet" [*S4, Steps 2-4 Pathway 1 tab*] in Climate Element Workbook to document targets for reducing your emissions and per capita VMT (optional).

Pathway 2: Emissions inventory

Task 4.1b. Quantify emissions and VMT

Implement your chosen GHG emissions inventory protocol. The activity data collected in Step 3 for an emissions inventory might arrive in different units. For example, electricity use is reported in kWh, stationary fuel combustion will likely be expressed in gallons or another volumetric unit, and transportation is commonly expressed in terms of VMT. Standard GHG inventory protocols provide information on how to convert these different activity metrics into total emissions by using emission factors. Refer to Appendix I for emission factors information recommended by Commerce.

Use the "Emissions Calculations Worksheet" [*S4, Steps 2-4 Pathway 2 tab*] of the Climate Element Workbook to calculate and document GHG emissions for different sectors or sources. Completing the worksheet includes ranking the sectors from highest to lowest emissions. The ranking can be used to identify areas for priority action. For example, transportation and built environment are the largest sources of emissions for many local jurisdictions and measures to reduce those emissions may be the primary focus of your subelement. After completing your inventory, develop a summary of the emissions inventory depicting all GHG emissions in specific percentages to share with your community and include in your comprehensive plan.

Task 4.2b. Set reduction targets

Based on your calculated emissions, you should set an overall emissions-reduction target. You should:

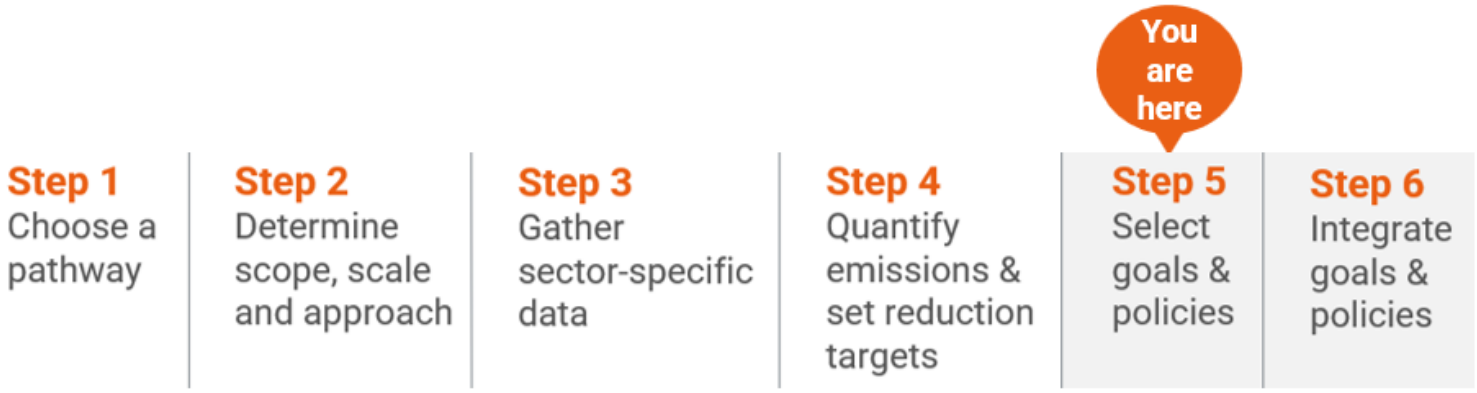
- Focus on reducing your "Core" emissions, which includes sectors and related sources that county and city governments typically have influence over through their policies and related mechanisms (such as zoning codes and other regulations). Refer to Appendix J for information on typical Core and Non-core emissions sectors and sources for counties and cities.
- Use 2022 as your emissions baseline year and set incremental targets that lead to achieving net-zero emissions by 2050.
- Consider potential reductions from existing federal and state actions that will impact local emissions. Review and evaluate existing state, and federal climate actions and targets. This will help you understand what emissions sources should already be reduced or eliminated by the target dates you choose. Use the "Federal/State Policies Worksheet" [*S4, Steps 2-4 Pathway 2 tab*] of the Climate Element Workbook to record these actions and expected reductions from them. Appendix K includes a list of federal and state policies and plans that you could consider.
- Evaluate GHG reduction strategies for their emissions-reduction potential using Appendix L (the Western States Handbook) or other scientifically credible resources. Use the "Strategy GHG Emissions Reduction Potential Worksheet" [*S4, Steps 2-4 Pathway 2 tab*] of the Climate Element Workbook to evaluate strategies. A carbon wedge tool can also be used for reviewing emissions forecasts and understanding emissions-reduction gaps based on available strategies. Please refer to this video that explains how counties can use the carbon wedge in Commerce's emissions forecast and scenario-planning tool to establish their reduction targets.

You could also choose to develop per capita VMT reduction targets that can be achieved in the near term (five years) and longer term (10 years). To set VMT targets, you should:

- Consider matching the implementation timeframes of your jurisdiction's targets with those of the other comprehensive plan goals for a 20-year horizon.
- Refer to WSDOT's guidance that assists local jurisdictions in establishing local VMT reduction targets and provides options for local jurisdictions to achieve the targets.
- Collaborate with your Regional Transportation Planning Organization (RTPO) to set VMT reduction targets.

Use the "Reduction Targets Worksheet" [*S4, Steps 2-4 Pathway 2 tab*] in Climate Element Workbook to document your targets for reducing emissions and per-capita VMT (optional).

Step 5 — Select goals & policies



In this step, you will select goals and supportive policies (measures) necessary to achieve targets established in Step 4. Use Commerce's Climate Policy Explorer to review model goals and policies and read the information under

"GHG Subelement Requirements" for each measure to make sure that you include goals and policies that satisfy the following minimum requirements of RCW 36.70A.070(9)(d)(i)(A-C):

- Result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction but without increasing emissions elsewhere in Washington;
- Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse gas emissions elsewhere in Washington; and,
- Prioritize reductions that benefit overburdened communities in order to maximize the co-benefits of reduced air pollution and environmental justice.

If you created guiding principles in Section 2, revisit them to develop climate mitigation goals. Including goals and policies within the Transportation, Built Environment & Energy, and Zoning climate sectors will help you meet the minimum requirement: "*Result in reductions in overall greenhouse gas emissions generated by transportation and land use within the jurisdiction but without increasing emissions elsewhere in Washington.*" You should also use information from the assessment completed in Steps 3 and 4 to determine key emission sources and select goals and policies to reduce emissions from them. Measures from Transportation, Built Environment & Energy, and Zoning climate sectors will typically address emissions from transportation and built environment sectors in your assessments.

> ***NOTE:*** *You should use strong and directive verbs in your policies, where possible, and amend development regulations such as zoning or building standards to ensure that your measures achieve reduction in GHG emissions and per-capita VMT [see Section 5.2].*

To satisfy other requirements, refer to the information in the Climate Policy Explorer. You could use the "GHG Subelement Requirements" search category in the "Advanced" tab to look for goals and policies that satisfy specific requirements. Additionally, you could use the VMT Study you completed in Steps 2-4 (Pathway 1) to identify key VMT sources and areas for intervention. This information will help in selecting more context-specific goals and policies that satisfy the minimum requirement: "*Result in reductions in per capita vehicle miles traveled within the jurisdiction but without increasing greenhouse gas emissions elsewhere in Washington*".

Measures in the Climate Policy Explorer have a demonstrated ability to reduce or capture greenhouse gas emissions. Several policies in Climate Policy Explorer are also aligned with measures in the Washington's Comprehensive Climate Action Plan (CCAP). Each measure in Climate Policy Explorer includes supporting information about its co-benefits, environmental justice potential, implementation resources, and tracking metrics. You could use this supporting information to adapt and prioritize policies based on your local planning context [see Section 5]. Also, some Climate Policy Explorer measures include placeholders for inserting a target percentage or target date selected by your jurisdiction.

From measuring to managing emissions

Encouraging compact, transit-supportive development — especially moderate- and high-density housing adjacent to arterial roads with bus stops — is effective at reducing single-occupancy vehicle trips and related emissions. You should consider goals and supportive policies from the Climate Policy Explorer to address emissions from the transportation and built environment sectors assessed earlier in this section.

Please note that the body of measures in the Climate Policy Explorer is not exhaustive, and you might come across climate measures outside of the Climate Policy Explorer that you identify as essential to your climate element. Likewise, some of the measures in Climate Policy Explorer will not apply to your jurisdiction due to different GHG emissions-reduction goals. Refer to Section 5 for guidance on selecting, adapting, prioritizing, and implementing goals and policies from the Climate Policy Explorer.

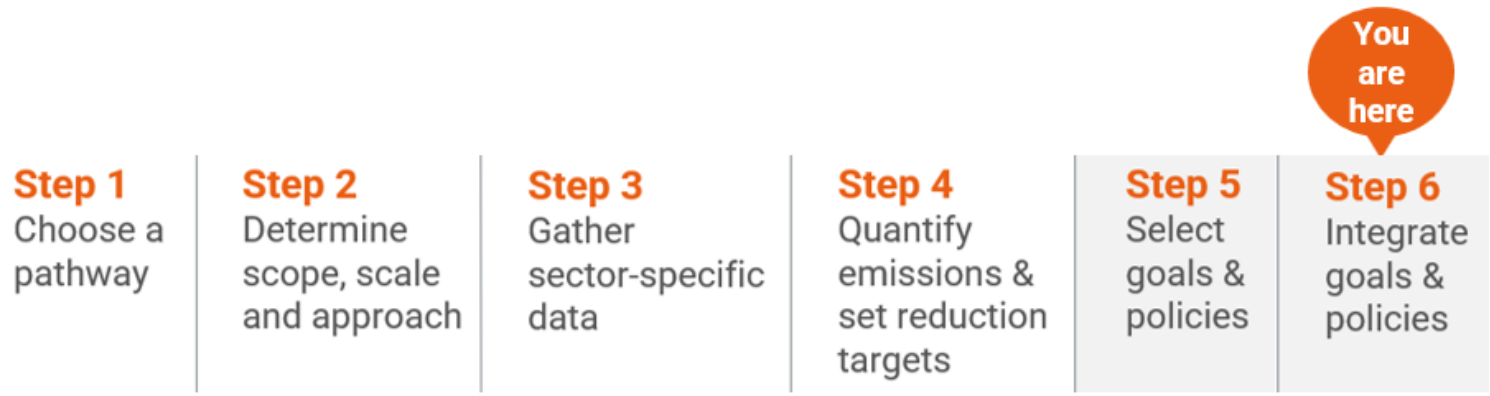
NOTE: *If you adopt climate mitigation policies that are different than the measures in Climate Policy Explorer in the three required sectors (i.e., Built Environment & Energy, Transportation, and Zoning), you should provide supporting documentation in the form of science-backed emissions estimates or emissions projections under different scenarios using a carbon wedge analysis. This documentation should demonstrate the cumulative potential of your adopted policies to reduce GHG emissions and per-capita VMT to achieve your jurisdiction's targets.*

Once goals and policies are identified, use the "S4, Steps 5-6 Measures" tab in the Climate Element Workbook to list these measures, as well as note how they meet the minimum requirements for a GHG reduction subelement. Your cumulative list of measures must satisfy all of the subelement's minimum requirements [Section 4.1].



Redmond's downtown light rail station serves as a mobility hub, connecting trains, buses, sidewalks, and bike lanes. Bike lockers and electric scooters also support "last-mile" travel connections within the fast-growing city. The Climate Policy Explorer includes several model measures to support active transportation and reduce greenhouse gas emissions. **CREDIT***: Washington Department of Commerce*

Step 6 — Integrate goals & policies



Adopting climate mitigation goals and policies into your comprehensive plan through the local legislative process is the first step in turning climate planning into action. The legislative process must result in the adoption of climate mitigation goals and policies that meet the minimum requirements of RCW 36.70A.070.

In this step, your jurisdiction will decide where to integrate climate mitigation goals and policies in the comprehensive plan. You could:

- Choose to list all climate element goals and policies (GHG reduction and resilience) in one chapter; or
- Choose to integrate them into several chapters/elements (Land Use, Housing, Transportation, etc.) and provide an index of all adopted climate element goals and policies to Commerce when submitting for the 60-day plan review. You could provide this index as a memo or an appendix of the comprehensive plan, but most importantly, preserve it with the record of adoption. Use the "Measures Index" tab in the Climate Element Workbook to create this index.

While integrating goals and policies into a comprehensive plan, ensure that they are consistent with and reference each other across plan elements such as transportation, housing, and land use. For example, a potential VMT reduction policy — "*implement multimodal transportation planning to reduce single-occupancy vehicle dependence and greenhouse gas emissions*," should be made consistent with and cross-referenced with any multimodal transportation development policies in your transportation element.

Finally, use the "S4, Steps 5-6 Measures" tab in the Climate Element Workbook to document how you will integrate climate mitigation goals and policies into your comprehensive plan. Also, note your measures' Climate Policy Explorer ID#, co-benefits, sectors, and other information in the table.

- See Section 5 for a model climate element example and guidance on prioritizing your climate mitigation policies, factoring their co-benefits, environmental justice potential, and other attributes.
- See Section 6 for guidance on evaluating progress implementing your climate mitigation policies.

Section 5: Selecting, customizing, and prioritizing measures



The Hands-On Children's Museum features Olympia Community Solar's Hummingbird Project, which enables local nonprofits and residents to invest in a share of the more than 300 rooftop photovoltaic panels. The museum buys electricity, and its value is distributed to almost 100 local project investors. The city of Olympia, which owns the property and leases it to the nonprofit museum, supported the project by authorizing a rooftop lease agreement between the partners. ***CREDIT:*** *Washington Department of Commerce*

Sections 3 and 4 provided guidance on developing climate resilience and GHG emissions reduction subelements. This section provides additional guidance to support selecting, prioritizing, adopting, and implementing goals and policies (measures).

5.1: Climate Policy Explorer overview

The Climate Policy Explorer [Appendix C] contains more than 200 climate goals and supportive policies. It is the core of the model climate element that the Washington State Legislature tasked Commerce with creating. You could use this online database to search and select measures, as well as customize and prioritize them to reflect local conditions and more explicitly support environmental justice and equity.

The Climate Policy Explorer is comprehensive but not exhaustive; there might be climate measures you deem essential to your climate element that are not in this tool. No two jurisdictions will face identical vulnerabilities to climate change or have the same emissions mitigation goals, so some measures will not apply to your jurisdiction.

Whether you select measures from the Climate Policy Explorer or develop your own, here are key things to consider:

- **Ensure your policies are measurable and supported by science:** Climate Policy Explorer policies have a demonstrated ability to reduce greenhouse gas emissions and are within the authority of a local government to implement or influence. As noted in Section 4, you could develop your own climate mitigation policies as well as select ones from the Climate Policy Explorer to meet the GHG reduction subelement's minimum requirements. Policies that are not specifically identified in the Climate Policy Explorer will be considered consistent with this guidance if they are supported by scientifically credible projections and scenarios that indicate their adoption will likely result in reductions of GHG emissions or per capita VMT equivalent to the measures in the Climate Policy Explorer.[38]
- **Consider your policies' nexus with SMPs:** The Climate Policy Explorer indicates whether each of its policies has a Shoreline Master Program nexus and might need to be in your SMP [see Section 5.1]. SMP amendments for climate resilience require following the required amendment process (WAC 173-26-090) and must be reviewed for internal consistency [*see* Appendix O].

Explore model measures by attributes

You could sort and filter measures in the Climate Policy Explorer by any of the following attributes:

- **Subelement**: This identifies whether a measure fits best within the GHG reduction or resilience subelement. Many measures both reduce emissions and build resilience — and this has been identified under their listed co-benefits in Measure Details.
- **Climate Sector**: This includes the 11 climate sectors listed in this guidance and WAC 365-196-210.
- **Comprehensive Plan Topic**: This notes a climate measure's nexus with other comprehensive plan elements (e.g., housing or transportation). This information can help jurisdictions that decide to integrate climate policies throughout their comprehensive plan.
- **Co-benefits:** This attribute lists applicable co-benefits for each measure. There are 14 co-benefits: (1) supports housing supply and diversity; (2) reduces emissions; (3) sequesters carbon; (4) enhances resilience; (5) improves salmon recovery; (6) promotes economic development; (7) promotes equity and justice; (8) provides cost savings; (9) provides ecosystem services; (10) protects tribal treaty rights; (11) improves public health and well-being; (12) improves air quality; (13) protects water quality; and, (14) builds community knowledge.
- **Environmental Justice (EJ) Potential**: This attribute incorporates the Just Transition framework that Front and Centered utilized to review Commerce's draft measures and guidance [Appendix F]. Commerce and its partners evaluated each measure's potential to support environmental justice using the framing questions listed in Section 5.3.
- **Hazards Addressed**: This includes the climate-related hazards (e.g., sea level rise and wildfires) that are addressed by a measure. Every resilience measure addresses at least one hazard, and most resilience measures address several hazards.
- **Shoreline Master Program (SMP)**: This identifies measures that likely need to be incorporated into your SMP to allow for GMA consistency. Adding these policies to your SMP would require an SMP amendment.
- **GHG Subelement Requirements**: This identifies the minimum requirement(s) for the GHG reduction subelement that are fulfilled by a measure.
- **Resilience Subelement Requirements**: This identifies the minimum requirement(s) for the resilience subelement that are fulfilled by a measure.

[38] RCW36.70A.070(9)(d)(ii)(B)

- **Resilience Themes**: This attribute enables you to search for measures by key themes related to improving resilience to climate change impacts (e.g., critical infrastructure, water quality, and species habitat & connectivity).
- **GHG Reduction Themes**: This attribute enables you to search for measures by key topics related to climate mitigation (e.g., transit, land use, and carbon sequestration).

5.2: Customize policies

Climate Policy Explorer policies include varying levels of authority. Some measures, for example, include terminology that is typically reflected in language describing initial steps, such as "study" or "consider." Other measures include language that is associated with implementation actions, with such terms as "implement" or "adopt." You will even notice that some measures include blanks with prompts such as "insert date" or "insert target." You should use strong, directive verbs, where possible, as well as specific dates and targets, where applicable, to ensure your measures reduce emissions and build resilience.

Invite your climate policy advisory team and other stakeholders to customize the model measures and to suggest targets that are relevant and appropriate for your jurisdiction. At the same time, consider ways to customize the model measures to more explicitly support environmental justice and equity — such as prioritizing climate mitigation and resilience actions that benefit overburdened communities.

5.3: Prioritize policies

To recap, your climate resilience subelement's suite of measures must prioritize and benefit overburdened communities that will suffer disproportionately from environmental impacts and climate-related natural hazards [Section 3.1]. Your companion GHG reduction subelement's suite of measures must prioritize emissions reductions that benefit overburdened communities in order to maximize the co-benefits of reduced air pollution and environmental justice [Section 4.1].

To help you satisfy these requirements, Commerce and its partners prioritized Climate Policy Explorer policies using a multi-criteria analysis framework that includes environmental justice. The Climate Policy Explorer's highest-priority measures are labeled with a red box and are based on the following core criteria and framing questions.

Core criteria and framing questions

1. Criterion: Effectiveness

- All measures included within our Climate Policy Explorer are considered to be effective at addressing climate mitigation and/or resilience.
    - For Resilience Measures: *The policy has the potential to reduce the severity of the hazard's projected climate impacts.*
    - For Climate Mitigation Measures: *The policy has a demonstrated ability to reduce GHG emissions and/or reduce per capita VMT.*

2. Criterion: Timeframe of Benefit (short or long)

- This criterion reflects whether the measure will provide short- or long-term benefits. This assumes shorter-term benefits could be associated with policies that need to be replaced or revisited within five years — in contrast with something that is long-term and would typically include considerable investment. Framing questions included:
    - Short-term (1-4 years): *Will the measure provide a benefit of less than five years?* Examples of such measures are those that are dependent on a personal choice, such as incentives for transit users or installing a “smart” meter to conserve water on private property.

- Long-term (5 or more years): *Is the policy a long-term response to the climate impact or climate mitigation?* An example includes the considerable investment of replacing a fleet of combustion-engine vehicles with electric or relocating essential facilities out of the floodway.

3. Criterion: Co-benefits

- Commerce and its partners summed up each policy's co-benefits and factored the sum into the policy's total prioritization score. Framing question: *Does the measure provide any of the following co-benefits?*

  - Supports housing supply and diversity
  - Reduces emissions
  - Sequesters carbon
  - Enhances resilience
  - Improves salmon recovery
  - Promotes economic development
  - Promotes equity and justice
  - Provides cost savings
  - Provides ecosystem services
  - Protects tribal treaty rights
  - Improves public health and well-being
  - Improves air quality
  - Protects water quality
  - Builds community knowledge

4. Criterion: Environmental Justice

- Commerce and its partners applied the Just Transition framework described in Section 5.1 [*also see* Appendix F] to craft the framing questions below to evaluate policies' environmental justice potential.

  - **Co-governance:** *Does the measure show potential to build self-determination for frontline communities of color and/or low-income communities?*
  - **Targeted Universalism:** *Is the measure clear on rights to healthy communities, and explicit in targeting interventions to communities furthest from achieving those rights?*
  - **Accountability:** *Does the measure show potential to directly limit harm and hold those responsible? Does it prioritize effectiveness?*
  - **Community Wealth Building:** *Does the measure show potential to invest in and sustain local livelihoods, starting with communities with the greatest barriers to meeting their needs, through sustainable resource use and cooperative work?*

Additional criteria and framing questions

Given the subjective nature of scoring at a state level, we suggest you use Commerce's multi-criteria analysis framework as starting point and consider applying additional criteria that only your county or city would be able to assess. The following local criteria and framing questions could help you further refine and prioritize your climate element policies [*see* Appendix M *for additional multi-criteria analysis frameworks*]:

1. Criterion: Unintended Impacts

- Framing question: *Will implementing the policy result in unintended social, economic, or environmental impacts/externalities?* (Examples: population displacement or maladaptation*)*

2. Criterion: Feasibility

- Framing question: *Is there administrative and other staff capacity to implement the policy?*

3. Criterion: Cost

- Framing question: *What is the estimated cost to implement the policy (consider whether implementation will require one-time or ongoing funding)?* This criterion could provide more distinction to "feasibility," or it could stand alone.

4. Criterion: Political or Public Support

- Framing questions: *Is there community support for the policy? Is this a priority, and are the decision makers committed (resource-wise) to implement the policy?*

5. Criterion: Authority

- Framing question: *Does the jurisdiction have the authority to implement the policy?* Jurisdictions should include measures within their span of control. However, there might be measures that a jurisdiction could influence or affect through a partnership (e.g., with an electric utility or community-based organization).

Consider costs & benefits

You should attempt to maximize environmental and social benefits within available resources when planning to reduce or eliminate emissions. The effectiveness of emissions mitigation projects can also be assessed based on the cost to reduce one metric ton of CO2.

There are two metrics you could use to assess effectiveness using this approach.

- First, the Washington State Utilities and Transportation Commission set the "social cost of carbon" at $94 per metric ton of CO2 for 2025. Spending more than that to reduce CO2 means the jurisdiction is spending more than the global benefit they are providing. The social cost of carbon is an estimate of global impact, not local.
- The second metric that can be used is the cost of carbon offsets from the Climate Action Reserve and the American Carbon Registry, both of which have been approved by the Washington State Department of Ecology as having a track record of excellence. Both organizations offer opportunities to reduce the maximum amount of CO2 for any budget.

5.4: Organize climate element for integration and consistency

Each jurisdiction's development regulations, planning activities, and capital budget decisions must be consistent with and implement the comprehensive plan. The Growth Management Act requires that all comprehensive plans be internally and externally consistent.[39]

- **Internal consistency** means that all goals and policies must be based on the same future land use map designations and population projections. Internal consistency also requires reviewing your plan and addressing goals and policies that conflict with or create barriers to implementing other measures. Internal consistency also typically encompasses your other adopted plans or development regulations.
- **External consistency** means that the local comprehensive plan must be consistent with countywide planning policies (CPPs)[40] and regional transportation plans (RTPs)[41] and be coordinated with comprehensive plans of adjacent cities and counties.

Visit MRSC for resources, and consider whether your climate element measures:

- align with your comprehensive plan's other measures;
- align with your comprehensive plan's vision;

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[39] RCW 36.70A.130(1)(d)
[40] RCW 36.70A.210
[41] Chapter 47.80 RCW

- align with your regional transportation plan, hazard mitigation plan, and other plans;
- align with your countywide planning policies; and,
- align with GMA goals for climate, transportation, housing, and other applicable areas.

Additionally, we recommend that you cross-reference your goals and policies against Commerce's periodic update checklists. This can help ensure that your goals and policies are consistent with current GMA requirements.

Model climate element

As noted in previous sections, your climate element could take the form of a single chapter (new or existing), or your climate element could be a collection of climate goals and policies integrated into other chapters (e.g., your land use, housing, and transportation elements). The following model climate element is intended to demonstrate how to integrate climate goals and policies into a single comprehensive plan chapter.

The following climate mitigation and resilience goals and policies — which are from the Climate Policy Explorer — focus on the Transportation, Built Environment & Energy, and Zoning sectors. Commerce and its partners ranked several of these goals and policies as priority measures, factoring in their potential to support environmental justice and other criteria [see Section 5.3].

The following model climate element is a general example. Your specific climate element should include measures based on your work in Sections 3 and 4 of this guidance and other regulatory requirements.[42] For example, several of the following climate resilience subelement measures explicitly address sea level rise and wildfire hazards; your climate resilience subelement might also need to include goals and policies within the Emergency Management and Health & Well-being sectors to address extreme heat and other climate-related natural hazards that are relevant to your jurisdiction, as determined by Section 3's steps.

This guidance's companion Climate Element Workbook [Appendix B] includes tables to note how your climate measures produce co-benefits and intersect with other comprehensive plan elements and sectors. Use the workbook to organize your climate element and ensure it meets this guidance's minimum requirements.

Model Climate Resilience and GHG Emissions Reduction Element

Purpose: Describe how your climate element provides a consolidated policy framework that is essential to facilitating local planning and meeting Growth Management Act goals.

Background: Use information from your Climate Element Workbook to summarize your existing and expected climate-related hazards and impacts, as well as your largest emissions sources and reduction targets. Also note how the climate element's goals and policies meet Commerce's minimum requirements [*Sections* 3 *and* 4] and prioritize actions to benefit overburdened communities and support environmental justice [*from* Section 5].

Resilience Subelement

Climate Goal 1 (CG 1): Ensure that development and redevelopment projects are resilient to the impacts of climate change. [*Goal ID#: A*]

CG 1 Policies

1-1: Acquire properties or easements on properties that are vulnerable to climate-exacerbated hazards and are or will become unsuitable for development. [*Policy- ID#: A.05*]

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[42] The model climate element is a general example for all Washington jurisdictions and does not address many of the multicounty planning policies and countywide planning policies required for central Puget Sound jurisdictions.

1-2: Identify and implement strategies for reducing residential development pressure in the wildland-urban interface to decrease wildfire risk and damage. [*Priority Policy- ID#: A.02*]

1-3: Consider future climate conditions during siting and design of capital facilities, including changes to temperature, rainfall, and sea level, to help ensure they function as intended over their planned life cycle. [*Policy- ID#: A.12*]

Climate Goal 2 (CG 2): Protect community health and well-being from the impacts of climate-exacerbated hazards — prioritizing focus on overburdened communities — and ensure that the most vulnerable residents do not bear disproportionate health impacts. [*Goal ID#: T*]

CG 2 Policies

2-1: Develop and maintain a program to distribute cooling units and install heat pumps, prioritizing households with residents (e.g., low-income seniors) most vulnerable to extreme temperature events. [*Priority Policy- ID#: T.06*]

2-2: Ensure that all community members have equitable access to green space within a half-mile. [*Priority Policy- ID#: T.09*]

2-3: Prioritize at-risk community members for actions that mitigate wildfire smoke, including providing personal protective equipment and filter fans or incentivizing infrastructure updates (e.g., HVAC updates and MERV 13 filters for air intake) for facilities that serve high-risk populations. [*Policy- ID#: T.04*]

Climate Goal 3 (CG 3): Ensure the protection and recovery of ecosystems to provide healthy habitat in a changing climate. [*Goal ID#: U*]

CG 3 Policies

3-1: Identify opportunities to expand habitat protection and improve habitat quality and connectivity to foster climate resilience using conservation area designations, buffers, and open space corridors. [*Priority Policy- ID#: U.02*]

3-2: Use an integrated approach to prevent the spread and establishment of invasive plant species and enhance the climate resilience of native plant communities. [*Policy- ID#: U.07*]

3-3: Take inventory of and protect climate refugia and habitat connectivity needs for species under stress from climate change. [*Policy- ID#: U.01*]

GHG Reduction Subelement

Climate Goal 4 (CG 4): Reduce vehicle miles traveled to achieve greenhouse gas reduction goals. [*Priority Goal- ID#: I*]

CG 4 Policies

4-1: Implement multimodal transportation planning to reduce single-occupancy vehicle dependence and greenhouse gas emissions. [*Priority Policy- ID#: I.04*]

4-2: Prioritize, develop, and maintain mobility hubs in transportation-efficient locations — especially in overburdened communities experiencing a scarcity of transportation alternatives. [*Priority Policy- ID#: I.16*]

4-3: Facilitate the siting of complimentary destinations such as commercial-employment centers, schools or education centers, and residential developments close to a transit stop. [*Priority Policy- ID#: I.19*]

Climate Goal 5 (CG 5): Ensure that buildings use renewable energy, conservation, and efficiency technologies and practices to reduce greenhouse gas emissions. [*Priority Goal- ID#: E*]

CG 5 Policies

5-1: Require zero greenhouse gas emissions features of all new residential and commercial structures. [*Priority Policy ID#: E.01*]

5-2: Retrofit buildings for energy efficiency. [*Priority Policy ID#: E.03*]

5-3: Require all publicly owned buildings to be powered completely by renewable energy by [*insert target date*]. [*Policy ID#: E.06*]

Climate Goal 6 (CG 6): Increase housing diversity and supply within urban growth areas to reduce greenhouse gas emissions and support environmental justice. [*Priority Goal ID#: K*]

CG 6 Policies

6-1: Increase or remove density limits in areas well-served by transit and other services within the urban growth area. [*Priority Policy ID#: K.01*]

6-2: Plan for and invest in capital facilities to accommodate infill development. [*Policy ID#: K.07*]

Resource:

- Visit MRSC's climate portal for examples of comprehensive plans with climate measures developed by communities similar to your own.

5.5: Take legislative action

The Growth Management Act requires that development regulations be consistent with and implement the comprehensive plan,[43] and the deadline for amending or adopting these development regulations is the periodic update deadline.[44] In addition to adopting a comprehensive plan climate element with goals and policies, you must adopt the necessary development regulations.

Given the scope and complexity of this task, the staff report that is submitted with the proposed comprehensive plan amendments should include a justification for each measure. If you utilized the Climate Element Workbook [Appendix B], include it as a companion to a staff report and as part of the record of adoption.

Generally, the start of legislative action is when you are ready to present your comprehensive plan amendments at a public meeting, such as to a planning commission. The planning commission will make recommendations that will be forwarded to the final approval authority, such as an elected council. You will want to plan time to incorporate feedback from your public-engagement process and other advisory bodies before finalizing the draft. The conclusion of this legislative action step should result in your elected officials adopting the climate goals and policies into the jurisdiction's comprehensive plan by ordinance and notifying state agencies. Be sure to:

- Demonstrate your consideration of best available science as part of your legislative record; this is especially important for backstopping policies that are not part of the Climate Policy Explorer. To demonstrate consideration of best available science, we recommend you include a completed copy of the Climate Element Workbook with the draft climate element you submit for local policymaker approval.
- Notify Commerce at least 60 days before the final adoption of your comprehensive plan and/or development regulations, including all necessary details to comply with statutory notice requirements.

[43] RCW 36.70A.040(3), (4)
[44] RCW 36.70A.130(1)(a)

Section 6: Evaluate progress



In spring 2025, Bellingham completed the installation of more than 90 electric vehicle (EV) plugs at 26 stations, including city-owned properties, transit centers, and public rights-of-way. The project includes standard Level 2 chargers — including this one at the Bellingham Police Department — as well as DC fast-chargers, and solar-powered chargers. Implementing the EV program helps achieve goals and implement policies in Bellingham's 2018 Climate Action Plan and comprehensive plan. ***CREDIT**: City of Bellingham*

GMA requires some fully-planning cities and counties to report progress toward implementing comprehensive plan commitments, including those in the climate element.[45] Refer to RCW 36.70A.130(9)(b)(iii) for applicability of this requirement.

Your reporting: If applicable, you will be required to report on your five-year progress in implementing climate mitigation policies. For this reason, you should choose measures that you are able to track and include in a forthcoming report. Tracking the progress of GHG emissions and per capita VMT is mandatory for most jurisdictions that are required to create a GHG reduction subelement.[46]

[45] Per requirements in RCW 36.70A.130 (9) and RCW 70A.45.120(4)
[46] WAC 365-196-443(2)

For tracking progress toward GHG emissions reductions, you should use a baseline year and set incremental emissions-reduction targets that lead to achieving net-zero emissions in 2050 [see Section 4]. For each measure, you should consider how to measure progress toward your reduction targets. You should measure changes in emissions and per capita VMT by developing a comparison between your baseline and present values. Furthermore, you should track emissions on a total and per capita basis so that emissions reductions are not masked by population growth.

Your jurisdiction should track the quantity of both the reduction of emissions and per capita VMT and to what extent policies were implemented. While some policies could be difficult to measure quantitatively, you could still report progress on your efforts to advance adopted policies (e.g., updating development regulations and zoning, and establishing programs and standards).

Commerce also recommends that you update your emissions inventory or estimates and VMT studies at least every five years to evaluate progress toward your targets. You might choose to evaluate progress annually or at a longer interval (less than 5 years) that coincides with plan updates or other milestones. If there are variations in data sources or methods for calculating emissions and per capita VMT, those variations should be documented and discussed to distinguish how much of the changes in emissions and per-capita VMT can be attributed to data sources and methods rather than behavior modification.

Use the Progress Tracking Metrics in Commerce's Climate Policy Explorer to track both the implementation and impact of your GHG emissions reduction and resilience subelement policies.

Your progress report to Commerce must include:[47]

- A list of adopted climate measures with progress made on them in last five years.
- A summary of efforts to engage overburdened communities, vulnerable populations, and tribes in development of climate measures.
- If your jurisdiction is required to include a GHG subelement, you will need to quantify the progress of emission and VMT per capita reductions.

What's next for Commerce: Starting in 2029, Commerce must evaluate and report on the impact the adopted climate elements have had on local GHG and VMT reduction goals for the legislature. The status of implementation will be included in guidance published after 2025.[48] The evaluation will reference information from the five-year progress reports and, at a minimum, will include results from local emissions inventories and an index of climate elements with a correlation of impacts on local emissions.

Resources:

- Commerce's FundHubWA allows users to search for funding opportunities from federal and state agencies.
- Commerce's Climate Policy Explorer includes implementation resources with information on key policy mechanisms (e.g., model ordinances and development codes) for each policy.

[47] WAC 365-196-443 (8)
[48] RCW 70A.45.120 (4)

Appendices

A. Glossary of terms

The following terms are found throughout the guidance and within the Climate Policy Explorer.

Acidification

- Ocean acidification refers to a reduction in the pH of the ocean over an extended period of time, caused primarily by uptake of carbon dioxide (CO2) from the atmosphere.
  - National Oceanic and Atmospheric Administration (NOAA)

Active Transportation

- Active transportation means forms of pedestrian mobility including walking or running, the use of a mobility assistive device such as a wheelchair, bicycling, and cycling, irrespective of the number of wheels, and the use of small personal devices such as foot scooters and skateboards. Active transportation includes both traditional and electric assist bicycles and other devices. Planning for active transportation must consider and address accommodation pursuant to the Americans with Disabilities Act and the distinct needs of each form of active transportation.
  - RCW 36.70A.030(1)

Active Transportation Facilities

- Facilities provided for the safety and mobility of active transportation users, including but not limited to, trails, as defined by RCW 47.30.005, sidewalks, bike lanes, shared-use paths, and other facilities in the public right-of-way.
  - RCW 36.70A.030(2)

Adaptation

- The process of adjusting to new (climate) conditions in order to reduce risks to valued assets.
  - U.S. Climate Resilience Toolkit

Adaptive capacity

- The ability of a person, asset, or system to adjust to a hazard, take advantage of new opportunities, or cope with change.
  - U.S. Climate Resilience Toolkit

Agroecology

- Agroecology seeks to optimize the interactions between plants, animals, humans and the environment while also addressing the need for socially equitable food systems within which people can exercise choice over what they eat and how and where it is produced.
  - Food and Agriculture Organization of the United Nations

Assets

- People, resources, ecosystems, infrastructure, and the services they provide. Assets are the tangible and intangible things people or communities value.
  - U.S. Climate Resilience Toolkit

Carbon footprint

- A carbon footprint is the total amount of greenhouse gases (including carbon dioxide and methane) that are generated by our actions.
  - The Nature Conservancy

Carbon sequestration

- Carbon sequestration is the process of capturing and storing atmospheric carbon dioxide. Biologic carbon sequestration refers to storage of atmospheric carbon in vegetation, soils, woody products, and aquatic environments. Geologic carbon sequestration is the process of storing carbon dioxide (CO2) in underground geologic formations.
  - U.S. Geological Survey

Carbon Wedge Analysis

- Carbon wedge analysis is an analysis that provides a cumulative view of potential greenhouse gas emissions reductions for a jurisdiction. Each wedge depicts potential emissions reductions from climate mitigation strategies by emissions sector such as transportation, built environment, or industry.
  - WAC 365-196-210

Climate

- Climate in the usual weather of a place.
  - National Aeronautics and Space Administration (NASA)

Climate mitigation

- Measures to reduce the amount and rate of future climate change by reducing emissions of heat-trapping gases or removing carbon dioxide from the atmosphere.
  - 5th National Climate Assessment

Climate resilience

- The ongoing process of anticipating, preparing for, and adapting to changes in climate and minimizing negative impacts to our natural systems, infrastructure, and communities
  - RCW 70A.65.010

Climate stressor

- A condition, event, or trend related to climate variability and change that can exacerbate hazards.
  - U.S. Climate Resilience Toolkit

Co-benefits

- The ancillary or additional benefits of policies that are implemented with a primary goal, such as climate change mitigation — acknowledging that most policies designed to reduce greenhouse gas emissions also have other, often at least equally important, benefits (e.g., energy savings, economic benefits, air quality benefits, public health benefits). Also referred to as "multiple benefits."
    - U.S. Environmental Protection Agency (EPA)

Community Wildfire Protection (Plan)

- A Community Wildfire Protection Plan (CWPP) is a comprehensive wildfire safety plan developed by the local citizens and state and federal agencies.
    - Washington Department of Natural Resources

Concurrency (Regulatory)

- (Regulatory) Concurrency requires jurisdictions or a developer to provide any transportation improvements or programs required to reduce demand and meet an established transportation level-of-service within six years of the completion of a development.
    - RCW 36.70A.070 (6)(b)

Critical infrastructure

- Systems and assets, whether physical or virtual, so vital that the incapacity or destruction of such may have a debilitating impact on the security, economy, public health or safety, environment, or any combination of these matters, across any local, state, tribal and federal jurisdiction.
    - FEMA

Defensible space

- Defensible space is the area around a building in which vegetation, debris, and other types of combustible fuels have been treated, cleared, or reduced to slow the spread of fire to and from the building.
    - FEMA

Drawdown

- The vertical distance groundwater elevation is lowered, due to the removal of groundwater. The distance between the static water level and the surface of the cone of depression.
    - Michigan State University

Ecosystem services

- Ecosystem services are the benefits that humans receive from nature. These benefits underpin almost every aspect of human well-being, including our food and water, security, health, and economy.
    - U.S. Environmental Protection Agency

Electric vehicle (EV)

- An EV is defined as a vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source.
    - U.S. Department of Energy

Environmental justice

- The fair treatment and meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies.
  - Washington State's Environmental Justice Task Force

Exposure

- The presence of people, assets, and ecosystems in places where they could be adversely affected by hazards
  - U.S. Climate Resilience Toolkit

Externalities

- A side effect or consequence of an industrial or commercial activity that affects other parties without this being reflected in the cost of the goods or services involved, such as the pollination of surrounding crops by bees kept for honey.
  - Oxford Languages Dictionary

Extreme heat

- Extreme heat is defined as summertime temperatures that are much hotter and/or humid than average.

  Centers for Disease Control and Prevention (CDC)

Frontline community (see also "overburdened community")

- Frontline community members are people who experience the first and worst consequences of climate change. Such residents' health and livelihoods are often highly vulnerable to climate-exacerbated hazards and economic disruptions, and their communities often lack basic support infrastructure and suffer disproportionately from the compounding impacts of pollution, discrimination, racism, and poverty.
  - Washington State Department of Commerce

Gray infrastructure

- Gray infrastructure is traditional stormwater infrastructure in the built environment such as gutters, drains, pipes, and retention basins.
  - U.S. Environmental Protection Agency

Green infrastructure

- Green infrastructure means a wide array of natural assets and built structures within an urban growth area boundary, including parks and other areas with protected tree canopy, and management practices at multiple scales that manage wet weather and that maintain and restore natural hydrology by storing, infiltrating, evapotranspiring, and harvesting and using stormwater.
  - RCW 36.70A.030(23)

Green space

- An area of land, vegetated by natural features such as grass, trees, or shrubs, within an urban context and less than one acre in size that creates public value through one or more of the following attributes: is accessible to the public; promotes physical and mental health of residents; provides relief from the urban

heat island effects; promotes recreational and aesthetic values; promotes streams or water supply; or, preserves visual quality along highway, road, or street corridors.

- RCW 36.70A.030(24)

Greenhouse gas (GHG)

- Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and any other gas or gases designated by the Washington Department of Ecology, by rule.
  - RCW 70A.45.010(7)

GHG emission reduction (GHG reduction)

- Actions taken to reduce the emissions of greenhouse gases to reduce the rate of climate change. Also see "climate mitigation."
  - Washington Department of Commerce

Growth Management Act (GMA)

- The Growth Management Act (Chapter 36.70A RCW) is a series of state statutes, first adopted in 1990, that requires fast-growing cities and counties to develop a comprehensive plan to manage their population growth.
  - Municipal Research and Services Center

Hazard

- An event or condition that may cause injury, illness, or death to people or damage to assets
  - U.S. Climate Resilience Toolkit

Hazard mitigation

- Any sustainable action that reduces or eliminates long-term risk to people and property from future disasters
  - FEMA

Impacts

- The effects on natural and human systems that result from hazards. Evaluating potential impacts is a critical step in assessing vulnerability.
  - U.S. Climate Resilience Toolkit

Indicator

- A sign that shows you what something is like or how a situation is changing.
  - Oxford Leaners Dictionaries

Intergovernmental Panel on Climate Change (IPCC)

- The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change.
  - The Intergovernmental Panel on Climate Change

Inundation

- Inundation is the total water level that occurs on normally dry ground as a result of the storm tide, and is expressed in terms of height of water, in feet, above ground level.
    - National Oceanic and Atmospheric Administration (NOAA)

Low Impact Development (LID)

- Low Impact Development (LID) is a stormwater and land-use management strategy that tries to mimic natural hydrologic conditions by emphasizing the following techniques: conservation; use of on-site natural features; site planning; and, distributed stormwater best management practices integrated into a project design.
    - Washington Department of Ecology

Magnitude

- The measure of consequences — for example, high, medium, or low — for an asset that is impacted by a climate-related hazard.
    - U.S. Climate Resilience Toolkit

Managed retreat

- Voluntary movement and transition of people and ecosystems away from vulnerable coastal areas.
    - Georgetown Climate Center

Mobility hub

- A mobility hub is a recognizable place with options for different and connected transport modes, such as scooters, e-bikes, and electric car charging stations, supplemented with enhanced facilities to both attract and benefit the traveler.
    - WA Department of Commerce

Multimodal

- Multimodal transportation includes public transportation, rail and waterways, bicycle and pedestrian. Multimodal access supports the needs of all users whether they choose to walk, bike, use transit or drive. It means more connections and more choices.
    - Washington Department of Transportation

Multimodal concurrency

- Multimodal concurrency considers all modes of transportation — including automobile, transit, bicycle, and pedestrian — as well as the benefits of transportation demand management.

    WA Department of Commerce

National Fire Protection Association (NFPA)

- The National Fire Protection Association (NFPA) is a nonprofit organization, devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards.
    - National Fire Protection Association (NFPA)

Net Zero

- Net zero refers to a state in which a local jurisdiction's greenhouse gases going into the atmosphere are reduced to near-zero, or 95 percent below baseline levels by 2050, and the remaining greenhouse gases that cannot be eliminated are mitigated with carbon dioxide sequestration to bring total net emissions to zero.
    - WAC 365-196-210

Non-climate stressor

- A change or trend unrelated to climate that can exacerbate hazards.
    - U.S. Climate Resilience Toolkit

Overburdened community

- A geographic area where vulnerable populations face combined, multiple environmental harms and health impacts, and includes, but is not limited to, highly impacted communities as defined in RCW 19.405.020.
    - RCW 36.70A.030(31)

Per capita vehicle miles traveled (VMT)

- This means the number of miles traveled using cars and light trucks in a calendar year divided by the number of residents in Washington. The calculation of this value excludes vehicle miles driven conveying freight.
    - RCW 36.70A.030(32)

Probability

- The likelihood of hazard events occurring. Probabilities have traditionally been determined from the historic frequency of events. With changing climate and the introduction of non-climate stressors, the probability of hazard events also changes.
    - U.S. Climate Resilience Toolkit

Projections

- Potential future climate conditions calculated by computer-based models of the Earth system. Projections are based on sets of assumptions about the future (scenarios) that may or may not be realized.
    - U.S. Climate Resilience Toolkit

Regenerative agriculture

- A land management philosophy that involves farming and ranching in harmony with nature. Regenerative agriculture prioritizes climate, ecosystems, water quality, people's health, and relationships within and across ecosystems, and fair pay and racial equity for farmers. The idea includes networks of entities who grow, enhance, exchange, distribute, and consume goods and services—instead of a linear supply chain.
    - Natural Resources Defense Council

Risk

- The potential for negative consequences where something of value is at stake. In the context of the assessment of climate impacts, the term risk is often used to refer to the potential for adverse consequences of a climate-related hazard. Risk can be assessed by multiplying the probability of a hazard by the magnitude of the negative consequence or loss.

- U.S. Climate Resilience Toolkit

Sensitivity

- In the context of the assessment of climate impacts, this term means the degree to which a system, population, or resource is or might be affected by hazards.
  - U.S. Climate Resilience Toolkit

Shoreline Management Act (SMA)

- The Shoreline Management Act (SMA) requires all counties and most towns and cities with shorelines to develop and implement Shoreline Master Programs. The law also defines our role in reviewing and approving local programs. The SMA was passed by the Washington Legislature in 1971 and adopted by voters in 1972. Its overarching goal is "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines."
  - WA Department of Ecology

Shrubsteppe

- The shrubsteppe is an arid ecosystem found in Eastern Washington and other western states.
  - WA Department of Fish and Wildlife

Single-Occupancy Vehicle (SOV)

- A single-occupancy vehicle commute is a trip to or from a daily destination (usually work) by an individual alone in a car, truck or van.
  - NWA Regional Planning Commission

Snowpack

- Snowpack is snow on the ground in mountainous areas that persists until the arrival of warmer weather. Melting snowpack is an important source of water for many areas.
  - National Geographic

State Environmental Policy Act (SEPA)

- The State Environmental Policy Act (SEPA) process identifies and analyzes environmental impacts associated with governmental decisions. These decisions may be related to issuing permits for private projects, constructing public facilities, or adopting regulations, policies, and plans.
  - WA Department of Ecology

Transfer of Development Rights (TDR)

- Transfer of Development Rights (TDR) is a market-based mechanism that encourages the voluntary transfer of growth from places where a community would like to see less development (referred to a sending areas) to places where a community would like to see more development (referred to as receiving areas.)
  - WA Department of Commerce

Transportation System

- Transportation system means all infrastructure and services for all forms of transportation within a geographical area, irrespective of the responsible jurisdiction or transportation provider.
    - RCW 36.70A.030(46)

Travel Demand Management (TDM)

- Transportation demand management (TDM), or simply demand management, is defined as a set of strategies aimed at maximizing traveler choices. Managing demand is about providing travelers, regardless of whether they drive alone, with travel choices, such as work location, route, time of travel and mode. In the broadest sense, demand management is defined as providing travelers with effective choices to improve travel reliability.
    - U.S. Department of Transportation: Federal Highway Administration

Tribal sovereignty

- Sovereignty is a legal term meaning the right of a people to self-govern within jurisdictional borders. Tribal sovereignty recognizes that American Indian tribes have the political status of nations and that Indian nations are located within the territorial boundaries of the United States. As sovereigns, tribal nations have a government-to-government relationship with the two other sovereign governing bodies in the U.S. — the federal and state governments.
    - washingtontribes.org

Urban Growth Area (UGA)

- Each county that is required or chooses to plan under RCW 36.70A.040 shall designate an urban growth area or areas within which urban growth shall be encouraged and outside of which growth can occur only if it is not urban in nature. Each city that is located in such a county shall be included within an urban growth area. An urban growth area may include more than a single city. An urban growth area may include territory that is located outside of a city only if such territory already is characterized by urban growth whether or not the urban growth area includes a city, or is adjacent to territory already characterized by urban growth, or is a designated new fully contained community as defined by RCW 36.70A.350.
    - RCW 36.70A.110

Vulnerability

- The propensity or predisposition of assets to be adversely affected by hazards. Vulnerability encompasses exposure, sensitivity, potential impacts, and adaptive capacity.
    - U.S. Climate Resilience Toolkit

Vulnerable populations

- Vulnerable populations are groups that are more likely to be at higher risk for poor health outcomes in response to environmental harms, due to: adverse socioeconomic factors such as unemployment, high housing and transportation costs relative to income, limited access to nutritious food and adequate health care, linguistic isolation, and other factors that negatively affect health outcomes and increase vulnerability to the effects of environmental harms; and, sensitivity factors, such as low birth weight and higher rates of hospitalization. Vulnerable populations include, but are not limited to: racial and ethnic minorities; low-income populations; and, populations disproportionately impacted by environmental harms.
    - RCW 36.70A.030(51)(a)

Wildland-Urban Interface (WUI)

- Wildland-urban interface means the geographical area where structures and other human development meets or intermingles with wildland vegetative fuels.
  - RCW 36.70A.030(53)

B. Climate Element Workbook

See Commerce's Climate Planning Guidance webpage for the downloadable Climate Element Workbook that is a Microsoft Excel file. Please reach out to Commerce for assistance or for a non-macros version of the workbook.

[link will be updated in the published version]

C. Climate Policy Explorer

See Commerce's Climate Data and Policy Tools webpage for a link to the Climate Policy Explorer. The Climate Policy Explorer includes more than 200 model goals and policies, as well as climate planning and implementation resources.

D. Climate planning StoryMap

Commerce's companion StoryMap serves as an interactive, condensed version of this guidance document. The StoryMap includes each subelement's minimum requirements and planning pathways, case studies, and other resources. The StoryMap is intended for any audience, but is especially useful for non-planners who want to understand HB 1181 and see examples of local climate planning approaches. Explore the resource here.

E. Guidance: Hazard mitigation plan approval and integration

Hazard mitigation planning is the foundation of community resilience, FEMA explains, because it encourages the development of a long-term mitigation strategy.[49] The planning process spurs local governments to identify risks that hazards pose for assets and to develop policies before a disaster occurs. This potentially lessens the impacts on people and property and makes it easier to recover from hazard events.

Local governments must prepare a natural hazard mitigation plan (hazard mitigation plan) and update it every five years to be eligible for certain types of non-emergency disaster assistance, including grants to mitigate floods.[50] Such plans must undergo review by the Washington Military Department's Emergency Management Division and the Federal Emergency Management Agency (FEMA). FEMA will grant approval of a hazard mitigation plan if it meets federal minimum requirements. Once approved, the hazard mitigation plan provides eligibility for certain FEMA grants. The state of Washington also has a hazard mitigation plan, and that document could be a resource for local jurisdictions.

> "Acknowledging the risk of future incidents fosters a risk-conscious culture that enables community leaders to routinely and systematically evaluate a wide variety of threats and hazards. However, future conditions are not necessarily reflective of past conditions, requiring a consideration of science-based data and expertise to help inform decisions. Community leaders can then prioritize strategies, resources, and efforts using a well-informed comprehensive approach to preparedness."
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> — **FEMA,** National Mitigation Framework

[49] FEMA circular (2017), Planning For a Resilient Jurisdiction: A 4-Hour Workshop For Planners
[50] FEMA website (2025), State Mitigation Planning Policy Guide

Integrating a hazard mitigation plan into a comprehensive plan

A local government could adopt by reference [51] a local hazard mitigation plan into its comprehensive plan that satisfies the requirements of the GMA climate and resiliency goal [RCW 36.70A.020(14)] when it prioritizes actions that benefit overburdened communities and complies with the applicable requirements of RCW 36.70A.070(9)(e). If Commerce determines that the jurisdiction's hazard mitigation plan inadequately addresses these climate resilience subelement requirements, then the city or county must supplement the hazard mitigation plan with additional goals and policies directly in its comprehensive plan.

Commerce could grant a time extension to a city or county that intends to adopt by reference a hazard mitigation plan that does not comply with the climate resilience subelement requirements. RCW 36.70A stipulates the following:

- Eligibility for an extension prior to July 1, 2027, is limited to a city or county required to review and, if needed, revise its comprehensive plan on or before June 30, 2025, as provided in RCW 36.70A.130, or for a city or county with an existing, unexpired hazard mitigation plan scheduled to expire before Dec. 31, 2024.
- Extension requests after July 1, 2027, may be granted if requirements for the resilience subelement are amended or added by the Washington Legislature or if Commerce finds other circumstances that may result in a potential finding of noncompliance with a jurisdiction's existing and approved hazard mitigation plan.
- A city or county that wishes to request an extension of time must submit a request in writing to Commerce no later than the date on which the city or county is required to review and, if needed, revise its comprehensive plan, as provided in RCW 36.70A.130.
- Upon the submission of such a request to Commerce, the city or county may have an additional 48 months from the date provided in RCW 36.70A.130 in which to either adopt by reference an updated hazard mitigation plan or adopt its own hazard mitigation plan, and to then submit that plan to Commerce.

The adoption of ordinances, amendments to comprehensive plans and development regulations, and other non-project actions taken by a city or county are not subject to administrative or judicial appeal under Chapter 43.21C RCW.

[51] See RCW 36.70A.070(9)(a)

F. Summary report: Integrating climate justice in growth management planning

NOTE: *Commerce hired the nonprofit Front & Centered to lead a task force of frontline community members ("Uplift Communities" project) to help shape the state agency's climate planning guidance and companion Climate Policy Explorer goals and policies. Upon the completion of its work, Front & Centered wrote the summary report and policy recommendations below. Commerce used the recommendations to revise and add goals and policies to the Climate Policy Explorer, where appropriate. Not all of the task force's recommendations that follow are within the span of control of local governments, and thus might not be suitable for comprehensive plans. In recognition of their expertise and respect for their engagement role, such recommendations are still included here to capture the broader conversations that occurred through this project.*

Summary

Front and Centered (FC) prepared this appendix report to document the work and lessons learned through its contract with the Washington State Department of Commerce (Commerce), through the "Prioritize Actions to Uplift Communities Disproportionately Impacted by Climate Change" (Uplift Communities) Project. The content of this report is drawn from an extensive community engagement process managed by FC, which involved a committee of community-based organizations representing overburdened and vulnerable communities [52] across Washington. Front and Centered provided the recommendations of this report in advance of the final draft of the "early" climate element planning guidance Commerce published in June 2023.

GHG reduction and resilience planning is fundamentally a matter of equity. In approaching climate element measures, it is essential to reject "one-size-fits-all" approaches to the selection and application of measures. Rather, processes must effectively engage impacted communities through models of engagement that center community voices and priorities, and adjust based on the needs, perspectives, and realities of community members and the organizations that represent them.

Findings with respect to this process:

- Frontline[53] communities are very interested in comprehensive planning processes, and jurisdictions engaged in planning must meet community members where they are at. Too often, planning and engagement processes are overly complicated, lack sufficient clarity on what influence engagement might have, and lead to frustration in impacted communities.
- Frontline communities choose to not engage when there is strong belief their engagement will have no impact. Poorly designed engagement strategies discourage participation — in the near term and long term. Frontline communities are interested in both the process and the outcome of their engagement.
- There are models that jurisdictions can use to center the perspectives and voices of frontline communities. These models can increase engagement, build trust, and create opportunities for co-governance.
- Frontline communities care deeply about the impacts of climate change on their families and their lives. Comprehensive planning community engagement processes must strive to make connections between near-term and long-term impacts of climate change and communicate the role of planning in that context.

Jurisdictions must identify the overburdened communities and vulnerable populations in their scopes of work in order to determine if the proposed climate element measures are equitable. They must also collaborate with those stakeholders to adequately determine if a measure might enable or prevent disparate impacts.

This report serves as a tool to incorporate equity and environmental justice in the planning process.

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[52] Throughout this report, "overburdened" communities and "vulnerable" populations will interchangeably be referred to as "frontline" communities and populations. Definitions for these terms are found within the glossary at Appendix A.
[53] *Ibid* (see notes above)

- It summarizes important frameworks, beginning with a summary of the Just Transition Framework, including principles of co-governance, and recommends tools and resources.
- It provides a tool to examine — in in partnership with community members — how criteria can be used to assess the equity/harm potential of draft measures.
- It also includes community-recommended measures, with a description of what goals those measures might address and how they might be applied in the planning process.

Introduction: Climate justice and frontline communities in climate planning

Commerce contracted with Front and Centered to provide guidance in the development of the climate element from the perspective of communities that disproportionately experience harm from climate change. Front and Centered is a statewide coalition of community-based organizations representing people of color and lower incomes.

Climate is fundamentally an issue of equity. Climate impacts hit us wherever we live, work, and play in Washington. Climate pollution threatens our health and the health of future generations — but the impacts are not distributed evenly. Who is at risk is a factor of both who is most exposed, and who has the ability to respond, adapt, and decide. Communities of color, Indigenous peoples, and communities with lower wealth and incomes tend to face the greatest climate risks and are therefore on the frontlines of climate and environmental threats and face greater social, economic, and health issues.

To date, comprehensive plans in Washington have lacked adequate consideration and planning to address the current, historical, and ongoing environmental racism that many communities around our state experience. These plans shape the future of communities in the state and are often a deciding factor in how heat, floods, fires, and other climate-related impacts communities will endure. The existing comprehensive planning process is not accessible or equitable for many people who reside in frontline communities and does not address the disproportionate impacts from climate change.

If jurisdictions want to undo and prevent further disparity, they must identify the overburdened communities and vulnerable populations in their jurisdictions and make intentional efforts to understand the cumulative threats these communities are facing. They must also understand how those issues could be alleviated through land use planning, and how the local communities want to be supported. These efforts should be shaped heavily through collaboration with the overburdened communities through building community capacity and meaningful public participation processes. For additional guidance, please see the public engagement resources and best practices in Commerce's draft climate planning guidance [*Section 2*].

The Front and Centered coalition envisions a future where our communities and the Earth are healed and thriving, our people have dignified work and the building blocks of opportunity and prosperity, and our government values, respects, and represents us. Getting to a place where that vision is reality requires a Just Transition. This involves transitioning away from regulations and policies that allow for or depend on the exploitation of natural resources and labor, and that protect wealth and power through land ownership and consumerism. Instead, local governments must move toward investment in the health and social well-being of all people and places through proper co-governance.

This report summarizes the approach of the Front and Centered coalition's Uplift Communities Project, led by a Community Leadership Committee (CLC), to developing guidance and reviewing draft measures for a comprehensive plan climate element. It focuses on equity strategies for how jurisdictions can minimize burdens and maximize benefits to overburdened communities. The goals, guidance, and recommendations are informed by outreach conducted by seven community-based organizations that were created by and for communities of color, and low-income communities across Washington.

The Just Transition framework

The Front and Centered Coalition envisions climate justice as a transition away from an extraction-based economy to one centered on ecological restoration, community resilience, and social equity, fueled by regenerative resources and cooperative work, governed by deep democracy, and a culture of caring and sacredness. The report, "Accelerating a Just Transition in Washington State", is a primer on Front and Centered's application of the Just Transition framework to climate GHG reduction and resilience strategies.

Such a Just Transition will require interventions in four key areas that, while not historically the focus of climate work, are necessary conditions for achieving climate goals:

Center Those Disproportionately Impacted in Governance. The communities that experience climate impacts and fossil fuel pollution first and worst — or have the least ability to transition to a lower-carbon economy — can be active participants in identifying solutions that will work for them. New models of participatory governance — or "co-governance" between government leaders and agencies and impacted communities — will be necessary to truly address these gaps in community leadership and shared governance. Key cornerstones of co-governance include: a) establishing government commitment to the self-determination of communities; b) supporting communities to build their capacity to effectively participate (in government processes); c) developing shared governing power in principles and in process; and, d) demonstrating equitable processes and results.

Restore Community Connections to Place. Place-based communities that can practice self-determination, care for their social and economic well-being, and honor ecological stewardship and sustainability are at the heart of a Just Transition. A place-based approach focuses policy, programmatic interventions, and innovations in specific geographic areas that are suffering from environmental and social injustices. A place-based approach, where each community is valued, ensures that no community is sacrificed to climate impacts or to suffer emissions disproportionately. This creates pressure to eliminate, rather than move emissions from place to place. Jurisdictions can integrate this priority by placing greater value on and by centering in their public engagement processes the values, cultures, aspirations, hopes, and experiences of the communities impacted by their plans and actions.

Create Livelihoods within a Healthy Environment. A regenerative economy is one that prioritizes sustainable living and working within ecological limits. It would eradicate inequality, ensure all basic needs are met, and foster individual and community well-being and health. Rather than enabling economies rooted primarily in growth, the commodification of people and things, and the extraction of resources and labor, we must enable economies that are rooted in the dignity of people, their voice, and their work, where people can afford what they need, and where they benefit from clean and healthy air, land, and water. Jurisdictions can support movement toward a regenerative economy by prioritizing the needs of communities over the needs of corporations.

Transition to Renewable Resources and Energy. A key cornerstone of a Just Transition is enabling strategies to ensure energy is first conserved, and that energy generation is renewable and equitable. This means phasing out and rejecting extractive energy sources — for example, fossil fuels that harm the environment — and enabling adoption of healthier and environmentally sound energy sources and ensuring access to these energy sources to everyone, including impacted communities. This also means, including distributed ownership opportunities that can support self-determination, economic development, and direct benefits in overburdened and vulnerable communities. Jurisdictions can support this pillar by planning for the use of renewable energy sources in their planning jurisdiction. Transitioning away from fossil fuels or non-renewable sources can reduce social and environmental harms in frontline communities.

Some government entities might question the relevance of these pillars to land use planning. Others might place limitations on potential policy interventions by setting standards for "proven effectiveness" that might intentionally

or inadvertently exclude these factors. Moving forward in the climate realm, experimentation is needed to mitigate the impacts of climate change and to ensure the resilience of communities. Approaches to planning and policy that rely solely on what is comfortable or proven replicate harmful dynamics and shift power away from disproportionately impacted and marginalized communities. Such approaches bias planning toward keeping things the way they are and favor incremental change that might limit what is possible, and this will certainly fall short with respect to equity.

Environmental Justice

Washington Gov. Jay Inslee signed a landmark environmental justice bill in 2021, the Healthy Environment for All Act (SB 5141), or the HEAL Act. The law grew out of a decades-long struggle by people of color and Indigenous peoples in Washington. And in more recent history, the HEAL Act emerged from the development of the Washington State Environmental Health Disparities Map, and the leadership of frontline communities seeking equitable treatment and outcomes, co-governance and self-determination, and just environmental policy.

The HEAL Act defines “Environmental Justice” as: "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, rules, and policies. Environmental justice includes addressing disproportionate environmental and health impacts in all laws, rules, and policies by prioritizing vulnerable populations and overburdened communities, striving for the equitable distribution of resources and benefits, and eliminating harm."

The HEAL Act creates requirements for state agencies. These requirements include:

- The creation of an Environmental Justice Council of majority frontline community representatives and an interdepartmental environmental work group;
- The development of community engagement plans that emphasize reaching vulnerable populations in overburdened communities;
- The use of the Environmental Health Disparities Map to identify Overburdened Communities;
- Environmental Justice (EJ) implementation plans that shape agency strategic plans;
- EJ assessments of significant policies, budgets, projects and expenditures by agencies;
- Application of EJ principles to budgets and funding, including a 40 percent goal for agency environmental expenditures to benefit Overburdened Communities; and,
- Public reporting, including a dashboard to monitor progress.

These components provide a foundation for climate planning to reduce environmental health disparities that can be adopted at the local level. For example, jurisdictions could undertake an environmental justice assessment of their draft comprehensive plan. More information about the HEAL act, including links to agency community engagement plans and implementation plans, can be found at Healthy Environment For All (HEAL) Act.

Engaging priority communities in the planning process

Uplift Project Outreach as a Model

The outreach conducted for the Uplift Communities project could serve as a model for local governments and their constituents. Organizations participating in the Uplift Community Leadership Committee designed and implemented community outreach activities tailored for their respective communities. Each of the organizations in the Committee conducted outreach in ways that they determined were most efficient and effective for their communities. Front and Centered staff supported the organizations by helping them plan outreach activities, create surveys, and attend outreach events to co-facilitate or take notes. Each member organization received monetary stipends to use for outreach activities, such as providing refreshment, translation, room rental, participation stipends, and other tools to maximize community participation.

Activities included survey collection, in-person forums, virtual workshop sessions, and one-on-one outreach with identified community members. The various formats allowed for the CLC to customize outreach based on the preferences of their communities. Some members chose to host stand-alone events or meetings to consult their communities. Others set aside time in existing meetings with their community. This approach maximized how many people were able to participate comfortably and reflected the diversity of communities across Washington. It also made outreach easier for the CLC because they were able to assess their own capacity and integrate the project into their organizational work plans.

The focus of outreach efforts also shifted based on the communities that the organizations represented. Some organizations provided general environmental justice education and learned from attendees what barriers they face in their neighborhoods. Others discussed specific issue areas that are already priorities in their communities and connected them to the planning process. The CLC asked similar questions and discussed common topics but used different approaches and languages. This underscored how different communities need information to be delivered in different ways. Some preferred physical materials, presentations, and visuals. Others preferred surveys they could answer on their own time that led to facilitated discussions.

The CLC used various tools to advertise their outreach. Popular options were posting outreach on social media, listservs, and coalition network apps. Several of these advertisements were very general, focusing mostly on climate or environmental justice themes. Members chose to do this because they found that “comprehensive planning” and “the Growth Management Act” were not terms or phrases that many community members were familiar with or found enticing.

Lessons and Guidance for Jurisdictions

There are numerous findings from our process that are relevant to planning organizations that will engage in comprehensive planning, including but not limited to the climate element. Some of these findings emerged from the CLC’s outreach and others came from the CLC monthly meetings. The findings convey the raw lessons learned during this project. Recommendations are our suggested way forward based on the findings. Jurisdictions can use these findings and recommendations to better engage with community members and community-based organizations (CBOs) representing vulnerable populations and overburdened communities.

First, there is significant interest in comprehensive planning among impacted communities, but there are real barriers to effective engagement. Community-based organizations and individuals in overburdened communities are interested in better understanding the comprehensive planning process and in the potential impact of a climate element on that process. For a range of reasons, people lack basic tools and information about the Growth Management Act (GMA) and the comprehensive planning process.

CBOs and community members conveyed feelings of exhaustion and frustration with the lack of access to educational resources needed to be involved in decision making. They also conveyed confusion over whether processes can provide for available assistance — financial or otherwise — to participate. They shared that it often takes too much effort to identify entry points into lengthy planning processes, and they stressed the importance of advertising and communicating what resources and assistance can be available. Participants also stated that there is not enough adequate notice on how and when to get involved in important meetings, such as those related to comprehensive planning.

CBOs are, therefore, often forced into untenable positions where they are providing education for community members, mobilizing to respond to notices, and engaging in activities that might detract from and drain their capacity to do other meaningful work. Community members and leaders also described the feeling of always having to play catch-up because they are not given the opportunity to be at the decision-making table. This is a problem because communities rely on CBOs to provide education on a range of topics, to connect community

members to the resources they need, and to also meet basic needs. This places additional pressure on organizations attempting to respond to public planning processes that fail to consider the day-to-day realities of organizations and community members in overburdened and vulnerable communities.

The lack of basic necessities for community members who could be in crisis, and lack of action to help is another barrier to involvement for communities interested in comprehensive planning. Community members are often preoccupied with trying to meet their basic needs. Differences in priorities between community members and those in power, such as lack of focus on basic necessities like the price of food and stable housing, can generate cynicism in planning processes and create more barriers to community involvement in comprehensive planning.

Second, there is significant uncertainty regarding the efficacy of comprehensive planning. Organizations participating in the CLC expressed concern over the efficacy of community engagement in the comprehensive planning process. While they acknowledged the importance of community engagement in the process, they also expressed dissatisfaction over the lack of clear accountability or transparency in the process. Too often, feedback provided through community engagement processes appears to be ignored and sometimes misinterpreted.

These experiences contribute to exhaustion and cynicism about community engagement processes. If feedback appears to have minimal impact, this in turn raises questions about whether community organizations should focus their limited time and resources in these efforts.

Poor community engagement processes can undermine community trust. Respondents to one survey conducted in the CLC process shared that they believed that they were being impacted now by climate change. They shared concerns that their cities and counties will be unlivable or too expensive to live in within the next few years. But rather than engage with public planning processes that felt irrelevant to their experiences, they prioritized individual actions they could take to mitigate or adapt to climate change. For example, attendees said they have taken to buying air conditioners and fans, or going to cooling areas, such as pools. This too is useful information for jurisdictions to consider.

Third, public participation in comprehensive planning processes should be more community-centered. Community members and leaders shared that local governments' outreach seems to vary across community demographics. There does not seem to be an equitable effort to include all stakeholders, regardless of their culture or language needs. Participants suggested that class and an intersection of identities are the root of this discrepancy and that it further harms their ability to access education or resources.

Communities that will be impacted by a particular plan or measure should have more decision-making power in what happens to their neighborhoods and how it is implemented. Communities, such as overburdened communities and vulnerable populations who bear greater systemic burdens, should have ample decision-making power to steward development in their areas. Indigenous tribes and Indigenous communities not recognized by the state or federal government should also be prioritized in decision making to empower their traditional knowledge and stewardship practices. The CLC emphasized the importance of prioritizing cultures that support the health of the environment.

Fourth, bridge short-term experiences and long-term priorities. Throughout the project, the CLC found that cities, and counties do not talk about the climate crisis in the present tense. More often, the impact of climate change is a somewhat theoretical issue. But participating organizations and leaders stressed that the climate crisis is happening now. Effectively engaging community members will require jurisdictions to both take into consideration the realities of people's lives, but it will also require them to communicate the relationship between current challenges, and how climate change might be shaping those experiences, not just in the future, but also in the present.

One of the biggest fears that came up in outreach efforts was the fear of displacement, including how climate change and climate-based disasters could force them to move from the communities they cherish. Community participants were eager to engage in discussions that considered the future in the context of present challenges facing communities.

The case for co-governance. Effective community engagement is difficult, but centering the perspectives and experiences of impacted communities can be transformational, in both shaping engagement processes, overcoming barriers, generating meaningful community input, and in building long-term support for priorities that reflect community priorities. Jurisdictions should be open to creative and novel solutions to overcome these obstacles.

Co-governance and education on the practice of co-governance should be integrated into the comprehensive planning process. Local governments should establish a commitment to the self-determination of communities, supporting communities to build their capacity to effectively participate in government processes, and in the process develop shared governing power in principles, processes, and results. Discussing weighty topics can be stressful on communities, especially when talking about policies or scenarios that directly affect a community when community members are not decision makers. Having space within communities to deliberate before interacting with government is critical. Community assemblies are one strategy to enable co-governance.

Community assemblies is a participatory democratic process that brings people together to articulate community needs with a focus on those furthest from economic well-being, assess solutions, and mobilize for action. Community assemblies bring together a group of people with a variety of life experiences that have been historically marginalized from decision making.

Evaluating Climate Measures for Justice

One of the charges of the Commerce Climate Program's budget proviso was to prioritize measures for equity. There is no one way to determine if a measure itself is equitable. Jurisdictions must identify the overburdened communities and vulnerable populations in their planning jurisdictions and collaborate with those stakeholders to adequately determine if a measure would have disparate impacts. Front and Centered created the following matrix for jurisdictions and community representatives to evaluate the potential for equity for any measure and to identify necessary alterations to improve a measure through a just transition and an environmental justice lens.

[***Editor's note:*** *Each policy in Commerce's Climate Policy Explorer is evaluated using the following criteria.*]

Equity Criterion Matrix: Scale of low, medium, high (low being least potential and high being greatest potential)

- **Co-governance:** Does the measure show potential to build self-determination for frontline communities of color and/or low-income communities?
  - **Sub-Considerations:**
    - Are communities' most impacted identifying their needs and solutions?
    - Do they have the ability to meaningfully shape the decisions in implementation?
- **Targeted Benefits:** Is the measure clear on rights to healthy communities, and explicit in targeting interventions to communities furthest from achieving those rights?
  - **Sub-Considerations:**
    - Do the goals and targets recognize our fundamental rights to healthy environments and communities?
    - Do the strategies prioritize those most facing highest cumulative impacts/risk?

- **Just Responsibility** (Accountability): Does the measure show potential to directly limit harm and holding those responsible? Does it prioritize effectiveness?
    - **Sub-Considerations:**
        - Is the solution directly stopping the problem? Is it making anything worse?
        - Are those creating the greatest harm held most accountable?
- **Wealth Building:** Does the measure show potential to invest in and sustain local livelihoods, starting with communities with the greatest barriers to meeting their needs, through sustainable resource use and cooperative work?
    - **Sub Consideration**:
        - Are we supporting production by local communities for local communities, based on a principle of using local resources and living wage labor?

Assessing draft climate measures

At the previous section of this summary report, Section E: Engaging Priority Communities in the Planning Process, it describes how we gathered input on climate measures. The Community Leadership Committee prepared a list of priority actions that were ranked at a statewide summit that was attended by over 100 community leaders from 60 CBOs. The Committee then finalized an order of prioritization of actions that are described in the section that follows. Staff used the Committee's prioritization to inform the supplemental description of measures and apply the criteria listed in the prior section to each of the measures gathered by the state, both of which appear in the Climate Policy Explorer.

Recommended actions for climate justice

The sections that follow share goals, guidance, and ranking for each category. The tables show the ranking of measures, the top being those that are the most priority for environmental and climate justice from the perspective of frontline communities. To create the rankings, FC staff first aggregated and translated the measures into common themes. Then the community leaders voted for the categories and measures that most aligned with their work, communities' needs, and overall coalition goals. Afterward, the CLC finalized the categories that are most urgent to the coalition, and the measures within those categories that are most impactful.

The top five categories of climate element measures prioritized by participants in the FC process are: Agriculture & Food Systems; Buildings & Energy; Economic Development; Health & Wellbeing; and, Cultural Resources & Practices The measures were inadequate in describing community priorities when narrowly focused on climate issues and not the broader community concerns.

The proposed climate element measures — though comprehensive in some ways — revealed major gaps that aren't necessarily addressed elsewhere in the GMA. Community partners requested more guidance, information, and context on the implications of measures on potential local choices. For example, in the case of infrastructure choices, community members requested that measures require greater clarity regarding how infrastructure investments impact climate. They also wanted more information about infrastructure decisions, including how they are paid for.

Agriculture & Food Systems

Farmworker health and safety should be taken into consideration for any measure in this category. Workers and those living and working in close proximity to agricultural processes, are more at risk to be impacted by the pollution and health impacts created by such processes.

Agroecology, or regenerative agriculture, is the relationship between nature and farming in an effort to create farming systems that prioritize long-term sustainability and traditional knowledge over short-term gains, and healthy food systems. Jurisdictions should consider how plans can enable cities, counties, and frontline communities in the development of systems that work with nature, without pesticides or fossil fuels, and that are resilient to climate impacts. These systems should be grown by farmworker owners, and be built to sustain difficult times. They should also aim to minimize carbon per nutritional value and cultural need, be distributed locally at low or no cost, and prioritize areas with least access and facing worse health outcomes currently.

Priority Actions

- Regulate agricultural pollution and eliminate pesticides.
- Use agroecology, agriculture land management and livestock practices for absorbing carbon, and resilience.
- Preserve land for agriculture, recreation, open space, rural/wild.
- Support and create structures to shift diets away from frequent, mass-produced meat and dairy toward local healthy foods.

Buildings & Energy

Plans should contemplate how to create fully weatherized, electrified homes built to manage energy demand and resilient to climate impacts in extreme heat or cold. Improvements to residential and non-residential buildings should be secured in trusts free from displacement, landlord decision-making, or rent increases based on climate improvements. And there should be guaranteed sufficient energy for home needs without excess, regardless of ability to pay. Conserve energy to reduce demand from generation sources. Meet resources needs through distributed solar covering every built environment surface, and remove damaging energy supplies and harmful proposals such as dams, nuclear, and other resources that cause other ecological or social harm. Consider how the plan can articulate these goals and support implementation with the measures without creating burdensome transition costs on consumers, especially low-income consumers.

Participants expressed curiosity and need for information on what it would mean or look like to transition away from fossil fuels and GHG emissions on the economy, on lifestyles, and on communities. Jurisdictions should prioritize energy conservation and then solar and renewable energy in communities where it's used to create more jobs and require these systems be sourced from lowest-impact materials. Additionally, this cost should not fall on the consumers, especially those who might already face economic disadvantages.

Jurisdictions should consider what hurdles renters might face in advocating with landlords or property owners to assist transition on residential buildings. Renters might fear retaliation from landlords or property owners for participating in jurisdictions' planning process. Jurisdictions should consider how renters can give feedback in ways that do not put them in jeopardy of retaliatory actions; feedback methods could include using anonymous surveys and caucusing at meetings so different audiences can share feedback in safe spaces.

Priority Actions

- **Buildings**
  - Preserve people's ability to stay in their community and prevent displacement from gentrification and hazards exacerbated by climate change.
  - Design, build, change buildings for energy conservation, solar, and to withstand climate impacts.
  - Maximize use of existing buildings.
  - Provide energy assistance and prevent shut-offs based on income.
  - Phase out fossil fuels from heating and appliances and convert to high-efficiency electric.
  - Support conversion from "natural" gas (methane-producing) energy source.
- **Generation**

- Support the transition to renewable energy sources that can weather climate impacts.
- Build solar energy in communities where it's used, avoid long transmission.
- Create energy limits that cap high energy users where feasible and require use of renewable sources where high energy use is unavoidable.

Economy & Finance

Plans should enable a future where cities and counties have small community-owned and producer/consumer cooperative businesses that meet most local needs without the risks of dependence on the global supply chain. They should also reimagine plans to create local economies that prioritize businesses, especially those that reduce the racial wealth gap, provide livable wages, and phase out industries that harm human and environmental health while providing support and just transition for workers.

Comprehensive plans should reflect these needs and integrate frontline communities' vision into each element. Jurisdictions should avoid strategies that prevent bonuses for large businesses that are not environmentally friendly. Instead, they should prioritize support to essential businesses that are independently and locally owned, and serving local communities. Workers' well-being, both in and out of the workplace, should also be prioritized.

Priority Actions

- Identify and enact social safety nets around housing and poverty that reduce economic inequalities to provide resilience to climate impacts.
- Support essential local-serving, independently owned businesses' ability to operate through climate impacts.
- Expand worker control and ownership and better distribute work opportunities and support locally owned businesses.
- Support workforce to transition from climate-impacted jobs.
- Using zoning and permit authority, limit siting of industries that pollute and do not provide incentives for expansion.

Cultural Resources & Practices

Jurisdictions should seek guidance from leaders indigenous to the land, inform and consult with tribal nations on issues affecting tribes and tribal lands, and seek wisdom of traditional cultural practices. This work must include perspectives from immigrant and refugee communities and those closest to the land.

Cultural and resource lands should be made into public trust or tribal stewardship. Jurisdictions should recognize and celebrate traditional practices and relationships between human cultures and ecologies. Indigenous populations should have access to natural lands and waters without substantial harm from polluting entities or interruption from jurisdictions.

Priority Actions

- Preserve culturally important sites and foods from climate impacts.
- Recognize and incorporate cultural forms of conservation and adaptation.
- Establish Legal Rights of Nature for protection of natural resources whether ascribed value is attached.

Ecosystems

Plans should prioritize identification of frontline communities that lack ecosystems (forests, wetlands, and eelgrass meadows) that capture carbon in/or near them. This information should be met with provisions for public access to restored lands such as former Superfund sites. Jurisdictions should prioritize ecological restoration and equity that buffers climate impacts (including sea level rise, flooding, and extreme heat) in frontline communities.

Priority Actions

- Build resilience to climate through ecological solutions, such as trees that prevent erosion and other co-benefits.
- Use land and plants to absorb carbon pollution — and restore wetland, forest, and seagrass ecosystems and prioritize this work in frontline communities.

Emergency Management

Plans should contemplate how residents and workers can be fully prepared and informed about relevant cultural and language information and response systems for emergencies in their jurisdictions. Community-based organizations (CBOs) should be integral in the planning of resilience hubs, and building emergency plans for their local areas. An example of this would be collaboration between CBOs and emergency service providers so that there can be more efficient rescue and assistance in times of need.

There should be a prioritization of households and vulnerable communities with least mobility and information to receive support before, during, and after emergencies. BIPOC (Black, Indigenous, People of Color) and low-income communities often suffer the worst in emergencies, because they do not receive assistance first and do not have the same infrastructure as more affluent communities or those with more political and societal power. Jurisdictions should account for this by eliminating disparities in infrastructure and information and by working with community-based organizations in these neighborhoods.

Priority Actions

- Create places in a community to go to in emergencies such as for shelter and resources when there is a natural disaster.
- Provide government/first responder training, coordination to better prepare for natural disasters and to ensure that emergency response is equitable.

Materials & Waste Management

Reducing material waste requires a cultural shift by addressing consumer culture and power of markers and creation of need. Both consumer and producer waste reduction requires better product standards for durability and producer responsibility and creating shared-use models rather than private or individual ownership.

Plans should build on practices of Indigenous communities and traditional knowledge of immigrant and refugee communities. These can have many benefits such as the conservation of natural and built materials. Jurisdictions should also create plans that require reductions in material inputs and waste starting with wealthiest and most prolific.

Additionally, jurisdictions should also support entrepreneurs in a circular economy and provide public infrastructure for reuse. There should be plans to provide education targeted to overburdened communities and vulnerable populations for this. There should also be emphasis on circular production methods and bans on hazardous materials with research into alternatives that maintain accessible use.

Priority Actions

- Reduce, reuse, and recycle materials and waste.
- Reduce and limit material consumption and shift toward craft economies.

Governance & Health

Achieving equitable co-governance of frontline communities with government sector agencies can embed a worldview of care and sacredness over consumerism and shift to deeper participation.

Co-governance requires a commitment to the self-determination of communities, supporting communities to build their capacity to effectively participate (in government processes), developing shared governing power in principles

and in process, Demonstrating equitable processes and results. Jurisdictions should adopt provisions of the HEAL Act [*referenced in Section 2*] and develop equitable community engagement plans, environmental justice implementation plans, and integrate environmental justice into budgeting and spending, and conduct environmental justice assessments of major regulations and ordinances, capital projects, and other decisions.

Priority Actions

- Advance community control of land and resources, to include participatory budgeting of public funds.
- Create pathways for communities who are most impacted to shape decisions that affect them.
- Advance environmental justice by prioritizing health first, assuming risk prior to action, and targeting solutions to the most impacted.
- Prevent privatization and fencing-off of common spaces.
- Build community capacity for climate and Environmental Justice.

Transportation

There should be reliable, accessible, and frequent public transportation that contemplates local use as well as cross-city and county use. Sidewalks, crosswalks, and bike paths should be commonplace and have a set quality standard such that anyone can use them without fear of injury or immobility.

Consider both cultural and practical implications of transportation projects. For example, electric vehicle (EV) chargers might signify displacement and harm to some communities or lack of chargers can mean exclusion for others — particularly in multifamily buildings. Measures that create limits or disincentives to driving or driving alone should require a diagnosis of who might be unfairly impacted by such plans. Telework might not be applicable or equitable based on other factors such as living space or internet access. Further, public transportation is not ideal for, workers with night shifts or with families. These populations might be negatively impacted by plans and policies that over-prioritize carbon minimal options such as telework. Likewise, improving public transit service so that there is accessible transportation at all times of day would support non-drivers.

Priority Actions

- Make it easier to not need a car by designing walkable neighborhoods and providing affordable public transportation.
- Reduce fossil fuel vehicle miles by switching to electricity and creating EV charging stations near residences.
- Create limits or disincentives to driving, or driving alone.

Water Resources

Plans should aim for jurisdictions where there is safe, accessible, and adequate drinking water for every household. Waters should also be clean for marine habitats. This can be achieved through intensive conservation, demand management, publicizing water rights, and thriving saltwater ecologies.

Plans should be attentive to local contexts and communities affected by interventions. These impacts might displace communities and/or make their lives substantially harder. Jurisdictions should contemplate how water resources can be maintained and improved without a disproportionate impact on any community — but especially frontline communities.

Priority Actions

- Change water rights, from private into public trust.
- Protect water from pollution by holding the polluting industry accountable.
- Ensure water systems can withstand climate impacts.
- Plan and fund water systems for droughts and to reduce water consumption.
- Use reclaimed water.

Zoning & Development

Plans should have zoning and development built into land trusts for common use and removed from speculative markets that create perverse outcomes for communities and climate outcomes. Plans and policies should prioritize public mobility and space over roads. This will build connections for community resilience and reduce auto-dependency.

Priority Actions

- Prevent climate-risky development; avoid hazardous areas, use climate-appropriate design to reduce emissions, improve resilience, and be relocation ready.
- Build dense, affordable communities around public transportation.
- Create and preserve open space, tree and green space, restore green infrastructure.
- Build low-impact developments that are solar-ready.
- Plan for people to move and migrate.
- Create climate and pollution safe areas.

Conclusion

How local governments approach climate change — and the pollution that is causing it — in their planning processes is a critical issue for all Washington residents. Through the Uplift Communities Project, Front and Centered was asked to provide a model and best practices for centering equity. It is only through centering vulnerable communities and the principles of Just Transition that jurisdictions engaged in comprehensive planning can effectively mitigate the impact of climate change and adapt to its impacts. There are tools available to jurisdictions and communities to meet the challenges facing our climate and our communities [*see Section 2*].

We offer these approaches as a model for innovating the comprehensive planning process, but more innovation is possible if jurisdictions center the needs, experience, and aspirations of impacted communities in their important work.

G. Summary report: Pilot testing the climate resilience planning guidance

(Prepared by Cascadia Consulting Group Inc. on April 28, 2023)

Project background

The Washington Department of Commerce (Commerce) contracted with Cascadia Consulting Group (Cascadia) and BERK Consulting (BERK) to test and evaluate the resilience subelement guidance through a climate pilot program (pilot program). The pilot program was designed to guide three jurisdictions — Port Angeles, Pullman, and Woodland — through the resilience guidance to demonstrate proof-of-concept and identify ways to improve the resilience guidance and its companion tools. The consultant team used findings and key takeaways of the pilot program to develop recommendations for improving the usability and effectiveness of the resilience guidance and its companion tools, as well as the overall process of resilience subelement integration. Commerce subsequently added bracketed and italicized "Editor's notes" throughout this summary report to indicate how the state agency addressed the consultant team's recommendations in the climate element planning guidance published in 2023.

Evaluation approach

The pilot program team (project team) which consisted of Commerce, Cascadia, and BERK — developed and administered pre-pilot and post-pilot program surveys to each of the pilot jurisdictions to capture feedback about the usability of the resilience guidance and understand how each jurisdiction's capacity and staffing constraints impacted their ability to integrate the resilience subelement during the pilot program. Following the pilot program, the project team conducted semi-structured interviews with each jurisdiction to dive deeper into survey responses and learn more about their reflections on the process and recommendations to improve the resilience guidance.

The project team also utilized regular team check-in notes documenting real-time modifications for each jurisdiction's needs and lessons learned throughout the course of the pilot program to inform evaluation findings.

Key takeaways

The project team identified a few key areas for improvements to the step-by-step resilience guidance and resilience subelement integration process:

- Overall, the resilience guidance and its companion tools were clear, accessible, and user-friendly.
    - The resilience guidance workbook would benefit from the inclusion of real pilot program examples throughout the step-specific tabs. [***Editor's note:*** *Commerce integrated pilot city examples into the workbook to show other jurisdictions how they could complete guidance tasks and fill in workbook tables.*]
- Jurisdictions should supplement county-level climate impact data collected via the University of Washington Climate Impacts Group's (CIG) web-based companion tool with more granular, localized climate data. [***Editor's note:*** *Commerce revised Section 3, Step 1 of the planning guidance, instructing jurisdictions to start by reading summarized climate information from statewide or regional reports (linked above) and their local hazard mitigation plan to understand assets' current exposure and vulnerability. In addition to linking to UW CIG's how-to guide for using its CMRW tool, this revised task links to other resources with localized climate data.*
    - The model climate element should include a foundational project planning framework that includes an organizational assessment and instructions and templates for developing a project team and process, with suggested interim goals and timeframe considerations. [***Editor's note:*** *Commerce revised the planning guidance to have a standalone section (Section 2) that instructs jurisdictions on how to form a project team and planning process for developing and adopting a climate element over roughly 24 months. The companion workbook provides tabs for listing project team members and community stakeholders.*]
- Integrating the resilience subelement into comprehensive planning would be significantly more difficult for jurisdictions, if not impossible, without additional capacity and/or climate expertise and support. This is particularly the case for smaller, capacity-constrained jurisdictions, as well as jurisdictions that do not have a robust history of climate planning or are in the early stages of that process. [***Editor's note:*** *Commerce revised Section 3, Step 2 to better explain the tradeoffs of pursuing each of the planning and policy-development pathways, factoring in time, budget, and staff capacity. We underscore that a jurisdiction might want to seek outside funding and technical assistance (e.g., from a consultant) to complete a vulnerability and risk assessment.*]
    - Commerce should consider additional support mechanisms for providing technical support to smaller, capacity-constrained jurisdictions, including development of training webinars and workshops, hotline support, and additional grant funding opportunities that allow for additional technical assistance. [***Editor's note:*** *This recommendation validates the purpose of the pilot program and supports Commerce's plans for providing future assistance, including grants and technical assistance.*]
- Additional resources that would be useful for successful resilience subelement integration include:
    - Climate change and impact factsheets that are clear and accessible to the public and lay persons to increase community awareness, buy-in, and understanding around value and need for climate consideration integration into city and countywide planning processes. [***Editor's note:*** *In the planning guidance and its companion online resources list, we link to such information (e.g., Commerce and MRSC climate planning portals, APA climate planning guides). This recommendation also supports Commerce's plans for providing future assistance to local jurisdictions.*]
- Recorded tutorials that demonstrate the use of the resilience guidance, web-based companion tool, and workbook. [***Editor's note:*** *This recommendation echoes feedback we received from Front & Centered. As Commerce*

and its partners (e.g., UW CIG, MRSC) develop print and video tools, we will integrate them into this document's companion Climate Policy Explorer.]

Pilot program overview and goals

To test the integration of the resilience subelement into comprehensive planning, Commerce contracted with Cascadia and BERK to evaluate the usability and effectiveness of its resilience guidance and companion tools and resources. Commerce and the consultant team strategically selected three pilot jurisdictions — Port Angeles, Pullman, and Woodland — to help demonstrate and evaluate the resilience guidance and process.

The resilience guidance and companion tools are designed to help jurisdictions identify and address natural hazards exacerbated by climate change, including floods, droughts, wildfires, and other impacts stemming from relevant climate change drivers (e.g., changes to temperature, precipitation, and sea levels) through policy and goal development. The companion tools include a county-level tool[54] to help identify expected changes in the climate and related natural hazards, as well as the Climate Element Workbook (workbook) designed to help jurisdictions track and document findings and key decisions throughout the process.

The evaluation approach, objectives, and results are discussed in the subsequent sections of the report.

Pilot jurisdiction recruitment

The recruitment phase of the pilot program occurred in August and September of 2022. To select three Washington jurisdictions for the pilot program, cities were initially evaluated against a set of individual criteria. Individual criteria and rationale are presented in the list below :

Individual criteria for pilot jurisdiction selection

1. Criterion: Not located within the ten most populous counties.
- **Rationale: Evaluate ability of smaller, potentially resource-constrained jurisdictions to integrate the resilience subelement**

2. Criterion: Comprehensive plan update deadline is near-term.
- **Rationale: Evaluate ability of smaller, potentially resource-constrained jurisdictions to integrate the resilience subelement**

3. Criterion: Planning staff capacity is moderate or high.
- **Rationale: Ensure sufficient capacity to effectively participate in the pilot program**

Those jurisdictions that passed the initial set of criteria were then evaluated against a second set of group criteria. The project team selected group criteria to ensure pilot jurisdictions are geographically and demographically varied, with:

- Varied population representation of vulnerable groups including Black, Indigenous, and people of color (BIPOC) and low-income communities, elderly persons, and those with chronic health conditions or disabilities.
- Diversity of climate impacts and exposures including wildfire risk, sea level rise and coastal flooding, riverine flooding, extreme heat and drought, and/or reduced snowpack and streamflow.

The project team used an Excel database to evaluate a total of 40 qualifying jurisdictions based on the selection criteria and arrive at five top-ranked

[54] See University of Washington Climate Impacts Group's web-based companion tool, Climate Mapping For A Resilient Washington, available: https://cig-wa-climate.nkn.uidaho.edu/.

jurisdictions. After inquiring with planning department leads, two of the top-ranked jurisdictions declined to participate due to limited staff capacity. The City of Port Angeles, City of Pullman, and City of Woodland elected to participate in the pilot program. Key criteria for selecting the three pilot jurisdictions:

1. Pullman

- **Jurisdiction Selection Criteria**
  - Population: 32, 827
  - Comprehensive plan periodic review deadline: 2027
  - County: Whitman
  - Geographic region: Southeast
  - Demographic notes: mid-size jurisdiction, poverty rate 33.6 percent, people of color 29.3 percent
  - Potential climate impacts and vulnerabilities: riverine flooding, wildfires and smoke, extreme heat

2. Port Angeles

- **Jurisdiction Selection Criteria**
  - Population: 20,134
  - Comprehensive plan periodic review deadline: 2025
  - County: Clallam
  - Geographic region: Northwest
  - Demographic notes: mid-size jurisdiction, poverty rate 11.5 percent, people of color 18.6 percent
  - Potential climate impacts and vulnerabilities: sea level rise, wildfire smoke, extreme heat, water scarcity

3. Woodland

- **Jurisdiction Selection Criteria**
  - Population: 6,540
  - Comprehensive plan periodic review deadline: 2026
  - County: Cowlitz and Clark
  - Geographic region: Southwest
  - Demographic notes: small-mid-size jurisdiction, poverty rate 7.4 percent, people of color 27.5 percent
  - Potential climate impacts and vulnerabilities: wildfires and smoke, extreme heat, water scarcity, riverine flooding

Pilot program process

In October of 2022, the project team began the resilience guidance implementation phase of the pilot program by holding project kick-off meetings with each of the three pilot jurisdictions. Key objectives of the kick-off meetings were as follows:

- Share overview and goals of the pilot program.
- Clarify jurisdiction roles in participating in the pilot program.
- Review steps in the resilience guidance and develop planning process for the pilot program.

Throughout the course of the resilience guidance implementation phase of the pilot project (October 2022-February 2023), the project team worked with pilot jurisdictions to implement each step of the resilience guidance. The project team utilized the companion workbook to guide the implementation of each step. Each step and associated tasks of the resilience guidance have a corresponding tab with instructions and templates for capturing findings and decisions.

The list below gives an overview of the overall pilot program timeline, including timing of each resilience guidance step and a description of how it was implemented.

Description and timeline of implementation for each step of resilience guidance

Step 1: Develop planning process
Timeline: October 2022

- Step 1 guided the setup of the resilience guidance pilot process. Each jurisdiction selected up to two staff leads to partner with the project team in pilot program participation. The jurisdiction co-leads and project team established a program timeline, communication platforms, and bi-weekly check-ins meetings. The project team managed the project timeline, led agenda development, and provided meeting notes with actions items for each check-in. With project team guidance, jurisdiction co-leads developed goals and guiding principles to help define pilot project outcomes.

Step 2: Explore climate impacts
Timeline: November-December 2022

- Step 2 provided the pilot cities with time to explore anticipated changes in the climate and associated hazards by utilizing CIG's tool for each jurisdiction at the county-level scale. The project team reviewed trends under the high emissions scenario for the early, mid, and late century and used their climate expertise to interpret the climate projections and findings. Jurisdiction co-leads helped contextualize climate impacts for their local jurisdictions, in terms of on-the-ground environmental conditions, lived experience of staff and community members regarding hazard and climate events, and prior planning efforts to address those impacts.

Step 3: Audit plans and policies
Timeline: November-December 2022

- Step 3 was used to identify existing plans with climate resilience goals and policies from each jurisdiction and determine whether to pursue a risk and vulnerability assessment (RVA) in step 4. The project team led the existing plan audit, with jurisdiction co-leads reviewing the audit results for gaps. Due to the ambitious timeline pursued for the purpose of this pilot, the consultant team and pilot jurisdictions were unable to seek additional funding and partners or develop a robust engagement strategy.

Step 4: Assess vulnerability and risk
Timeline: December 2022 -January 2023

- Jurisdictions that decided to pursue a vulnerability and risk assessment (VRA) in Step 3 focused on one climate hazard and a set of critical assets impacted by that hazard. Commerce, with support from the consultant team, led the VRAs by helping jurisdictional staff members characterize and assess the sensitivity, adaptive capacity, vulnerability, and risk of each asset-hazard pair. The VRA helped the jurisdictions to identify assets with the highest relative risks and to tailor climate policies for their comprehensive plan.

Step 5: Choose pathway to adapt and/or adopt goals and policies
Timeline: January - February 2023

- Step 5 was used to develop draft goals and policies for integration into comprehensive plans. Each jurisdiction's process differed depending on their history of climate planning and whether they had existing policies that address climate priorities. Overall, all three chose to integrate some existing policies from other city planning efforts and adopt policies from Commerce's Climate Policy Explorer. The project team compiled a draft list of goals and policies and cross-walked each policy for potential co-benefits, such as air quality

improvement, emissions reductions, and equity benefits. Jurisdiction co-leads reviewed and edited draft goals and policies. The project team assisted co-leads in presenting draft goals and policies forward to Planning Commissions and the public for initial feedback.

Step 6: Integrate goals and policies

- **Timeline: February 2023**
  - In the final step, the project team integrated feedback from each jurisdiction's Planning Commission to revise draft goals and policies. Once finalized, each jurisdiction will decide where it intends to integrate its climate resilience goals and policies in its comprehensive plan. Based on City Council direction, each jurisdiction may choose to list all of its climate element goals and policies into one climate chapter or may choose to integrate them into several chapters/elements (Land Use, Housing, Transportation, etc.).

Pilot program evaluation approach

Using the following objectives to guide evaluation, the project team assessed jurisdictions before, after, and throughout the course of the pilot program:

- Evaluation Objective 1: Demonstrate integration of the resilience subelement into comprehensive plans within three small-medium sized cities that represent a diversity of climate, geographical, and planning contexts.
- Evaluation Objective 2: Improve the usability and effectiveness of the six steps of the resilience guidance.
- Evaluation Objective 3: Understand the impact (if any) of the pilot program process and project team support on improving the ability of the pilot cities to integrate climate into comprehensive planning.

The findings and key takeaways gleaned from assessment of objective outcomes were used to prepare recommendations to improve the (1) resilience guidance and its associated companion tools, and (2) the overall process for integrating the resilience subelement into comprehensive planning.

Evaluation sources

The project team elicited input and reflections from the jurisdiction co-leads during the initial stages of the pilot program, throughout each step of the resilience guidance implementation, and at the end of the pilot program. Feedback from jurisdictions was captured through the following efforts:

- Pre-pilot and post-pilot program survey administered to jurisdiction co-leads in the early stages of the pilot program (November 2022) and at the close of the pilot program (February-March 2023).
  - The objectives of the surveys were to (1) elicit feedback on usability of the resilience guidance and associated tools and opportunities for improvement and (2) understand the expertise and capacity of each jurisdiction to implement the resilience guidance.
- Bi-weekly check-ins throughout the pilot program with jurisdiction co-leads.
  - The consultant team took detailed check-in notes, flagging real-time process modifications for jurisdiction needs and ad-hoc input for future refinements.
- Semi-structured interviews with jurisdiction co-leads at program close-out (March 2023).
  - The objective of the interviews was to unpack post-pilot results through supplemental questions to better understand survey responses.

In addition to pilot jurisdiction feedback, the project team relied on detailed notes and reflections captured during bi-weekly project team check-ins to further inform the pilot program assessment and develop recommendations for improvement. During biweekly check-ins, the consultant team logged notes on implementation of each

resilience guidance step, detailing challenges, strengths, real-time modifications, and potential changes and refinements for future applications.

Results

The outcomes and efficacy of the pilot program were evaluated using the three overarching goals of the program. Demonstrated outcomes, findings, and recommendations for each goal are discussed in the sections below.

Demonstrate integration of the resilience subelement

To demonstrate the integration of the resilience subelement into comprehensive planning, the project team worked with the three pilot jurisdictions in testing the planning framework laid out in the resilience guidance. The project team largely adhered to six steps outlined in Figure 111 but made key decisions to omit or curtail some sub-steps due to timeframe and jurisdictional capacity constraints. Due to these constraints, the project team led the primary execution of resilience guidance steps and relied on jurisdiction co-leads to partially implement specific sub-steps, review outputs, and confirm key decisions. Implications of the expedited pilot program timeframe are discussed further in the "Study " section of the report.

Figure 11: Original resilience subelement steps and pathways (as tested by the pilot cities)[55]



All three jurisdictions successfully applied the resilience guidance to develop draft resilience policies that address climate risks and impacts to their cities and are poised to integrate the resilience subelement into their comprehensive plans, pending City Council approval. Key outcomes include identification of priority climate impacts and hazards, a light-touch assessment of vulnerability and risk, review of existing local plans and policies for climate resilience considerations and gaps in local planning, and draft climate resilience policies for comprehensive plan integration.

The list below shows a summary of the work completed with each pilot jurisdiction in each step of the resilience guidance.

[55] Following in the pilot test, Commerce revised this graphic to reflect changes to the planning guidance. Such revisions include moving the first step of the resilience subelement (Step 1: Develop Planning Process) to Section 2 of the broader guidance.

Pullman

Resilience guidance step 1: Develop planning process

- Co-leads: RJ Lott, Community Development Director and Ariel Medeiros, Assistant Planner; Additional representation: Mike Heston, Fire Chief
- Key Stakeholders: Citizen Climate Lobby, Planning Commission, and WSU contacts
- Guiding principles: To be innovative, a champion of climate work, and incorporate a variety of City departments in climate work

Resilience guidance step 2: Explore climate impacts

- Priority impacts: extreme heat, extreme precipitation and flooding, drought, wildfire

Resilience guidance step 3: Audit plans and policies

- **Reviewed existing plans: City of Pullman Comprehensive Plan (2021), Whitman County Hazard mitigation Plan (2020), RTPO Regional Transit Plan (2019-2023), Public Works Stormwater (2022), Pullman Draft Bicycle Plan (2022)**

Resilience guidance step 4: Assess vulnerability and risk

- Conducted VRA for extreme heat hazard

Resilience guidance step 5: Pursue pathways

- Drafted 44 resilience policies Modified 18 existing policies to include climate and VRA considerations. Supplemented climate gaps with 26 new policies from Climate Policy Explorer, project team expertise, and Planning Commission feedback.

Resilience guidance step 6: Integrate goals and policies

- Leads will complete this step after continued review of draft policies with Planning Commission and public and Council approval in 2023.

Port Angeles

Resilience guidance step 1: Develop planning process

- Co-leads: Ben Braudrick, Senior Planner, Resilience Planning Lead and Zachary Trevino, Implementation Planning Lead
- Key stakeholders: North Olympic Development Council, Port Angeles and surrounding communities, Climate Action Planning Group, Wastewater Department, Stormwater Department, Solid Waste Department, Chamber of Commerce, private landowners, downtown businesses, sub-Committees for climate on the Planning Commission
- Guiding principles: Integrate climate resilience throughout the comprehensive plan, with a focus on hazard mitigation, demonstrate commitment to the pilot program, use the results of this work to update land-use maps and other City goals

Resilience guidance step 2: Explore climate impacts

- **Priority impacts: extreme heat, extreme precipitation and flooding, drought, wildfire, sea level rise**

Resilience guidance step 3: Audit plans and policies

- Reviewed existing plans: City of Port Angeles Comprehensive Plan (2019), City of Port Angeles Climate Resiliency Plan (2022), Port Angeles Capital Facilities and Transportation Improvement Plan (2023-2028), Port Angeles Shoreline Master Plan (2021), NODC Disaster Resiliency Planning (2022)

- **Resilience guidance step 4: Assess vulnerability and risk**
  - Conducted VRA for sea level rise on segment of downtown/waterfront area
- **Resilience guidance step 5: Pursue pathways**
  - Drafted 42 resilience policies. Modified 19 existing policies to include climate and VRA considerations. Supplemented gaps with 23 new policies from the Climate Resiliency Plan, Climate Policy Explorer, project team expertise, and Planning Commission feedback.
- **Resilience guidance step 6: Integrate goals and policies**
  - Leads will complete this step after continued review of draft policies with Planning Commission and public and Council approval in 2025.

Woodland

- **Resilience guidance step 1: Develop planning process**
  - Co-leads: Travis Goddard, Community Development Director, Deputy Clerk/Treasurer, Public Records Officer; David Lukaczer, Associate Planner
  - Key stakeholders: Planning Commission, School District contacts, Port of Woodland, PacifiCorp, Cowlitz-Wahkiakum COG, Cowlitz Sheriff-Emergency Management, Clark-Cowlitz Fire Rescue, Cowlitz Consolidated Dike District
  - Guiding principles: City staff and Council education on climate impacts, incorporate climate into local decision making
- **Resilience guidance step 2: Explore climate impacts**
  - Priority impacts: extreme heat, extreme precipitation and flooding, drought, wildfire
- **Resilience guidance step 3: Audit plans and policies**
  - Reviewed existing plans: City of Woodland Comprehensive Plan (2016), Cowlitz County Hazard mitigation Plan/Emergency Management (2019), Cowlitz Comprehensive Plan (2017), City of Woodland Shoreline Master Plan (2021), City of Woodland Sewer Plan (2017)
- **Resilience guidance step 4: Assess vulnerability and risk**
  - Did not pursue VRA due to time constraints.
- **Resilience guidance step 5: Pursue pathways**
  - Drafted 39 resilience policies. Modified three existing policies to include climate impact considerations. Supplemented gaps with 36 new policies from Climate Policy Explorer, project team expertise, and Planning Commission feedback.
- **Resilience guidance step 6: Integrate goals and policies**
  - Leads will complete this step after continued review of draft policies with Planning Commission and public and Council approval in 2023.

Takeaways

- Jurisdictions with more robust climate planning histories and dedicated climate and/or sustainability staff will be better equipped to use the resilience guidance to integrate climate into comprehensive planning.
- Port Angeles, which has an adopted Climate Resilience Plan, more in-house climate expertise, and a community that is generally supportive and well-versed on the topic of climate change required less support from the project

team. The existing policy audit and draft policy development processes were significantly more streamlined, as the project team was able to utilize more of the City's existing, tailored climate policies and adapt policies in a more strategic manner.

- The other two pilot jurisdictions — Woodland and Pullman — have less robust local climate planning histories. As such, co-leads consistently indicated they had less capacity and expertise to integrate climate into comprehensive planning. These jurisdictions required more support from the project team throughout the pilot program, particularly in development of new draft policies and identification of climate priorities.

Jurisdictions with less support from city stakeholders and the community around addressing climate change will face added barriers in creating buy-in and will need to consider additional approaches, support, and resources for the engagement process.

Woodland co-leads indicated their community members were unfamiliar with climate change and somewhat unsupportive of addressing climate change issues. To facilitate buy-in from the community, co-leads identified the need for additional support around community engagement efforts, including the use of easily accessible collateral with messaging about the importance of climate change with a clear connection to climate impacts and lived experiences.

Co-leads for the City of Pullman, which has a community that is somewhat familiar and supportive of addressing climate change, also identified the need for engagement approaches that connect the goals of this process to real community experiences with recent climate events (heat dome events, recent wildfires, etc.).

Process outcomes by jurisdiction

Pullman

The City of Pullman is located within Whitman County in southeastern Washington. A mid-size city with a population of 32,827, Pullman is home to Washington State University (WSU) and is known as an agricultural center. Pullman's population is 71 percent non-Hispanic white and has a relatively high poverty rate (35.4 percent), which is partially due to its large student population.

The City is early in its climate planning efforts, but is seeing increased enthusiasm and interest for such efforts from the community. The City recently updated its Comprehensive Plan (2021) and plans to make updates to integrate climate resilience policies in 2023.

The project team needed to arrive at a draft list of climate resilience policies for comprehensive plan integration. They met with Pullman co-leads and Community Development and Fire Department staff for an initial kick-off planning meeting and then on a bi-weekly basis to implement each step of the resilience guidance to accomplish this. The kick-off meeting and the first several check-ins were dedicated to Step 1, developing the overall planning process of the pilot program. Tasks 1.3 (scope a budget and schedule first three steps) and 1.4 (develop a public-engagement strategy) were significantly reduced in scope due to the expedited timeframe of the project. [***Editor's note:*** *Following the pilot testing of the resilience subelement, Commerce moved what had been the resilience subelement's Step 1 (Develop Planning Process) into the planning guidance's Section 2. The revision makes forming a project team and engagement strategy preceding the resilience and GHG reduction subelements (Sections 3 and 4) and provides additional guidance for jurisdictions.*]

To implement Step 2 (Explore Climate Impacts), the project team identified the following climate change drivers and associated impacts as the most relevant to the City using the tool:

- Increased Heat: Warmer summers with longer and more intense heat waves.
- Heavy Rains, Flooding, and Landslides: More frequent and intense precipitation and storms that cause extreme flooding and increase landslide risk. Changes in timing and hydrologic conditions in rivers.

- Summer Drought, Reduced Snowpack, and Wildfire: Less rain in the summer and warmer winters with reduced snowpack may create drought conditions. Additional summer dry conditions may create more wildfire risk and smoke.

Pullman has already experienced impacts, and climate projections suggest that climate change drivers will continue to worsen these impacts. The list below presents mid- and late-century climate projections for Whitman County. These climate change impacts lead to negative effects on public health, agriculture, food supply, as well as infrastructure damage to transportation systems, homes, and buildings.

Climate projections for Whitman County



Climate Impact: Extreme Heat

- **2040-50**
  - Average summer temperature Jun-Aug
    - ↑6.6°F increase
  - Number of hot days (humidex over 90 degrees)
    - ↑32.8 days
- **2080**
  - Average summer temperature Jun-Aug
    - ↑11.5°F increase
  - Number of hot days (humidex over 90 degrees)
    - ↑57.2 days



Climate Impact: Precipitation

- **2040-50**
  - Total late summer precipitation July-Sept:
    - ↑0.7 percent increase
  - Total annual precipitation
    - ↑10.2 percent increase
  - Intensity of extreme rain events (change in the magnitude of 2-year storms)
    - ↑13 percent increase
  - Precipitation intensity projected change in a 25-year, 1 hour rain event
    - ↑21 percent increase

- Precipitation drought (likelihood of a year with summer precipitation below 75 percent of historical normal)
  - 19 percent

2080

- Total late summer precipitation July-Sept:
  - ↓1.6 percent decrease
- Total annual precipitation
  - ↑14.5 percent increase
- Intensity of extreme rain events (change in the magnitude of 2-year storms)
  - ↑20 percent increase
- Precipitation intensity projected change in a 25-year, 1 hour rain event
  - ↑29 percent increase
- Precipitation drought (likelihood of a year with summer precipitation below 75 percent of historical normal)
  - 27 percent



Climate Impact: Snowpack

2040-50

- Percent change in April 1 snowpack
  - ↓100 percent decrease

2080

- Percent change in April 1 snowpack
  - ↓100 percent decrease



Climate Impact: Streamflow

2040-50

- Peak streamflow
  - ↑22.4 percent increase

2080

- Peak streamflow
  - ↑47.5 percent increase



Climate Impact: Fire

- **2040-50**
  - Change in high fire danger days
    - ↑11 days
- **2080**
  - Change in high fire danger days
    - N/A

These local climate hazards will affect the City's plans to adapt existing areas to be more resilient (e.g., new buildings and street locations and designs, new or retrofitted tree and landscaping standards for drought resistance and shade) or how the City responds during or after extreme events (e.g., public services and business continuity, transit availability, emergency services and evacuation, building and recovery). These hazards can also affect the health and well-being of sensitive populations (e.g., older persons, young children, persons with pre-existing conditions).

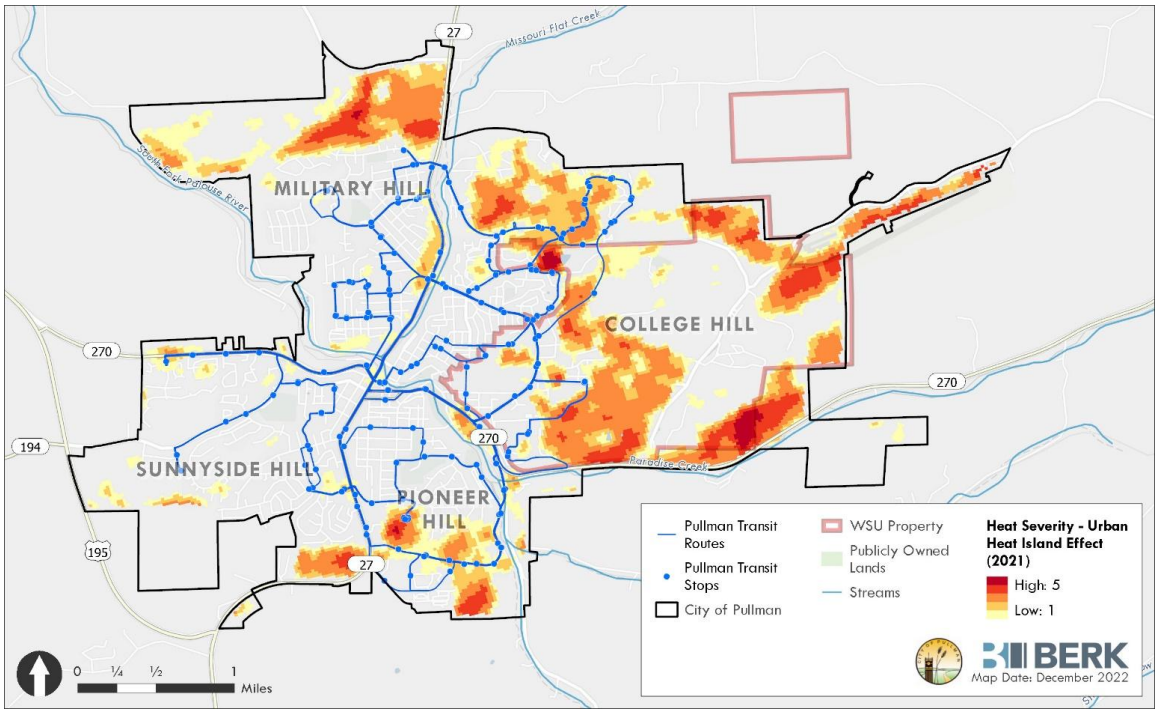
In Step 3 (Audit Plans & Policies), the project team and Pullman co-leads worked together to perform an audit of existing plans and policies to identify relevant goals, policies and strategies that support communitywide resilience across the 11 comprehensive planning sectors. The audit focused on the following plans:

- City of Pullman Stormwater Management Program Plan 2022
- City of Pullman Draft Bicycle and Pedestrian Master Plan 2022 (in progress)
- City of Pullman Comprehensive Plan 2021
- Whitman County Hazard Mitigation Plan 2020
- Palouse RTPO Coordinated Public Transit- Human Services Transportation Plan 2018

In Step 4 (Assess Vulnerability & Risk), Pullman co-leads worked closely with the project team to evaluate heat severity risk in Pullman and how increased temperatures may impact transportation access and need. Figure 12 shows where areas of Pullman are hotter than the average temperature for Pullman as a whole and considered information sources such as impervious areas and tree canopy coverage.

The map below [*Figure 1*] shows that neighborhoods east and north of Washington State University (WSU) experience more severe extreme heat, and are also not well served by transit, a mode that those with less mobility may require (e.g., elderly, people without cars). The project team refined draft goals and policies to reflect the preliminary vulnerability and risk assessment findings and focus on urban forest management, building and site design for passive cooling, and other strategies.

Figure 12: Extreme Heat Risk and Transit Routes and Stops – Pullman



CREDIT: *BERK, Pullman, Commerce.*

In Step 5 (Pursue Pathways), the project team utilized the Climate Policy Explorer, drafted by Commerce and its partners, to fill in any climate gaps that were revealed from the policy audit and drafted 44 preliminary climate resilience goals and policies, including amendments to existing goals and policies and new goals and policies. The policy recommendations consider the co-benefits of activities that would result in one or more of the following: enhances resilience; improves public health and well-being; promotes economic development; provides cost savings; provides ecosystem services; improves air quality; reduces emissions; sequesters carbon; improves salmon recovery; promotes equity and justice; protects tribal treaty rights; and builds knowledge.

The project team and Pullman co-leads presented the draft list of policies to the Pullman's Planning Commission for an initial review in February 2023 as an interim sub-step in Step 6 (Integrate Goals & Policies). The goal of the meeting was to provide an overview of the approach for integrating the climate model element, with specific focus on the resilience subelement, into the city's comprehensive planning process and review the draft policy list. Using the feedback captured at the meeting, including identification of priority policies and proposed edits, the project team updated the draft list of policies.

Only a handful of policies were discussed at the meeting but, this meeting marked the first step in a lengthy process to refine the draft policy list. The City will take the following steps to integrate the final climate and resilience policies into the Comprehensive Plan Update in 2023:

- Policy amendments are discussed and refined at Planning Commission meetings as needed.
- Recommendations are presented to City Council by the Planning Commission.
- Amendments are presented to City Council for adoption.
- Amendments are integrated into the Comprehensive Plan, if adopted by Council.

The project team developed a concise factsheet about the City's participation in the pilot program and intended next steps for continued use throughout the comprehensive planning process.

Port Angeles

The City of Port Angeles-population of 20,134 is located in Clallam County in northwestern Washington. Port Angeles represents a mid-size and rapidly growing jurisdiction that has made significant progress in climate planning. The City is currently in the first phase of implementing its recently adopted Climate Resiliency Plan. Recognizing the importance of holistic climate integration across city and county planning, the City is eager to integrate climate resilience considerations into its comprehensive plan update in 2025.

The project team needed to arrive at a draft list of climate resilience policies for comprehensive plan integration. They met with Port Angeles co-leads for an initial kick-off planning meeting and then on a bi-weekly basis to implement each step of the resilience guidance. The kick-off meeting and the first several check-ins were dedicated to Step 1, developing the overall planning process of the pilot program. Due to the expedited timeframe of the project the Tasks 1.3 (scope a budget and schedule first three steps) and 1.4 (develop a public-engagement strategy) were significantly reduced in scope.

Using the CMRW tool in Step 2 (Explore Climate Impacts), the project team identified following climate change drivers and associated impacts as the most relevant to the region and county:

- Increased Heat: Warmer summers with longer and more intense heat waves.
- Heavy Rains, Flooding, and Landslides: More frequent and intense precipitation and storms that cause extreme flooding and increase landslide risk. Changes in timing and hydrologic conditions in rivers.
- Summer Drought, Reduced Snowpack, and Wildfire: Less rain in the summer and warmer winters with reduced snowpack may create drought conditions. Additional summer dry conditions may create more wildfire risk and smoke.
- Rising Sea Level: Sea level rise increasing coastal flooding, erosion, and decreasing water quality.

Port Angeles has already experienced impacts, and climate projections suggest that climate change drivers will continue to worsen these impacts. The list below presents mid- and late-century climate projections for Clallam County. These climate change drivers lead to negative impacts on public health, agriculture, food supply, as well as infrastructure damage to transportation systems, homes, and buildings.

Climate projections for Clallam County



Climate Impact: Extreme Heat

- **2040-50**
  - Average summer temperature Jun-Aug
    - ↑5.5°F increase
  - Number of hot days (humidex over 90 degrees)
    - ↑11.9 days
- **2080**
  - Average summer temperature Jun-Aug
    - ↑9.2°F increase
  - Number of hot days (humidex over 90 degrees)

- ↑30.8 days



Climate Impact: Precipitation

2040-50

- Total late summer precipitation July-Sept:
  - ↓10.6 percent decrease
- Total annual precipitation
  - ↑2.8 percent increase
- Intensity of extreme rain events (change in the magnitude of 2-year storms)
  - ↑8 percent increase
- Precipitation intensity projected change in a 25-year, 1 hour rain event
  - ↑9 percent increase
- Precipitation drought (likelihood of a year with summer precipitation below 75 percent of historical normal)
  - 25 percent

2080

- Total late summer precipitation July-Sept:
  - ↓16.2 percent decrease
- Total annual precipitation
  - ↑2.9 percent increase
- Intensity of extreme rain events (change in the magnitude of 2-year storms)
  - ↑14 percent increase
- Precipitation intensity projected change in a 25-year, 1 hour rain event
  - ↑18 percent increase
- Precipitation drought (likelihood of a year with summer precipitation below 75 percent of historical normal)
  - 33 percent



Climate Impact: Snowpack

2040-50

- Percent change in April 1 snowpack
  - ↓76 percent decrease

2080

- Percent change in April 1 snowpack
  - ↓93 percent decrease



Climate Impact: Streamflow
2040-50

- Peak streamflow
  - ↑22.7 percent increase

2080

- Peak streamflow
  - ↑18.8 percent increase



Climate Impact: Fire
2040-50

- Change in high fire danger days
  - ↑10 days

2080

- Change in high fire danger days
  - N/A



Climate Impact: Sea level rise
2040-50

- Likely sea level rise (50 percent likelihood)
  - 0.5 feet

2080

- Likely sea level rise (50 percent likelihood)
  - 1.7ft

These local climate hazards will affect the City's plans to adapt existing areas to be more resilient (e.g., new buildings and street locations and designs, new or retrofitted tree and landscaping standards for drought resistance and shade) or how the City responds during or after extreme events (e.g., public services and business continuity, transit availability, emergency services and evacuation, building and recovery). These hazards can also

affect the health and wellbeing of sensitive populations (e.g., older persons, young children, persons with pre-existing conditions).

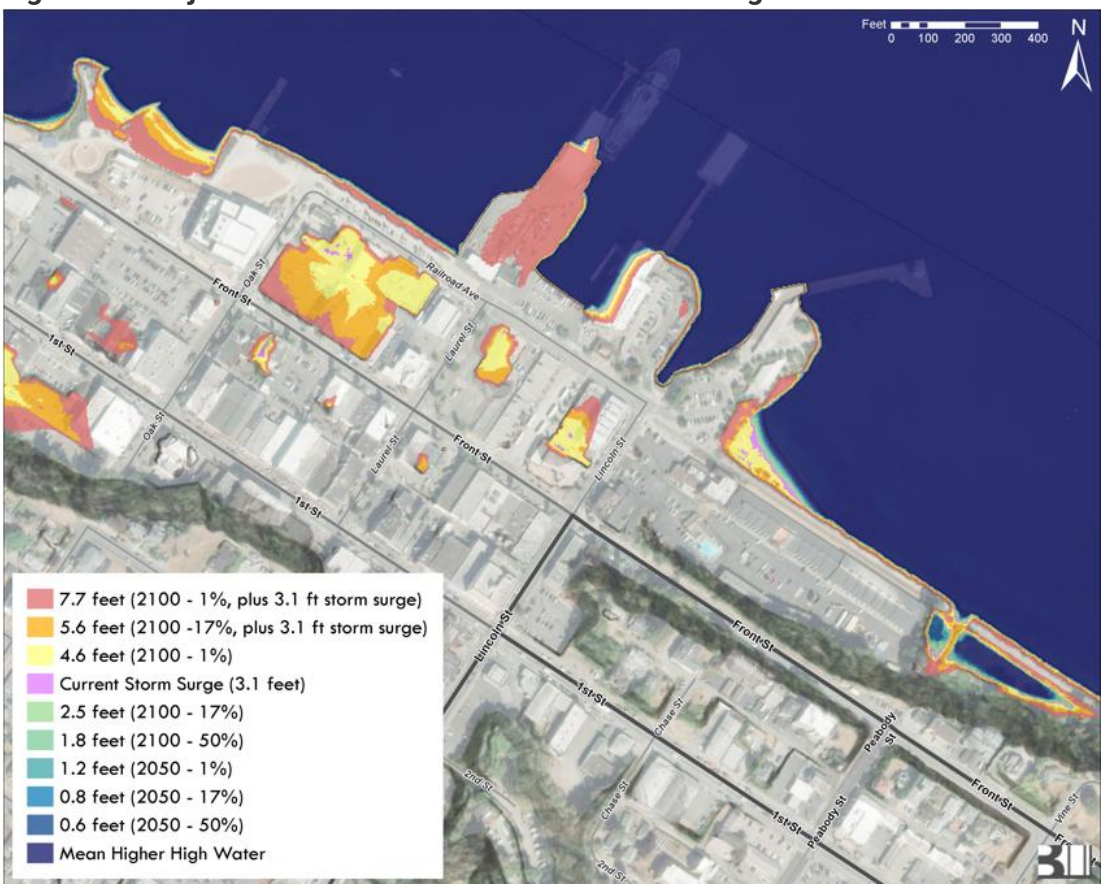
In Step 3 (Audit Plans & Policies), the project team and Port Angeles co-leads worked together to perform an audit of existing plans and policies to identify relevant goals, policies and strategies that support communitywide resilience across the 11 comprehensive planning sectors. The audit focused on these plans:

- North Olympic Peninsula Resource Conservations & Development Council (NODC): Natural Disaster Resiliency Planning
- City of Port Angeles Capital Facilities & Transportation Improvement Plan 2023-2028
- City of Port Angeles Climate Resiliency Plan 2022
- City of Port Angeles Comprehensive Plan 2019
- City of Port Angeles Shoreline Master Program 2021

In Step 4 (Assess Vulnerability & Risk), Port Angeles co-leads worked with the project team to evaluate and assess vulnerability and risk of a portion of the Port Angeles waterfront assets to sea level rise. The team assessed the potential for exposure, sensitivity, and the adaptive capacity of the city to climate change-related sea level rise.

The map below (Figure 2), which incorporates climate modeling used in the tool, shows how rising sea levels could exacerbate the impacts of coastal flooding in downtown Port Angeles over the 21st century. This will increase risks for important, vulnerable assets such as the transit center, ferry terminal, wharf, and coastal parks. The project team recommended goals and policies that directly addressed these vulnerability and risk assessment findings, including retrofitting and protecting critical and high-risk facilities at the waterfront.

Figure 23: Projected Sea Level Rise – Downtown Port Angeles



CREDIT: *BERK, Cascadia, Port Angeles, Clallam County.*

In Step 5 (Pursue Pathways), the project team utilized Commerce's Climate Policy Explorer to fill in any climate gaps that were revealed from the policy audit and drafted 42 preliminary climate resilience goals and policies, including amendments to existing goals and policies and new goals and policies. The policy recommendations consider the co-benefits of activities that would result in one or more of the following: enhances resilience; improves public health and well-being; promotes economic development; provides cost savings; provides ecosystem services; improves air quality; reduces emissions; sequesters carbon; improves salmon recovery; promotes equity and justice; protects tribal treaty rights; and builds knowledge.

The project team and Port Angeles co-leads presented the draft list of policies to the Port Angeles Planning Commission and members of the community for an initial review in February 2023. This was an interim task in Step 6 (Integrate Goals & Policies). The goal of the meeting was to provide an overview of the approach for integrating the climate model element, with specific focus on the resilience subelement, into the City's comprehensive planning process and review the draft policy list. Using the feedback captured at the meeting, including identification of priority policies and proposed edits, the project team updated the draft list of policies.

This was the first step in a lengthy process to refine the draft policy list. The City will take the following steps to integrate the final climate and resilience policies into the Comprehensive Plan Update in 2025:

- April 2023 – Submit notice to the WA State Department of Commerce of intent to adopt Comprehensive Plan & development regulation amendments.
- May 2023 – Bring proposal of Climate Resiliency Comprehensive Plan integration to the Planning Commission for consideration and follow with a public comment period.
- June 2023 – Bring proposal of Climate Resiliency Comprehensive Plan Integration to City Council following the Planning Commission’s recommendations to consider adoption.
- 2023-2024 – Implement Comprehensive Plan policies incorporating climate resilience.
- 2025 – Update the Comprehensive Plan in accordance with the Growth Management Act.
- June 2025 – Adopt Comprehensive Plan update in accordance with the Growth Management Act Periodic Update schedule.

The project team developed a concise factsheet about the City’s participation in the pilot program and intended next steps for continued use throughout the comprehensive planning process.

Woodland

The City of Woodland is located within Cowlitz County, with a small part of the city within Clark County. With a population of 6,540, Woodland represents a small Washington jurisdiction. The City has a 74 percent poverty rate and 27.5 percent of the population identify as people of color. While continuing to focus on industrial and commercial development and growth, the City is committed to incorporating environmental considerations into communitywide planning efforts that reflect growing stakeholder and community interests.

To arrive at a draft list of climate resilience policies for comprehensive plan integration, the project team met with Woodland co-leads for an initial kick-off planning meeting and then on a bi-weekly basis to implement each step of the resilience guidance. The kick-off meeting and the first several check-ins were dedicated to Step 1, developing the overall planning process of the pilot program. Due to the expedited timeframe of the project the Tasks 1.3 (scope a budget and schedule first three steps) and 1.4 (develop a public-engagement strategy) were significantly reduced in scope.

Using the CMRW tool in Step 2, the project team identified following climate change drivers and associated impacts as the most relevant to the region and county:

- Increased Heat: Warmer summers with longer and more intense heat waves.

- Heavy Rains, Flooding, and Landslides: More frequent and intense precipitation and storms that cause extreme flooding and increase landslide risk. Changes in timing and hydrologic conditions in rivers.
- Summer Drought, Reduced Snowpack, and Wildfire: Less rain in the summer and warmer winters with reduced snowpack may create drought conditions. Additional summer dry conditions may create more wildfire risk and smoke.

Woodland has already experienced impacts and climate projections suggest that climate change drivers will continue to worsen these impacts. The list below presents mid- and late-century climate projections for Cowlitz County. These climate change drivers lead to negative impacts on public health, agriculture, food supply, as well as infrastructure damage to transportation systems, homes, and buildings.

Climate projections for Cowlitz County



Climate Impact: Extreme Heat

- **2040-50**
  - Average summer temperature Jun-Aug
    - ↑5.9°F increase
  - Number of hot days (humidex over 90 degrees)
    - ↑27.7 days
- **2080**
  - Average summer temperature Jun-Aug
    - ↑9.6°F increase
  - Number of hot days (humidex over 90 degrees)
    - ↑51.9 days



Climate Impact: Precipitation

- **2040-50**
  - Total late summer precipitation July-Sept:
    - ↓10.6 percent decrease
  - Total annual precipitation
    - ↓25.4 percent decrease
  - Intensity of extreme rain events (change in the magnitude of 2-year storms)
    - ↑4.7 percent increase
  - Precipitation intensity projected change in a 25-year, 1 hour rain event

    - ↑13 percent increase
- Precipitation drought (likelihood of a year with summer precipitation below 75 percent of historical normal)
    - 16 percent

2080

- Total late summer precipitation July-Sept:
    - ↓16.2 percent decrease
- Total annual precipitation
    - ↓24.6 percent decrease
- Intensity of extreme rain events (change in the magnitude of 2-year storms)
    - ↑4.5 percent increase
- Precipitation intensity projected change in a 25-year, 1 hour rain event
    - ↑13 percent increase
- Precipitation drought (likelihood of a year with summer precipitation below 75 percent of historical normal)
    - ↑14 percent increase



Climate Impact: Snowpack

2040-50

- Percent change in April 1 snowpack
    - ↓95 percent decrease

2080

- Percent change in April 1 snowpack
    - ↓100 percent decrease



Climate Impact: Streamflow

2040-50

- Peak streamflow
    - ↑35.7 percent increase

2080

- Peak streamflow
    - ↑45.5 percent increase

Climate Impact: Fire

- **2040-50**
  - Change in high fire danger days
    - ↑7 days
- **2080**
  - Change in high fire danger days
    - N/A

These local climate hazards will affect the City's plans to adapt existing areas to be more resilient (e.g., new buildings and street locations and designs, new or retrofitted tree and landscaping standards for drought resistance and shade) or how the City responds during or after extreme events (e.g., public services and business continuity, transit availability, emergency services and evacuation, building and recovery). These hazards can also affect the health and wellbeing of sensitive populations (e.g., older persons, young children, persons with pre-existing conditions).

In Step 3, the project team and Woodland co-leads worked together to perform an audit of existing plans and policies to identify relevant goals, policies, and strategies that support communitywide resilience across the 11 comprehensive planning sectors. The audit focused on these plans:

- City of Woodland Comprehensive Plan 2016-2036 (last amended 2019)
- City of Woodland Shoreline Master Program 2021
- City of Woodland General Sewer Plan 2017
- Cowlitz County Comprehensive Emergency Management Plan 2019. Woodland is a partner in the Comprehensive Emergency Management Plan along with the other cities and the County.
- Cowlitz County Comprehensive Plan 2017. Affects lands, shorelines, and infrastructure around the city limits including the City's desired urban growth area.

Woodland co-leads decided to omit the vulnerability and risk assessment due to lack of capacity and adequate time (Step 4).

In Step 5 (Pursue Pathways), the project team utilized the Climate Policy Explorer to fill in any climate gaps that were revealed from the existing policy audit and drafted 39 preliminary climate resilience goals and policies, including amendments to existing goals and policies and new goals and policies. The policy recommendations consider the co-benefits of activities that would result in one or more of the following: enhances resilience; improves public health and well-being; promotes economic development; provides cost savings; provides ecosystem services; improves air quality; reduces emissions; sequesters carbon; improves salmon recovery; promotes equity and justice; protects tribal treaty rights; and builds knowledge. To review the full list of draft policies, refer to the Woodland Discussion Guide developed for the February 2023 Planning Commission meeting.

The project team and Woodland co-leads presented the draft list of policies to the Pullman's Planning Commission for an initial review in February 2023 as an interim task in Step 6 (Integrate Goals & Policies). The goal of the meeting was to provide an overview of the approach for integrating the climate model element, with specific focus on the resilience subelement, into the city's comprehensive planning process and review the draft policy list. Using

the feedback captured at the meeting, including identification of priority policies and proposed edits, the project team updated the draft list of policies.

The City will take the following steps to integrate the final climate and resilience policies into the Comprehensive Plan Update in 2023:

- April 2023 – host an open house and a public hearing to continue discussing incorporation of draft climate resilience element into the 2023 update.
- Identify and prioritize key goals and policies from the draft climate resilience element based on outreach with the community and elected officials.
- Pass the draft climate resilience element through the Planning Commission
- Advance the climate resilience element to the City Council as part of the City's 2023 Comprehensive Plan and undergo Commerce review.
- December 2023 – Bring the final version of the climate resilience amendment to City Council for adoption.

The project team also developed a concise factsheet about Woodland's participation in the pilot program for continued use throughout the city's comprehensive planning process. See Port Angeles Factsheet [*final section of Appendix H*].

Improve the resilience guidance

The project team evaluated the usability and effectiveness of the six steps of the resilience guidance by using pre- and post-pilot surveys, semi-structured interviews, and ongoing team check-in notes. The intention of this evaluation was to better understand accessibility, clarity, and efficacy of the resilience guidance steps and companion workbook and tool. This evaluation informed the development of recommendations for improving the various components of the guidance.

Three key recommendations are summarized below, followed by a table of detailed findings and additional opportunities for improvement associated with each step of resilience guidance and companion tools.

Recommendation #1

Include guidance for jurisdictions to supplement use of CIG's CMRW tool (Step 2) with additional climate information that is more locally relevant, when available, adding an example of climate data points and projections to communicate magnitude of change beyond a general trend. Step 2 guidance should also include examples of hazard indicators to prioritize and provide a clear explanation around which climate scenario to use and why. [***Note:*** *See "Key Takeaways" section above for how Commerce addressed this recommendation in its revised planning guidance and companion resources.*]

Additional climate change resources and tools.

- Washington Tracking Network, Washington State Department of Health
  - This climate projection data includes projections for precipitation change, extreme heat days (days over the 99th percentile for temperature), cooling degree days, and heating degree days to the census tract level.
- Washington State Sea Level Rise Visualization Tool
  - Sea level rise projections for 171 locations along Washington's coastline.

Recommendation #2

Create climate-focused engagement collateral, such as climate change 101 factsheets, that communicate how future climate change will impact local jurisdictions. Include messaging around how climate impacts – including wildfire and wildfire smoke, sea level rise, increased precipitation, extreme heat, and reduced snowpack – are

expected to exacerbate existing hazards and the cascading implications for existing and new city infrastructure, natural systems, and the health and safety of the community. Engagement collateral could include case studies and data points around recent regional and local climate-related extreme events. The project team developed factsheets for each pilot jurisdiction that can serve as a model for development of similar collateral. This recommendation is intended to help jurisdictions educate city staff, stakeholders, and the public about climate change impacts and create buy-in for integrating climate change into comprehensive planning (Steps 5 and 6). [***Editor's note:*** *See "Key Takeaways" section above for how Commerce addressed this recommendation in its revised planning guidance and companion resources.]*

Recommendation #3

Adjust the sequence of several tasks, so that the vulnerability and risk assessment (Step 4) is better integrated with the explore climate impacts step (Step 2). Although jurisdictions noted that the CMRW tool was critical for initial identification and prioritization of climate change impacts, conducting a VRA after a policy audit (Step 3) was challenging. Conducting a policy audit (Step 3) may be more valuable after completing some of the VRA's initial tasks, such as assessing the exposure of local assets and the consequences of hazards. [***Editor's note:*** *Based on the consultants' recommendation and other stakeholder feedback, Commerce shifted several of the V&R assessment's initial tasks to what was formerly Step 2 (Explore Climate Impacts). These tasks (now listed as Section 3, Tasks 1.1-1.3) include creating asset-hazard pairs and using the UW CIG's CMRW tool. Commerce also added a new task (1.4: Identify Relevant Climate Hazards), which asks jurisdictions to decide which climate hazards they need to address in their comprehensive plan.*]

Other Opportunities for Improvement: the table below provides an overview of detailed findings and additional opportunities for improvement associated with each step of the resilience guidance.

Summary of detailed findings and opportunities for improvements associated with each step of the resilience guidance

[***Editor's note:*** *Commerce incorporated recommendations from the table below into the revised planning guidance.*]

Step 1: Develop planning process

Findings

- Co-leads rated this step clear and easy to use (4 or 5 out of 5 in a Likert scale) on both pre- and post- pilot surveys.
- With two co-leads per jurisdiction, the pilot cities relied heavily on the project team for general program management, setting interim deadlines, meeting management, and tracking deliverables.
- Due to the condensed timeframe of the pilot program, the program lacked robust City staff and community engagement.

Opportunities for Improvement

- **Add a detailed timeline template with suggested timeframes for each step. Prompt project leads to review the steps and workbook in full at this planning stage to gain a holistic understanding of how the steps build onto one another.**

Step 2: Explore climate impacts

Findings

- Co-leads rated this step clear and easy to use (4 or 5 out of 5) in both pre- and post- pilot surveys.
- Most co-leads rated this step easy (4 or 5 out of 5) to complete without consultant support in the post- pilot surveys.

- One co-lead ranked his ability to complete this step without consultant support as moderate (3 out of 5).
- The tool was easy to use and effective for summarizing climate data into a general hazard trend at the county scale and presenting the data in different formats. However, the tool does not account for nuance within the city and local observations.
- Jurisdiction co-leads found it very helpful to have the support of the project team in demonstrating the tool and applying the climate trends and findings to real world implications for their communities.

Opportunities for Improvement

- Include instructions to limit audit to five plans/documents.
- Provide links to resources and data tools that provide more granular and/or city-level climate data.
- Include link to tool tutorial video or workshop that demonstrates how to use the tool and apply the findings to local contexts.

Step 3: Audit plans and policies

Findings

- Co-leads rated this step clear and easy to use (4 or 5 out of 5) in both pre- and post- pilot surveys.
- The resilience guidance instructions were overall useful for this step but lacked clear guidance on how to prioritize plans and policies for the audit.
- This is both a critical and time-consuming step of the process. While only one co-lead ranked his ability to complete this step without consultant support as moderate (3 out of 5), with the rest indicting it would be easy (4 or 5), follow up interviews with co-leads revealed and this would have been challenging to execute without additional capacity and some climate expertise.

Opportunities for Improvement

- Include clearer direction on how to determine priorities to focus the policy audit and how many policies to audit (20-40).
- Provide examples of several audited policies from different types of planning documents.
- Clearly indicate in the guidance how this step feeds into step 5, choosing a pathway to adapt and/or adopt goals/policies. Emphasize that the audit results will lead to either retaining existing goals/policies, amending existing goals/policies, adding goals/policies, or a combination.

Step 4: Assess vulnerability and risk

Findings

- Two co-leads who completed this step indicated it was clear and easy to use (4 or 5), while one indicated it was moderate (3).
- Two co-leads indicated it would have easy to complete this step with consultant support (4 or 5), while one indicated it would be moderate (3).
- Jurisdiction co-leads found the checklist in Tab 3.2 of the workbook to be useful for determining whether to proceed to the VRA step.
- Some jurisdiction co-leads indicated the VRA should follow the exploration of climate impacts step and precede the policy audit. Understanding city vulnerabilities would allow project leads to focus policy audit on relevant policies.
- Smaller jurisdictions would not have the in-house expertise to complete this step without substantial technical expertise, particularly conducting GIS analysis to assess vulnerability and risk of city assets.

Opportunities for Improvement

- Include additional guidance, instructions, and resources for selecting appropriate indicators and developing simple rulesets to qualitatively assess these components or vulnerability and risk should be made available.
- Using pilot jurisdictions as case studies, include examples of climate indicators used to assess asset-hazard pairs in VRA workbook tabs.
- The workbook tabs associated with the VRA step should be decoupled and live as stand-alone tabs for each task. Alternatively, include more instruction explaining grouped tabs.

Step 5: Choose pathway to adapt and/or adopt goals and policies

Findings

- Co-leads rated this step clear and easy to use (4 or 5) on both pre- and post- pilot surveys.
- Jurisdiction co-leads found it challenging to understand the pros and cons associated with each integration approach -- integrating policies into a single climate element or across multiple elements.
- Co-leads indicated that this step would have been difficult to execute without the project team's support.

Opportunities for Improvement

- Include clearer guidance around each integration approach (single climate element vs. dispersed across multiple elements), with examples or a summary of pros and cons associated with approach.

Step 6: Integrate goals and policies

Findings

- Co-leads rated this step clear and easy to use (4 or 5) on both pre- and post- pilot surveys.
- Two co-leads indicated it would have easy to complete this step with consultant support (4 or 5), while one indicated it would be moderate (3).

Opportunities for Improvement

- Include a "draft step 6 tab" within the workbook to capture the first iteration of the draft policies that will go to the Planning Commission and public for input. Once draft policies have been presented to the Planning Commission and public for feedback edits can be made to the goals and policies to reflect their feedback in the "final step 6 tab.

Understand impact of project team and process on pilot program success

An important goal of the pilot program was to understand how the overall program structure and project team support impacted the success of the pilot jurisdictions in using the resilience guidance to integrate climate into their comprehensive planning.

Findings

The survey responses and follow-up interviews with jurisdiction co-leads revealed that both the resilience guidance and the support from the project team were critical to implementation of the resilience subelement. While overall clear and useful, the resilience guidance alone would have made it challenging, if not impossible, for these jurisdiction co-leads to complete this process, especially within a condensed timeline. Staff time and capacity were the most significant limiting factors for jurisdictions to complete this process; however, insufficient in-house climate expertise posed another barrier to successful implementation for several of the steps in the process. According to post-pilot data, two of three pilot jurisdictions felt they had some current in-house expertise to complete this process, while the third indicated they had sufficient expertise.

Follow up interviews revealed greater insight into where project team capacity was most useful, key barriers to completing this process, and additional resources needed to bolster their ability to successfully complete this process. These insights were used to develop recommendations that address how best to provide support for

jurisdictions that face barriers related to staff capacity and/or in-house climate expertise for integrating the model climate element. Recommendations are noted in the "Improve the resilience " Section of the summary report.

Key successes of pilot:
"The TA team was critical – we would have floundered and be lost without the TA team."

"Key to success of this guidance is educating the planner, so that person has a set of talking points in response to community skepticism."

"Coming into the work with CAP work already being done made it a lot easier – already had the buy-in and engagement work done."

"Project team support for Planning Commission meeting and use of Poll Everywhere [to solicit feedback] was great."

"The support from the project team was huge — the clarity when talking to the planning commission and city council."

"The TA was critical to make this happen. Not sure how many planners out here in their 40s and 50s would know how to approach this project. Maybe taught now, but not something he was trained in."

The guidance puts it [ability to integrate climate into comprehensive planning] at a 6/10 in feasibility, with the TA it's a 10. Without either the tool or TA, it's a 0 or 1.

Barriers/Challenges:
"Community knowledge and attitude is mixed. There's a strong understanding of how climate affects people's daily lives, but also a strong sense of mistrust when we discuss the science and modeling."

"Gap is in the area of urgency and optimistic. Climate needs to be integrated holistically and that's what we're doing here [with this pilot program]."

"The accelerated timeline added to the challenge. Would have been less challenging with a longer timeline."

"Unsure if we could do the GIS component internally (mostly because of time)."

Additional resources needed for success:
"Technical support for data gathering and modelling may be useful. For data-driven actions, compiling adequate supporting information could get complex and time-consuming. Aid in identifying resources and data sources for use in developing justification for specific actions would be valuable when needed. This Pilot Program will certainly be a massive help in boosting staff capabilities."

"Having someone from Commerce come to talk about why having this integration is impactful and useful to our community."

"Climate Impacts 101 Factsheet, video tutorials [with digestible messaging climate hazards and how to plan for them], Commerce TA via email or mentor line."

"Resources for when you realize there's another layer of the work that you don't understand. Could look like a hotline or on-call resource/consultant that you can reach out."

Study limitations

The expedited timeframe of the pilot program impacted the overall implementation and execution of the resilience subelement integration process. Multiple sub-steps were intentionally omitted due to timing considerations, including planning a robust engagement process with city departments, stakeholders, and the communities of each pilot jurisdiction. This is a critical step in this process that requires 9-12 months to adequately execute. The project team included a significantly truncated version of this process to demonstrate a portion of this step.

The optional vulnerability and risk assessment (Step 4) is a technical, time-consuming, and capacity-intensive step. As such, the project team supported interested pilot jurisdictions in conducting a light-touch vulnerability and risk assessment, focusing on one specific climate hazard and a narrow list of assets. One pilot jurisdiction opted out of participating in the light-touch VRA due to internal capacity constraints. While limited in scope, the light-touch VRA conducted with two pilot jurisdictions demonstrated how this step may be implemented and revealed valuable takeaways for refinement.

Due to the expedited timeline of the pilot program, the pilot jurisdiction co-leads were not able to take on a significant leadership role in execution of steps, as originally intended. As a result, the project team led much of the work, while the jurisdiction co-leads provided review and direction where needed to ensure pilot program completion by the contracted deadline date (April 30, 2023). If jurisdiction co-leads were able to take on a bigger leadership role in the execution of the resilience steps, this may have resulted in richer findings for resilience guidance and process improvements.

H. Example: Model RFP for climate planning activities

***[NOTE:** The following is a model request for proposals (RFP) that a county or city could adapt to seek out consultant help to develop a climate element or other elements of a comprehensive plan.]*

Climate Planning Request for Proposals (RFP)

Project Title:

Proposals Due: #:## PM MO/DD/YYYY

_____ is requesting proposals from qualified consultants to complete the following activities [include all that apply]:

☐ Develop amendments to the Transportation, Land Use, Capital Facilities, Utilities, and Parks and Recreation Elements of the _____ Comprehensive Plan to implement required updates to GMA Elements per RCW 36.70A

☐ Develop a Greenhouse Gas Reduction Subelement to incorporate into the _____ Comprehensive Plan to implement required updates to GMA Elements per RCW 36.70A;

☐ Develop a Climate Resilience Subelement to incorporate into the _____ Comprehensive Plan to implement required updates to GMA Elements per RCW 36.70A;

☐ Implement the following climate reduction or resilience planning activit(ies):

_____;

☐ Other [Insert description]:

_____.

Proposals should include:

- General statement of the Consultant's understanding of the scope of services;
- Project team, including proposed sub-consultants;
- Project team's experience in climate planning and related tasks;
- Experience and education of the proposed project manager and individuals who will be working on the project;
- Proposed task list and level of effort for each task;
- Schedule for completing the project;
- Description of the Consultant's approach to managing and completing the project;
- Description of the Consultant's approach to communicating with the client(s).

Submission Instructions:

The City [or County] will only accept proposals in _____format. Submit the proposal to: email@city.gov

Proposals must be presented as a single, combined file that contains all proposal materials and any supporting documents.

Proposals are due no later than _____. Late proposals will not be accepted. Applicants are solely responsible for ensuring that proposals are submitted and received on time. Applicants will receive an email acknowledging _____'s receipt of their proposal.

Questions related to this RFP should be submitted via email to: email@city.gov.

Any firm failing to submit information in accordance with the procedures set forth in the Request for Proposals may not be considered responsive and may therefore be subject to disqualification.

Introduction

_____is seeking a consultant or team of consultants ("Consultant") to conduct climate planning activities. This Request for Proposals (RFP) outlines the information necessary to understand the Consultant selection process and the required documentation a Consultant must submit. After reviewing this RFP, any Consultant that determines whether it has the necessary expertise and experience and could successfully perform the required services may submit its Submittal, addressing the items set forth herein. A general overview of the selection process is as follows:

Submittals shall be emailed to _____ no later than #:## on MM/DD/YYYY, after which time they will be reviewed and evaluated. The Submittal shall be emailed to: email@city.gov

_____ may, at its option, contact a Consultant and ask clarifying questions concerning the Consultant's Submittal.

_____ may conduct interviews with consultants qualifying as finalists.

The purpose of this RFP is to obtain a qualified Consultant to provide professional services to conduct planning activities related to implementing RCW 36.70A. A preliminary scope of services is provided as follows.

Project background

Scope of Services

_____ is seeking technical assistance in conducting planning activities related to implementing RCW 36.70A.

Background

[***NOTE:*** *Insert text describing your goals for building community resilience and reducing greenhouse gas emissions that contribute to global climate change. Describe the approach chosen by your jurisdiction to meet the requirements for the resilience subelement. If applicable, also describe whether your jurisdiction is required to add a GHG reduction subelement under RCW 36.70A and, if so, describe the pathway that your jurisdiction is pursuing. If desired, add additional context, such as: how this fits into your jurisdictional planning process; the public engagement process that will be used for the addition of these elements; whether your jurisdiction is collaborating with other jurisdictions to complete a regional plan; and, how your jurisdiction has taken steps to ensure that work items do not duplicate work paid for by another Commerce grant or other source of funding. Finally, insert text to describe future proposed implementation activities that may be subject to a future grant agreement.*]

Scope of Work

*[**NOTE:** A local jurisdiction's scope of work will vary based on its needs. The two examples below are provided for general assistance only. The list below references the steps and tasks that are described in the Intermediate Climate Guidance that is available on Commerce's climate planning website.]*

_____is seeking a consultant or team of consultants ("Consultant") to conduct climate planning. The climate planning project will consist principally of [insert number] main tasks. The Consultant and _____ responsibilities for these tasks are described below. In their proposals, Consultants are encouraged to provide a detailed technical and project management approach that incorporates and expands on these tasks.

Example Scope of Work for Climate Resilience Subelement

Example Scope of Work for Resiliency Sub-element (This example scope of work follows the resilience pathway 2.)		
Climate Guidance (Section Steps, Tasks and Deliverables)	**Description**	**End Date**
Section 2	**Planning and Engagement**	**08/2025 – 10/2025**
Task 2.1	Form Climate Policy Advisory Team	
Task 2.2	Establish Public Engagement Strategy	
Task 2.3	Establish Tribal Engagement Strategy	
Task 2.4	Develop a Vision Statement	
Deliverable 1	Submit a memo summarizing completion of Section 2 tasks or submit a copy of completed Climate Element Workbook.	10/15/2025
Section 3, Step 1	**Explore Climate Impacts**	**09/2025 – 12/2025**
Task 1.1	Identify Community Assets	
Task 1.2	Explore Hazards and Changes in the Climate	
Task 1.3	Pair Assets and Hazards and Describe Exposure and Consequences	
Task 1.4	Identify Priority Climate Hazards	
Deliverable 2	Submit a memo summarizing completion of this step or submit a copy of completed Climate Element Workbook.	12/15/2025
Section 3, Step 2	**Audit Plans & Policies**	**12/2025 – 2/2026**
Task 2.1	Review Existing Plans for Resilience Gaps, Opportunities and Barriers	
Task 2.2	Determine Next Step	
Deliverable 3	Submit a memo summarizing completion of this step or submit a copy of completed Climate Element Workbook.	**02/15/2026**

Example Scope of Work for GHG Emissions Reduction Subelement

[***NOTE:*** *This is an example scope of work to accomplish the tasks described in Pathway 2: Create GHG Emissions Inventory. Commerce recommends pursuing Pathway 2 to all jurisdictions. Refer to Section 4 of the Climate Guidance for more information.*]

Example Scope of Work for GHG Emissions Reduction Sub-element (This example scope of work follows the GHG emissions inventory pathway.)		
Section Steps, Tasks and Deliverables	**Description**	**End Date**
Section 2	**Initialize Project**	**08/2025 – 10/2025**
Task 2.1	Form Climate Policy Advisory Team	
Task 2.2	Establish Public Engagement Strategy	
Task 2.3	Establish Tribal Engagement Strategy	
Task 2.4	Develop a Vision Statement	
Deliverable 1	Submit a memo summarizing completion of this step or submit a copy of completed Climate Element Workbook.	10/15/2025
Section 4.3	**Choose Pathways**	
Section 4, Step 1	**Determine Scope, Scale, and Identify All Local Emissions Sources**	**10/2025 – 2/2026**
Task 1.1	Identify Emissions Inventory Scope and Plan	
Task 1.2	Choose Accounting Standards and Methods	
Task 1.3	Choose GHG Emissions Inventory Baseline Year	
Task 1.4	Collect Data and Quantify Emissions	
Task 1.5	Develop GHG Emissions Inventory Management Plan	
Task 1.6	Identify Update Interval	
Task 1.7	Ensure Data Quality Management	
Task 1.8	Review and Test Inventory Assumptions and Limitations	
Deliverable 2	Submit a memo summarizing completion of this step.	02/15/2026
Section 4, Step 2	**Set Emissions-Reduction Targets**	**02/2026 – 04/2026**
Task 2.1	Identify emissions sources and establish reduction targets, including ranking the sectors from highest to lowest emissions	
Task 2.2	Identify emission reduction targets from each source	

Define Methods

[***NOTE:*** *A local jurisdiction's methods will vary based on its scope of work. Use this section to specify any methods that should be used by the consultant. Recommended methods for different tasks are described in Commerce's climate element planning guidance. For the GHG emissions reduction subelement, your jurisdiction should use 2022 as the emissions baseline year and 2050 as the target year of reaching net-zero emissions.*]

Data Collection

[***NOTE:*** *A local jurisdiction's data collection will vary based on its scope of work. Use this section to specify any sources of data that should be used by the consultant.*

- ***Guidance on Resilience Subelement:*** *When conducting a plan audit under the climate resilience subelement (Task 2.1) be sure to include your comprehensive plan (including Shoreline Master Program) and hazard mitigation plan.*
- ***Guidance on GHG Emissions Reduction Subelement:*** *For the GHG emissions reduction subelement, your jurisdiction may need to report on its five-year progress implementing the measures. Be sure to consider which data you will have available to track and report implementation progress to Commerce. Potential data resources are described in Section 4 of the climate guidance. In some cases, your jurisdiction may need to contract for a study to obtain necessary data; for example, if having community data for transportation-based emissions is important to your climate goals and the data specific to your community does not currently exist, it could be necessary to implement or contract for a study to generate the data.]*

The Consultant will collect data necessary for developing the _____. _____will review the Consultant's data needs and provide assistance in locating data owned by_____. The Consultant will lead collection of data from ; will assist where possible. The Consultant will identify and review any energy and/or GHG analysis conducted by entities that have a footprint in _____. _____ is open to considering the Consultant's use of innovative data collection approaches for community sectors, such as crowdsourcing or surveys, including for consumption-based emissions estimates.

Data Analysis

[***NOTE:*** *A local jurisdiction's data analysis will vary based on its scope of work. Use this section to specify any specific data analysis required. Potential data analysis resources for different tasks are described in the climate guidance.*]

Based on the agreed upon methodology, the Consultant will calculate _____.

Training and Tracking

[***NOTE:*** *Progress on meeting GHG reduction subelement requirements will be assessed on both how much emissions have declined over time, and on whether the policies were implemented. Plan to develop a training and tracking framework to ensure that any required measuring and reporting is accomplished.*]

This effort is intended to supply _____ with the means to update the _____ on an ongoing basis. The Consultant will provide _____ with the information and materials necessary to replicate the _____, track progress, and generate reports. The Consultant will provide _____with an electronic version of the _____. The Consultant will hold training sessions (no less than [*insert number*]) for staff to learn how to update the _____.

Project Management

[or the Office of _____] will oversee the work of the Consultant. [The Climate Policy Advisory Team will serve in an advisory capacity, as its members are charged with providing advice and/or recommendations to the city council or city staff, as appropriate.]. During the project, the Consultant will be available for ## meetings to provide project status updates to and answer questions from [and the Climate Policy Advisory Team].

Specifications and Requirements

Consultant Capabilities

[***NOTE:*** *Consultant capabilities will vary based on the organization's approach to meeting the climate planning requirements. The example below includes sample language if you were to hire a consultant to complete an emissions inventory under Pathway 2 of the GHG reduction subelement.*]

Is seeking a Consultant who has experience conducting similar GHG analyses for other jurisdictions. Consideration will be given to the Consultant's ability to demonstrate knowledge transfer to clients in terms of their success in updating initial GHG inventories. _____is seeking to capitalize on our community's great interest in climate

by engaging stakeholders with a thoughtful, creative, and understandable GHG emissions report. The Consultant should be capable of producing both sound analysis and high-quality reporting materials.

Existing Data
will provide the Consultant with reports and data, including the following:

[*Insert a list of the data sources expect to be made available for consultants.*]

Procurement Process

General information: [*Insert jurisdiction's legal requirements and expectations regarding costs borne by consultants, public disclosure, and other processes set by the contracting jurisdiction.*]

Schedule
Anticipated schedule.

The selection process is anticipated to proceed as follows and is subject to change: [*Insert your schedule for submittal review, interviews if necessary, and final selection.*]

Notification.
Will notify appropriate firms of changes in RFP and Notice of Selection Addenda.

[*Insert a description of the process for informing consultants of changes to the RFP.*]

Negotiations
[*Insert the process for negotiating cost and pricing, billing process, and establishment of the SOW and project schedule.*]

Cost and Pricing Data
[*Insert requested information related to Consultant firm's salaries, overhead, markups and billing rates.*]

Insurance requirements of the selected Consultant
[*Insert insurance requirements.*]

Evaluation and Selection Criteria
[*Insert the jurisdiction's process for evaluating and interviewing applicants.*]

Documentation
[*Insert the jurisdiction's requirements regarding the format, length, and components of the application required, including the letter of interest and statement of qualifications.*]

APPENDIX: Agreement for Professional Services
[*Insert the jurisdiction's agreement language here, including insurance requirements.*]

I. Guidance: Recommended methodology for creating a GHG inventory

Emissions calculation

You can calculate emissions using the following formula:

Emissions (MTCO2e) = Activity Data (e.g.: fuel consumption, vehicle miles traveled etc.) X Emissions Factor (based on activity and fuel type and the unit of activity data)

Scaling data

If activity data is unavailable for your jurisdiction at the right scale or for the adopted baseline, you may scale data:

- **Across geography:** Downscale data at national, state, and regional levels based on population. The downscaling can also be weighted by other demographic factors (such as income and education).
- **Across time:** Based on the timing of a data source, you may need to make assumptions regarding consumption across time based on previous trends or assume that emissions across time remain the same.

Recommended methodology

Below is a description of recommended methodology by emissions sector and sources.

Built Environment

Electricity

- **Activity Data:** Use actual consumption data provided by utilities. The breakdown of residential, commercial, and industrial consumption can be directly from the utilities. If this information is not available, the breakdown of residential, commercial and/or industrial consumption can be estimated based on assumptions about the utility's service population. eGRID is another possible source of electricity emissions data. This resource can be used if consumption data cannot be procured from utilities. eGRID provides emissions from Clean Air Power Sector Programs.
- **Emission Factors Data:** Use utility-specific emission factors from Department of Ecology's Clean Fuel Standard program's Electric Utility-Specific Carbon Intensity .

Electricity Transmission & Distribution (T&D) losses

Washington Department of Ecology emission factors take a 6.5 percent T&D loss into account, so T&D losses need not be calculated separately. If you use eGRID emissions data. Use eGRID provided grid loss factor.

Natural gas

- **Activity Data:** Use utility-provided consumption data, by sector, such as for residential, commercial, and industrial.
- **Emission Factors Data:** Use emission factors provided by utilities. If utility data is unavailable, use emission factors from EPA's GHG Emission Factors Hub.

Natural gas distribution

- **Activity Data:** Use utility-specific natural gas loss rates if available, or use a default leakage rate from the Environmental Defense Fund's User Guide for Natural Gas Leakage Rate Modeling Tool.

Propane

- **Activity Data:** Use EIA-reported WA propane consumption by sector, downscaled using U.S. Census home heating source data (for residential) and WA Employment Security Department (ESD) employee counts (for commercial).
- **Emission Factors Data:** Use emission factors from EPA's GHG Emission Factors Hub.

Fuel Oil

- **Activity Data:** EIA-reported WA fuel oil consumption data, downscaled using U.S. Census home heating source data (for residential) and WA ESD employee counts (for commercial).
- **Emission Factors Data:** Use emission factors from EPA's GHG Emission Factors Hub.

Industry

- **Activity Data:** Use Ecology reports (for operations with emissions over 10,000 MTCO2e per year) for emissions data. For small operations contact operations directly. Note that, at the time of publication of this guidance, this data source only includes the facilities' Scope 1 emissions and does not include emissions from electricity use.
- **Emission Factors Data:** N/A because data is reported as emissions.

Transportation

On-road vehicle

- **Activity Data:** Use VMT by passenger and service/freight vehicles from a Travel Demand Model (TDM) that has gone through proper static/dynamic validation and sensitivity testing for calibration to current conditions. If data from such a model is unavailable, use VMT data from WSDOT's Highway Performance Monitoring System (HPMS) and split this information into light-, medium-, and heavy-duty VMT based on WSDOT's statewide freight percentages. For light-duty vehicles, use 2022 vehicle registration data to calculate VMT by vehicle and fuel type.
- **Emission Factors Data:** Use the TDM to get GHG emissions estimates for each vehicle category, which is calculated using emissions factors from the EPA's MOVES model or EPA's Emission Factor Hub. If not using a TDM, source emission factors by vehicle and fuel type from EPA's Emission Factor Hub.

Transit

- **Activity Data:** Get transit vehicle miles traveled by fuel type from transit agencies in your jurisdiction. If data cannot be sourced from transit agencies, use transit vehicle miles traveled by fuel type for each transit agency from the National Transit Database (NTD).
- **Emission Factors Data:** Use emission factors by vehicle and fuel type from EPA's Emission Factor Hub.

Off-road vehicle

- **Activity Data:** Use EPA's MOVES non-road output for weekdays and weekends multiplied by number of weekdays and weekends in the year.
- **Emission Factors Data:** N/A as data is reported in emissions.

Aviation

- **Activity Data:** Use the volume of fuel (jet fuel and aviation gasoline) loaded onto all planes departing from airports within your study area; volume of all fuel used in helicopters, light aircraft operating within your study area (e.g., police, sightseeing, training). For regional airports, fuel data from airports should be allocated to passengers from applicable jurisdictions based on supporting data from the airport or based on income and population. If fuel data is unavailable, use number of landing and takeoff cycles to estimate fuel based on similar airports or downscale data from EPA's National Emissions Inventory.
- **Emission Factors Data:** Use emission factors by fuel type from EPA's GHG Emission Factors Hub.

Marine and Rail

- **Activity Data:** Get data from a regional emissions inventory (if available) and ferry fuel consumption from Washington State Ferries (WSF) system. Data from WSF may need to be scaled across years. Also, get data from cargo and cruise passengers from local ports and use EPA MOVES model output for pleasure craft (under offroad sources). Alternatively, you may use emissions estimates from EPA's National Emissions Inventory (NEI) for commercial marine vessels. For freight and passenger rail activity, use estimates from NEI.
- **Emission Factors Data:** N/A as data is reported in emissions.

Solid Waste

Landfilled waste

- **Activity Data:** Get waste tonnage data from local waste haulers and waste composition data from local studies (if available) or from the WA Statewide Waste Characterization Study. If data from waste haulers are unavailable, use Department of Ecology's Solid Waste Disposal Data by County. Emissions from transportation of waste to

landfills can be estimated using travel distance (from Google Maps) and default emission factors the U.S. Community Protocol.
- **Emission Factors Data:** Use material-specific emission factors from EPA Waste Reduction Model (WARM), customized for landfilled attributes (such as management and methane capture scenario).

Compost
- **Activity Data:** Get waste tonnage data from local waste haulers and waste composition from Washington statewide Recycling & Organics Characterization Study (available by region). Emissions from transportation of waste can be estimated using travel distance (from Google Maps) and default emission factors from the U.S. Community Protocol.
- **Emission Factors Data:** Use emissions factors from EPA's WARM tool.

Wastewater

Wastewater process emissions from facility
- **Activity Data:** Get the volume of wastewater treated from wastewater treatment facilities (WWTF). If data from WWTF is unavailable, estimate wastewater using service area population and EPA's Enforcement and Compliance reports for the local WWTF.
- **Emission Factors Data:** Use U.S. Community Protocol default emission factors, customized for wastewater treatment facility process specifications (unless a treatment facility provides customized emission calculations).

Wastewater treatment or conveyance energy use
- **Activity Data:** Assume energy consumption is accounted for in Built Environment & Energy sector.
- **Emission Factors Data:** N/A

Septic emissions
- **Activity Data:** Population served by septic systems can be estimated using number of homes on septic systems and household size from U.S. Census Data.
- **Emission Factors Data:** Use U.S. Community Protocol equation.[56]

Refrigerants
- **Activity Data:** Use refrigerants emissions from EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2022 downscaled to your jurisdiction based on U.S.-to-jurisdiction population ratio.
- **Emission Factors Data:** N/A as data is reported in emissions.

Land Use

Tree Loss
- **Activity Data:** Get estimates from ICLEI's Land Emissions and Removals Navigator (LEARN) tool. Data from this tool is reported in terms of emissions for each county.
- **Emission Factors Data:** N/A as data is reported in emissions.

Sequestration
- **Activity Data:** Get estimates from ICLEI's LEARN tool. Data from this tool is reported in terms of sequestration (MTCO2e) for each county. To estimate data for trees outside forest, customize default factors to nearest major metropolitan area available in the tool (e.g., Seattle).
- **Emission Factors Data:** N/A as data is reported in emissions.

[56] Use equation "WW.11(alt) Alternative Method for Methane Emissions from Septic Systems if Only the Population is Known"

Agriculture/soil management

- **Activity Data:** Get data on the number of animals and acres of cropland in each county from the USDA 2022 Census of Agriculture.
- **Emission Factors Data:** Use the U.S. EPA Inventory Annexes provided values for the following:

  - Livestock enteric fermentation emissions factors
  - Distribution of waste management systems
  - Typical animal mass
  - Daily and annual volatile solid production rates
  - Maximum CH4 producing capacity per pound of manure
  - Methane conversion factors based on manure management system
  - Daily excreted nitrogen rates
  - Nitrous oxide emissions factors
  - Nitrogen lost through volatilization
  - Nitrogen lost through runoff and leaching
  - Also, use the U.S. EPA Inventory and Inventory Annexes to get nationwide values for direct and indirect N2O emissions from soils. This national data can be used to create an emissions factor for soil, which can be applied to the acres of cropland in each county. The U.S. Community Protocol [*Appendix G*] also provides volatilization and runoff/leaching emissions factors.

J. Core and non-core emissions for counties and cities

Core Emissions

Following is a list of Core emissions sectors and sources that counties and cities typically have influence over:

Built Environment

- **Electricity:** Local governments can often influence electricity use in local buildings through local building codes, financial incentives, minimum regulatory requirements, technical assistance, and other programs.
- **Natural gas:** Local governments can often influence use of fuels in stationary combustion applications (e.g., furnaces) in local buildings through local building codes, financial incentives, minimum regulatory requirements, technical assistance, and other programs.

  ***Note**: Be advised that I-2066, approved by Washington voters in November 2024, prevents counties, cities, and towns from adopting policies that prohibit, penalize, or discourage natural gas heating in buildings and appliances and equipment within buildings. Check with your jurisdiction's legal counsel about impacts to your jurisdiction.*

Transportation

- **On-road vehicles:** Local governments can influence transportation emissions through land use and urban design regulations and through transportation infrastructure investments.

Solid waste & Wastewater

- **Solid waste generation and disposal:** Local governments can influence the amount of solid waste generated and sent to various disposal methods through their administration of municipal solid waste, recycling and composting services.
- **Compost generation and disposal**: Local governments can influence compost generation and disposal through their administration of municipal composting services.
- **Wastewater treatment processes and septic systems**: Local governments can influence community water use through local building codes, providing incentives to foster conservation and efficiency, and other programs and services.

Non-core Emissions

Following is a list of Non-core emissions sectors and sources that counties and cities typically do not have influence over or are too small to capture changes for and difficult to calculate using existing data with a high degree of confidence:

Built Environment

- **Fuel oil and propane/on-site fossil fuel:** Often a smaller emissions source.
- **Industry:** Local governments have less control over large industrial sources. They are regulated at the state and federal level.

Transportation

- **Off-road vehicles:** Often a smaller emissions source. Local governments also have less influence over off-road equipment fuel usage.
- **Aviation:** Local governments have less influence over aviation fuel mix and passenger air travel behavior.
- **Marine and rail:** Often a smaller emissions source. Also, local governments have less influence over marine/rail activity and fuels.

Refrigerants:

- Often a smaller emissions source. Also, refrigerant use is regulated at the state level.

Land Use

- **Agriculture:** Local governments have less influence over agricultural management practices.
- **Tree loss and tree carbon sequestration:** Local governments have less influence over management of forests and other natural resources owned by private entities and state and federal agencies.

K. Federal and state actions affecting local emissions

Following is list of federal and state policies and plans that you may consider while setting targets:

- Washington Energy Code (SB 5854)
- Washington Clean Buildings Act (HB 1257)
- Federal Vehicle Regulations from Corporate Average Fuel Economy (CAFE) Standards
- Washington Clean Fuel Standards (HB 1091)
- Washington Clean Cars Program (SB 5974)
- Washington Hydrofluorocarbon Policies (HB 1112 & HB 1050)
- Washington Clean Energy Transformation Act (CETA) (SB 5116)
- Washington Climate Commitment Act (E2SSB 5126)
- Washington Organics Management Law (HB 1799 and HB2301)
- Washington State Ferries (WSF) System Electrification Plan[57]

You may also refer to Washington's Comprehensive Climate Action Plan (CCAP) (Page 28) for existing state-level climate policies and plans.

L. Guidance: Western States Handbook

- Handbook for Analyzing Greenhouse Gas Emission Reduction in Western States can be accessed using this link.
- Handbook's Appendix with emission factors & data tables can be accessed using this link.

[57] Washington State Ferries (2020). Washington State Ferries System Electrification Plan. https://wsdot.wa.gov/sites/default/files/2021-11/WSF-SystemElectrificationPlan-December2020.pdf

M. Examples: Multi-criteria analysis methods

The following multi-criteria analysis methods are provided for comparison purposes and to provide further context for additional criteria that you could decide to include to prioritize the climate element goals and policies. These examples and a final recommendation were developed by students from Western Washington University (January-June 2022). They reviewed a range of criteria that were utilized by the Stillaguamish Tribe, FEMA, Thurston Regional Planning Council, and the City of Vancouver.

Stillaguamish Tribe

The following set of criteria was included in the Stillaguamish Tribe Climate Adaptation Plan (2017), which was prepared in collaboration with the Stillaguamish Tribe, WA Department of Natural Resources, and the University of Washington Climate Impacts Group. Their plan included the following criteria for evaluating climate measures:

- **Effectiveness**. The expected ability of the action to help reduce the impacts of climate change on habitats and species;
- **Benefits to Priority Species**. The expected ability of the action to benefit one or more priority species;
- **Feasibility**. The Tribe's ability to carry out this work over the next five years, or to otherwise address barriers that could limit implementation (For example: organizational, technical, policy, legal, fiscal barriers);
- **Urgency**. The action's ability to address impacts that are already, or will soon be, affecting habitats and species important to the Stillaguamish Tribe;
- **Expected risk(s)**. This means the potential for negative consequences that are associated with an action; and
- **Readiness to implement**. The choices within this category included actionable, almost ready and not ready.

FEMA's STAPLEE method

The STAPLEE method is a multi-criteria analysis framework developed by FEMA and enables users to apply a consistent analysis to the range of policy options they are considering adopting and implementing. STAPLEE refers to seven evaluation criteria: Social, Technical, Administrative, Political, Legal, Economic, and Environmental. The basic STAPLEE framework does not assign priority or weight to any of the criteria, but the framework could be adapted to do so.

The STAPLEE method assesses the feasibility of potential hazard mitigation and climate adaptation policies, and the framework leaves room for addressing equity. STAPLEE could also be adapted to provide quantitative values (and weighting) to the qualitative answers to its standard questions. The following example is adapted from a framework used by the city of Muscatine, Iowa:

- Social: The public must support the overall implementation strategy and specific mitigation actions and the mitigation actions are evaluated in terms of community acceptance. Considerations:
    - Community Acceptance: Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower-income people? Is the action compatible with present and future community values?
    - Effect on Segment of Population: Will the proposed action adversely affect one segment of the population? Could the benefits and burdens of the policy be distributed fairly?
- Technical: It is important to determine if the proposed action is technically feasible, will help to reduce losses in the long term, and has minimal secondary impacts. This category evaluates whether the alternative action is a whole or partial solution, or not a solution at all. Considerations:
    - Feasibility: How effective is the action in avoiding or reducing future losses (resilience) and mitigation? Does the action solve the problem or only a symptom? Will the action create more problems than it solves or other impacts?

- Administrative: This category examines the anticipated staffing, funding, and maintenance requirements for the mitigation actions to determine if the jurisdiction has the personnel and administrative capabilities to implement the actions or whether outside help will be necessary. Considerations:
    - Staffing: Does the jurisdiction have the capability (staff, technical experts, and training) to implement the action?
    - Funding allocated: Does the jurisdiction have the funding to implement the action, or can it readily be obtained? Can it be accomplished in a timely manner?
    - Maintenance/Operations: Can the community provide the necessary maintenance?
- Political: This considers the level of political support for the mitigation activities and programs. Considerations:
    - Political Support: Is there political support to implement and maintain this action? Have political leaders participated in the planning process so far?
    - Local Champion or Plan Proponent (respected community member): Is there a local champion willing to help see the action to completion?
    - Public Support (stakeholders): Is there enough public support to ensure the success of the action? Have all the stakeholders been offered an opportunity to participate in the planning process?
- Legal: Whether the jurisdiction has the legal authority to implement the actions, or whether the jurisdiction must pass new laws or regulations, is important in determining how the mitigation action can be best carried out. Considerations:
    - State Authority: Does the state have authority to implement the action?
    - Existing Local Authority: Are proper laws, ordinances, and resolutions in place to implement the actions?
    - Potential Legal Challenge: Is there a technical, scientific, or legal basis for the mitigation action (i.e. does the mitigation action “fit” the hazard setting)? Are there any potential legal consequences? Is the action likely to be challenged by stakeholders who might be negatively affected?
- Economic: Economic considerations must include evaluation of the present economic base and projected growth. Cost-effective mitigation actions that can be funded in current or upcoming budget cycles are more likely to be implemented than actions requiring general obligation bonds or other instruments that would incur long-term debt to a community. Considerations:
    - Benefit of Action: What benefits will the action provide?
    - Cost of Action: Does the cost seem reasonable for the size of the problem and the likely benefits? What burden will be placed on the tax base or local economy to implement this action?
    - Contributes to Economic Goals: Does the action contribute to other community economic goals, such as capital improvements or economic development?
    - Outside Funding Required: Are there currently sources of funds that can be used to implement the action? What proposed actions should be considered by be “tabled” for implementation until outside sources of funding are available?
- Environmental: Impact on the environment is an important consideration because of public desire and need for sustainable and environmentally healthy communities. Also, statutory considerations, such as the National Environmental Policy Act (NEPA), need to be kept in mind when using federal funds. Considerations:
    - Affects Land/Water Bodies: How will this action affect land/water?
    - Affects Endangered Species: How will this action affect Endangered Species?
    - Affects Hazardous Materials and Waste Sites: How will this action affect Hazardous Materials and waste sites?

- Consistent with Community's Environmental Goals: Is this action consistent with community environmental goals?
- Consistent with Federal Laws: Is the action consistent with federal laws?

Thurston Regional Planning Council

In development of the Thurston Climate Adaption Plan, the project team and advisory board assigned negative and positive values to the criteria, although the final actions that were published in the report did not include numerical scores. They evaluated each criterion within the range of high, medium, or low. Their criteria included:

- **Magnitude**: How many risks does this action address?
- **Effectiveness**: Is this action a long-term solution? To what degree would this action reduce the risks? Is this action already being taken?
- **Side Effects**: Would this action have negative or positive effects on other goals?
- **Equity**: Would the costs and benefits of this action be shared fairly?

Excerpt from Thurston Climate Adaptation Plan (2018)

"Update the regional climate adaptation plan periodically with new information, evaluate implementation efforts and effectiveness, amend strategies and actions as necessary, and enhance community climate literacy (e.g., by working with schools, libraries, and other partners to enhance the public's understanding of climate change causes, impacts, and responses).

Vancouver, WA

In Vancouver's Climate Action Framework, they include strategies, actions, and metrics for tracking progress of their climate goals. Their project team and collaborators assigned numerical values to their initial list of measures, which, similar to Thurston County, was not included as a value in their final framework plan. Their framework will achieve 80 percent of the city's climate goals, with the hope that as technology evolves, they will be able to add more specific actions to fully achieve them. Their final evaluation criteria are based on estimated dollar values. Their criteria included:

- **Estimated emission reductions**: They modeled estimated emissions reductions for key actions in the buildings & energy, transportation & land use, and natural systems focus areas. The identified actions were selected because they were of interest to members of the stakeholder advisory group and were able to reliably be modeled with available data.
- **Timeframe**: Near term; Mid-term, Long term, and ongoing.
- **Costs to the city**: This refers to the estimated cost to the City of Vancouver.
- **Costs to the community**: This refers to estimated costs incurred by partners and stakeholders such as C-TRAN, Clark PUD, NW Natural, and others.
- **Costs of inaction**: This is an equity measurement, as it is an estimate of the social cost of carbon of $84 for the year 2025 (in 2020 dollars), which is midway between 2020 and the interim target of 2030, as based on the Washington Utilities & Transportation Commission (UTC).

To arrive at their priority rating, the measures were organized by the combined costs from highest to lowest per capita **net present value** community costs. [58]

Recommendations from university capstone project

Western Washington University urban planning students volunteered as part of a capstone project (term January to June 2022) to provide a recommendation to the Climate Team on a preferred prioritization method. The students

[58] "Net present value" is calculated using a 3% discount rate. Negative numbers are cost savings.

considered the STAPLEE method and Vancouver's draft climate action plan, which has evolved since their review, and is now titled "Climate Action Framework (November 2022)". The metrics in the final framework have changed from the version that the students reviewed. With this in mind, the students recommended that Commerce adapt the Vancouver draft method, adding criteria and modifying the criteria weighting. The following is an excerpt from the WWU students' project:

Prioritization Method
In addition to modifying the weights, we recommend that the scores used to rate each of the criteria be expanded from a 1-5 scale to a 2-10 scale. The larger numbers [Table 1] help to show greater distinctions between the measures.

Gaps in Vancouver's Climate Roadmap
1. The Environmental Impact criterion does not include clear language specific to environmental impacts. We believe it is important to differentiate social impacts and impacts to the ecosystem when prioritizing measures to have a comprehensive judgement on human-nature pared systems as the framework for prioritization.

2. Additionally, it is unclear what "level of city control" means in the Feasibility criterion. We believe an unclear definition leaves room for political pressure in the subsequent policy process, and therefore needs to be explicitly defined and attributed.

Table 1

Criteria	Original Weight	Revised Weight	Definition
***Environmental Impact**	0.25	0.25	How does it improve the environment?
***Social Impact**	Combined with above	0.1	How does it improve public services?
***Time**		0.05	How fast can it be installed and how fast will results be seen? The faster the process the higher the number.
Cost	0.15	0.1	How much does it cost for the community and other resources?
Community support	0.1	0.05	How easy will it be to be accepted by the community?
Feasibility	0.1	0.15	How realistic is it for the city to implement these measures?
Equity	0.2	0.1	How does it help vulnerable and overburdened populations?

Proposed Criteria Modifications
Heavily inspired by FEMA's STAPLEE method, we propose adding the following sub criteria to Vancouver's Feasibility criterion and splitting the Impact criterion into two:

Feasibility: Administrative Capabilities: Does the jurisdiction have the appropriate staffing and funding to implement the climate measure? Does it have appropriate funding for maintenance? With the following sub criteria (where very low is scored a 2 and very high is a 10):

- Very low—inadequate staff and funding to implement and maintain climate measure. (2)
- Low—not enough staff, funding plausible but not likely, high maintenance cost. (4)
- Moderate—climate measure maintenance requires outside funding, but staffing is sufficient. (6)
- High—enough staff, funding possible through levy, little-to-no maintenance required. (8)
- Very High—appropriate and existing staff, funding liquidity and/or already allocated. (10)

Environmental Impact: long- and short-term impacts to land and water, endangered species, HAZMAT and waste sites. With the following sub criteria (where very low is a 10 and very high is 2):

- Very low—climate measure has no known short- or long-term impacts on the environment. (10)
- Low—climate measure has no known long-term impacts but some short-term impacts on the environment. (8)
- Moderate—climate measure's negative impacts on the environment are minimal and can be reversed with existing science and technology. (6)
- High—climate measure has short-term negative impacts on the environment. (4)
- Very high—climate measure has long-term negative impacts on the environment. (2)

Social Impact: Long- and short-term impacts to social groups, with a focus on disadvantaged and vulnerable groups. With the following sub criteria (where very high is scored a 2 and very low is a 10):

- Very low—climate measure has no known short- or long-term impacts on social groups. (10)
- Low—climate measure has no known long-term impacts but some short-term impacts on social groups. (8)
- Moderate—climate measure's negative impacts on social groups are minimal and can be reversed with existing science and technology. (6)
- High—climate measure has short-term worsening of inequity and disproportionately affects vulnerable groups. (4)
- Very high—climate measure has long term worsening of inequity and disproportionately affects vulnerable groups. (2)

N. Guidance: Identify, protect, and enhance natural areas to foster climate resilience, as well as areas of vital habitat for safe species migration

RCW 36.70A.070(9)(e)(i) requires that the climate resilience subelement's goals and policies must include those designed to "Identify, protect, and enhance natural areas to foster climate resilience, as well as areas of vital habitat for safe species migration." As climate change continues to shift habitats and environmental conditions, maintaining natural areas and connected landscapes becomes even more important to allow species to adapt and persist. The following supplemental guidance can help you meet the resilience subelement's minimum requirement regarding natural areas and habitat:

Natural areas to foster climate resilience

- **Identify:** Natural areas that foster climate resilience will be community specific. A few examples include floodplains and riparian zones, wetlands, marine shoreline areas, estuaries, large blocks of forested land, shrubsteppe, and prairies. Many of these areas may already be identified in local or regional plans.
- **Protect:** Determine which identified natural areas are currently protected and which areas need protection.
- **Enhance:** Enhancement and restoration activities can improve ecosystem function in areas that are already protected. Recommendations for enhancement or restoration are available for many types of natural areas (e.g., WDFW Stream Habitat Restoration Design Guidelines).

Vital habitat for safe species migration

- **Identify:** Maintaining connected networks of lands and waters at statewide, regional, and local scales is essential to retaining resilient fish and wildlife populations. Local governments can identify areas of vital habitat for safe species migration using maps and tools from resources like the Washington Habitat Connectivity Action Plan, local habitat connectivity plans or analyses, and/or salmon recovery and fish passage plans. For example, there are designated WDFW Priority Habitat and Species Biodiversity Areas and Corridors for the Columbia Plateau. Here are some additional considerations and resources for identifying habitat for safe species migration:

- Riparian corridors are crucial conservation features because they often retain continuous strips of vegetation, making them natural pathways for wildlife movement. Riparian corridors function as climate corridors, allowing species to move up in elevation in response to warming temperatures. Protecting and restoring riparian areas supports both aquatic ecosystems and terrestrial wildlife movement. The WDFW Riparian Data Engine is an online decision-support tool to help users identify and prioritize riparian areas for restoration.
- Other local and regional plans may incidentally identify areas that provide habitat for safe species migration and connect habitat. These plans include hazard mitigation plans, parks and open space plans, urban forest plans, and climate plans.

- **Protect:** Determine which identified areas are currently protected and which areas need protection.
- **Enhance:** There are many actions that can enhance habitat connectivity on the landscape and within transportation infrastructure. Resources that identify enhancement actions for connectivity include the:

  - Washington Habitat Connectivity Action Plan, Landscape Planning for Washington's Wildlife: Managing for Biodiversity in Developing Areas;
  - Integrating Wildlife Habitat Connectivity in Local Government Planning: Examples, Recommendations, and Resources for U.S. Towns and Counties; and,
  - WDFW's Fish Passage Inventory, Assessment, and Prioritization program.

Local governments with questions about identifying, protecting, and enhancing these areas or developing comprehensive plans goals and policies should contact a Washington Department of Fish and Wildlife regional land use planner.

O. Guidance: Coordinating climate planning and shoreline regulations

Counties and cities must ensure alignment of the climate resilience provisions within their comprehensive plans and shoreline master programs (SMPs). Shorelines and shorelands are managed under the SMP. Shorelines are a planning goal of the GMA, which means that the goals and policies of the SMP are considered an element of the comprehensive plan.[59] SMPs, like comprehensive plans, provide a key lever for implementing climate planning across land use policies.

Climate policies adopted with a comprehensive plan amendment are not automatically applicable within the shoreline jurisdiction governed under the Shoreline Management Act (SMA). Local SMPs regulate new shoreline uses and developments under SMA goals, policies, purpose, and intent and must be consistent with a comprehensive plan and other adopted plans. Unlike a local comprehensive plan, SMPs are developed by local governments and approved by Ecology.

SMPs include use and development regulations that implement the SMA. The SMA has three broad policies: protecting the shoreline environment, promoting public access and enjoyment opportunities, and giving priority to uses that require a shoreline location.[60] Each SMP contains standards that ensure allowed uses and development remain compatible with the shoreline environment, and prevent a net loss of shoreline ecological function.

Climate resilience provisions intended to apply within the shoreline jurisdiction must be added through an SMP amendment and approved by Ecology prior to being effective. SMP goals, policies, and regulations must be

[59] RCW 36.70A.020 and 36.70A.480
[60] RCW 90.58.020

developed consistent with the SMA, and applicable guidelines and are subject to internal consistency requirements for comprehensive plans.[61] Keep in mind the following as you consider comprehensive plan goals and policies:

- First, a measure could be primarily focused on the shoreline jurisdiction and will need to be incorporated directly into your SMP as a policy or regulation to be actionable (e.g., coastal resilience policies). Developments, uses, or geographic areas solely within the shoreline jurisdiction can only be effectively managed with policies and regulations within your SMP.
- Second, if you are adding a goal or policy that is intended to apply throughout your jurisdiction, you might need to add or revise a complimentary goal or policy in your SMP to ensure that the new policy can be implemented within the shoreline jurisdiction.
- Third, some climate adaptation actions might not be appropriate to apply within shoreline jurisdiction because they are not consistent with the SMA and the jurisdiction's SMP.
- Finally, RCW 90.58.340 requires local governments to manage uses adjacent to shorelands to achieve a use policy consistent with the SMA, chapter 173-26 WAC, and the local master program. Uses on adjacent lands must be compatible with the shoreline environment designation specified in the local master program. This requirement becomes especially important as sea level rise shifts the ordinary high-water mark landward where lands not currently within shoreline jurisdiction will be managed under the SMP in the future. Local governments must take into account shifting shoreline jurisdiction and adjacent land uses as they develop their climate resilience subelements.

Periodic review of an SMP is required every 10 years, which is generally five years after the comprehensive plan update due date. You might choose to incorporate climate provisions into your SMP during an SMP periodic review or through a locally initiated amendment.[62]

RCW 90.58.630 requires Ecology to update SMP Guidelines[63] and guidance describing how SMPs address the impact of sea level rise and increased storm severity on people, property, and shoreline natural resources and the environment. Throughout 2024 and 2025, Commerce updated the state statue (WAC chapters 365-195 and 196) to clarify the new climate planning requirements and coordinated with Ecology to align its shoreline rulemaking. Local governments addressing climate change under the authorities of their SMP should consult Ecology guidance[64] and work closely with their Ecology shoreline planner.[65] Ecology published Interim Climate Resilience Planning Guidance for SMPs[66] in 2024 and intends to publish updated guidance in 2027.

[61] RCW 36.70A.480(2) and (3)(a)
[62] WAC 173-26-090
[63] WAC 173-26
[64] https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Shoreline-planners-toolbox
[65] https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Contacts
[66] https://apps.ecology.wa.gov/publications/SummaryPages/2406004.html

P. Climate sectors and impacts

The following list includes the 11 climate sectors used in this guidance and the CMRW tool. The list also includes examples of potential impacts by sector.

1. Agriculture & Food Systems
(includes food production and distribution, including processing in industrial areas and community gardens in urban areas)

Potential climate-related impacts:

- Changes in crop yields
- Farmworkers are increasingly exposed to extreme heat
- Potential ability to "double crop"
- Increased heat stress on crops and livestock
- Reduced water availability for crops, livestock, and processing, as well as increased demand for irrigation due to longer and warmer growing season
- Changes in weeds and/or plants that grow with the crops
- Increased pest outbreaks, disease, and weeds, impacting lending opportunities and crop insurance for farmers
- Increased food scarcity after hazards (e.g., floods) that disrupt food transportation and distribution

2. Built Environment & Energy
(includes energy generation, transmission, and consumption)

Potential climate-related impacts:

- Reducing heating demand during winter months
- More frequent power loss due to extreme storms and other hazard events
- Shuttered power generating stations or transmission corridors to reduce wildfire risk
- Increased cooling demand during summer months, extreme heat events
- Increased or decreased hydroelectric generating capacity due to higher or lower streamflow

3. Cultural Resource & Practices
(includes historic sites and cultural resources and practices)

Potential climate-related impacts:

- Loss of cultural and historic sites due to more frequent and intense severe weather events
- Loss of locally grown and, temperature-sensitive foods that are culturally important (berries, shellfish, salmon, etc.)

4. Economic Development
(includes business continuity, opportunities)

Potential climate-related impacts:

- Increased disruptions of business continuity and lost revenue and wages from flooding, wildfires, and other hazards
- Loss of tax base due to displacement, declining property values, and related impacts
- Price volatility in energy and raw product markets due to more extreme weather events
- Increased insurance premiums due to more extreme weather

- Fewer shipping disruptions associated with snow and ice
- Impacts on business infrastructure within floodplains or coastal areas
- Shifts in business opportunities
- Increased opportunities for warm-season activities in milder areas
- Decreased opportunities for warm-season activities during the hottest part of the year (e.g., from heat, forest fires, low water levels, reduced urban air quality)
- Reduced opportunities for cold-season recreation due to decreased snowpack and/or reduced snow or ice quality
- Increased reliance on snowmaking at ski areas
- Shifts in tourism dollars within a jurisdiction from one recreation sector to another, or from jurisdictions losing recreational opportunities to jurisdictions gaining opportunities

5. Emergency Management
(includes emergency mitigation, preparedness, response, and recovery)

Potential climate-related impacts:

- Increased costs and demands for emergency preparedness, response, and recovery activities due to more frequent and intense hazards (for example overtime for snowplow drivers, salt/ice-melting tools, overtime for firefighters, sand to put in sandbags, etc.). This diverts resources from planning, equipping, training, and exercising for other community hazards and risks.
- Increased household costs to prepare for, respond to, and recover from natural hazards.
- Additional cost in human well-being as first responders are constantly on alert or responding with little downtime for recovery. In addition to first responders, more residents are impacted by hazards on a year-round basis.

6. Health & Well-being
(includes public health and community well-being)

Potential climate-related impacts:

- Rising temperatures will lead to an increase in heat-related deaths and illnesses, particularly among the elderly, poor, and other vulnerable populations.
- Rising temperatures and wildfires will increase ozone and particulate matter from smoke, elevating the risk of cardiovascular and respiratory illnesses and death.
- Increasing coastal and inland flooding exposes populations to negative health effects and potential exposure to contaminants spread via floodwaters, including from failures of on-site sewage systems and other types of wastewater treatment facilities.
- Extreme precipitation will increase the risk of flooding, landslides, and avalanches that could cause injury, death, and property damage.
- Ticks and other disease vectors will show earlier seasonal activity and be expanding northward, increasing risk of human exposure to disease.
- Extreme heat, storms, and other hazards can cause environmental degradation and community displacement that affects mental health (e.g., stress, anxiety, depression, and violence).

7. Ecosystems
(includes terrestrial and aquatic species, critical areas, and services)

Potential climate-related impacts:

- Increased insect outbreaks

- Increased wildfire and smoke (from forests, grasslands, etc.)
- Loss of near-shore habitat and coastal wetlands to sea level rise and erosion, where sufficient space for habitat migration is not available
- Periodic drought could impact species diversity and distribution.
- Loss of species not able to adapt to changes
- Increased competition from and expanded coverage of invasive species
- Increase in forest growth and productivity in the near-term where soil moisture is adequate and fire risk is low (and vice versa)
- Reduced presence of ephemeral wetlands
- Increased ocean acidification
- Increased sea surface temperature
- Warmer water temperatures in lakes, streams, and rivers and increased stress on cold-water species increasing stress on cold-water species
- Loss of shrubsteppe ecological function and biodiversity
- Reductions in water-based navigation due to lower summer streamflow

8. Transportation
(includes transportation modes and infrastructure such as vehicles, roads, bridges, sidewalks, bike lanes)

Potential climate-related impacts:

- Increased road surface damage from higher temperatures
- Increased maintenance requirements for roadside and median strip vegetation and stormwater infrastructure along roadways
- Increased infrastructure damage from rapid rain/freeze/thaw cycles
- Increased road, sidewalk, and path closures due to flooding, erosion, landslides, channel migration, and heavy rain events
- Increase costs to repair, maintain, or relocate roadways that are damaged or destroyed

9. Waste Management
(includes materials recycling and disposal)

Potential climate-related impacts:

- Increased solid waste and potentially hazardous waste (downed tree limbs, building rubble, roof shingles, vehicles, and appliances) and associated environmental and public-safety impacts following severe storms, flooding, and other hazards
- Increased waste associated with population growth (including climate migration) and hazards presents opportunities for recycling materials into new products (cradle-to-cradle)
- Increased emissions of carbon dioxide, methane, and other greenhouse gases associated with the transport and disposal of waste

10. Water Resources
(includes water quality and quantity)

Potential climate-related impacts:

- Shift in the timing of spring snowmelt
- Lower summer streamflow
- Impacts of wildfire, smoke, and ash on drinking water supply and storage
- Increased drought impacts on water quality and quantity

- Increased flooding and channel migration impacts
- Increased aquifer drawdown and competition for water
- Warmer water temperature in lakes and rivers
- Changes in water quality
- Increased demand on stormwater management systems with the potential for more combined stormwater and sewer overflows
- Saltwater intrusion into coastal aquifers due to sea level rise
- Increased risk of pollution from coastal hazardous waste sites due to sea level rise
- Increased demand for irrigation of non-native, non-productive landscaping
- Damage and failure of on-site sewage systems and other types of wastewater treatment facilities increasing contamination of water bodies

11. Zoning
(includes regulations for the land that is designated into areas/zones)

Potential climate-related impacts:

- Increased climate-induced population displacement and migration
- Increased erosion and flooding damage to coastal infrastructure, dunes, beaches, and other natural features due to sea level rise and storm surge
- Changes in the size and shape of designated environmentally critical areas, buffers, and shoreline environments.
- Changes in housing stock availability due to hazard events
- Increased impervious surface runoff and associated management and maintenance costs
- Increased costs for maintenance and expansion of coastal erosion control
- Need for new or upgraded flood-control and erosion-control structures
- Flooding and erosion worsened by sea level rise increases risk of shoreline property and infrastructure damage and displacement.
- Increased wildfire damage to structures



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Compact Development Reduces VMT: Evidence and Application for Planners—Comment on "Does Compact Development Make People Drive Less?"

Arthur C. Nelson

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In recent years there have been numerous scholarly articles assessing the relationship between urban form and personal travel (Stevens, 2017/this issue). Most studies show small to modest effects of changes in factors that influence travel behavior considering five D-variables. These articles apply sophisticated statistical analysis to data sets that assess effects of several or all five of the following D-variables on travel:

- *Density*—The number of people, households, or jobs per unit of land area, typically a square mile. Higher densities may reduce trips and trip lengths by making destinations closer together.
- *Diversity*—The mix of land uses in a given area—often square mile, census tract, or transportation analysis zones—with lower values indicating lack of diversity (such as mostly single-family detached homes) and higher values indicating multiple land uses. Diversity can include jobs–people and housing balance usually measured as the ratio of jobs to people (JPH) or households (JHB). Assuming there are 0.6 jobs per person in the region, a JPH of 1.0 means the local area is at balance with the region. Higher measures of diversity are thought to reduce driving and encourage walking and biking.
- *Design*—The extent to which the street network includes a large number of intersections—especially four-way intersections—in the analysis area. This may reduce driving by reducing the network distance route to destinations while also making walking and biking more convenient.
- *Destination accessibility*—The distance from a home to key central locations such as downtown, or the number of jobs accessible by car or by transit within a certain time frame. More accessible destinations may reduce trips or encourage the use of modes other than cars to access them.
- *Distance to transit*—The distance from a home to the nearest transit stop—either all options such as conventional bus and rail or just rail—using the shortest street route. Homes nearer to transit may reduce driving by making transit more convenient.

Statistical analysis applied to the D-variables estimates the extent to which aspects of compact development reduce trips, trip lengths, and per capita vehicle miles traveled (VMT), all things considered. Mark R. Stevens (2017/this issue) asks: "Does compact development make people drive less, and if so, how much less?" (p. 7). He addresses the question by applying meta-regression analysis to 37 studies reported between 1996 and 2015 assessing the relationship between several or sometimes all five D-variables to travel behavior. He finds that compact development does make people drive less, but the impact is fairly small in that "compact development features do not appear to have much influence on driving" (p. 7). He further cautions that "driving is not very sensitive to changes in D-variables. This suggests that compact development has limited potential for making people drive less" (p. 15). In his zeal for caution, Stevens misses an opportunity to show planners how compact development can make a difference in reducing per capita VMT in future plans and development approvals. I do so here. I make my case in the following four sections:

- The Aggregate D-Variable Effects on VMT Are Important;
- The Market Demand for More Compact Development Is Considerable and the Potential for VMT Reduction Is Substantial;
- Application to a Not-So-Hypothetical Example; and
- Summary and Next Steps.

The Aggregate D-Variable Effects on VMT Are Important

Stevens derives elasticities from a meta-regression analysis of 37 studies, which I summarize in Table 1. I report only those elasticities for studies that control for residential self-selection.

Elasticity measures can help planners understand the potential outcome to planning and development decisions. Elasticities estimate the percentage of change in a planning objective—such as reducing per capita VMT—associated with a 1% change in a planning action such as achieving more compact development. While many of the elasticities Stevens reports are quite small, three stand out because they are not: 1) household/population density; 2) job accessibility by auto; and 3) intersection or street density.

Table 1. D-variable elasticities.

D-variable measure	Stevens's corrected elasticities
Distance to downtown	–0.63
Household/population density	–0.22
Job accessibility by auto[a]	–0.20
Intersection/street density[a]	–0.14
Land use mix	0.11
Job density	–0.07
% 4-way intersections[a]	–0.06
Distance to nearest transit stop[a]	–0.05
Job accessibility by transit[a]	0.00
Jobs–housing balance[a]	0.00

Note:
a. Stevens had no need to correct these elasticities to control for self-selection.
Source: Stevens (2017/this issue); adapted from his Table 2, reporting outcomes that control for self-selection.

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For example, from a planning perspective, the elasticity for density can be interpreted as follows:

> Increasing density of households/population by 25% will decrease per capita VMT by 5.5% (0.22 elasticity times 0.25). If density is 2,000 persons or 800 homes per square mile and VMT is 10,000 miles annually per capita, increasing density by 25% to 2,500 persons or 1,000 homes per square mile—just 200 more residential units in a square mile—will reduce annual VMT by 550 miles for each of the 2,500 residents.

This improvement is not trivial. For instance, in this scenario, a doubling of density can reduce VMT by 2,200 miles annually per person, reducing it from 10,000 miles to 7,800 miles per capita for everyone.

Moreover, with caution, elasticities may be combined to create even larger effects. For instance, adding elasticities for household or population density, job accessibility by auto, and intersection or street density results in an elasticity of 0.56. If through good planning and urban design all three of these variables increased by 25% nationally between now and 2050, VMT per capita would fall by 14% (0.56 elasticity times 25% increase) or 1,400 miles, and mean VMT per capita would fall to 8,600 miles. As the United States will add about 100 million people between now and 2050, total VMT will be much larger then than now, but neither would the reduction be trivial.

Applying measures of elasticity can be tricky for two main reasons. The first is that often elasticity estimates are based on small datasets or small ranges between high and low data points. Fortunately, for the purposes of this commentary, nearly 90% of the studies Stevens assesses have more than 1,000 cases, and about one-third include more than 10,000 cases. Because large sample sizes improve the veracity of statistical analysis, this concern seems obviated. Moreover, the ranges used in Stevens's studies are likely quite large. For instance, population, household, and job densities range more than 10 times from the smallest to the largest data point. Intersection densities likely range well over 10-fold from smallest to largest. The distance of homes to downtown, the nearest transit station, and job accessibility by auto or transit can range at least 10-fold and perhaps more than 100-fold (depending on the specific study design).[1] It is unlikely that there are narrow ranges between highest and lowest data points when considering the totality of the studies, so this concern is also obviated. In effect, extrapolating elasticities to estimate effects of a doubling of density, for instance, should not cause much interpretive alarm. This is important for reasons that will be apparent later.

Second, when aggregated, elasticities of two or more variables can over- or underestimate actual effects. Overestimation can occur when the sum of two or more elasticities exceeds the real effect. This happens when they are highly or reasonably highly correlated; the correction could be an index that appropriately weights all variables in the same composite variable. Underestimation can occur when the sum of two or more elasticities is less than the real effect. For instance, in the absence of transit options, the combination of density and transit accessibility elasticities may be less than if there were transit options. Indexing could again be a solution, although with respect to transit, the mode, frequency, quality of stops, and other factors can also affect transit accessibility elasticities. Yet researchers strive to control for these effects to generate estimates with reasonable fidelity, allowing many to be cumulated where appropriate.

By not cumulating appropriate elasticities where reasonable in the context of planning, Stevens's contribution to planning may be understated. From a planning perspective, it may be reasonable to aggregate selected elasticities reported in Table 1 in the manner shown in Table 2. After all, good planning and urban design maximizes benefits by choreographing numerous efforts that individually have small or modest impacts because taken as a whole they can have large impacts. Excluding the variable for distance to downtown, a 1% increase in each of the D-variables listed in Table 2 may be associated with a 0.63% decrease in per capita VMT. One variable stands out for suggesting that an increase in land use mix could

Table 2. Selected D-variables for interpretation.

D-variable	Stevens's corrected elasticity
Household/population density	–0.22
Job accessibility by auto[a]	–0.20
Intersection/street density[a]	–0.14
Land use mix	0.11
Job density	–0.07
% 4-way intersections[a]	–0.06
Distance to nearest transit stop[a]	–0.05
Total	–0.63

Notes: Job accessibility by transit and jobs–housing balance are removed because of their negligible effects based on Stevens's analysis.
a. Stevens had no need to correct these elasticities to control for self-selection.
Source: Adapted from Stevens (2017/this issue).

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increase VMT. While counterintuitive, it could be the case that more land uses close by but without convenient walking, biking, or transit access could induce more traffic between them. Put differently, doubling measures of each variable may have a cumulative effect of reducing per capita VMT by 63%. This is an important contribution to planning for reasons I show next.

The Market Demand for More Compact Development Is Considerable and the Potential for VMT Reduction Is Substantial

Planning for more compact development means increasing household and population density and expanding land use mix and connectivity, thereby improving job accessibility by auto, increasing intersection and street density, and reducing the distance between people and jobs and transit opportunities, among other factors. But these efforts will be successful only if the market wants it to be. Fortunately, this seems to be the case. Consider two indicators: demand for traditionally designed communities[2] and walkable communities.

Based on a survey of more than 10,000 respondents in 2003 and 2005, Handy, Sallis, Weber, Maibach, and Hollander (2008) find that in 2003, more than 40% expressed support for approving or living in a traditionally designed community that included such features as walkable destinations, housing and land use mix, and smaller lots. This support rose to nearly 60% by 2005. Taken together, my interpretation of Handy et al.'s work is that about half of Americans would both support and choose to live in a traditionally designed community. Those communities are typically designed for at least 10,000 persons per square mile and a sizeable employment base, though perhaps not achieving jobs–person or jobs–housing balance (Nelson, 2013). Handy et al. observe that the supply of traditionally designed communities does not meet demand.

More recently, the National Association of Realtors (NAR) and Portland State University (2015) report findings of their survey of 3,000 respondents living in the 50 largest metropolitan areas. As a stated-preference survey, it forces respondents to choose between choices. One of the stated-preference or forced-choice survey questions was this:

> Imagine for a moment that you are moving to another community. These questions are about the kind of community where you would like to live. Please select the community where you would prefer to live.

The choices and responses were:

> (COMMUNITY A) Houses with large yards and you have to drive to the places where you need to go. **45%**
> (COMMUNITY B) Houses with small yards, and it is easy to walk to the places you need to go. **48%**

and

> (COMMUNITY A) Own or rent an apartment or townhouse, and you have an easy walk to shops and restaurants and have a shorter commute to work. **45%**
> (COMMUNITY B) Own or rent a detached, single-family house, and you have to drive to shops and restaurants and have a longer commute to work. **48%**

In the choice among strictly detached residential neighborhood options, slightly more respondents would choose smaller yards (48%) if they could have an easy walk to places compared with those who would prefer larger lots and have to drive places (45%). Designed right, smaller-lot developments with walkable destinations can enjoy many features of compact development, especially if attached housing options are also available (Parolek, 2008).

In choosing between even more stark options, slightly more respondents would choose the "sprawl" option where they need to drive to places and have a longer commute to work (48%) than the compact development option that includes owner- or renter-attached residential options with an easy walk to places and a shorter commute to work (45%). I am impressed with such a small difference in selections between the attached and detached residential options.[3]

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Why is this important? According to the 2013 American Housing Survey (AHS), only 26% of Americans lived in homes where they could walk to places.[4] Put differently, of the roughly 120 million occupied housing units in 2015, the demand for living in walkable neighborhoods—arguably a form of compact development (see Leinberger & Rodriguez, 2016)—is for nearly 60 million homes, but the supply is about 30 million. As the United States adds about 1 million occupied homes annually, even if all homes built between 2015 to the end of the 21st century were in walkable neighborhoods, the demand may still not be met. Perhaps current neighborhoods that are not walkable or compact will become such through infill and redevelopment. If so, we would not need to wait to the end of the century to meet the market demand for these residential options.

Suppose through planning and urban design that by midcentury half of the roughly 160 million homes in the United States then were in more compact communities, an increase of 50 million above my estimate of 30 million in 2015.[5] How would this effect VMT? In 2011, the nation's mean per capita VMT was 9,560 miles (U.S. Department of Transportation, 2011). Despite projected increases, let us assume this does not change by 2050.[6] If 50 million homes comprising roughly 125 million Americans living in areas where the mean of the selected D-variables were double what they are now, through planning and urban design, VMT per capita would be reduced by more than 6,000 miles or about 700 billion total miles. While total VMT would increase considerably, it would do so at a rate substantially lower than current levels. This is not trivial.

What does doubling the selected D-variables mean? In 2010, the urbanized land areas of the United States averaged about 2,500 persons per square mile or roughly the density of the Kansas City (MO) and Orlando (FL) urbanized areas. Double this density would be roughly half the minimum density of modern low-rise new urbanism communities[7] that tend to command a market premium (Song & Knaap, 2003) because a) benefits such as lower VMT are capitalized into higher values and b) demand exceeds supply, among other factors.

But density of development serving new population might nearly double anyway. Consider that in the early 1990s, the average lot size of a new detached home was 0.60 acres but fell steadily to 0.30 acres in the early 2010s.[8] Further, while the total number of detached homes increased about 30%, the number of homes on small lots (less than one-eighth of an acre) doubled to nearly 14 million units. During the same period, attached residential units accounted for about 9 million units of the total change of 27 million units, or one-third. In other words, trends of the past two decades suggest that housing is becoming somewhat more compact, perhaps consistent with emerging market demand. Planning can help accelerate the pace by facilitating more efficient urban forms.

Application to a Not-So-Hypothetical Example

There would seem to be substantial market demand for land use patterns that inherently reduce per capita VMT. Stevens's analysis indicates that per capita VMT can be reduced by choreographing changes to the built environment, perhaps consistent with existing and emerging market conditions. Let us consider the hypothetical example of metropolitan Tucson (AZ). In 2011, its population was 988,000 and is projected to reach 1.5 million by 2050, an increase of about 52%.

Suppose metropolitan area planners consider two scenarios. In the sprawl scenario, 20% of all future development occurs in existing developed areas as infill and redevelopment, and the rest (80%) occurs with roughly the same parameters as existed in 2011. This is roughly how the metropolitan area is trending to grow anyway. The mean distance of a person to downtown increases by 10%, through anticipated transit expansions there will be a 25% decrease in the mean distance to transit, and there will be a 10% increase in household/population density, job accessibility by auto, intersection or street density, land use mix, job density, and four-way intersections. (As the elasticities for the job accessibility to transit and jobs–housing balance variables are zero, they are excluded here.) The analysis summarized in Table 3 shows that between 2011 and 2050, VMT per capita is estimated to fall by 0.75%, the mean VMT per capita falls from 8,627 miles to 8,562 miles, and total VMT increases from 8.5 billion miles in 2011 to 12.8 billion miles, or 51%, roughly comparable with population growth.

In the infill-redevelopment scenario, all (100%) future development occurs in existing developed areas as infill and redevelopment. This is easily imagined given very low development intensities, vast amounts of undeveloped land surrounded by development, and moderately assertive efforts to use public resources to leverage private "smart growth" investment and development. The mean distance of a person to downtown decreases by 20%, anticipated transit expansions will cut the mean distance to transit by half (meaning a 50% reduction in the mean distance to transit), and because new growth is about 50% of existing and occurs within the urbanized area, there will be a 50% increase in household and population density, job accessibility by auto, land use mix, and job density along with a 25%

Table 3. VMT change scenario, metropolitan Tucson (AZ).

D-variable	Baseline and projection	Stevens's corrected elasticity	Tucson Metro sprawl scenario	Tucson Metro @ 20% infill, development	Tucson Metro infill-redevelopment scenario	Tucson Metro @ 100% infill, development
Distance to downtown		−0.63	10% increase[a]	+6.30%	20% decrease	−12.60%
Household/population density		−0.22	10% increase	−2.20%	50% increase	−11.00%
Job accessibility by auto		−0.20	10% increase	−2.00%	50% increase	−10.00%
Intersection/street density		−0.14	10% increase	−1.40%	25% increase	−7.00%
Land use mix		+0.11	10% increase	+1.10%	50% increase	5.50%
Job density		−0.07	10% increase	−0.70%	50% increase	−3.50%
% 4-way intersections		−0.06	10% increase	−0.60%	25% increase	−1.50%
Distance to nearest transit stop		−0.05	25% decrease	−1.25%	50% decrease	−2.50%
Total change				−0.75%		−42.60%
Population 2011	988,000					
VMT 2011, millions	8,524					
VMT per capita, 2011	8,627			8,562		4,952
Projected population, 2050	1,500,000					
VMT reduction, millions				97		3,675
Total VMT, millions				12,844		7,428
Change	52%			51%		−13%

Notes: Job accessibility by transit and jobs–housing balance are removed because of their negligible effects based on Stevens's analysis.
a. Technically an increase in mean distance from downtown means higher VMT.
Source: Elasticities from Stevens (2017/this issue).

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increase in intersection/street density and four-way intersections. Between 2011 and 2050, VMT per capita is estimated to fall by 42.6%, the mean VMT per capita falls from 8,627 miles to 4,952 miles, and total VMT falls from 8.5 billion miles in 2011 to 7.4 billion miles, or 13%. Although metropolitan Tucson grows by 52%, its total VMT in 2050 is actually less than in 2011. The weighted population density (see U.S. Census, 2013) increases from 3,200 to 4,800 persons per square mile, or roughly what metropolitan Denver (CO) was in 2010.

I summarize the limitations and extensions of this application of Stevens's insights next.

Summary and Next Steps

It is possible that planners usually do not know how to apply insights of statistical analysis such as those that Stevens references and synthesizes. My aim is to provide a straightforward way in which to estimate effects in Table 3, and interpret them for planning.

In the hypothetical example, the infill-redevelopment scenario could be considered aspirational yet within reach in the next several decades. It of course represents a best-case scenario assuming that the effect of D-variables on VMT can be maximized. As I allude to earlier, it also assumes that the D-variables are independent and that their individual effects can be summed. The total effect could be smaller, which is perhaps likely, but also larger if there are synergistic effects. This would be the next logical area of research. The point is, VMT reduction would be real and likely substantial.

The benefits to metropolitan Tucson in this example can be considerable. For instance, under the sprawl scenario, the demands of roughly 4 billion more vehicle miles traveled in metropolitan Tucson will need to be met. This is roughly equivalent to 1,500 lane-miles of new roads.[9] At roughly $2 million per land-mile, this comes to about $3 billion. Under the infill-redevelopment scenario, metropolitan Tucson could save $3 billion, which could be used to improve existing roads, enhance pedestrian and bicycle ways, expand transit, and make other strategic investments that improve quality of life.

There are other tangible benefits from reduced VMT per capita. A few of them include reduced greenhouse gases with associated environmental improvements (Ewing,

Bartholomew, Winkelman, Walters, & Chen, 2008), improved physical activity (Ewing, Meakins, Hamidi, & Nelson, 2013), improved public health and traffic safety (Ewing & Hamidi, 2014), and improved economic productivity and resilience (Nelson, 2013). Future work can estimate VMT-related elasticities with respect to these and other benefits so planners can estimate collateral benefits of reducing VMT per capita.

It is past time for the insights of researchers such as those referenced by Stevens and Stevens himself to be made accessible to planners. I trust my commentary helps meet this need.

Acknowledgment

I am indebted to Mark R. Stevens for clarifications of points made in earlier versions of his article, and for application insights.

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Notes

1. I am indebted to Reid Ewing and Shima Hamidi for access to their sprawl index data (Ewing & Hamidi, 2014) to make these points.

2. For a review of traditional neighborhood design features, see National League of Cities (2013).

3. The NAR's 2011 and 2013 national surveys included similar questions. In those, roughly 60% of respondents choosing between the large- or small-lot detached homes options chose the small-lot one, while about 40% of respondents choosing between the attached/walkable or detached/drive-only options chose the attached one. But, when respondents were filtered to include only those living in the 50 largest metropolitan areas, results from the 2013 survey were reasonably comparable with that of the 2015 survey.

4. This is based on my analysis of the American Housing Survey Public Use File for 2013.

5. All new homes would be built in compact, walkable communities, plus about 15 million or one-sixth of all current residential units would become part of a compact and walkable community by midcentury because of infill, redevelopment, and expansion of alternative transportation modes.

6. According to the Office of Highway Policy Information (2016), VMT is actually projected to increase more than 0.5% per year, compounded.

7. See the Congress for the New Urbanism website at https://www.cnu.org/.

8. See the American Housing Survey for the United States for 1991 and 2013.

9. Calculated as [4.2 billion new annual VMT/365 days per year/7,500 VMT per lane-mile based on the local level of service standard].

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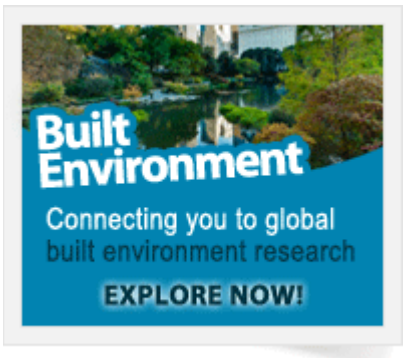
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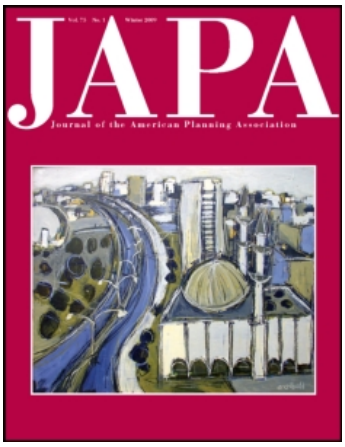
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Preserving Prime Farmland in the Face of Urbanization

Lessons from Oregon

Arthur C. Nelson

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This article combines theory and a literature review with empirical and descriptive findings to demonstrate that Oregon's mix of policies is effective in preserving prime farmland in the face of urbanization. Exclusive farm use zones preserve farmland for farming; urban growth boundaries limit urban sprawl; exurban districts accommodate the demand for rural residential development without harming commercial farm operations; farm tax deferral and right-to-farm laws create incentives for farmers to keep farming; and comprehensive plans legitimize the entire package. This article proposes a comprehensive scheme for farmland preservation that expands on the experience of Oregon, including its mistakes.

Nelson, ASCE, AICP, has been involved in the formation, implementation, and evaluation of farmland preservation policies for twenty years. He is professor of city planning, public policy, and international affairs at Georgia Institute of Technology.

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Only a mix of policies mandated at the state level and implemented by local governments is effective in preserving resource land. Oregon's statewide land use planning program—developed over more than twenty years—exemplifies that mix. This article first reviews the reasons for farmland preservation near urban areas and then the economic impacts of urbanization on farmland. It examines the effectiveness of various farmland preservation policies. The article then describes Oregon's mixed approach to farmland preservation and offers empirical and descriptive evidence of its effectiveness. The article concludes with generalizable lessons for planning policy.

Why Preserve Farmland?

There are three general motivations for preserving prime farmland. First, prime farmland near urban areas is needed for the production of truck and specialty crops (Berry 1978; Sinclair 1967; Zeimetz et al. 1976; Volkman 1987). While some argue that there is no need to preserve farmland near urban areas because there is plenty elsewhere, only about 48 million acres of prime farmland (Soil Capability Class I and II) out of a total of about 250 million acres of cultivated prime farmland (Vining, Plaut, and Bieri 1977) are within fifty miles of the one hundred largest urbanized areas (Furuseth and Pierce 1982). Most prime farmland is located within the suburban and exurban counties of metropolitan areas (Nelson 1990b). Farmland that is most important for its location and productive qualities is also valuable for development (Solomon 1984). Urbanization of prime farmland is presently compensated for by putting lower quality, marginal land into production at greater economic and environmental cost (Platt 1985).

The second purpose of prime farmland preservation is the provision of certain public goods such as flood absorption, air cleansing, and water filtration. The third purpose is open space protection and giving spatial definition to urban areas (Rose 1984). Indeed, it is easy to conclude that the primary motivation behind farmland preservation is open-space preservation.

The Economic Effects of Urbanization on Farmland Value

Some argue that an unregulated land market would result in the most efficient use of land because property owners are best able to determine the appropriate use of their land. This is true only if owners face up to all their marginal social costs. But markets do not operate in an ideal way and so they are imperfect. The purpose of government intervention in the market is to offset many conditions causing inefficiencies (Lee 1979). Interventions can create a complex web that balances public interests with principles of efficiency. But intervention, in the form of economic incentives and disincentives, can sometimes unwittingly cause greater inefficiencies. Examples include underpriced urban facilities and highways

and tax incentives that induce people into buying larger homes on more land than they would without the inducements.

Ironically, land use regulation often aims to correct inefficiencies caused by other public policies.[1] In the absence of market intervention and given the considerable subsidies allocated to urban development relative to those to agricultural production, farmland near urban areas is likely to be overvalued for urban uses and undervalued for agricultural uses. When the land market internalizes those economic advantages into higher values, land is made more valuable for urban uses than would be the case otherwise.[2] This can lead to inefficient speculation of farmland for eventual conversion to urban development.

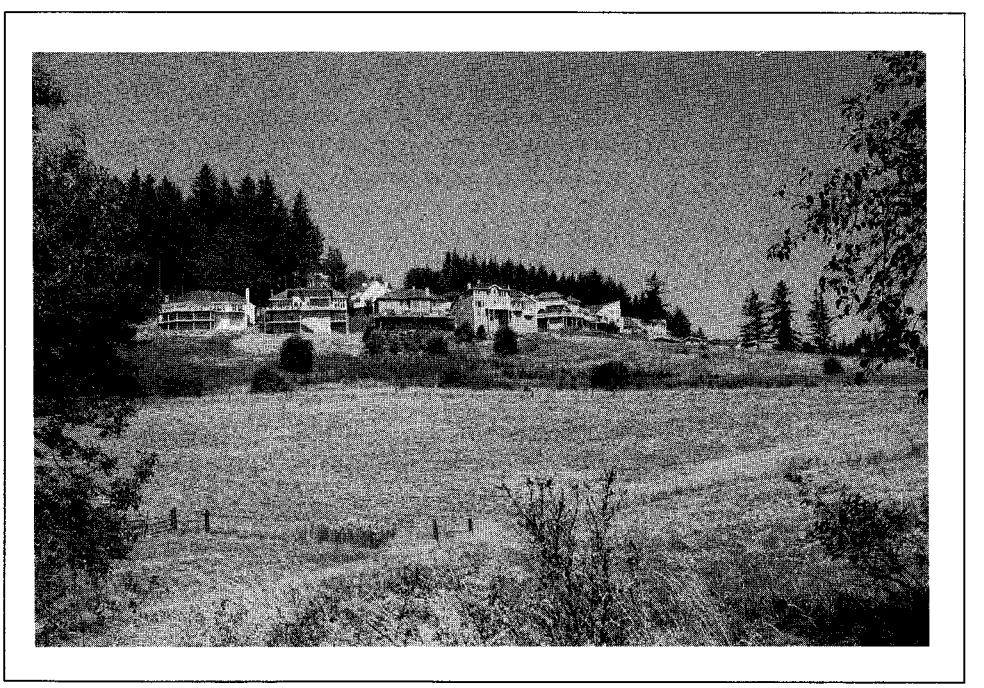
Undervaluation of farmland is also caused when urban development imposes spillovers on nearby farmland. Five common spillover effects are:

- Regulation of farming activities deemed to be nuisances by nonfarm residents in rural areas, including restrictions on fertilizers, manure disposal, smells, and slow-moving farm vehicles on commuter roads; limitations on use of pesticides and herbicides; restrictions on farm noises and hours of operation; restrictions on dust and glare; limitations on irrigation; and restrictions on other activities that may upset the lifestyle of suburban residents (Berry 1978).
- Increased property taxation to pay for schools, roads, services, and facilities intended to serve new residents (Keene et al. 1975).[3]
- Air pollution damage to crops caused by automobiles, industrial activity, and even residential space heating (Prestbo 1975).
- Destruction of crops or equipment or harassment of farm animals by residents of developments in rural areas, and theft of tree crops, berries, and vegetables (Berry, Leonardo, and Bieri 1976).
- Use of eminent domain to acquire at relatively low cost farmland for public uses serving primarily new residential development (Berry and Plaut 1978).

Spillovers reduce the productivity of farmland, thereby making it less valuable for farming and more attractive for speculation. The result of speculation induced by some public policies and by spillovers is that the productive use value of farmland falls the closer it is to urban and other nonfarm development (Sinclair 1967; Boal 1970; Rosser 1978; Nelson 1986a; Meier 1988).

Figure 1 traces several components of farmland value.[4] Raw land value, R_{raw}, is upward sloping to a point to account for the spillover effects that urban development has on farming. The line R_{inv} shows that the higher the investment in land, the more productive farmland is and the more valuable it is for farming. The line is upward sloping with respect to distance from urban development because of spillover effects. The line R_{farm} reflects the total value of farmland. The purpose of farmland preservation policies is to maintain, if not increase, productive value. As the raw value of farmland is fixed with respect to distance from urban development, productive value increases only by investment. Farmland preservation policies are effective only if they result in an increase in farmland investment.

Consumptive value of farmland is sometimes confused with speculative value. Consumptive value, shown as line R_{home}, is the value of farmland if it were "consumed" for nonfarm purposes (Pope 1985). No distinction is made



Urban development is contained by the regional urban growth boundary. The foreground is underutilized farmland within the shadow of urban spillovers.

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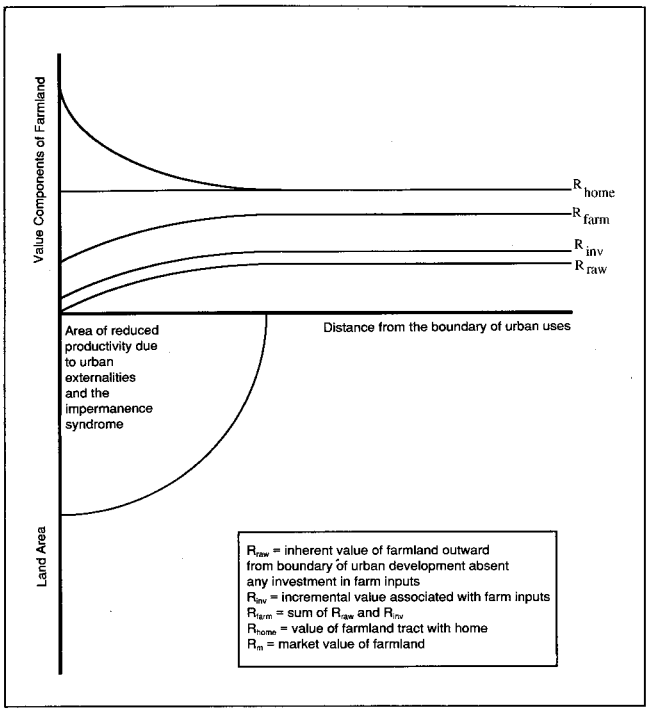


FIGURE 1: Effect of urban development on farmland value.

between the single homesite and subdivision potential values. Every farmland tract with a home has a consumptive value component. Consumptive value is the incremental value of a farmland tract as a single homesite, assuming no further partitioning of the tract can occur.

The difference between R_m and R_{farm} is speculative value. It includes a component called "inefficient speculation," which is the difference between R_m and R_{home}. It arises from distortions created by policies and market imperfections that overvalue land for urban uses and undervalue land for agriculture uses. In the absence of subsidies and urban spillovers, land is more efficiently allocated for farm and urban uses. In Figure 2, the efficient allocation of land occurs where U_1 and R_1 intersect. Land to the left of Q_1 is put to urban uses and land to the right is put to resource uses. The value of land for urban uses increases to U_2, because of subsidies for development, while the value of land for resource uses decreases to R_2 because of urban spillovers. The new equilibrium of land allocation is Q_2. Inefficient allocation of land for urban uses is the difference between Q_1 and Q_2. One aim of planning to preserve farmland in the path of urbanization is to restore the original equilibrium. To be effective, farmland preservation policies must not only eliminate inefficient speculative value, but speculative value that is efficient but for distortions. If speculative value is eliminated, farmland would remain in productive farm use.

There is one more dynamic at work that places farmland in the face of urbanization at a disadvantage. This is the "impermanence syndrome" (Keene et al. 1975; Currier 1978), characterized by the belief among farmers that agriculture in their area has limited or no future and that urbanization will absorb the farm in the not-too-distant future. It is manifested by disinvestment in farming inputs, sale of farmland tracts for hobby farm or acreage development, and shifting of crops from those requiring labor or capital intensity, such as berries and orchards, to those requiring little labor or investment, such as pasture or annual crops. The result can be vast areas of underutilized and idled land near and between urban areas (Gottmann 1961; Berry 1976; Vining, Bieri, and Strauss 1977). It seems that for every acre of prime farmland that is urbanized, up to another acre becomes idled due to the impermanence syndrome (Plaut 1976). When farmers become uncertain about the future viability of agriculture in their area, farmland production falls and so does farming income. Ultimately, the critical mass of farming production needed to sustain the local farming economy collapses (Berry 1976; Daniels and Nelson 1986; Daniels 1986; Lapping and FitzSimmons 1982). The ultimate purpose of a farmland preservation scheme, in the opinion of several researchers, is to remove the impermanence syndrome (Plaut 1976; Berry, Leonardo, Bieri 1976; Berry 1978; NALS 1981; Nelson 1984; 1986a). This occurs only when all speculation for nonfarm purposes is removed.

The Effectiveness of Common Preservation Techniques

Every state has farmland preservation policies. Effective preservation policies, however, must influence the land market in four ways. First, they must increase the productive value of farmland. Second, they must stabilize, reduce, or eliminate consumptive value (value of farmland tracts as a single homesite). Third, they must eliminate inefficient speculative value of farmland, which can happen only if speculative value attributed to urban spillovers, inefficient urban development subsidies, and undervaluation of the public goods provision of resource land, is offset. Fourth, they must eliminate the impermanence syndrome. This is accomplished when the first three objectives are met. Most farmland preservation techniques are ineffective and many have perverse effects. This section reviews why.[5]

Property Tax Relief

When farmland is assessed property taxes to pay for urban services and education mostly benefiting urban residents, farmers bear more than their equitable burden of the tax and they are pushed into developing their land prematurely (Forkenbrock and Fisher 1983). Property tax relief programs reduce the property taxes that farmers would have to pay. To prevent farmers from taking speculative advantage of those programs, most states assess a penalty equal to some of the taxes saved if the farmland tract is developed. No state requires full payback. Many charge no interest or limit the payback period from two

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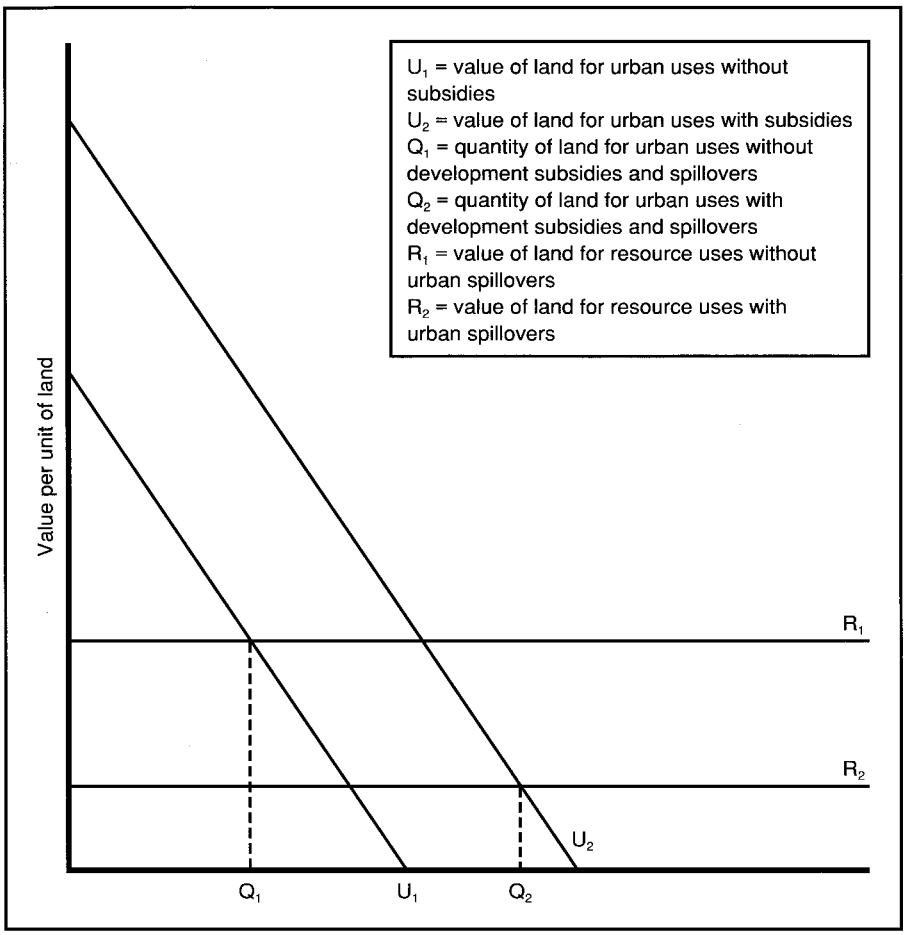


FIGURE 2: Absorption of greater agricultural land area for urban uses because of urban development subsidies and urban spillovers.

to five years. Owners of farmland actually use these programs to speculate, because they never pay 100 percent of the potential payback penalty. These programs have the tendency to induce urban sprawl.[6] In practice, all property tax relief programs create or raise speculative value by distorting land value. All extend the impermanence syndrome farther into the landscape by subsidizing the holding costs of inefficient speculation or turning farmers into speculators.

Right-to-Farm Laws

Suits and the threat of suits can threaten viable commercial farming (Hagman and Juergensmeyer 1987). Right-to-farm laws prevent urban residents from filing nuisance complaints against farmers.[7] All states have right-to-farm laws. At best, they give short-term protection to farmers at the urban-rural fringe. But a farmer could win all the legal battles in court only to lose the proverbial war to expense and wariness. Moreover, the law of trespass has so evolved as to potentially undermine right-to-farm legislation altogether (Leutwiler 1986; Bradbury 1986). The problem is that farmers and urban residents do not coexist. Right-to-farm laws are not likely to be effective in preserving farmland in the long term (Leutwiler 1986; Hagman and Juergensmeyer 1987; Lapping and Leutwiler 1987; Rose 1984; Bradbury 1986; Nelson 1990a).[8]

Acquisition of Development Rights

Some tout transfer of development rights (TDR) and purchase of development rights (PDR) programs as the most effective means of preserving farmland (Rose 1984; NALS 1981; Berry and Plaut 1978). TDR programs, which transfer development to urban areas, preserve farmland at no direct cost to taxpayers. The problem is that the owners of farmland most distant from urban areas are most likely to participate while owners of farmland closest to urban areas anticipate eventual windfalls from development and do not participate. TDR programs do not assure maintenance of the critical mass of farmland needed to sustain the long-term viability of the local farm economy (Lapping and FitzSimmons 1982). Moreover, TDR programs are randomly applied and, thus, do not prevent the scattered subdivision of farmland tracts. Yet, a regional farming economy can be so disrupted by scattered development on land not in PDR programs that it can no longer support the necessary farming infrastructure (Furuseth 1980; 1981; Furuseth and Pierce 1982;

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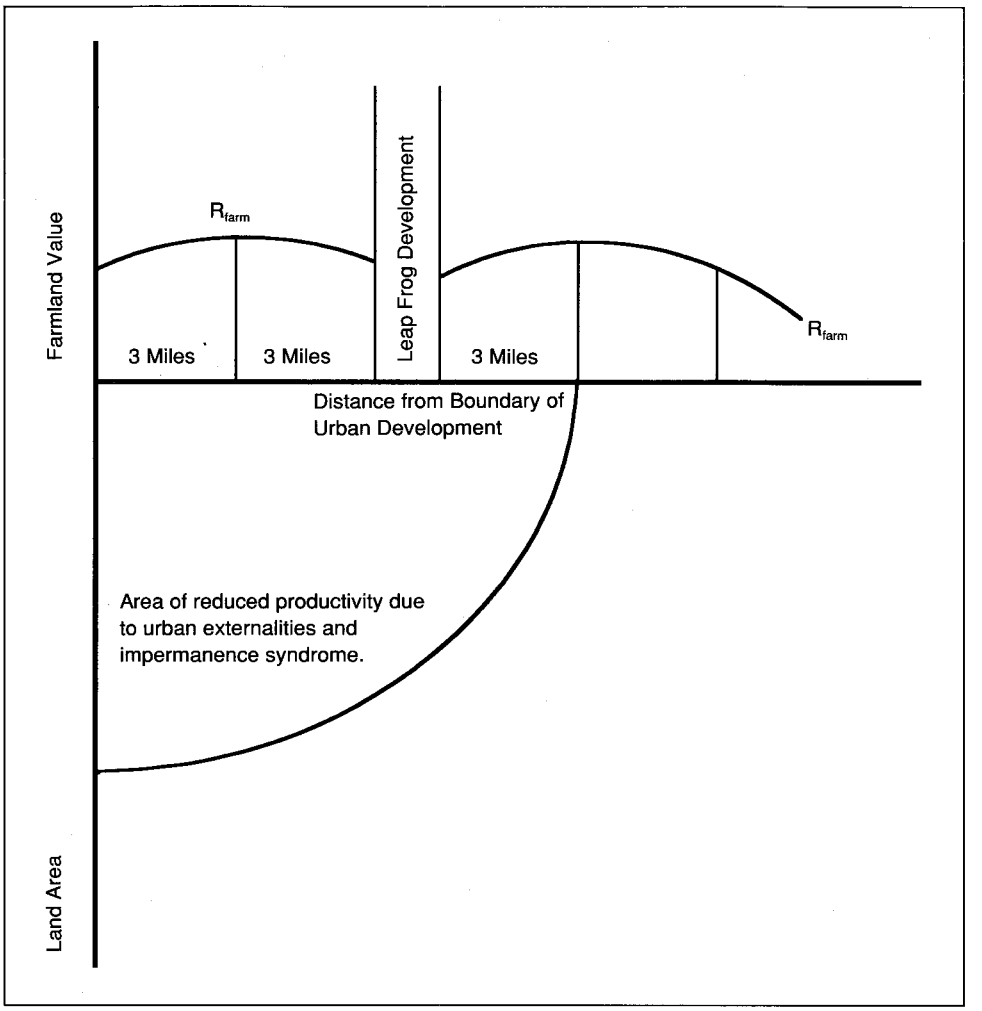


FIGURE 3: Effect of urban sprawl on the productivity of farmland and the impermanence syndrome.

Gustafson, Daniels, and Shirack 1982; Nelson 1983a; 1983b; Daniels and Nelson 1986; Daniels 1986).[9]

PDR programs involve local government purchase of development rights. Taxpayers retire general obligations bonds used to make these purchases to assure the permanent preservation of farmland.[10] Most tracts from which rights are purchased retain single homesite rights or rights in multiples of acres through minimum lot size zoning. Near urban areas, farming districts created by PDR programs can become attractive to affluent households more interested in open space and privacy than in farming (Nelson and Dueker 1989). The preservation of the critical mass of productive farmland is not assured. Moreover, taxpayers pay twice for those rights: once for the infrastructure that creates development value and again for the development value created by infrastructure. Shrewd speculators buy farmland in the path of urban development and then sell development rights at a later time. There are, thus, serious theoretical, practical, equity, and legal problems associated with PDR programs.

At their best, TDR and PDR programs are effective open space measures. At their worst, they are expensive, do not necessarily preserve the local farming economy, and can turn farmland regions into exclusive enclaves of affluent estate holders, while destroying productive farming.

Agricultural Zoning

Agricultural zoning restricts land uses to farming and other kinds of open space activity. It limits subdivision and home construction. It is sometimes used in tandem with regional urban containment planning (Nelson 1985). There are two types of agricultural zoning: nonexclusive and exclusive.

Nonexclusive agricultural zoning restricts lot sizes in agricultural areas from 1 to 160 acres.[11] The higher the density the lower the effectiveness of the minimum lot size approach to preservation. Minimum lot sizing at up to forty-acre densities merely causes rural sprawl—a more insidious form of urban sprawl.[12] However, Napa

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County, California, uses 160-acre minimum lot size zoning, coupled with very strict review of building permits in agricultural areas. Perhaps low-density coupled with development review can be effective. Unless very high minimum lot size restrictions are imposed, however, nonexclusive agricultural zoning does little to prevent the development of farmland in the long term. It also does little to increase productive value, but can lead to increasing consumptive and speculative value by stimulating scattered, low-density urban sprawl into the countryside.

Figure 3 shows the effect of urban sprawl on the productivity of farmland. When development leaps over farmland or occurs along corridors bounded on either side by farmland, vastly more farmland is removed from production. Regional farmland productivity declines and the impermanence syndrome is extended deep into the landscape. In this example, the impermanence syndrome would only extend three miles from the boundary of urban development were it not for leapfrog development (Nelson 1986a). Leapfrog development, however, extends the impermanence syndrome nine miles. Leapfrog and radial development can be stimulated by well-meaning farmland preservation policies that distort speculative and development behavior.

Together with property tax relief, minimum lot size zoning can result in pushing the impermanence syndrome farther into the landscape by forcing urban residents to purchase larger tracts than they want or can manage (Fuller and Mage 1975; Archer 1977; Berry, Leonardo, and Bieri 1976; Nelson 1983a; 1983b; 1986a). Voluntary agricultural districting, which combines some of the elements of tax relief programs and of nonexclusive agricultural zoning, provokes similar effects.

Exclusive farm use zoning prevents nonfarm activities in farming districts. True exclusive farm use zoning requires that farmland be devoted to commercial production. Nonetheless, exclusive farm use zoning can also extend the impermanence syndrome by forcing urban residents to purchase farms larger than they want or can manage. This is countered only when all prime farmland is made subject to exclusive farm use zoning and urban households are funneled away from areas explicitly set aside for nonexclusive farming uses.

The Oregon Approach

Oregon's statewide land use planning program is primarily intended to preserve prime farmland in the Willamette Valley, the state's most heavily urbanized area. The valley stretches one hundred miles north to south and about forty miles east to west. With only 10 percent of the state's land base, one-third of the state's entire supply of prime farmland is found there. It produces about 40 percent of the state's agricultural goods and is home to more than two million of the state's three million people. While Oregon's farmland preservation policies affect the entire state, this evaluation of policy effectiveness primarily focuses on the Willamette Valley.

Instead of relying on one principal technique, Oregon's farmland preservation policies work as a package, which includes exclusive agricultural districts, urban growth boundaries, restrictions on development of exurban districts, and, of lesser importance, farm use tax deferral and right-to-farm provisions. Comprehensive plans legitimize the entire scheme (Daniels and Nelson 1986). The result is a regulated landscape where land is explicitly allocated and restricted to specific uses (Knaap and Nelson 1992). Of the state's 61.6 million acres of land, 55 percent is publicly owned, 2 million acres are contained in urban growth boundaries, and 25.8 million acres are restricted to resource, exception, and other rural uses. Only slightly more than 3 percent of all privately owned land is set aside for hobby farming, ranchettes, or other nonresource uses outside urban growth boundaries, and another 3.3 percent is contained within urban growth boundaries. Table 1 illustrates the distribution of land use designations in Oregon.[13]

Oregon's preservation package centers on statewide planning Goal 3, which conveys Oregon's intent to preserve farmland:

> Agricultural lands shall be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest, and open space. These lands shall be inventoried and preserved by exclusive farm use zones. . . . Conversion of rural agricultural land to urbanizable lands shall be based upon consideration of the following factors: (1) environmental, energy, social, and economic consequences; (2) demonstrated need consistent with LCDC [Land Conservation and Development Commission] goals; (3) unavailability of an alternative suitable location for the requested

TABLE 1: Distribution of land use designations in Oregon, 1986

Land use category	Acres[a]	% all land	% privately owned land
Total land area	61,587	100.00	
Publicly owned	33,750	54.80	
Privately owned	27,837	45.20	100.00
Inside UGBs	2,048	3.33	7.36
Outside UGBs	25,789	41.87	92.64
Exclusive farm use	16,036	26.04	57.61
Primary forest use	8,771	14.24	31.51
Rural residential	710	1.15	2.55
Commercial	10	0.02	0.04
Industrial	46	0.07	0.17
Rural service centers	29	0.05	0.10
Other	189	0.31	0.69

a. Figures rounded to nearest 1,000 acres.
Source: Adapted from Department of Land Conservation and Development 1986.

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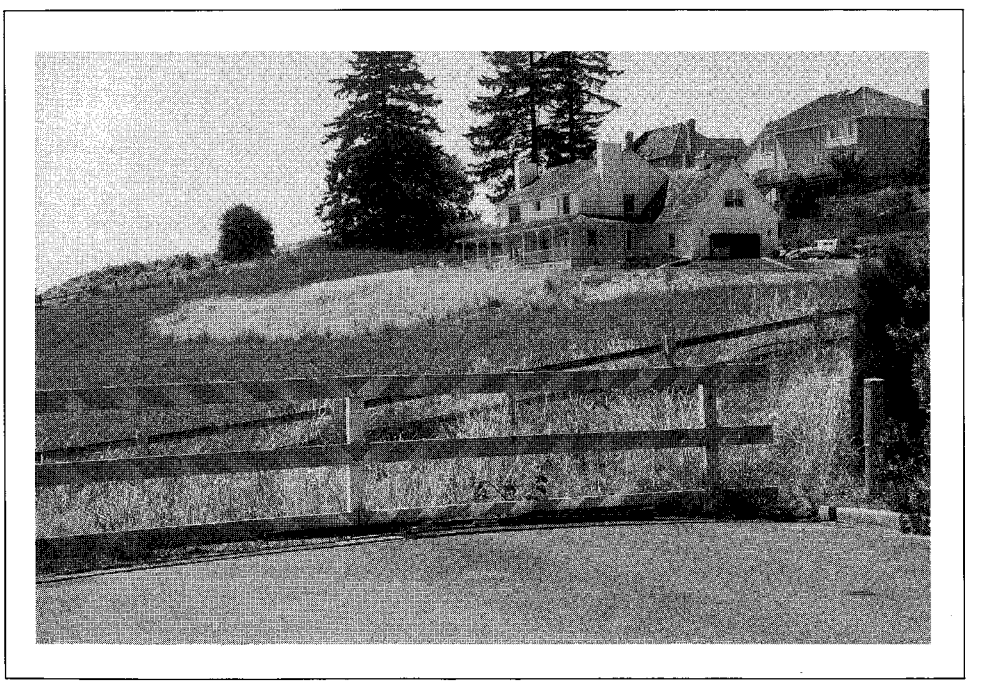
use; (4) compatibility of the proposed use with related agricultural land; and (5) the retention of (Soil Conservation Service–determined) Class I, II, III, and IV soils in farm use. A governing body proposing to convert rural agricultural land to urbanizable land shall follow the procedures and requirements ... for goal exceptions (LCDC 1990, 5).

The policy is administered by the Land Conservation and Development Commission (LCDC), a seven member gubernatorially appointed board and its staff, the Department of Land Conservation and Development (DLCD). All prime agricultural and related land is placed in exclusive farm use (EFU) districts. This land is restricted to farm use unless the impracticability of doing so can be demonstrated in a quasi-judicial proceeding.

Preserving farmland evolved in Oregon from a minimum lot size approach to performance zoning. At first, the LCDC allowed local governments to establish minimum lot size districts to limit parcelization and home construction to large lots. Some eastern Oregon counties created 320-acre minimum lot size districts. Some western Oregon counties attempted five-acre minimums, but most settled on twenty- to forty-acre minimums. This approach, while it prohibited nonfarm uses in theory, did not clearly define acceptable uses. The approach failed largely because many counties attempted to gain the smallest minimums acceptable to LCDC. Owners divided farms and sold the parcels as hobby farms or very large suburban lots. Many critics viewed the minimum lot size restrictions as resulting in worse land use patterns, because they created rural sprawl and the loss of many times more prime farmland than would have resulted from an unrestricted land market (Archer 1977; Nelson 1983a; 1983b; 1990a; Daniels and Nelson 1986). Thus, during the 1980s, the LCDC required counties to create performance-based exclusive farm use (EFU) districts with no minimum lot sizes. Now, the only way to secure a subdivision or home construction approval on such land is to prove in a quasi-judicial setting that the change would improve agricultural production.

In theory, all land outside UGBs is preserved for resource uses. But this is impractical, because some rural land is already built on or committed to nonfarm uses and cannot be converted back to resource use. Other lands simply have soils too poor to sustain reasonable resource practices. Oregon, thus, devised an "exception" category for some rural land.[14]

Oregon's effort to preserve prime farmland is aimed primarily at preventing the occupation of those lands by hobby farmers.[15] "Rural residential areas" are used to attract hobby farmers away from prime farmland. An outgrowth of the exception process, this is an important but often overlooked component of Oregon's farmland preservation program (Gustafson, Daniels, and Shirack 1982).[16] Counties have set aside more than 300,000 acres within the Willamette Valley for rural residential—often called "exurban"—development. Statewide, more than 700,000 acres are set aside for exurban uses. Exurban districts are well suited for hobby farms since their soil is of lower quality and they are situated away from commercial farming areas.



The barricade marks the UGB. Before the boundary was finalized the road was to continue up the hill to a completed subdivision. For two years hobby farmers fought, but lost against a corrected UGB to accommodate subdivision build-out.

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Empirical Evidence of Effectiveness

Is Oregon's approach effective in eliminating speculative use value, limiting consumptive use value, sustaining the critical mass of farmland needed to support the regional agricultural economy, and increasing the productive value of farmland? The regional land market can be evaluated to answer these questions (Nelson 1986a).

Urban growth boundaries, exclusive farm use restrictions, and restricted exurban development policies must effect the outcomes shown on Figure 4. First, the regional demand for land to be used for urban purposes must be shifted from rural land to areas contained within urban growth boundaries to the left of U_1 and to exurban enclaves to the right of U_2. The value of land must shift from R_m to R_p, resulting in an increase in the value of urban and exurban land, but a decrease in the value of farmland. Second, because farmland provides nearby urban and exurban land with scenery, privacy, and other benefits, there is an amenity value increment to urban and exurban land, shown as R_a from U_a to U_1 and from U_d to U_2, respectively. Third, because urban and exurban land impose spillovers, or disamenities, on farmland, resulting in reduced productivity along the urban and exurban boundaries, farmland value falls by the increment R_d from U_1 to U_b and from U_2 to U_c, respectively.

With Portland and Salem, Oregon, as the laboratories, the combination of UGBs and EFU districts indeed shifted the demand for urban land to areas inside UGBs. This resulted in higher urban values and lower farmland values (Knaap 1982; 1985; Nelson 1984; 1985; 1986a; Knaap and Nelson 1988). Exurban land values also shifted upward (Nelson 1984; 1986a; 1986b). These studies show that farmland preservation policies, in combination with urban and exurban containment policies of the sort used in Oregon, are effective in realizing the first objective of farmland preservation: shifting regional demand for urban and exurban development away from prime farmland and into targeted areas.

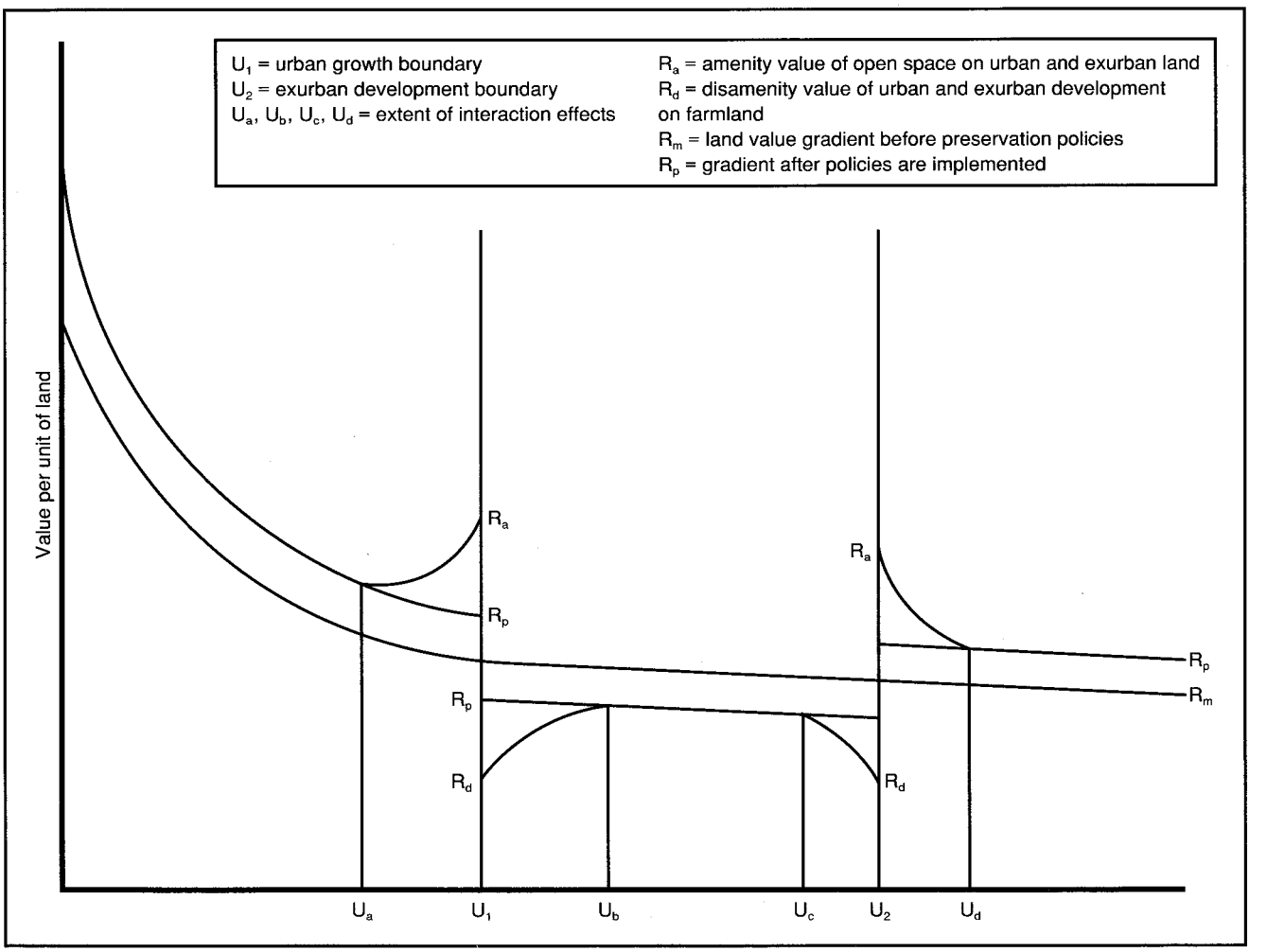


FIGURE 4: Economic objectives of farmland preservation and urban containment policies.

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Second, urban and exurban land proximate to farmland must exclusively internalize quasi-public goods, such as privacy and scenery, into higher values the closer the land is to farmland (Correll, Lillydahl, and Singell 1978). The absence of this effect means that the urban and exurban land markets expect urban development of farmland in the near future. The evaluation of Salem, Oregon, shows that the value of urban land rose with proximity to the Salem UGB where that boundary separated urban development from EFU districts (Nelson 1984; 1986). This phenomenon did not occur where the UGB separated urban development from exurban districts.

The effect should also be found along the boundary separating EFU from exurban districts, as exurban households are like urban or suburban households in their pursuit of space and privacy (Davis 1990; Davis, Nelson, and Dueker 1993; Nelson 1991; Nelson and Dueker 1989; 1990). An evaluation of rural Washington County, Oregon, indicated that the value of exurban land rose with proximity to the EFU boundary (Nelson 1988).

Third, speculation of farmland for nonfarm uses, whether urban or exurban, is eliminated only when the market value of farmland falls as it nears urban and exurban land. This is because non–farmland uses will impose all the negative externalities on nearby farmland. If this effect is not detected, then the market for farmland is internalizing expectations of conversion to urban or exurban nonfarm uses.

The Salem analysis revealed that farmland value fell with proximity to the UGB (Nelson 1984; 1986). This indicates the effectiveness of the exclusive farm use restrictions in eliminating speculative use value from farmland. Farmland value seemed unaffected by urban development only three miles away from the UGB.

An analysis of the interaction between farmland and exurban land in Washington County, Oregon, used the same approach (Nelson 1988). The central question was simple: Does farmland value behave at the exurban boundary as it behaves at the urban growth boundary? The original statistical analysis revealed ambiguous interaction, suggesting no statistically meaningful effects. Perhaps exurban and farmland owners coexist principally because exurban landowners consider themselves quasi-farmers and are therefore sympathetic with commercial farming. Perhaps exurban landowners do not impose spillovers on farmland owners. But this analysis is wrong (Nelson 1990c).

A reevaluation asked at what minimum density does exurban development have no adverse influence on farmland values. Proximity to five- or ten-acre exurban districts resulted in rising farmland value, indicating that the farmland market was internalizing the expectation of conversion to exurban development. This would suggest failure of preservation policies to influence the farmland market in intended ways, resulting in the underproduction of farmland, underinvestment in that land, and emergence of the impermanence syndrome among affected farmland owners. Proximity to twenty-acre exurban districts, however, resulted in declining farmland value, indicating that speculation for conversion to twenty-acre exurban development was not evident.[17] Thus, any exurban density less than twenty acres along the exurban and farmland boundary would have undesirable effects in the farmland market.

Finally, the value of farmland in exclusive farm use districts should rise over time as the farming economy has been preserved and farming investments can be made without concern for the impermanence syndrome. While there is as yet no empirical test of this outcome, the descriptive evidence reported below seems compelling. Production is increasing and this should be associated with increasing farmland value.

Descriptive Evidence of Effectiveness

Based on the 1978 and 1982 Census of Agriculture, Daniels and Nelson (1986) concluded that Oregon's farmland preservation policies were working to preserve large blocks of farmland because of large minimum lot size zoning, but they could not determine whether agricultural production had improved or whether hobby farming and commercial farming coexisted. Instead, they found that Oregon led the nation in the formation of hobby farms between 1978 and 1982, and the future viability of commercial agriculture was in doubt.

A recent study prepared by the LCDC indicates that the preservation of prime farmland improved during the late 1980s (1989). Analysis of the period July 1985 through August 1986 and September 1987 through August 1988 indicates that new and replacement dwellings on EFU lands decreased (see Table 2). The average parcel size of new farm dwelling approvals increased: Two-thirds were on parcels greater than twenty acres in 1987 to 1988 in contrast to one-half in 1986 to 1987. New land divisions within EFU districts increased in size: In 1987 to 1988, 84 percent were larger than twenty acres in contrast to 70 percent in 1986 to 1987. Concern over nonfarm dwellings approved for EFU districts continues. Slightly less than one-half of the nonfarm dwellings were approved for the Willamette Valley and another one-quarter in southwestern Oregon. However, 84 percent of the nonfarm dwellings were approved for parcels of less than ten acres and 70 percent of the land affected was of Soil Class IV or worse. Nonfarm dwelling approvals will become more difficult in future years as the legislature, the LCDC, and special interest groups seek to contain this activity.

Recent data from the United States Department of Agriculture, in its 1987 Census of Agriculture, strongly suggests that Oregon's prime farmland preservation policies seem to work despite the continued proliferation of hobby farms. The conclusion is an important milestone for planning policy everywhere: Urban development and farming can coexist but only when certain land use planning policies are employed and strictly enforced.

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TABLE 2: New dwellings on EFU lands, 1985–1988

Type of dwelling	Approved		Denied	
	1987–1988	1985–1986	1987–1988	1985–1986
New farm dwellings	205	230	9	0
Replacement farm dwellings	65	79	1	0
New farm worker dwellings	103	97	8	8
Replacement farm worker dwellings	18	21	1	1
New nonfarm dwellings	279	264	36	17
Replacement nonfarm dwellings	34	60	0	1
Total new dwellings	587	591	53	25
Total replacement dwellings	117	160	2	2

Source: Department of Land Conservation and Development 1989.

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How Does Oregon Compare to the Northwest and the Nation?

Although there are problems with the use of the census, it is the most reliable source of longitudinal data on changes in the farming economy at the county level. The analysis here compares the performance of Oregon's agriculture with that of Washington State and the United States between 1982 and 1987. Washington State is a reasonable control, because it does not have Oregon's statewide farmland preservation mandate, but is otherwise similar (Daniels and Nelson 1986). Comparison with the U.S. can indicate strengths and weaknesses of the Oregon farming economy relative to national trends. The analysis also evaluates changes in farming performance among the nine Willamette Valley counties. The farmland policies of Oregon are not conclusively related to changes in performance relative to other states, the nation, or periods of time. The evidence presented is only circumstantial, but reasonably compelling.

Between 1982 and 1987, the entire nation lost more than 50,000 farms (see Tables 3 to 5). Oregon lost more one- to nine-acre farms proportionally than Washington or the U.S., but generally lost fewer farms proportionally above ten acres. It actually gained in the number of farms of more than five hundred acres, whereas Washington lost farms in this category. Overall, Oregon lost more smaller farms but gained more larger farms than Washington or the U.S. This is limited evidence that the preservation policies discouraged proliferation of smaller farms and preserved, if not expanded, larger farms. Unfortunately, census data do not allow analysis of what happened to those smaller farms. They may have been taken entirely out of the farmland pool (which may be undesirable) or merged to make larger units (which may be desirable).

During the same period, the nation added almost 18,000 farms reporting more than $10,000 in earnings. They can be considered *commercial* farms (Daniels 1986).[18] Oregon gained proportionately more commercial farms of 1 to 49 acres than Washington or the U.S., lost proportionately fewer commercial farms of 50 to 499 acres than the nation, and gained proportionately more

TABLE 3: Changes 1982–1987 in distribution of farms by size and total farm acreage

	Oregon			Washington			United States[a]		
	1982	1987	% change	1982	1987	% change	1982	1987	% change
Number of farms									
1–9 acres	5,987	5,476	−8.54	6,425	6,040	−5.99	181,712	177,781	−2.16
10–49 acres	12,415	11,448	−7.79	12,717	11,362	−10.66	436,886	400,989	−8.22
50–179 acres	7,662	7,219	−5.78	7,755	7,216	−6.95	704,039	637,630	−9.43
180–499 acres	3,906	3,617	−7.40	4,035	3,796	−5.92	522,660	474,677	−9.18
500 or more acres	4,117	4,254	3.33	5,155	5,145	−0.19	361,740	364,668	0.81
Total, all sizes	34,087	32,014	−6.08	36,087	33,559	−7.01	2,207,037	2,055,745	−6.85
Acreage (thousands) in farm use									
Total, all farms	17,740	17,809	0.39	16,470	16,116	−2.15	996,724	946,662	−5.02

a. Figures adjusted to exclude Oregon for comparability purposes.
Source: U.S. Department of Agriculture, *1987 Census of Agriculture.*

TABLE 4: Number of commercial farms and acreage in commercial farms, 1982–1987

	Oregon			Washington			United States[a]		
	1982	1987	% change	1982	1987	% change	1982	1987	% change
Number of commercial farms[b]									
1–9 acres	476	634	33.19	864	994	15.05	40,128	44,008	9.67
10–49 acres	1,767	1,891	7.02	3,100	3,072	−0.90	75,528	71,574	−5.24
50–179 acres	3,156	3,010	−4.63	3,832	3,697	−3.52	284,171	241,058	−15.17
180–499 acres	2,706	2,479	−8.39	2,982	2,760	−7.44	398,585	353,971	−11.19
500 or more acres	3,658	3,694	0.98	4,843	4,764	−1.63	334,083	340,948	2.05
Total, commercial farms	11,763	11,708	−0.47	15,621	15,287	−2.14	1,132,495	1,051,559	−7.15
Acreage (thousands) in farm use									
Total, commercial farms	15,488	15,441	−0.30	13,017	13,766	5.75	795,792	813,580	2.24

a. Figures adjusted to exclude Oregon for comparability purposes.
b. Farms reporting $10,000 or more in annual sales, not adjusted for current dollars.
Source: U.S. Department of Agriculture, *1987 Census of Agriculture.*

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commercial farms of more than 500 acres than Washington. Overall, Oregon lost some commercial farm acres while Washington and the nation gained. On the other hand, the proportion of commercial farms to all farms rose faster in Oregon than in Washington, but fell across the nation.

What accounts for the considerable discrepancy in the proportion of small commercial farms in Oregon relative to Washington and the nation? Reduction of commercial farms of 180 to 499 acres may be partly explained by the rise in small farms. Farmland preservation has possibly induced an increase in commercially active hobby farms in Oregon, because settlement on small farms requires demonstration of commercial production. Has Oregon's farmland preservation program led to the division of large farms into smaller ones, or resulted in declining overall farmland production? The answer to this is based on an evaluation of the Willamette Valley, where hobby farm and land subdivision pressures are the greatest.

Performance in the Willamette Valley

Tables 6 and 7 report performance in the Willamette Valley.[19] The number of farms in the Willamette Valley fell by more than one thousand from 1982 to 1987, while the amount of farmland acreage remained nearly the same, falling by slightly more than 1 percent. The virtually unchanged farm acreage figure suggests that the farmland base stabilized over this period. Considering that in 1973 the valley lost 30,000 acres of farmland to urban uses, it would appear that farmland preservation policies caused stabilization since 1978.

Note that the number of commercial farms in the valley rose by nearly 18 percent and the farm acreage in commercial farms rose by 11 percent, or nearly 130,000 acres. The largest share of commercial farm increases occurred in the one- to nine-acre category, while the largest farm acreage gain occurred in the more than five hundred acre category. The proportion of commercial farms to all

TABLE 5: Ratio of commercial farms to all farms, 1982–1987

	Oregon			Washington			United States[a]		
	1982	1987	% change	1982	1987	% change	1982	1987	% change
1–49 acres	0.122	0.149	22.40	0.207	0.234	12.83	0.187	0.200	6.81
1–9 acres	0.080	0.116	45.62	0.134	0.165	22.38	0.221	0.248	12.09
10–49 acres	0.142	0.165	16.06	0.244	0.270	10.91	0.173	0.178	3.25
50 or more acres	0.607	0.609	0.26	0.688	0.694	0.95	0.640	0.634	−1.01
50–179 acres	0.412	0.417	1.23	0.494	0.512	3.68	0.404	0.378	−6.34
180–499 acres	0.693	0.685	−1.07	0.739	0.727	−1.62	0.763	0.746	−2.22
500 or more acres	0.889	0.868	−2.27	0.939	0.926	−1.44	0.924	0.935	1.24
All sizes	0.345	0.366	5.98	0.433	0.456	5.23	0.513	0.512	−0.31

a. Figures adjusted to exclude Oregon for comparability purposes.
Note: Commercial farms include those reporting $10,000 or more in annual sales, not adjusted for current dollars.
Source: U.S. Department of Agriculture, *1987 Census of Agriculture.*

TABLE 6: Willamette Valley, 1982–1987, distribution of farms by farm size; farm acreage by farm size; and commercial farms by farm size

	Number and percentage change		
	1982	1987	% change
Distribution of all farms by farm size			
1–49 acres	10,986	9,900	−9.89
1–9 acres	3,721	3,256	−12.50
10–49 acres	7,265	6,644	−8.55
50–499 acres	5,076	4,674	−7.92
50–179 acres	3,579	3,301	−7.77
180–499 acres	1,497	1,373	−8.28
500 or more acres	764	791	3.53
All farms	16,826	15,365	−8.68
Distribution of farm acreage by farm size			
1–49 acres	189,129	174,745	−7.61
1–9 acres	18,913	16,315	−13.74
10–49 acres	170,216	158,430	−6.92
50–499 acres	770,047	714,556	−7.21
50–179 acres	330,066	309,182	−6.33
180–499 acres	439,981	405,374	−7.87
500 or more acres	820,547	868,490	5.84
All farms	1,779,723	1,757,791	−1.23
Distribution of commercial farms[a] by farm size			
1–49 acres	1,157	1,490	28.78
1–9 acres	242	391	61.57
10–49 acres	915	1,099	20.11
50–499 acres	2,133	2,248	5.39
50–179 acres	1,323	1,233	−6.80
180–499 acres	810	1,015	25.31
500 or more acres	644	900	39.75
Total, all farms	3,934	4,638	17.90
Total commercial farm acreage	1,196,618	1,326,453	10.85

a. Farms reporting $10,000 or more in annual sales, not adjusted for current dollars.
Source: U.S. Department of Agriculture, *1987 Census of Agriculture.*

farms rose substantially in all major farm size categories during this period.

There has been a general reduction in smaller farms but an increase in commercial farms in all farm size categories. Farmland owners are either taking their land out of production— thereby accounting for reductions in all but the largest of the farm size categories for all farms— or they are making their land commercially productive by merging it with other land through sale, rental, or other agreement. Overall, commercial farm production rose to $909 million in 1987 from $619 million in 1982, or nearly 50 percent. Per farm income among commercial farms rose from $157,000 in 1982 to $196,000 in 1987, or nearly 25 percent. These increases exceed the inflation rate during the period.

Table 8 compares Oregon to Washington and the nation. Oregon lost farms on a pace with the nation and Washington. It gained land in farms, however, while Washington and the nation lost land. Average farm size increased more in Oregon than in Washington and the nation. Oregon lost proportionately slightly more cultivated and irrigated farmland than Washington and the nation. Its average value per farm and per acre fell slightly more relative to Washington and the nation. Yet, its sales of farm products per farm rose at nearly twice the rates of Washington and the nation.

Earlier studies revealed no substantial differences in farming performance between Oregon and Washington, and with most national trends, between 1978 and 1982 (Daniels and Nelson 1986). Evidence now suggests the budding of divergent trends. The Willamette Valley farming economy appears more robust after full implementation of farmland preservation policies. Hobby farms and commercial farms in Oregon, especially in the Willamette Valley, are gaining in economic vitality. There has been some concern that the rise of hobby farms could result in reduced commercial farming productivity. Yet, in the valley, while the total number of smaller farms fell, the rise in productivity of commercial hobby farms (one to forty-nine acres) parallels the rise in productivity of commercial farms. This suggests that in Oregon's regulatory environment, both commercially minded hobby farmers and large-scale farmers not only coexist but mutually benefit. They may add dimensions to the farming economy and infrastructure that are mutually reinforcing. The formation of hobby farms has slowed, and some farms appear to have consolidated. Many hobby farmers have become viable commercial farming operators in their own right. It seems likely that were it not for hobby farmers and their sustenance of the economic infrastructure, the large-scale commercial farming operations might be jeopardized. Firm confirmation of this symbiotic relationship remains an open question. Also mutual coex-

TABLE 7: Willamette Valley, 1982–1987, ratio of commercial farms and acreage to all farms and acreage

	Number and percentage change		
	1982 ratio	1987 ratio	% change
Ratio of commercial[a] farms to all farms			
1–49 acres	0.105	0.151	42.91
1–9 acres	0.065	0.120	84.64
10–49 acres	0.126	0.165	31.34
50–499 acres	0.420	0.481	14.46
50–179 acres	0.370	0.374	1.05
180–499 acres	0.541	0.739	36.63
500 or more acres	0.843	1.138	34.98
Total, all farms	0.234	0.302	29.11
Ratio of total acres in commercial farms to total acres in all farms			
Total commercial farm acreage	0.672	0.755	12.35

a. Farms reporting $10,000 or more in annual sales, not adjusted for current dollars.
Source: U.S. Department of Agriculture, *1987 Census of Agriculture.*

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TABLE 8: Farming vitality indicators, 1982–1987, Oregon, Washington, and United States

		Oregon			Washington			United States[a]		
Indicator	Unit	1982	1987	% change	1982	1987	% change	1982	1987	% change
All farms	Number	34,087	32,014	−6.08	36,087	33,559	−7.01	2,207,037	2,055,745	−6.85
Land in farms	Acres, k	17,740	17,809	0.39	16,470	16,116	−2.15	996,724	946,662	−5.02
Average farm size	Acres	520.43	556.29	6.89	456.40	480.23	5.22	451.61	460.50	1.97
Harvested cropland	Acres, k	3,306	2,833	−14.31	5,279	4,597	−12.92	326,306	282,224	−13.51
Irrigated farmland	Acres, k	1,808	1,648	−8.85	1,638	1,519	−7.26	49,002	46,386	−5.34
Nominal value/farm	Dollars	$371,644	$299,755	−19.34	$423,352	$355,976	−15.91	$345,869	$289,387	−16.33
Nominal value/acre	Dollars	$705	$542	−23.12	$933	$739	−20.79	$784	$627	−20.03
Value, sales/farm	Dollars	$48,129	$57,664	19.81	$78,469	$87,000	10.87	$58,858	$65,165	10.72

a. Figures adjusted to exclude Oregon for comparability purposes.
Source: U.S. Department of Agriculture, *1987 Census of Agriculture.*

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istence may not work outside Oregon. One of the underpinnings of Oregon policy is that farmland buyers must engage the land in farming, and many exurban districts have land use and development restrictions that aim to minimize potentially adverse interactions between exurban residents and farmers.

Weaknesses in Implementation

Effectiveness is always dictated by implementation. Daniels and Nelson (1986) recount how local government actions through the mid-1980s undermined state resource land preservation policies. Although recent analyses by the LCDC (1989) and the *1987 Census of Agriculture* show improvement in local government implementation, there is room for more rigor. For example, in an analysis of parcelization and dwelling unit approvals in prime agriculture and forest areas, Pacific Meridian Resources (1991) found some evidence of potentially lax enforcement of preservation policies:

- The majority of new dwellings approved in EFU areas were not being used in conjunction with commercial farm use, defined as $10,000 annual income from farming.
- Most farm operations of less than 80 acres on which new dwellings were permitted reported no farming receipts; about 90 percent of farm operations of less than 160 acres reported no farming receipts.
- More than one-half (358) of farm operations approved for new dwelling units statewide (667) were found in the Willamette Valley.
- About one-third of the forest operations that received approval for new dwellings units are not being managed for timber production.

In part because of this analysis, LCDC amended the agricultural and forest land goals in late 1992. By the late 1990s, local plans will identify and regulate "high-value" and "important" farmlands and "small-scale resource lands." High-value farmlands are suitable for commercial scale operations. Small-scale resource lands are suitable for noncommercial scale agriculture and forest operations. Important farmlands are all other rural lands, other than exception lands, suitable for some level of agricultural production. The purpose of the amendments is to put more pressure on local governments to preserve prime (high-value) farmland. Hobby farm activities would be steered into small-scale resource lands and, to a lesser extent, into important farmlands.

Toward Effective Farmland Preservation Policies

Perhaps the most important lesson from Oregon's experience is that successful farmland preservation relies on a package of techniques that reinforce each other. EFU districts preserve farmland for farming in the long run; UGBs prevent urban sprawl; exurban districts accommodate the demand for rural residential lifestyles without harming commercial farm operations; farm tax deferral and right-to-farm laws create incentives for farmers to keep farming, and comprehensive plans legitimize the entire package. This concluding section offers a regional landscape planning scheme that incorporates the best of Oregon's experiences while improving on its shortcomings.

Urban Containment

The argument that urban development ought to be contained within urban growth boundaries, urban service limits, urban stoplines, or other regulatory fixtures on the regional landscape map has been extensively and persuasively made.[20] Urban containment planning begins with estimates of future land use needs by general land use categories. Status quo trends are not simply projected into the future. The whole idea behind containment planning is achieving more efficient use of urban land: more housing units per acre, higher single-family detached dwelling densities, more flexible site planning standards allowing zero lot line and cluster opportunities, more mixed use projects and comprehensively planned communities, and higher density work environments. The

planning horizon may be set at twenty years but the UGB may have a much longer life as redevelopment and in-fill to higher densities occurs after twenty years. Such planning, however, should also include an *ultimate* UGB that establishes for perpetuity the final extent of urban development within a region.

Figure 5 illustrates the regional landscape scheme. Within the ultimate UGB there are three classes of land, each catering to a particular generation of development—the urban and urbanizable, the future urbanizable, and the urban reserve. The intermediate boundary at U_1 marks the area to accommodate immediate urban development needs. Point U_2 marks the near-term urban growth boundary, and U_3 is the ultimate growth boundary. The future urbanizable land would be expected to be developed within twenty years. The urban reserve land would accommodate very low-density uses until redeveloped to higher densities after twenty years.

Future urbanizable land would not be developed until land inside the intermediate boundary was suitably developed. This concept has been used in the urban areas of Portland, Salem, and Eugene. Minimum lot size zoning of at least ten acres would apply to the future urbanizable land to keep it in such sizes and shapes as to accommodate efficient future development.[21] Long-term facility and transportation plans would explicitly include this land. As all future urbanizable land is developed, within twenty years or so, expansion into the urban reserve lands toward the ultimate UGB would occur only if in-fill and redevelopment options failed.

The urban reserve area would contain land that Oregon now places outside the UGBs in "exception" areas. If Oregon has made any mistake in its planning it is in making its UGBs too small and in preventing adjacent or nearby exception lands from being placed within them. The LCDC required all urban areas to include within their UGBs just the amount of land needed to accommodate the urban development needs to the year 2000.[22] Many UGBs are virtually encircled by these exception lands, which are not needed for urban development and are not suitable for resource or open space activities.

These exception lands should have been included inside the UGBs to better manage their development and to improve long-term management of urban development. Under the present arrangement, because exception lands are neither urban nor resource lands, they are routinely developed for large acreage housing subdivisions, churches, convenience stores or centers, and other patently urban uses. Even though many exception lands adjacent to UGBs are subject to five-acre minimum lot size development, there is concern that it is actually easier to develop them than urban lands (Nelson 1992).

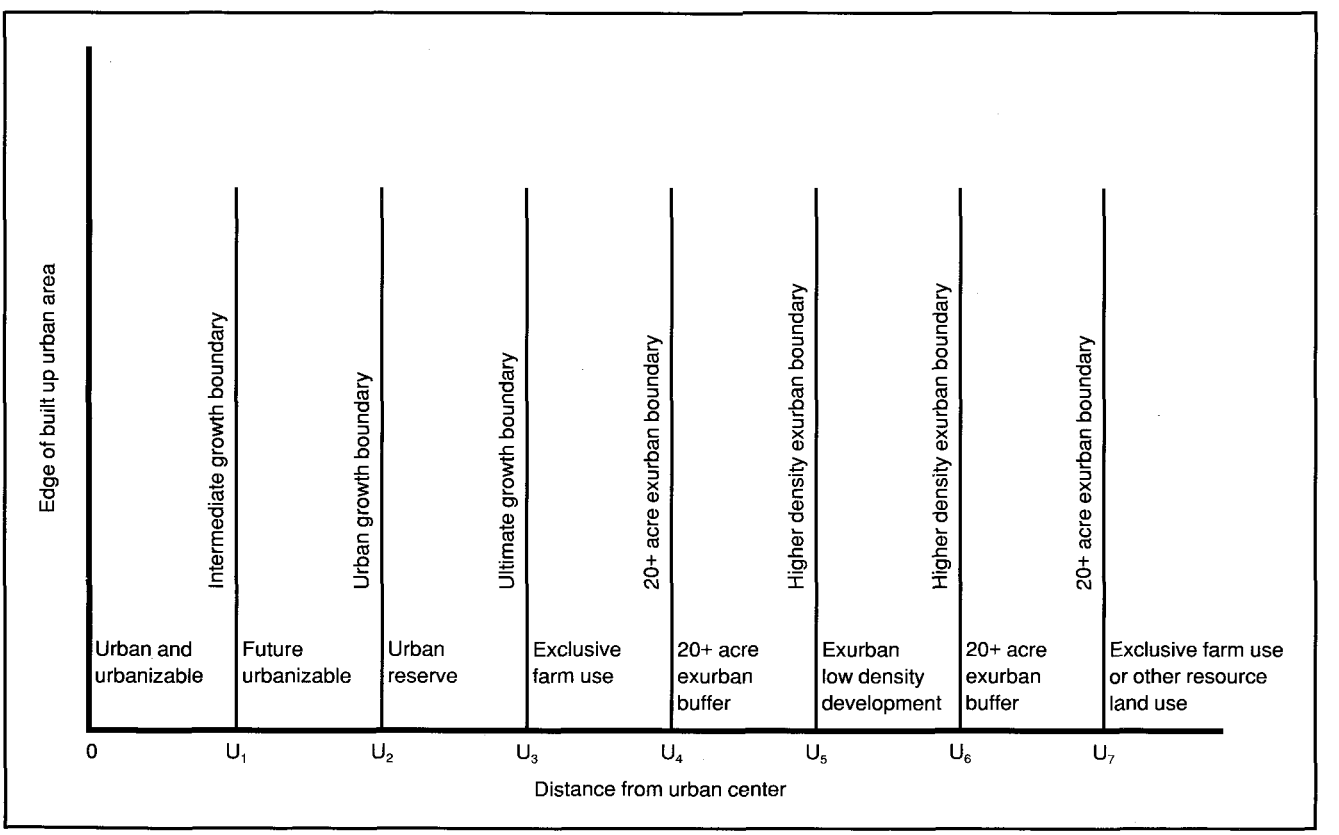


FIGURE 5: Regional planning scheme to preserve farmland.

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Portland's Buddhist community could not receive a conditional use permit to build their temple in the city. Instead, they built it outside the UGB on prime farmland, as EFU zoning in Oregon allows churches as conditional uses.

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What will happen when urban development under Oregon's scheme hits the twenty-year UGB? The assumption is that urban development will be accommodated through in-fill and redevelopment. But this may not take care of all needs. In some situations, the UGB must be expanded. One logical place for expansion would be the exception areas already abutting UGBs. However, by the time UGB expansion into those areas becomes necessary, they will have been developed and occupied by affluent households capable of mounting serious opposition. This is already happening (Nelson 1990b). Is UGB expansion the NIMBY of the future?[23]

A corollary mistake was that Oregon ignored the demand for hobby farms and exurban development (Nelson 1983a; 1983b; Daniels and Nelson 1986). While prospective hobby farmers or pursuers of rural living require only one to two acres, most exception areas are limited to five-, ten-, and twenty-acre minimum lot sizes. As those seeking small tracts are forced into buying larger tracts, more, not less, land is absorbed to accommodate this demand. It would have been far better for the LCDC to have allowed for the accommodation of the demand for small, one- to two-acre tracts within prescribed areas. Those areas should have been within UGBs to the maximum extent possible, and actual development of those sites should be subject to site planning restrictions requiring large setbacks—one hundred feet or more—from nearby resource lands, placement of homes to enable efficient resubdivision into single-family detached sites at some time far into the future, and prohibitions against covenants and deed restrictions that prevent future land assembly or resubdivision. Much of the legitimate demand for five- to ten-acre tracts should be accommodated in the same way.

Exurban Land Outside Urban Growth Boundaries

Even if much of the exception land could be placed inside UGBs there would remain pockets of exception land, classified as antiquated rural subdivisions, five- to ten-acre hobby farms, and twenty acre or more buffer areas.

Antiquated rural subdivisions were approved prior to modern planning review. Many are already developed or committed to residential uses, but these areas can be better managed to preserve the integrity of nearby resource lands. For example, site planning restrictions should require home construction at least one hundred feet away from nearby or abutting resource lands. Owners of those sites should waive remonstrances against resource land use practices as a condition of receiving a building permit. In cases where antiquated subdivision plats are largely undeveloped but nonetheless committed, planning review should result in identifying those portions of the plat that may be reasonably used for resource or buffer activities (Nelson and Recht 1988).

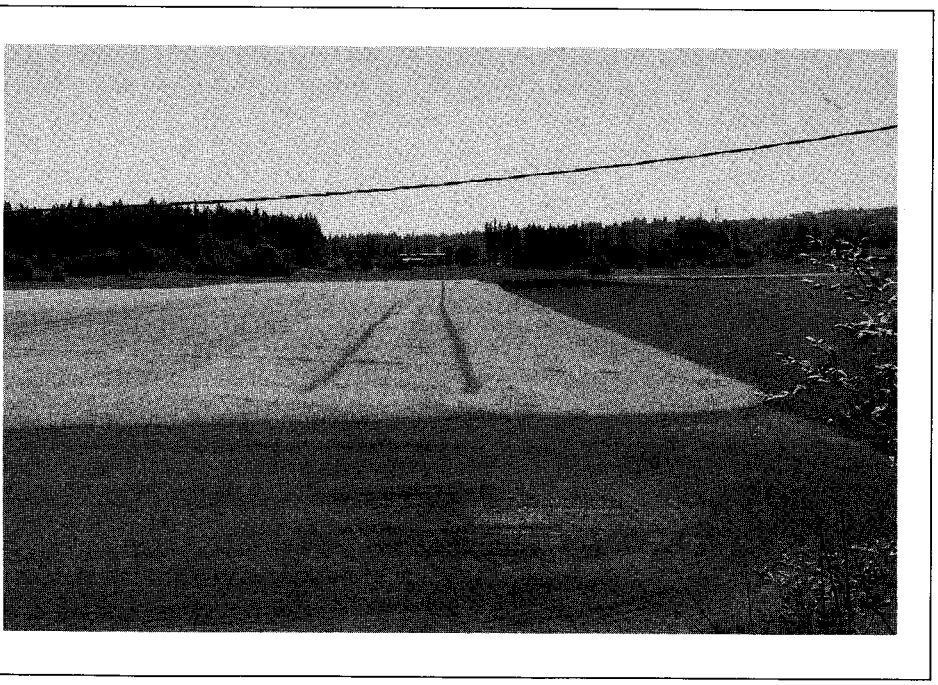
Small-acre hobby farms on exception land outside the UGB should not abut EFU districts to avoid the expectation of conversion to exurban development. The exception lands abutting EFU districts should be subject to higher minimum lot sizes, of at least twenty acres. Development restrictions should be imposed to have those lands used for legitimate resource purposes as a condition of receiving building permits. In the case of forest land, the state forester could review and approve a small woodlot plan set aside by the homebuilder, where forest uses are proposed. The local county assessor could attest to the property being eligible for farm and forest use tax deferral. With these assurances the building permit could



Only a small strip of land is mowed around this hobby farm in an exception area bounded by EFU restrictions. The unmowed areas contain plants toxic to livestock.

be issued. Failure to carry out the pledge would result in zoning violations. Only in rare cases where land is clearly unusable for resource activities, such as developed or committed antiquated plots, would these requirements not apply. In all cases, home construction would also be subject to site plan review, which would require the maximum possible distance from farmland or other primary resource lands.

Where possible, twenty plus acre exurban districts would be placed between EFU and other primary resource land, and higher density exurban land or the UGB. At twenty and more acres, land can be used for a variety of resource activities, which would be required as a condition of building approval. By placing twenty plus acre tracts next to and near farmland and other primary resource districts, operators on those districts can more



A large farm adjacent to an exception area operates only two miles from the UGB. Onions are the dominant crop in this area.

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easily rent the tracts for a variety of resource uses. Moreover, owners of these buffer tracts are more likely than owners of higher density exurban land to consider themselves like farmers and should be more tolerant of farming, forestry, and other resource practices.

Summary Scheme: Toward Regional Urban Form

The planning scheme divides the regional landscape beyond the ultimate urban growth boundary into twenty plus acre minimum lot size exurban districts buffering EFU lands from small acreage exurban districts. Regardless of regional urban development pressures, the ultimate UGB would remain fixed to preserve farmland and other resource lands. The twenty plus acre exurban buffer districts would also remain fixed, although low-density urban-type development could possibly invade selected exurban districts. The ideal regional urban form is achieved through regional landscape planning that includes the creation and rigid enforcement of development boundaries supplemented by rigidly enforced land use restrictions on exurban and resource land.

Figure 6, which combines elements of Figures 4 and 5, shows what the regional economic landscape must look like. If these relationships are not observed, farmland preservation policies may not be effective and perverse outcomes may be at work. Failure may be caused by uniquely local circumstances that require refinement of the scheme. Failure may also be attributable to lax enforcement in issuing development approvals.

First, the regional landscape planning scheme must affect the regional land market in predictable ways. The regional demand for urban land must be shifted from the regional landscape to areas inside the UGB. Actually, the near-term regional demand should be entirely shifted to the area within the intermediate growth boundary and the long-term demand should be shifted to the area between the intermediate and the twenty-year UGB. The regional demand for exurban land uses should be shifted principally from all rural land to areas either between the twenty-year and ultimate UGBs or within exurban districts located outside UGBs.

Second, there should be no interaction of land value along the intermediate growth boundary. Owners of urban land just inside and owners just outside the intermediate boundary should expect the boundary to be moved outward and urban development to occur in the new space in the near future. Similarly, there should be no interaction effect between land just inside and outside the twenty-year UGB.

Along the ultimate UGB there should be interaction effects. Land just inside the ultimate UGB should rise in value the closer it is to the UGB, because it should capitalize the quasi-public goods or benefits that it exclusively enjoys. Just outside the ultimate UGB, farmland or other resource land value should fall the closer it gets

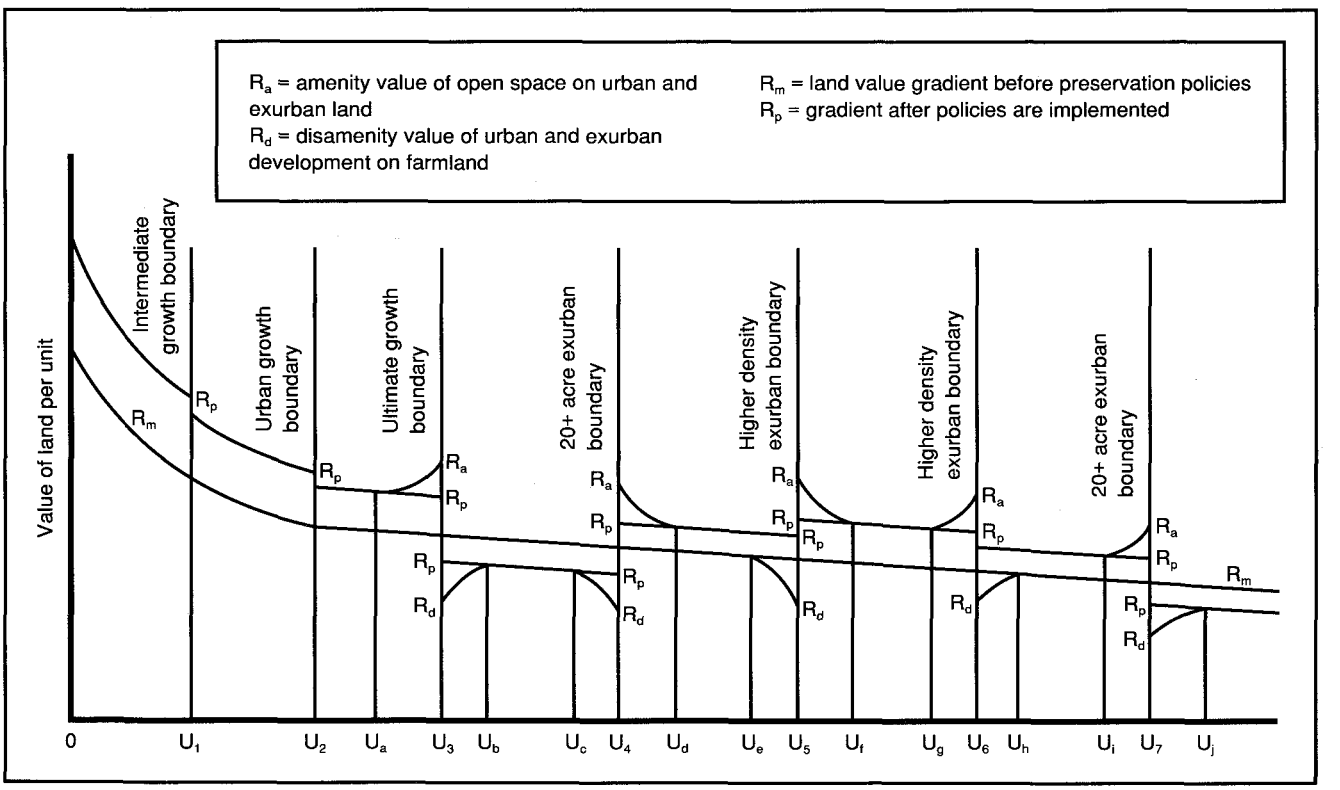


FIGURE 6: Regional economic landscape that preserves farmland in the face of urbanization.

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to the UGB, because urban spillover effects dampen productivity and therefore reduce the value of this land for resource production. It is possible that these effects would not be detected until exurban or urban development came to the UGB.

Along the boundary separating farmland and the exurban twenty acre plus buffer districts there should be similar effects. Through site development review home and work structures could be so removed from the boundary that they would not necessarily impose spillovers on farmers. If home construction in this district required putting land into resource activities and waiving remonstrances against farming activities, spillovers could be prevented. Farmers could lease these tracts for farm use. Avoiding the internalization of spillovers is a desirable outcome that is limited to twenty plus acre exurban buffer districts. In any event, the value of the exurban buffer land would rise the closer it gets to farmland, because it will exclusively enjoy the quasi-public goods and benefits of farmland proximity. However, public policy must be firm in maintaining the integrity of the exurban buffer district to avoid undesirable interactions between owners of those tracts and farmers.

Along the boundary separating the exurban twenty plus acre buffer districts from higher density exurban districts, the interactions are much more fluid and problematic, even ambiguous. If public policy is firm in maintaining the integrity of the twenty acre plus buffer districts, the value of the buffer land will fall the closer it gets to higher density exurban districts because of spillovers. On the other side of the boundary, the value of higher density exurban land would rise the closer it is to the exurban buffer districts because it should capitalize the quasi-public benefits that those districts offer. This is the desirable interactive outcome. Undesirable outcomes would be revealed if exurban buffer land values increased closer to the boundary, reflecting expectations by landowners of conversion to higher density exurban uses.

Cultivating the Preservation Hybrid

Fully effective farmland preservation policies have eluded local and state governments. Many have unwittingly accelerated the conversion of farming districts to hobby farms or low-density urban subdivisions. There is evidence that urban land is overvalued through government development subsidies, inefficient utility provision, and other market distortions induced by policy and inherent market imperfections. Farmland is undervalued for the same reasons and because of urban spillovers. In result, vastly more farmland is removed from production than should occur. Moreover, just a small reduction in farmland productivity can undermine the critical mass of farming infrastructure needed to sustain viable operations in a region. Perhaps, as Daniels (1990) observes, the best way to preserve farmland is to generate greater income for farmers. Sweden guarantees prices for farmers so they can outbid urban developers for the best farmland (Lapping 1979). Sweden also employs sophisticated new town and urban expansion planning. But the U.S. lacks a clear national policy toward the preservation of prime farmland, especially in the face of urbanization, and, therefore, state and local governments are left to their own devices to protect their long-term interests in farmland.

State and local governments are limited in their economic and legal capabilities. They cannot alter food prices. They cannot interfere with federal policies that raise or lower commodity supports. They cannot afford the purchase of the development rights of farmland—nor should they. The most effective farmland preservation tools available to state and local governments are land use planning and development regulation. The most effective mix are those used by Oregon plus the modifications proposed here.

NOTES

1. See Brown and Roberts (1978) on the role of local, state, and federal policies in stimulating inefficient land owner behavior and, implicitly, the need for land use regulatory mechanisms to compensate for these inefficiencies. See also Harvey and Clark (1965), Clawson (1962), and Nelson (1990a).
2. It is not known the extent to which farm subsidy policies offset urban subsidies. While total federal government commodity support policies totaled less than $20 billion in 1989, federally backed mortgage loans issued in 1989 exceeded $150 billion. According to the *1991 Statistical Abstract of the United States*, more federally backed home loans were delinquent in 1989 than all commodity price support policies in 1989 combined.
3. Farmers pay for those new facilities and services on the basis of land value, but not on whether they use them.
4. This figure is adapted from Nelson 1986a, 1990a.
5. For an extensive review of all common farmland preservation techniques see Nelson (1990a), a reply by Daniels (1990), and a rejoinder (Nelson 1990c).
6. Some farmers who enroll in those programs produce less than farmers who do not. While farmers realize a reduction in the cost of operations and this raises net revenues, it does not pressure them into making their land more productive (Bahl 1968; Goldberg and Chinloy 1984; Mills and Hamilton 1988). When urban development leapfrogs over farmland enrolled in a property tax relief program, the volume of land made underproductive increases.
7. Most right-to-farm laws also limit the ability of public agencies to condemn farmland for public works projects that can adversely affect the viability of farming districts.
8. At the heart of right-to-work laws is the desire to protect innocent farmers from land use actions or restrictions over which they have little or no control (Leutwiler 1986). These laws make it difficult for

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nearby nonfarm residents to restrict operations through nuisance suits. There are many shortcomings, however. Right-to-farm laws do not prevent farmers from converting their land to an urban use or prevent the sale to speculators; may not apply to the operations of new owners; and do not protect changes in agricultural practices (Lapping and Leutwiler 1987). Farmland that is fallow during the year in which new development occurs nearby may not be protected when actively farmed.

9. If these programs can succeed in protecting a critical mass of land, they can help sustain the agricultural infrastructure. In Montgomery County, Maryland, for example, the TDR program may have transferred sufficient development rights from large areas considerable distances to create the necessary critical mass to sustain agriculture into the long-term future.
10. PDR programs, because they are voluntary, suffer from the same limitations as TDR programs. They do not assure preservation of prime farmland in quantities and in locations suitable to sustain a viable agricultural economy. Nonparticipants remain free to farm or subdivide their land.
11. Incredibly, some farmers in Florida claim that one-acre minimum lot size zoning is perfectly acceptable in farming districts. They argue that higher minimum lot size zoning reduces land value, which reduces the amount they can borrow for agricultural purposes. The argument is specious. Farm loans do not exceed more than a certain percentage of the value of land for agricultural purposes. Moreover, with one-acre zoning, large-lot residential subdividing could not be prevented. Ironically, some farmers say they will volunteer not to subdivide and develop in return for the zoning. This promise would be difficult to enforce at best. Would a foreclosing lender be prevented from subdividing? Studies show that restrictive farm use zoning has not prevented farmers from securing agricultural loans in the amounts they would have received anyway (Coughlin 1984).
12. Nonexclusive agricultural zoning usually includes large minimum lot sizes; entitlement to single-family home construction on any preexisting and newly created but conforming lot; no requirement to demonstrate the effects on farm production of land partitioning at the minimum lot size; and conditional use permits allowing commercial recreation, smaller than minimum lot size developments, patently nonfarm dwelling units, agriculturally related industrial activities, and planned developments sometimes at higher densities.
13. The distribution has changed slightly since 1986 through continual fine tuning and plan revisions required by Oregon planning law.
14. The original criteria for determining whether land qualified for exception status were difficult to meet and carried a heavy burden of judicial review. Consequently, most plans failed to meet LCDC approval. Acceding to legislative demands, the LCDC replaced the original test with the impracticability test, which allows more flexibility in classifying rural land for exception status. One result has been a scattered and pervasive pattern of exception lands throughout the state.
15. Lapping (1980), Healy and Short (1981), and Buttel (1982) observe that hobby farmers often purchase more land than they are able to put to productive use; are generally unwilling or unable to make the investment in farm equipment and labor necessary to produce a commercial volume of farm products; compete with commercial farms for the same land, causing fragmentation of land holdings, driving land prices upward beyond what can be paid for out of a farm income; are a source of vandalism on nearby commercial operations and a cause of legal attempts to limit commercial farming practices; and create in commercial farmers questions of the future viability of farming, making them less willing to undertake long-term investments. As commercial farmers go out of business, an area can lose the "critical mass" of farms and farmers needed to maintain agricultural support services.
16. The framers of Oregon's farmland preservation program did not anticipate the magnitude of the demand for hobby farms. Between 1978 and 1982, Oregon led the nation in the formation of hobby farms and many analysts expressed concern that the trend would undermine Oregon's farmland preservation policies (Nelson 1983a; 1983b; Daniels and Nelson 1986; Daniels 1986).
17. The finding also indicates that even at twenty-acre minimum lot size restrictions, exurban development can be expected to impose negative spillovers onto farmland. The question now becomes: At what minimum density should we expect no statistically meaningful impacts of exurban development on farmland value? Would it be forty acres? Eighty acres?
18. Census tabulations do not adjust for inflation.
19. Willamette Valley includes Benton, Clackamas, Lane, Linn, Marion, Multnomah, Polk, Washington, and Yamhill counties.
20. Proper urban containment planning results in public facility and service savings (Nelson and Knaap 1987; Nelson 1987); improved delivery of social services; more efficient transportation systems (Newman and Kenworthy 1989); improved interaction among economic activities; lower housing package costs, although with possibly higher density and lower housing space (Real Estate Research Corporation 1974; Frank 1989); lower energy costs (Keyes and Peterson 1977); more efficient government management, assuming flexible management schemes such as interlocal cooperative agreements (Nelson 1991b); improved interaction between social classes (Jacobs 1961); improved sense of place (Lynch 1983); and, of course, preservation of open spaces outside urban development for farming, forestry, recreation, flood

control, air cleansing, watershed, and related purposes.

21. Alas, all urban areas allow subdivision of future urbanizable land into one- to two-acre tracts. Although subdivision plans must include homesite locations that theoretically enable wise redivision in later years, the practical effect is to condemn future development in these areas to hodgepodge in-fill that residents are likely to oppose.
22. Some larger urban areas received approval for more land inside UGBs than strictly needed for development, arguing that more land was needed to prevent monopolistic behavior among landowners and to provide adequate locational choices for developers. The Portland UGB contained 15.8 percent more land than strictly needed and Salem's UGB contained 25 percent more than needed.
23. In mid-1992, the LCDC adopted the "urban reserve" rule, which would effect a few of the points argued in this article. By the mid-1990s, seven urban areas, including metropolitan Portland, will identify areas for UGB expansion, mostly on exception lands but also on selected prime farm and forest lands. Although not to be included in the UGB initially, lands placed into the urban reserve would be managed in such a way as to make urban expansion more efficient. In effect, this rule creates a longer term UGB, somewhat akin to the ultimate UGB proposed here.

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CLARK COUNTY COMPREHENSIVE PLAN 2016 UPDATE
PLANNING FOR GROWTH 2015 – 2035

Clark County Agriculture and Forest Land Supplemental Mapping and Data Analysis – Issue Paper 9

EXECUTIVE SUMMARY

The Clark County Board of County Councilors (BOCC) has developed a preferred alternative for the Comprehensive Plan Update 2016. Within the Preferred Alternative are proposals to modify the minimum lot size of the current AG 20 zone to allow 10-acre lots and an amended zone district of AG 10. Similarly the current Forest 40 would be altered to allow 20-acre lot sizes and an amended zone district of Forest 20.

This Issue Paper 9 examines agricultural and forest land two parts:

I. Agriculture and Forest Land Supplemental Mapping and Data Analysis

II. Literature Review and Example Counties Providing Regulatory Support for Producers

Part I includes supplemental mapping and data analysis addressing new information unavailable at the time of the 2012 Rural Lands Study. Part II also updates the status of rural and resource conservation tools examined in the 2012 study as well as includes a brief literature review regarding urban agriculture trends.

Generally findings show:

- Clark County's numbers of farms declined between 2007 and 2012, but there is still an overall increase since 1997.
- Clark County's median farm size declined between 2007 and 2012. Clark County's median farm size is comparable to other urbanized counties like Pierce, King, and Snohomish.
- The vast majority of farmers live on farm, and likewise most farms are family owned.
- Most AG zoned land contains residences, as does Forest Tier II land.
- The median AG zoned parcel size is 5.1 acres. About two-thirds of AG zoned parcels are equal to or less than 10 acres in size. Farming can and has been occurring on smaller parcels as part of serving an urban market with local food (see discussion of small farms below). Clustering and siting criteria for new buildings could help orient buildings away from productive soils.
- Parcels proposed for Forest 20 zoning are similarly matched to the zone lot size: 89% are less than or equal to 20 acres in size. State rules and programs recognize the value of small forest owners and have programs for owners of 10 or 20 acres in size. Current use criteria allow parcels of a minimum of five acres to apply for a current use tax reduction.

- The County continues to have a uniquely high proportion of very small farms (producing values of commodities at $10,000 or less) that appear to support a local food market. The County has among the highest of farms with direct sales to consumers in the state.

- Most of the urban counties in Washington have implemented a variety of tools to protect both the farmland and farmer by allowing residential uses, while applying lot standards that promote the protection of agricultural activities and prime soils. Urban counties have similar tools for forestland.

I. AGRICULTURE AND FOREST LAND SUPPLEMENTAL MAPPING AND DATA ANALYSIS

1.0 PURPOSE AND BACKGROUND

The Clark County Board of County Councilors (BOCC) has developed a preferred alternative for the Comprehensive Plan Update 2016. Within the Preferred Alternative are proposals to modify the minimum lot size of the current AG 20 zone to allow 10-acre lots and an amended zone district of AG 10. Similarly the current Forest 40 would be altered to allow 20-acre lot sizes and an amended zone district of Forest 20.

A Rural Lands Study (BERK Consulting et al. 2012) provided a market assessment of agriculture and forestry in Clark County. It identified the following findings:

> *Key Finding #1: Agriculture in Clark County in 2011 is in the midst of a decade's long transition from large scale commodity farming into more intensive, value-added, urban-oriented farming.*
>
> *Key Finding #2: Large farm and mid-size farms are declining in number, acres, and value. However, they remain a viable enterprise but face a multitude of challenges.*
>
> *Key Finding #3: A Diverse set of small farms and enterprises are increasingly becoming part of the rural landscape.*
>
> *Key Finding #4: Timber production is diminished, but retains a productive and uncertain presence in the County.*

With the Comprehensive Plan Update, Clark County has examined the amended AG 10 and FR 20 districts and has considered potential clustering or building envelope criteria. The BOCC is considering the application of the new districts without clustering, but potentially with building envelope criteria.

This document provides supplemental mapping and data analysis to address new information unavailable at the time of the 2012 Rural Lands Study, particularly:

- Census of Agriculture 2012: Though the Rural Lands Study was conducted in 2012, the Census of Agriculture was conducting its latest census at the same time and results were not available; only 2007 Census information was available. The trends in terms of farm size, commodity value, and operation characteristics can be assessed with 2012 Census results to determine if the above findings are still accurate.

- Washington State Department of Agriculture Crop Type: In 2012, the State provided crop information at the section level. Now information at the field level is available and can be included with AG 10 parcel information.

- The current parcel size pattern underlying the Forest 40 zone was mapped but not quantified. Given a proposed Forest 20 zone, the lot size pattern is addressed in this supplemental analysis.

2.0 AGRICULTURE AND FOREST LAND MAPPING AND DATA ANALYSIS

This section presents information considered in the 2012 Rural Lands Study and updated with 2012 Census of Agriculture information. An overview of the new information is presented followed by findings and supporting data.

2.1 Changes in Farm Numbers and Type based on Value of Commodities

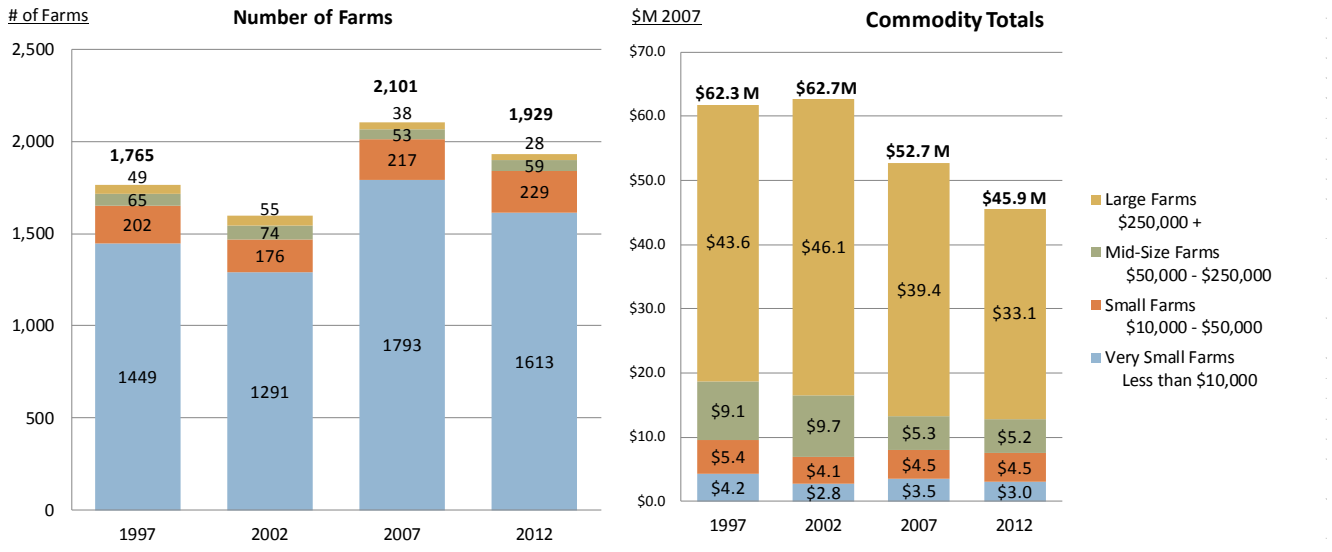
One of the findings in the 2012 Rural Lands Study was a trend away from large scale commodity farming into more intensive, value-added, urban-oriented farming, evidenced by declines in large and mid-size farms by number, acres, and value. This was based on a review of federal and state data, particularly the 1997, 2002, and 2007 Census of Agriculture data. 2012 information is now added in this section.

NUMBER OF FARMS: The 2007 Census of Agriculture found a total of 2,101 farms in Clark County. This represents an increase from the 2002 Census of 1,596 farms, as well as from the 1997 Census, which counted 1,765 farms in Clark County. The number of farms equals 1,929 in 2012. This represents a decrease of 172 farms since 2007. Countywide there are still more farms in 2012 than reported in the 1997 and 2002 Census counts. Thus the overall trend of an increase since 1997 or 2002 is still valid in the year 2012.

FARM SIZE BY VALUE OF COMMODITIES: Exhibit A presents agriculture in Clark County in four segments according to commodity totals: large farms (less than $250,000), mid-size farms ($50,000-$250,000), small farms ($10,000-$50,000) and very small farms (less than $10,000).[1]

[1] The first three categories would fall under the definition of "small" farms by the National Commission on Small Farms of all farms with sales less than $250,000. This definition would miss much of the agricultural activity in Clark County. The USDA Economic Research Service has categorized farms under $50,000 as non-commercial – meaning farming is not their primary income – but the USDA National Commission on Small Farms (1998) notes "this categorization fails to recognize that for some of these farmers, off-farm jobs are not a choice, but a necessity due to the inability to obtain an adequate return from farming" and that "when a gross sales statistic is used combining all agricultural sectors, it can generate the conclusion that large and super-large farms produce most of the food and fiber in this country, when, in fact, the most critical production occurs at the primary level." Thus, in this Issue Paper farms are described in a range of small, very small, mid-sized, and large based on value. This size range does not imply that very small or small lands are not of long-term commercial significance, which is a Growth Management Act definition.

Exhibit A. Clark County Farms Size by Value of Commodities (2007$) (RLS Exhibit 5)



*"Farms" only include farms having, or usually having, sales of $1,000 or more in a year. Commodity totals normalized to 2007 dollars using CPI.
Since the 2012 Rural Lands Study, the graph has been updated to include 2012 Census of Agriculture data unavailable at the time of the Rural Lands Study preparation. The value of commodities by farm type segment reported in the 2012 Rural Lands Study for the years 1997, 2002, and 2007 are unchanged; however the total of all farm types at the top of the bars has been corrected.

Source: U.S. Census of Agriculture, National Agricultural Statistical Service; BERK, 2012 and 2016.

Some key findings of farm activity in Clark County include:

- **The number of farms has increased between 1997 and 2012, though dipping slightly between 2007 and 2012.**
    - Clark County had 2,101 farms in 2007, representing the addition of 336 farms since 1997. The number of farms decreased to 1,929 in 2012, a decrease of 172 farms since 2007. The 2012 count is still higher than 1997 which counted 1,765 farms and than 2002 which counted 1,596 farms.
    - Based on values of commodities, between 1997 and 2007, the growth in the number of farms was mostly in very small farms with a slight increase in small farms, though some of the increase may be attributed to increased efforts of the USDA to count all small farms in the census.
    - Based on value, between 1997 and 2012 the overall pattern shows an increase in very small farms from 1,449 to 1,613.
        - Between 2007 and 2012, there was a loss of very small farms from 1,793 to 1,613 (-180), and a slight increase in small farms from 217 to 229 (+12).
        - On the whole the 2007 results showed 96% of farms were very small or small and similarly in 2012, 95% of farms are small or very small based on value of commodity sales.

- **Large farms are declining.**
    - Large and mid-sized farms both decreased between 1997 and 2007. These two categories represent only 4% of all farms in Clark County in 2007.
    - Between 1997 and 2007, Clark County lost 23 farms that produced over $50,000 in commodities, an average of two mid-sized and/or large farms per year.
    - Between 1997 and 2012, Clark County lost 27 farms that produced over $50,000 in commodities, almost two mid-sized and/or large farms per year.
        - Between 2007 and 2012 there was a slight increase in mid-sized farms from 53 to 59 (+7) and a loss of large farms from 38 to 28 (-10).
    - While the number of large farms has decreased between 1997 and 2012, mid-sized and large farms' share of total commodity output stayed nearly constant:
        - 1997: 85%
        - 2002: 89%
        - 2007: 85%
        - 2012: 84%
- **Commodity values are declining.**
    - Commercial farms are the most productive farm type, with 38 farms producing $39.4 Million as of 2007. Put another way, 3% of Clark County farms accounted for 75% of total commodity outputs.
    - Per 2012 results, 1.5% of the farms are large, representing 72% of the total commodity outputs.
    - The loss of large farms corresponds to a loss in commodity totals. In 2007 dollars, the value of agriculture dropped from $62.3 million in 1997 to $52.7 million in 2007, and again to $45.9 million in 2012.

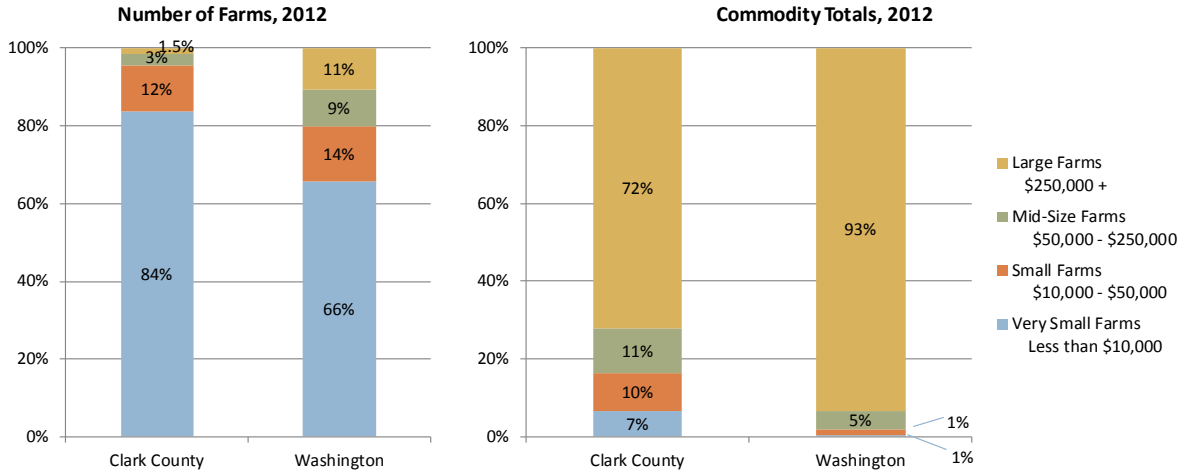
2.2 Trends and Shares in Commodities Values and Acreage

TRENDS IN COMMODITY TOTALS: Commodity totals provide the best measure of farms in terms of economic activity, and trends are examined below. The 2012 Rural Lands Study found that Clark County's prevalence of very small farms producing less than $10,000 in value of commodities is fairly unique in Washington. The 2012 study found Clark County to have the highest proportion of such very small farms in 2007in the state; now, Clark County is the second highest as of 2012, only behind Pend Oreille County. Nevertheless, in Western Washington, Clark County has the highest number of farms that are very small as of 2012.

In terms of mid-size farms and large farms, the 2012 Rural Lands Study found they produce the vast majority of commodity values in the county with relatively few farms considering 2007 data. That finding is still true as of the 2012 Census. See Exhibit B. However, there are fewer large farms than in

2007 and the overall commodity values are lower in 2012 than in prior years (values all adjusted to 2007$).

Exhibit B. Percentage of Farms by Commodity Total (2007$) (RLS Exhibit 7)



Source: U.S. Census of Agriculture, National Agricultural Statistical Service; BERK, 2016.

- Clark County's has the second highest proportion of farms that are "very small" in Washington State only behind Pend Oreille County.
    - Approximately 84% of Clark County farms earn less than $10,000 a year, compared to only 66% statewide. Only 4% of Clark County farms earn more than $50,000 a year, while almost 20% of Washington farms earn at least $50,000.
    - Grouping large and mid-size farms together, 4% of Clark County's farms account for 84% of commodity totals, compared with 20% of Washington farms accounting for 98% of commodity totals. Clark County's very small farms account for a total of 7% of commodity totals while Washington's 66% account for less than 1%.
- Though large farms account for a very small share of total farms, they represent a largest share of commodity totals.
    - In 2012, large farms only accounted for 1.5% of all farms in Clark County but 72% of all commodity totals.
    - In 2012, mid-size and large farms produced $38.4 million in commodities, representing 84% of farm production in the County.

SHARE OF FARMS BY ACRE SIZE: In addition to most farms in Clark County (84%) having commodity totals of less than $10,000, many farms in Clark County are on small acreage. This has become more pronounced in the 2012 Census of Agriculture after the publication of the 2012 Rural Lands Study.

As of the 2012 Census the share of farms sized 1-9 acres has reached 44%, 10% greater than the 34% share observed in 2007. Conversely there has been a decrease in the share of farms sized 10-50 acres, now at 42% of farms rather than the 50% share observed in 2007.

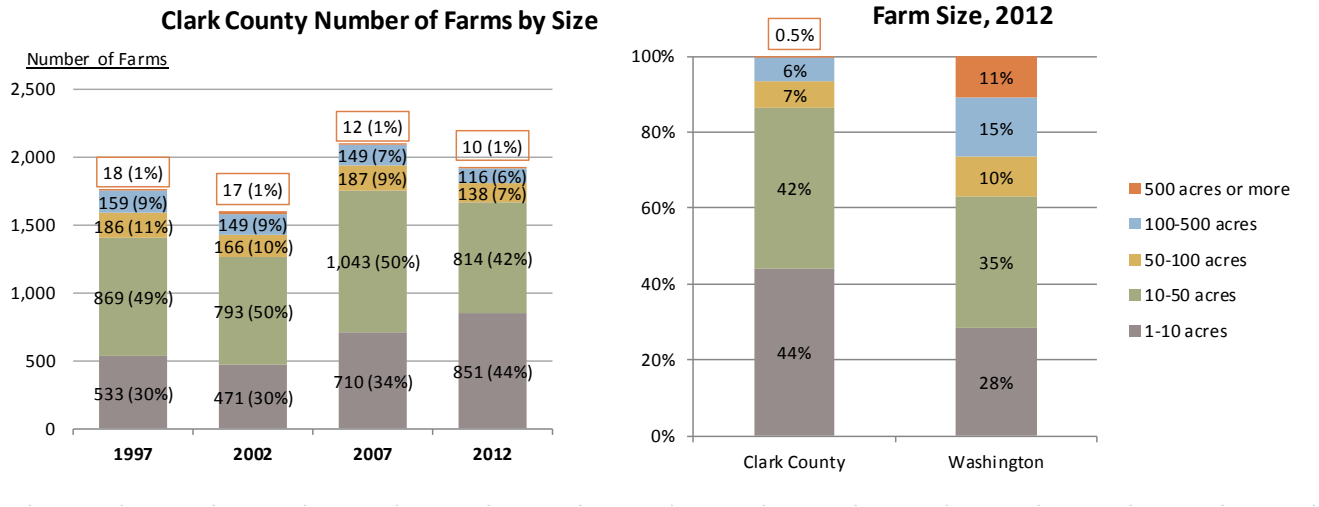
In 2007 the median size of a Clark County farm was 15 acres, compared to the Washington median of 30 acres. In 2012, the median size of a Clark County farm dropped to 10 acres while Washington State's numbers also dropped to 24 acres.

Similar to findings in the 2012 Rural Lands Study Clark County continues to have a greater proportion of small farms compared to Washington State.

The 2012 Census data continue to show a trend towards smaller, urban farms rather than mid-size and larger large farms.

Exhibit C presents the number and percent of farms by number of acres.

Exhibit C. Percent of Farms by Acres (RLS Exhibit 8)



*Land in farms is based on the number of acres reported by farm operators and includes both owned and leased lands. Total farm land for an operation may not be contiguous.

Source: U.S. Census of Agriculture, National Agricultural Statistical Service; BERK, 2012.

- **Clark County farms tend to be small in terms of acres.**
    - Between 1997 and 2007 the percentage of small farms increased by 4%. The percentage of small farms grew by 14% between 1997 and 2012.
        - The most significant change occurred since 2007, where there has been an increase in the percentage of farms sized 1-9 acres, at 44%, an increase of 10% by 2012.
    - About 42% of Clark County farms are between 10 and 50 acres as of 2012, a decrease since 2007 at 50%.
    - There has been a decrease in farms greater than 50 acres between 1997 and 2012.

- Growth in farms has been in the lower scale of acres (10 acres or smaller), while larger farms have declined between 1997 and 2012.

- **Clark County has a greater proportion of small farms compared to Washington State.**
  - Clark County has a greater proportion of farms smaller than 50 acres (86%) than Washington (63%), and many fewer farms larger than 500 acres (less than 1%) than Washington (11%).
  - Between 1997 and 2007, the number of Clark County farms with between 50 and 500 acres stayed relatively constant, with a difference of only nine less farms. However, between 2007 and 2012, the number of large farms decreased by 82 to 254.

- **Farm size reflects urban and suburban land use patterns with agriculture dominated by small-scale operations.**
  - The average size of a Clark County farm in 2007 was 37 acres, compared to the Washington average of 381 acres. The Clark County farm average in 2012 was slightly higher at 39 acres as was the average for Washington State at 396 acres.
  - In 2007 the median size of a Clark County farm was 15 acres, compared to the Washington median of 30 acres. In 2012, the median size of a Clark County farm dropped to 10 acres while Washington State's numbers also dropped to 24 acres. Clark County's numbers are comparable to other, primarily urban counties like Pierce (10) and King (8).
  - Both Clark County and Washington farms have experienced declines in farm size since 2002. Clark County's average farm size was 44 acres in 2002 and now is 39 acres as of 2012. Washington's average farm size was 426 acres in 2002, and now is 396 acres.

CROP TYPES AND COMMODITY TOTALS: Based on either 2007 or 2012 data, the type of commodities prevalent in the County continues to include cattle, crops and hay, poultry and eggs, fruit and tree nuts. As of 2012, vegetables and melons have increased their share of crop types. See Exhibit D, part 1.

As of 2012 there has been a marked drop in commodity values to $45.9 million compared to $52.6 million in 2007 (all in 2007$). This continues a decline in commodities values since 1997 at $62.2 million (similar to 2002 figures). See Exhibit D, part 2 and part 3.

Considering either 2007 or 2012 information, milk and dairy products continue to have the greatest share of commodity values though the number of dairies has dropped from 25 to 9 in that same time frame. Poultry and eggs are another animal product with a significant share of the commodity value in both periods. However, cattle values have increased by 2012.

Exhibit D. Crops by Clark County Farms and Commodity Totals (RLS Exhibit 9)

1. Number of Farms by Commodity Type

	Number of Farms							
Agricultural Products	**1997**	**2002**	**2007**	**2012**	**Percentage Change 2002 and 2007**	**2007 Percentage of Total**	**Percentage Change 2007 and 2012**	**2012 Percentage of Total**
Cattle and calves	838	502	547	476	-35%	24%	-13%	23%
Crops and hay	-	284	429	368	51%	19%	-14%	18%
Poultry and eggs	113	120	309	260	173%	14%	-16%	13%
Fruit, tree nuts, and berries	103	117	215	217	109%	9%	1%	11%
Horses, ponies, mules, burros, and donkeys	-	142	167	112	18%	7%	-33%	5%
Sheep, goats, and their products	-	105	153	108	46%	7%	-29%	5%
Cut Christmas trees and short term woody crops	-	46	69	58	50%	3%	-16%	3%
Hogs and pigs	38	49	62	68	63%	3%	10%	3%
Milk and other dairy products from cows	32	25	25	9	-22%	1%	-64%	0%
Grains, oilseeds, dry beans, and dry peas	-	17	15	25	-12%	1%	67%	1%
Aquaculture	-	4	7	2	75%	0%	-71%	0%
Other animals and animal products (specialty animal)	-	55	83	72	51%	4%	-13%	3%
Vegetables, melons, potatoes, sweet potatoes	-	45	104	176	131%	5%	69%	9%
Nurseries, greenhouse, floriculture, and sod	-	140	98	107	-30%	4%	9%	5%
Total Farms with Sales - Specified Products	1,124	1,651	2,283	2,058	38%		-10%	
Total Farms with Sales Not Specified	1,765	1,596	2,101	1,929	32%		-8%	

Notes Table 9.A:

Sources are the 2002, 2007, and 2012 Census of Agriculture which compares new year to prior year totals. Thus, 2002 Census compared 2002 and 1997 Census totals, and the 2007 Census compared 2007 and 2002 totals. Red Text – The 2012 Census comparing 2012 and 2007 indicated "not available" for these categories in 2007 even though they were reported in the 2007 Census. 2007 Census information is retained.

The total farms with sales of specified products may exceed total farms with sales, not specified, because farms may sell more than one product. Anomalies in 1997 may be expected as this is the first year USDA took over the Census of Agriculture. (Wendy Vance, USDA, Olympia, May 23, 2012).

Reviewing the 1997 Census, the categories were differently titled and led to "not available" or "-" information when 1997 information was reported in the 2002 Census. The total farms with sales in 1997 was originally reported as 1,175, whereas in the 2002 Census the number of farms in 1997 was reported as 1,765

Data is sorted by 2007 number of farms, highest to lowest. In 2012, the order is generally the same except that "vegetables, melons, potatoes, sweet potatoes" appeared to increase above "sheep, goals, and their products."

2. Commodity Type and Totals in 2007 Dollars

	Commodity Totals (in 2007 $)							
Agricultural Products	**1997**	**2002**	**2007**	**2012**	**Percentage Change***	**2007 Percentage**	**Percentage Change 2007 and**	**2012 Percentage**
Milk and other dairy products from cows	$ 18,384,324	$ 10,965,268	$ 11,841,000	$ 13,117,253	-36%	22%	11%	29%
Poultry and eggs	$ 7,729,141	$ 8,103,511	$ 10,640,000	$ 7,020,552	38%	20%	-34%	15%
Fruit, tree nuts, and berries	$ 5,367,639	$ 6,680,124	$ 9,858,000	$ 6,175,269	84%	19%	-37%	13%
Cattle and calves	$ 7,069,006	$ 5,437,685	$ 5,439,000	$ 7,226,455	-23%	10%	33%	16%
Cut Christmas trees and short term woody crops	$ -	$ 1,509,828	$ 2,976,000	$ -	97%	6%	0%	0%
Other crops and hay	$ -	$ 1,762,234	$ 1,798,000	$ 2,469,927	2%	3%	37%	5%
Horses, ponies, mules, burros, and donkeys	$ -	$ 647,728	$ 917,000	$ 676,408	42%	2%	-26%	1%
Grains, oilseeds, dry beans, and dry peas	$ -	$ 212,067	$ 450,000	$ 441,607	112%	1%	-2%	1%
Sheep, goats, and their products	$ -	$ 291,593	$ 342,000	$ 97,533	17%	1%	-71%	0%
Hogs and pigs	$ 117,558	$ 81,830	$ 37,000	$ -	-69%	0.1%	0%	0%
Other crops	$ 23,586,606	$ 27,016,697	$ 8,393,000	$ 8,707,507.88		16%	4%	19%
Total	$ 62,254,274	$ 62,708,565	$ 52,691,000	$ 45,932,510	-15%	100%	-13%	100%

Notes Table 9B: .Legend "-" = not available. 2002 value for horses adjusted to 2007 dollars to match approach to rest of values.
Source: U.S. Census of Agriculture, National Agricultural Statistical Service; BERK, 2012 and 2016.

3. Commodity Type and Totals in 2007 Dollars

	Commodity Value per Farm (in 2007 $)					
Agricultural Products	**1997**	**2002**	**2007**	**2012**	**Percentage Change 1997-2007***	**Percentage Change 2002-2012**
Milk and other dairy products from cows	$ 574,510	$ 438,611	$ 473,640	$ 1,457,473	-18%	232%
Poultry and eggs	$ 68,399	$ 67,529	$ 34,433.66	$ 27,002	-50%	-60%
Fruit, tree nuts, and berries	$ 52,113	$ 57,095	$ 45,851	$ 28,457	-12%	-50%
Cattle and calves	$ 8,436	$ 10,832	$ 9,943	$ 15,182	18%	40%
Cut Christmas trees and short term woody crops	$ -	$ 32,822	$ 43,130	$ -	31%	0%
Other crops and hay	$ -	$ 6,205	$ 4,191	$ 6,712	-32%	60%
Horses, ponies, mules, burros, and donkeys	$ -	$ 4,561	$ 5,491	$ 6,039	20%	10%
Grains, oilseeds, dry beans, and dry peas	$ -	$ 12,475	$ 30,000	$ 17,664	140%	-41%
Sheep, goats, and their products	$ -	$ 2,777	$ 2,235	$ 903	-20%	-60%
Hogs and pigs	$ 3,094	$ 1,670	$ 597	$ -	-64%	0%
Total	$ 35,271.54	$ 39,291.08	$ 25,079.01	$ 23,811.57	-29%	-39%

Notes Table 9.C:*Percentage change is between 2002 and 2007 when there is no 1997 data. Legend "-" = not available.
Source: U.S. Census of Agriculture, National Agricultural Statistical Service; BERK, 2012 and 2016.

- **Many Clark County farms have livestock of some sort.**
    - Cattle and calves are the agricultural product found on the largest number of Clark County farms. 23% of Clark County farms produce cattle and calves.
    - The number of farms with Poultry and egg products more than doubled between 1997-2007. Though it has dropped by 49 farms, in 2012 it was still more than twice the 1997 or 2002 total.
- **Fruit, tree nuts, and berries and cut Christmas trees make up the largest non-livestock portion of Clark County farms.**
    - The number of Clark County farms growing fruit, tree nut, and berry products has doubled since 1997.The number of farms growing cut Christmas trees and short term woody crops has grown by 26%.
- **Milk products make up the greatest commodity totals of Clark County farms.**
    - Despite making up only 1% of Clark County's farms, farms that produce milk and other dairy products from cows brought in almost $13.1 million, or 29% of 2012 commodity totals (in 2007$) .
    - The total is down substantially from 1997, though there were 23 additional farms producing milk in 1997. The commodity total figure has grown slightly from 2002 though there are now fewer farms.
- **Other livestock-related products (cattle and calves and poultry and eggs) brought in approximately 31% of Clark County's commodity totals in 2012.**
    - Poultry and eggs contributed $7 million in value in 2012 (in 2007 dollars), or 15% of 2012 commodity totals (and make up only 13% of farms). Similarly cattle and calves are at just over $7.2 million (in 2007 dollars), or 13% of 2012 commodity totals (making up 23% of Clark County farms).
- **Fruit, tree nuts, and berries contribute 13% of commodity totals despite only representing 11% of farms.**

2.3 Farm Composition and Tenure

The Census of Agriculture provides information about the composition of farms – family versus corporate owned, as well as demographic characteristics such as age, sex, and income sources.

- There is a continuing trend of farms being family owned – over 90% in both 2007 and 2012. There is a very small percentage that are corporate owned in either period. See Exhibit E.
- Reflecting a family-operated trend in farming, a high proportion of farmers live on farm at about 90% in either 2007 or 2012.

- There is a greater reliance of farmers to have non-farm jobs. Though about one-third solely rely on their on farm income in both 2007 and 2012 periods, about 48% of farmers worked more than 100 days off farm in 2007, rising to 52% in 2012.
- The proportion of farmers over 55 years of age has increased from more than half to two-thirds between 2007 and 2012.

Exhibit E. 2007 and 2012 Farm Typology (RLS Exhibit 13)

	2007				2012			
Type of Farm	Farms	Percent	Acres	Percent	Farms	Percent	Acres	Percent
Land in Farms	2,101	100%	78,359	100%	1,929	100%	74,758	100%
Family or individual	1,896	90%	67,185	86%	1,678	87%	60,254	81%
Partnership	107	5%	6,668	9%	117	6%	8,191	11%
Corporation \ Family-held	70	3%	3,022	4%	71	4%	2,966	4%
Corporation \ Other than family held	3	0.1%	-	-	9	0%	917	1%
Other - cooperative, estate or trust, institutional, etc.	25	1%	-	-	54	3%	2,430	3%

Source: U.S. Census of Agriculture, National Agricultural Statistical Service; BERK, 2012.

- **Most farms in Clark County are family- or individual-owned.**
  - Approximately 93% of Clark County farms are family farms (e.g. owned by families, individuals, or family-held farm corporations). In 2012, only nine farms were owned by non-family-held corporations.
- **Most operators have their place of residence on farm:**
  - 2007: 89%
  - 2012: 90%
- **Farm operators tend to be older.**
  - As of 2007, more than half of farm proprietors are 55 years or older (1,136 farms, 54%), with 18% (377 farm operators) being older than 70 in 2007. Only 4% (85 operators) of farm operators were younger than 35 in the same year.
  - By 2012, the percentage of farm operators that were 55 years or older has risen to about two-thirds (1,261, 65%). About 21% of operators are 70 years or older (404 farms), while 4% of farmers were less than 35 years old (78 farms).
- **Clark County farmers typically have off-farm jobs.**
  - That farmers tend to have non-farm occupations as their primary has been fairly consistent since 1997. In 1997, 67% of Clark County farmers had a non-farm primary occupation. In 2007, 61% of farmers had a primary occupation other than farming while 65% of farmers have a non-farm primary occupation as of 2012.

- Only 32% of Clark County farmers did not work any days off their farm in 2007 rising slightly to 35% by 2012. Those working up to 99 days off-farm included 19% in 2007 falling to 13% in 2012. 48% of farmers worked more than 100 days off farm in 2007, rising to 52% in 2012.

- In 2012, Statewide, 47% of farmers are principally engaged in farming, which is slightly higher than 46% in 2007.

- **Farmers tend to be male, though the number and percentage of female farm operators is growing.**

  - In 2007 and 2012, about 23% of all farm operators were female. The number of female farm operators has increased 75% between 1997 and 2007 while the number of male farm operators has increased 9% over the same period. By 2012, the number of either male or female operated farms dropped, but the proportion of female operators is essentially the same as 2007.

2.4 Location and Spatial Patterns of Agriculture

Both the USDA Agriculture Census and Clark County Assessor's data do not provide geospatial specific locations of the actual land being farmed and the nature of the farming. The best information about the location of farming (and type) can be gleaned from a synthesis of the Current Use Taxation Program and Washington State Department of Agriculture's (WSDAs) Crop Use data (

Exhibit F). This location-specific mapping of farm fields and crop type is new since the 2012 Rural Lands Study.

PREVALENT CROP TYPES: The Census of Agriculture 2012 reported Clark County had a total of 74,758 acres in farms. WSDA maps the extent of agriculture based on field visits and aerial photography, identifying more exact boundaries of fields and facilities that are independent of parcel lines. WSDA's detailed and local inventory dated 2015 found about 27,443 acres in agriculture in Clark County. This is similar to the 2012 Census report of total cropland at 28,986 acres.

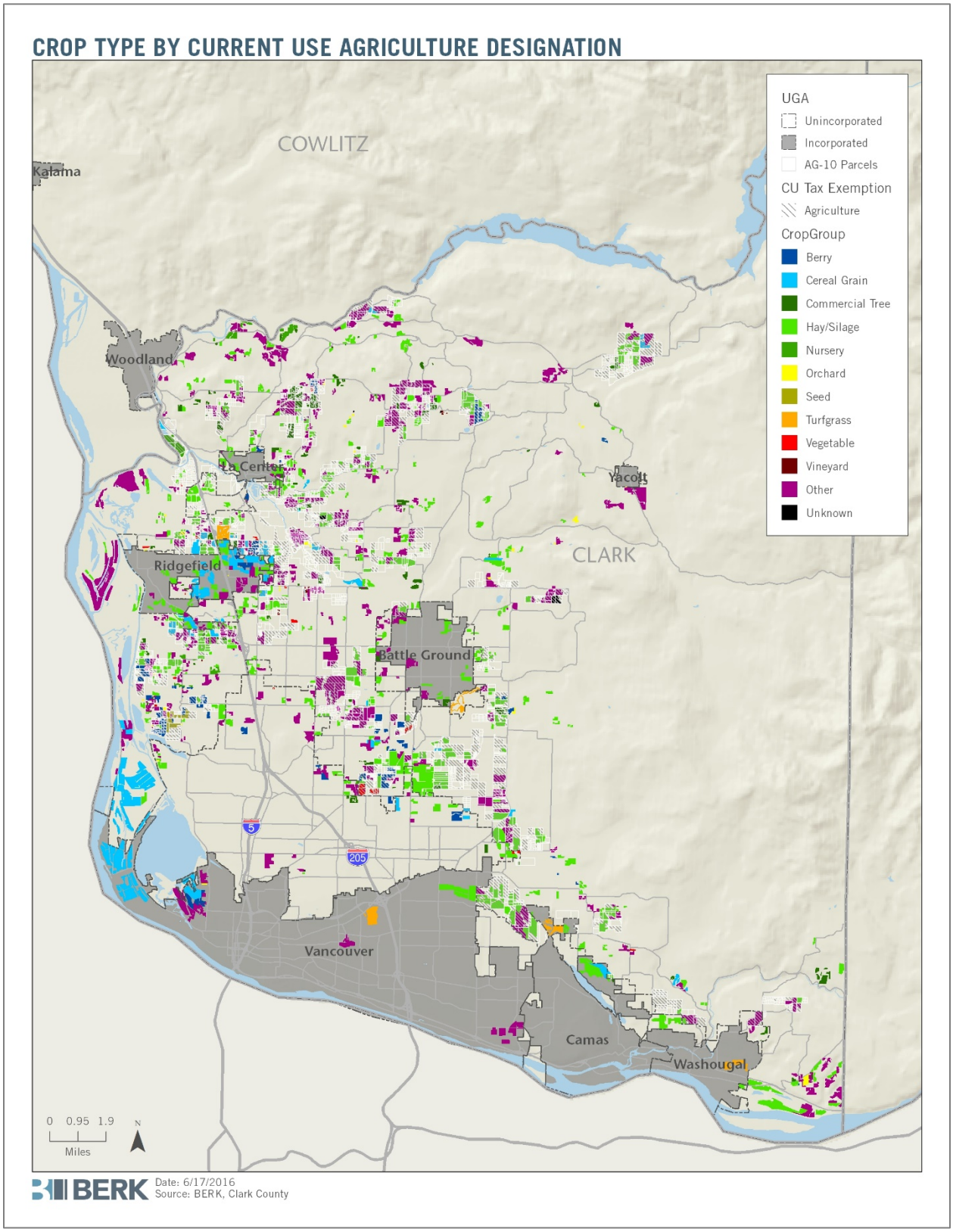
The mapped WSDA information shows hay/silage, cereal grains, and "other" (pasture, fallow, commercial trees, etc.)[2] are the predominate corps in Clark County by section acreage. Per Exhibit F, much of the land in active agricultural use is located in unincorporated areas and is zoned Rural as well as AG (currently AG 20, proposed AG 10).

This pattern of small farms being found in both the Rural and AG zoned areas is similar to findings in 2012 Rural Lands Study. That study identified the diversity in location and type of agriculture across the County, and found that a diverse set of small farms and enterprises are increasingly becoming part of the rural landscape. Per the Census of Agriculture results, very small and small farms that produce little income, are mostly supported with non-farm income. Many farmers in this category farm for non-market reasons and may be willing to farm at a loss, given unpaid farm labor within these households. The growing demand for local produce and increasing market share of CSAs presents farms in these

[2] Other includes: Pasture, Market Crops, Fallow, Silviculture, Christmas Trees, Wildlife Feed, CRP/Conservation, and Developed.

categories with opportunities to generate additional income. Many of these farms also host other co-located rural business that may, or may not, be related to agricultural production.

Exhibit F. Crop Type by Current Use Agriculture Designation (RLS Exhibit 16)



Source: BERK, 2016.

AG 10 AND WSDA AGRICULTURAL INVENTORIES: Given onsite development or other non-productive rural uses (e.g. dwellings, manicured lawns associated with dwellings, etc.) there is a greater area zoned AG and a lesser area inventoried by WSDA in agricultural use. WSDA inventoried acres make up between 15-27% of the AG 10 zone area. See Exhibit G.

Exhibit G. AG 10 Zone, State Agricultural Inventory Acres

AG Zone Parcel Size Range	Number of Parcels	Percent of Total Parcels	AG Zone Parcel Acres	Housing Units	WSDA Agriculture Inventory Acres	Percent WSDA Agricultural Inventory of Parcel Acres
<=5 Acres	1,152	44%	3,138	858	461	15%
5-10 Acres	609	23%	4,021	443	729	18%
10-20 Acres	432	16%	7,049	288	2,070	29%
20+ Acres	447	17%	17,902	284	4,890	27%
Total	**2,640**	**100%**	**32,111**	**1,873**	**8,150**	**25%**

Source: WSDA 2015, Clark County Assessor 2016, BERK Consulting 2016

PREVALENT LOT SIZES AND HOMESITES: Most AG zone parcels are less than 5 acres in size (44%). About 67% are less than 10 acres in size. There are properties in contiguous common ownership, which would contribute to effectively larger parcels than considering parcels individually. However, many of the lots in common ownership have homes, and likely house family members or may be sold individually. See Exhibit H and Exhibit J illustrating acres and contiguous ownership.

Exhibit H. Parcels Less than 20 Acres – Contiguous Ownership (RLS Policy Table 2)

Parcel Size Range	AG Zoned Parcel Count	AG Zoned Acres	WSDA Agriculture Inventory Acres	Sum of Dwelling Units	Percent of Lots with Dwelling Units
<=5	1,152	3,138	461	858	74%
-	863	2,413	315	759	88%
Contiguous	289	725	146	99	34%
10-20 Acres	432	7,049	2,070	288	67%
-	295	4,821	1,315	235	80%
Contiguous	137	2,228	755	53	39%
20+ Acres	447	17,902	4,890	284	73%
-	291	11,426	3,127	233	90%
Contiguous	156	6,476	1,762	51	27%
5-10 Acres	609	4,021	729	443	64%
-	443	2,909	444	398	80%
Contiguous	166	1,112	285	45	33%
Grand Total	**2,640**	**32,111**	**8,150**	**1,873**	**71%**

Source: Clark County GIS; BERK 2011

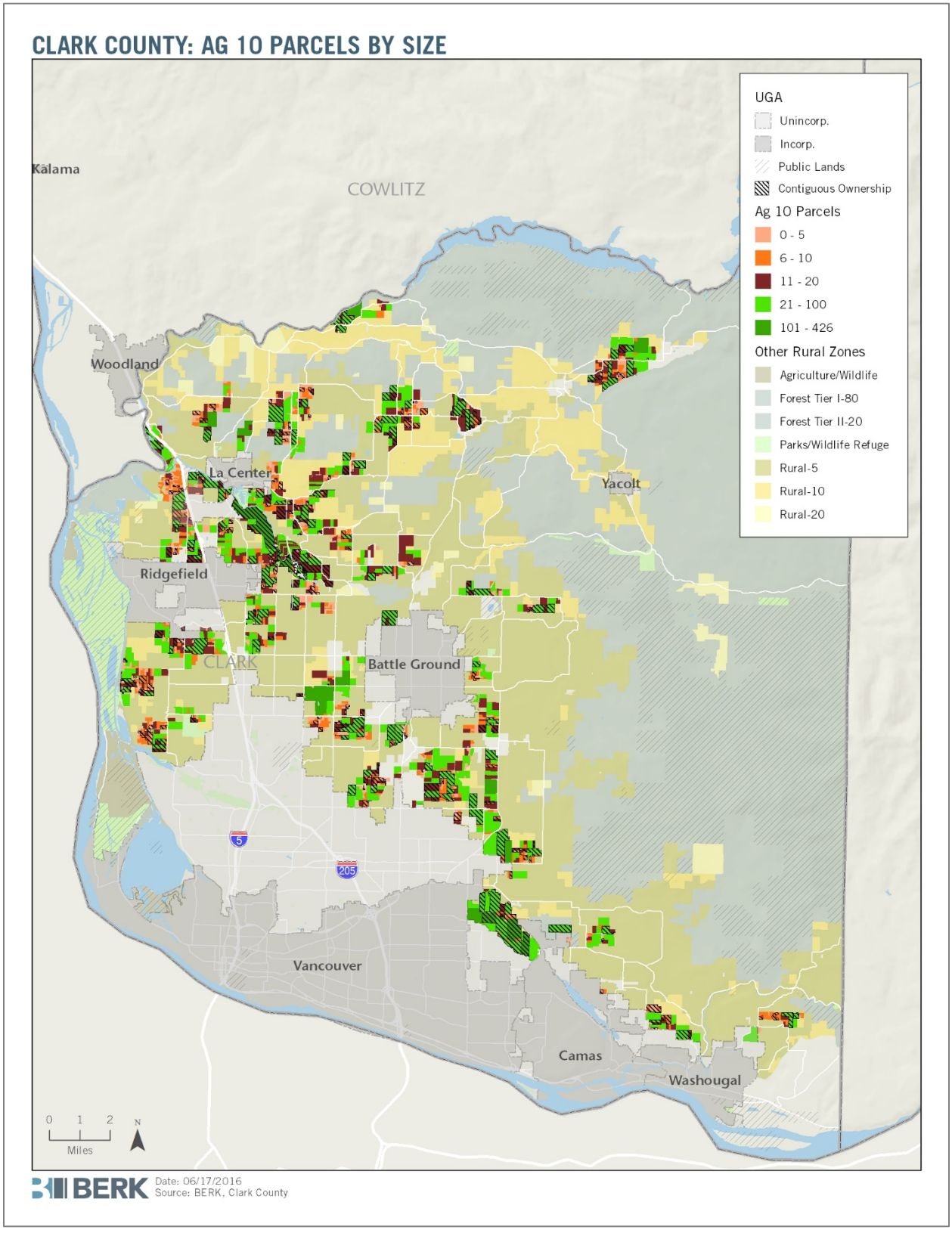
Similar to findings in the Rural Lands Study, the median parcel size in the AG zone is 5.1 acres. The median parcel size for properties in current use taxation is 18.9 acres, smaller than estimated in the Rural Lands Study, which was 21.4 acres. See Exhibit I.

Exhibit I. Median Parcel Sizes in Agriculture Zone (RLS Policy Table 1)

Size	# of Parcels	Acres	Median Parcel Size
Total Parcels/Acres	2,640	32,111	5.1
In Current Use Agriculture	819	17,002	18.9

Source: Clark County 2011

Exhibit J. AG Zone Parcel Size Map (RLS Policy Appendix B)



Source: Clark County Assessor, BERK Consulting 2016

2.5 Agricultural Criteria

Clark County designated agricultural lands of long-term commercial significance in 1994 and revisited the designations in 1998 making some adjustments of properties called Agri-forest at the time. The County's designation of AG was upheld by the Growth Management Hearings Board. The Growth Management Act provides guidelines for classification of resource lands in RCW 36.70A.050, and the Washington State Department of Commerce further defines them in Chapter 365-190 WAC. A summary of the criteria is shown in Exhibit K, along with a broad summary of conditions in the AG 10 zoned properties.

Exhibit K. Agricultural Criteria – Lands of Long-Term Commercial Significance for Agriculture

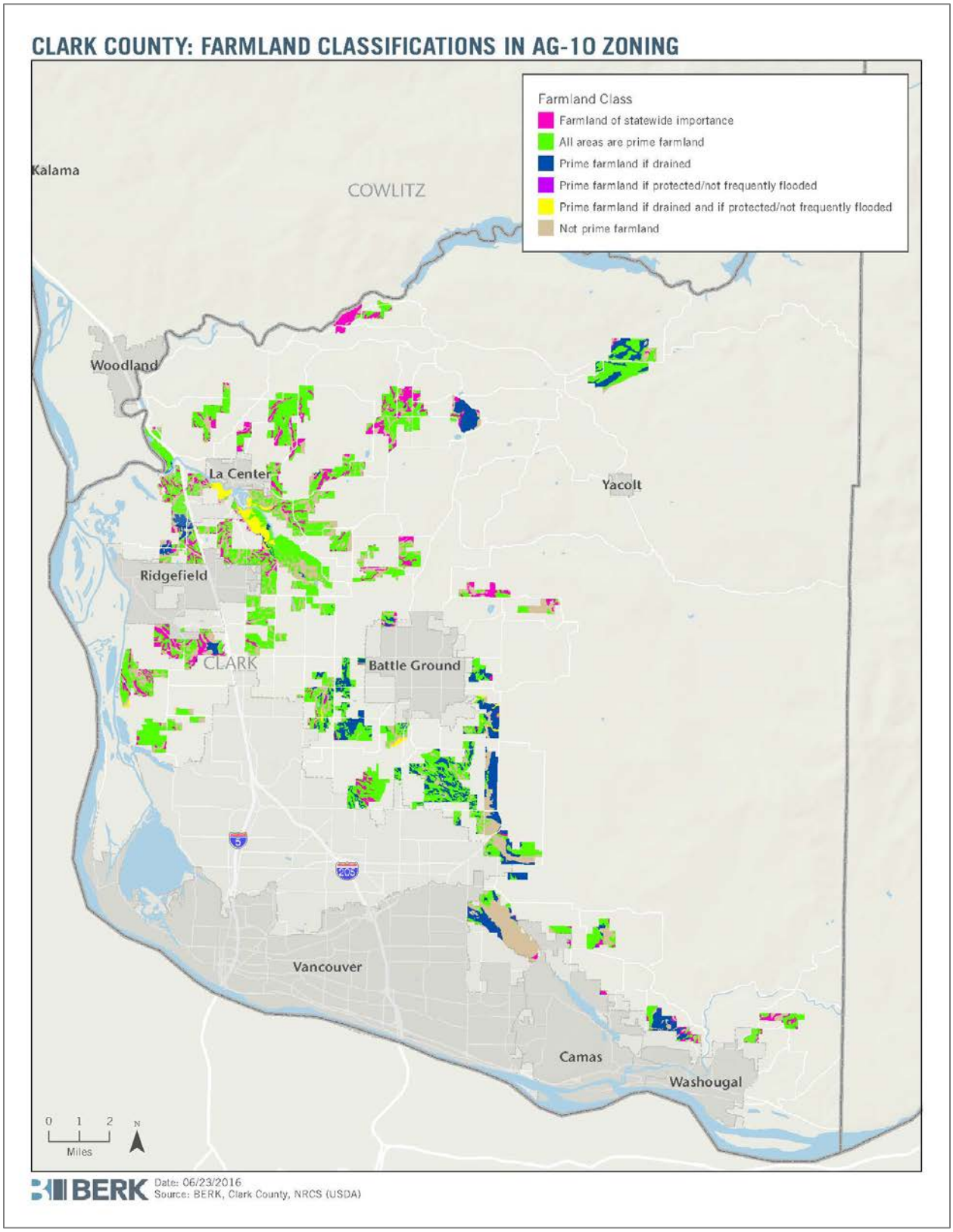
<table>
<tr><th>WAC 365-190-050 Criteria Summary</th><th>AG 10 Zone Characteristics</th></tr>
<tr><td>Areawide analysis conducted</td><td>The County conducted an areawide analysis in 1994 and 1998.</td></tr>
<tr><td>Regulations conserving agriculture adopted</td><td>Regulations allow agriculture in all zones and conserve AG designated lands.</td></tr>
<tr><td>Not already characterized by urban growth</td><td>Clark County has a prevalence of family owned farms on AG properties of 5-20 acres in size or larger. Most farmers live onsite and produce agriculture onsite based on 2012 Census of Agriculture information. The lands are not developed at an urban density.</td></tr>
<tr><td>Used or capable of being used for ag. production</td><td>Indicators of agricultural use include the WSDA inventory showing that half to a third of AG zoned sites have inventoried fields. More than half of the AG acreage is in current use taxation (see Exhibit I).</td></tr>
<tr><td>Land-capability classification</td><td>About two-thirds of the AG 10 land is in land capability classes of 1, 2, or 3. Some of the other lower capability classes are found, but are actively being farmed (e.g. Anderson dairy east of Vancouver located in floodplain). Acreages below are a little smaller than the total AG zone since it is based on parcels and exclude water or roads.
Ag-10 Zoning: Non-Irrigated Soils (Parcel Acres)
<table>
<tr><th>Non-Irrigated Soils</th><th>Acres</th><th>Percent</th></tr>
<tr><td>Non-Irrigated Class 1</td><td>2,121</td><td>7%</td></tr>
<tr><td>Non-Irrigated Class 2</td><td>6,918</td><td>22%</td></tr>
<tr><td>Non-Irrigated Class 3</td><td>10,764</td><td>35%</td></tr>
<tr><td>Non-Irrigated Class 4</td><td>1,328</td><td>4%</td></tr>
<tr><td>Non-Irrigated Class 5</td><td>242</td><td>1%</td></tr>
<tr><td>Non-Irrigated Class 6</td><td>7,833</td><td>25%</td></tr>
<tr><td>Non-Irrigated Class 7</td><td>1,388</td><td>4%</td></tr>
<tr><td>Non-Irrigated Class 8</td><td>153</td><td>0%</td></tr>
<tr><td>Non-Applicable</td><td>220</td><td>1%</td></tr>
<tr><td>Total (Parcel Acres)</td><td>30,968</td><td>100%</td></tr>
</table></td></tr>
<tr><td>Classification of prime and unique farmland soils</td><td>About two thirds of the AG property are prime farmland or prime farmland if drained or protected from flooding. Another 10% is farmland of statewide importance. See Exhibit L.</td></tr>
<tr><td>Availability of public facilities, including roads used in transporting agricultural</td><td>AG zoned properties lie along roads that may be used to transport goods. See Exhibit J.</td></tr>
</table>

WAC 365-190-050 Criteria Summary	AG 10 Zone Characteristics
products	
Tax status, including current use tax assessment	More than half of the AG acreage is in current use taxation (see Exhibit I).
Availability of public services	AG zoned properties have access to police, fire, parks, and schools across the county. Response times for emergency services are potentially greater in the further reaches of the county.
Relationship or proximity to urban growth areas	The AG zoning is applied to properties surrounding urban growth areas, particularly LaCenter, Ridgefield, Battleground, and Vancouver. See Exhibit J.
Predominant parcel size	The median parcel size is 5.1 acres. About 44% of parcels are less than 5 acres and another 39% are 5-20 acres in size. Some land is in contiguous ownership. See Exhibit G and Exhibit H.
Land use settlement patterns and their compatibility with agricultural practices	Typically AG zoned property abuts Rural zoned property. Per the current use taxation program and the WSDA inventories, agriculture is often occurring in Rural zoned land as well as AG zoned land, which is compatible in use. See Exhibit F. In some cases AG land directly abuts UGAs where there would be a greater intensity of use in UGAs.
Intensity of nearby land uses	See land use settlement criteria above.
History of land development permits nearby	Based on a review of Clark County GIS information online, building, site plan, and subdivision permits are more prevalent in UGAs than in unincorporated lands due to the greater population and parcels with the UGAs. (http://gis.clark.wa.gov/mapsonline/)
Land values under alternative uses	Land values for non-agricultural uses are greater than for agricultural uses. Thus, more than half of the AG zoned property owners participate in the current use taxation program (see Exhibit I).
Proximity to markets	AG zoned properties lie in proximity to several communities including Vancouver, Battleground, LaCenter, Ridgefield, and others. See Exhibit J.
May consider food security, local food, artisans	In Clark County the number of small farms has been increasing over time, and represents more intensive, value-added, urban-oriented farming. The Clark County Food System Council addresses food security in the County and is promoting the use of locally grown food. As noted in Section 3.2, Clark County has high numbers of farms participating in CSAs and selling directly to consumers. Clark County had 39 farms that marketed products through community supported agriculture (CSA). This is the second highest in the state after King County with 46 farms marketing through CSAs. Clark County had 141 farms that produced and sold value-added commodities, third highest in the state after Yakima (187) and King (163).
Designating agricultural resource lands sufficient to maintain and enhance the economic viability of the ag. industry in County over long-	The number of Clark County farms has increased since 1997. While most farms in Clark County are small in terms of value of output or size, they represent a local food network. See food security discussion above. Measures to address the needs of farmers (e.g. access to farmland and homes) while protecting the land base (e.g. clustering or building envelope criteria) would help retain

WAC 365-190-050 Criteria Summary	AG 10 Zone Characteristics
term	agriculture uses on the land. See Sections 3.1 and 3.2 for more information.

Source: BERK Consulting 2016

Exhibit L. Prime Farmland – AG 10 Zone



Source: Clark County Community Planning, NRCS USDA, BERK Consulting 2016

2.6 Trends in Forestry

The location of forestry can be gleaned from a synthesis of the Current Use Taxation Program and the County's forest land use designation (Exhibit M). Most of the County's designated land of long-term commercial significance is identified as Forest Tier I and has a zoning standard of 80-acre lots.

Most of the County's Forest Tier II – currently 40 acres and proposed at 20 acres in the Forest 20 zone – applies to properties with smaller lot size. Most of the Forest 20 lots are less than or equal to 20 acres in size (89%), and most of the Forest 20 lots have homes on them. See Exhibit L.

Exhibit M. Distribution of Parcel Sizes in Forest 20 Zones

Size	Number of Parcels	Percent of Total Number Parcels	Parcel Acres	Percent of Total Parcel Acres	Housing Units	In Current Use Timber	In Current Use Designated Forest Land
<=5 Acres	2,514	63%	3,056	10%	1,312	54	48
5-10 Acres	640	16%	4,214	13%	432	178	57
10-20 Acres	417	10%	6,543	21%	227	187	64
20+ Acres	446	11%	17,980	57%	227	98	182
Total	**4,017**	**100%**	**31,792**	**100%**	**2,198**	**517**	**351**

Source: Clark County Assessor, BERK Consulting 2016

There is limited information about the size of a commercially viable forest holding. The State of Washington Department of Natural Resources and Department of Revenue tracks revenues on stumpage from forest harvest and considers small private holdings to be less than 5,000 acres. The Washington State Department of Natural Resources notes that small forest landowners own 3.2 million acres of Washington forests[3] – about half the private forestland in the state. The State has a program for Small Forest Landowners that have produced less than average timber volume of two million board feet per year stumpage over a 3-year period. Access to programs that offer funding require a property of at least 10 acres in size for stewardship activities or more than 20 acres for the forestry riparian easement program.

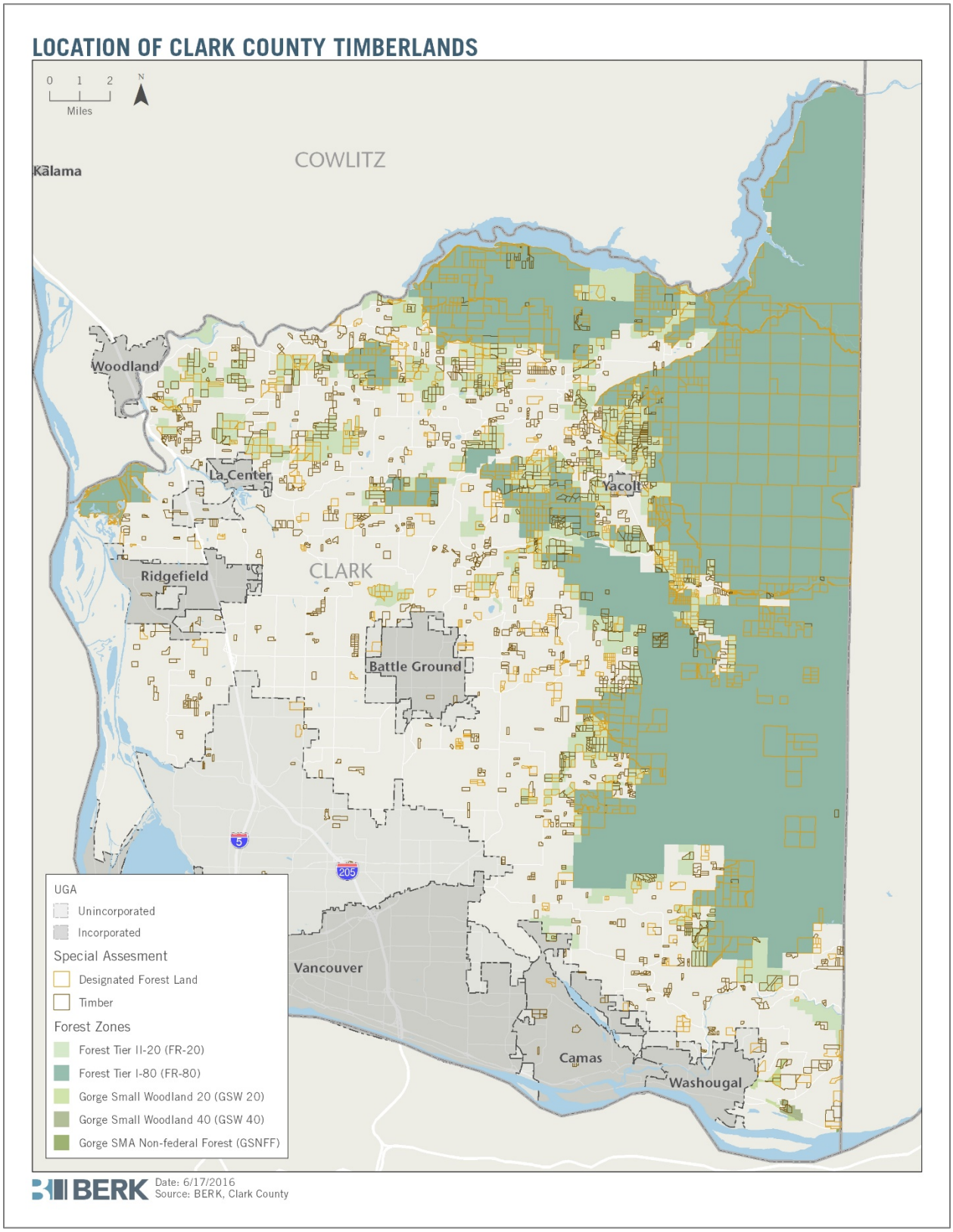
About 22% of all Forest 20 parcels are in current use taxation, per Exhibit L, allowing lower taxes for maintaining the land in forestry; per Exhibit M, the parcels in current use taxation that are designated as forest lands are extensive.

The current use taxation program criteria for either timberland or designated forestland is based on the following size and character of forest lands: Have a minimum of 5 contiguous acres in the same ownership, not including any residential home sites, be actively growing timber for commercial harvest, and be compliant with forest practice laws and regulations.

The minimum current use taxation program acreage is 5 acres. It was reduced from 20 acres to 5 acres in 2014 legislation.

[3] See website: http://www.dnr.wa.gov/sflo.

Exhibit N. Location of Clark County Timberlands (RLS Exhibit 22)



Source: Clark County Assessor, 2016; BERK, 2016.

There are criteria for designation of forestland as of long-term commercial significance under State rules (WAC 365-190-060).

The other criteria include, in summary:

- In classifying and designating forest resource lands, counties must approach the effort as a county-wide or regional process.
- Lands should be designated as forest resource lands of long-term commercial significance based on three factors:
    - The land is not already characterized by urban growth.
    - The land is used or capable of being used for forestry production.
    - The land has long-term commercial significance; this includes determining which land grade constitutes forest land of long-term commercial significance, based on local physical, biological, economic, and land use considerations. However, the presence of lower private forest land grades within the areas of predominantly higher grades need not preclude designation as forest land.
- Counties and cities must also consider the effects of proximity to population areas and the possibility of more intense uses of the land:
    - The availability of public services and facilities conducive to the conversion of forest land;
    - The proximity of forest land to urban and suburban areas and rural settlements: Forest lands of long-term commercial significance are located outside the urban and suburban areas and rural settlements;
    - The size of the parcels: Forest lands consist of predominantly large parcels;
    - The compatibility and intensity of adjacent and nearby land use and settlement patterns with forest lands of long-term commercial significance;
    - Property tax classification – current use assessment;
    - Local economic conditions which affect the ability to manage timberlands for long-term commercial production; and
    - History of land development permits issued nearby.
- Counties and cities may also consider secondary benefits from retaining commercial forestry operations. Benefits from retaining commercial forestry may include protecting air and water quality, maintaining adequate aquifer recharge areas, reducing forest fire risks, supporting tourism and access to recreational opportunities, providing carbon sequestration benefits, and improving wildlife habitat and connectivity for upland species.

A primary criteria is related to soil capabilities. Much of the County has the appropriate ratings for forestland. See Exhibit O. About 20% of parcels representing significant acreage is in current use taxation (see Exhibit L and Exhibit M). Much of the designated forest land is located further east of the settled areas of the county. Regarding parcel size, the County is retaining larger parcel sizes for Tier I land, and is considering changing the Forest 40 to Forest 20. This acreage size is in the range considered by other counties, as described further in Section 3.3. Some counties address clustering and other techniques to allow the continuation of forestry activities. As described above, the State offers assistance to smaller forestry owners to encourage stewardship. The combination of criteria in the rules led to the designation of forestland in the Comprehensive Plan in 1994 as updated in 1998, and conditions are similar today.

Exhibit O. Soil Capabilities for Forest Use

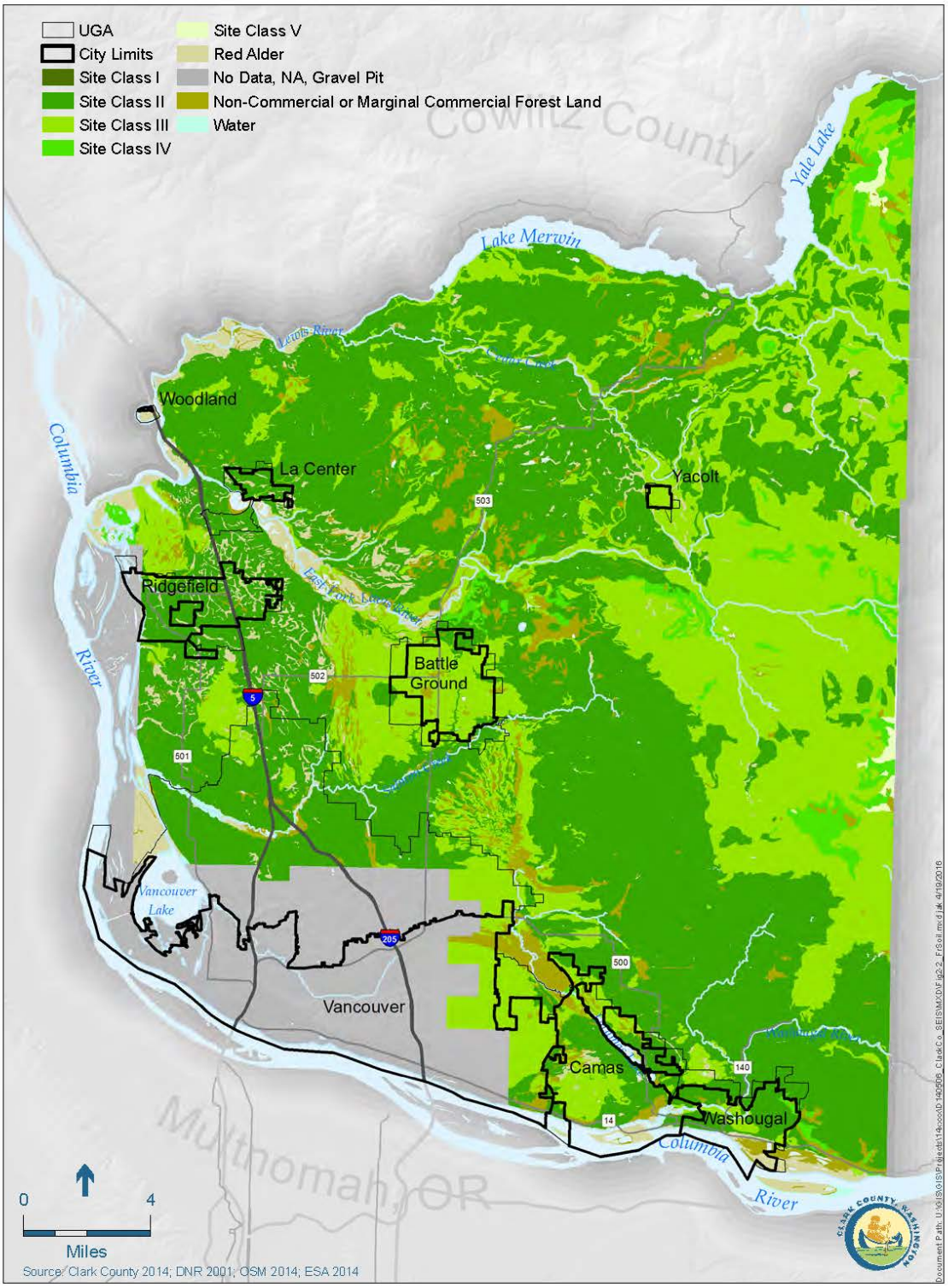


Figure 2-2: Soil Capabilities for Forest Use

Source: Clark County Comprehensive Plan Update, Final SEIS, April 2016

II. LITERATURE REVIEW AND EXAMPLE COUNTIES PROVIDING REGULATORY SUPPORT FOR PRODUCERS

3.0 PURPOSE AND BACKGROUND

The Rural Lands Study also included an analysis examining the County's rural and resource lands policy objectives, Growth Management Act (GMA) parameters, and other planning examples that, together with the market assessment offered some possible policy and code development options. Policy options included a variety of tools such as homesteading, clustering, and others.

Part II of this supplemental analysis updates the status of rural and resource conservation tools by example counties. This part of the issue paper also involves a brief review of existing reports or literature regarding the economic need to support agriculture with a resident population (residents on the agricultural land); and the relationship of smaller agricultural operations and proximity to urban markets (farm to market, etc.).

3.1 Agricultural Zoning

Example Counties in Washington State

Western Washington Counties addressing agricultural activities are highlighted below in Exhibit N. All counties have a median farm size of 20 acres or less, with particularly populous counties such as Pierce, King, and Snohomish having median farm sizes of about 10 acres similar to Clark County. These latter counties have minimum agricultural zone parcel sizes of 10 acres. All but Skagit County allow residential uses. Most have lot or building standards designed to protect agricultural soils and agricultural activities (King, Snohomish, Skagit, and Whatcom Counties) such as through building siting standards, lot depth/width standards, land use restrictions, or lot aggregation requirements. Pierce, Skagit, and Whatcom Counties allow or require clustering.

Exhibit P. Example County Regulations in Agricultural Zones – Western Washington

County	2012 Median [Average] Farm in Acres	Agricultural Zoning– Min. Lot Size (Acres)	Dwellings Allowed	Lot / Building Standards Promoting Farming	Clustering
Clark County **2015 Pop: 451,820**	10 [39]	20	Yes	Not required. Building envelope siting criteria are under consideration.	Clustering not allowed on Resource Lands. Reconfiguration of nonconforming lots is allowed on AG zoned land but is not required.
Pierce County **2015 Pop: 830,120**	10 [33]	10	Yes	Not required. Policies call for reduced or eliminated processing fees for subdivisions for the purpose of recombining substandard lots.	Clustering allowed on most ARL lands. Residential density may be increased to a max. of 1 DU / 5 acres on properties of 20 acres +. Max 10 lots per cluster; only 1 lot may be greater than 1 acre (limited to 10% impervious).

County	2012 Median [Average] Farm in Acres	Agricultural Zoning– Min. Lot Size (Acres)	Dwellings Allowed	Lot / Building Standards Promoting Farming	Clustering
King County **2015 Pop: 2,052,800**	8 [25]	10, 35	Yes	Standards include a Maximum Lot Depth/Width Ratio of 4 to 1 to promote farming and avoid homes on long narrow lots.	Clustering not allowed on AG Resource Lands.
Snohomish County **2015 Pop: 757,600**	10 [49]	10	Yes	New lot can be less than 10 acre standard if exclusively agriculture use. New dwellings on existing legal lots within farmlands or on parcels adjacent to farmlands allowed; require a resource protection area easement on balance. Lot consolidation required for three or more contiguous lots created prior to 1957.	Clustering not allowed on AG Resource Lands. Required on Rural lands adjacent to designated local or commercial farmland.
Skagit County **2015 Pop: 120,620**	20 [99]	40	No, unless certified as a legal lot prior to 2005.	Siting criteria required in Agricultural zone. Addresses onsite and offsite compatibility. Limits development to 1 acre in extent.	Clustering allowed.
Whatcom County **2015 Pop: 209,790**	16 [68]	Agriculture: 40 Agriculture Protection Overlay: 5, 10, 20	Yes on lot of record.	Required to consolidate adjacent tracts in same ownership. APO has onsite siting criteria for clustered lots.	Clustering required on Rural lands with Agriculture Protection Overlay (cluster on 25% of land). Clustering under consideration on Resource lands. Homesteads allowed on AG 40 properties: A farmstead parcel between 1 and 3 acres in size can be established by boundary line adjustment or agricultural short plat to recognize an existing home, plus accessory structures. There can be no increase in allowable density and the remaining non-residential lot cannot be further subdivided (a note must be recorded).

Source: Code Publishing Co. or County-published Codes, BERK Consulting 2016

Some of the example counties are in the midst of addressing agricultural resource lands policy and zoning issues, including:

- In 2016, the Pierce County Council authorized funding a study of agriculture and ARL "conducting an evaluation and providing a report on agricultural land in Pierce County that has long-term significance for the commercial production of food or other agricultural products." It may lead to remapping of ARL land since tasks include looking at the County's mapping criteria that address

parcel size and yield. It also includes elements similar to the Clark County Rural Lands Study in terms of looking at the market economics and conducing qualitative outreach with farmers.

- Much of Whatcom County's resource land base is designated for AG-40, allowing 40 acre lots. However, to achieve the County's goals of an agricultural industry of 100,000 acres or more, the County has protected agriculture on smaller Rural zoned lots through an Agricultural Production Overlay (APO) zone. Recently, the County has been considering whether to rezone these Rural / APO zoned lots to Agriculture zones allowing smaller lot sizes more consistent with the patterns observed in the area. In 2015 and 2016, Whatcom County evaluated these as Rural Study Areas (RSAs). The County may consider rezoning these RSAs (comprising 21,950 acres) from their respective Rural Districts (R-5A and R-10A) to Small Lot Agriculture Districts (Ag-5 or Ag-10) at densities higher than the County's current Agriculture Zone (Ag-40). The Small Lot Agriculture District is anticipated to add heightened protection to these productive agricultural areas by: 1) reducing the types and number of non-agricultural uses and increasing the types and number of permitted agricultural uses in these areas; and 2) reducing the likelihood of the affected parcels being taken out of agricultural use by rezoning them to increase residential density in the future.

Other National Examples

The issue of balancing an allowance for home sites and agriculture is a common one across the country. Two examples of how that balance is achieved are presented below.

WISCONSIN. The Wisconsin Farmland Preservation Program is designed to help local governments and landowners preserve agricultural land, minimize conflicting land uses, and promote soil and water conservation. Owners of farmland who participate in the program receive an income tax credit incentive. Model zoning ordinances identify how a local government can craft regulations that are certified to meet the provisions of the state program. Generally, the model ordinances allows residences for farmers, and restrict nonfarm residences by requiring a conditional use permit for either a single nonfarm residence or a cluster of nonfarm residences. The new state standards encourage smaller residential lots that convert less farmland. There are siting standards for nonfarm residences to avoid converting active farmland or prime soils.

KALASKA COUNTY, MICHIGAN COMMUNITY CENTER, 2003 Zoning Techniques for Farmland Preservation**:** Information about land use planning including protecting resource lands was made available to the community, and was adapted from "Watershed Resource Papers" developed for the Dowagiac River Watershed Project by Langworthy, Strader, LeBlanc, & Associates, Inc. Various techniques are summarized that protect agriculture while accommodating housing, including: 1) Exclusive use zoning with limitations on new non-farm residences and other provisions such as a maximum lot to depth ratio of 1:3 and large minimum lot widths and setbacks; 2) Sliding scale zoning that limits the number of times that a parent parcel (a parcel existing on the date of ordinance adoption) can be split, based on its size but that does not require special land use permits; 3) "Quarter/quarter zoning" where a limited number of non-farm homes are allowed for every 40-acres of land; and 4) Cluster development that provides for a denser concentration of development in a limited area, with no increase in the overall, or "gross density" of the site.

3.2 Agricultural Literature Review

Supporting Agriculture with a Resident Population

More recently farmland preservation advocates and governmental agencies have identified the need to both protect farmland and support the farmers that farm the land.

NEW FARMS – BARRIERS AND GAPS, AMERICAN FARMLAND TRUST: Given an aging farmer population (more pronounced in Clark County as of 2012 similar to other counties), a recent paper examined how to help attract new farmers. The paper identified a gap for new farmers – gaining access to land particularly infrastructure and housing to support a new operation. Some solutions include farm link programs that list land offers, consulting services, transfers, and agreements from retiring farmers, etc. plus private land trusts.

- Freegood, Julia and Jennifer Dempsy, American Farmland Trust, 2014, Cultivating the Next Generation: Resources and Policies to Help Beginning Farmers Succeed in Agriculture:

WHATCOM COUNTY – FINANCING OF HOMES: Whatcom County explored amending its homesteading rules (onsite homes used by farmers or their heirs), building site location requirements to protect agricultural operations and prime soils, and allowing for newer forms of clustering without adding density:

- Presentation from Initial Review Team Meeting - February 2012 (PDF)
- Project Fact Sheet (PDF)
- Situation Assessment and Recommendations - May, 2012 (PDF)
- Supplemental Analysis - August, 2012 (PDF)

A focus group was convened with farmers, lawyers, and finance professionals to discuss current and potential regulations to support farmers and protect the land.

Finance professionals indicated that farmland owners enrolled in a current use tax deferral program can have trouble getting financing in the secondary market, and they expected that this problem would drive down the size of homestead sites. It is easier to obtain a loan to build a home for the farmer if smaller homesites are allowed (either traditional parcel or homestead parcel) because it allows the bank to consider a greater pool of comparable properties and more readily determine the loan cost. The banks would also be more assured as to the individual homesite access to utilities.

Whatcom County's proposed 2016 Comprehensive Plan Update includes policies advancing the code changes proposed in the study.

Relationship of Smaller Agricultural Operations to Urban Markets

More recent research has been compiled by the Congressional Research Service and USDA on smaller agricultural operations in urban markets:

- Johnson, Renee, et al. Congressional Research Service, 2013: The Role of Local Food Systems in U.S. Farm Policy, https://www.fas.org/sgp/crs/misc/R42155.pdf.

- Martinez, Steve, et al. Local Food Systems: Concepts, Impacts, and Issues, ERR 97, U.S. Department of Agriculture, Economic Research Service, May 2010, available: http://www.ers.usda.gov/media/122868/err97_1_.pdf

Research highlights are excerpted and focus on the growth in the value and extent of local food, the significant share of farms that are located in metropolitan areas, and the potential benefit of small farm proximity to urban areas in terms of customers as well as a source of labor and location of like-minded farmers to form coops to help support small farms' marketing efforts.

- In 2007, there were about 859,300 metropolitan farms in the United States, accounting for about 40% of all U.S. farms and about 40% ($115.7 billion) of the total value of U.S. agricultural production, according to USDA.

- Most farms (81%) engaged in direct-to-consumer sales are **"small" farms,** with annual farm sales under $50,000, totaling an estimated 86,700 farms in 2008. For smaller farms, direct marketing to consumers accounts for a higher percentage of their sales than for larger farms. Small farms with direct sales often engage in other entrepreneurial activities.

- The leading states with direct-to-consumer marketing sales in 2007 were California, New York, Pennsylvania, Michigan, Oregon, Ohio, **Washington,** Wisconsin, Massachusetts, and Texas.

- USDA reports that the value of direct-to-consumer food marketing increased in all U.S. producing regions from 1997 to 2007.

- Among the reasons cited for the increasing popularity of local foods are perceived higher product quality and freshness of local food; a desire to provide social and political support for local farmers and the local economy; farmland preservation; and others related to environmental and equity concerns. A desire to support nearby small and medium-sized farms is also a motivation for consumers.

- About four out of five respondents to a 2006 national survey said they purchased fresh produce directly from growers either occasionally or always (Keeling- 2 Local Food Systems: Concepts, Impacts, and Issues / ERR-97 Economic Research Service/USDA Bond et al., 2009).

- USDA reports that small farms rely more on direct-to-consumer marketing channels (farmers' markets, on-farm sales, roadside stands, CSAs, etc.) as compared to larger farms.

- Metropolitan farms are reported to have a different product mix than farms in non-metro areas, and consist of mostly high-value crops, such as fruits and vegetables, and also livestock and dairy products.

- Significant costs of direct marketing and on-farm processing, especially those related to time and labor, can present obstacles to expansion of local food sales. This may be partially alleviated by proximity to metro areas and farmers markets. Other solutions are to pool resources through coops, training of new farmers, and other techniques.

- Most policy issues facing farmers' markets develop at the local level because farmers' markets are a local activity (Hamilton, 2005). The most commonly encountered local policy issues relating to farmers' markets are operational questions, such as where the market can operate, parking, security, and conflicts with adjacent businesses. These policies can be significant factors. Farmers' markets have been found to have positive impacts on local economies.

Within the literature cited, maps identified Clark County as having 20-40% of farms with direct sales in 2007. More recent Census of Agriculture 2012 information shows:

- Clark County had 39 farms that marketed products through community supported agriculture (CSA). This is the second highest in the state after King County with 46 farms marketing through CSAs.

- Clark County had 141 farms that produced and sold value-added commodities, third highest in the state after Yakima (187) and King (163).

Combined with the trend information in Section 2.0 regarding the prevalence of very small farms by value and the relatively small agricultural parcels found throughout the AG zone and Rural zoned areas, this information on direct sales and entrepreneurism shows that Clark County is an example of the local food movement and is benefiting by having farms in proximity to urban markets to meet customer preferences. Clark County's agriculture continues to reflect the findings of the 2012 Rural Lands Study:

> *Key Finding #1: Agriculture in Clark County in 2011 is in the midst of a decade's long transition from large scale commodity farming into more intensive, value-added, urban-oriented farming.*
>
> *Key Finding #2: Large farm and mid-size farms are declining in number, acres, and value. However, they remain a viable enterprise but face a multitude of challenges.*
>
> *Key Finding #3: A Diverse set of small farms and enterprises are increasingly becoming part of the rural landscape.*

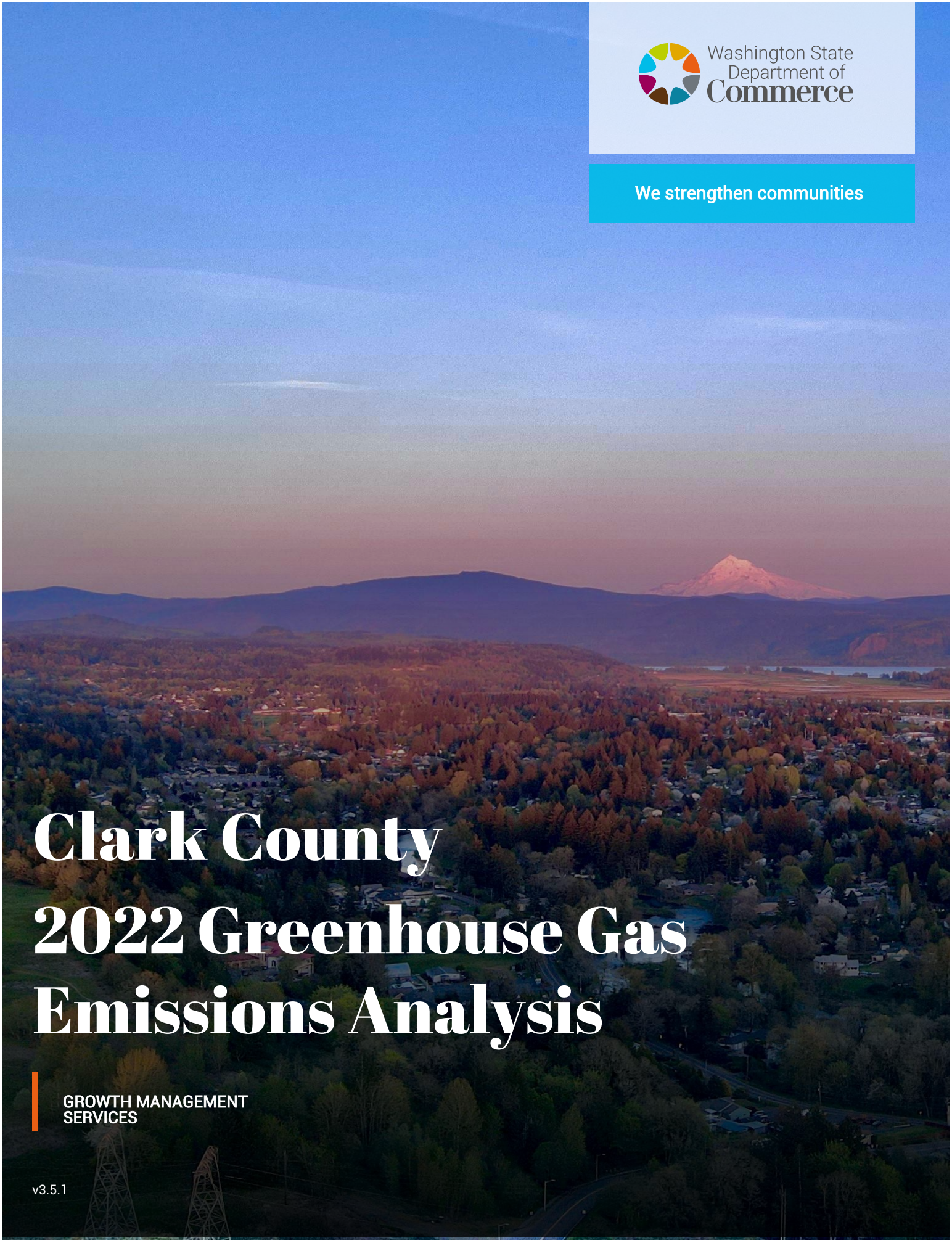
3.3 Forestry Zoning

Western Washington Counties have a range of lot sizes for forest lands, from 20 to 80 as shown in Exhibit O. Clustering is allowed in Pierce, Skagit, and Snohomish Counties, in whole or in part.

Exhibit Q. Example County Regulations on Forestry Lands – Western Washington

Policy Topic	Forestry Lot Sizes	Residential Allowances	Clustering
Clark County	40, 80	Allowed.	Not allowed on Resource Lands – under consideration.
Pierce County	80	Allowed.	Residential density may be increased to a max. of 1 DU / 5 acres on properties of 20 acres +. Max 10 lots per cluster; only 1 lot may be greater than 1 acre (limited to 10% impervious).

Policy Topic	Forestry Lot Sizes	Residential Allowances	Clustering
King County	80	Allowed. However, disturbance is limited to 3 acres.	Not allowed on Resource Lands
Snohomish County	20, 80	Allowed only on Local Forest.	The county shall not approve subdivision of land designated Commercial Forest beyond the 1/du/80 acres, except for subdivision to allow installation of communication and utility facilities. Land designated local forest shall not be divided into lots or parcels of less than 20 acres in size except through a rural cluster subdivision. 500 foot setback to structures on commercial forest land.
Skagit County	20, Secondary Forest 80, Industrial Forest	Yes, subject to onsite location requirements	Yes, on Forestry and Rural Resource lands.
Whatcom County	20, 40	Allowed only on Rural Forest land not Commercial Forest Land. Lot width/depth standards apply.	No.



Washington State Department of Commerce

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Clark County 2022 Greenhouse Gas Emissions Analysis

GROWTH MANAGEMENT SERVICES

v3.5.1

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The information, analyses, and recommendations presented in this report are based on the context, data, and resources available at the time of its development. Changes in circumstances, additional information, or new developments may affect the relevance or accuracy of the content. While every effort has been made to ensure the accuracy and reliability of the information provided, readers are encouraged to consider changes in conditions (for example, legal or policy framework) when making decisions.

This report incorporates revisions to the July 2025 version. Updates reflect improved data inputs to enhance accuracy and consistency.

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Executive Summary

To better understand current and future greenhouse gas (GHG) emissions in Washington and support local comprehensive planning, the Washington Department of Commerce (Commerce) funded an 11-county GHG emissions inventory and scenario planning effort. HB 1181, signed into law in 2023, requires Washington cities and counties to incorporate a Climate Element into Comprehensive Plans to build resilience and reduce GHG emissions. For 11 counties and the cities within, development of a greenhouse gas emissions sub-element is mandatory for inclusion in the jurisdiction's next Comprehensive Plan update. This GHG analysis effort aims to support local comprehensive planning, as identifying current and future emissions is a critical step in understanding where the state's largest sources of emissions are occurring and where there are opportunities for emissions reduction. This report provides a summary of 2022 communitywide and county government operations emissions for Clark County, as well as projected future emissions and GHG emission reduction strategies. Clark County's communitywide and operational emissions were quantified for the 2022 calendar year, representing the most recent year with complete data at the time of this study.

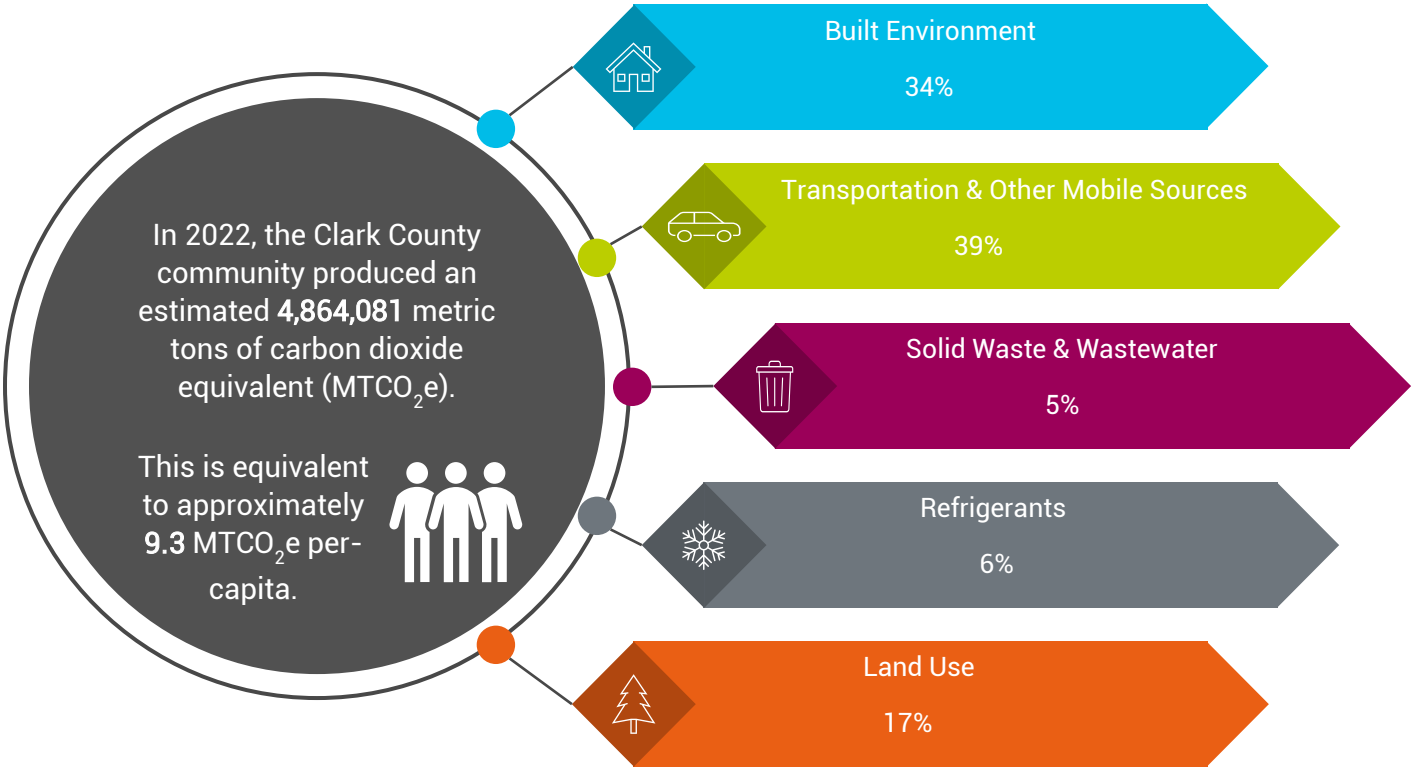
This inventory reports both the county's total emissions (includes direct and indirect emissions from industry, agriculture, and other sectors) and its "core" emissions (includes sectors over which county governments often have the most influence through local policy mechanisms such as local codes/regulations). We recommend that the county use its core emissions as a starting point for shaping comprehensive plan policies. We also recommend that the county consider policies that address emissions from non-core sectors to support co-benefits such as clean air and water, improve resilience, and provide beneficial opportunities such as local food systems.

2022 Greenhouse Gas Emissions Profile

Communitywide

The communitywide emissions inventory quantifies emissions produced by activity from county residents, businesses, schools, and visitors, including from buildings, transportation, land use, and solid waste generation and disposal. In 2022, the Clark County community produced an estimated total of 4,864,081 metric tons of carbon dioxide equivalent ($MTCO_2e$), which equates to approximately 9.3 $MTCO_2e$ per capita. Figure 1 shows the breakdown of total 2022 communitywide emissions, including emissions from the built environment, transportation, solid waste and wastewater treatment, refrigerant usage, and land use.

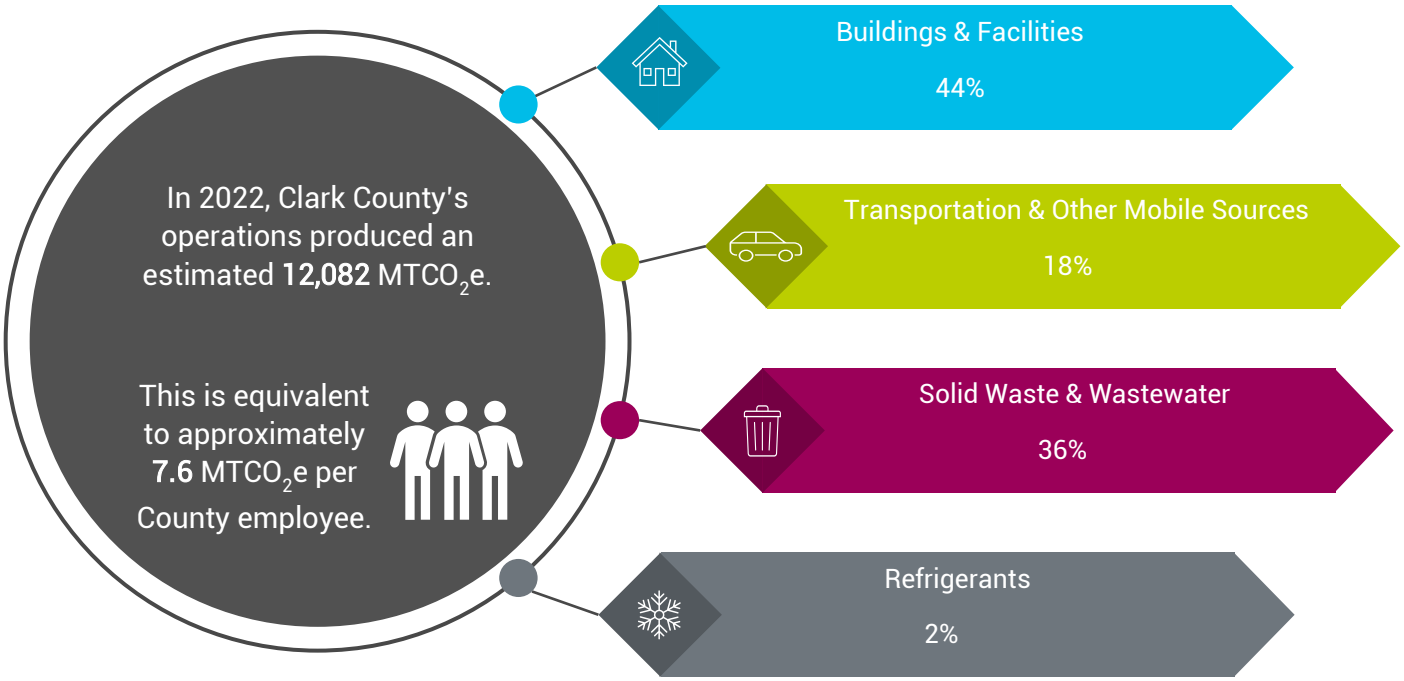
FIGURE 1. 2022 COMMUNITYWIDE GHG EMISSIONS PROFILE BY SOURCE.



County Operations

The county operations emissions inventory reports emissions that are produced by county government activities and facilities, including from county facilities, fleet vehicles, employee commuting, and waste generation and disposal. In 2022, Clark County's operations produced an estimated 12,082 $MTCO_2e$. Figure 2 shows the breakdown of 2022 county operations emissions, including emissions from county facilities, transportation (fleet vehicles, employee commuting, and business travel), solid waste and wastewater treatment, and refrigerant usage.

FIGURE 2. 2022 COUNTY OPERATIONS GHG EMISSIONS PROFILE BY SOURCE.

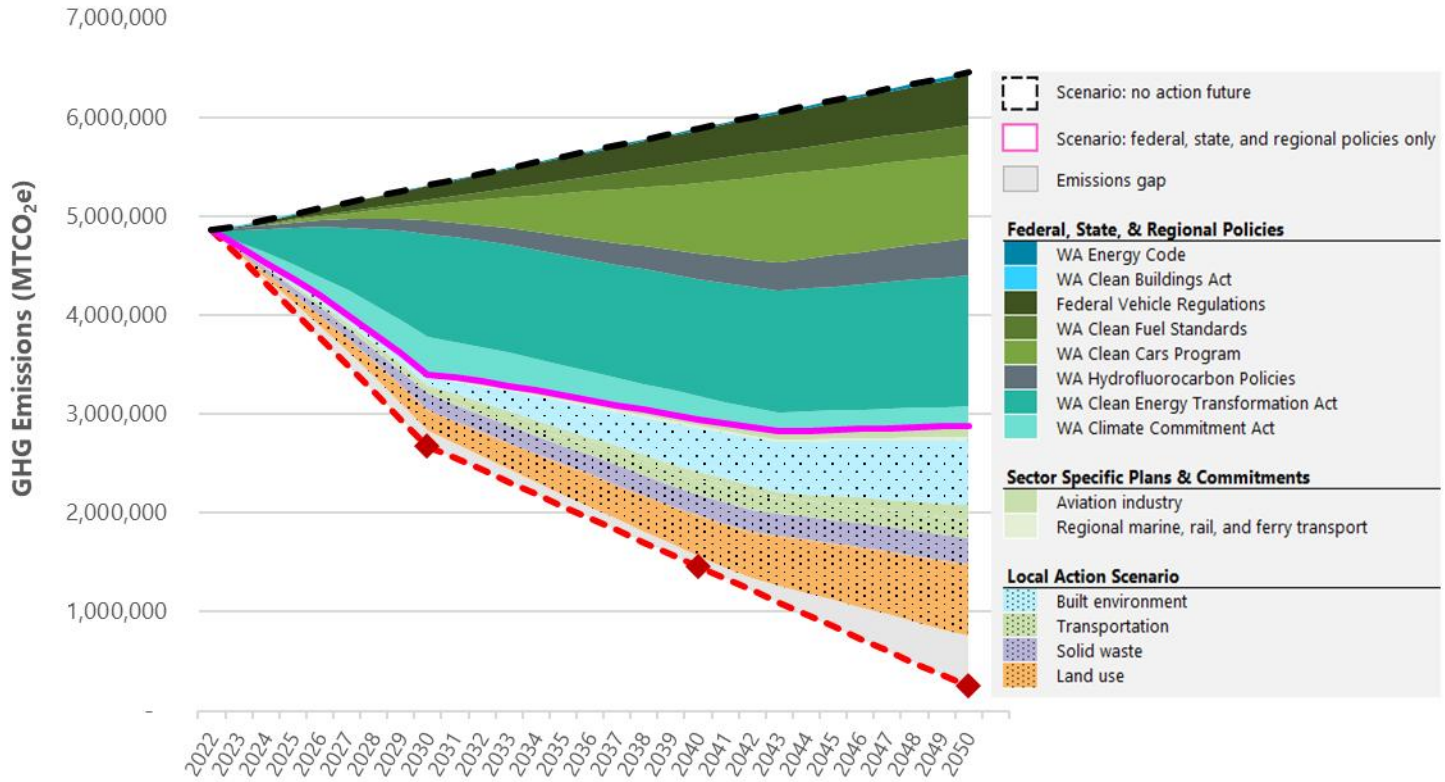


Future Emissions Projections & Local Strategies

A forecasting analysis of Clark County's communitywide emissions from 2022 to 2050 revealed the following total emissions projections under three scenarios compared to Washington state greenhouse gas emission reduction targets (45% by 2030, 70% by 2040, and 95% by 2050, compared to a 1990 baseline):

- Business-as-usual (BAU), which assumes no action is taken to reduce GHG emissions. Under this scenario, Clark County's emissions will grow 33% by 2050 (compared to a 1990 baseline), as depicted by the dotted black line in Figure 3.
- Adjusted business-as-usual (ABAU), which models estimated emissions reductions from existing federal, state, and regional policies. This scenario estimates a 41% reduction in communitywide emissions by 2050 (compared to a 1990 baseline), as depicted by the pink line in Figure 3.
- Local action scenario, which models estimated emission reductions from local climate actions such as reducing building energy consumption or transitioning to electric vehicles: Combined with the ABAU, this scenario estimates an 88% total reduction in communitywide emissions by 2050 (compared to a 1990 baseline), as shown by the local action scenario reductions in Figure 3.

FIGURE 3. FORECASTED GHG EMISSIONS AND REDUCTIONS ($MTCO_2E$).



These analyses of current and projected future GHG emissions provide insight into local policy options for reducing GHG emissions in Clark County. As presented in the local action scenario, key GHG emission reduction strategies for focus in Clark County's comprehensive plan update include:

- Reduce energy consumption in new and existing residential and commercial buildings through: 1) supporting clean building energy sources and 2) energy-efficient building design and retrofits. Local action to transition to renewable building energy sources would reduce Clark County's built environment emissions, which made up 34% of 2022 communitywide emissions.
- Reduce passenger vehicle travel within the county, including through changes to land use, transportation infrastructure (transit, walking, bicycling), and commuting options/modes. A reduction in passenger VMT would reduce Clark County's communitywide on-road emissions from passenger vehicles, which made up 21% of 2022 emissions.
- Facilitate the transition to electric vehicles through expansion of reliable EV charging infrastructure and public education on options and available incentives/rebates. Local action to support transitioning passenger and freight vehicles to electric would reduce Clark County's passenger and freight vehicle on-road emissions, which made up 30% of 2022 communitywide emissions.
- Limit tree loss and support low-carbon land practices such as sustainable forestry, agriculture, and livestock management. Reducing tree loss emissions and emissions from agricultural practices in Clark County would reduce land use emissions, which made up 17% of 2022 communitywide emissions.
- Work with local industries to support transition to low-carbon industrial processes, including for high-carbon industries such as semiconductor device manufacturing and operating paper mills. These industrial process emissions made up 2% of Clark County's 2022 communitywide emissions.

Introduction

To better understand current and future greenhouse gas (GHG) emissions in Washington and support local comprehensive planning, WA Department of Commerce (Commerce) funded an 11-county GHG emissions inventory and scenario planning effort. HB 1181, signed into law in 2023, requires Washington cities and counties to incorporate a Climate Element into Comprehensive Plans to build resilience and reduce GHG emissions. For 11 counties and the cities within, development of a greenhouse gas emissions sub-element is mandatory for inclusion in the jurisdiction's next Comprehensive Plan update. This GHG analysis effort aims to support local comprehensive planning for these counties, as identifying current and future emissions is a critical step in understanding where the state's largest sources of emissions are occurring and where there are opportunities for emissions reduction. This report provides a summary of 2022 communitywide and county government operations emissions for Clark County, as well as projected future emissions and GHG emission reduction strategies.[2]

Methodology

In determining the methodology used to complete Clark County's GHG analyses, the project team used the following guiding principles:

- Replicability and transparency, to ensure that analyses can be conducted in future years.
- Consistency, both across counties and with past county GHG analyses, where applicable.
- Accuracy, including through inclusion of all relevant sectors, use of locally specific data, and alignment with industry best practices.

GHG Emissions Inventories

The following protocols were referenced to complete the GHG emission inventories:

- Clark County's communitywide inventory was performed using guidance from both ICLEI's U.S. Community Protocol for Accounting and Reporting of GHG Emissions (USCP)[3] and The Greenhouse Gas Protocol's Global Protocol for Community-Scale Greenhouse Gas Inventories (GPC)[4]. These protocols are the industry standards for quantifying GHG emissions from community activities.[5]
- Clark County's operational inventory was performed using guidance from ICLEI's Local Government Operations Protocol for the Quantification and Reporting of GHG Emissions Inventories (LGOP).[6] This protocol outlines a standardized method for local governments to estimate operational emissions.

Clark County's communitywide and operational emissions were quantified for the 2022 calendar year, chosen as the most recent year with complete data at the time of this study. All analyses were performed in Microsoft Excel.

---

[2] The GHG emissions estimates shown in this report are intended to support development of Clark County's Climate Element. The county may reference additional and/or more locally-specific analyses to support a comprehensive understanding of its GHG emissions context.
[3] U.S. Community Protocol | ICLEI USA
[4] Global Protocol for Community-Scale GHG Inventories (GPC) | GHG Protocol.
[5] These two protocols have different geographic specificities (e.g., the GPC is more global, while the U.S. Community Protocol has more of a U.S. focus). Both share the same basic GHG accounting principles.
[6] Local Government Operations (LGO) Protocol | ICLEI USA

Emissions Sources

The GHG emissions inventories, forecast, and scenario analysis included emissions sources listed in Table 1, as applicable. These sources are recommended by protocols and aligned with industry best practices.

The table below also identifies communitywide "core emissions" sources, which are emissions produced by sectors most commonly included in community greenhouse gas inventories and over which county governments often have the most influence (e.g., through local policy mechanisms such as local codes/regulations). Core emissions included in this inventory, indicated in **bold** in the table below, include emissions from electricity, natural gas, on-road vehicles, solid waste generation and disposal, and wastewater treatment processes. While agriculture, tree loss, and some other emissions sources are not included in the core emissions scenario, Commerce still strongly encourages local jurisdictions to consider comprehensive plan policies to address emissions from these sources. Such policies will support co-benefits such as clean air and water, improve resilience, and provide beneficial opportunities such as local food systems.

TABLE 1. EMISSIONS SOURCES FOR THE 2022 COMMUNITYWIDE AND COUNTY OPERATIONS GHG ANALYSES.

Sector	Communitywide	County Operations
Buildings	**Electricity** **Natural gas** Propane Fuel oil Industrial processes	Electricity Natural gas Propane Fuel oil
Transportation	**On-road vehicles** Off-road equipment Aviation	County fleet vehicles & equipment County employee commute County business travel
Solid Waste	**Landfilled waste generation & disposal** **Compost generation & disposal**	Landfilled waste generation & disposal Compost generation & disposal County landfills
Wastewater	**Treatment processes** **Septic systems**	Treatment processes
Land Use	Agriculture Forests & land use change	N/A
Refrigerants	Refrigerants	Refrigerants

Detailed methodologies and data considerations for each emissions source are provided in Appendix A.

Forecast & Scenario Planning

The interactive communitywide GHG emissions forecasting and scenario planning analysis estimated emissions from 2022 to 2050 under the following three scenarios:

- Business-as-usual (BAU), which assumes no action is taken to reduce GHG emissions.
- Adjusted business-as-usual (ABAU), which models estimated emissions reductions from existing federal, state, and regional policies.
- Additional local action needed to achieve state GHG emission reduction targets.

This analysis was conducted in a user-friendly tool based in Microsoft Excel, which allows for custom user-defined inputs and real-time scenario planning to inform GHG emission reduction policy development.

Local Policy Options

Outputs from Clark County's GHG emissions inventories, forecast, and scenario analysis supported development of county-specific local policy options. These options were developed through consultation with county staff and included detailed review of county emissions sources.

GHG Emissions Inventory Findings

Communitywide Inventory

In 2022, the Clark County community produced an estimated 4,864,081 $MTCO_2e$, 2,993,171 $MTCO_2e$ of which are from core emissions sources. This total equates to approximately 9.3 and 5.7 $MTCO_2e$ per-capita for the total and core emissions sources, respectively. Accounting for all emissions sources, the community's largest sources of emissions were from transportation & other mobile sources, contributing 39% of total emissions, and built environment (buildings) contributing 34%. Figure 4 and Table 2 summarize 2022 communitywide emissions by sector and source.

Note that the on-road vehicle emissions listed in Figure 4 and Table 2 utilize vehicle miles traveled (VMT) data from WSDOT's Highway Performance Monitoring System (HPMS). For additional context, the "Transportation" section on page 15 discusses alternative methods for estimating VMT in Clark County.

FIGURE 4. 2022 COMMUNITYWIDE EMISSIONS PROFILE ($MTCO_2E$).

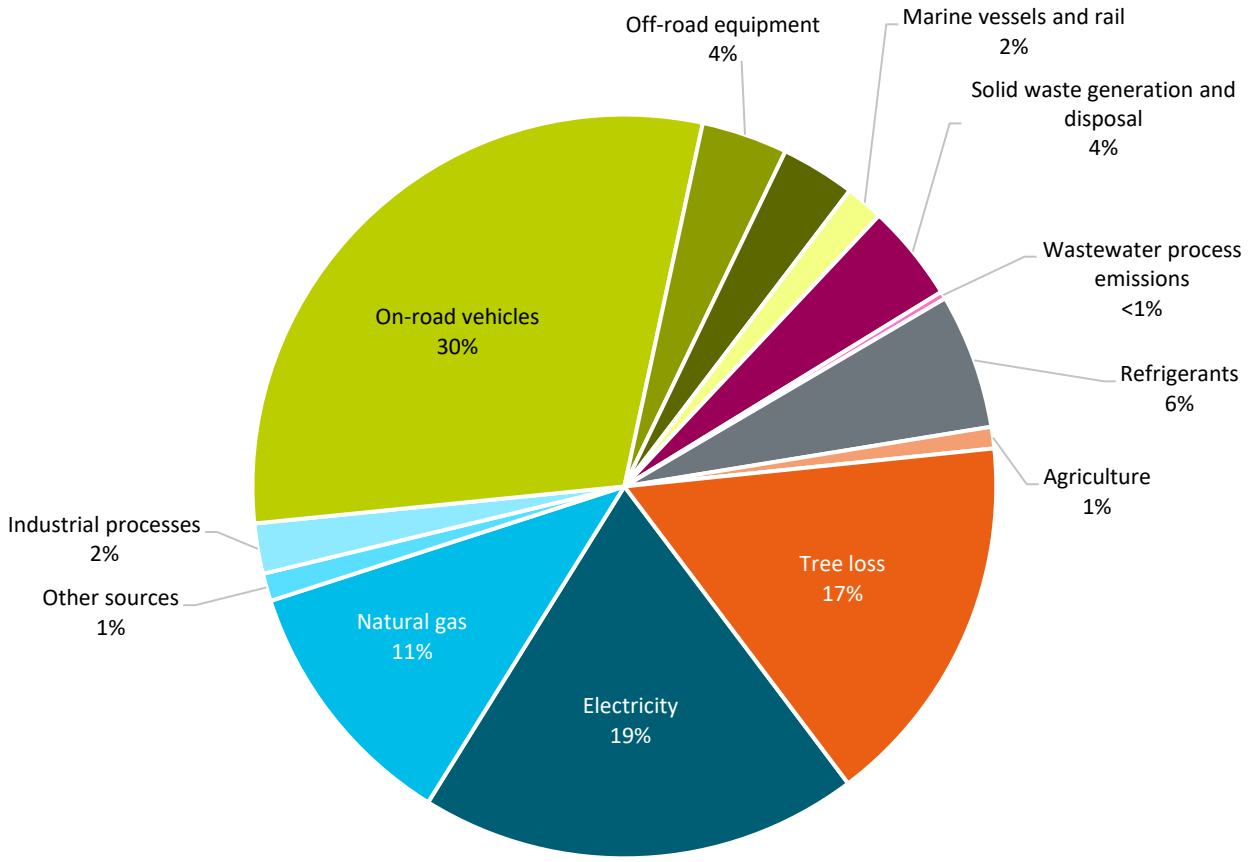


TABLE 2. TOTAL AND PER-CAPITA COMMUNITYWIDE GHG EMISSIONS, BY SECTOR ($MTCO_2E$ AND %).

GHG Emissions Sector	Total Emissions ($MTCO_2e$)	Per-capita Emissions ($MTCO_2e$)	Percent of Emissions (%)
Built Environment			
Electricity	**930,242**	**1.8**	**19%**
Residential	529,007	1.0	11%
Commercial	258,664	0.5	5%
Industrial	142,571	0.3	3%
Natural Gas	**543,500**	**1.0**	**11%**
Residential	288,896	0.6	6%
Commercial	237,375	0.5	5%
Industrial	17,229	<0.1	<1%
Propane	**28,977**	**<0.1**	**<1%**
Residential	13,633	<0.1	<1%
Commercial	15,344	<0.1	<1%
Fuel Oil	**29,594**	**<0.1**	**<1%**
Residential	4,634	<0.1	<1%
Commercial	24,960	<0.1	<1%
Industrial Processes	**106,281**	**0.2**	**2%**
Transportation & Other Mobile Sources			
On-Road Vehicles	**1,457,997**	**2.8**	**30%**
Passenger vehicles	1,026,060	2.0	21%
Freight & service vehicles	421,963	0.8	9%
Public transit	9,974	<0.1	<1%
Off-Road Equipment	**182,173**	**0.3**	**4%**
Aviation	**157,069**	**0.3**	**3%**
Marine & Rail	**80,302**	**0.2**	**2%**
Solid Waste & Wastewater			
Solid Waste Generation & Disposal	**205,616**	**0.4**	**4%**
Landfill	204,124	0.4	4%
Compost	1,492	<0.1	<1%
Wastewater Processes	**15,617**	**<0.1**	**<1%**
Refrigerants			
Refrigerants	**285,715**	**0.5**	**6%**
Land Use			
Agriculture	**45,476**	**<0.1**	**<1%**
Tree Cover Loss	**795,522**	**1.5**	**16%**
Total Emissions	**4,864,081**	**9.3**	**100%**
Core Emissions	*2,993,171*	*5.7*	*62%*

TABLE 2. CORE COMMUNITYWIDE AND PER-CAPITA GHG EMISSIONS, BY SECTOR ($MTCO_2E$ AND %).

GHG Emissions Sector	Total Emissions ($MTCO_2e$)	Per-capita Emissions ($MTCO_2e$)	Percent of Emissions (%)
Built Environment			
Electricity	787,671	1.5	26%
Residential	529,007	1.0	18%
Commercial	258,664	0.5	9%
Natural Gas	526,271	1.0	18%
Residential	288,896	0.6	10%
Commercial	237,375	0.5	8%
Transportation & Other Mobile Sources			
On-Road Vehicles	1,457,997	2.8	49%
Passenger vehicles	1,026,060	2.0	34%
Freight & service vehicles	421,963	0.8	14%
Public transit	9,974	<0.1	<1%
Solid Waste & Wastewater			
Solid Waste Generation & Disposal	205,616	0.4	7%
Landfill	204,124	0.4	7%
Compost	1,492	<0.1	<1%
Wastewater Processes	15,617	<0.1	<1%
Core Emissions	2,993,171	5.7	100%

The sections below provide a more detailed summary of GHG emissions inventory findings within each sector. Values are presented using the total emissions (i.e., not "core" emissions) framework.

Built Environment

The built environment sector made up 34% of Clark County's 2022 total communitywide emissions, contributing 1,638,594 $MTCO_2e$. This sector includes emissions from the use of electricity, natural gas, propane, and fuel oil to heat, cool, and power buildings, as well as direct emissions from industrial processes within the county.

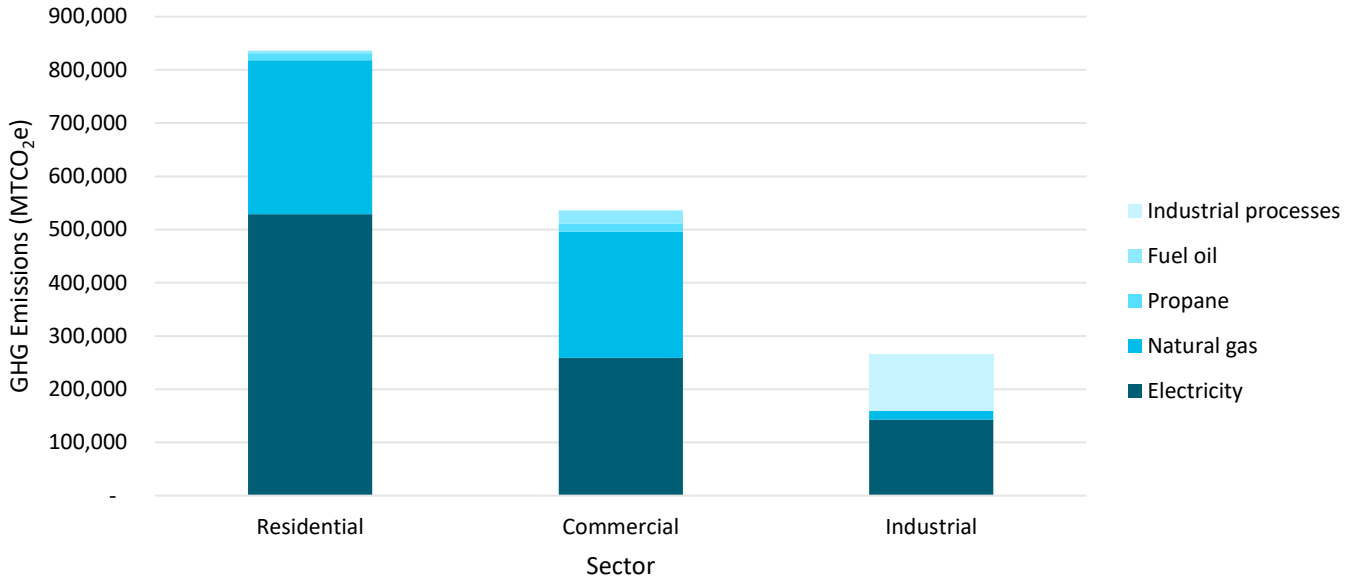


Figure 5 below summarizes Clark County's 2022 emissions from the built environment, by sector and source. An estimated 19% and 11% of Clark County's total communitywide emissions stemmed from electricity and natural gas consumption, respectively. Propane and fuel oil consumption contributed <1% and <1%, respectively, and 2% of communitywide emissions were produced by industrial processes within Clark County.

Emissions from electricity were calculated using utility-specific emission factors sourced from the WA Department of Ecology. For informational purposes, emissions from electricity were also calculated using the regional electric grid emissions factor, sourced from the EPA Emissions & Generation Resource Integrated

Database (eGRID). When calculated using this location-based method, Clark County's electricity emissions were approximately 1,487,170 $MTCO_2e$, compared to 930,242 $MTCO_2e$ when estimated using a utility-specific approach.

FIGURE 5. BUILT ENVIRONMENT GHG EMISSIONS, BY SECTOR AND SOURCE.



Transportation

The transportation sector made up 39% of Clark County's 2022 total communitywide emissions, emitting an estimated 1,877,541 $MTCO_2e$. This sector includes emissions from the use of on-road vehicles and off-road equipment, as well as emissions from marine, rail, and air travel, shown in Figure 6 below.

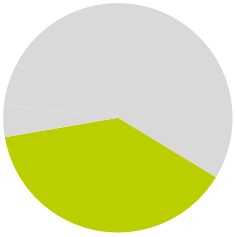
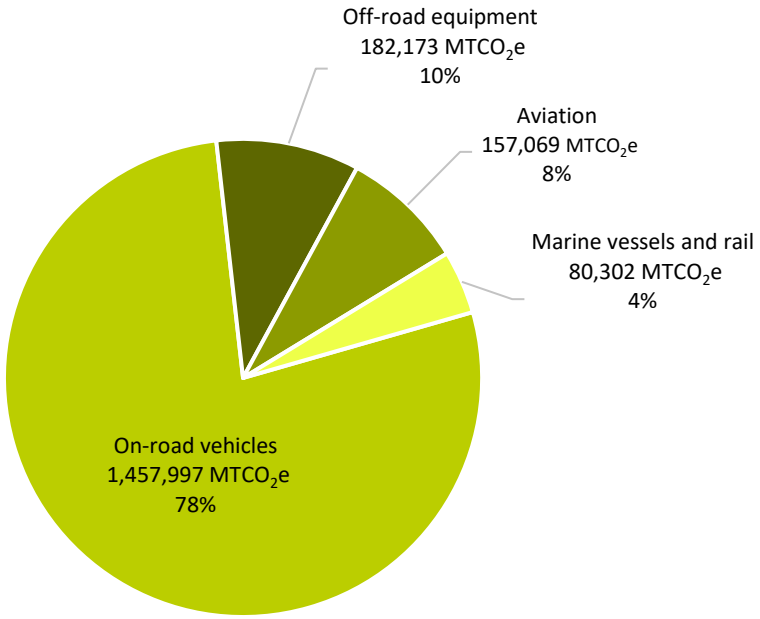
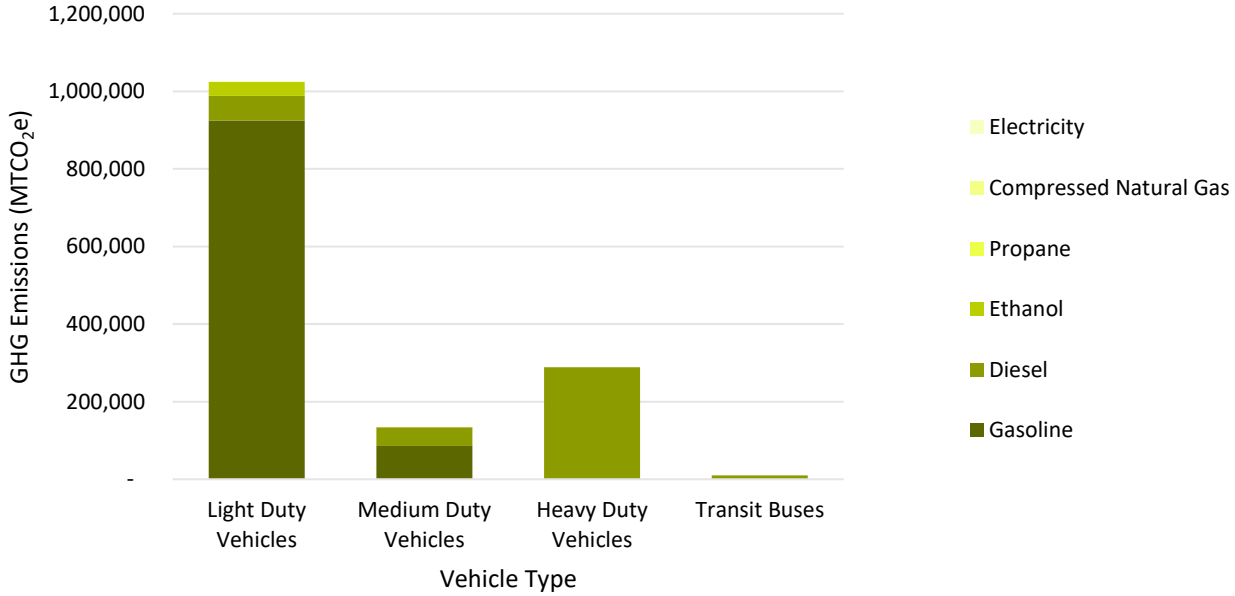


FIGURE 6. TRANSPORTATION EMISSIONS, BY SOURCE.



On-road vehicle emissions include those from passenger vehicles, freight and service trucks, and transit vehicles within the county boundary, and made up 78% of Clark County's 2022 total transportation emissions. On-road emissions by vehicle and fuel type are shown in Figure 7.

FIGURE 7. ON-ROAD TRANSPORTATION EMISSIONS, BY VEHICLE AND FUEL TYPE.



On-Road Vehicles

The GHG emissions inventory presented in this report is consistent with state law requirements to use data provided by Washington State Department of Transportation (WSDOT) and uses estimates of total vehicle miles traveled (VMT) within the Clark County geographic boundary. This estimate sums the vehicle miles driven on all public roadways within the county. The total VMT is then divided by the county's population to calculate a 'VMT per capita' value. In this context, "per capita" refers to the resident population of Clark County. As a result, the 'VMT per capita' value represents the total segment-level VMT within the county relative to its residential population, regardless of whether the miles were generated by residents, visitors, or pass-through traffic, or the purpose of the travel. Based on this approach, we estimate the per-capita VMT in Clark County in 2022 to be approximately 14 vehicle miles per day.

It is important to note that this reported 'VMT per capita' metric from both WSDOT and the regional travel demand model is not the same as 'VMT generated per resident.' It has limited value in explaining individual travel behavior and does not account for travel behavior outside of the county, such as trips made by residents and employees commuting to or from Clark County for work.

To better understand the travel behavior of Clark County residents and employees, we have used a third-party VMT data source that provides home-based VMT estimates. Home-based VMT refers to the total number of miles driven by automobile trips originating from a person's home. This data allows us to answer specific questions about community travel patterns, such as, "How many vehicle miles are driven to and from work each day by employees working in the county?" Additionally, this data can be used to develop targeted VMT reduction strategies, such as reducing single-occupancy vehicle commutes for large employers. For Clark County in 2022, this data source provides the following average daily VMT metrics:

23 home-based VMT per resident



Home-Based VMT per Resident

14 home-based work VMT per employee



Home-Based Work (HBW) VMT

Home-based VMT measures the amount of vehicle-miles-traveled for all trips that either start or end at home by a resident living in the county.

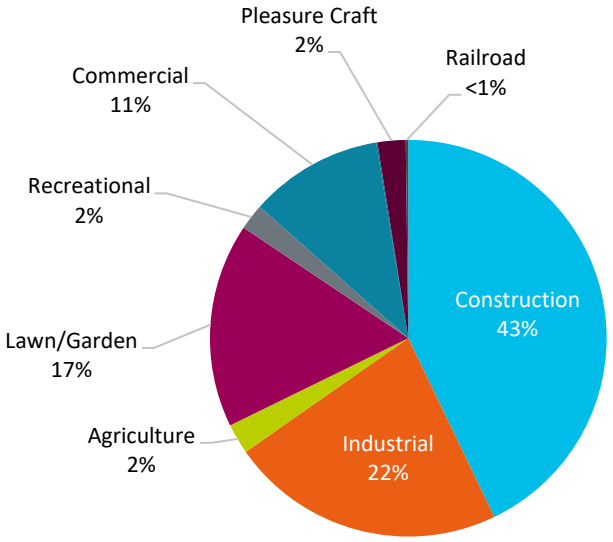
Home-based work (HBW) VMT measures the vehicle-miles-traveled for commute trips (trip either starts/ends at home and starts/ends at work) by an employee working in the county.

Offroad Vehicles & Equipment

In addition to on-road vehicles, emissions from the following off-road equipment categories were included in this inventory: recreational, construction, industrial, lawn/garden, agriculture, commercial, logging, airport support, oil field, pleasure craft, and railroad. Off-road vehicles and equipment produced 182,173 $MTCO_2e$,

making up 4% of communitywide emissions. The largest source of off-road emissions was construction, producing 43% of all off-road vehicle and equipment emissions.

FIGURE 8. OFF-ROAD EMISSIONS, BY SECTOR.



Solid Waste & Wastewater

The solid waste and wastewater sector made up 5% of Clark County's total 2022 communitywide emissions, contributing an estimated 221,233 $MTCO_2e$. This sector includes emissions from the generation and disposal of solid waste and commercially processed compost (if available), as well as the treatment of wastewater produced within Clark County.

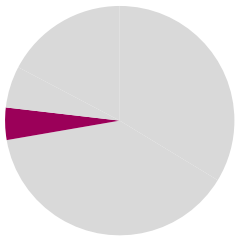
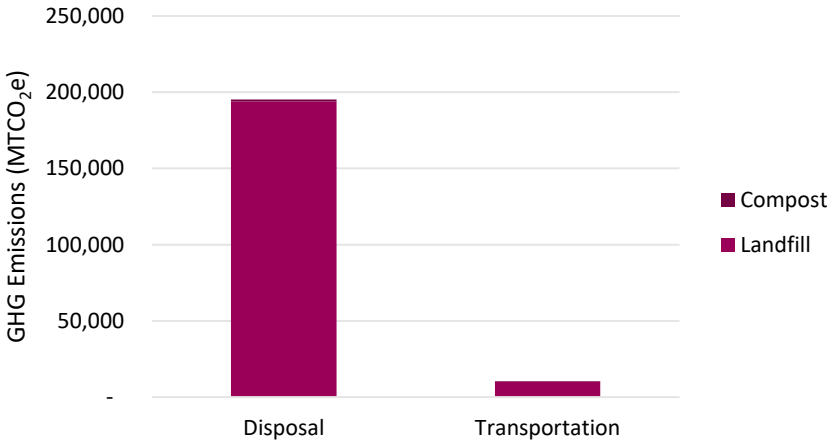


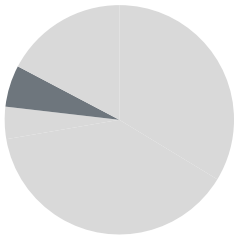
FIGURE 9. EMISSIONS FROM SOLID WASTE GENERATION, BY ACTIVITY AND WASTE TYPE.



Emissions from wastewater are generated by the biological processing of organic wastewater at treatment facilities, as well as from septic systems within the community. In 2022, emissions from wastewater made up <1% of total communitywide emissions. Wastewater treatment plants within Clark County also produce emissions through energy used to power wastewater treatment processes; these emissions are accounted for in the commercial energy sector to avoid double-counting between sectors.

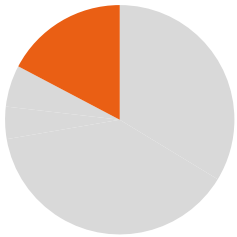
Refrigerants

Refrigerant emissions accounted for 6% of Clark County's 2022 total communitywide emissions, contributing an estimated 285,715 $MTCO_2e$. The refrigerant sector includes emissions from the use and leakage of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and CO_2 from ozone depleting substances (ODSs). Due to local data limitations, refrigerants emissions in this inventory are downscaled from national-level data to the county level based on population.



Land Use

Land use emissions made up 17% of Clark County's 2022 total communitywide emissions, contributing approximately 840,998 $MTCO_2e$. The land use sector includes emissions from agricultural activities such as soil management, digestive processes in livestock (enteric fermentation), and manure management, in addition to emissions from land use changes and tree loss. Clark County had approximately 22,009 acres of agricultural cropland in 2022.



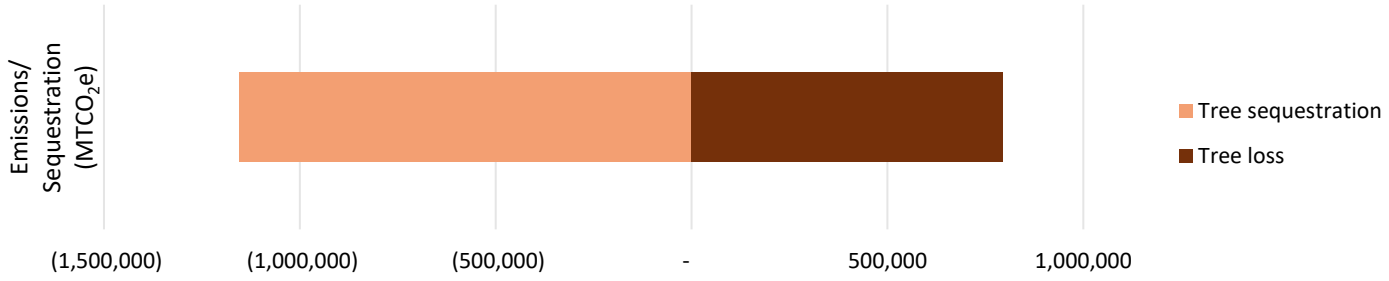
In 2022, the largest emitter of agricultural emissions in Clark County was beef cows, producing 47% of agriculture emissions.

Emissions from land use also include emissions from tree cover loss within Clark County, stemming from forest management and activities that result in conversion of tree-covered land into settlements, grasslands, or other non-forested land types. In 2022, changes to tree cover resulted in the generation of approximately 795,522 $MTCO_2e$. Note that emissions from tree loss consider emissions from all lands within the county's boundary, regardless of ownership, which can include state and federally owned and managed lands.

Tree Carbon Sequestration

Trees and forests in Clark County sequestered approximately 1,156,221 $MTCO_2e$ from the atmosphere in 2022. Carbon sequestration refers to the removal of carbon dioxide from the atmosphere. This sequestration estimate is derived from remote sensing data and accounts for tree characteristics, including tree types, age, and health. Figure 10 below compares estimated GHG emissions from tree cover loss to GHG removals from tree carbon sequestration in 2022. Causes of tree loss include conversion from forest to other land uses; deforestation/harvesting; reduction in urban tree canopy; and degradation from insects, fire, and diseases. Emissions from tree cover loss are not netted with sequestration in this inventory to present a complete picture of gross GHG emissions and to support identification of reduction opportunities. Note that these tree loss emissions estimates do not consider loss of future carbon sequestration potential. For additional information regarding emissions from tree cover loss and carbon sequestration in Clark County, see Appendix D.

FIGURE 10. TREE COVER GHG EMISSIONS AND SEQUESTRATION.



County Operations Inventory

The county operations emissions inventory summarizes GHG emissions produced by county government activities, including from county-owned and operated facilities. In 2022, Clark County's operations produced an estimated 12,082 $MTCO_2e$. The county's largest sources of emissions occurred from built environment, contributing 44% of total county operations emissions, and solid waste & wastewater, contributing 36%. County operations emissions in 2022 made up 0.25% of Clark County's 2022 communitywide emissions. Figure 11 and Table 3 depicts Clark County's 2022 operational emissions by sector and source. Any values marked as N/A indicate insufficient data availability for that emissions source

FIGURE 11. COUNTY OPERATIONS EMISSIONS PROFILE ($MTCO_2E$).

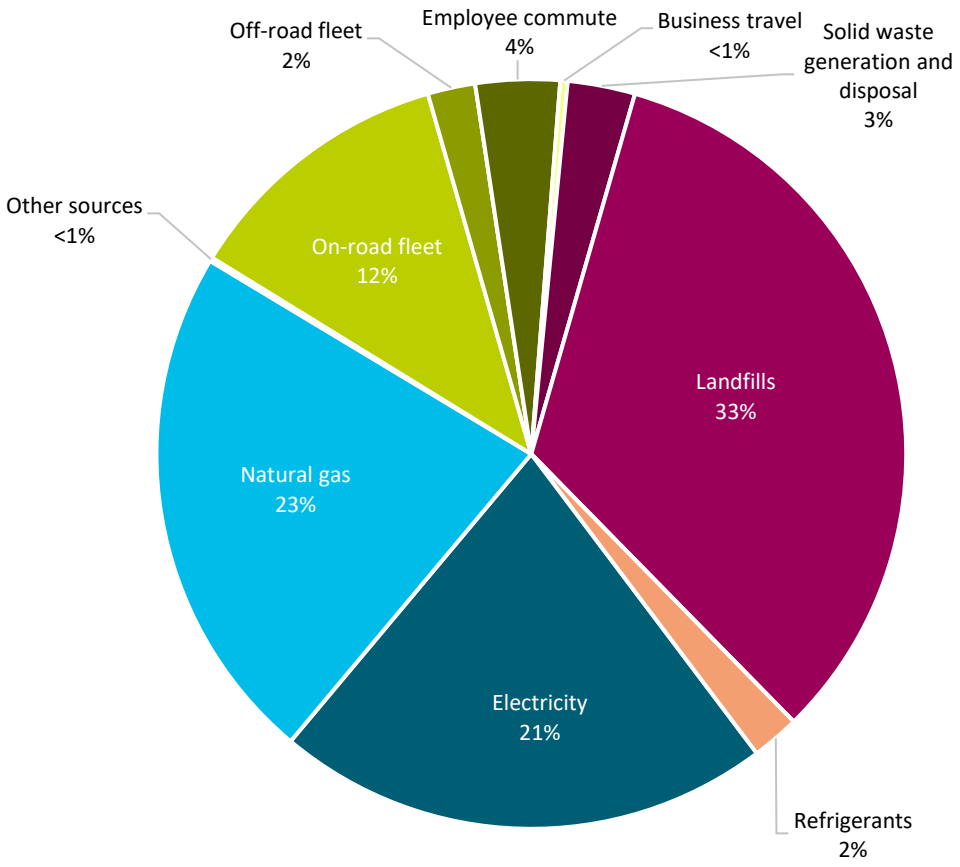


TABLE 3. 2022 TOTAL AND PER-EMPLOYEE COUNTY OPERATIONS GHG EMISSIONS, BY SECTOR ($MTCO_2E$ AND %).

GHG Emissions Sector	Total Emissions ($MTCO_2e$)	Per-employee Emissions ($MTCO_2e$)	Percent of Emissions (%)
Built Environment			
Electricity	2,583	1.6	21%
Natural Gas	2,720	1.7	23%
Propane	N/A	N/A	0%
Fuel Oil	N/A	N/A	0%
Power Generation	20	<0.1	<.1%
Transportation & Other Mobile Sources			
Fleet Vehicles & Equipment	1,670	1.0	14%
On-road fleet vehicles	1,422	0.9	12%
Off-road fleet equipment	248	0.2	2%
Employee Commute	439	0.3	4%
Business Travel	38	<0.1	<.1%
Solid Waste & Wastewater			
Solid Waste Generation & Disposal	4,362	2.7	36%
Landfilled waste	324	0.2	3%
Composted waste	27	<0.1	<.1%
County-owned landfills	4,010	2.5	33%
Wastewater Processes	N/A	N/A	0%
Refrigerants			
Refrigerants	249	0.2	2%
Stationary refrigerants	249	0.2	2%
Mobile refrigerants	N/A	N/A	0%
Total Emissions	12,082	7.6	100%

Built Environment

The built environment sector, which includes emissions from all county-owned and operated facilities, made up 44% of Clark County's 2022 operational emissions, contributing approximately 5,323 $MTCO_2e$. This sector includes emissions from the use of electricity, natural gas, propane, and fuel oil to heat, cool, and power county government facilities, as well as diesel generators used for backup power. The breakdown of government operations emissions by fuel type is shown in Figure 12.

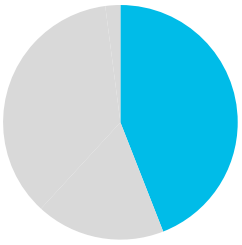
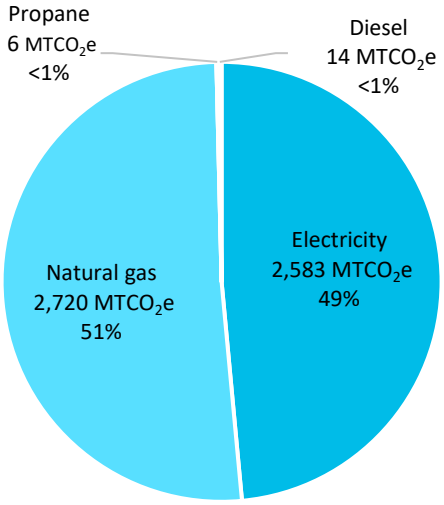
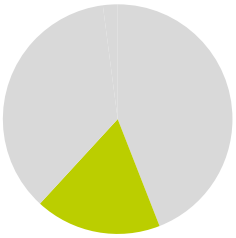


FIGURE 12. GOVERNMENT OPERATIONS BUILT ENVIRONMENT EMISSIONS, BY FUEL TYPE.

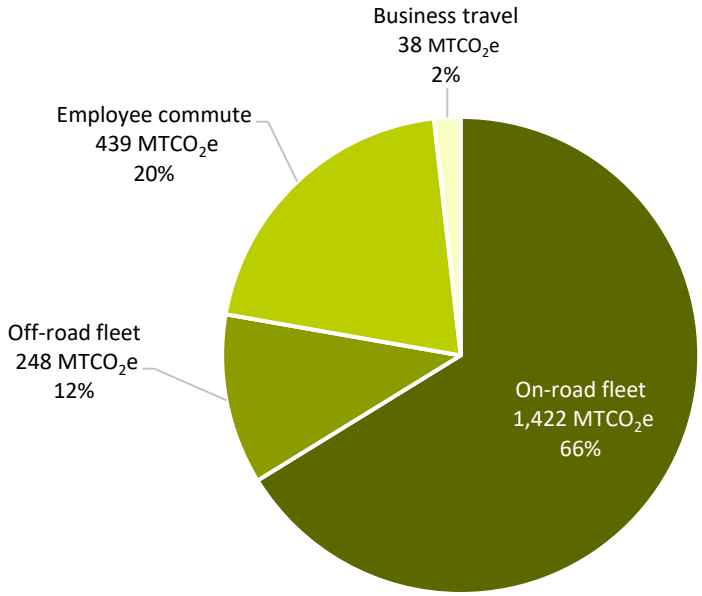


Transportation



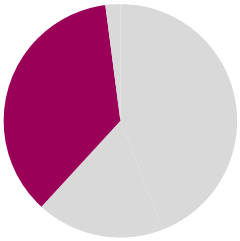
County operations transportation emissions stem from the operation of county fleet vehicles and equipment, county employee commuting, and county staff business travel (as data are available). Emissions from this sector made up 18% of Clark county's 2022 operational emissions (approximately 2,148 $MTCO_2e$). A breakdown of Clark County operations transportation emissions are shown below in Figure 13.

FIGURE 13. GOVERNMENT OPERATIONS TRANSPORTATION EMISSIONS, BY SOURCE.



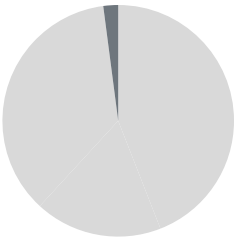
Solid Waste & Wastewater

The solid waste and wastewater sector made up 36% of Clark County's 2022 operational emissions, contributing approximately 4,362 $MTCO_2e$. This sector includes emissions from the county government's generation and disposal of solid waste, emissions from county-owned landfills (as applicable), energy used to convey water to county facilities, and process emissions from any county-owned wastewater facilities. Note that some of these sources may have been excluded due to data availability limitations.



Refrigerants

The refrigerant sector made up an estimated 2% of Clark County's 2022 operational emissions (249 $MTCO_2e$). This sector includes emissions from the use, leakage, and disposal of stationary refrigerants in county facilities, as well as mobile refrigerant use in county fleet vehicles and equipment.



Future Emissions Forecast & Scenario Analysis

Results from the 2022 communitywide GHG inventory were used to forecast future emissions and emission reduction scenarios for Clark County. Specifically, the analysis[7] forecasted Clark County's communitywide GHG emissions to 2050 under three scenarios, detailed in the sections below:

- Business-as-usual (BAU), which assumes no action is taken and assumes the projected population[8] and economic growth. [9] [10]
- Adjusted business-as-usual (ABAU), which models estimated emissions reduction from existing federal, state, and regional policies.
- Additional local action, which models estimated emissions reduction from local strategies such as VMT reduction and building energy efficiency.

In addition to these scenarios which consider all of Clark County's emissions, a "core emissions" forecast is shown below, which represents projected emissions only for the "core" emission sources included in the communitywide inventory. Core emissions that were included in this inventory include emissions from electricity, natural gas, on-road vehicles, solid waste generation and disposal, and wastewater treatment processes. These emissions are produced by sectors that are commonly included in community greenhouse gas inventories and which county governments often have the most influence.

Findings Summary

A summary of key findings from the 2022-2050 forecast and scenario analysis is provided in Table 4 below for both the core and all emissions sources.

TABLE 4. EMISSIONS FORECAST FOR 2050, UNDER THREE SCENARIOS (% CHANGE COMPARED TO 1990 BASELINE).

Scenario	Core Emissions	All Emissions
Business-as-Usual	+40%	+33%
Adjusted Business-as-Usual	-56%	-41%
Local Action	-92%	-88%

Emission levels for 1990 were estimated based on state-level emissions trends between 1990 and 2022.

[7] The forecast scenarios shown in this report are shown as examples of potential emission reduction pathways and may not reflect the scenarios represented in Clark County's Climate Element or associated analyses.
[8] Washington Office of Financial Management (OFM) Growth Management Act population projections, "Middle" scenario.
[9] Future employment estimated using expected OFM population growth percentages.
[10] Please note that the growth forecasts used in this analysis were selected in order to achieve consistency between Washington counties, and may not reflect the growth forecast used in Clark County's Comprehensive Plan update.

FIGURE 14. FORECASTED GHG EMISSIONS AND REDUCTIONS UNDER THREE SCENARIOS - CORE EMISSIONS.

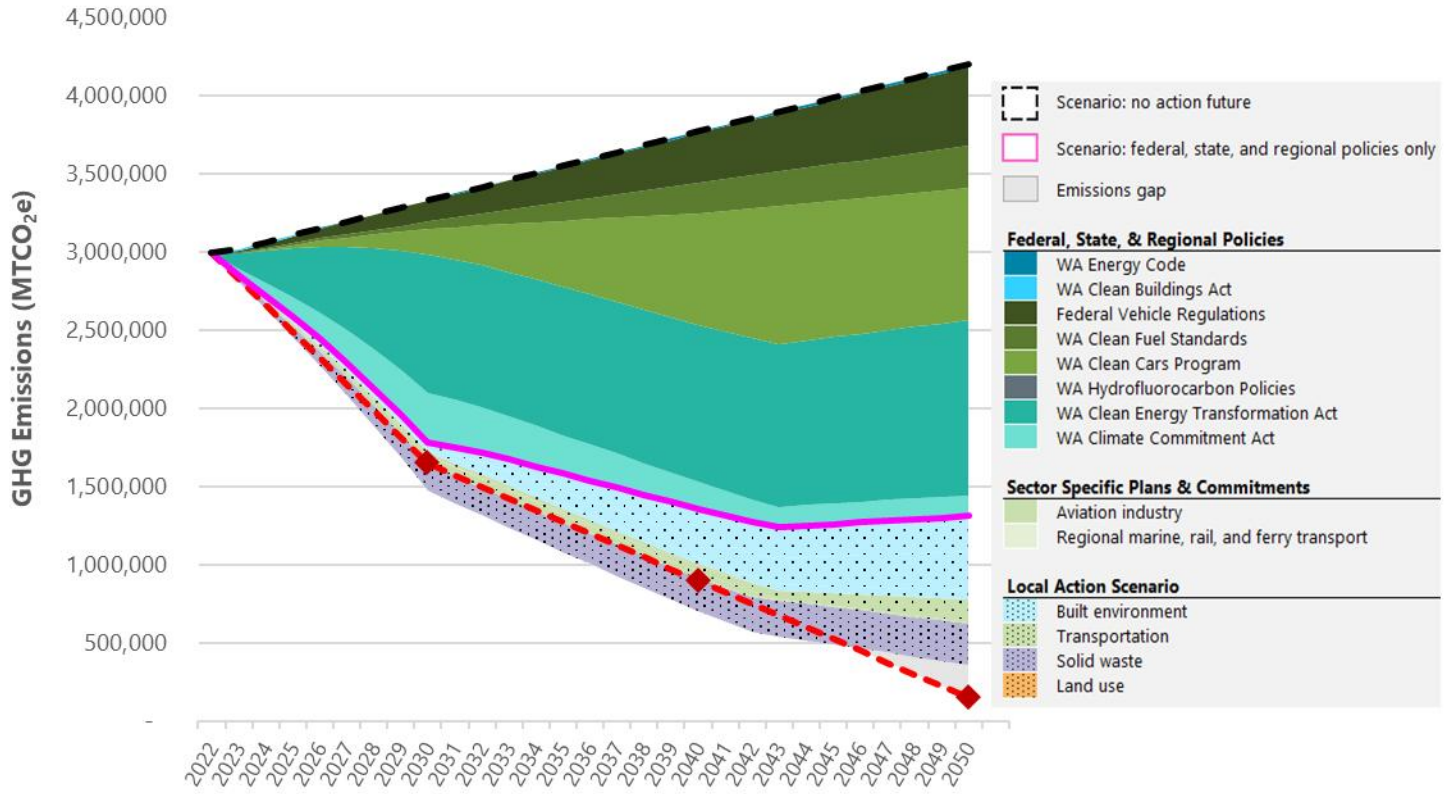
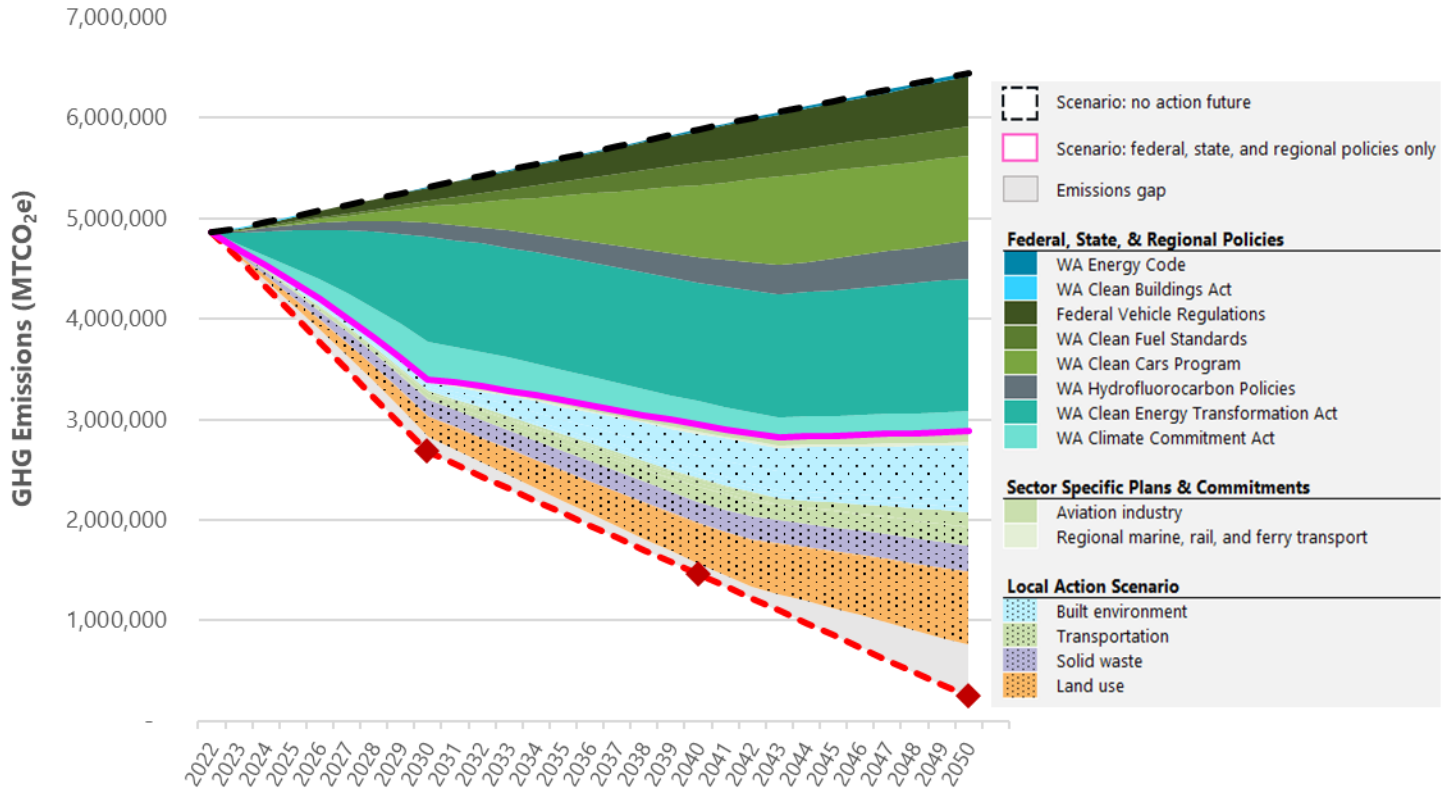


FIGURE 15. FORECASTED GHG EMISSIONS AND REDUCTIONS UNDER THREE SCENARIOS - ALL EMISSIONS.



The following sections provide a detailed summary of each scenario, including underlying assumptions and policy-specific findings.

Business-as-Usual Scenario

The BAU projects emissions based on a "no-action future" that assumes no federal, state, regional, or local policies or actions influence future emissions. Future emissions under the BAU are based on estimated population and economic growth. Population and economic growth estimates can be found in Table 5.

- Total Emission Forecast: The BAU projects a 33% growth in total emissions by 2050.
- Core Emission Forecast: The BAU projects a 40% growth in core emissions by 2050.

TABLE 5. DEMOGRAPHIC PROJECTIONS FOR CLARK COUNTY.

Demographic	2022	2030	2040	2050
Population	520,900	583,307	660,653	735,724
Employment	175,829	196,894	223,002	248,343

Adjusted-Business-as-Usual Scenario

The ABAU estimates emissions reductions resulting from established federal, state, and regional policies. Together, the implementation of identified policies results in an estimated 41% reduction in communitywide GHG emissions by 2050 compared to 1990 levels.

The ABAU scenario considered the following federal, state, and regional policies. Appendix B provides additional information regarding policy interpretation and assumptions.

- Washington State Energy Code (SB 5854)
- Washington Clean Buildings Act (HB 1257)
- Federal Vehicle Regulations (CAFE)
- WA Clean Fuel Standard (HB 1091)
- WA Clean Cars Program (SB 5974)
- WA Hydrofluorocarbon Policies (HB 1112 & HB 1050)
- WA Clean Energy Transformation Act (CETA)
- WA Climate Commitment Act (E2SSB 5126)

Note that to avoid double-counting, the analysis sequentially models each policy, so the order of modeling influences a policy's indicated GHG emission reductions.

Local Action Scenario

The local action scenario models additional emissions reductions from county-level local strategies, such as land use policies to encourage transportation mode shift and building energy efficiency. The intention of this scenario is to support identification and prioritization of local policies for inclusion in a GHG emission reduction sub-element. The local action scenario, which represents just one of many potential paths to achieving GHG emission reductions, provides a pathway toward achieving the state's GHG emission reduction target (95% reduction in GHG emissions by 2050 compared to a 1990 baseline). Note that several of these strategies may address emission sources that are expected to be reduced through existing federal, state, and regional legislation, which may make local strategies appear less impactful. Table 6 and Table 7 below summarize the local action scenario and associated reductions.

TABLE 6. LOCAL ACTION SCENARIO AND GHG EMISSION REDUCTIONS ($MTCO_2E$) - CORE EMISSIONS.

Local Strategy	2050 Value	Cumulative emissions reduction to 2050 ($MTCO_2e$)	Proportion of local strategy reductions (%)
Electrify new buildings (% fossil fuel use converted to elect.)	100%	833,421	6%
Reduce energy use in existing buildings (% reduction in energy use)	45%	3,447,071	24%
Electrify existing buildings (% fossil fuel use converted to elect.)	95%	2,917,871	20%
Reduce passenger vehicle travel (% reduction in per-capita VMT)	20%	354,427	2%
Electrify passenger vehicles (% new vehicles sold that are EV)	100%	735,003	5%
Electrify freight/service vehicles (% new vehicles sold that are EV)	80%	1,054,380	7%
Electrify transit vehicles (% new vehicles sold that are EV)	90%	110,957	<1%
Divert C&D materials (% of C&D waste diverted)	85%	5,094,780	35%
Divert other recyclable and compostable materials (% reduction in waste to landfill)	95%		
Total Emission Reductions		**14,547,911**	**100%**

TABLE 7. LOCAL ACTION SCENARIO AND GHG EMISSION REDUCTIONS ($MTCO_2E$) - ALL EMISSIONS.

Local Strategy	2050 Value	Cumulative emissions reduction to 2050 ($MTCO_2e$)	Proportion of local strategy reductions (%)
Electrify new buildings (% fossil fuel use converted to elect.)	100%	923,592	3%
Reduce energy use in existing buildings (% reduction in energy use)	45%	3,973,193	14%
Electrify existing buildings (% fossil fuel use converted to elect.)	95%	3,362,040	12%
Reduce industrial emissions (% reduction in emissions)	50%	671,983	2%
Reduce passenger vehicle travel (% reduction in VMT)	20%	354,424	1%
Electrify passenger vehicles (% new vehicles sold that are EV)	100%	735,078	3%
Electrify freight/service vehicles (% new vehicles sold that are EV)	80%	1,054,381	4%
Electrify transit vehicles (% new vehicles sold that are EV)	90%	110,957	<1%
Decarbonize offroad equipment (% reduction in emissions)	95%	2,479,943	9%
Divert C&D materials (% of C&D waste diverted)	85%	5,094,780	18%
Divert other recyclable and compostable materials (% reduction in waste to landfill)	95%		
Improve soil management (% reduction in emissions)	75%	201,642	<1%
Reduce tree loss (% reduction in tree loss)	90%	9,705,368	34%
Total Emission Reductions		**28,667,382**	**100%**

Remaining Emissions

In 2050, the largest sources of remaining emissions under the local action scenario are on-road vehicles (26%), aviation (18%), and tree loss (13%). Under the "Core" forecast's local action scenario, the largest sources of remaining emissions in 2050 are on-road vehicles (67%), natural gas (13%), and solid waste generation & disposal (11%). The makeup of remaining emissions is depicted in Figure 16 and Figure 17 below.

FIGURE 16. FORECASTED GHG EMISSIONS AND REDUCTIONS UNDER THREE SCENARIOS ($MTCO_2E$) - CORE EMISSIONS.

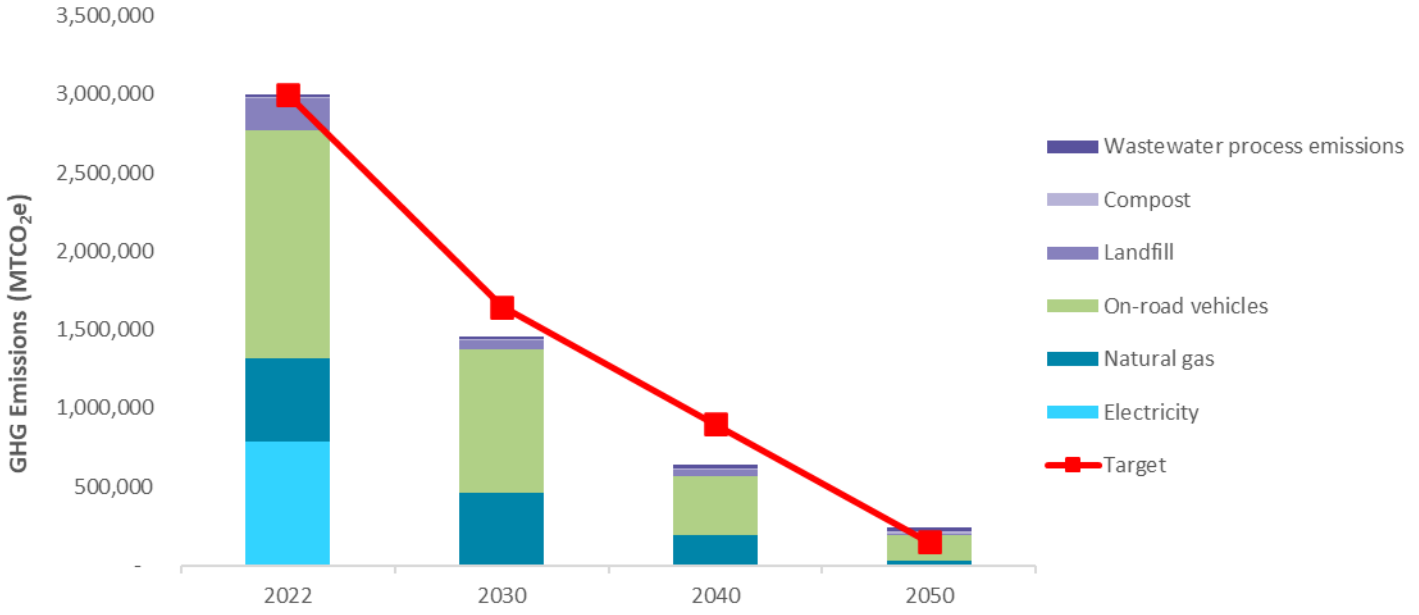
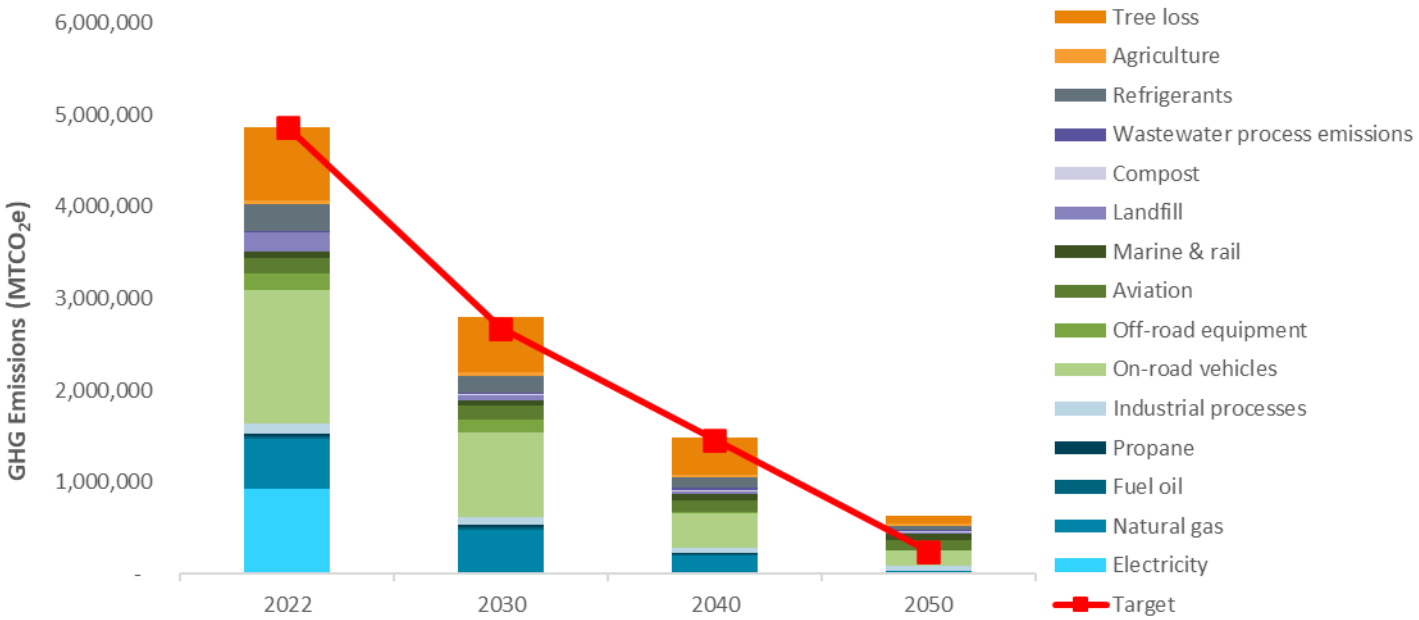


FIGURE 17. FORECASTED GHG EMISSIONS AND REDUCTIONS UNDER THREE SCENARIOS ($MTCO_2E$) - ALL EMISSIONS.



Local Policy Options

These analyses of current and projected future GHG emissions provide insight into local policy options for reducing GHG emissions in Clark County. As presented in the local action scenario, key GHG emission reduction strategies for focus in Clark County's comprehensive plan update include:

- Reduce energy consumption in new and existing residential and commercial buildings through: 1) supporting clean building energy sources and 2) energy efficient building design and retrofits. Local action to transition to renewable building energy sources would reduce Clark County's built environment emissions, which made up 34% of 2022 communitywide emissions.
- Reduce passenger vehicle travel within the county, including through changes to land use, transportation infrastructure (transit, walking, bicycling), and commuting options/modes. A reduction in passenger VMT would reduce Clark County's communitywide on-road emissions from passenger vehicles, which made up 21% of 2022 emissions.
- Facilitate the transition to electric vehicles through expansion of reliable EV charging infrastructure and public education on options and available incentives/rebates. Local action to support transitioning passenger and freight vehicles to electric would reduce Clark County's passenger and freight vehicle on-road emissions, which made up 30% of 2022 communitywide emissions.
- Limit tree loss and support low-carbon land practices such as sustainable forestry, agriculture, and livestock management. Reducing tree loss emissions and emissions from agricultural practices in Clark County would reduce land use emissions, which made up 17% of 2022 communitywide emissions.
- Work with local industries to support transition to low-carbon industrial processes, including for high-carbon industries such as semiconductor device manufacturing and operating paper mills. These industrial process emissions made up 2% of Clark County's 2022 communitywide emissions.

Appendix A: GHG Inventory Methodology

Emissions Sectors

Communitywide

The communitywide GHG emissions inventory included the sectors depicted in Table 8 below. Some of the sectors are classified as "core" emissions sources; Table 8 identifies these core emissions sources and the rationale for their classification. Core emissions sources also align with the five basic emissions generating activities that are required for community inventories per the U.S. Community Protocol for Accounting and Reporting of GHG Emissions[11]. While agriculture, tree loss, and some other emissions sources are not included in the core emissions scenario, Commerce still strongly encourages local jurisdictions to consider comprehensive plan policies to address emissions from these sources. Such policies will support co-benefits such as clean air and water, improve resilience, and provide beneficial opportunities such as local food systems.

TABLE 8. COMMUNITYWIDE GHG EMISSIONS INVENTORY SECTORS.

Sector	Core?	Required?	Rationale
Built Environment			
Electricity	**Yes**	✓	Local governments can often influence electricity use in local buildings through local building codes, financial incentives, minimum regulatory requirements, technical assistance, and other programs.
Natural gas	**Yes**	✓	Local governments can often influence use of fuels in stationary combustion applications (e.g., furnaces) in local buildings through local building codes, financial incentives, minimum regulatory requirements, technical assistance, and other programs. *Note: Be advised that I-2066, approved by Washington voters in November 2024, prevents counties, cities, and towns from adopting policies that prohibit, penalize, or discourage natural gas heating in buildings and appliances and equipment within buildings. Check with your jurisdiction's legal counsel about impacts to your jurisdiction.*
Fuel oil & propane	No		Often a smaller emissions source; less confident in local specificity of the data (estimated using downscaled state-level data).
Industrial processes	No		Local governments have less direct control over large industrial sources; they are regulated at the state and federal level.
Transportation			
On-road vehicles	**Yes**	✓	Local governments can influence transportation emissions through land use and urban design regulations and through transportation infrastructure investments.
Off-road equipment	No		Often a smaller emissions source; local governments have less influence over off-road equipment fuel usage.
Aviation	No		Local governments have less influence over aviation fuel mix and passenger air travel behavior.
Marine & rail	No		Often a smaller emissions source; local governments have less influence over marine/rail activity and fuels.
Solid Waste & Wastewater			
Solid waste generation & disposal	**Yes**	✓	Local governments can influence the amount of solid waste generated and sent to various disposal methods through their administration of municipal solid waste, recycling and composting services.

[11] U.S. Community Protocol | ICLEI USA

Sector	Core?	Required?	Rationale
Compost generation & disposal	Yes		Local governments can influence the amount of solid waste generated and sent to various disposal methods through their administration of municipal solid waste, recycling and composting services. Compost emissions are often much lower than landfilled waste emissions.
Wastewater treatment processes and septic systems	Yes		Local governments can influence community water use through local building codes, promoting and/or providing incentives to foster conservation and efficiency, and other programs and services.
Refrigerants			
Refrigerants	No		Often a smaller emissions source; less confident in local specificity of the data (estimated using downscaled national-level data).
Land Use			
Agriculture	No		Local governments have less influence over agricultural management practices; less confident in local specificity of the data (management practices are assumed based on national trends).
Tree loss and tree carbon sequestration	No		Local governments have less influence over management of forests and other natural resources owned by private entities and state and federal agencies; data represent an average over a 3+ year time period so may not reflect current trends.

County Operations

The county government operations GHG emissions inventory sought to include the sectors depicted in Table 9 below. These sectors represent Scope 1, 2, and 3 emissions sources, which are defined as follows:

- Scope 1: All direct GHG emissions sources
- Scope 2: Indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heating, or cooling.
- Scope 3: All other indirect emissions not covered in Scope 2.

Depending on data availability, not all sectors may have been included in Clark County's county operations GHG inventory. The Local Government Operations Protocol notes that local governments should, at a minimum, quantify and report all Scope 1 and 2 emissions, and reporting of Scope 3 emissions is optional.

TABLE 9. COUNTY OPERATIONS GHG EMISSIONS INVENTORY SECTORS.

Sector	Scope	Description
Built Environment		
Electricity	2	Amount of electricity (in kWh) consumed by County-owned buildings and facilities, including any County-owned utilities and streetlights/traffic signals, as well as the amount of electricity (in kWh) consumed by any green program enrollment.
Natural gas	2	Amount of natural gas (in therms) consumed by County-owned buildings and facilities.
Other fuels	1	Amount of propane and fuel oil (in gallons) consumed by County-owned buildings and facilities, including any City-owned utilities.
Power generation	1	Fuel type and amount consumed by County generators.
Transportation		
County vehicles & equipment	1	Vehicle fleet inventory includes on-road and off-road fleet and equipment.
Employee commute	3	Employees commuting passenger miles travelled by transit type (e.g. car, bus, ferry).
Business travel	3	Business travel miles by mode (e.g. passenger vehicle, train, or air travel).
Solid Waste & Wastewater		
Solid waste & compost	1	Total solid waste generated by County operations during inventory year (in tons) by waste stream (e.g. landfill, recycling, compost). If tonnage is unavailable, please provide the number of bins per waste type, estimated fullness per bin, and pickup frequency.

Sector	Scope	Description
County landfills	1	Landfill characteristics owned/operated by the County (ex. Waste in place, open year, close year, etc.).
Wastewater treatment processes	2	Wastewater generation data from wastewater treatment plants.
Water conveyance	2	Amount of electricity (in kWh) consumed for water conveyance.
Refrigerants		
Stationary refrigerants	1	The total amount of refrigerants (in lbs.) used to fill or refill refrigeration equipment.
Mobile refrigerants	1	The total amount of refrigerants (in lbs.) used to fill or refill fleet air conditioning.

Methodology and Data Sources

Calculating Clark County's GHG emissions inventories involved identifying and applying emissions factors to activity data:

- Activity data quantify levels of activity that generate GHG emissions, such as vehicle miles traveled and kWh of electricity consumed.
- Emission factors (EFs) translate activity levels into emissions (e.g., $MTCO_2e$ per kWh).

The tables and sector sections below provide an overview of methodologies for each emissions sector in the communitywide and County government operations inventories. Any deviations or data limitations specific to Clark County are noted in the "Approach and Data Limitations" section on page A-12.

TABLE 10. COMMUNITY GHG INVENTORY: KEY APPROACHES AND DATA SOURCES.

Sector	Activity Data	Emissions Factors (EFs)
Built Environment		
Electricity	County-wide consumption provided by utilities	1) Utility-specific emission factors (from Department of Ecology Clean Fuel Standard program utility-specific electricity calculations) 2) Emissions & Generation Resource Integrated Database (eGRID) EFs (for informational purposes only)
Natural gas	County-wide consumption provided by utilities	1) Utility-specific emission factors, where available 2) U.S. EPA EF Hub average EFs (where utility-specific EFs were not available)
Fuel oil	WA fuel oil consumption by sector from U.S. Energy Information Administration (EIA)	U.S. EPA EF Hub average EFs
Propane	WA propane consumption by sector from U.S. EIA	U.S. EPA EF Hub average EFs
Industrial processes	EPA Facility Level Information on Greenhouse Gases Tool (FLIGHT)	N/A - data reported in emissions
Transportation		
On-road vehicles	Two approaches[12]: 1) Vehicle miles traveled data from Washington State Department of Transportation (WSDOT) Highway Performance Monitoring System (HPMS) 2) Vehicle miles traveled estimates from StreetLight for home-based resident vehicle trips and work-based employee vehicle trips	U.S. Environmental Protection Agency (EPA) Emission Factors Hub[13] vehicle EFs (by vehicle & fuel type)

[12] See more information regarding these two approaches in the "Transportation" section below.
[13] EPA Emission Factors Hub

Sector	Activity Data	Emissions Factors (EFs)
Off-road equipment	EPA Motor Vehicle Emission Simulator (MOVES) model outputs, by county	N/A (data reported in emissions)
Public transit	Reported transit vehicle miles traveled by fuel type for each transit agency from the National Transit Database (NTD)	U.S. EPA Emission Factors Hub vehicle EFs (by vehicle & fuel type)
Aviation	Two approaches, depending on data availability: 1) Volume of fuel (jet-A and aviation gasoline) loaded onto all planes departing from airports within county; volume of all fuel used in helicopters, light aircraft operating within county boundaries (e.g., police, sightseeing, training) 2) Number of landing and takeoff cycles that could be used to estimate fuel based on similar airports Emissions from Seattle-Tacoma International Airport (SEA) and Portland International Airport (PDX) were attributed to individual counties using Approach 1 (described above), in combination with passenger survey data, population, and household income data from the U.S. Census.	U.S. EPA EF Hub average emission factors, by fuel type
Marine	US EPA National Emissions Inventory (NEI) estimates by county (for commercial marine vessels)	N/A (data reported in emissions)
Rail	U.S. EPA National Emissions Inventory (NEI) by county (for freight and passenger rail use)	N/A (data reported in emissions)
Solid Waste & Wastewater		
Solid waste generation & disposal	County-wide tonnage and local waste characterization data, as available. Where local waste characterization data were unavailable, Department of Ecology regional characterizations were used.	EPA Waste Reduction Model (WARM) EFs, customized for landfill attributes
Compost generation & disposal	County-wide tonnage and WA state organics characterization study	EPA WARM EFs
Wastewater treatment processes	Wastewater treatment data by wastewater treatment facilities (including gallons processed)	U.S. Community Protocol default EFs, customized for wastewater treatment facility process specifications (unless a treatment facility provided customized emission calculations)
Septic systems	Number of reported septic systems	U.S. Community Protocol default EFs
Refrigerants		
Refrigerants	EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022	N/A - reported in terms of emissions
Land Use		
Agriculture	County-specific acres of cropland and number of livestock (from U.S. Department of Agriculture Census of Agriculture)	U.S. Community Protocol defaults by animal / management scenario
Tree cover	ICLEI Land Emissions and Removals Calculator - reported in terms of emissions	

TABLE 11. COUNTY GOVERNMENT OPERATIONS GHG INVENTORY: KEY APPROACHES AND DATA SOURCES.

Sector	Activity Data	Emissions Factors (EFs)
Built Environment		
Electricity	Consumption by County facilities	Utility-specific emission factors (from Department of Ecology Clean Fuel Standard program utility-specific electricity calculations)
Natural gas	Consumption by County facilities	Utility-specific emission factors
Other fuels	Consumption by County facilities	U.S. EPA EF Hub average EFs
Power generation	Consumption by County facilities	U.S. EPA EF Hub average EFs
Transportation		
County fleet vehicles & equipment	Fuel consumption data for County vehicles and equipment	US Environmental Protection Agency (EPA) Emission Factor Hub vehicle EFs (by vehicle & fuel type)
Employee commute	Total employees commuting passenger miles travelled	N/A
Business travel	Total employee business travel miles travelled	N/A
Solid Waste & Wastewater		
Solid waste & compost	Estimated tonnage based on waste hauler invoices (container size and pickup frequency) Assumed waste characterization consistent with community commercial sector	EPA Waste Reduction Model (WARM) EFs, customized for landfill attributes
County landfills	Tons of waste in place	Reported emissions from EPA FLIGHT dataset
Wastewater treatment	Wastewater treatment data by wastewater treatment facilities (including gallons processed)	U.S. Community Protocol default EFs, customized for wastewater treatment facility process specifications (unless a treatment facility provided customized emission calculations)
Water conveyance	Energy consumption by County facilities	Utility-specific emission factors
Refrigerants		
Stationary refrigerants	County-reported refrigerant use	IPCC Sixth Assessment Report (AR6) Global Warming Potentials (GWP)
Mobile refrigerants	County-reported refrigerant use	IPCC Sixth Assessment Report (AR6) Global Warming Potentials (GWP)

Communitywide

Building Energy

Electricity

Emissions from electricity consumption were determined using the amount of electricity consumed in 2022 within each county, multiplied by utility- and year-specific emission factors. Residential, commercial, and industrial electricity consumption data were procured directly from the utilities that provide service to each county. Emissions from electricity transmission and distribution (T&D) were included in the utility-specific emission factors used for these inventories, provided by the WA Department of Ecology.

Natural Gas

Emissions from natural gas consumption were determined by multiplying the natural gas consumed in 2022 within each county by utility- and year-specific emission factors (as available). Residential, commercial, and industrial natural gas consumption data were procured directly from the utilities that provide service to each county. Emissions from natural gas leakage were calculated using utility-specific leakage rates if available, or

using a default leakage rate from the Environmental Defense Fund's "User Guide for Natural Gas Leakage Rate Modeling Tool"[14]. Other default values necessary to calculate fugitive emissions from natural gas were provided by ClearPath, ICLEI's greenhouse gas inventory software platform.

Propane & Fuel Oil

Residential propane and fuel oil emissions were calculated using 2022 U.S. EIA residential and commercial propane and fuel oil consumption data for the state of Washington. Statewide total residential fuel sales were allocated to counties using U.S. Census American Community Survey (ACS) home heating fuel data. Commercial propane and fuel oil emissions were calculated using WA commercial fuel consumption estimates downscaled by the number of commercial employees within each county as compared to total state employment. Employment data were collected from the WA Employment Security Department, which provides data on the number of employees across industries. Propane and fuel oil emissions were both calculated using U.S. EPA emissions factors. Industrial propane and fuel oil were not calculated due to potential overlap with the industrial process emissions sector (see below).

This December 2025 report update incorporates newly available 2022 EIA residential and commercial consumption data (the July 2025 version used 2021 data as a proxy, as 2022 data were not yet published).

Industrial Processes

Emissions from industrial processes in 2022 were obtained from EPA's Facility Level Information on Greenhouse Gases Tool (FLIGHT). Data was available for download by county for large facilities (>25,000 $MTCO_2e$) required to report annual data about GHG emissions to EPA as part of the Greenhouse Gas Reporting Program. To avoid double counting with other inventory sectors such as solid waste and buildings, EPA FLIGHT data from landfill facilities and facility energy consumption (e.g., natural gas) were excluded.

Transportation

On-Road

On-road GHG emissions were estimated using 2022 VMT activity data from WSDOT's Highway Performance Monitoring System (HPMS), which provides estimated annual VMT for all public roadways in each county. VMT for each county was split into light, medium, and heavy-duty VMT based on WSDOT HPMS statewide freight percentages. For medium- and heavy-duty freight emissions, VMT was multiplied by fuel- and vehicle-specific emissions factors from the 2022 EPA Emission Factors Hub. For light-duty vehicles, 2022 vehicle registration data from each county was used to estimate VMT by fuel type, which was then multiplied by fuel-specific emissions factors from the EPA Emission Factors Hub. The vehicle registration data was also used to create a weighted emissions factor for light-duty gasoline vehicles, based on the split between passenger vehicles and light trucks in each county.

Using HPMS data is an alternative for obtaining VMT activity data for jurisdictions that do not have a travel demand model calibrated to current conditions. HPMS estimates VMT using traffic counts on public roadways. These counts are expanded using statistical sampling and road segment characteristics (e.g., functional class, urban/rural designation) to estimate total VMT across all public roads within each county. While HPMS data offers a consistent, annually reported dataset and is useful for producing jurisdiction-level VMT estimates, it has less explanatory power compared to travel demand models, which incorporate land use, network connectivity, and regional behavior patterns.

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[14] U.S. Natural Gas Leakage Model User Guide | EDF

Both travel demand model and HPMS data focus on VMT occurring within and passing through the area, rather than the VMT generated by the area itself (even if that VMT passes outside of the area boundary). While travel demand models can estimate VMT generated by an area, it is a more complex calculation than the geographic boundary-based approach. Understanding VMT generated by the area offers valuable context for developing targeted reduction strategies, as it reflects the driving activity of residents and workers within the jurisdiction while excluding pass-through traffic on interstates and major roadways. Many local VMT reduction strategies, such as providing transit passes, aim to influence the travel behavior of residents and workers, making person-level VMT data particularly useful for policy development. While geographic-boundary based approaches for VMT provide a consistent and reliable estimate of VMT and associated GHG emissions, person-level VMT data can complement this by offering deeper insights to support effective VMT reduction goals.

To supplement the VMT data, estimates for home-based VMT per resident and home-based work VMT per employee were provided by StreetLight Data for each county. The methodology involves several steps using Location-Based Services (LBS) data to create a detailed and accurate metric. First, StreetLight data analyzes all vehicle trips that either start or end within the selected geography. These trips are then assigned to residents or employees based on inferred home and work locations. The trips are further classified by purpose, such as home-to-work or home-to-other trips. Average trip lengths are then calculated for each category. The VMT estimates are obtained by multiplying the average trip length by the vehicle volumes for each trip category, and these estimates are normalized for residents and employees. More information regarding this methodology can be found in Appendix E.

Off-Road

Off-road emissions were acquired from EPA's Motor Vehicle Emissions Simulator (MOVES) model version 4.0. Using county-level defaults, the MOVES nonroad module was used to output 2022 daily emissions for all available off-road sectors, including agriculture, airport support, commercial, construction, industrial, lawn and garden, logging, oil field, pleasure craft, railroad, recreational, and underground mining. The equipment included in these sectors included self-propelled vehicles, such as construction equipment, as well as handheld equipment like chainsaws. MOVES output was provided for by weekday and weekend day for each month. The results were multiplied by the appropriate number of weekdays and weekend days in 2022 to determine annual emissions. The model produces CH_4 and CO_2 emissions per sector for gasoline, LPG, CNG, and diesel.

Public Transit

Transit emissions were based on annual fuel use and vehicle-miles-traveled data for each transit agency, obtained from the National Transit Database report for 2022. Annual fuel use was multiplied by standard fuel- and vehicle-specific emissions factors from the EPA Emission Factors Hub.

Aviation

Aviation emissions were based on the fuel used by aircraft at each airport. Gallons of jet fuel and aviation gasoline were multiplied by standard fuel-specific emission factors from the EPA Emission Factors Hub. Emissions from regional and municipal airports were assigned to the county in which the airport is located.

Portland International Airport (PDX) is not located in Clark County; however, many residents of Clark County utilize PDX for air travel. PDX provided passenger survey data that identified the percentage of departing passengers whose home is Clark County. These data were used to attribute a portion of the airport's 2022 fuel consumption data to Clark County.

Marine

Emissions from marine sources were estimated for commercial marine vessels. Pleasure craft were reported as off-road vehicles/equipment. Emissions from commercial marine vessels were obtained from EPA's National Emissions Inventory (NEI) 2020 NEI Data Retrieval Tool, by county. In the absence of 2022 data or scaling factors related to commercial activity, it was assumed that 2022 emissions were equivalent to 2020 emissions.

NEI commercial marine data includes emissions from the Washington State Ferry (WSF) system. WSF has begun implementation of its System Electrification Plan, which is projected to decrease fleetwide GHG emissions by 75% by 2040. To understand the contribution of ferry vessel emissions to the total commercial marine vessel sector, emissions from WSF vessels were determined by scaling the emissions reported in the 2016 Puget Sound Maritime Emissions Inventory by fuel use in 2016 and 2022 (these calculations were performed for informational purposes only).

Rail

Emissions from freight and passenger rail were obtained from EPA's National Emissions Inventory 2020 NEI Data Retrieval Tool, by county. In the absence of 2022 data or scaling factors related to commercial activity, it was assumed that 2022 emissions were equivalent to 2020 emissions.

Solid Waste and Wastewater

Solid Waste Generation and Disposal

Emissions from the generation and disposal of landfilled solid waste were estimated by multiplying the tons of waste generated in 2022 by material-specific emissions factors derived from the U.S. EPA WARM v16 model. If locally specific solid waste tonnage data were not attainable, WA Department of Ecology "Solid Waste Disposal Annual Summary, Recoverable and Non-Recoverable Wastes generated in Washington State, 1994-2021" tonnage data were scaled by population to estimate county-level waste generation. Waste and compost generation data were obtained from local waste haulers that serve each county, as available. Waste composition data, when available, were obtained directly from county staff. If recent waste characterization studies were unavailable, regional data from the WA Statewide 2020 Waste Characterization Study were used. These characterization data were translated into U.S. EPA WARM categories to estimate emissions by material type, and EFs were applied to estimate methane emissions based on the landfill's unique characteristics and methane capture scenario. Emissions from transportation of waste to landfills were estimated using estimated travel distance (from Google Maps) and default EFs from the U.S. Community Protocol.

Wastewater Treatment Processes

Emissions from the treatment of wastewater produced by each county were estimated based on reported 2022 data from wastewater treatment plants. Emissions were estimated based on the type of treatment processes at a given plant—such as the use of anaerobic digestion or the use of nitrification/denitrification—as well as the population served. Based on the data reported by each facility, emissions were calculated using U.S. Community Protocol default equations. Where facilities were unable to directly provide the necessary data to estimate process emissions, the treatment plant service area was used to estimate population served and emissions were estimated using data from U.S. EPA compliance reports for that wastewater treatment facility.

Septic Systems

To determine emissions from septic systems, the estimated population served by septic systems was estimated using the 1) number of septic systems within each county and 2) average population per household in that county as of 2022 (as reported by the U.S. Census). Emissions were then estimated using default equations from the U.S. Community Protocol.

Refrigerants

Emissions from refrigerant use were obtained from U.S. EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2022. Total refrigerant emissions were downscaled to each county based on the U.S.-to-county population ratio, using Washington Office of Financial Management (OFM) county population estimates. For this updated December 2025 version of the inventory report, the population data source was revised from U.S. Census county populations to OFM estimates to improve consistency with other sections of the inventory.

Land Use

Agriculture

Agricultural emissions were calculated following the U.S. Community Protocol methodology. Agricultural emissions stem from livestock enteric fermentation, manure management, and soil. For these calculations, the U.S. EPA Inventory Annexes provided values for the following: livestock enteric fermentation emissions factors, distribution of waste management systems, typical animal mass, daily and annual volatile solid production rates, maximum CH_4 producing capacity per pound of manure, methane conversion factors based on manure management system, daily excreted nitrogen rates, nitrous oxide emissions factors, nitrogen lost through volatilization, and nitrogen lost through runoff and leaching. The U.S. Community Protocol Appendix G provided values for volatilization and runoff/leaching emissions factors. Data on the number of animals in each county was sourced from the USDA 2022 Census of Agriculture. The U.S. EPA Inventory and Inventory Annexes provided nationwide values for direct and indirect N_2O emissions from soils, and the total U.S. cropland acreage was provided by the 2022 USDA Census of Agriculture. This national data was used to create an emissions factor for soil, which was applied to the acres of cropland in each county.

Tree Loss & Carbon Sequestration

ICLEI's Land Emissions and Removals Navigator (LEARN) tool was used to estimate GHG emissions from tree cover loss and carbon sequestration from tree cover gain and maintenance within county boundaries. The LEARN tool uses the National Land Cover Database (NLCD), produced by the United States Geological Survey (USGS) as the land cover database for this analysis. The LEARN tool requires a minimum of a 3-year analysis timeframe, which was divided by three to determine an average annual value. At the time of this analysis, the tool was available through 2019; therefore, a 2016-2019 timeframe was analyzed. Default factors used to calculate emissions for the "Trees Outside Forests" category are based on data for Seattle, Washington (the tool allows for customization to major metropolitan areas; the only available Washington option is for Seattle). More information regarding this methodology can be found in Appendix D: Tree Canopy GHG Emissions & Sequestration Summary Report.

County Government Operations

Built Environment

Facility Electricity

Emissions from electricity consumption were determined by multiplying the amount of electricity consumed in 2022 within each county-owned and/or -managed facility by utility- and year-specific emission factors. Emissions from electricity transmission and distribution (T&D) were included in the utility-specific emission factors used for these inventories, provided by the WA Department of Ecology.

Facility Natural Gas

Emissions from natural gas consumption were determined by multiplying the natural gas consumed in 2022 within each county-owned and/or -managed facility by utility- and year-specific emission factors. Emissions from natural gas leakage were calculated using utility-specific leakage rates if available or using a default leakage rate from the Environmental Defense Fund's *User Guide for Natural Gas Leakage Rate Modeling Tool*.[15] Other default values necessary to calculate fugitive emissions from natural gas were provided by ClearPath, ICLEI's greenhouse gas inventory software platform.

Other Facility Energy Sources

Emissions from other facility fuel sources, including propane, fuel oil, and diesel, were calculated by multiplying the amount of fuel consumed within each county-owned and/or managed facility by default U.S. EPA emissions factors.

Transportation

On-Road Fleet Vehicles

GHG emissions from on-road county fleet vehicles were estimated by multiplying either fleet vehicle 1) fuel consumption or 2) miles traveled by fuel- and vehicle-specific emissions factors from the 2022 EPA Emission Factors Hub. Vehicle miles traveled data were translated to fuel consumption using average miles per gallon (mpg) estimates from the U.S. Department of Transportation Federal Highway Administration's (FHWA) "Annual Vehicle Distance Traveled in Miles and Related Data - 2022" dataset.

Off-Road Fleet Vehicles

GHG emissions from off-road county fleet vehicles were estimated by multiplying off-road fleet vehicle fuel consumption by fuel-specific emissions factors from the 2022 EPA Emission Factors Hub.

Transit Fleet

GHG emissions from county-owned and/or operated transit fleet vehicles were estimated using emissions estimates from the transit agency.

Employee Commute

GHG emissions from county employee commuting were estimated using available commuting data, such as from employee surveys or Washington State Commute Trip Reduction program reporting.

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[15] U.S. Natural Gas Leakage Model User Guide | EDF

Business Travel

GHG emissions from county employee business travel were estimated by multiplying standard emissions factors from the EPA Emissions Factors Hub by county-reported mileage data for ground and air travel.

Solid Waste and Wastewater

Solid Waste Generation and Disposal

Emissions from county government generation and disposal of landfilled solid waste were estimated by multiplying estimated total tons of waste generated in 2022 from county owned and/or managed facilities by material-specific emissions factors derived from the U.S. EPA WARM v16 model.

If local waste characterization studies were unavailable, regional data from the WA Statewide 2020 Waste Characterization Study were used. These characterization data were translated into U.S. EPA WARM categories to estimate emissions by material type, and emission factors were applied to estimate methane emissions based on the landfill's unique characteristics and methane capture scenario. Emissions from transportation of waste to landfills were estimated using estimated travel distance from county to landfill (Google Maps) and default emission factors from the U.S. Community Protocol.

Landfills

Emissions from county owned and/or operated landfills were estimated using EPA's Facility Level Information on Greenhouse Gases Tool (FLIGHT). Data was available for download by county for large facilities (>25,000 $MTCO_2e$) required to report annual data about GHG emissions to EPA as part of the Greenhouse Gas Reporting Program.

Wastewater Treatment Processes

Emissions county-owned and/or operated wastewater treatment facilities were estimated using reported emissions values from wastewater treatment facilities.

Water Conveyance

Emissions from county-owned and/or operated water conveyance systems (e.g., pump stations) were estimated using county- or utility-reported energy consumption (electricity, natural gas) and multiplying by respective emissions factors, consistent with the approach used for county facility energy consumption.

Refrigerants

Emissions from the leakage of both mobile and stationary refrigerants within county-owned and/or operated facilities and vehicles were estimated using county-provided data on refrigerant use and/or recharge. These use estimates were converted to greenhouse gas emissions estimates using standard global warming potentials (GWPs) from The GHG Protocol, which are based on findings from the IPCC Sixth Assessment Report (AR6).[16]

[16] IPCC Global Warming Potential (GWP) values relative to CO2 | GHG Protocol

Approach and Data Limitations

While the GHG inventories sought to include the most accurate, locally-specific data available, in some cases data availability was limited and scaling or approximations were necessary. Notable limitations in the data and resulting approaches are summarized below.

Communitywide

Transportation

On-Road Vehicles

- Estimated VMT was split into light, medium, and heavy-duty VMT based on WSDOT HPMS statewide freight percentages. These allocations could deviate from county-level freight percentages.
- Estimated VMT was split into vehicle fuel types based on county-level vehicle registration data (internal combustion engine vs. electric) and state-level data (non-EV fuel type allocation for gasoline, diesel, CNG, and ethanol).

Off-Road Vehicles

- No notable limitations of approach or data sources.

Public Transit

- No notable limitations of approach or data sources.

Aviation

- PDX provided passenger survey data that identified the percentage of departing passengers whose home is Clark County. These data were used to attribute a portion of the airport's 2022 fuel consumption data to Clark County.
- No data received for the following airports: Goheen, Fly for Fun.

Marine

- County-level National Emissions Inventory (NEI) data were used for this analysis, which was last updated in 2020.

Rail

- County-level National Emissions Inventory (NEI) data were used for this analysis, which was last updated in 2020.

Building Energy

Electricity & Natural Gas

- No notable limitations of approach or data sources.

Propane & Fuel Oil

- Downscaled 2022 state-level consumption data from the U.S. Energy Information Administration (EIA) using U.S. Census home heating information and WA employee counts for the county.
- Industrial propane and fuel oil are not included due to limited ability to confidently scale state data to county level.

Industrial Processes

- Emissions from U.S. EPA FLIGHT reporting were used to avoid potential double counting, due to lack of data granularity within WA Department of Ecology reporting (Ecology data does not distinguish emissions by fuel type or application).
- Excluded landfill and stationary combustion emissions to minimize double counting with solid waste and building energy emissions estimates.

Solid Waste and Wastewater

Solid Waste Generation and Disposal

- Landfill: Local waste characterization study not available; used WA Department of Ecology 2020 Statewide Waste Characterization Study, Southwest waste generation area estimates.
- Compost: Compost data were only received from the City of Vancouver.

Wastewater Treatment Processes

- No notable limitations of approach or data sources.

Septic Systems

- No notable limitations of approach or data sources.

Refrigerants

- National-level refrigerant emissions data were scaled to the county-level based on population.

Land Use

Agriculture

- Emissions estimates are not sensitive to local management practices; assume per-unit (e.g., acre, animal) emissions based on national averages.

Tree Loss & Carbon Sequestration

- The most recent year of data available within the LEARN tool at the time of this analysis was 2019, so the tree cover analysis was performed using 2016-2019 to satisfy the tool's three-year analysis time period requirement. The National Land Cover Database (NLCD) used for the LEARN tool's analysis is updated approximately every 2-3 years. Additional information regarding emissions from tree cover loss and carbon sequestration is provided in Appendix D.
- Analysis includes all land use changes within county geographic boundary, regardless of ownership. In some cases, a large proportion of lands within county boundary could be federal- or state- owned or managed lands.

County Government Operations

Built Environment

Facility Electricity & Natural Gas

- No notable limitations of approach or data sources.

Other Facility Energy Sources

- Emissions from this sector are not included in the inventory because data were not available at the time of analysis.

Transportation

On-Road & Off-Road Fleet Vehicles

- No notable limitations of approach or data sources.

Transit Fleet

- No notable limitations of approach or data sources.

Employee Commute

- No notable limitations of approach or data sources.

Business Travel

- No notable limitations of approach or data sources.

Solid Waste & Wastewater

Solid Waste Generation & Disposal

- No notable limitations of approach or data sources.

Landfills

- No notable limitations of approach or data sources.

Wastewater Treatment Processes

- No notable limitations of approach or data sources.

Water Conveyance

- No notable limitations of approach or data sources.

Refrigerants

- No notable limitations of approach or data sources.

Sensitivity to Local Conditions

Not all inventory values are based on locally derived data. Table 9 below summarizes some of the limitations and sensitivities of data used in the communitywide GHG emissions inventory. Generally, GHG estimations in the county government operations GHG inventory reflect locally derived data.

TABLE 9. SUMMARY OF DATA SENSITIVITY TO LOCAL CONDITIONS.

Sector	Values are sensitive to local conditions	Values are sensitive to local conditions, with some exceptions	Values are based on scaled regional/state data	Values are based on scaled national data
Built Environment				
Electricity	✓			
Natural gas	✓			
Fuel oil			✓	
Propane			✓	
Industrial processes	✓			
Transportation				
On-road		✓		
Off-road		✓		
Public transit		✓		
Aviation		✓		
Marine & rail		✓		
Solid Waste and Wastewater				
Solid waste generation & disposal		✓		
Wastewater treatment processes	✓			
Refrigerants				
Refrigerants				✓
Land Use				
Agriculture		✓		
Tree loss	✓			

Appendix B. Emissions Forecast & Scenario Analysis Methodology

Adjusted Business-As-Usual Assumptions

The adjusted business-as-usual (ABAU) scenario included consideration of the following federal, state, and regional policies:

- Washington State Energy Code (SB 5854)
- Washington Clean Buildings Act (HB 1257)
- Federal Vehicle Regulations (CAFE)
- WA Clean Fuel Standard (HB 1091)
- WA Clean Cars Program (SB 5974)
- WA Hydrofluorocarbon Policies (HB 1112 & HB 1050)
- WA Clean Energy Transformation Act (CETA)
- WA Climate Commitment Act (E2SSB 5126)

Additional information regarding policy interpretation and assumptions are provided below.

WA Energy Code (SB 5854)

Interpretation: SB 5854 requires residential and nonresidential construction permitted under the 2031 state energy code to achieve a 70% reduction in annual net energy consumption (compared to a 2006 baseline). State energy codes will be adopted from 2013-2031 to incrementally move towards achieving the 70% reduction by 2031.

Modeling Assumptions: New construction in 2031 and beyond will consume 70% less energy than the 2006 baseline. Scaled 2022 data to 2006 to use a 2006 baseline for this policy analysis. Assumed this baseline applies to all jurisdictions. Using 2022 energy consumption rates, modeled a straight-line reduction in energy consumption rate from 2022 to 2031 to achieve the 70% reduction from baseline (in new buildings only). Assume that any additional energy consumption under BAU compared to 2022 is from new buildings.
All new commercial buildings must use electric heat pumps for space heating and electric water heating for 50% of water (reflects updates to the 2021 WA State Energy Code).

- Assume commercial water heating accounts for 9% of building energy use; assume space heating accounts for 23% of building energy use (total = 32%; Source: EIA 2015).
- Assume 75% of current commercial buildings use fossil fuel space/water heating.

WA Clean Buildings Act (HB 1257)

Interpretation: Requires all new and existing commercial buildings over 50,000 square feet to reduce their energy use intensity by 15%, compared to the 2009–2018 average.

- Buildings greater than 220,000 square feet must comply by June 1, 2026
- Buildings greater than 90,000 square feet must comply by June 1, 2027
- Buildings greater than 50,000 square feet must comply by June 1, 2028

Modeling Assumptions: Using 2022 county level commercial energy consumption data, calculated energy consumed per sq ft of commercial building space to arrive at average energy use intensity (EUI: energy consumed per sq ft). Scaled 2022 data to 2019 as a proxy for 2009-2018 baseline. Modeled a straight-line reduction in energy use intensity (up to 15%) for Bins 1–3 below for 2023 through respective compliance dates.

- Bin 1: >220K sq ft
- Bin 2: > 90K sq ft
- Bin 3: > 50K sq ft
- Bin 4: 50K sq ft and under (rule does not apply)

Federal Vehicle Regulations (CAFE)

Interpretation: Corporate Average Fuel Economy (CAFE) standards are regulated by the DOT and supported by the EPA, calculates average fuel economy levels for manufacturers and sets related GHG standards. Passenger cars and light trucks require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, increasing fuel efficiency 8% annually for model years 2024–2025 and 10% annually for model year 2026. This will also increase the estimated fleetwide average by nearly 10 miles per gallon for model year 2026, relative to model year 2021.

Modeling Assumptions: Based on PSRC Vision 2050 modeling, scaling 2022 data to 2018 for these assumptions, assumed the following changes in vehicle emissions intensity (g CO_2e/mile):

- Light duty vehicles: 33% reduction from 2018 to 2050.
- Heavy duty vehicles: 26% reduction from 2018 to 2050.

WA Clean Fuel Standard (HB 1091)

Interpretation: The Clean Fuel Standard requires a 20% reduction in the carbon intensity of transportation fuels by 2038, compared to a 2017 baseline level. Reductions in carbon intensity may be achieved through cleaner fuels or by purchasing clean fuel credits from cleaner producers such as those providing electricity as fuel. Boats, trains, aircraft, and military vehicles & equipment are excluded.

Modeling Assumptions: Model assumes the 2022 transportation fuel emissions factors are applicable for 2017–2023 (2017 is policy baseline year). Overall, policy calls for 20% reduction in carbon intensity of transportation fuels by 2038.

EV/fuel contributions: Since there are concerns with WA's short-term ability to scale up low carbon fuels, for 2030 the split of clean fuel/EV is closer to 35%/65%, compared to 50%/50% by 2038.

Therefore, compared to baseline, we modeled the following for fuel carbon intensities:

- 3.5% reduction in per-gallon gasoline & diesel vehicle (passenger, heavy duty, transit) emissions from cleaner fuels (NOT EVs) by 2030.
- 10% reduction in per-gallon gasoline & diesel vehicle (passenger, heavy duty, transit) emissions from cleaner fuels (NOT EVs) by 2040.
- Maintain 10% reduction levels to 2050.

Given ICE ban, compared to baseline, we will model the following for EV use:

- 6.5% transition of gasoline/diesel passenger vehicles to EV by 2030.

- 10% transition of gasoline/diesel passenger vehicles to EV by 2040.
- Maintain 10% reduction levels to 2050.

WA Clean Cars Program (SB 5974)

Interpretation: Establishes a target that, "all publicly owned and privately owned passenger and light duty vehicles of model year 2030 or later that are sold, purchased, or registered in Washington state be electric vehicles."

Modeling Assumptions: As part of Move Ahead Washington program, WA would ban sale of gasoline/diesel ICE passenger vehicles starting in 2030. For this policy, assuming a 15-year vehicle turnover rate, with the following proportion of new sales EV (a conservative estimate given that the ICE ban is currently a goal and lacks a clear accountability mechanism):

- 25% by 2026
- 65% by 2030
- 100% by 2035
- Maintained by 100% thereafter

WA Hydrofluorocarbon Policies (HB 1112 & HB 1050)

Interpretation: HB 1112 requires that new equipment be manufactured without HFCs or using refrigerants with a lower global warming potential (GWP) in a phased approach through 2024. Equipment covered by the law are being phased in each year, starting with 2020, and penalties apply for non-compliance. In 2021, HB 1050 applied Clean Air Act provisions for ozone depleting substances to HFCs and extended restrictions on higher GWP HFCs to new equipment such as ice rinks and stationary air conditioning.

Modeling Assumptions: Aligned model assumptions with state modeling, scaling 2022 data to 2019 to align with modeling.

WA Clean Energy Transformation Act (CETA)

Interpretation: CETA applies to all electric utilities serving retail customers in Washington and sets specific milestones: By 2025, utilities must eliminate coal-fired electricity from their state portfolios; by 2030, utilities must be greenhouse gas neutral, with flexibility to use limited amounts of electricity from natural gas if it is offset by other actions; by 2045, utilities must supply Washington customers with electricity that is 100% renewable or non-emitting, with no provision for offsets.

Modeling Assumptions: Electricity will be GHG neutral (electricity emissions factor equals zero) in 2030 and beyond with a straight-line emissions factor reduction from 2022 to 2030. For utilities that rely on coal for electricity generation, additionally model straight-line reduction to 0% coal by December 31, 2025. Assume coal is replaced by renewables. This action impacts electricity emissions factors (reduces emissions per unit of energy consumed).

WA Climate Commitment Act (E2SSB 5126)

Interpretation: The Climate Commitment Act (known as Cap and Invest) places an economy-wide cap on carbon to meet state GHG reduction targets and remain consistent with best available science, while minimizing the use of offsets to meet those targets. Every polluting facility covered under the program needs to hold one allowance for every ton of greenhouse gas that it emits. Based on an environmental justice

review, 35–40% of investments must be made in overburdened communities to reduce health disparities and create environmental benefits, with an additional 10% allocated for tribal programs and projects.

Modeling Assumptions: State estimates that CCA will account for 26.2 million $MTCO_2e$ in statewide reductions by 2030. 2018 total emissions = 99.57 million $MTCO_2e$. Scaled 2022 data to 2018 to obtain a proxy baseline.

Key regulated CCA sectors relevant to the geographic inventory include:

- Natural gas (however, this sector will receive directly allocated no-cost allowances).
- Industrial processes (however, Emissions-Intensive Trade-Exposed facilities will receive directly allocated no-cost allowances).
- Transportation fuels (however, already covered to some extent by Clean Fuels Standard).

Therefore, assume the following for CCA:

- Assume CETA addresses emissions reductions in electricity sector.
- Apply -10% emissions factor adjustment to natural gas (assuming increase in hydrogen or RNG in fuel mix) to 2030.
- Apply -15% emissions reduction estimate (consider applying a reduction factor) to industrial process emissions to 2030.
- Apply -23.5% fuel emissions factor reduction estimate (consider applying a reduction factor) to transportation emissions to 2030 and -30% to 2040 (includes reductions from CFS).

Appendix C: GHG Emission Reduction Policies

This appendix contains examples of greenhouse gas emission reduction policies that could be included within Clark County's Climate Element. These are example goals and policies (measures) drawn from the Department of Commerce's Climate Policy Explorer. Visit the Climate Policy Explorer for additional measures.

How to read these policies:

The list of model goals and policies below is organized principally by applicable climate sectors listed in Commerce's climate element planning guidance and Climate Policy Explorer. These goals and policies align with applicable GHG-reduction strategies from the Emissions Forecast and Scenario Analysis Tool.

Counties may use these optional measures as written, adapt them to fit local context, or supplement them. For example, a county may tailor a policy to reflect its available "levers" and/or appropriate role(s) in achieving a policy's intended outcomes.

Please access details related to listed measures using the Goal and Policy IDs in Climate Policy Explorer. These details provide information on the statutory requirements satisfied by the measures, as well as information about the measures' co-benefits and environmental justice potential that can be used to inform policy development and evaluation for adoption.

For each strategy, information about that strategy's relevant greenhouse gas emissions is provided for context (e.g., 22% of 2022 communitywide emissions). This value—the proportion of the county's 2022 communitywide emissions inventory associated with the strategy's relevant emissions source—provides insight into the potential reduction impact of that strategy. In general, strategies that address large emissions sources may have greater reduction potential than those targeting smaller sources.

Sector: Zoning

Applicable Strategies

Reduce passenger vehicle travel.

21% of Clark County's 2022 communitywide emissions

Reduce industrial emissions.

2% of Clark County's 2022 communitywide emissions

Applicable Goals and Policies

Goal: Foster higher-intensity land uses in mixed-use urban villages and transit corridors. [*Priority Goal ID# C*]

- Ensure public transit stops and stations are located at or near (e.g., within 600 ft.) dense residential, commercial, and employment areas. [*Priority Policy ID# C.01*]
- Implement complimentary, mixed land uses, such as locating businesses, parks and schools, as infill development to reduce driving in urban core areas. [*Priority Policy ID# C.02*]
- Prohibit the expansion of polluting industries in overburdened communities via local zoning and development regulations. [*Priority Policy ID# C.03*]

- Adjust single-family home impact fees and system development charges so those homes with larger impacts on utilities pay more. [*Priority Policy ID# C.04*]
- Limit parking spaces near transit-oriented development to encourage use of transit and decrease single-occupancy vehicle travel. [*Priority Policy ID# C.05*]
- Prioritize infill development through zoning and permitting process. [*Priority Policy ID# C.06*]
- Establish form-based codes where appropriate to better integrate higher-density development. [*Priority Policy ID# C.07*]
- Promote higher density commercial, mixed-use and residential development within commercial nodes along transportation corridors, consistent with Transit Oriented Development guidance. [*Priority Policy ID# C.08*]
- Increase residential densities near (within 0.25 mile) transit stations and centers. [*Priority Policy ID# C.09*]

Goal: Increase housing diversity and supply within urban growth areas to reduce greenhouse gas emissions and support environmental justice. [*Priority Goal ID# K*]

- Increase or remove density limits in areas well-served by transit and other services within the urban growth area. [*Priority Policy ID# K.01*]
- Allow middle housing types, such as duplexes, triplexes, and ADUs, on all residential lots, consistent with RCW 36.70A.635, 680, 681 and 696. [*Priority Policy ID# K.02*]
- Establish minimum residential densities within urban growth areas. [*Policy ID# K.04*]
- Allow or encourage micro-housing units. [*Priority Policy ID# K.05*]
- Develop and implement inclusionary zoning to support greater income diversity in housing types. [*Priority Policy ID# K.06*]
- Plan for and invest in capital facilities to accommodate infill development. [*Policy ID# K.07*]
- Establish minimum residential densities within urban growth areas. [*Policy ID# K.08*]

Sector: Transportation

Applicable Strategies

Reduce passenger vehicle travel.

21% of Clark County's 2022 communitywide emissions

Electrify passenger vehicles.

21% of Clark County's 2022 communitywide emissions

Electrify freight/service vehicles.

9% of Clark County's 2022 communitywide emissions

Applicable Goals and Policies

Goal: Convert public fleets to zero-emission vehicles by [insert target date] and develop supporting infrastructure and programs (e.g., charging stations and dedicated lanes for electric cars and buses). [*Goal ID# H*]

- Convert public fleets to zero-emission vehicles. [*Priority Policy ID# H.01*]

- Provide low-income residents subsidies to purchase, lease, or rent electric vehicles and bicycles. [*Priority Policy ID# H.05*]

Goal: Reduce vehicle miles traveled to achieve greenhouse gas reduction goals. [*Priority Goal ID# I*]

- Implement travel demand management (TDM) programs and strategies. [*Priority Policy ID# I.01*]
- Implement multimodal transportation planning to reduce single-occupancy vehicle dependence and greenhouse gas emissions. [*Priority Policy ID# I.02*]
- Incentivize transit use through reduced fares and other financial benefits, and improving infrastructure, service, and safety. [*Policy ID# I.03*]
- Increase multimodal capacity in coordination with the location of higher-density housing and commercial centers. [*Priority Policy ID# I.04*]
- Prioritize and promote public transit expansion and use through coordination of land use and transportation planning. [*Priority Policy ID# I.05*]
- Create a safe, well-connected, and attractive bicycle and pedestrian transportation network to encourage active transportation. [*Priority Policy ID# I.14*]
- Prioritize, develop, and maintain mobility hubs in transportation-efficient locations — especially in overburdened communities experiencing a scarcity of transportation alternatives. [*Priority Policy ID# I.16*]
- Integrate "Complete Streets" principles into the roadway designs of residential developments. [*Policy ID# I.18*]
- Facilitate the siting of complimentary destinations such as commercial-employment centers, schools or education centers, and residential developments close to a transit stop. [*Priority Policy ID# I.19*]
- Establish micromobility centers wherever plausible (e.g., hubs for shared bikes and scooters). [*Policy ID# I.20*]
- Address active transportation and other multimodal types of transportation options in concurrency programs – both in assessment and mitigation. [*Priority Policy ID# I.22*]
- Prioritize permitting for transit-oriented development (TOD) proposals. [*Priority Policy ID# I.24*]

Goal: Use demand-based methods to reflect the actual cost of existing parking. [*Goal ID# AC*]

- Eliminate parking minimum requirements and establish parking maximums. [*Priority Policy ID# AC.01*]
- Reduce parking requirements where there are multimodal options available. [*Priority Policy ID# AC.02*]

Goal: Expand electric vehicle infrastructure. [*Goal ID# AD]*

- Require electric vehicle charging infrastructure in all new and retrofitted buildings. [*Policy ID# AD.01*]

Goal: Improve the efficiency of transportation system to reduce greenhouse gas emissions. [*Goal ID# AI*]

- Provide signal prioritization for freight vehicles, transit buses, and other heavy-duty vehicles. [*Policy ID# AI.01*]
- Develop dedicated electric-vehicle (EV) lanes on local roads and highways. [*Policy ID# AI.02*]
- Improve transit speed, frequency, coverage, and reliability. [*Priority Policy ID# AI.03*]

Applicable Strategies

Electrify new buildings.

12% of Clark County's 2022 communitywide emissions

Electrify existing buildings.

12% of Clark County's 2022 communitywide emissions

Reduce energy use in existing buildings.

32% of Clark County's 2022 communitywide emissions

Strategy: Increase local solar.

32% of Clark County's 2022 communitywide emissions

Applicable Goals and Policies

Goal: Maximize solar access of site design, where practicable, for new solar-ready residential and commercial buildings. [*Goal ID# G*]

- Direct solar development onto lands identified as having "least conflict" through the Least-Conflict Solar Siting process on the Columbia Plateau. [*Policy ID# G.02*]
- Require solar panels on buildings with large rooftops, as well as within or over parking areas. [*Policy ID# G.03*]

Goal: Prioritize the adaptive reuse of buildings, recognizing the emission-reduction benefits of retaining existing buildings. [*Priority Goal ID# F*]

- Prioritize the preservation and weatherization of housing in overburdened communities, particularly at higher densities, to reduce emissions and increase resilience. [*Priority Policy ID# F.02*]

Goal: Ensure that buildings use renewable energy, conservation, and efficiency technologies and practices to reduce greenhouse gas emissions. [*Priority Goal ID# E*]

- Require zero greenhouse gas emissions features for all new residential and commercial structures. [*Priority Policy ID# E.01*]
- Maximize renewable energy sources for the supply of electricity and heat to new and existing buildings. [*Policy ID# E.02*]
- Retrofit buildings for energy efficiency. [*Priority Policy ID# E.03*]
- Develop local microgrid solar and battery storage facilities in low-impact sites. [*Policy ID# E.04*]
- Phase out natural gas use in existing publicly owned facilities by [insert target date] and retrofit with electric appliances, heat pumps, and water heating. [*Priority Policy ID# E.05*]. *Note: Be advised that I-2066, approved by Washington voters in November 2024, prevents counties, cities, and towns from adopting this policy and other policies that prohibit, penalize or discourage natural gas heating in buildings and appliances and equipment within buildings. Check with your jurisdiction's legal counsel about impacts to your* jurisdiction.

- Require all publicly owned buildings to be powered completely by renewable energy by [insert target date]. [*Policy ID# E.06*]. *Note: Be advised that I-2066, approved by Washington voters in November 2024, prevents counties, cities, and towns from adopting this policy and other policies that prohibit, penalize or discourage natural gas heating in buildings and appliances and equipment within buildings. Check with your jurisdiction's legal counsel about impacts to your jurisdiction.*
- Incentivize green building certification to improve energy and environmental performance. [*Priority Policy ID# E.07*]
- Promote the use of energy-efficient appliances in buildings. [*Policy ID# E.09*]
- Promote the use of energy-efficient boilers in buildings. [*Policy ID# E.10*]
- Establish agreements to procure low-carbon-intensity power supply. [*Priority Policy ID# E.11*]
- Encourage use of Combined Heat and Power (CHP) Systems in new and existing developments. [*Priority Policy ID# E.12*]
- Require energy labeling for new residential buildings. [*Policy ID# E.13*]

Sector: Waste Management

Applicable Strategies

Divert construction and demolition (C&D) materials.

<1% of Clark County's 2022 communitywide emissions

Divert other recyclable and compostable materials.

3% of Clark County's 2022 communitywide emissions

Applicable Goals and Policies:

Goal: Ensure that the community is able to reduce, reuse, and recycle waste materials sustainably. [*Goal ID# X*]

- Develop a program that will enable recycling of all construction and demolition debris by [insert target date]. [*Policy ID# X.02*]
- Increase staff and facility capacity for composting programs to divert [insert percentage] of community organic waste from entering landfills. [*Policy ID# X.03*]
- Reduce municipal solid waste disposed of in landfills by [insert percentage] by [insert target date]. [*Policy ID# X.04*]
- Require methane capture processes from wastewater treatment facilities. [*Policy ID# X.05*]
- Recycle all paper, food, textile, and metal waste by [insert target date]. [*Policy ID# X.06*]
- Minimize carbon emission impacts of building demolition with best available recycling strategies. [*Policy ID# X.07*]
- Develop a local pollution surcharge for large producers of air pollutants, wastewater, and solid waste. [*Policy ID# X.08*]
- Encourage partnerships between food generators, distributors, and aid groups (e.g., food banks and community kitchens) to reduce food waste. [*Priority Policy ID# X.09*]
- Implement monitoring and capture of methane at municipal landfills. [*Policy ID# X.10*]

Goal: Develop targeted campaigns for recycling material with highest GHG reduction impact (e.g., paper, metal, food waste). [*Goal ID# D*]

- Incentivize recycling of construction and demolition debris. [*Policy ID# D.01*]
- Create and sustain a business technical assistance program to increase recycling and reduce waste. [*Policy ID# D.02*]

Sector: Agriculture & Food Systems

Applicable Strategies

Decarbonize off-road equipment.

4% of Clark County's 2022 communitywide emissions

Improve soil management.

<1% of Clark County's 2022 communitywide emissions

Protect land carbon sinks (including agricultural lands, wetlands, and grasslands).

2022 annual sequestration amount was equivalent to 24% of Clark County's 2022 communitywide emissions.

Applicable Goals and Policies

Goal: Reduce GHG emissions in rural areas of the county. [*Goal ID# Z*]

- Assess the capacity for transfer of development rights (TDR) and open space or agricultural land preservation programs in the context increasing residential density. [*Policy ID# Z.01*]
- Require methane collection on dairy farms and other agricultural operations that utilize waste ponds to decrease greenhouse gas emissions. [*Policy ID# Z.02*]
- Promote the sale and use of agricultural supplies, pesticides, fertilizers, and fuels that are not derived from fossil fuels. [Priority *Policy ID# Z.04*]
- Phase out the use of municipal gas-powered landscaping equipment and replace with electric or otherwise sustainable alternatives. [*Policy ID# Z.05*]
- Support the installation of anaerobic digesters to manage agriculture and food waste. [*Policy ID# Z.07*]
- Support mass timber manufacturing in rural communities near overstocked forests. [*Priority Policy ID# Z.08*]

Goal: Support long-term local and regional agriculture that sequesters carbon. [*Goal ID# B*]

- Maximize conservation and carbon sequestration through alignment of Conservation Futures, Transfer of Development Rights (TDR), and Open Space Program strategies. [Priority *Policy ID# B.01*]
- Facilitate and enable regenerative agriculture and regenerative ocean farming where practicable. [*Policy ID# B.02*]
- Designate a percentage of agricultural land that shall be maintained and managed for sequestering carbon and curtailing vehicle miles traveled. [*Policy ID# B.03*]

Goal: Preserve land for long-term agricultural use, recreation, open spaces, and other uses consistent with rural character. [*Goal ID# J*]

- Preserve land outside of the unincorporated UGA for long-term agricultural use, recreation, open spaces, forestry, mineral resources, and other uses consistent with rural character. [*Policy ID# J.01*]
- Support funding to protect agricultural land from conversion to other uses, and assist farmers in transferring and accessing land [*Policy ID# J.04*]

Sector: Ecosystems

Applicable Strategies

Reduce tree loss.

16% of Clark County's 2022 communitywide emissions

Protect land carbon sinks (including agricultural lands, wetlands, and grasslands).

2022 annual sequestration amount was equivalent to 24% of Clark County's 2022 communitywide emissions.

Applicable Goals and Policies

Goal: Increase tree canopy cover to boost carbon sequestration, reduce heat islands, and improve air quality, prioritizing overburdened communities. [*Priority Goal ID# AB*]

- Require open space set-asides (such as parks) for new development. [*Policy ID# AB.01*]
- Establish a green belt of parks to support connectivity and non-motorized travel between housing, schools, and businesses across a community. [*Priority Policy ID# AB.02*]
- Improve urban forest management to maximize climate resilience and carbon storage. [*Priority Policy ID# AB.03*]
- Maximize green design in surface parking lots such as tree canopy coverage, permeable pavement, and vegetated strips. [*Priority Policy ID# AB.04*]
- Maintain and manage natural lands (forests, grasslands, wetlands) to maintain or increase their carbon concentrations and avoid conversion of carbon-rich ecosystems. [*Policy ID# AB.05*]
- Maintain small forestland ownership and publicly owned forest properties with carbon sequestration as the goal. [*Policy ID# AB.06*]

Appendix D: Tree Canopy GHG Emissions & Sequestration Summary Report

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Summary Report

GHG Inventory for Forests and Trees Outside Forests, 2016 to 2019

Clark County, Washington

Summary

Forests and trees play a key role in mitigating climate change, yet they are often not included in local greenhouse gas (GHG) inventories or climate action plans. Clark County, Washington has taken the first step towards understanding how local changes in land use and tree canopy have contributed to the county's net greenhouse gas profile. Unlike other sectors, land use (in this case, forests and trees) not only emit GHGs, they also remove CO2 from the atmosphere through photosynthesis, and play a critical role in regulating the planet's climate. The information contained in this summary report can be useful when designing climate actions that reduce GHG emissions and/or increase removals of GHGs from the atmosphere.

Key findings:

- Over the period 2016 to 2019, emissions from forests and trees were 795,522 t CO2e per year.

- Over the period 2016 to 2019, the Net GHG balance of forests and trees was -360,699 t CO2e per year.

- Roughly 42% of Clark County's total land base of 169,843 hectares (419,691 acres) is forest. Many areas outside of forests are also covered by trees, including an average of nearly 15.3 percent tree canopy on lands outside of forest areas

- Over the same period, annual CO2 removals from forests and trees were -1,156,221 t CO2e per year. (Carbon removals are represented by negative values.)

- Total GHG emissions for Clark County across all sectors could be reduced if additional forests/trees were added to its land base, and/or if losses of trees were reduced further.

Table 1. Clark county' s GHG fluxes from forests and trees for inventory period 2016 – 2019, all values reported in t CO2e per year

	Removals(t CO2e/yr)	Emissions(t CO2e/yr)
Undisturbed Forest	-892,732	
Forest Disturbances		259,060
Non-Forest to Forest	-109,446	
Forest to Settlement		9,122
Forest to Grassland		307,661
Forest to other non-forest lands		1,889
Trees outside of forests	-154,042	217,790
Harvested Wood Products	0	
TOTAL	-1,156,221	795,522
Net GHG balance	**-360,699**	

Data Inputs

Data used as inputs into the GHG emission and removal calculations are described below.

Land and Forest Cover

GHG inventories for lands are reported in six “land use” categories which were defined by data on land cover—forest land, grassland, cropland, wetland, settlement and other land (barren, snow, ice). Clark County’s total land base is approximately 169,843 hectares (419,692 acres), with nearly 28.5% Settlement (i.e. developed areas of varying intensity), around 41.7% forest, 23.3% Grassland (which includes hay/pasture, shrub/scrub and other herbaceous cover), 0.4% cropland, 6% wetland and 0.1% other land.

Figure 1. Land cover in Clark from the National Land Cover Database, 2019

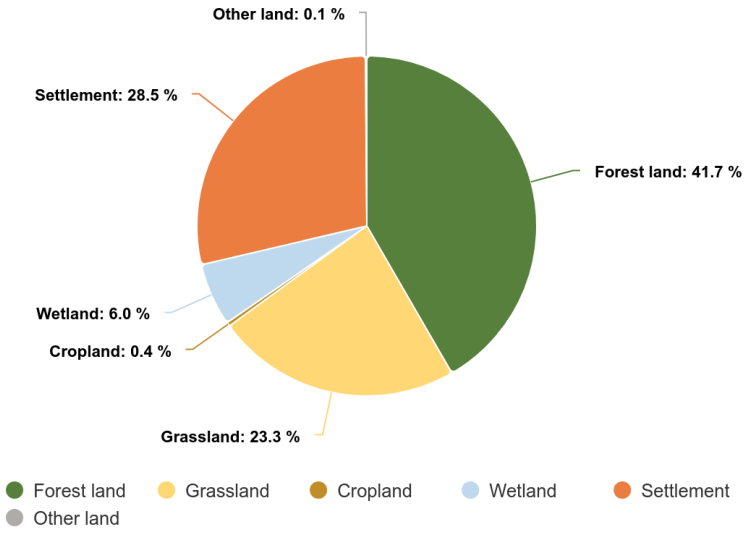
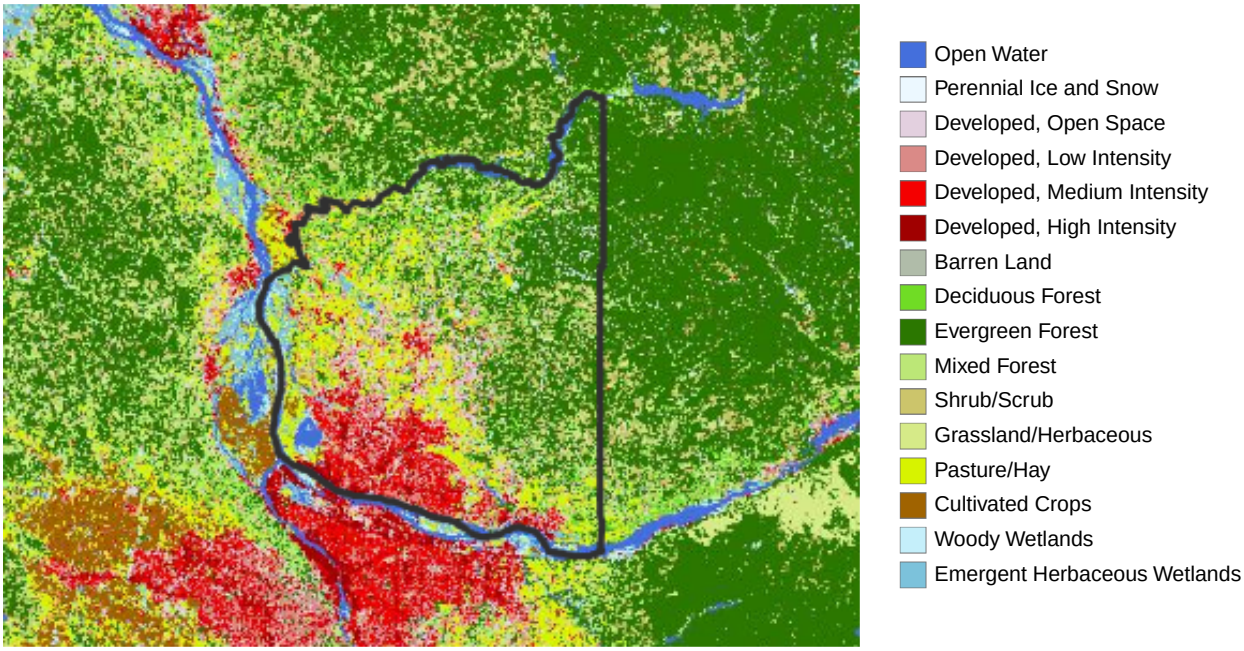


Figure 2. Land cover in Clark from the National Land Cover Database, 2019



Forest Cover Change

Generating GHG estimates requires data not just on areas of land use, but also data on how land use has changed over time. Between 2016 and 2019, the county lost around 1,998 hectares (4,937 acres) of forest land, largely conversion to Grassland. Over the same period, the county gained around 8,780 hectares (21,697 acres) of forest land, largely from Grassland.

Figure 3. Loss of forest to other land use types between 2016 and 2019 (ha)

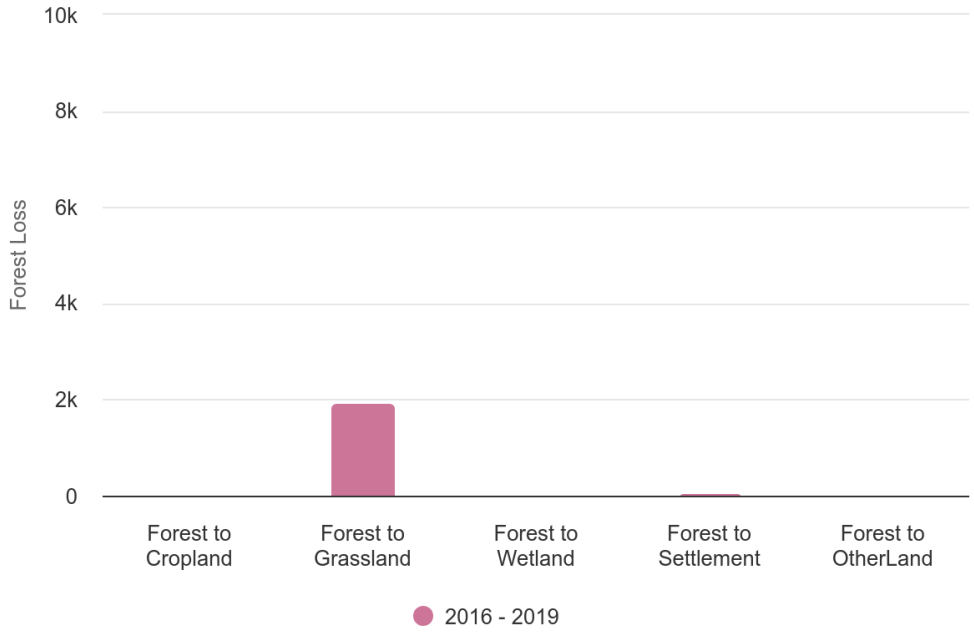
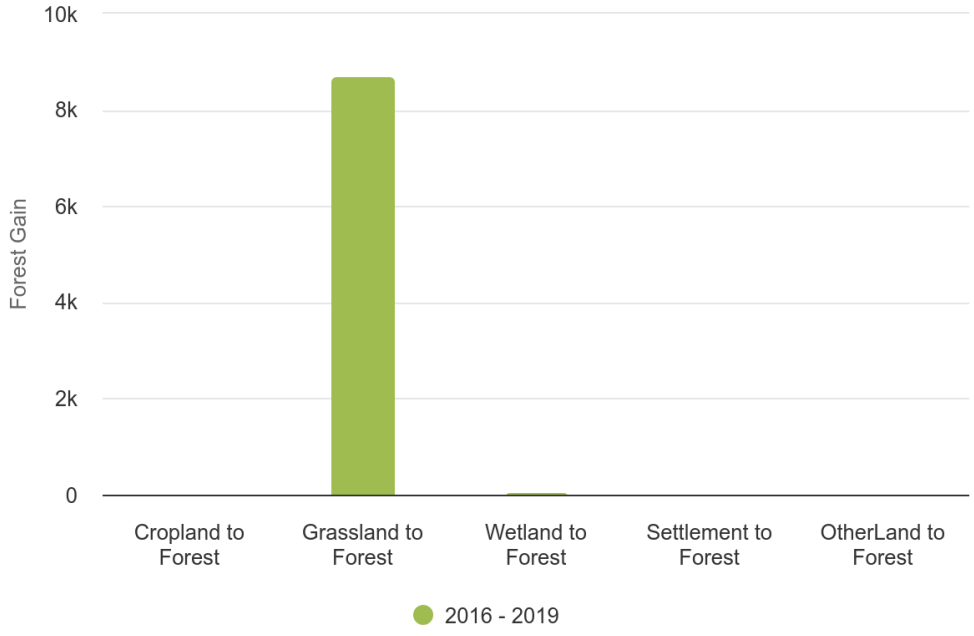


Figure 4. Gain of forest from other land use types between 2016 and 2019 (ha)



Forest Disturbances

Over the inventory period 2016 to 2019, forest disturbance from harvests/other disturbance was the most significant in Clark County, affecting 1308.4 hectares (3233.1 acres), followed by insects, which affected 764.8 hectares (1889.9 acres) and fires, which affected 0 hectares (0.0 acres).

Trees Outside Forests

Figure 5 shows tree canopy captured by the NLCD tree canopy data. (Note that some areas with high tree canopy in Figure 5 overlap with the NLCD forest class shown in Figure 2.)

This data is only available for the years 2011 and 2016. Over this time period, Clark County had an average of 14,884 hectares (36,780 acres) of tree canopy outside forests. Between 2011 and 2016, 619 hectares per year of tree canopy were lost, for a total of 3,094 hectares (7,646 acres) of tree canopy loss over the 5 year period. Most of this loss occurred within the Grassland class.

Figure 5. Tree canopy 2016 (Source: National Land Cover Database)

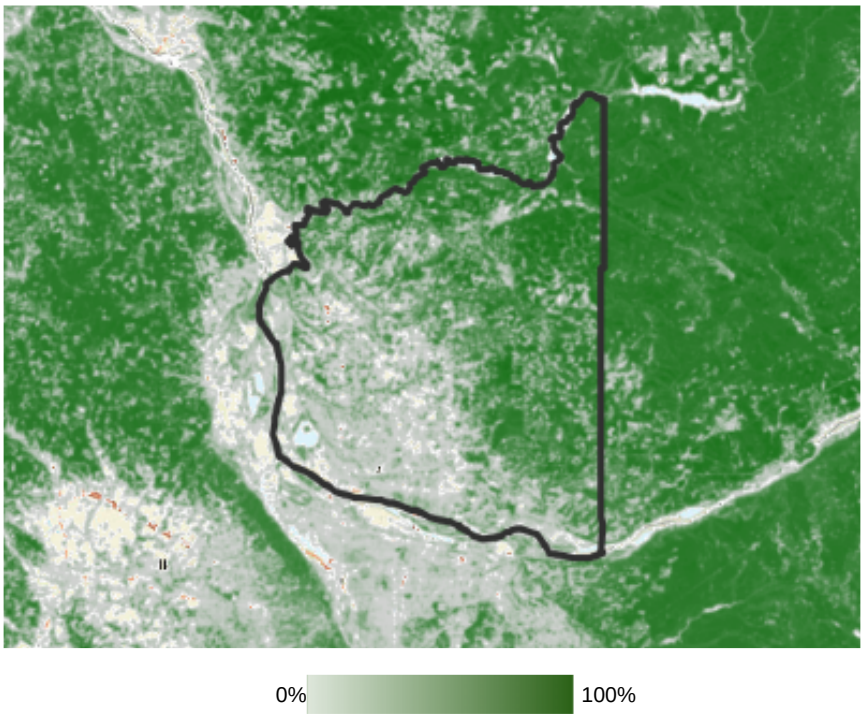


Figure 6: Average tree canopy (in hectares) and % tree canopy in different non-forest land use categories in Clark County for the period 2011-2016. Note: bars relate to tree canopy area (left vertical-axis, hectares) and dots are the % tree cover per land use category (right vertical-axis). “Other” category not shown due to very low area.

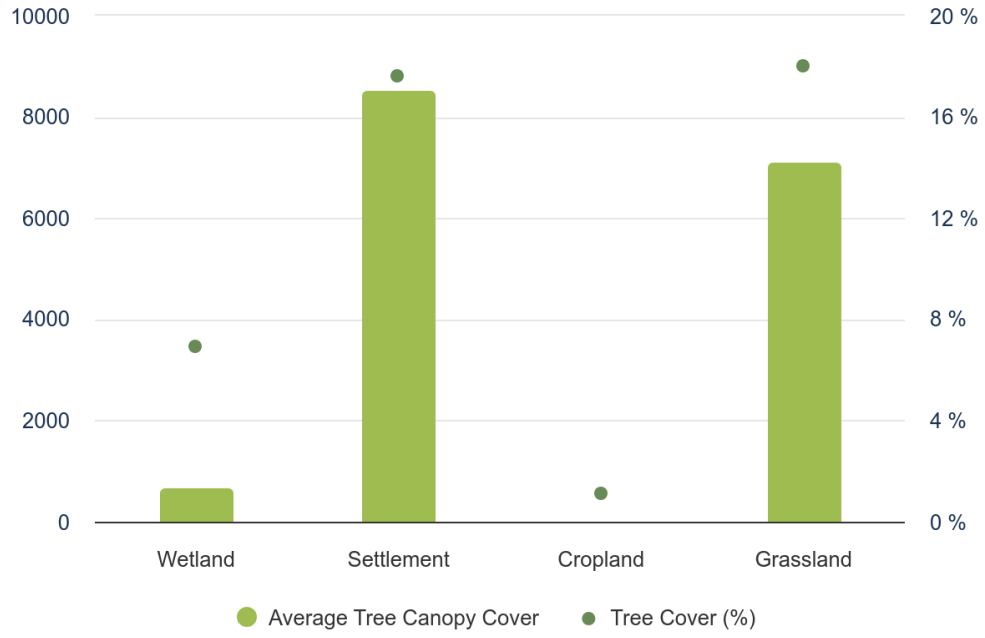
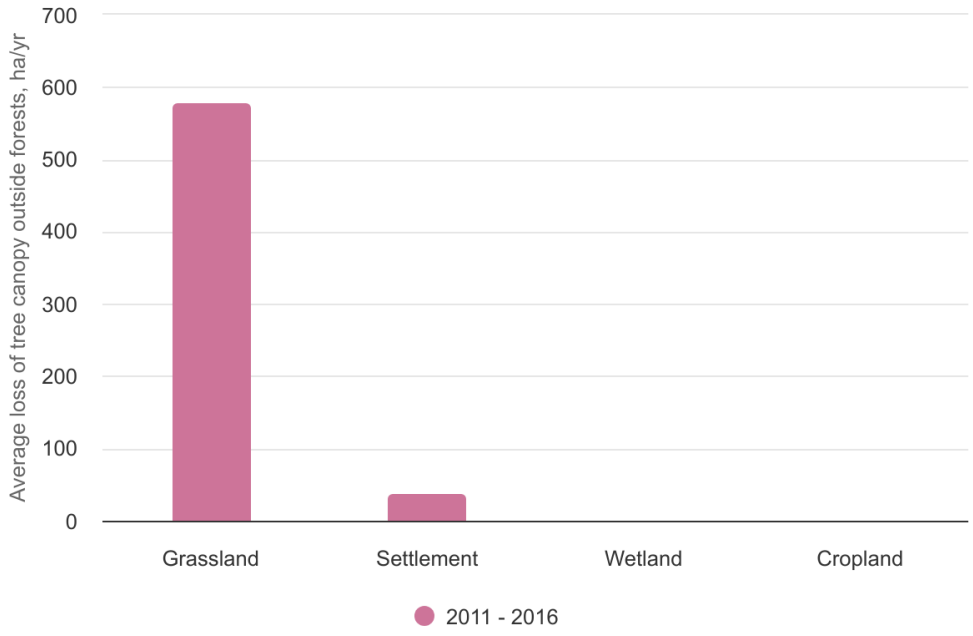


Figure 7: Average area of tree canopy loss in different non-forest land use categories in Clark County over the period 2011 to 2016 (hectares per year). Note: other category not shown due to very low area.



Land Cover Change Matrix

Table 2. Full NLCD land cover change matrix for 2016 to 2019. All areas are in hectares.

2019: Top 2016: Left	Deciduous Forest	Evergreen Forest	Mixed Forest	Woody Wetlands	Cultivated Crops	Pasture/Hay	Grassland/Herbaceous	Shrub/Scrub	Open Water	Emergent Herbaceous Wetlands	Developed, Open Space	Developed, Low Intensity	Developed, Medium Intensity	Developed, High Intensity	Barren Land	Perennial Ice/Snow	Total
Deciduous Forest	8,863	0.1	0	0	0	1	189	7	0	0	10	4	2	0.3	0.7	0	9,077
Evergreen Forest	0	37,538	0.1	0	0	5	1,304	53	0.5	0	12	5	3	1	2	0	38,923
Mixed Forest	0	0.1	10,429	0	0	0	359	11	0.1	0	6	2	0.7	0	2	0	10,810
Woody Wetlands	0	0	0	5,148	0	0	0.2	0	2	5	5	3	2	0.4	0	0	5,165
Cultivated Crops	0	0	0	0.7	650	0	0	0	1	0	2	2	2	2	0	0	660
Pasture/Hay	1	2	0.5	3	2	26,978	0.9	0.7	10	1	103	96	93	49	0.5	0	27,340
Grassland/Herbaceous	0	8	0	0	0	9	1,171	4,783	2	0	11	12	17	4	8	0	6,026
Shrub/Scrub	10	8,509	179	0	0	12	46	4,697	0.7	0	9	4	2	2	3	0	13,474
Open Water	0	0.3	0	0.1	0	0	0.6	0	6,780	3	0.4	0.3	0.3	0.1	2	0	6,788
Emergent Herbaceous Wetlands	0	0	0	68	0	0	0.3	0	51	3,238	2	1	0.9	0.2	0	0	3,360
Developed, Open Space	0	0	0	0	0	0	0	0	0	0	16,557	38	190	60	0	0	16,845
Developed, Low Intensity	0	0	0	0	0	0	0	0	0	0	0	16,054	88	91	0	0	16,233
Developed, Medium Intensity	0	0	0	0	0	0	0	0	0	0	0	0	11,440	8	0	0	11,448
Developed, High Intensity	0	0	0	0	0	0	0	0	0	0	0	0	0	3,493	0	0	3,493
Barren Land	0	0.2	0	0	0	0	5	0	20	0	0.2	0.4	0.3	0.3	179	0	205
Perennial Ice/Snow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**8,874**	**46,057**	**10,608**	**5,218**	**652**	**27,005**	**3,076**	**9,551**	**6,867**	**3,246**	**16,717**	**16,222**	**11,842**	**3,711**	**198**	**0**	**0**

Table 3. Simplified land cover change matrix for 2016 to 2019.All areas are in hectares.

2019: Top 2016: Left	Forest Land	Cropland	Grassland	Wetland	Settlement	Other Land	Total
Forest Land	61,978	0	1,930	7	56	5	**63,976**
Cropland	0.7	650	0	1	8	0	**660**
Grassland	8,712	2	37,697	13	404	12	**46,839**
Wetland	68	0	0.9	10,072	5	2	**10,148**
Settlement	0	0	0	0	48,018	0	**48,018**
Other Land	0.2	0	5	20	1	179	**205**
Total	**70,758**	**652**	**39,632**	**10,114**	**48,492**	**198**	**0**

Emission and Removal Factors

A summary of the emission and removal factors used in the calculations is provided in Table 4.

	Emission Factor (t C/ha)	Removal Factor (t C/ha/yr)
Forest Change		
Deforestation		
To Cropland	0.00	
To Grassland	130.33	
To Settlement	132.99	
To Wetland	82.82	
To Other	202.47	
Reforestation (Non-Forest to Forest)		-3.40
Forest Remaining Forest		
Undisturbed		-4.06
Disturbed		
Fire	0	
Insect/Disease	-17.25	
Harvest/Other	171.93	
Trees Outside Forest		
Tree canopy loss	95.90	
Canopy maintained/gained		-2.82

Harvested Wood Products

Harvested wood products (HWP) temporarily store carbon from the forest ecosystem as the wood goes through a series of production processes and end-uses, with eventual disposal (and emission to the atmosphere). The delay represents a net benefit to the atmosphere. The period of storage varies from long-lived solid wood products that remain in use for long periods of time to products that are quickly disposed of in landfills.

In the web tool, the HWP Calculator tracks carbon in harvested wood through four different “fates,” from harvest to timber products to primary wood products to end-use to disposal, applying best estimates for product ratios and half-lives at each stage. Based on user inputs entered about annual harvest volumes in Clark County, the change in the harvested wood pool over the inventory period 2016 to 2019 is estimated as 0 t CO2e per year.

Caveats

Information presented here represents a snapshot in time of the net GHG balance and many of the factors contributing to that balance. The estimates can help identify where policies may be designed to reduce net GHG emissions. This inventory currently uses a simplifying assumption that a loss of forest or trees results in immediate emissions to the atmosphere (rather than delayed emissions in the case of various use cases from long-term storage to shorter decay timelines if sent to landfills). In general, it is important to consider that these estimates represent a relatively short period of time compared with the long-term consequences of policy decisions and land management actions. For example, a forest converted to settlement represents a permanent loss of removal capacity. Over the long term, maintaining forests will sustain a higher rate of carbon removal, depending on age-related growth rates and occurrence of disturbances.

There are significant uncertainties in the estimates. Although not quantified here, typical greenhouse gas inventories of forests using similar approaches, including the national GHG inventory, report uncertainties in the net GHG balance that can be as high as ±45% (with 95% confidence). In the results presented here, the most uncertain estimates involve emissions from land-use change which are based on well-documented remote-sensing products, but relatively few field observations from a statistical sampling of county forests. While uncertainties can be high, the estimates can still provide useful information on the relative magnitude and importance of such GHGs; subsequent analyses can also provide information on the directionality of emissions and removals from land management.

Finally, it is recommended that additional analyses be done using models that project impacts of alternatives over coming decades. Such models are available and have been used in other studies at county scale. The GHG inventory presented here is only the first step to providing science-based information to support policy decisions. To more fully explore the potential impacts of alternate policies, projection models can be used to compare long-term results among the alternatives which typically include a “business as usual” (i.e. no change in policy) alternative. This feature may be added into the web tool in the future.

Appendix E: StreetLight Data Methodology

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STREETLIGHT InSight

SB 743 VMT Metric Methodology and Validation White Paper

Version 1.1

December 2021

STREETLIGHT

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Introduction

This technical document describes the data sources, methodology, and validation processes used by StreetLight Data to develop a set of VMT measurements (our SB 743 Metric) to address California Senate Bill 743. As a result of SB 743, there are many applications for our Metric, however we developed this Metric with two specific use cases in mind: screening projects (streamlined review for residential and office projects located in low VMT generating areas); and analyzing comparable sites (trip generation, trip length, and VMT estimation for comparable sites to estimate VMT generation for your own site). We expect many more use cases to come out of SB 743 and we invite you to share other examples and applications for this Metric, along with requests for any new data products that may emerge. This document will be updated as the Metric evolves and adapts to meet the needs of organizations fulfilling the goals of SB 743 and environmental impact analysis compliance.

Background on California SB 743 and Data Needs

California Senate Bill 743 (SB 743) was signed in 2013 and later incorporated into the California Environmental Quality Act (CEQA) in 2018. Starting July 1, 2020, all new land-use development and transportation projects will be expected to evaluate transportation impacts under CEQA using vehicle miles traveled (VMT) instead of Level of Service (LOS). While LOS requires the estimation of traffic volumes on the roadway, typically conducted by manual surveys or tube counts, calculating baseline VMT for SB 743 requires data on the amount of vehicle trips, trip lengths, and vehicle occupant classification (resident vs. employee).

Unfortunately, traditional data collection methods cannot provide the nuanced details needed to comply with SB 743—the length of entire trips or the classification of a vehicle as a resident or employee of the area—at a reasonable cost. Instead, planners typically turn to local travel demand models which are based on periodic household or employer travel surveys. When it comes to estimating VMT with models, there are some limitations:

- Surveys are expensive, time consuming, and respondents may suffer from recall biases.
- Models are computationally expensive as well as technically difficult to manage.
- Models are geographically constrained, and depreciate in accuracy as the model approaches regional boundaries.
- Most models are aggregated to a geography such as TAZ, making them unable to capture local behavioral nuances.
- Models are updated infrequently and rely on outdated travel surveys.
- Models expand from a relatively low sample size and limited geographies, especially in non-urban communities.

Travel demand models perform a crucial role in land-use scenario planning, and they also offer a solution for estimating macro-level VMT trends. However, due to the stringent specifications of SB 743, developers, planners, and policy makers need granular, up-to-date VMT estimates with more precision.

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The Locational Data Approach to VMT

The CEQA Guidelines and previous case law have raised expectations for lead agencies performing technical analysis to use the "best available data." Extending this expectation to VMT spotlights some limitations in using travel demand models, especially those developed for regional applications (i.e., MPO models). Travel demand models are equipped to simulate regional trends, they often lack the nuances of local travel patterns due to the sparseness of the household travel surveys that underpin them. For VMT estimation, Location Based Data (LBS) serves as a powerful alternative for the following reasons:

- Estimations are based on a large sample size that can cover 365 days a year.
- Trips are tracked from start to finish with no boundaries.
- Trips in different geographic regions can be compared apples-to-apples, without concern for whether the underlying survey data is dissimilar.
- The region of analysis can be as small (parcel) or as large (county, MPO) as desired.
- StreetLight's Metric is updated every month.
- StreetLight has historical data from the last few years, allowing for temporal comparisons.

While LBS is not a perfect source (it still relies on a sample which is subject to sampling biases, privacy restriction, etc.), it is superior to regional travel demand models in estimating granular VMT patterns especially for individual land use types, trip purposes, and vehicle occupants because of its large sample size and historical availability.

Development of StreetLight's SB 743 Metric

Following SB 743's ratification in 2013, the California's Governor's Office of Planning and Research (OPR) developed a technical advisory to outline the important questions to be answered in VMT estimation and impact analysis. We designed our SB 743 Metric specifically to meet the expectations outlined in OPR's technical advisory.

The policy goal for SB 743 is to reduce greenhouse gas emissions and other environmental impacts by quantifying and mitigating VMT that results from new developments. Since developments take many forms, central in the technical advisory's recommendation is that VMT should not be measured by a single factor. Instead, VMT calculations, to the extent possible, should account for the full length of vehicle trips, the occupant (i.e., resident, worker, or visitor), and the purpose of the trip. VMT reporting segmented along these lines will allow planners to articulate the impacts of new developments more precisely.

Methodology for Measuring SB 743 with Locational Data

The following are the steps that we take to ingest LBS data and produce our SB 743 VMT Metric in accordance with OPR guidelines.

STEP 1: GET TRIPS

First, we retrieve a set of trips from the billions of trips in our repository for a specific data period and geography. Trips are created using anonymized locational records, passively collected from smart phones, and grouped into key patterns. (see this link for our standard methodology document)

STEP 2: ASSIGN TRIPS TO RESIDENCE STATUS

From these travel patterns, we can infer probable home and work locations for composite groups of people. 'Home' and 'Work' locations are determined based on the frequency of daytime and nighttime hours of the devices responsible for the trips and land use (contact your StreetLight representative for more details on our Home and Work locations methodology.) In each zone, devices with home or work locations in that Block Group are considered 'Residents' or 'Workers,' respectively. All other devices are considered 'Visitors.'

STEP 3: ASSIGN TRIPS TO PURPOSES

Trip origins and destinations are sorted into 'Home,' 'Work,' or 'Other' based on proximity to that device's home and work locations. Next, the trips are distributed to their appropriate trip purpose bin, as demonstrated in Figure 1.

	Home-to-Work (H2W)	Work-to-Home (W2H)	Home-to-Other (H2O)	Other-to-Home (O2H)	Work-to-Other (W2O)	Other-to-Work (O2W)	Other-to-Other (O2O)
Resident VMT							
Employee VMT							
Visitor VMT	n/a	n/a					

Figure 1: SB 743 requires trips be segmented by trip purpose and residence classification. The table above demonstrates the possible combinations trips are sorted into. N/A's exist because if a trip started or ended at a home or work location, the device cannot be classified as a visitor.

It's important to note that the OPR technical advisory recommends inter-regional trips to be counted in both the origin region and the destination region.

STEP 4: AVERAGE TRIP LENGTH

Next, we calculate the average trip length and the volume of trips for each combination of residence status and trip purpose.

STEP 5: CALCULATE VMT PER DEVICE-DAY

After trips have been assigned and expanded to real-world estimations, the next step is to normalize VMT per device-day. Residence VMT and Employee VMT are divided by the number of days residents[1] and employees[2] devices are active, respectively.

Step 6: Summarize Based on OPR Classifications

Finally, in order to apply our Metric to proposed developments, we summarize the VMT/Device-Days based on OPR's recommendations for VMT classifications, visualized in Figure 2.

	H2W	W2H	H2O	O2H	W2O	O2W	O2O
Resident VMT							
Employee VMT							
Visitor VMT	n/a	n/a					

Figure 2: The table above is color coded to indicate our relevant Metrics for assessing residential and commercial developments. Impact of employees is assessed based on their trips to and from work. Impact of Residents are assessed based on all trips to or from home.

These classifications are important because our VMT estimations can be used for mixed-use development projects, such as ones with 200 residents and 50 employees. OPR partnered with a handful of expert stakeholders to develop this technique using 5 case studies as examples.

Step 7 (Optional): Obtain Regional Comparisons for a Screening Map

One specific application OPR calls for is a screening application to determine if a proposed development location is in an area of 'less than significant impact.' The assessment area, a Block Group for example, is compared against the City, County, and MPO VMT averages. To calculate regional VMT averages, we take the product sum for all of the sub-geographies. Since inter-regional trips may be counted as 'resident' in the origin region but 'employee' in the destination region, it's important to summarize each residence status separately, in order to avoid double-counting these trips.

Validation of Our SB 743 VMT Metric

Fehr & Peers (F&P), a consulting firm, performed an independent validation of our results. In the validation, F&P compared our SB 743 Metric to results from the Sacramento Council of Government (SACOG)'s Activity Based Model, SACSIM. SACSIM synthesizes region-wide daily travel patterns collected from their household survey done in 2018. SACOG has one of the most robust survey/demand model processes, and a very diverse set of communities and land uses, making it a good candidate for validation. Placer County was selected as the specific jurisdiction for comparison.

[1] For the number of residents, we used the American Community Survey data source (ACS, 2018)
[2] For the number of employees, we used the Longitudinal Employer-Household Dynamics data source (LEHD, 2017)

F&P first validated the trips by looking at the 'resident' trip volumes, segmented by trip purpose. They only compared resident trips to align with the survey's methodology. As demonstrated in Figure 3 below, StreetLight's results fell within .5% on resident home-based trips counts.

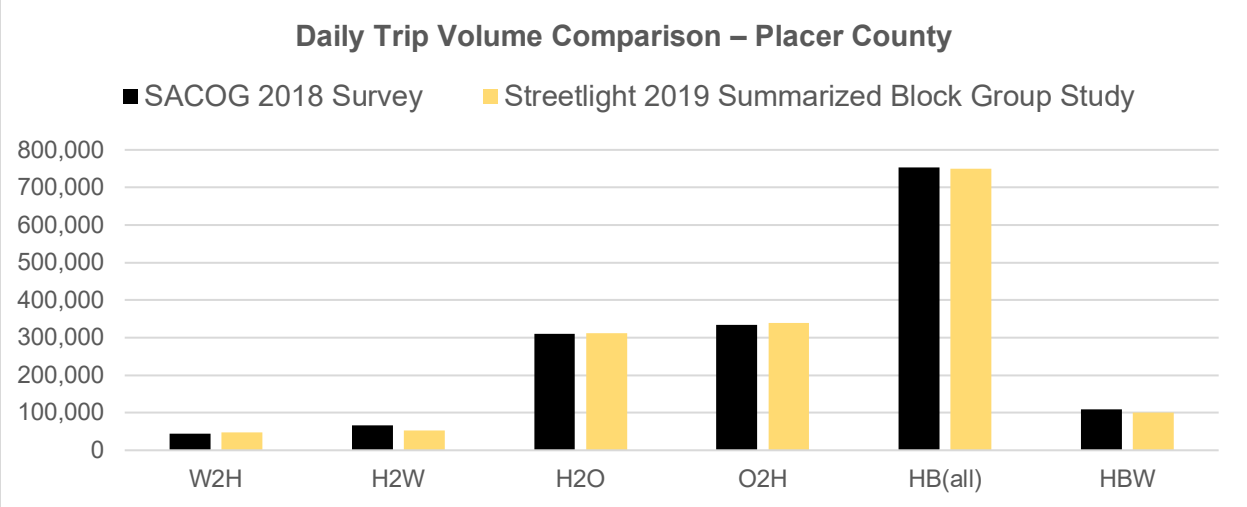


Figure 3: Comparison of daily trip volume by purpose for residents of Placer County.

Next, F&P compared the second component of VMT, average trip length, against the survey results. Similar to the first validation, they compared trip lengths across Placer County for each trip purpose. Shown in Figure 4 below, average trip lengths also had a close alignment between each trip purpose. Work-related trips had the closest matches, while StreetLight estimates of home-based trip purpose trip lengths was generally higher. This is due to the exclusion of vehicle trips under 500 meters in the StreetLight estimates, as a part of our trip creation criteria – thus, StreetLight has 18% of vehicle trips under two miles whereas the SACSIM model had 36% of vehicle trips under two miles (see this link for our standard methodology document for more details on trip creation), which has a big impact on average. Another potential factor is that the StreetLight Metric represents weekdays throughout the year and would capture long-distance vacation and recreational trips leaving or returning to home and that do not occur on a routine basis and are not captured in conventional household travel surveys or the SACSIM model.

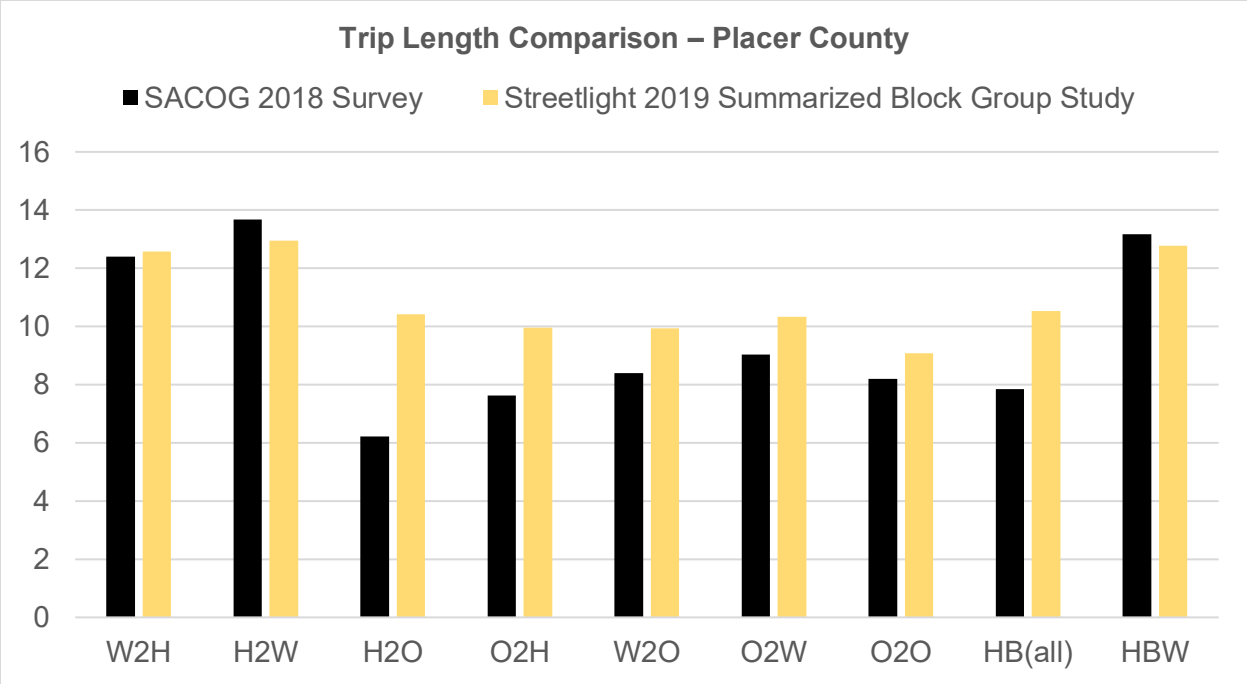


Figure 4: Comparison of average trip lengths by purpose for residents of Placer County. StreetLight's longer "other" purposes are partially a result of our inclusion of the full trip when trips cross model boundaries (for example, Bay Area residents driving to Sacramento region).

After, F&P compared our Metric to SACSIM under two different settings at smaller geographic resolution. Figure 5 below shows the impact on VMT when trips outside a model's boundary are excluded. Additionally, it demonstrates the close alignment of our results, which don't have geographic and temporal boundaries.

StreetLight and SACSIM VMT per Resident Comparison			
Jurisdiction	**SACSIM 2016 Excluding IX/XI[3]**	**SACSIM 2016 Including IX/XI[4]**	**StreetLight 2019**
Auburn	13.97	21.63	20.52
Lincoln	17.49	22.58	19.63
Rocklin	12.78	17.77	18.92
Roseville	12.13	17.18	16.75
Placer County	15.71	21.29	21.47

Figure 5: Comparison of average VMT per resident in five Placer County cities, according to SACSIM and StreetLight. The difference between SACSIM and StreetLight shows the impact on VMT when trips outside a model's boundary are excluded.

[3] Excludes internal-external (IX) and external-internal (XI) trips and trip lengths outside model boundary.
[4] Total VMT per resident—Includes non-home-based trips plus internal-external (IX) and external-internal (XI) trips. Excludes trip length outside model boundary

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Overall, Fehr &Peers found our results comparable, and followed up in their quantitative investigation by demonstrating multiple development locations where our results picked up on local travel patterns that SACSIM missed. In Figure 6 below, F&P demonstrates how our results more accurately identified areas of lower average VMT in a small, dense development compared to SACSIM.

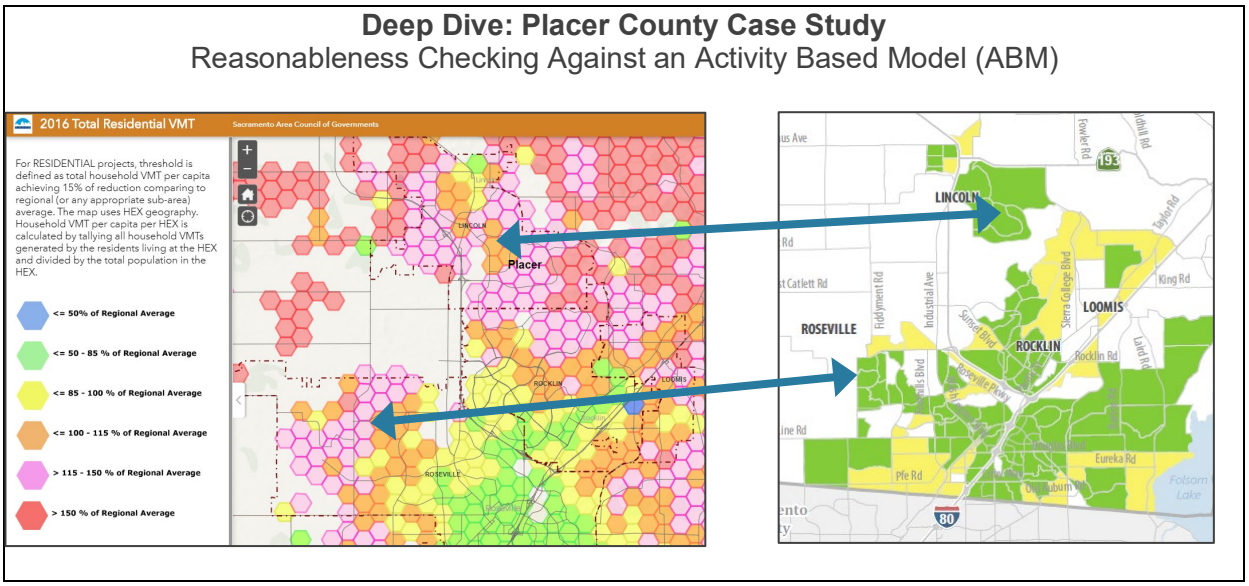


Figure 6: Comparison of SACSIM (left) and StreetLight (right) demonstrates how StreetLight's Metric correctly identified the influence of 'age qualified' housing (i.e., only 55 or over), which generates vehicle trips at about one-third the rate of surrounding single-family homes, resulting in lower average VMT.

Find more examples of F&P's validation, and the rest of the slides from the joint webinar here.

Conclusion

StreetLight's VMT Metric is an easy and affordable way to get SB 743 compliant VMT data anywhere in the state. This data can be used for screening, direct VMT estimation, and for mitigation monitoring over time. Transitioning to VMT is a big difference in how California thinks about impacts of development – not just "to drivers" but "of driving" – and we want to equip organizations with accurate, repeatable metrics to easily respond to the transition from LOS to VMT. Since SB 743 is new legislation, as more organizations and agencies use this Metric to satisfy the new requirements, we may improve our methodology as time moves forward and the needs of the community evolve.

About StreetLight Data

StreetLight Data, Inc. pioneered the use of Big Data analytics to help transportation professionals solve their biggest problems. Applying proprietary machine-learning algorithms to over 100 billion location data points every month, StreetLight measures multimodal travel patterns and makes them available on-demand via the world's first SaaS platform for mobility, StreetLight InSight®. From identifying sources of congestion to optimizing new infrastructure to planning for autonomous vehicles, StreetLight powers more than 10,000 projects every month.

Acknowledgements

We'd like to thank Fehr & Peers for contributing to this white paper, along with providing guidance and industry expertise as we developed the white paper.

Appendix

Example Scenario: Device home & work located in different Block Groups

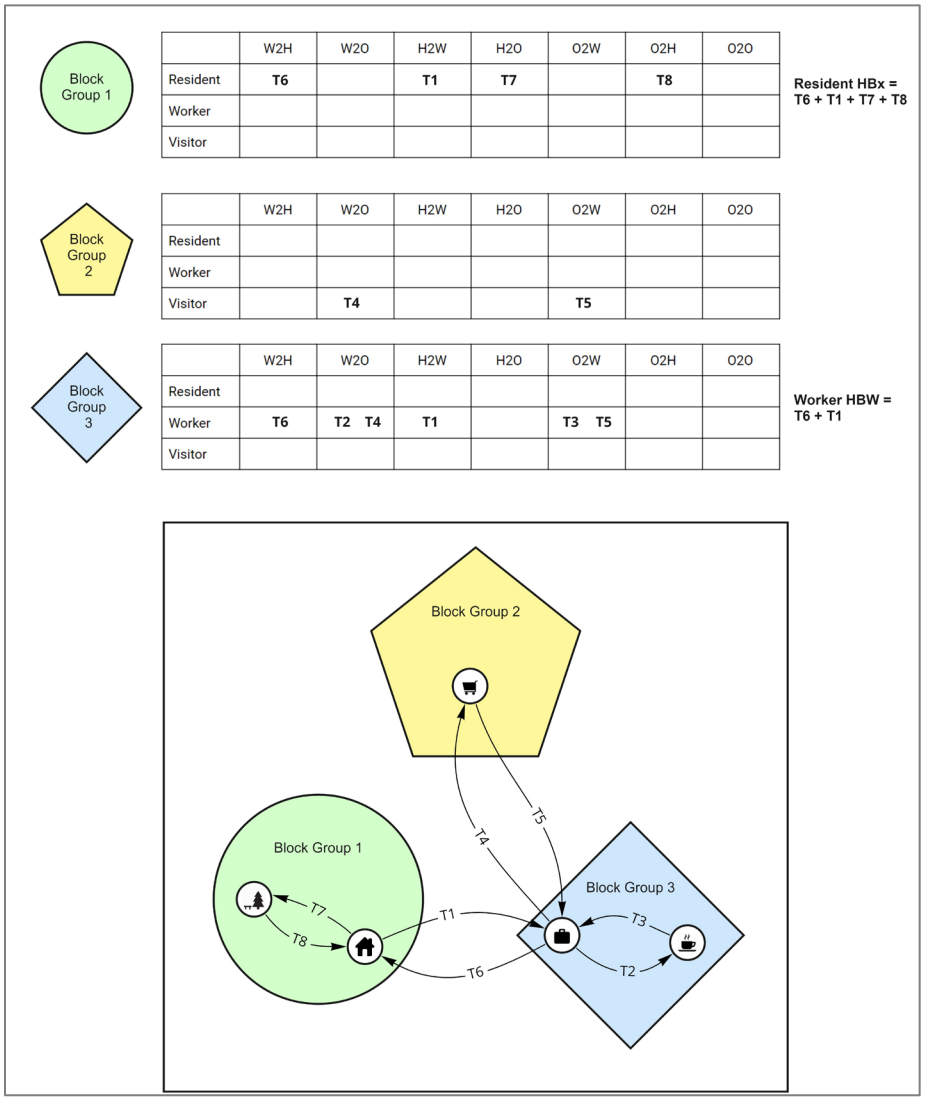


Figure 7: Illustration of how trips are allocated when the device home and work locations are located in different block groups.

We can explore alterations to these definitions on custom implementations and are open to feedback about having additional options for definitions as we move forward with SB 743 support.



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