Lakewood Comprehensive Plan: Background Appendix

WORKING DRAFT | May 2024

Table of Contents

Introduction

This supplemental appendix to the 2024 Lakewood Comprehensive Plan includes supporting materials outlining current conditions in the city in greater detail. This is intended to provide a foundation for the vision and goals included within the Plan and present a clear rationale for the policy decisions made within the document.

This backgrounder provides a review of key information for the following sections of the Comprehensive Plan, including:

- Land Use
- Capital Facilities and Essential Public Facilities
- Economic Development
- Energy and Climate Change
- Housing
- Military Compatibility
- Natural Environment
- Parks, Recreation, and Open Space
- Public Services
- Transportation
- Utilities

A Land Use and Maps

A.1 Introduction

Land use policies in Lakewood such as the Comprehensive Plan Land Use Element facilitate a well-distributed mix of land areas designated for housing, commerce, industry, recreation, transportation, open space, cultural resources, and various other purposes. Effective strategies for land use support both residential and commercial expansion, as well as the development of the amenities necessary to support residents, workers, and visitors in the community.

Lakewood incorporated to become a city in 1996, but at that time it was already a well-developed, mature suburban community. Most private properties within the city limits have been developed and improved, with much of the anticipated population and employment growth to be incorporated through urban infill and the redevelopment of existing properties. The city's infrastructure—covering transportation, utilities, and open spaces—is mostly built out, although there are some notable gaps to address.

Given this context, there is a need to refine land use patterns in Lakewood over time to:

- Promote economic development;
- Provide for the housing needs of a diverse existing and future population at all economic levels;
- Maximize and guide the use of existing and future infrastructure investments;
- Protect critical and environmentally sensitive areas; and
- Plan for climate change and resiliency.

From these needs, the city needs an overarching land use strategy to:

- Focus future development where it is required per state law, but also where it is best served by motorized and active transportation;
- Reinforce the health of commercial sectors; and
- Provide a broad spectrum of quality housing with sufficient stock affordable to all economic segments to meet growth targets.

Note that while accommodating residential and employment growth is essential, other uses are also critical for the future of the city. As Lakewood's population and employment bases expand, recreation and open spaces will become increasingly valued for enhancing quality of life. Public open spaces will be vital for maintaining Lakewood’s visual appeal and serving as recreational amenities for families and wildlife. Improved connectivity to these land resources and enhanced access to public lands and waters are necessary for the community. Similarly, other public and institutional uses as well as supporting commercial activities will be essential to maintain the viability of local growth.

A.2 Future Land Use Map

The official Lakewood Future Land Use Map (FLUM) is foundational to the city's Comprehensive Plan. Considerations in the development of the Future Land Use Map included:

- General distribution and location of existing land uses;
- Population, housing unit, and employment growth targets;
- Appropriate intensity and density of land uses given current development trend;
- Protection of critical and environmentally sensitive areas;
- Protection of the quality and quantity of public water supplies;
- The provision of public services, including available utilities and urban services provided by third party entities;
- Control of stormwater runoff; and
- Costs and benefits of growth.

The FLUM establishes broad categories of land use ("designations") that are further defined at parcel-level distinctions in the Zoning Map and regulated by the Municipal Code development regulations. It serves as the principal guide for elected officials in making decisions about the need for, and the locations of, public services, utility systems, transportation routes, and other capital facilities. The FLUM is also referenced by city staff, consultants, private citizens, developers, and others interested in the city's future as they make decisions about where to live, work, invest, and conduct business.

Land use designations in the Future Land Use Map are used in conjunction with the Comprehensive Plan's written goals and policies, which reflect how the community wishes to implement its vision for the city, its goals and objectives for land use, and other related elements of the Plan.

The table in Exhibit A-1 below summarizes which land use zones in the Lakewood Municipal Code implement the city's various land use designations. Exhibit A-2 provides the FLUM for the Comprehensive Plan, while Exhibit A-3 includes the zoning map to be provided as part of city zoning under LMC 18A.10.150.

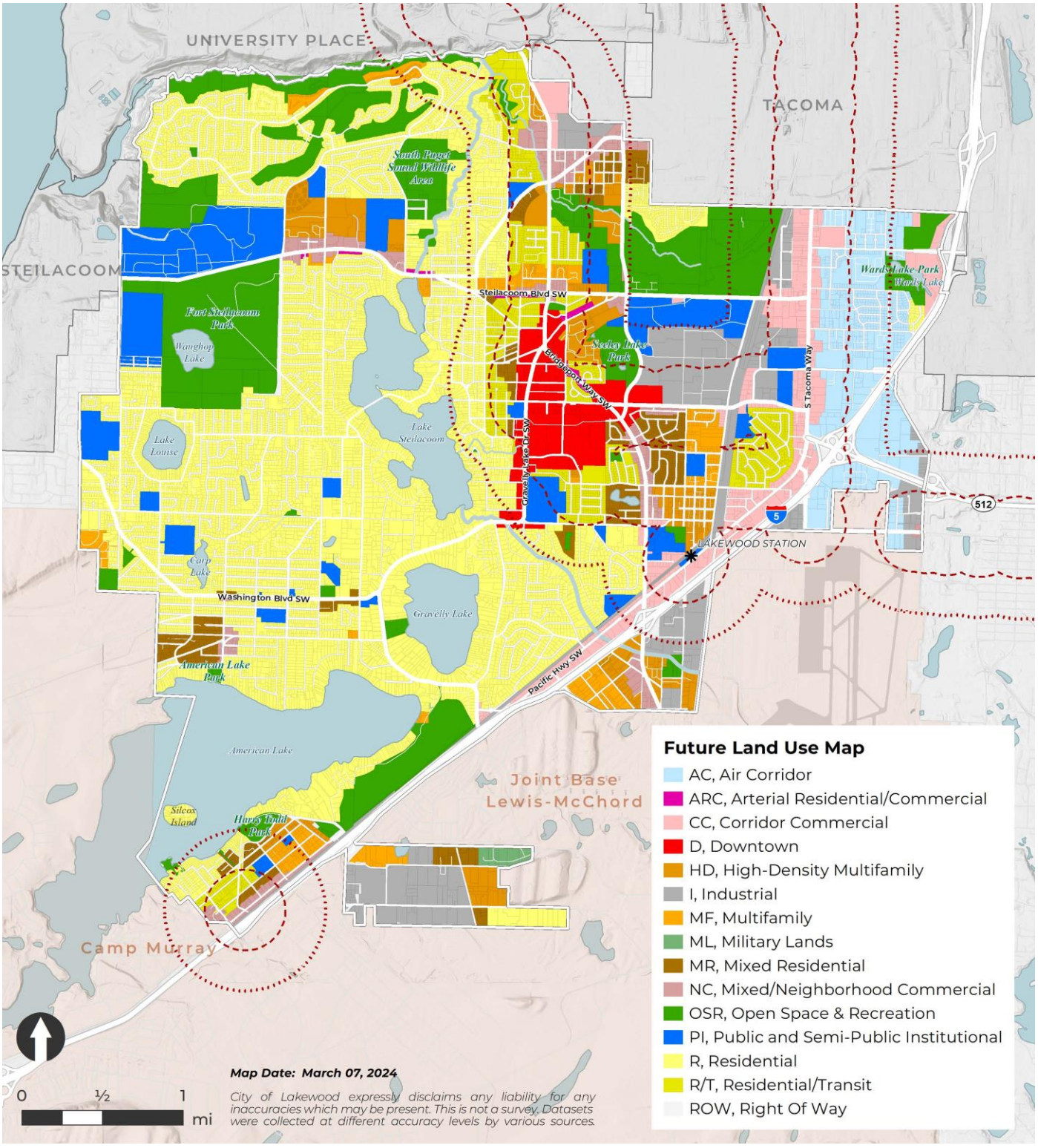
As the 2020 Pierce County Buildable Lands Report indicates that the city can generally meet the targets identified for housing and employment uses to 2044, the need for extensive changes to land uses in the city is minimal. Because of this, the only major changes include the following:

- **The "Residential Estate" designation has been removed.** Under revisions to the Growth Management Act, all residential areas in the city are required to accommodate middle housing on lots in the city that are not impacted by critical areas or their buffers This includes an increase to allow two to four units on an individual lot and legalization of six of nine types of middle housing defined in the GMA. (See RCW 36.70A.635 for more details.) Because of this potential change in allowable densities, the designations themselves were aggregated with R3 and R4 zones into a single "Residential" category.

Exhibit A-1. Lakewood Future Land Use Map Designations and Zoning.

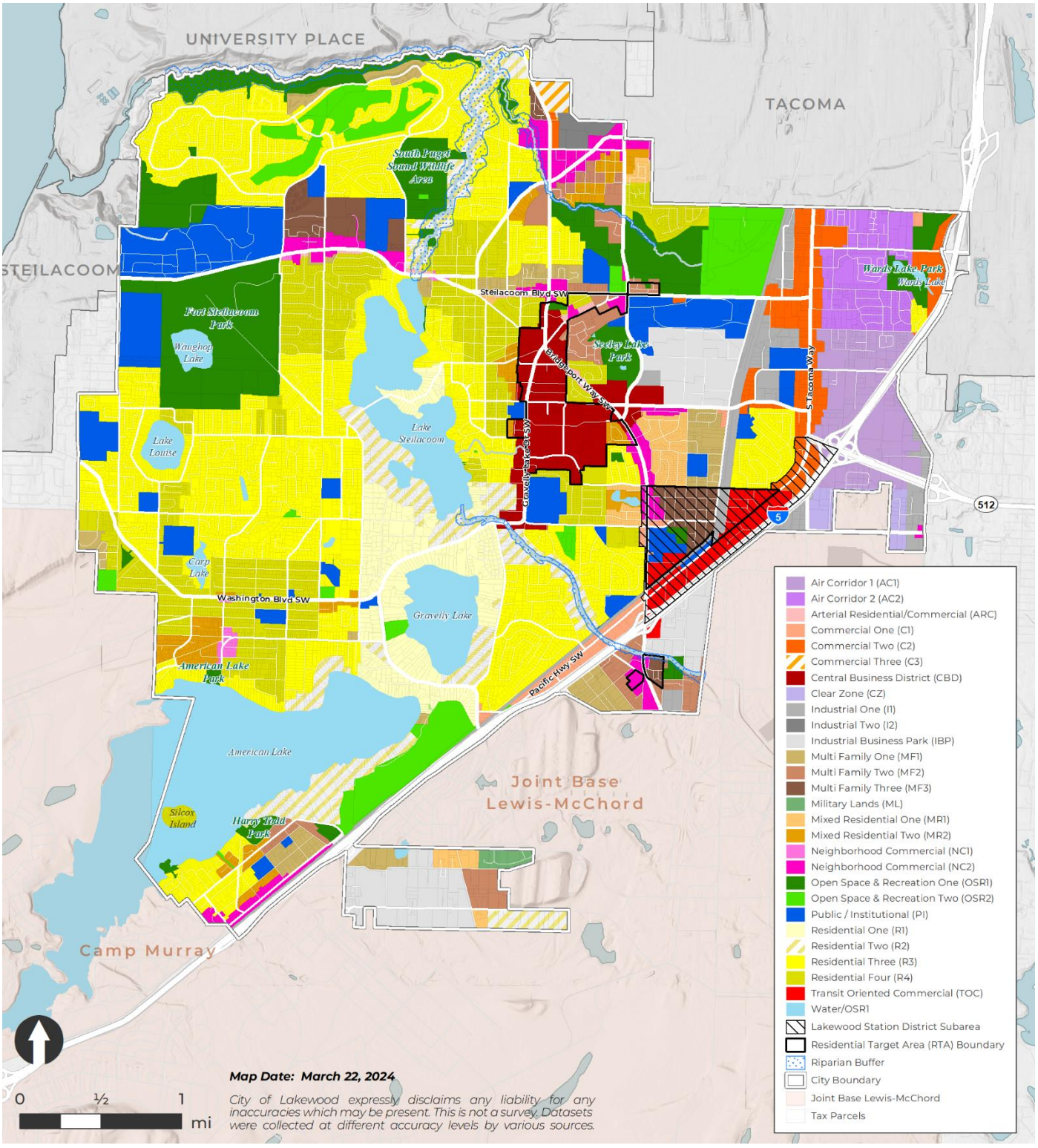
Land Use Designation	Land Use Zoning District
Air Corridor 1 (AC1) **Air Corridor 2 (AC2)**	▪ Clear Zone (CZ) ▪ Air Corridor 1 (AC1) ▪ Air Corridor 2 (AC2)
Arterial Corridor (ARC)	▪ Arterial Residential/Commercial (ARC)
Corridor Commercial (CC)	▪ Transit-Oriented Commercial (TOC) *(within Lakewood Station District)* ▪ Commercial 1 (C1) ▪ Commercial 2 (C2) ▪ Commercial 3 (C3)
Downtown	▪ Central Business District (CBD)
High-Density Multifamily (HD)	▪ Multifamily 2 (MF2) ▪ Multifamily 3 (MF3)
Industrial (I)	▪ Industrial Business Park (IBP) ▪ Industrial 1 (I1) ▪ Industrial 2 (I2) ▪ Industrial 2 (I2)
Public and Semi-Public Institutional (PI)	▪ Public Institutional (PI)
Multifamily (MF)	▪ Multifamily 1 (MF1)
Military Lands (ML)	▪ Military Lands (ML)
Mixed Residential (MR)	▪ Mixed Residential 1 (MR1) ▪ Mixed Residential 2 (MR2)
Neighborhood Business District (NBD)	▪ Neighborhood Commercial 1 (NC1) ▪ Neighborhood Commercial 2 (NC2)
Open Space and Recreation (OSR)	▪ Open Space and Recreation 1 (OSR1) ▪ Open Space and Recreation 2 (OSR2)
Residential (R)	▪ Residential 1 (R1) ▪ Residential 2 (R2) ▪ Residential 3 (R3) ▪ Residential 4 (R4)
Residential/Transit (R/T)	▪ Residential 2/Transit (R2/T) ▪ Residential 3/Transit (R3/T) ▪ Residential 4/Transit (R4/T)

Exhibit A-2. Lakewood Future Land Use Map.



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

Exhibit A-3. Lakewood Zoning Map.



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

- **A "Transit" overlay designation has been added.** In addition to general increases in density, there are also identified requirements to allow up to four units per lot if a Residential lot is within 1/4 mile of a "major transit stop", which for this requirement includes Sound Transit stations and future bus rapid transit. The Future Land Use Map identified in Exhibit A-2 highlights where the future Transit overlay would be expected upon buildout of planned Pierce Transit BRT lines. However, the only current locations where this would apply would be around the Lakewood Sound Transit station.
- **Areas within one-half and one-quarter mile of future transit have been identified for possible reduced parking requirements.** In addition to the consideration of allowable densities, there are additional changes in requirements for on-site parking within 1/2 and 1/4 mile of major transit stops. This includes reduced parking for middle housing (RCW 36.70A.635(6)(d)), accessory dwelling units (XX), housing for very low-income and extremely low-income households (RCW 36.70A.620(1)), senior housing (RCW 36.70A.620(2)), and general market-rate multifamily units (RCW 36.70A.620(3)).

A.3 Air Installation Compatibility

Lakewood's Air Corridor 1 and 2 land use zones, which represent about 5% of the city's total acreage, currently encompass 1,832 housing units that do not conform to the safety guidelines outlined in the Accident Potential Zones (APZ) I & II of North McChord Airfield at Joint Base Lewis McChord. According to the Department of Defense's 2015 JBLM Air Installation Compatibility Use Zone (AICUZ) Report, the residential densities in the AC1, AC2, and CZ zones greatly exceed those advised for compatibility with JBLM operations. The report highlights that generally, residential uses in these areas conflict with the defined accident potential. Detached single-family homes with densities of one to two units per acre may be acceptable under specific conditions in APZ II, however.

In response, Lakewood plans to transition these areas from non-conforming residential uses to low-density, non-residential uses to align with Department of Defense and FAA air safety regulations, state law, and PSRC policies. The impacted areas are identified in Exhibit A-4.

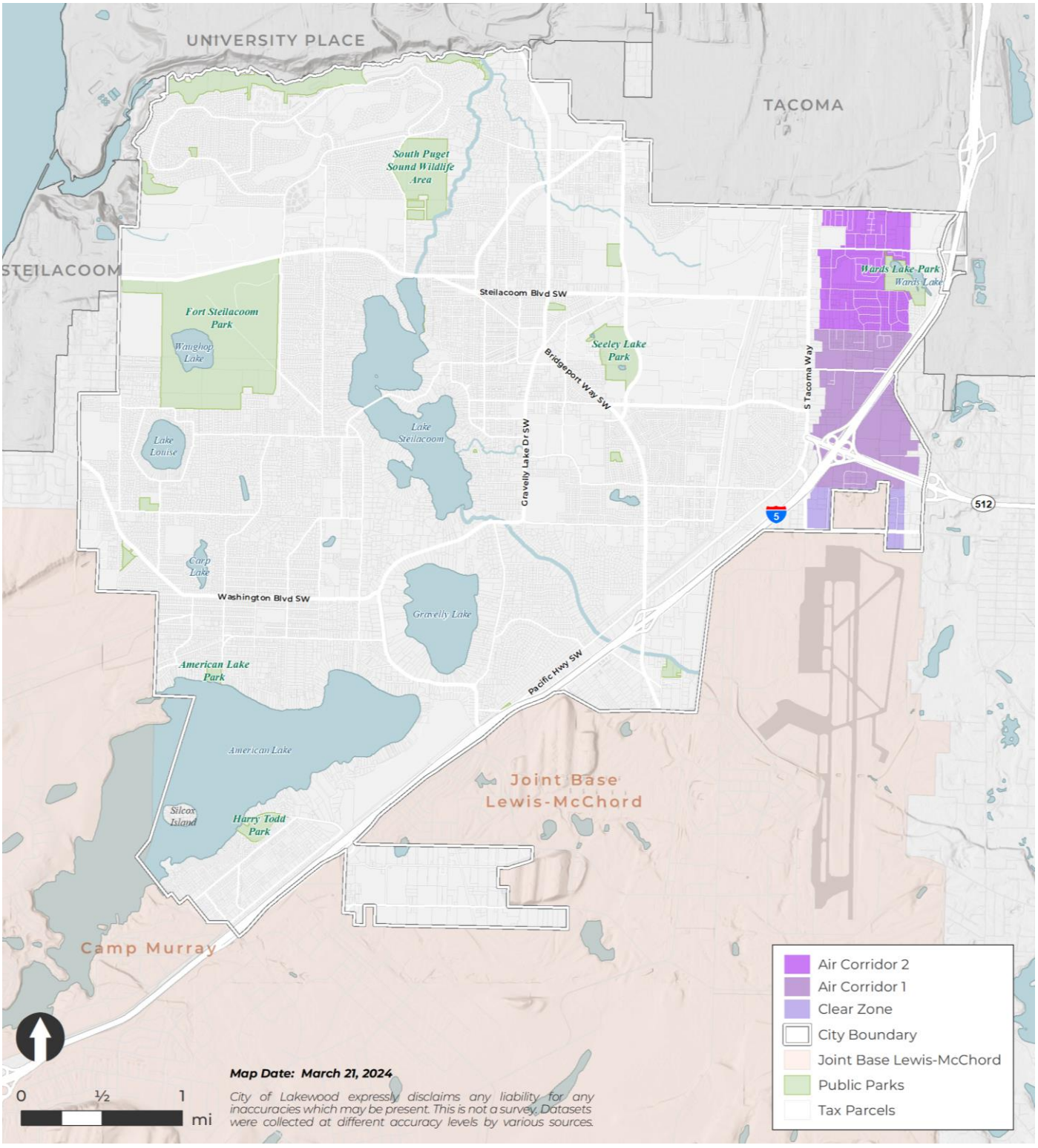
This action will involve consideration of:

- RCW 36.70A.530(3), which guides against developments near military installations that could hinder their operational capabilities;
- RCW 43.330.515 and 520, which address incompatible developments around military bases; and
- VISION 2050 Policy MPP-DP-49, which aims to protect military lands from encroaching incompatible developments.

Overall, this will involve gradually relocating the 1,832 nonconforming units from the AC1, AC2, and CZ zones to other parts of Lakewood, in addition to accommodating future residential growth.

More information about military compatibility and land uses can be found in Section F (Military Compatibility).

Exhibit A-4. Lakewood Air Corridors.



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

A.4 Growth Capacity

Land use planning is crucial for managing the future growth of Lakewood to consider community health and sustainability. The FLUM indicates the expected use of urban spaces and underlies the Comprehensive Plan overall, strategically directing growth and investment for the next 20 years.

What is essential, however, is to ensure that the Plan provides sufficient capacity to accommodate future growth. Pierce County has provided targets based on the VISION 2050 Regional Growth Strategy from the PSRC as part of Countywide Planning Policies (CPPs)[1]. These targets include accommodating the following growth by 2044:

- An additional 9,378 housing units;
- An additional 9,863 jobs; and
- An additional 574 emergency housing units.

Note that Section E (Housing) provides more details about the housing requirements.

An evaluation of data from the 2020 Buildable Lands Report has been used to determine the ability for Lakewood to accommodate this future growth. This was updated based on several new requirements for densification of Residential areas:

- **Base requirements:** minimum 2 units/lot on all parcels (R1-R4 zones)
- **Locations ¼-mile from a major transit stop:** minimum 4 units/lot.
- **One or more units are "affordable":** minimum 4 units/lot.
- **Location in non-sewered areas:** minimum 2 units/lot until either the landowner or local government provides sewer service or demonstrates a sewer system will serve the development at the time of construction.
- **Accessory Dwelling Units (ADUs):** An allowance of 2 ADUs in addition to primary residence on all lots that meet the minimum lot size in each zone that allows for single-family homes (R1-R4 and ARC zones). Cities are only required to allow 1 ADU on a lot that includes a critical area or buffer.

To account for relevant changes, the buildable lands inventory has been revised as follows:

- **Recent development** since the 2020 report was completed is included in the update to determine the actual yields from new projects overall. Note that this included both residential and commercial/industrial projects in the city.
- **Changes to zoning** are also included in the analysis to revise estimates of developable capacity under city regulations.
- An analysis of available site area for **new infill development in Residential areas** was performed to determine likely capacity. This includes evaluations of how much area was available on individual lots for new housing, and if it was likely that this area would be available for new infill capacity.
- Revisions to **estimates of redevelopment potential** are based on increased development yields as well as market factors consistent with the 2020 Pierce County Buildable Lands Report.

[1] See Appendix A of the Pierce County CPPs and County Ordinances 2022-46s and 2023-22s.

General inputs for the model are included in Exhibit A-5 below. This table includes descriptions of the land use and expected development types, as well as the range of maximum residential and employment densities and the current size of the individual areas in acres.

Exhibit A-5. Densities Under Future Land Use Designations

Land Use Designation	Major Development Types Envisioned	Residential Density[1]		Employment Density[1]		Acres
		Low	High	Low	High	
Residential Districts:						
Residential	Single-family / middle housing	1	25	--		5,125.8
Mixed Residential	Smaller multi-unit housing	22	35	--		344.1
Multi-Family Residential	Moderate multi-unit housing	22		--		313.6
High Density Multi-Family	Larger apartment complexes	35	54	--		442.8
Mixed Use Districts:						
Downtown	High-density urban housing mixed with retail, office, and social land use activities	80	100	196		318.7
Neighborhood Business District	Multi-family above commercial (retail/office/services)	12	40	25		287.3
Arterial Corridor	Live/work units and lower intensity retail/service.	15		15		18.9
Air Corridor 2	Single-family housing with nominal uses that minimize public risks	2		--		235.8
Non-Residential Districts:						
Corridor Commercial	Employment, services, retail, and business/light industrial	--		25	196	471.5
Industrial	Regional research, manufacturing, warehousing, concentrated business/ employment parks, and other major regional employment	--		15		752.5
Public/Semi-Public Institutional	Large- and moderate-scale government and institutional uses	--		20		807.2
Air Corridor 1	Minimal uses compatible with AICUZ requirements	--		--		376.2
Open Space & Recreation	Public open spaces and public/private recreational uses	--		--		1945.3
Military Lands	Federal and state-owned military lands	--		--		25.0
Total designated area						**11,464.4**
Excluded: Water & ROW						**1172.1**
TOTAL:						**12,636.5**

[1] As expressed in the Comprehensive Plan for new development; existing densities are unlikely to match and may already exceed maximums in some cases.

Note that residential density changes have been provided here for the Residential land use area, but the Mixed Residential area has also been increased. This is due in large part to the fact that increases in effective densities across the Residential area and individual zoning districts up to R-4 would be greater than the previous allowable densities for these areas.

Based on this analysis, Exhibit A-6 provides a comparison between the growth necessary to achieve targets under the current CPPs and the assessed capacity to meet these growth demands under the developed capacity model. Based on the assumptions of the assessment, the current growth capacity under the FLUM will be sufficient to accommodate both residential and employment growth in the city over the next 20 years. There is also sufficient capacity to provide flexibility in accommodating the shape of future growth, such as preferences for development in certain areas of the city or for certain types of housing.

Exhibit A-6. Lakewood Growth Targets and Capacity, 2020–2044.

	2020 Conditions	2044 Targets	Expected Growth 2020-2044	Growth Capacity
Population	63,612	86,792	+23,180	40,922*
Jobs	29,872	39,735	+9,863	15,238
Housing	26,999	36,377	+9,378	17,488
Emergency Housing	8	582	+574	**

* Housing capacity calculations assume 2.34 persons per household.
** Assessments indicate sufficient sites are available for emergency housing.
Sources: Pierce County, 2023; US Census Quick Facts, 2023.

More details about the capacity analysis specific to housing area included in Section E (Housing).

A.5 Planning Areas

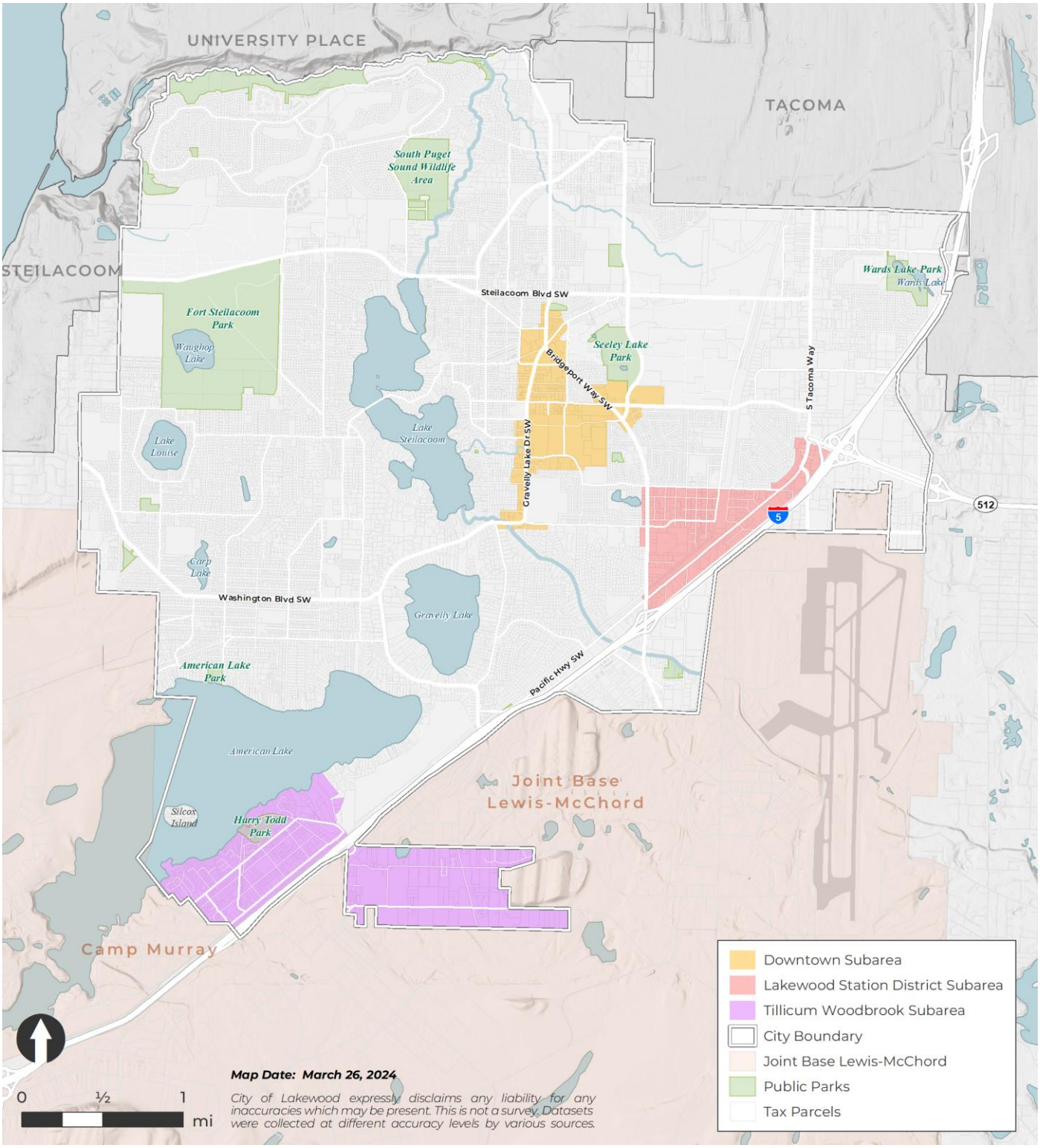
A.5.1 Subarea Planning

As of 2024, Lakewood has adopted three (3) subareas as authorized under RCW 36.70A.080(2):

- **Downtown** (adopted 2018)
- **Station District** (adopted 2021)
- **Tillicum-Woodbrook** (adopted 2011; updated 2024)

Boundaries for these subareas are included in Exhibit A-7. Associated information about these subareas are discussed in more detail in the individual Subarea Plans, which are incorporated into the Comprehensive Plan.

Exhibit A-7. Lakewood Subareas Map.



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

A.5.2 Regional Urban Growth Center

The Puget Sound Regional Council (PSRC) Regional Growth Strategy and Multicounty Planning Policies (MPPs) included in VISION 2050 calls for the creation of central places with a mix of uses and activities connected by efficient transportation. Centers are the hallmark of VISION 2050 and the Regional Growth Strategy. They guide regional growth allocations, advance local planning, inform transit service planning, and represent priority areas for PSRC's federal transportation funding.

As a PSRC “core city”, Lakewood has a designated Regional Urban Growth Center with borders coterminous with the 2018 Downtown Subarea. This area is shown in Exhibit A-8. The center was successfully reviewed by PSRC in 2016 for consistency with VISION 2040 and the MPPs; it will be reviewed again under the updated PSRC Regional Centers Framework in 2025.

The Pierce County Countywide Planning Policies (CPPs) also contain direction regarding Centers; Lakewood’s Regional Urban Growth Center will be reviewed over time against these CPPs as well to maintain consistency.

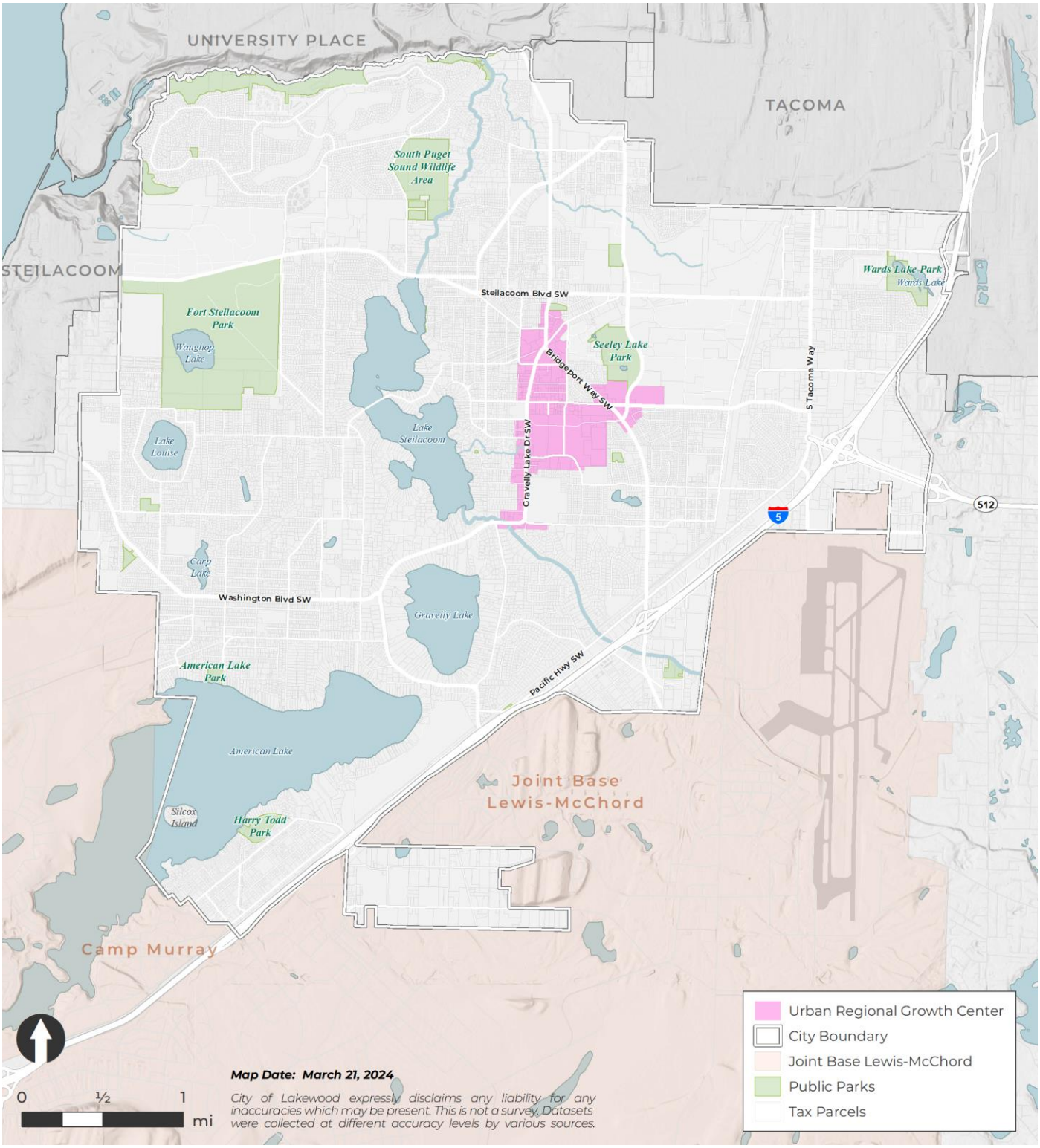
A.5.3 Centers of Municipal Importance (CoMIs)

Centers of Municipal Importance (CoMI) are designated for the purpose of identifying local centers and activity nodes that are consistent with the PSRC MPPs. Such areas promote compact, pedestrian-oriented development with a mix of uses, proximity to diverse services, and a variety of appropriate housing options, or are in an established industrial area. CoMIs are designated by the local government with jurisdiction. Approval by Pierce County, the Pierce County Regional Committee (PCRC), or other state or regional organization is not required.

In 2019, per Pierce County Resolution 2019-070s, the Pierce County Countywide Planning Policies (CPPs) were updated to reflect the Regional Centers Framework that incorporated new policies regarding Centers of Local Importance (CoLIs.) Lakewood ratified these changes per City Resolution 2020-03. County Planning Policy C-29 states in part that “CoLIs may only be located in a town or city without a Countywide or Regional Center located in Pierce County.”

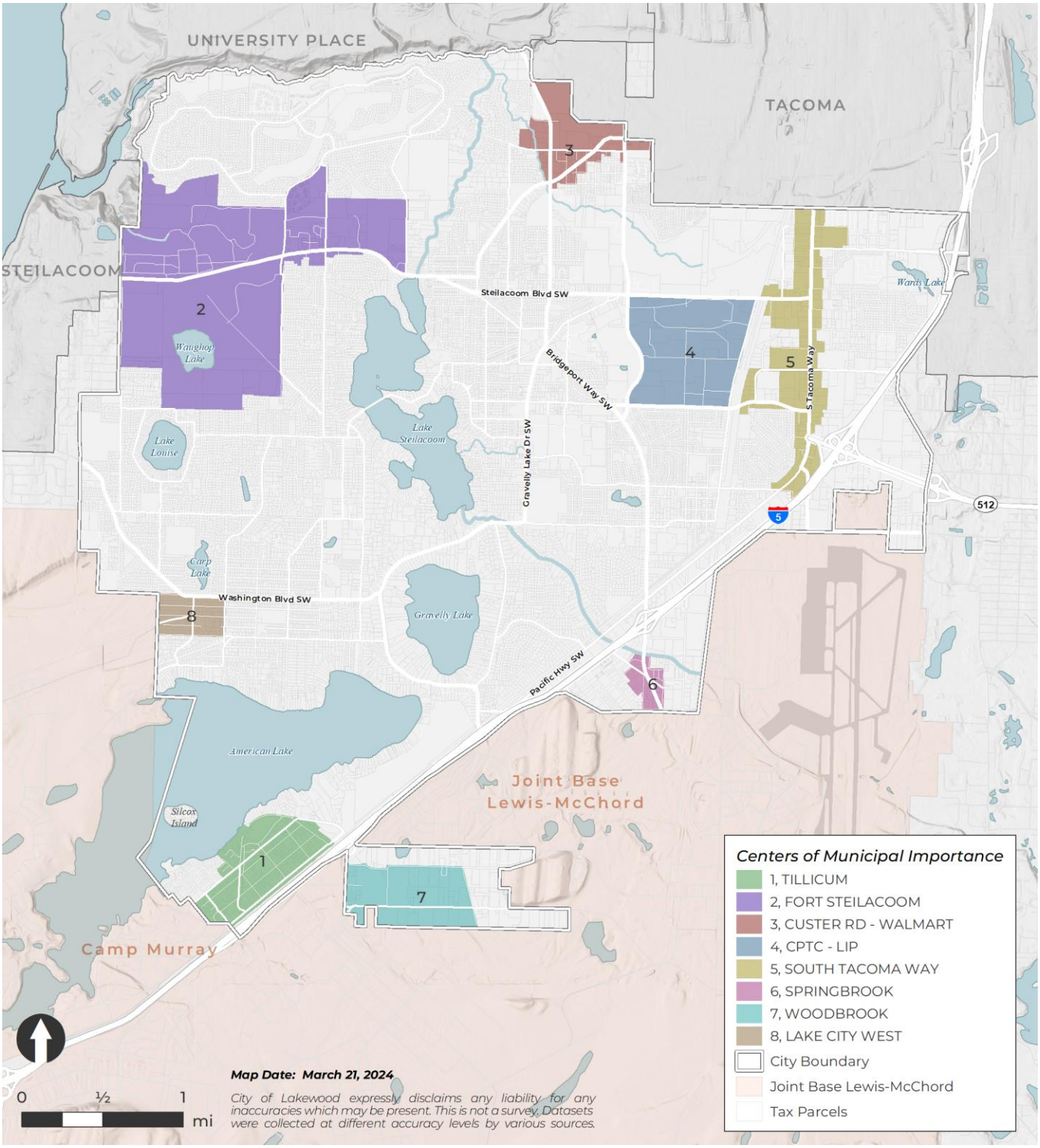
As a result of Policy C-29, the City of Lakewood redesignated its eight (8) local centers from CoLIs to “Centers of Municipal Importance”, or “CoMIs”. These CoMIs, shown in Exhibit A-9, are not intended to be designated in the future as Countywide or Regional Centers, but instead reflect Lakewood’s focus areas for preservation, resource investment and/or economic development.

Exhibit A-8. Lakewood Regional Urban Growth Center Map.



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

Exhibit A-9. Lakewood Centers of Municipal Importance (CoMIs).



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

Tillicum CoMI

The Tillicum neighborhood was designated as a CoLI in 2014 based on its characteristics as a compact, walkable community with its own unique identity and character. The area is located just outside the main gates of both Joint Base Lewis-McChord (JBLM) and Camp Murray National Guard Base ("Camp Murray"). The area is geographically isolated from the rest of Lakewood; the only practical access to the area is provided by I-5. This center provides a sense of place and serves as a gathering point for both neighborhood residents and the larger region with regard to the resources it provides for Camp Murray, JBLM, and access to American Lake.

The Tillicum area includes:

- **Civic services** including the Tillicum Community Center, Tillicum Elementary School, a fire station, JBLM and Camp Murray, the Tillicum Youth and Family Center, and several veterans service providers;
- **Commercial properties** along Union Ave. SW that serve highway traffic from I-5, personnel from JBLM and Camp Murray, and local residents;
- **Recreational facilities** including Harry Todd Park, Bills Boathouse Marina, the Commencement Bay Rowing Club, and a WDFW boat launch facility that attracts boaters from around the region.
- **Historic resources**, including Thornewood Castle. Much of the area was developed between 1908 and the 1940s. The street pattern around Harry Todd Park reflects the alignment of a trolley line that served the area in the early 1900's; and
- Approximately 62 acres partially developed with, and zoned for, **multi-family residential uses**.

Fort Steilacoom/Oakbrook CoMI

The Fort Steilacoom/Oakbrook area is being designated as a CoMI based on its characteristics as a discrete area providing resources of both local and statewide importance. Fort Steilacoom was one of earliest outposts of European settlement in the Northwest. The Fort was later expanded and converted to Western State Hospital (WSH.) The hospital currently serves approximately 800 patients and employs approximately 1,850 staff.

Pierce College was developed on approximately 75 acres of surplus hospital property beginning in 1967. The remaining hospital farmland south of Steilacoom Boulevard became Fort Steilacoom Park in the late 1970s. The designated CoMI area includes Western State Hospital, the Pierce College campus, Fort Steilacoom Park, and commercial and multi-family residential development immediately adjacent to the east.

The designated CoMI includes:

- **Civic services**, including Western State Hospital, the Oakbrook Fire Station, Pierce College, Custer Elementary and Hudtloff Junior High Schools, commercial areas, recreational areas, cultural facilities and activities, historic buildings and sites, and residential areas;
- **Commercial services** in the Oakbrook and Thunderbird Plaza shopping centers;
- **Recreational resources** in Fort Steilacoom Park including Waughop Lake and the Fort Steilacoom Golf Course;

- **Cultural and historic resources** in the Western State Hospital and Fort Steilacoom buildings and the Fort Steilacoom History Museum; and
- **Residential resources** in the multi-family residential areas north of the Oakbrook and Thunderbird Plaza commercial areas.

Further development at WSH and Pierce College is guided by master plan documents developed for each entity and implemented through discretionary land use permits (administrative use permits and conditional use permits) issued by the City. Fort Steilacoom Park is managed through the City's Parks Legacy Plan, which is discussed within and included as an appendix to the Parks, Recreation and Open Space element of the Comprehensive Plan.

Custer Road/Walmart CoMI

The Custer Road/Walmart area is designated as a CoMI based on its emerging status as a significant urban node of the City. The area is bound by Flett Creek on the west, the Flett Wetlands to the south, Leach Creek and Meadowpark Golf Course to the north, and the City boundary/Calvary Cemetery and Mount Tahoma High School to the east. Custer Road is a Principal Arterial street supporting numerous retail facilities and restaurants. The designated center area includes:

- Important **commercial resources** including a Wal-Mart Superstore, H and L Produce and a variety of resident-serving commercial uses along Custer Road through this area;
- **Industrial facilities** (Mutual Materials and Sound Glass);
- **Residential resources** in the underdeveloped areas south of Custer Road which are zoned for multifamily and mixed residential uses.

Lakewood Industrial Park/ CPTC CoMI

The Lakewood Industrial Park/Clover Park Technical College (LIP/CPTC) area is designated as a CoMI based on its status as an intense industrial and educational activity hub for the City. The designated Center area includes:

- **Civic services:** CPTC has an average enrollment of approximately 3,400 students and employs approximately 475 faculty. The CoMI area also includes the Lakewood YMCA, the Lakewood Police Department Headquarters, a fire station, the Clover Park School District Auxiliary Services Center, and the newly constructed Harrison Preparatory Academy serving approximately 1,450 K-12 students.
- **Industrial areas:** The Lakewood Industrial Park is located on 170 acres and supports 64 businesses with 1,250 employees. The delineated area also includes a Lowe's Home Improvement Center on 100th Street SW. The Lakewood Industrial Park has access to the Sound Transit railroad right-of-way along Lakeview Drive SW.

Development in the Lakewood Industrial Park and Clover Park Technical College is guided by master plans adopted for both facilities.

South Tacoma Way CoMI

The South Tacoma Way CoMI is designated based on its commercial significance to the City. Prior to the construction of I-5 in the late 1950's, South Tacoma Way was part of State Route 99, the primary north-south highway through the Puget Sound region. The South Tacoma Way area is now the City's most prolific commercial area and home to a nascent "International District". The area supports the Star-Lite Swap Meet, the B&I marketplace, the Paldo World commercial center, Pierce Transit headquarters, the Grand Central and Macau casinos, and many other commercial centers and businesses.

Springbrook CoMI

The area just outside the gate to JBLM on Bridgeport Way SW is designated as a CoMI based on its importance to the City and special status as a compact high-density residential area. The area includes the main access gate to the airfield portion of JBLM. The area currently includes Springbrook Park, Center Force Industries, neighborhood commercial uses, and approximately 100 acres of multi-family residential zoning currently developed with approximately 1,565 multi-family dwelling units. A new water line has recently been extended to the area which will help accommodate additional growth. This CoMI was not affected by the 2020 rezoning of a number of Springbrook parcels to Industrial Business Park.

Woodbrook CoMI

The central Woodbrook area is designated as a CoMI based on its emergence as an important industrial node. Approximately 170 acres have been zoned for industrial uses. Sewers have been extended and roadway improvements have been made to accommodate redevelopment of the area with industrial uses and to facilitate traffic using the JBLM Logistics gate at the end of Murray Road SW. Additional improvements are planned. One 45,000 sq. ft. industrial building has been constructed, and approximately 700,000 square feet of additional industrial space has been approved for development.

The City adopted the Woodbrook Business Park Development Report in July 2009, which analyzes development issues and makes recommendations regarding redevelopment of the area with industrial uses.

Lake City West CoMI

The area just outside the North Gate Road at JBLM has emerged as a major traffic corridor with the expansion of North Gate on JBLM. This Center is delineated in Figure 2.11. A major expansion of North Gate has occurred with hundreds of new low- and medium-density single family residences, two new elementary schools, and military barracks serving military personnel and their families. North Gate has also expanded to include new military industrial warehousing. Consequently, these land use changes have modified the City's street classification system and impacted existing residential neighborhoods. Traffic currently moves from North Gate to Lake City West, and then to Washington Boulevard SW, which operates at a designated Level of Service rating of "F."

A.5.4 Urban Growth Areas (UGAs) and Potential Annexation Areas (PAAs)

The adopted UGA boundaries represent Lakewood's future city limits. These boundaries were established by Pierce County in 1998 and have not changed. Lakewood's current UGAs are described in Exhibit A-10. The UGA boundaries show the extent to which the city can expand over the next 20 years. Under the GMA, jurisdictions may not annex additional area into their corporate limits unless it falls within their UGAs and can be provided with urban levels of service for public services and facilities such as police, water, and sewer. In some cases, urban- type services may already exist in these areas and can be coordinated with existing city services.

The UGA currently includes Camp Murray, which is part of the Washington Military Department, and the urban areas of Joint Base Lewis McChord, and an unincorporated island, known as Arrowhead-Partridge Glen, which is located between the City of Lakewood and the Town of Steilacoom.

Camp Murray

In 2012, Lakewood examined the advantages and disadvantages of annexing Camp Murray into Lakewood. This action came about as a result of Camp Murray approving a master site development plan which included a proposal to relocate their main gate from Union Avenue SW to Portland Avenue SW.

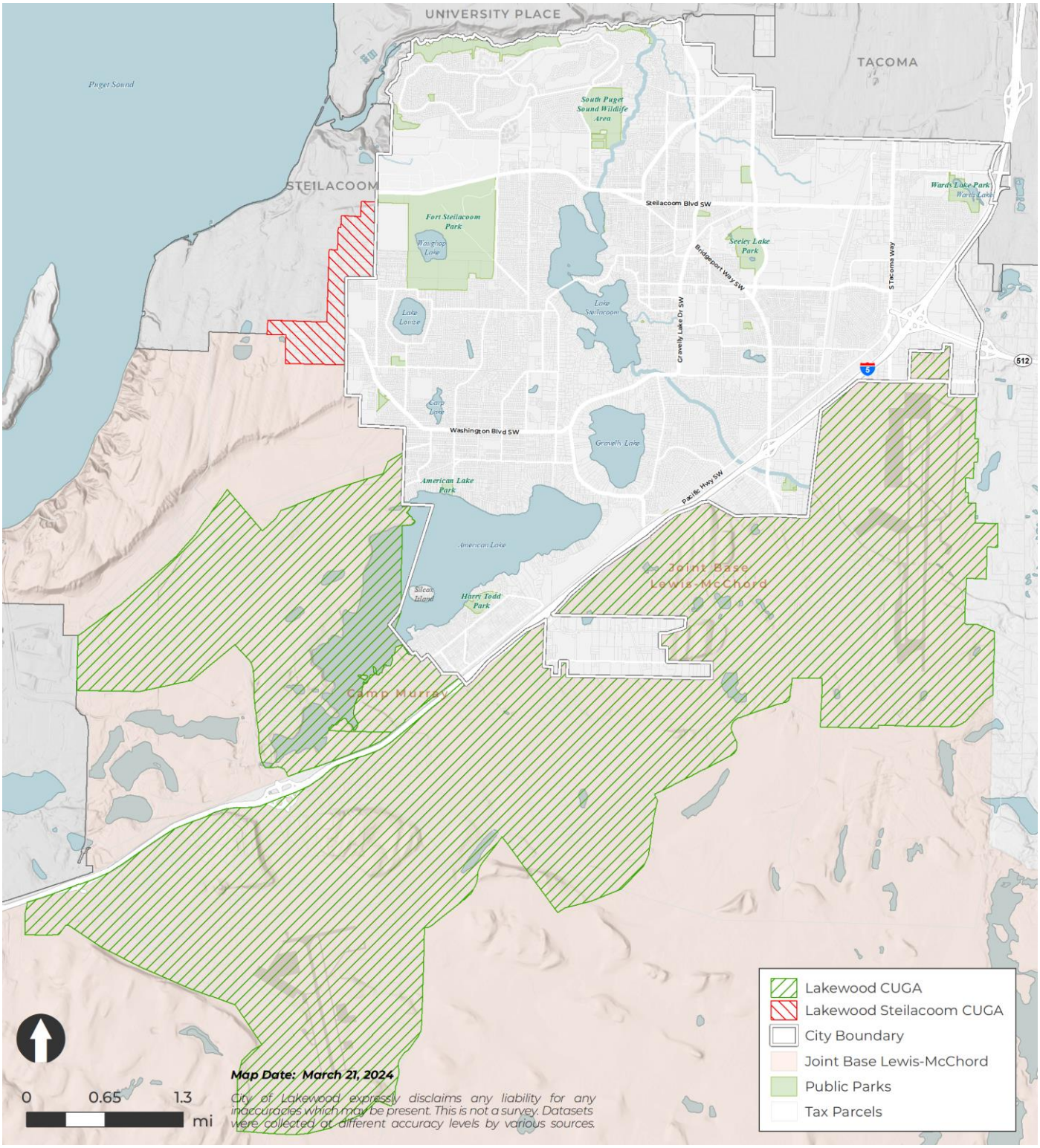
Lakewood's existing corporate limits about the northerly Camp Murray boundary. Lakewood's Tillicum neighborhood is located to the north and northwest of Camp Murray. To the south lies federal land within the secure Joint Base Lewis McChord (JBLM) boundary. To the east and west, respectively, Camp Murray is bounded by the "hard boundaries" of I-5 and American Lake.

Camp Murray is owned by Washington State. There are no residential uses located onsite. Developed areas encompass about 52% of the installation. The built environment provides statewide wheeled vehicle support, storage buildings, administrative offices, classrooms, a heliport, and a drill field. There are 88 buildings on Camp Murray, approximately a third of which are over 50 years old. Water and sewer facilities are provided by Joint Base Lewis McChord (JBLM).

Recreational amenities include a physical training course, campground, and a boat launch. The remaining portions of the installation consist of undeveloped forest, wetlands, shoreline, and riparian areas.

The Washington State Emergency Operations Center is located on Camp Murray, which aids local emergency responders in coordinating search and rescue operations, wildfire mobilization, environmental responses, and other emergencies.

Exhibit A-10. Lakewood Urban Growth Area and Potential Annexation Areas.



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

The annexation of Camp Murray has proven to be infeasible given its unique nature. It was concluded that state enabling legislation would be required to annex Camp Murray. However, that is not to suggest that Camp Murray should not be within Lakewood's UGA. Both Lakewood and Camp Murray have shared interests. Primary ingress/egress into Camp Murray is through the City. Road improvements have been made in Lakewood to improve access into Camp Murray. Both the City and Camp Murray are located on the shores of American Lake. A boat launch and an enclosed boat storage facility housing fire district and police boats straddle current boundaries.

Joint Base Lewis McChord (JBLM)

JBLM's cantonment area is located within Lakewood's UGA and is shown in Figures 2.14 and 2.15. The cantonment area refers to those areas of land that are designated for urban- scale development both existing and proposed. It includes residential, commercial, industrial and military related uses. Over the past 10 years, JBLM has experienced significant development activity; that activity has been entirely confined to the cantonment area in an effort to maximize and preserve existing military training areas and in some cases to preserve wildlife habitat.

In 2003, total base population was 27,982. By 2010, the population had increased to 59,980 and is currently projected at 58,133 by 2016. JBLM has 23,000,000 square feet of facilities. There are 4,901 family housing units on JBLM in 22 different communities. An additional 637 family housing units are planned.

JBLM provides water and sewer utilities. The installation maintains 11,779 permanent party barracks/dorm spaces; 2,488 of those spaces have been constructed since 2010. JBLM has recently constructed 408 Wounded Warriors barracks units. An additional 736 barracks units have been approved. Many of the barracks units are being constructed to replace spaces in aging gang latrine barracks constructed in the 1950's. The new construction will not add to the overall barracks inventory.

Six elementary schools are located on base. There is an existing prison and two airfields. JBLM maintains 278 miles of streets, a 3.3 million gallon water treatment plant, and a 4 million gallon wastewater treatment facility. The Madigan Army Medical Center is a part of JBLM. It is located on 120 acres and is the second largest treatment facility in the US Army.

JBLM has created its own master plan with design principles to preserve rangeland and airfield space, construct mixed-use buildings, create car parks, and establish a Town Square.

Arrowhead-Partridge Glen PAA

In 2013, Lakewood considered annexation of Arrowhead-Partridge Glen. An annexation report was prepared. Physically, this area comprises 256 acres, a largely single family, built-out neighborhood with an estimated population of 2,444. The area is within the identified Pierce County urban growth area boundary and can be annexed by either Lakewood or the Town of Steilacoom. Three past annexations attempts, one to the Town of Steilacoom, and two to the City of Lakewood, all have failed by narrow margins.

The annexation report concluded that like most cities, Lakewood continues to operate in a challenging fiscal environment. The effect of the recent recession has been twofold; not only has it impacted tax

revenues reliant on new development and consumer spending (i.e. sales tax revenue), it has also exposed a structural revenue problem put in place by the passage of I- 747, which limited property tax levy growth to one percent a year. Combined, the reduction in overall tax collections and the limitation on property tax, highlights the City's current fiscal challenge where the cost of municipal services is growing faster than its tax and fee revenues. The challenge for the City is to maintain adequate levels of service without changing tax and fee policies. Regardless of annexation, the City will have to continue to take steps to bring revenues and costs in line in the form of a balanced budget.

The revenue that could be expected to accrue to the City resulting from annexation would be sufficient to cover the City's incremental operating costs associated with adding the annexation population. However, given the City's current fiscal situation, it is not clear whether annexation would be sustainable in the long term.

Anticipated annexation revenue would only partially contribute toward Public Works costs for existing road needs (Military Road) and future chip sealing. It is possible these costs could be offset by the addition of TBD revenue in the future, but at this time it is not possible to evaluate whether that revenue would be sufficient to cover these costs, together with what presumably would be additional capital costs attributable to the area over time.

B Capital Facilities and Essential Public Facilities

B.1 Introduction

Upon its incorporation, Lakewood's urban services (water, sewer, and power, and emergency services) remained independent of the city, being provided by special districts, other jurisdictions, or private companies. Lakewood did form its own police department in 2004.

This element contains goals and policies for both capital facilities and essential public facilities and describes the city's relationship to external urban service and utility providers. It also directs Lakewood's management and financing of capital improvements for the facilities and utilities it owns and operates.

In addition to this element, planning and programming for transportation and parks (the two largest components of city spending on capital facilities) are also guided by the Transportation Element; the Parks, Recreation & Open Space Element; and the Parks Legacy Plan.

B.2 Capital Facilities

Utilities and services in Lakewood are provided by the city, other jurisdictions, special districts, and private companies. The responsibilities of these providers are described below in terms of four (4) types of service.

The **Type 1** services and utilities shown below are provided directly to the resident by the City of Lakewood or a city-contracted provider.

Exhibit B-1. Type 1 Service/Utility Providers.

Service / Utility	City Regulatory Authority	Planning Responsibility	Funding Responsibility	Who Sets LOS?	Project Review
City Facilities	total	city	city	city	city
Parks & Recreation	total	city	city	city	city
Transportation	total	city	city	city	city
Stormwater Management	total	city	city	city	city
Solid Waste	total	provider	provider	city	provider
Police	total	city	city	city	city

Type 2 services shown below are provided directly to the resident by a special district with independent taxing and regulatory authority. The city has land-use regulatory authority; thus, the provider must coordinate with the city for the provision of the services to support development and administration of the Comprehensive Plan.

Exhibit B-2. Type 2 Service/Utility Providers.

Service / Utility	Agency	City Regulatory Authority	Planning Responsibility	Funding Responsibility	Who Sets LOS?	Project Review
Public Schools	Clover Park School District	land use	provider	provider	provider	provider
Fire& Medical	West Pierce Fire & Rescue (WPFR)	land use	provider	provider	provider	provider
Libraries	Pierce County Library District	land use	provider	provider	provider	provider
Transit	Pierce Transit and Sound Transit	land use	provider	provider	provider	provider

Type 3 services shown below are utilities provided directly to the resident by a special district, county, or company. The city has land-use, right-of-way (ROW), and franchise regulatory authority; thus, the districts, county, and private companies must provide the service or utility to support development and administration of this Plan. The city may also require additional considerations from the provider for use of the city right-of-way. Further discussion of utilities is contained in the Utilities Element.

Exhibit B-3. Type 3 Service/Utility Providers.

Service / Utility	Agency	City Regulatory Authority	Planning Responsibility	Funding Responsibility	Who Sets LOS?	Project Review
Sanitary Sewer	Pierce County Public Works	land use, ROW/ franchise	joint	provider	joint	provider
Water	Lakewood Water District, Parkland Water District	land use, ROW/ franchise	joint	provider	joint	provider
Electric	Tacoma Power, Puget Sound Energy, Lakeview Power	land use, ROW/ franchise	joint	provider	joint	provider / city
Communi-cations	Private communication s companies	land use, ROW/ franchise	joint	provider	joint	provider / city
Natural Gas	Puget Sound Energy	land use, ROW/ franchise	joint	provider	joint	provider

Type 4 utilities and services are provided to federal military lands and utilities and services provided by the federal government to non-federal lands as listed below.

Exhibit B-4. Type 4 Service/Utility Providers.

	City Regulatory Authority	Planning Responsibility	Funding Responsibility	Who Sets LOS?	Project Review
Federal Military Lands	none	federal	federal	federal	federal NEPA
Federal Utilities & Services to Non-Federal Lands	none	federal	provider	city	city

Note: The city retains the right of comment on federal projects through the National Environmental Policy Act (NEPA.)

The following documents contain information supplemental to the Comprehensive Plan:

- **SEPA Environmental Impact Statements (EISs**). Through the EIS process, existing capacities are documented and a forecast of future capital improvements in services and utilities is projected. Based on the EIS analysis, capacity and locational policies for each Type 1, Type 2, Type 3, and Type 4 service and utility are incorporated in the respective service, utility, transportation, and land-use chapters of this Comprehensive Plan.
- **Capital Improvement Plan (CIP).** Lakewood's 6-year Capital Facilities Capital Improvement Plan (6-year CIP) is included within several city documents focused on either parks and open space or transportation that contain:

  Inventories of existing and proposed capital facilities;
  Regular and special maintenance requirements;
  Identified deficiencies in capital facilities and the actions necessary to address such deficiencies;
  Six-year forecasts of facility needs; and
  A six-year financing plan and budget.

  The CIP lists the planned capital investments for each Type 1 (i.e., city-provided) service and utility and identifies dedicated funding sources for the projects anticipated within six years. Lakewood's CIP is procedurally modified and updated in conjunction with its budget rather than as part of the annual Comprehensive Plan amendment cycle.
- **Downtown Subarea Plan and Planned Action Ordinance.** The Downtown Subarea Plan, SEPA Environmental Impact Statement and Planned Action Ordinance (PAO) identify needed services and capital improvements, costs, and mitigation or in-lieu fees for transportation and parks. The subarea plan and associated ordinances are a source for the 6-year CIP and Transportation Improvement Program (TIP). It is anticipated that the Downtown Plan will be implemented through the CIP, TIP, and city budget processes, as well as project permit evaluation.
- **Station District Subarea Plan and Planned Action Ordinance.** The Station District Subarea Plan and Planned Action Ordinance (PAO) identify needed services and capital improvements, costs, and mitigation or in-lieu fees for transportation and parks. The subarea plan and associated ordinances are a source for the 6-year CIP and Transportation Improvement Program (TIP). It is anticipated that the Station District Plan will be implemented through the CIP, TIP, and city budget processes, as well as project permit evaluation.

Type 2, 3, and 4 service and utility capital inventories and investments are included in separate documents provided by the respective external providers and incorporated hereto by reference. Planning and programming for utilities and facilities/services owned by third parties is typically the responsibility of these providers.

As required by the GMA, additional available information is included in the Appendix, including:

- Inventories of existing capital facilities owned by public entities;
- A forecast of needed capital facilities;
- Proposed locations and capacities of expanded or new capital facilities; and
- Long-term (six or more years) financing plans for capital facilities within projected funding capacities and identified sources of public money to finance planned capital facilities.

B.3 Essential Public Facilities

Essential public facilities include those facilities considered difficult to site because of potential adverse impacts related to size, bulk, hazardous characteristics, noise, or public health and safety, or are part of a region or county-wide service system. These facilities can be thought of as a subset of public purpose lands, but do not necessarily include all public, semi-public, and institutional land uses.

Lakewood must identify appropriate land for essential public facilities that meets the needs of the community as defined under RCW 36.70A.200 and WAC 365-196-550, including:

- Local solid waste handling and treatment facilities;
- Landfills;
- Drop-box sites and sewage treatment facilities;
- Airports;
- State educational facilities;
- Essential state public facilities;
- Regional transportation and utility facilities;
- State and local correctional facilities; and
- In-patient facilities (including substance abuse facilities, mental health facilities, and group homes);

as well as any other state facility included on the 10-year capital plan maintained by the Washington State Office of Financial Management.

Lakewood may identify other additional public facilities that are essential to providing services to residents and without which development cannot occur that would be included under this classification. Currently, the city regulates the following uses as essential public facilities:

- Community and technical colleges, colleges, and universities;
- Correctional facilities;
- Electrical transmission lines;
- Group homes;
- In-patient facilities, including but not limited to substance abuse facilities;
- Intercity high-speed ground transportation;
- Intercity passenger rail service;
- Interstate Highway 5 (I-5);
- Mental health facilities;
- Military installations;
- Minimum security institutions;
- Secure community transition facilities;
- Solid waste transfer stations;
- Sound Transit facilities;
- Sound Transit railroad rights-of-way;

- Transit bus, train, or other high-capacity vehicle bases;
- Washington State Highway 512; and
- Work/training release facilities.

Additional essential public facilities may be identified by the city based on the following criteria:

- The facility requires a specific type of site that is scarce;
- The facility must be situated adjacent to another public facility;
- The facility is known or widely considered by the public to have substantial negative impacts, complicating its siting;
- Siting this type of facility has typically proven challenging or will likely be challenging; and/or
- There is a demand for the facility and the city is within the expected service area.

Any one or more of these conditions is sufficient for the city to deem a use as an essential public facility. Development regulations, including conditional permits, can be used to mitigate the effects of essential public facilities on neighboring land uses and the broader public.

B.4 Concurrency

Concurrency is a key principle under the GMA. Requirements for concurrency ensure that public facilities and services are available to serve new developments. Under this policy framework, necessary improvements, particularly in transportation, are in place at the time of development or have funding secured for completion within six years of a development.

Local jurisdictions set level of service (LOS) standards to evaluate if existing infrastructure can accommodate new development impacts or if additional facilities are needed. While transportation is the only sector where development can be denied for causing a drop below the established thresholds, other public facilities like water, parks, and schools might also have concurrency requirements based on local regulations. The GMA does not typically allow for the denial of permits because of inadequacies in these other areas, unless specified as necessary under local ordinances (RCW 58.17.110). This comprehensive planning approach allows cities to manage growth effectively by aligning development with infrastructure capacity, thereby sustaining community standards and quality of life as they expand.

B.5 Level of Service Standards [NEW]

Under the Capital Facilities Element, it is essential to understand whether adequate facilities are being provided to support new housing and employment within the city. Providing a common set of thresholds for Levels of Service (LOS) can ensure that infrastructure and service provisions meet these needs.

A summary of current LOS standards is provided in Exhibit B-5 below. This table reflects the major infrastructure and services provided in the city to support ongoing growth and development, and includes measures as a level of service standard, a reference for more information about these standards,

and information about the provider for that specific service. This is not an exhaustive list of city infrastructure, and certain utilities and services where level of service standards would not be applicable (e.g., internet speed, telephone land line access, cellular phone coverage) have not been included in this summary.

Exhibit B-5. Lakewood Level of Service Standards.

Capital Facility	LOS Standard	Reference	Provider
Roadways	▪ LOS D with a V/C ratio of 0.9 for all arterials streets/intersections. ▪ LOS F for certain road segments and intersections specified.	Comprehensive Plan Transportation Element (Chapter 12).	City of Lakewood
Pedestrian/Biking Infrastructure	▪ Assessment of Adequate facilities / High priority / Medium priority rankings related to system completeness.	Comprehensive Plan Transportation Element (Chapter 12).	City of Lakewood
Transit	▪ Assessment of Adequate / High priority / Medium priority / No facilities rankings related to access/availability.	Comprehensive Plan Transportation Element (Chapter 12).	Sound Transit, Pierce Transit (City of Lakewood – transportation connections)
Parks	▪ 0.75-mile walking distance to neighborhood parks equipped with playground facilities	Comprehensive Plan Parks, Recreation, and Open Space Element (Chapter 9). See also the Parks Legacy Plan for parks inventory and LOS discussion.	City of Lakewood
Stormwater Management	▪ On-site infiltration expected. Treatment as required by DOE Stormwater manual.	Comprehensive Plan Utilities Element (Chapter 14); 2015 Stormwater Management Program; Chapter 12A.11 LMC.	City of Lakewood
Sanitary Sewer	▪ 220 gallons per day equals one residential equivalent. ▪ Flow projections assume 0.83 RE for multifamily units.	Comprehensive Plan Utilities Element (Chapter 14); Pierce County Consolidated Sewer Plan Section 2.6.3	Pierce County Sewer Utility
Fire Protection	▪ WA Surveying and Rating Bureau rating of Class 3 or better.	Comprehensive Plan Public Services Element (Chapter 10).	West Pierce Fire and Rescue
EMS	▪ 4-minute initial time standard for EMS calls.	Comprehensive Plan Public Services Element (Chapter 10).	West Pierce Fire and Rescue

Capital Facility	LOS Standard	Reference	Provider
Water Supply	▪ Min. pressure- 40 psi. ▪ Fire flow- 1,500 gpm ▪ Current usage: 139 gal/person/day	Comprehensive Plan Utilities Element (Chapter 14).; LWD Capital Improvement Program	Lakewood Water District
Electricity		Comprehensive Plan Utilities Element (Chapter 14)	Puget Sound Energy Tacoma Power Lakeview Light and Power
Solid Waste		Comprehensive Plan Utilities Element (Chapter 14); Tacoma- Pierce County Solid Waste Plan	Waste Connections
Schools	**School size (# students):** ▪ K-5 450-475 ▪ Middle school: 650-700 ▪ High school: 1,500- 1,600	Clover Park Facilities Advisory Committee Reports (2009 and 2016); Clover Park Capital Facilities Master Plan	Clover Park School District
Library Services	▪ 0.62 sq. ft. per capita	Pierce County Library 2030 Facilities Master Plan	Pierce County Library District

C Economic Development

C.1 Introduction

This section provides a comprehensive overview of the current economic landscape of Lakewood. Currently, the city is uniquely positioned to capitalize on various opportunities for local economic expansion and diversification. Anchored by significant local resources such as proximity to Joint Base Lewis-McChord (JBLM), I-5, SR 512, and the port of Tacoma, there are significant opportunities to address demand in retail, commercial, housing, and logistical activities, among others.

However, the city also faces several challenges that need to be addressed to sustain and enhance its economic development. In particular, the ways that the City addresses the limited availability of vacant land for development, construction costs, infrastructure needs, and regional retail competition will shape how the city will grow and change into the future, and how local economic activity will support municipal fiscal sustainability.

This section reviews relevant information about the local Lakewood economy. This is focused on data that can help to support the City's efforts to support local economic development that can benefit local businesses, residents, and the region at large. This includes:

- High-level information about the **economic competitiveness** of Lakewood, including major local resources and possible future challenges to economic development.
- An assessment of **local employment**, including the breakdown of employment between economic sectors, a review of expected future employment growth to 2050, and comparisons with nearby communities.
- An evaluation of **commuting and worker locations**, including an assessment of the jobs-to-population ratio and a review of commuting flows between Lakewood and other communities.
- An analysis of **taxable retail sales** in Lakewood, including an evaluation of whether

Overall, this material underscores the importance of a coordinated policy approach, integrating various elements of the Comprehensive Plan, to effectively respond to these economic development challenges.

C.2 Competitive Economic Position

As part of maintaining and expanding the local economy, Lakewood is in a strong situation to take advantage of different opportunities. These benefits can help boost current opportunities as well as attracting new economic activity into the community. Significant local resources include the following:

- **Joint Base Lewis-McChord (JBLM) and other facilities.** Lakewood is located next to JBLM, a 90,283-acre joint US Army and Air Force facility that accommodates over 40,000 service members, their families, and civilian contractors and support staff. It is the largest employer in Pierce County and one of the largest employers in the state, and because of this, the base serves as the region's primary economic driver. JBLM includes Camp Murray, the home to the Washington Army National Guard, Washington State Guard, Washington Air National Guard and the State Emergency Operations Center. These facilities have a significant economic impact on Lakewood, given the need for off-base housing and shopping options, as well as businesses that support base operations and other related economic activities.
- **I-5 and SR-512.** Lakewood is ideally situated to benefit from its location along I-5 between Tacoma and Olympia. This position provides strong regional access given its location between Tacoma and Olympia, as well as linkages to trucking destinations along the Pacific coast and the I-90 east-west freeway. State Route 512, which has its western end in Lakewood, also provides regional access to Puyallup and the SR-167 corridor. This location allows the city to be a key site for logistics and warehousing, as well as other commercial, manufacturing, and industrial uses.
- **The Port of Tacoma.** Approximately five miles from Lakewood, the Port of Tacoma is a major hub for international trade and is ranked among the top ten container ports in the United States. Increases in trade volume have led to a significant regional expansion of logistics and warehousing facilities in Lakewood and throughout Pierce County, which has been supported by upgrades to the Port's linkages with nearby roadways.
- **Local and regional transit.** The Pierce Transit bus system and Sound Transit commuter rail are accessible at Lakewood Station, which is near the Pacific Highway/SR512/I-5 interchange. Planned investment in these systems will also improve connectivity to Sea-Tac International Airport and employment centers in Tacoma and Seattle over the long term.
- **A strong community of small businesses.** There are many smaller local businesses in Lakewood which provide an important economic base for the city. In particular, the vibrant International District in Lakewood attracts diners and shoppers from Lakewood and surrounding areas with a diverse mix of local businesses.
- **Local education and training resources.** Pierce College Fort Steilacoom and Clover Park Technical College provide a wide range of professional and technical programs and contribute to a robust pipeline of workforce training for nearby employers. This supplements a strong local public education system.

To boost the effectiveness of economic development efforts, there are also some challenges to address as well. These difficulties include the following:

- **Land availability.** Lakewood has a restricted amount of property available for development, redevelopment, and infill projects. This might become a problem as the community expands,

particularly if future economic growth is contingent on a greater proportion of community members making purchases from local establishments.

- **Shifts in retail activity.** The ways that people shop have changed significantly over the past few years. The movement towards online commerce is challenging Lakewood's standing as a regional retail hub. Traditional brick-and-mortar store closures and a greater regional emphasis on local mixed-use developments may also have an impact on consumer purchasing patterns.
- **Market conditions and residential redevelopment.** Costs of construction, insufficient housing across the affordability spectrum, and senior housing is also a component in local economic development. Historically lower rents for multifamily buildings have made it more challenging for redevelopment projects in Downtown and Lakewood Station to have been feasible and efficient for previous development. Future efforts to revitalize these areas and bring more consumers and more demand in for the local market will require a strong environment for these projects.
- **Infrastructure demands.** As Lakewood grows, so does the strain on our roads and other supporting infrastructure. Facilities controlled by the City such as streets and roads will be impacted by new growth, and future congestion could impact quality of life in the city. Similarly, other infrastructure managed by third-party providers and other government agencies, such as transit, telecommunications, water, and sewer services, will also be impacted by new local and regional growth. Providing the planning necessary to ensure that the city's infrastructure will not be a limiting factor on new growth and development is an essential part of this Comprehensive Plan.

Coordinating responses to many of these potential challenges to economic development in the city will need to be done through policies across the entire Comprehensive Plan, including the sections on housing, capital facilities, land use, parks and recreation, and public services.

C.3 Employment

The following exhibits provide historical estimates of covered employment for Lakewood:

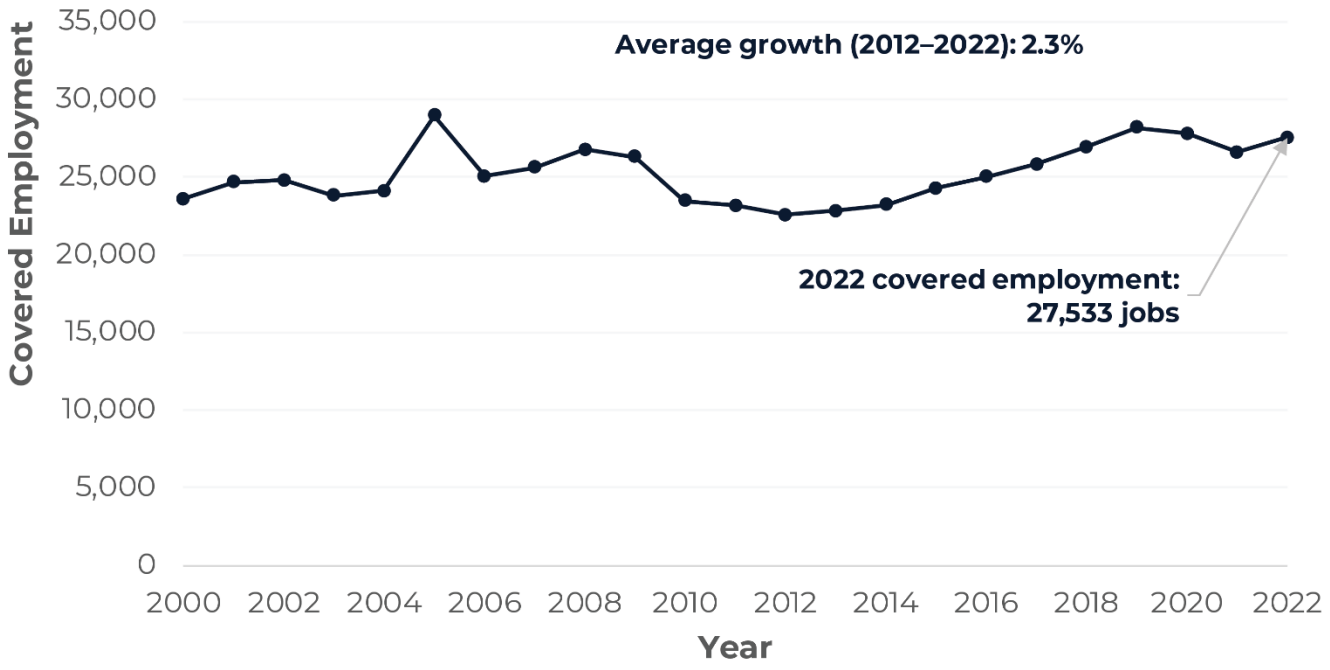
- Exhibit C-1 provides historical covered employment in Lakewood from 2000 to 2022.
- Exhibit C-2 provides covered employment by major economic sector for Lakewood between 2012 and 2022.
- Exhibit C-3 compares the breakdown of city employment by major sector with surrounding communities in 2022.

Note that under these statistics, "covered employment" includes all jobs covered by the *Washington Unemployment Insurance Act*, which does not specifically include self-employed individuals, military workers, or other workers not covered by state unemployment insurance.

This information highlights several key elements with respect to local employment in Lakewood:

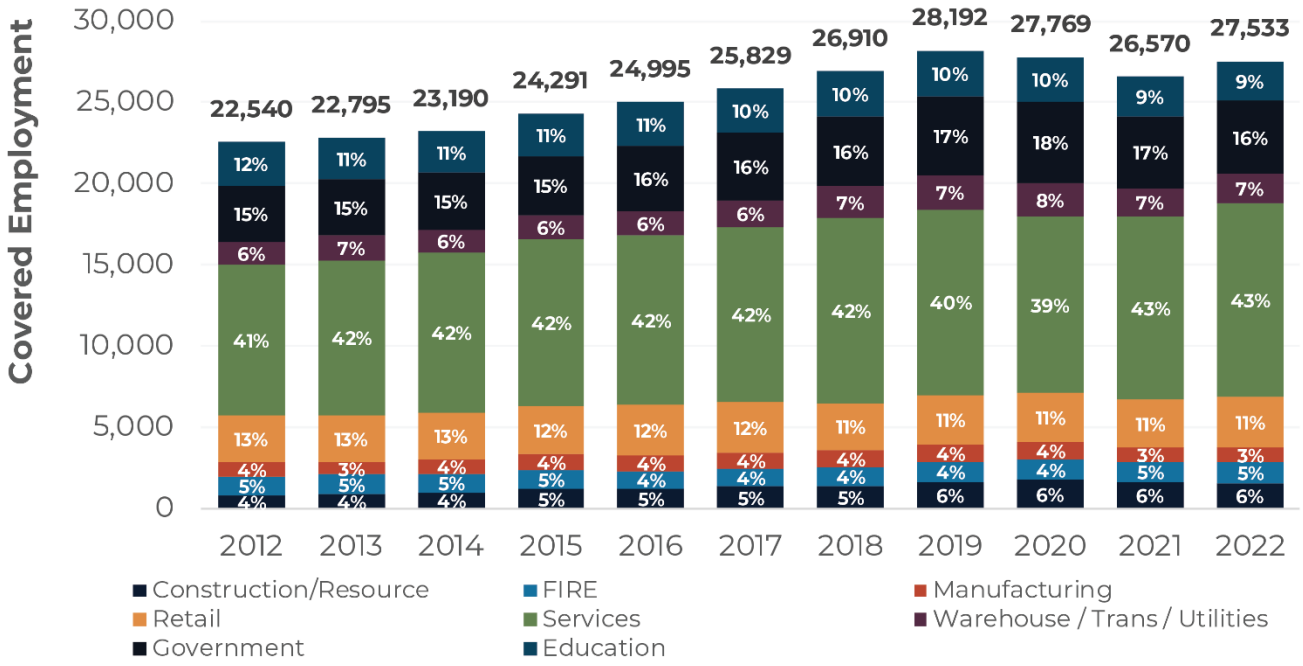
- **With respect to local employment, the city has recovered from recession and lockdown.** Currently, 2022 covered employment amounts to 27,533 jobs in the city. Employment in Lakewood has increased since the decline due to the 2007–2009 recession. Note that while government cutbacks were felt across the region, the effects on Western State Hospital were significant for one of the city's largest employers, and there was a 15% loss in employment from 2008–2012. More recently, shocks due to the 2020 pandemic can be linked to a decline of 1,622 jobs (about 5.8% of employment) between 2019 and 2021, but a recovery in employment can be seen with an increase of 3.5% between 2021 and 2022.

Exhibit C-1. Covered Employment in Lakewood, 2012–2022.



Source: Puget Sound Regional Council, 2024.

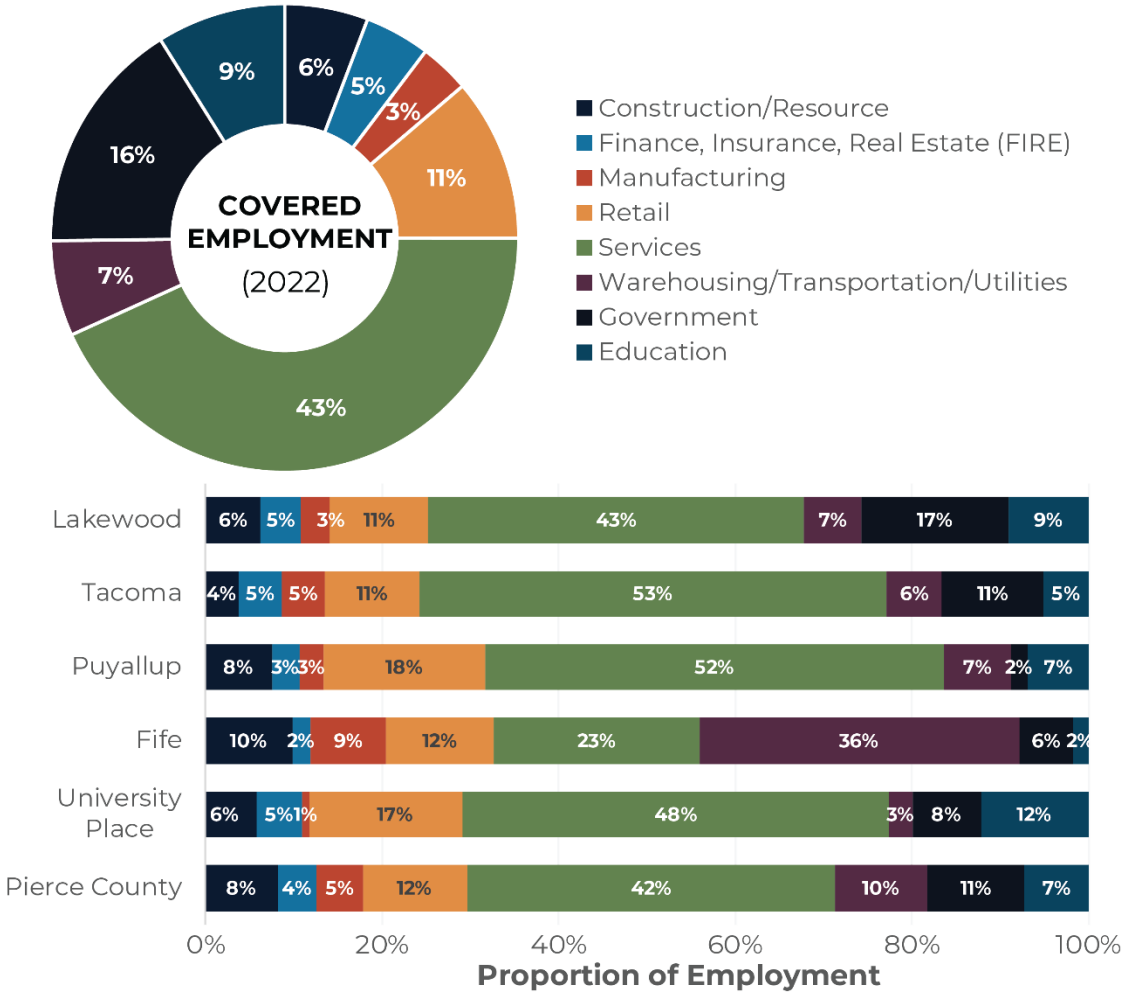
Exhibit C-2. Covered Employment by Major Sector in Lakewood, 2012–2022.



Source: Puget Sound Regional Council, 2024.

- **There are different rates of employment growth across the Lakewood economy.** Different sectors of the local economy are not experiencing growth at the same rates. Compared to an average of 2.3% growth in employment since 2012, the highest growth sectors for Lakewood since 2012 have been in Construction/Resource (about 8% per year), Government (3.7%), Warehousing, Transportation, and Utilities (3.6%), and Services (2.3%), with the greatest increase in covered employment found in Services (2,645 total jobs). Conversely, Education has experienced a loss of employment (-0.1% per year), while Retail (0.4%) and Finance, Insurance, and Real Estate (0.5%) have experienced lower rates of growth than other economic sectors.
- **Government and government-related employment will continue to be an integral part of the local economy.** At 17% of total covered employment, the Government sector is responsible for a larger proportion of local employment than in other communities in Pierce County. This is due in part to the presence of Western State Hospital, one of the largest local employers. Recent growth in services and manufacturing are also likely related to increases in demands for suppliers to local institutions, including the Hospital, JBLM, and local educational institutions.

Exhibit C-3. Breakdown of Covered Employment, Lakewood and Surrounding Communities, 2022.

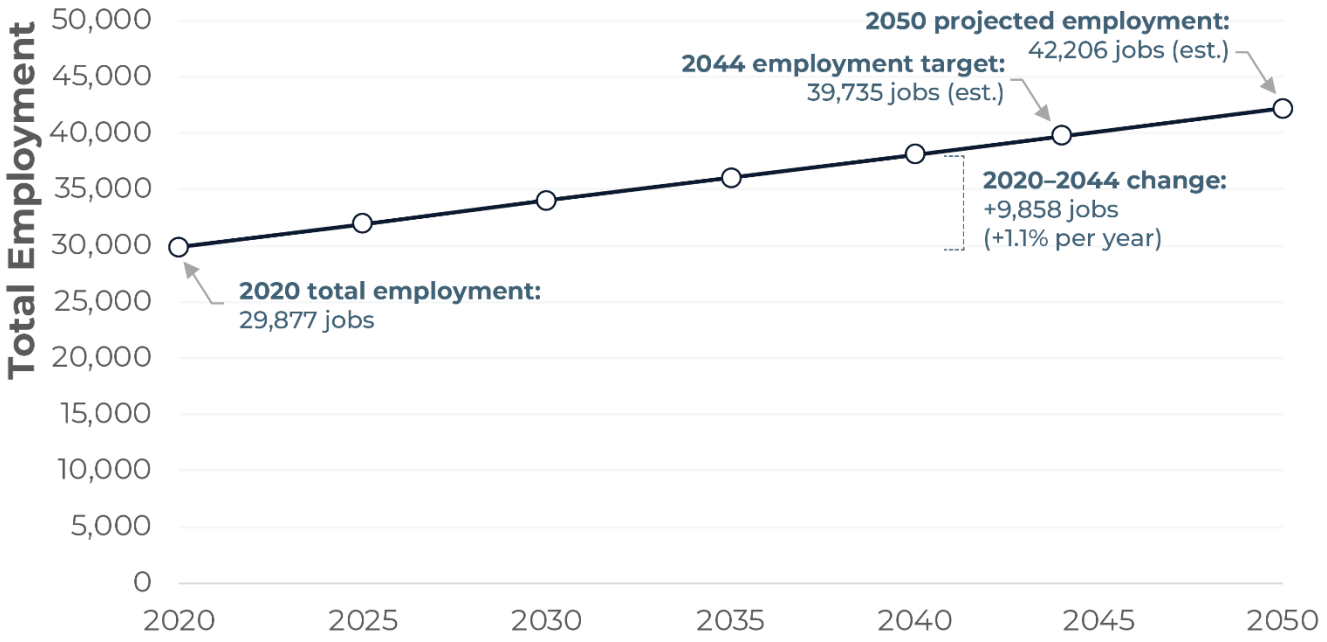


Source: Puget Sound Regional Council, 2024.

Estimates of future total employment for the city are provided in Exhibit C-4 below. The 2044 projection is based on the current Countywide Planning Policies in place for Pierce County. The additional projections are based on the PSRC's Land Use Vision – Implemented Targets (LUV-it) land use model, which includes estimates of total employment, including both covered and non-covered employment, and are based on regional policies as well as local targets from the Countywide Planning Policies.

Overall, an **additional 9,858 jobs** are predicted to be included in the city between 2020 and 2044, with overall employment at **39,735 jobs by 2044** according to targets. This represents an average increase of about 1.1% per year, which suggests slower expected employment growth compared to current rates post-2012.

Exhibit C-4. Projected Total Employment in Lakewood, 2020–2050.



Source: Puget Sound Regional Council, 2024.

Looking forward to 2050, a further 2,471 jobs are expected to be added to the city to amount to a total of 42,206 jobs, or an overall 30-year increase between 2020 and 2050 of 12,329 jobs.

Required supplies of developable lands in Lakewood to accommodate this additional employment are discussed in Chapter 2 (Land Use and Maps). The final need for additional land and floor space to accommodate employment will depend on several factors, including the types of jobs included, expected employment intensities (typically measured in average square feet per employee).

C.4 Commuting and Worker Locations

In addition to understanding the composition of local employment, it can also be important to understand where the people that work in the city live. While local workers are free to live where they choose, this should be reviewed for several reasons:

- Understanding the balance between local jobs and residents can help to understand how the city should focus on balancing itself between being a "bedroom community" and an employment center.
- Commuting patterns can highlight cases where local workers may need to commute from surrounding areas where rents may be lower.
- Increasing opportunities for people to live closer to where they work can help reduce commuting times, traffic congestion, and climate change impacts from transportation.

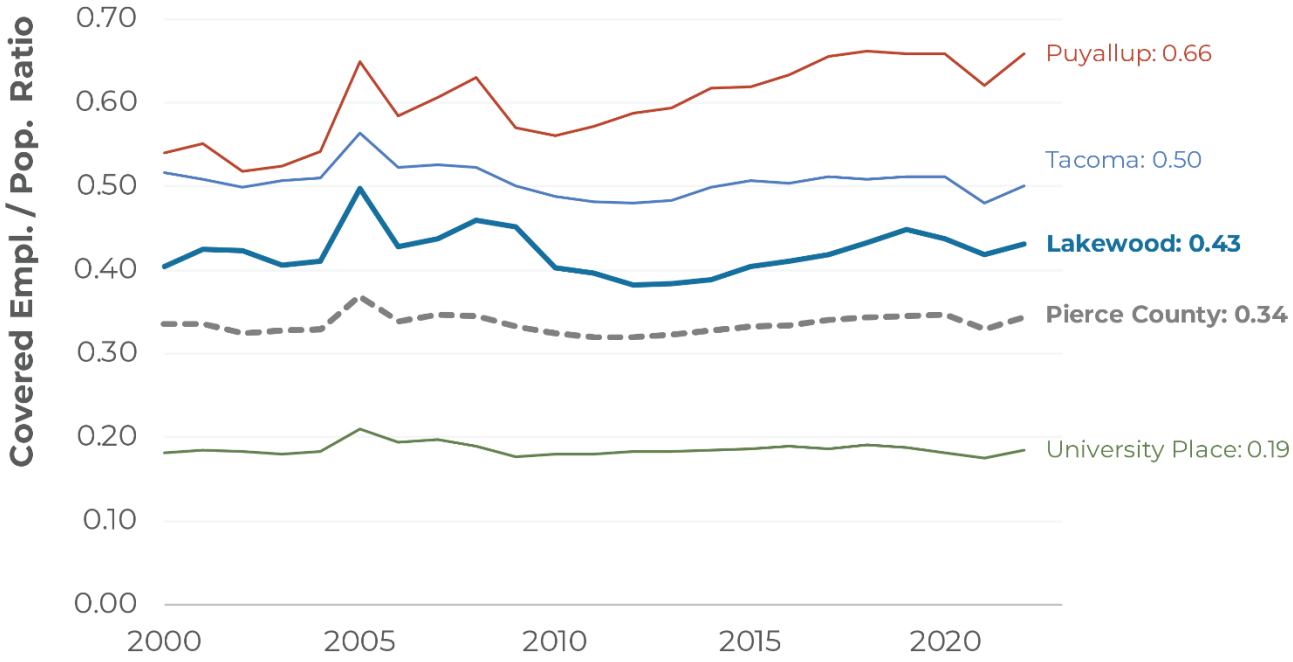
The following exhibits provide relevant information regarding commuting and Lakewood from the Longitudinal Employer-Household Dynamics (LEHD) data provided by the US Census:

- Exhibit C-5 highlights the jobs-to-households ratio based on covered employment, compared with other jurisdictions in the area and with Pierce County as a whole.
- Exhibit C-6 presents the change over time in the proportion of local employees that are also Lakewood residents, compared with the proportion of Lakewood residents that work locally.
- Exhibit C-7 gives the top work locations for residents of Lakewood, and the top home locations for workers in Lakewood.

This information highlights the following:

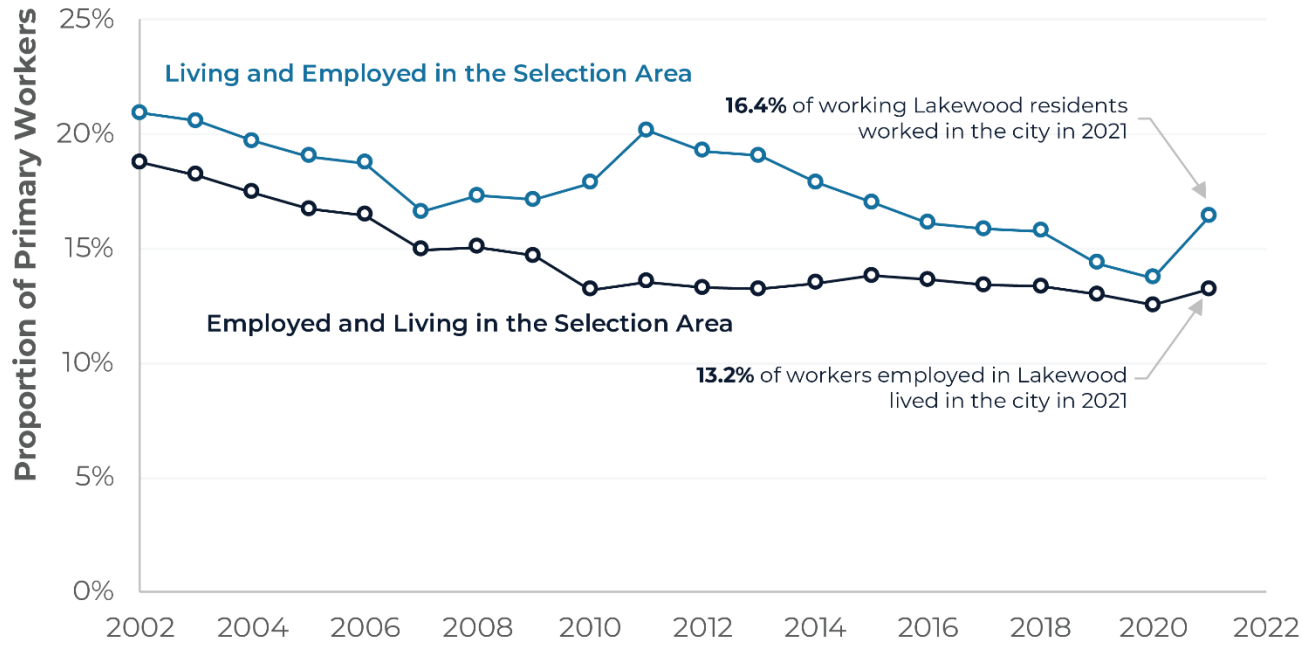
- **Lakewood has a greater concentration of employment than the County average.** When examining the jobs-to-population ratio in Exhibit C-5, Lakewood has a ratio of 0.43 jobs per resident. This is higher than the Pierce County average of 0.34, suggesting that overall, the city does serve as a destination for employment. However, this ratio is lower than Tacoma (0.50) and Puyallup (0.66), suggesting that these communities also represent strong job centers in the area.
- **Lakewood is a net importer of workers, but this is changing.** From the LEHD data, it appears that Lakewood has been a net importer of employment, with slightly more workers coming into the community than residents leaving to work in other communities. In 2021, over 13% of local workers were also residents. However, this is shifting, as a growing number of residents are working outside of Lakewood. In 2021, 16.4% of working Lakewood residents were employed outside of the city. This suggests that a growing proportion of new working residents are being employed outside of the city.
- **Commuting flows suggest connections with surrounding job centers and bedroom communities.** When examining the flows of workers between Lakewood and surrounding communities, a significant number of local workers are being drawn in from surrounding suburban residential communities (e.g., Parkland, University Place, South Hill) as well as residential areas of Tacoma. Conversely, many commuters that reside in Lakewood work in major job centers, both regional (e.g., Tacoma, Seattle, Olympia, Bellevue) and local (e.g., Lakewood, Fife, Puyallup).

Exhibit C-5. Jobs-to-Population Ratio, Lakewood and Surrounding Communities, .



Sources: Puget Sound Regional Council, 2024; WA Office of Financial Management, 2024.

Exhibit C-6. Proportion of Primary Workers Living and Residing in Lakewood.



Source: US Census Longitudinal Employer-Household Dynamics, 2024.

Exhibit C-7. Home and Work Locations for Lakewood Workers, 2021.

Home Locations of Lakewood Workers			Work Locations of Lakewood Residents		
City/CDP	Number	%	City/CDP	Number	%
Tacoma city, WA	4,185	15.8%	Tacoma city, WA	4,203	19.7%
Lakewood city, WA	3,503	13.2%	Lakewood city, WA	3,503	16.4%
Parkland CDP, WA	1,122	4.2%	Seattle city, WA	1,937	9.1%
University Place city, WA	966	3.6%	Fife city, WA	684	3.2%
South Hill CDP, WA	954	3.6%	Puyallup city, WA	656	3.1%
Spanaway CDP, WA	932	3.5%	Olympia city, WA	530	2.5%
Puyallup city, WA	619	2.3%	Kent city, WA	526	2.5%
Federal Way city, WA	523	2.0%	Sumner city, WA	473	2.2%
Frederickson CDP, WA	523	2.0%	Auburn city, WA	467	2.2%
Lacey city, WA	469	1.8%	Bellevue city, WA	449	2.1%
All Other Locations	12,692	47.9%	All Other Locations	7,878	37.0%

Source: US Census Longitudinal Employer-Household Dynamics, 2024.

C.5 Taxable Retail Sales and Market Capture

Consumer purchasing habits can also help to describe Lakewood's economy. State and local sales tax data can be compared to understand how purchasing patterns in Lakewood compare to expected levels. This can be important in several ways:

- Comparisons of local spending patterns can potentially indicate what types of businesses rely on drawing in customers from outside the city, and what types of goods and services that residents will need to go outside the city to find.
- As sales taxes are often an important part of local government revenue, understanding current patterns in receipts can help to highlight competitive advantages and potential gaps in services.
- Additionally, understanding trends in spending over time can highlight local economic trends and potential opportunities and challenges with supporting local business activity.

Note that this type of analysis does not include all possible economic activity. Other transactions outside of retail spending such as business-to-business sales are not covered in this data set. Additionally, certain types of retail spending, notably most groceries (which are exempt) and motor fuel sales (which are taxed separately), are not included.

The following figures provide information based on Washington State Department of Revenue data on taxable retail sales:

- Exhibit C-8 provides a comparison between actual retail and restaurant spending in Lakewood in 2021 with expected average spending by city residents to determine the effective capture of consumers for local businesses.
- Exhibit C-9 compares the market capture for Lakewood in 2022 for retail and restaurant subsectors with those found in other cities in the region.
- Exhibit C-10 shows the changes in taxable retail sales between 2017 and 2021 for the top ten subsectors in the city.

These results are provided in terms of defined subsectors under the North American Industrial Classification System (NAICS), with a focus on three-digit subsectors under “Retail Trade” (NAICS codes 44 and 45), as well as “Food Services and Drinking Places” (NAICS 722). Note that due to a revision of the NAICS codes in 2022, Exhibit C-8 and Exhibit C-10 rely on assessments of spending in 2021.

The assessments of spending rely on a comparison between actual local sales and the estimates of potential spending of city residents based on statewide averages. This comparison is typically summarized as a “pull factor”, which is calculated as the ratio between actual and potential spending. In cases where the pull factor is greater than one, there is greater local spending than what is assumed to be supported by residents, meaning that local businesses can capture more consumers from outside of the city as customers. Conversely, if the pull factor is less than one, it means that local spending is lower than estimated spending by residents, suggesting that they will need to go outside the city to obtain the goods and services they need.

Exhibit C-8. Taxable Retail Sales, Lakewood, 2021.

		2021 Taxable Retail Sales			Pull Factor		
	NAICS Designation	**Local Sales**	**Local Potential**	**Surplus / Leakage**	**2017**	**2021**	**Change**
44-45	**Retail Trade**	**$787,229,996**	**$584,126,392**	**$203,103,604**	**1.23**	**1.35**	**+0.12**
441	Motor Vehicle and Parts Dealers	$190,770,088	$133,587,095	$57,182,993	1.21	1.43	+0.22
442	Furniture and Home Furnishings Stores	$29,866,992	$21,206,462	$8,660,530	1.50	1.41	-0.09
443	Electronics and Appliance Stores	$29,140,126	$37,490,327	($8,350,201)	0.75	0.78	+0.03
444	Building Material and Garden Equipment and Supplies Dealers	$74,086,871	$63,929,812	$10,157,059	1.01	1.16	+0.14
445	Food and Beverage Retailers	$52,581,666	$30,828,713	$21,752,953	1.40	1.71	+0.30
446	Health and Personal Care Stores	$34,338,086	$23,930,607	$10,407,479	1.07	1.43	+0.36
447	Gasoline Stations	$17,955,521	$13,622,965	$4,332,556	1.35	1.32	-0.03
448	Clothing and Clothing Accessories Stores	$42,358,613	$33,149,195	$9,209,418	1.08	1.28	+0.20
451	Sporting Goods, Hobby, Musical Instrument, and Book Stores	$33,124,330	$23,563,284	$9,561,046	1.40	1.41	+0.00
452	General Merchandise Stores	$150,072,522	$84,138,725	$65,933,797	1.58	1.78	+0.20
453	Miscellaneous Store Retailers	$111,516,977	$95,934,555	$15,582,422	1.30	1.16	-0.14
454	Nonstore Retailers	$21,418,204	$22,744,653	($1,326,449)	0.84	0.94	+0.10
722	**Food Services and Drinking Places**	**$183,721,738**	**$91,189,315**	**$92,532,423**	**1.64**	**2.01**	**+0.38**

Source: WA Department of Revenue, 2024.

Exhibit C-9. Comparison of Pull Factors, 2022.

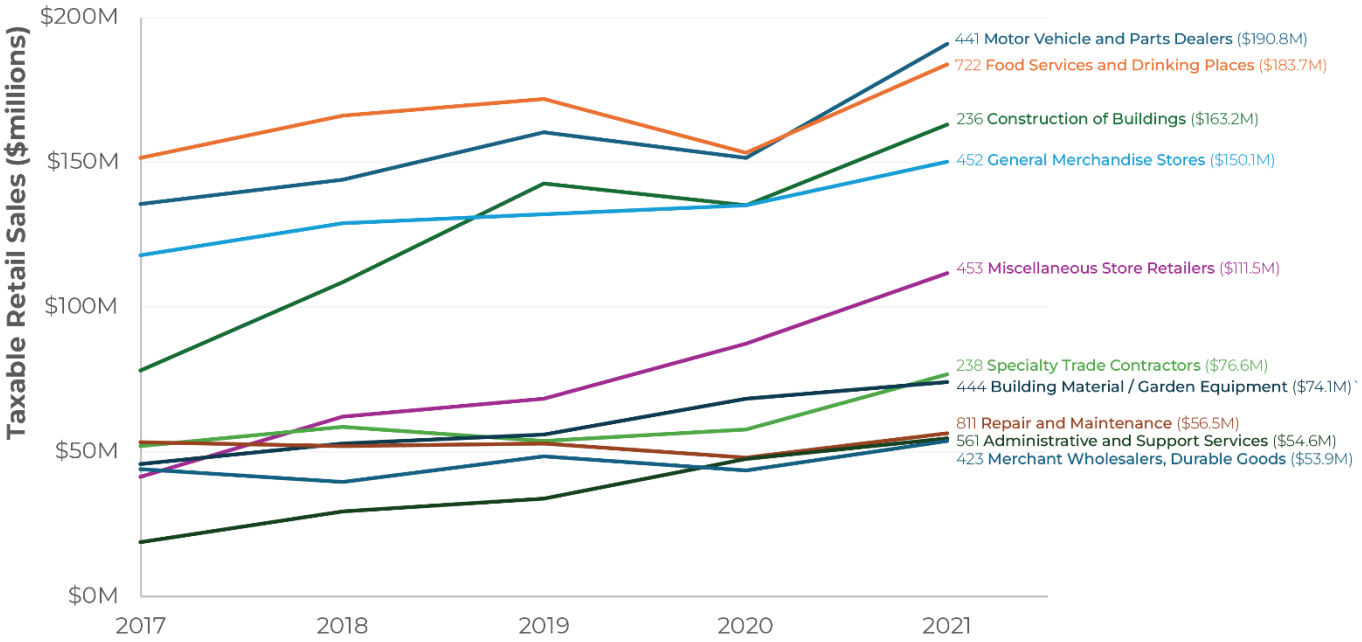
		Pull Factors					
	NAICS Designation	**Lakewood**	**Tacoma**	**Puyallup**	**Fife**	**University Place**	**Federal Way**
44-45	**Retail Trade**	**1.17**	**1.46**	**4.28**	**9.85**	**0.50**	**1.12**
441	Motor Vehicle and Parts Dealers	1.01	1.89	8.53	34.59	0.05	0.47
444	Building Material and Garden Equipment and Supplies Dealers	1.08	1.14	3.56	1.69	0.16	1.34
445	Food and Beverage Retailers	1.47	1.32	1.72	0.41	1.33	1.31
449	Furniture, Home Furnishings, Electronics, and Appliance Retailers	0.87	1.44	2.35	3.55	0.74	1.02
455	General Merchandise Retailers	1.64	1.13	5.27	2.87	0.59	2.27
456	Health and Personal Care Retailers	1.41	1.59	2.84	0.61	0.70	1.12
457	Gasoline Stations and Fuel Dealers	1.20	1.03	1.53	5.95	0.36	0.92
458	Clothing, Clothing Accessories, Shoe, and Jewelry Retailers	1.05	1.89	3.10	1.18	0.43	0.99
459	Sporting Goods, Hobby, Musical Instrument, Book, and Miscellaneous Retailers	1.13	1.36	2.21	2.74	0.72	1.04
722	**Food Services and Drinking Places**	**1.78**	**1.43**	**2.82**	**2.08**	**0.55**	**1.52**

Source: WA Department of Revenue, 2024.

This information highlights several important components of the Lakewood economy:

- **The retail economy is important to Lakewood.** Lakewood does serve as a center for retail, and under some categories of retail business there is a net capture of customers that indicates a broader customer draw beyond the city. In 2021, this amounted to over $203 million in retail spending above what would be expected from city residents.
- **There is less specialization in Lakewood than in some surrounding communities, however.** Lakewood retail businesses, especially in the downtown and close to I-5, are likely to provide a broader capture area for customers. With respect to surrounding communities, this is more comparable to Tacoma and Federal Way. However, communities such as Fife and Puyallup have more specialized service offerings (and in the case of Fife, a higher ratio of jobs to businesses), meaning that their customer draws are larger.

Exhibit C-10. Taxable Retail Sales by Subsector in Lakewood, 2017–2021 (Top Ten Subsectors).



Source: WA Department of Revenue, 2024.

- **Restaurant sales are one of the most important elements of the local economy.** Food service businesses form one of the most important components of the local retail economy in Lakewood. "Food Services and Drinking Places" (722) is the largest subsector in Lakewood, resulting in $183 million in receipts in 2021 and growing at an average of 4.6% per year since 2017. This is focused on limited- and full-service restaurants, with less focus on catering and drinking establishments.
- **Construction activities provide a significant contribution to local sales taxes.** While the focus of taxes on real estate are often on local real estate excise taxes (REETs), a significant portion of local sales taxes result from sales taxes charged to construction contractors. This amounted to over $280 million in taxable sales in 2021, with $163 million consisting of building construction and the remainder resulting from other types of construction or specialized trade work. This is important to note as this may be sensitive to overall real estate market conditions; in 2022, these receipts dropped by 15% due to changes in building activity.
- **Explicit gaps in local retail are limited, but there are opportunities to expand.** In examining the data related to taxable retail sales, Lakewood is positioned as a service center for the area. However, compared to expected expenditures, there are some individual types of businesses that are not as strongly represented in the city, including new car dealers, RV/boat dealers, electronics stores, and lawn and garden equipment. While this does not mean that the City should necessarily work to recruit these businesses, there may be local opportunities to meet these needs with new local activity.

D Energy and Climate Change

D.1 Introduction

It is increasingly evident that there are strong relationships between greenhouse gas emissions and transportation and land use patterns. When considering local strategies to manage these effects, it should be recognized that Lakewood possesses the potential for building high-density, diversified, mixed-use projects near current transit systems, schools, parks, and neighborhoods. By integrating energy-efficient and sustainable practices into buildings and streetscapes, the community can be made more resilient to future climate change impacts and can reduce the emissions of the greenhouse gases that contribute to the issue. The Comprehensive Plan Chapter integrates these concepts to encourage sustainable development through the preservation of natural resources, the promotion of transit-oriented development, access to various transportation modes, and advocacy for green building.

This section provides the following to support the Energy and Climate Change Element of the Comprehensive Plan:

- Describes potential climate change impacts, energy use and greenhouse gas emissions;
- Highlights key findings and recommendations;
- Defines goals for energy and climate change; and
- Highlights the engagement coordinated for this effort.

D.2 Defining the Issue

D.2.1 What is Climate Change?

A balance of naturally occurring gases dispersed in the atmosphere determines the Earth's climate by trapping solar radiation. This phenomenon is known as the "greenhouse effect." Modern human activity, most notably the burning of fossil fuels for transportation and electricity generation, introduces large amounts of carbon dioxide and other gases into the atmosphere. Reductions in the planet's forested regions where greenhouse gases are stored is also a major contributor to the increasing greenhouse effect. Collectively, these gases intensify the natural greenhouse effect, causing global average surface temperature to rise, which in turn affects global climate patterns.

D.2.2 Energy and Climate Change

Fossil fuels are the primary source of energy in America today. The transportation sector is the single largest consumer of fossil fuels, followed by buildings which use large amounts of energy for lighting, heating and cooling. In addition to growing global, national and local concern over potential impacts of fossil fuel use and their impacts on overall environmental health, there is also widespread uncertainty about the availability and cost of energy.

As the cost of fossil fuel increases, alternatives to private automobiles will become more economically viable. The market for renewable energy is growing each year. Increased greenhouse gas emissions (GHGs), especially CO2 from the use of fossil fuels for energy generation, the dwindling existence of fossil fuel coupled with its high costs, are fueling the renewable energy market. However, the generation of energy from renewable sources requires very large capital investments.

For the first time ever, in April 2019, this country's renewable energy outpaced coal by providing 23 percent of US power generation, compared to coal's 20 percent share. In the first half of 2019, wind and solar together accounted for approximately 50 percent of total US renewable electricity generation, displacing hydroelectric power's dominance.

Declining costs and rising capacity factors of renewable energy sources, along with increased competitiveness of battery storage, drove growth in 2019. In the first half of the year, the cost of onshore wind and utility-scale solar declined by 10 percent and 18 percent, respectively, while offshore wind took a 24 percent dip. The greatest decline was in lithium-ion battery storage, which fell 35 percent during the same period. This steady decline of prices for battery storage has begun to add value to renewables, making intermittent wind and solar increasingly competitive with traditional, "dispatchable" energy sources.

The renewable energy sector saw significant demand from most market segments as overall consumer sentiment remained positive. Renewable energy consumption by residential and commercial customers increased 6 percent and 5 percent, respectively, while industrial consumption declined slightly, by 3 percent, through June 2019 compared with the previous year. As in 2018, US corporate renewable energy contracts once again hit new levels, as corporations signed power purchase agreements (PPAs) for 5.9 gigawatts (GW) of renewable energy in the first half of 2019.

D.2.3 Potential Impacts of Climate Change

Overview

The Intergovernmental Panel on Climate Change findings confirm that human activities are the primary cause of climate change. Climate impacts can be difficult to observe, in part because changes occur slowly over many years.

Scientists expect changing temperatures to result in: disruption of ecosystems; more frequent and damaging storms accompanied by flooding and landslides; increases in the number and severity of heat waves; extended water shortages because of reduced snowpack; increased likelihood of wildfires; and disturbance of wildlife habitats and agricultural activities.

Impacts in the Pacific Northwest

By the 2020s, the average temperatures could be higher than most of those experienced during the 20th Century. The Pacific Northwest is expected to undergo seasonal temperature changes, with warming in both summer and winter. While alterations in precipitation patterns are anticipated during these seasons, they remain unpredictable. The changes in winter precipitation are relatively more certain than those in the summer. Future climate projections suggest continued oscillations between wet and dry conditions, which might make the impact of climate change difficult to discern.

There has been an observed increase in the variability of average winter (October-March) season precipitation since 1973 for the Pacific Northwest, but no information on changes at smaller time scales (monthly, daily changes). The cause of this change is unknown. Heavy rainstorms are expected to increase globally; whether they do in the Pacific Northwest will be related to where and how the storm track moves in the future – it could increase, decrease, or stay the same.

Sea levels will increase globally, but there is much uncertainty in the specific amount of increase and how it will vary by location. Coupled with sea level rise, there could also be land subsidence.

Impacts to Washington State

The United States Environmental Protection Agency (EPA) published a synopsis of the impacts that climate change could have on Washington. Over the past century, most of Washington State has warmed one to two degrees (F). Glaciers are retreating, the snowpack is melting earlier in the year, and the flow of meltwater into streams during summer is declining. In the coming decades, coastal waters will become more acidic, streams will be warmer, populations of several fish species will decline, and wildfires may be more common.

- **Coastal impacts.** Sea level rise will threaten coastal development and ecosystems. Erosion will threaten homes and public property along the shore. Increased flooding could threaten wastewater treatment plants, ferry terminals, highways, and railroads along Puget Sound.
- **Tidal wetlands.** Mudflats, marshes, and other tidal wetlands provide habitat for birds and fish. As water levels rise, wetlands may be submerged or squeezed between the rising sea and structures built to protect coastal development.

- **Snowpack and river systems.** Three thousand glaciers cover about 170 square miles of mountains in Washington, but that area is decreasing in response to warmer temperatures. The flows of water in rivers and streams are increasing during late winter and early spring but decreasing during summer. Warmer winters have reduced average snowpack in Washington by 20 percent since 1950. The snowpack is now melting a few weeks earlier than during the 20th century, and, by 2050, it is likely to melt three to four weeks earlier. Decreasing snowpack means there will be less water flowing through streams during summer. Moreover, rising temperatures increase the rate at which water evaporates (or transpires) into the air from soils and plants. More evaporation means that less water will drain from the ground into rivers and streams.
- **Fishing and recreation.** Declining snow and streamflow would harm some economic sectors and aquatic ecosystems. Less snow means a shorter season for skiing and other winter recreation. Water temperatures will rise, which would hurt Chinook and sockeye salmon in the interior Columbia River Basin. The combination of warmer water and lower flows would threaten salmon, steelhead, and trout. Lower flows would also mean less hydroelectric power.
- **Forest fire risks.** Climate change is likely to more than double the area in the Northwest burned by forest fires during an average year by the end of the 21st century. Higher temperatures and a lack of water can also make trees more susceptible to pests and disease, and trees damaged or killed burn more readily than living trees. Changing climate is likely to increase the area of pine forests in the Northwest infested with mountain pine beetles over the next few decades. Pine beetles and wildfires are each likely to decrease timber harvests. Increasing wildfires also threaten homes and pollute the air.
- **Agriculture.** The changing climate will affect Washington's agricultural sector, particularly fruits and vegetables, which often require irrigation. Because streams rather than ground water provide most of Washington's irrigation water, the expected decline in streamflow would reduce the water available for irrigation. About two-thirds of the nation's apples come from Washington, and most are grown east of the Cascade Mountains where the dry climate requires irrigation. The Washington Department of Ecology is concerned that yields of apples and cherries may decline in the Yakima River Basin as water becomes less available. Alfalfa, potato, and wheat farmers also require substantial irrigation.

Impacts to Pierce County

Pierce County's climate change impacts mirror many of the impacts associated with Washington State:

- **Sea level rise.** Sea levels, depending on future global trends in greenhouse gas emissions and glacial melt rates, are anticipated to rise by up to 6 inches by 2030; up to 15 inches by 2050; and up to 57 inches by 2100.
- **Ocean acidity.** Ocean acidity is projected to increase 38–109 percent by 2100 relative to 2005 levels. Corrosive conditions are particularly of concern to the shellfish industry in Puget Sound, which depends on good water quality to grow oysters, clams and mussels.
- **Water temperature increases.** Stream temperatures in the Pacific Northwest are projected to increase by 3°F by 2080. Warmer water temperatures will also result in more lake closures and could be lethal to salmonids and other aquatic species.

- **Disappearing glaciers on Mount Rainier.** Current trends indicate that Mount Rainer's glaciers - and other sources contributing to summertime stream flows and sedimentation in Puget Sound watersheds - will continue to melt as temperatures warm. In all years between 2003 and 2009, there has been a net melting of the Emmons and Nisqually Glaciers between 0.5- and 2.0-meters water equivalent.
- **Heat events and wildfire risk.** Extreme heat events will become more frequent while extreme cold events will become less frequent. Wildfires are expected to become more common as temperatures rise and less rain falls during summer months.
- **Landslides.** Landslides are expected to become more common in winter and spring due to projected increases in extreme precipitation events and increasing winter precipitation, particularly in areas most prone to present-day landslides.
- **Flood risks.** Flood risk is projected to increase during the fall and winter seasons as warmer temperatures cause more precipitation to fall as rain over a larger portion of the basin. Eight of the top ten peak floods have been recorded since 2006. Less snowmelt will cause the lowest flows to become lower in the summer months.
- **Sediment loads in rivers.** For rivers originating on Mount Rainier, including the Puyallup, White, Nisqually, and Carbon Rivers, sediment loads are expected to increase, further contributing to flood risk, as declining snowpack and glacial recession expose more unconsolidated soils to rain, flood flows, and disturbance events.
- **Changes in local precipitation.** Total annual precipitation in the Pacific Northwest is not projected to change substantially, but heavy rainfall may be more frequent and intense, and summer precipitation may decrease. More rain and less snow will fall in the winter.

Impacts to Lakewood

Summary of Impacts

Local impacts are not definitive, but Lakewood could experience:

- Changes to local weather patterns leading to **more frequent peak storm events**;
- **Rising Puget Sound water levels** which could influence Chambers Creek Dam at high tides and eventually lead to overtopping;
- Intermittent lakes such as Carp Lake are likely to become **more intermittent**, or may disappear;
- Areas with steep slopes, such as Chambers Creek Canyon, with heavy rainfall events, could experience **increased frequencies of landslides**.
- There will be an **increased flood risk** in the Clover Creek watershed; rising flood waters could impact I-5 between Highway 512 and Bridgeport Way;
- Additional pollutant loading from peak storm events and higher summer temperatures are likely to make existing **water quality issues** in the city's numerous lakes and streams worse (including depleted oxygen levels and more algae bloom events); and

- **Potential for wildfires** in Fort Steilacoom Park, the open space areas behind Western State Hospital, JBLM lands adjacent to the city limits, and vacant lands within the I-5 and Highway 512 Corridors. Loss of vegetation and impacts to air quality would result from these wildfires if they were to occur.

Of particular interest for local management are the effects of local heat islands and their interaction with the local tree canopy, as well as the effects on floodplains in the city.

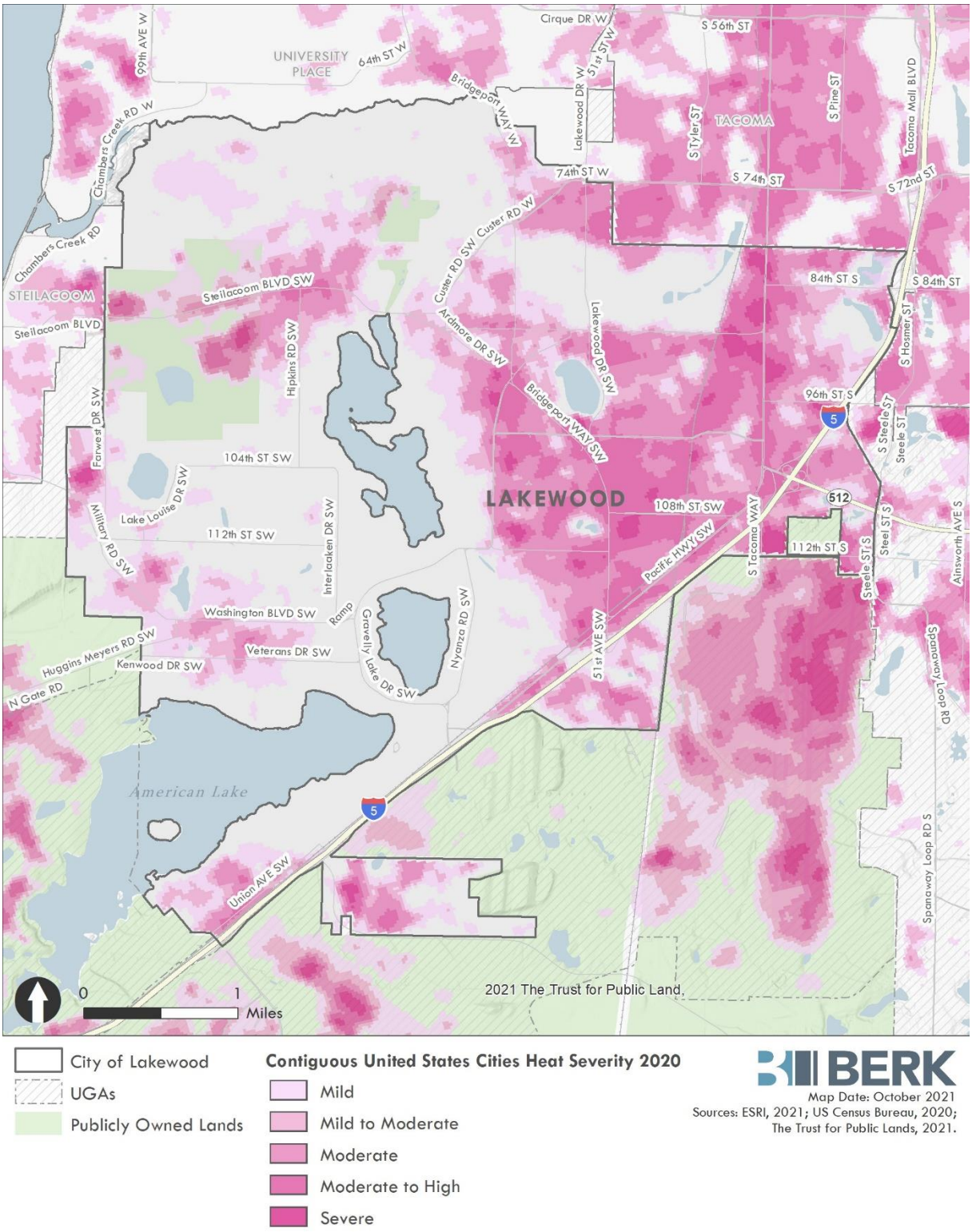
Urban Heat Islands & Tree Canopy

Heat islands are defined as urbanized areas that experience higher temperatures than surrounding rural areas. (US EPA, 2024) Structures in urban environments, such as buildings, roads, and infrastructure, absorb and re-emit heat from the sun at a greater level than the natural environment. With decreased greenery and high concentration of structures, it produces urban heat islands, particularly in summer months. The impacts of urban heat islands can result in increased energy and electricity consumption to cool buildings, and increased GHG emissions due to increased electricity demand.

Urban heat islands and excessive heat events pose increased risk to vulnerable populations that include older adults, young children, low-income populations, people in poor health, and people who spend their working hours outdoors. Urban heat islands can also negatively affect water quality due to warmed stormwater runoff increasing the water temperature in streams, rivers, ponds, and lakes. This water temperature warming can stress aquatic life. Urban heat islands can be mitigated by expanding the tree canopy within a city.

Exhibit D-1 depicts the level of heat severity in the City, highlighting areas with urban heat islands. Urban heat islands with high to severe heat severity are located in the eastern part of the City, near the City Center and the developed commercial, industrial, and multifamily areas.

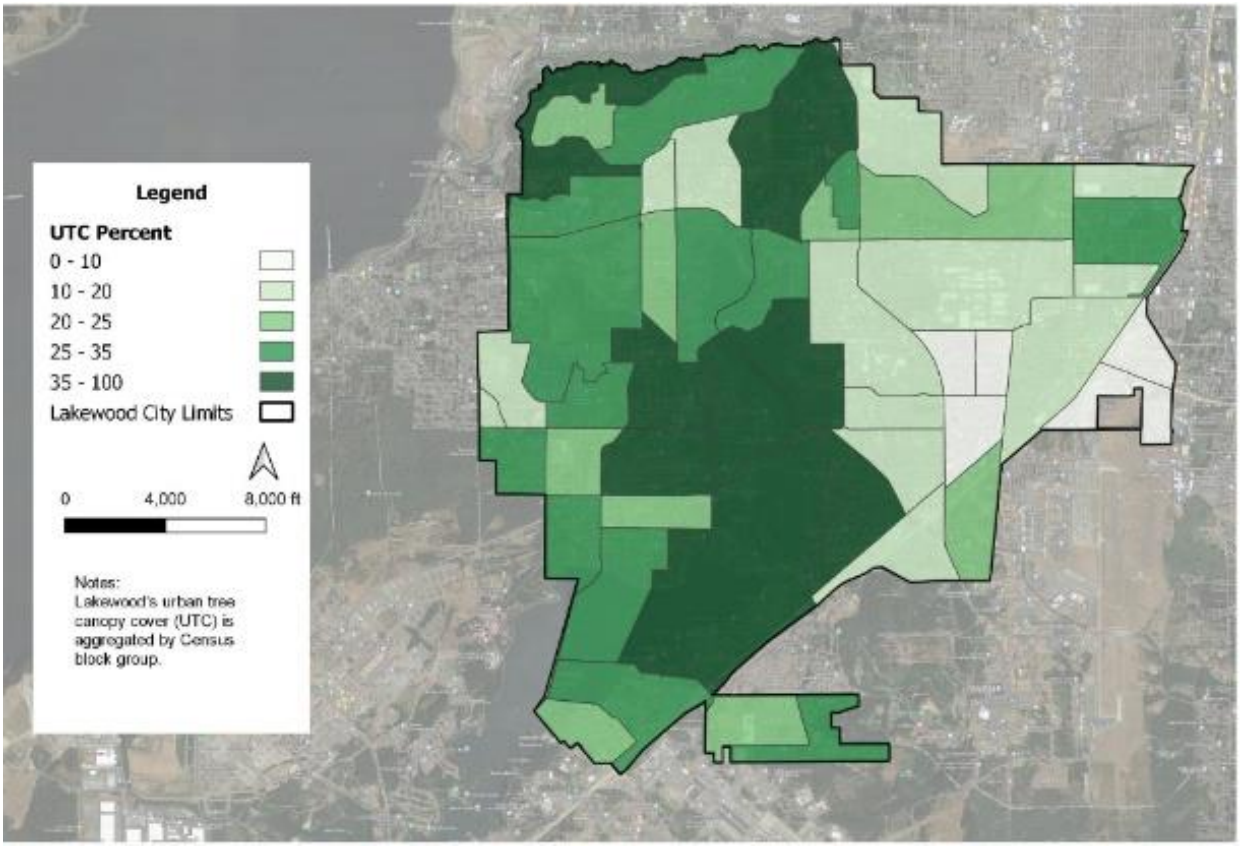
Exhibit D-1. Lakewood Heat Severity (2020)



Sources: ESRI, 2021; US Census Bureau, 2020; Trust for Public Lands, 2021

Exhibit D-2 shows the current tree canopy coverage in the City. The tree canopy is 29%, with 13 square kilometers of tree canopy coverage. Tree canopy is highest in neighborhoods in the northwestern and central areas of the City. Areas with low amounts of tree canopy coverage include the northeastern and mid-western parts of the City.

Exhibit D-2. Tree Canopy Coverage in the City of Lakewood

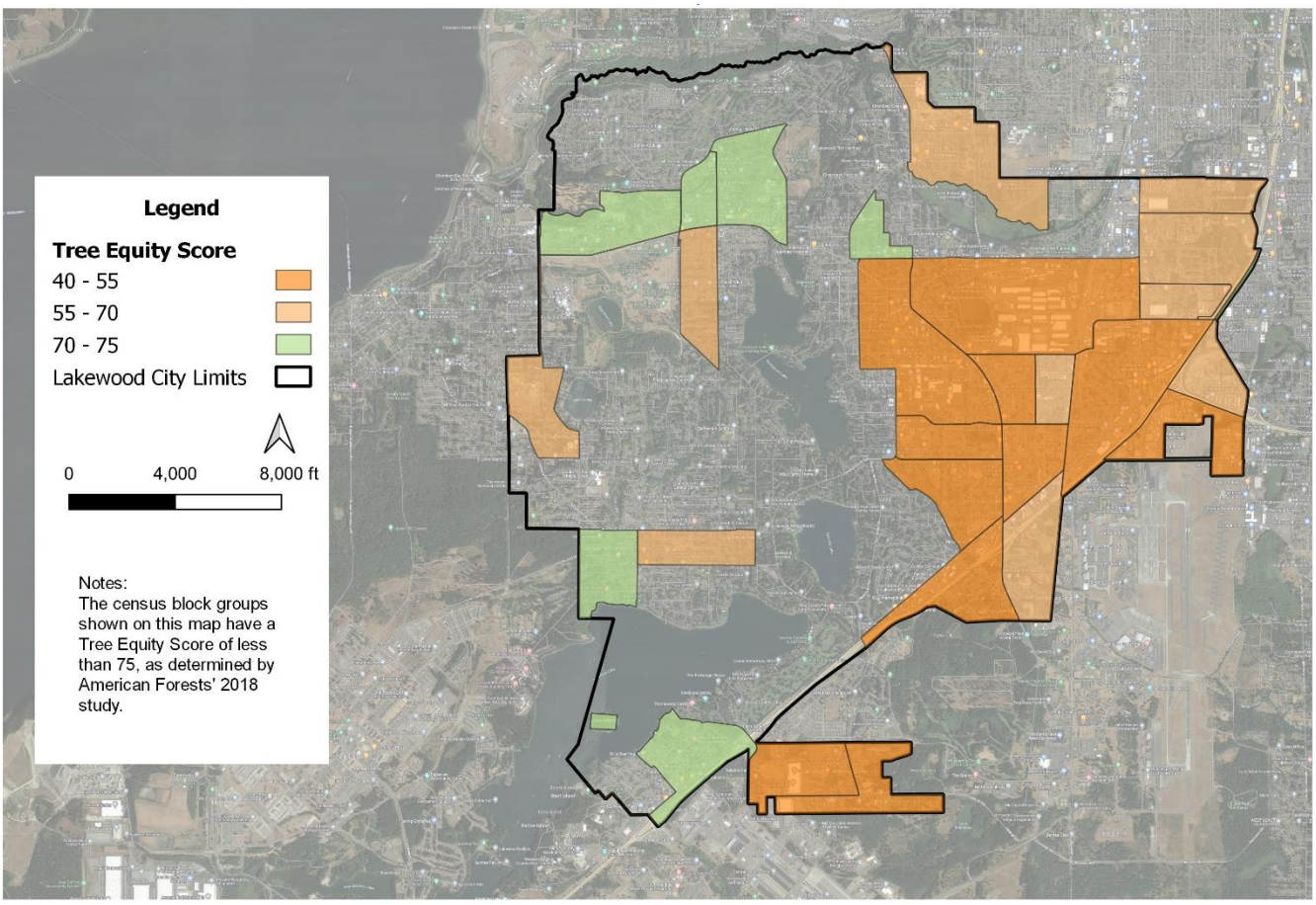


Source: Plan-it GEO, prepared for City of Lakewood 2022

A lack of adequate tree canopy coverage contributes to an increased urban heat island effect, particularly for vulnerable populations. An increase in tree canopy coverage can contribute to carbon sequestration and improve air quality, improve community health and well-being, cool the air, and manage stormwater. (MRSC, 2023)

Exhibit D-3 identifies areas with less tree canopy and a greater share of overburdened communities (lower incomes, unemployment, persons of color) indicates areas with less equity in tree canopy. These areas are largely in the greater developed commercial, industrial, and multifamily areas.

Exhibit D-3. Tree Equity Score Less than 75, American Forest 2018



Lakewood, WA Tree Preservation Code Update 2022

Source: American Forest, Tree Equity.org, Plan-it Geo, 2022

Floodplain (lakes, wetlands, streams)

Lakewood has several lakes, wetlands, creeks, and streams. Approximately 9% of Lakewood's 12,127 acres, or 1,098 acres, are covered by lakes. In addition, the City has a significant number of creeks and wetlands. Potential related climate change impacts include rising flood waters, which could impact I-5 between Highway 512 and Bridgeport Way. In addition, additional pollutant loading may worsen existing water quality issues in the City's numerous lakes and streams. Furthermore, the City may be impacted by more frequent peak storm events, which potentially increases the likelihood of flooding and the impact of flooding events. (ESA and BERK, 2023)

Climate change impacts that require relocation or rebuilding (floods, fires) will be more impactful for those with limited resources (Green et al. 2007; Zoraster 2010). Parkland and Midland, Lakewood, Spanaway, and JBLM are home to the highest concentrations of low-income households in Pierce County and areas of high disparity. (Pierce County, 2023)

The Clover Creek watershed is the main watershed in the City limits. In 2019, FEMA updated the Clover Creek 100-year floodplain map, revealing a significant increase in the area impacted by floodwater compared to the previous floodplain map. Rising flood waters from a Clover Creek 100-year flood showed expanded impact to the floodwaters to the City, affecting the Springbrook neighborhood, I-5, and areas within the Hillside and Downtown neighborhoods.

D.2.4 Climate Change, Environmental Justice, and Equity

The HEAL Act

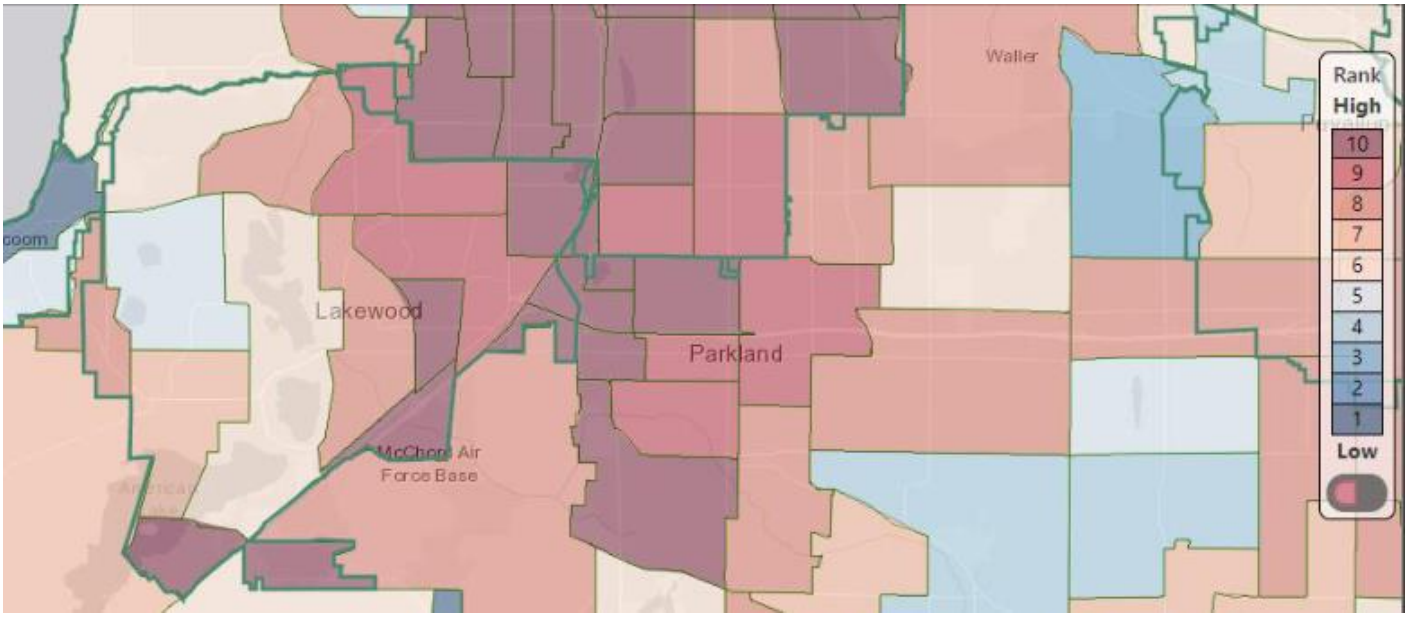
Recently enacted with an effective date of July 25, 2021, the HEAL Act defines environmental justice in state law, creates an Environmental Justice (EJ) Council and an interagency workgroup, and requires the Departments of Health, Ecology, Agriculture, Natural Resources, Commerce, and Transportation, and the Puget Sound Partnership to:

- Incorporate EJ in their strategic plans or other planning documents;
- Plan for meaningful community engagement and public participation;
- Conduct environmental justice assessments;
- Implement equitable budget and funding practices; and
- Report progress, as evaluated by the EJ Council, in implementing the requirements of the HEAL act on public dashboards.

HEAL requires that the Department of Health (DOH), in consultation with the EJ Council, continue to develop and maintain an environmental health disparities map with the most current information necessary to identify cumulative environmental health impacts and overburdened communities. State agencies would be directed to consider environmental justice throughout their actions and decision-making processes, ultimately helping the state meet its environment and equity goals more efficiently and effectively. The HEAL Act is meant to improve the enforcement and implementation of statewide programs and policies to work towards ensuring the highest attainable environmental quality and health outcomes for the state and its residents.

The DOH environmental health disparities map is shown as Exhibit XX below. A review of the map shows Lakewood's level of disparities is fairly high for large sections of the city. Neighborhoods with the high levels of disparity and exposure include northeast Lakewood (the Air Corridor zones), central Lakewood, Springbrook, Tillicum, and Woodbrook. Lakewood also has two sites on the Superfund National Priority List, one in Woodbrook and the other in Springbrook near Pacific Highway SW. Nearby, there are six Superfund National Priority sites found on McChord Field.

Exhibit D-4. Environmental Health Disparities Map, Lakewood and Area.



Source: Washington State Department of Health, 2022.

The HEAL Act, still under development, may present grants and contracting chances that uphold environmental justice values, with a specific aim of allocating 40% of environmental benefit expenditures to vulnerable groups and overwhelmed communities. Monitoring the HEAL Act's budget and funding methodologies will be crucial for the city going forward.

Lakewood City Council Statement on Equity

Related to environmental justice principles, the Lakewood City Council adopted Resolution 2021-05 acknowledging that equity is essential to a healthy community. The Council committed to the following practices:

- Instilling equity as a priority of policy and the delivery of services;
- Enacting initiatives that support and celebrate the diversity of the community;
- Ensuring equity in municipal planning;
- Identifying and dismantling preconceived prejudices;
- Increasing sensitivity to social norms and cultural expectations; and
- Pursuing justice and equity for all residents.

While no direct mention is made to environmental justice, the city's practices aligns closely with the HEAL Act definition of 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. This includes addressing disproportionate environmental and health impacts by prioritizing vulnerable populations and overburdened communities, equitably distributing resources and benefits, and eliminating harm."

D.3 Lakewood and Climate Change Response

As it prepares for climate change, Lakewood has a number of advantages as well as some challenges in developing a clear response. Additionally, there have already been policy actions taken to date both to address emissions of GHGs and mitigate the ongoing effects of climate change.

D.3.1 Advantages

- **Climate:** Lakewood's moderate climate means lower heating and cooling demands than other areas in the nation and globally.
- **Access to hydroelectric power:** Two of the three power companies that serve Lakewood receive power from hydroelectric plants.
- **Rental Housing Safety Program (RHSP):** Requiring minimum building code inspections in the city's large and older rental housing stock potentially reduces energy costs for renters, many of whom fall into low-income categories. According to the U.S. Energy Information Administration, 43 percent of renters report examples of energy insecurity compared to 24 percent of homeowners. Building energy efficiency is widely recognized as one of the best strategies for combating climate change and other energy problems.
- **Infill potential:** Several underutilized parcels provide opportunities to develop walkable, mixed-use environments to meet residents' needs. However, care must be taken to ensure that these parcels connect to community attributes and open space, whether public or private.
- **Transportation:** Some residents have convenient access to transportation alternatives. Pierce Transit provides several bus routes connecting Lakewood to other parts of Pierce County. Sound Transit provides regular bus transportation to Sea-Tac International Airport, in addition to a commuter rail station. Two transit stations and two park-and-rides are in the city.
- **Recently revised land use regulations:** Lakewood has adopted a Downtown Subarea Plan and a Lakewood Station District Subarea Plan, as well as a new subarea plan for the Tillicum-Woodbrook neighborhood.
- **Adopted non-motorized transportation plan:** The plan provides a comprehensive plan to enhance the Lakewood urban area pedestrian and bicycle systems. This effort was initiated by the city to address long range transportation goals and policies. Originally adopted in 2009, the plan should be updated to better reflect many land policies changes that have occurred in the past 10-years. In 2013, the city amended the non -motorized plan figures for bike and pedestrian routes. This action was taken as part of the adoption of the Transportation Benefit District. The city did not formally update the non-motorized plan, but a new Non-Motorized Transportation Plan has been developed as of 2023.
- **Adopted complete streets policy:** The city adopted an ordinance in 2016 recognizing transit, bicycling, and walking as fundamental modes of transportation are of equal importance to that of passenger vehicles. This led to the city reconstructing Motor Avenue SW into a complete street.
- **Promoting energy conservation:** The city has already installed LED lighting for all streetlights (2,372) and all traffic signals (69).

- **Open space protections:** City has taken action to protect and preserve open spaces both on private and public properties. A review of the National Land Coverage Database, between 2001 and 2016, shows no net loss in open space. The city has also been active in expanding its parks.
- **Tree preservation:** Since 2001, the city has had in place a tree preservation ordinance. The city is also proactive in regard to removal of trees without permits; over the years, the city has substantially fined property owners. Fines that are collected go into a tree preservation fund which was informally established through the city's master fee walkability when many of the basic services are non-existent. Transportation: Several challenges persist with providing adequate transportation for all Lakewood residents. The community lacks a bus rapid transit system. Sound Transit commuter service is limited. Low-income neighborhoods and areas with high unemployment may not be adequately served by public transit. Underlying land use patterns: Current land use patterns were established by Pierce County. The county's zoning followed very basic principles. It did not offer much protection from incompatible uses. The county zoning promoted strip commercial development and auto-dependent uses.
- **State Environmental Policy Act (SEPA):** As circumstance warrant, the city uses SEPA and LMC Title 14 to mitigate for the loss of trees associated with urban development. In many situations, not all, city requires open space areas to be set aside from development.
- **City's regulating controls:** City has enacted several regulations designed to protect or preserve and enhance the preservation of trees. Examples include the planned development district, cottage housing, and the city's tree preservation code, in addition to LMC Title 14.
- **Floodplain protections:** The city updated its floodplain regulations creating an overlay zone and new development standards.
- **Shoreline Master Program (SMP):** SMP regulations restrict development in areas buffering water bodies, streams, or wetlands.

D.3.2 Challenges

- **Lakewood is a relatively new city:** Upon incorporation in 1996, Lakewood faced many challenges in providing basic municipal services. Climate change policy was not a priority. However, as the city has matured, it is now beginning to examine climate change and its impacts upon the city and region.
- **Older housing stock:** Even though Lakewood was incorporated in 1996, as a community, it has been around for over 100 years. Lakewood is primarily a suburb of Tacoma. Much of the housing stock is older and likely needs substantial upgrades to improve energy conservation.
- **Location:** Employment centers are primarily found in Tacoma and the Seattle-Metro area, requiring reliance upon transportation to get to work. Twenty-one percent of residents commute to Tacoma, and 19 percent to the Seattle-Metro area. About 79 percent use single occupant vehicles, 10 percent use carpool, and five percent use public transit. Average commute distance is 26.4 miles. Commuting trips are significant factors that increase CO2 production.
- **Lack of a street network:** A very limited grid street network is found in the city's older neighborhoods, namely Tillicum, and Lakeview. This creates access issues and requires additional vehicle miles traveled to reach destinations and can discourage walking or biking alternatives.

- **Lack of street infrastructure:** Much of Lakewood lacks curbs gutters, and sidewalks, the basic elements that promote connectivity. While the city has taken steps to improve the situation, current conditions make it difficult to promote walkability when many of the basic services are non-existent.
- **Transportation:** Several challenges persist with providing adequate transportation for all Lakewood residents. The community lacks a bus rapid transit system. Sound Transit commuter service is limited. Low-income neighborhoods and areas with high unemployment may not be adequately served by public transit.
- **Underlying land use patterns:** Current land use patterns were established by Pierce County. The county's zoning followed very basic principles. It did not offer much protection from incompatible uses. The county zoning promoted strip commercial development and auto-dependent uses.
- **Lakewood is not a full-service city:** Water is provided by the Lakewood Water District. Sewer service is provided by Pierce County Utilities. Waste collection is provided under contract with Waste Management Services. Power is provided by three different power purveyors, Puget Sound Energy, Tacoma Power, and Lakeview Light and Power, a mutual non-profit company. As the city does not control these agencies, policies related to managing climate change impacts from these activities can be more limited.

D.3.3 Policy Interventions

Policies at the local, regional, state, and federal level contribute to aiming to reduce GHG emissions in the City and surrounding area. The state's Clean Energy Transformation Act (CETA) produces the greatest reduction in emissions, along with the state's Internal Combustion Engine Ban.

Federal

Federal Vehicle Regulations (CAFE): The Corporate Average Fuel economy (CAFE) standards, regulated by the DOT and supported by the EPA, require an average of approximately 49 mpg for passenger cars and light trucks by 2026. This results in a fuel efficiency increase of 8-10% annually.

State

WA Clean Buildings Act (HB1257): This state bill requires all new commercial buildings over 50,000 square feet to reduce their energy use intensity by 15%, compared to the 2009-2018 average. The compliance date is staggered based on building size, with buildings greater than 220,000 square feet required to comply by June 1, 2026, and buildings greater than 50,000 square feet required to comply by June 1, 2028.

WA Clean Fuel Standard (HB 1091): This state bill sets a Clean Fuel Standard that requires a 20% reduction in the carbon intensity of transportation fuels by 2038, compared to a 2017 baseline. This reduction can be achieved through cleaner fuels or through the purchasing of clean fuel credits from cleaner producers.

WA Internal Combustion Engine Ban (SB 5974): This state bill establishes a target that all passenger and light duty vehicles of model year 2030 and later must be electric vehicles. Washington would ban the sale of gasoline/diesel passenger vehicles by 2030.

WA Clean Energy Transformation Act (CETA): CETA applies to electric utilities serving Washington customers. By 2025, utilities must eliminate coal-fired electricity from their portfolios. By 2030, these utilities must be greenhouse gas neutral, with flexibility to use some natural gas for electricity if offset by other actions. By 2045, utilities must supply Washington customers with 100% renewable or non-emitting electricity.

WA Climate Commitment Act (E2SSB 5126): The Climate Commitment Act places an economy-wide cap on carbon to meet the state GHG reduction targets. This applies to polluting facilities in the built environment. 35-40% of investments must be made in overburdened communities to reduce health disparities and create environmental benefits.

WA Growth Management Act Climate Element (HB 1181): HB 1181 requires local governments to incorporate climate change into comprehensive plans. It makes changes to the mandatory land use and transportation elements and adds a new climate change element.

Regional

PSRC Vision 2050: The Puget Sound Regional Council (PSRC) Vision 2050 includes 12 goals related to climate change, including reducing greenhouse gas emissions to 80% below 1990 levels. PSRC also incorporates a four-part Greenhouse Gas strategy that aims to reduce GHG emissions to 80% below 1990 levels. Methods to accomplish this reduction include compact growth patterns within land use, low-carbon travel choices, and forest and open space protection.

PSRC Regional Transportation Plan VMT Reductions: PSRC Regional Transportation Plan (RTP) is a long-term transportation plan for the region and outlines investments being made in multi-modal transportation options, including transit, rail, ferry, roads, freight, and bicycle and pedestrian facilities.

Local

Energy and Climate Change Chapter: In 2021, the City of Lakewood adopted a new Comprehensive Plan Energy and Climate Change Chapter (ECCC), based on low- or no-cost International Council for Local Environmental Initiatives (ICLEI) and Google Environmental Impact Explorer (EIE) data collection tools. By adopting this chapter, the City intends to proactively develop policies, incentives, and voluntary actions, and potentially regulations prior to the development of state mandates.

City Tree Code and Urban Forestry: In 2022, the City adopted a new tree regulation that went into effect on March 1, 2023. The regulations promote tree preservation and protects some of the City's most significant trees, including the White Oak. Tree removal permits and new tree protection and mitigation standards were proposed. On May 22, 2023, the City Council accepted a report from the UW Evans School of Public Policy & Governance regarding establishing an urban forestry program over a 5-year period. On May 31, the Council obligated $340,000 of ARPA funds to help fund the report's recommendations for a certified arborist, tree assessment, and public outreach efforts through 2026.

Ordinance No. 776: In 2022, the City adopted Ordinance No.776 to establish a three-year climate change work plan. It included fourteen items to make progress towards responding to the impacts of climate change and relevant future goals and policies. These goals include a five-year plan in partnership with PSE, Tacoma Power, Lakeview Light & Power, and the Pierce County Sustainability Collaborative to support GHG emission reduction; this five-year action plan is anticipated to be adopted in 2024. Another relevant goal is the update to the City's non-motorized transportation plan, which was completed in June 2023.

D.4 GHG Emissions Management and Climate Change Adaptation

Greenhouse gases include carbon dioxide, methane, nitrous oxide, and certain synthetic chemicals that trap some of the Earth's outgoing energy, thus retaining heat in the atmosphere. Larger emissions of greenhouse gases lead to higher concentrations in the atmosphere. Reducing GHG emissions involves reducing fossil fuel consumption, using other sources of renewable energy, and conserving energy associated with homes, businesses, industry, and transportation.

D.4.1 Sources

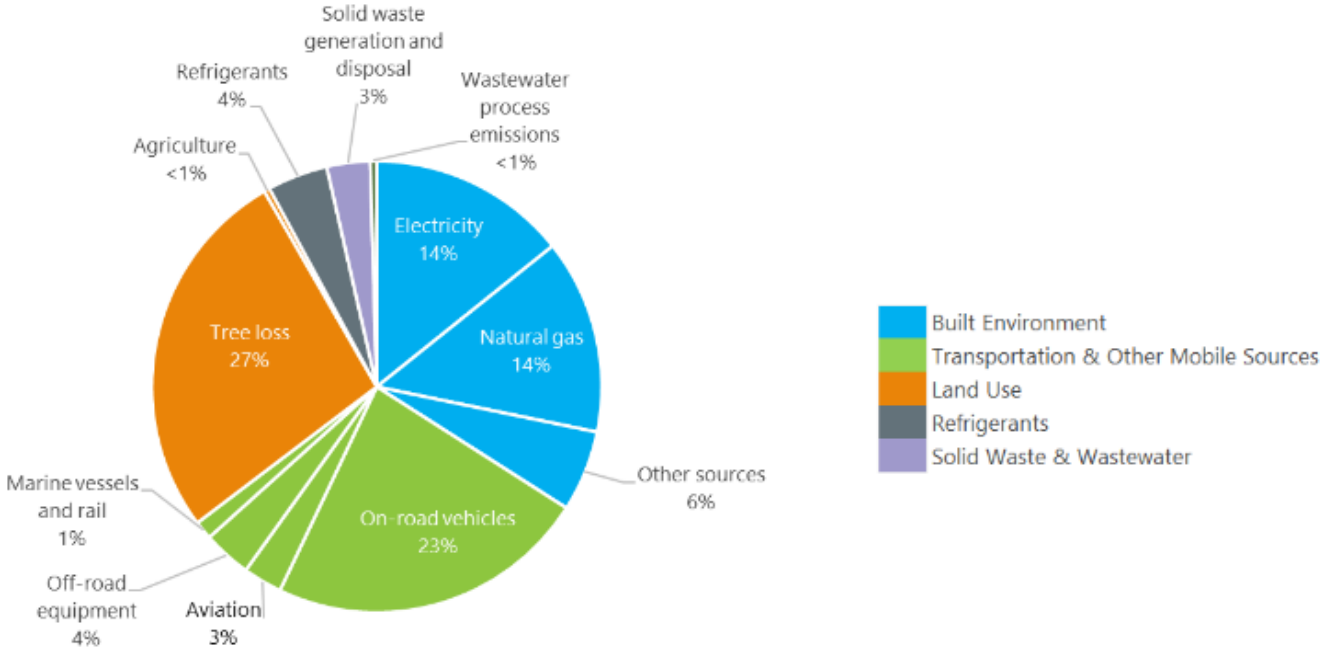
Building and Transportation Emissions

The primary sources of GHG emissions in cities are from building emissions and transportation emissions. Building emissions are estimated from heating, cooling, and powering residential and non-residential buildings. Transportation emissions are from fuel-powered vehicles and can be measured by VMT (vehicle miles traveled). Other drivers of GHG emission increases include tree canopy loss, changes in the electricity fuel mix, and overall population growth.

In 2022, the County produced a GHG emission inventory that summarizes the status of emissions in 2019 across five sectors: the built environment, land use, refrigerants, solid waste and wastewater, and transportation and other mobile sources (Cascadia Consulting Group, 2022). In 2019, Pierce County's residents, businesses, employees, and visitors produced 10.8 million metric tons of GHG emissions. Exhibit D-5 displays the primary sources of GHG emissions in Pierce County in 2019. The largest GHG emissions sources in Pierce County are:

- Tree loss (~27%),
- On-road transportation (~23%),
- Building electricity (~14%), and
- Building natural gas (~14%).

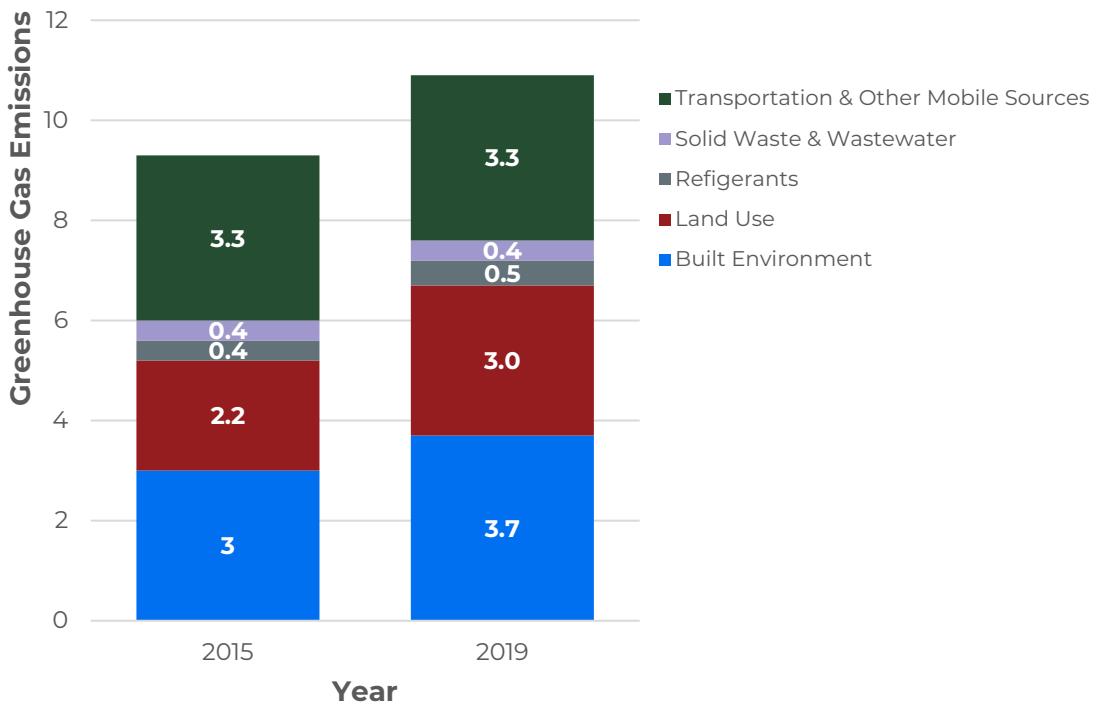
Exhibit D-5. Sources of GHG Emissions in Pierce County in 2019



Source: Cascadia Consulting Group, 2022

Exhibit D-6 depicts how GHG emissions in Pierce County have changed over time. From 2015 to 2019, there was an increase in overall GHG emissions (16%), along with a 7% population increase and a 9% increase in per capita emissions.

Exhibit D-6. GHG Comparison by Year and Sector for Pierce County

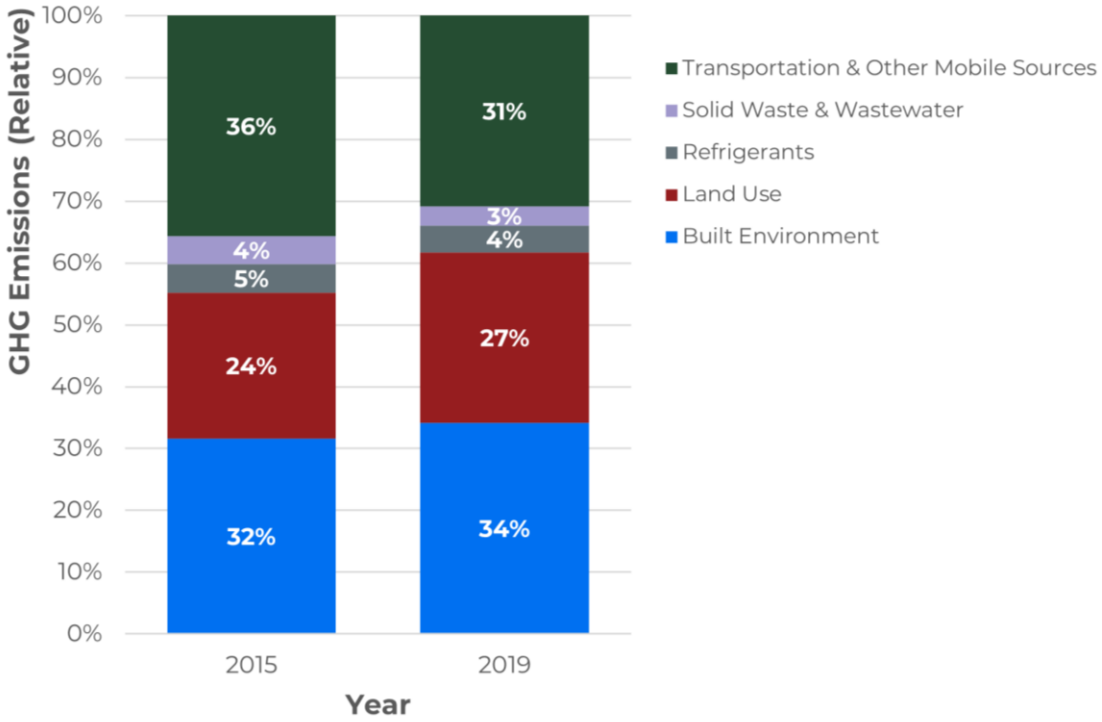


Source: Cascadia Consulting Group, 2022.

Exhibit D-7 depicts the relative contribution of GHG emissions by sector over time in Pierce County. The relative contribution of GHG emissions from the built environment increased by 2% from 2015 to 2019; GHG emissions from land use increased by 3% in that same period. However, the relative contribution of GHG emissions from transportation and other mobile sources decreased by 5% in that same time period.

The increased efficiency and decreased emissions per mile of passenger vehicles are the greatest contributor to decreasing transportation emissions. Other ways that emissions have decreased include efficient electricity use in the commercial and residential sectors in the built environment, and a reduction in per-capita solid waste generation.

Exhibit D-7. Relative Contribution of GHG Emissions by Sector



Source: Cascadia Consulting Group, 2022.

In the City of Lakewood, GHG emissions are primarily generated by motor vehicles and buildings. . Lakewood is bisected by Interstate 5, which is a significant source of GHG emissions caused by transportation emissions. Other sources of emissions are generated by buildings through the direct combustion of fossil fuels for heating or indirectly through electricity consumption needed to support residents and businesses. The heating and cooling technologies deployed, the carbon intensity of utility's fuel mix used to support Lakewood's electricity grid, the sources of electricity, the quantity of electricity used by residents and businesses, and the energy efficiency of buildings can all contribute to increased GHG emissions produced in the built environment.

Exhibit D-8 compares how emission types have changed from 2019 to 2022 in the city. Overall, GHG emissions have decreased from 2019 to 2022. While transportation emissions represent the greatest contributor to GHG emissions in the city, its overall percentage decreased by 4% from 2019 to 2022, possibly due to increased fuel efficiency among motor vehicles and buses and potentially due to reduced commuting during the pandemic. Overall residential emissions decreased from 2019 to 2022; however, there was a marked increase due to the measurement of residential diesel emissions in the total residential emissions.

Exhibit D-8. Comparison of Lakewood GHG Emissions in 2019 and 2022

Emission-Type	2019 Emissions (MgCO2e)	Percent of Total	2022 Emissions (MgCO2e)	Percent of Total	Difference
Residential					
Residential Electricity	72,121	11%	68,800	11%	(3,321)
Residential Natural Gas	59,071	9%	46,400	7%	(12,671)
Residential Diesel	N/A	N/A	44,800	7%	44,800
Sub-Total	**131,192**	**21%**	**160,000**	**26%**	**28,802**
Commercial/Industrial					
Non-Residential Electricity	110,746	17%	95,040	15%	(15,706)
Non-Residential Natural Gas	35,629	6%	18,480	3%	(17,149)
Non-Residential Diesel	N/A	N/A	18,480	3%	18,480
Sub-Total	**146,375**	**23%**	**132,000**	**21%**	**(14,375)**
Transportation					
On-road vehicles – cross boundary inbound	156,997	25%	148,607	24%	(8,390)
On-road vehicles – cross boundary outbound	158,353	25%	150,197	24%	(8,156)
On-road vehicles – in boundary	34,216	5%	28,187	5%	(6,029)
Bus VMT – Cross boundary inbound	5,274	<1%	2,586	<1%	(2,687)
Bus VMT – Cross boundary outbound	5,955	<1%	2,929	<1%	(3,025)
Bus VMT – In boundary	1,048	<1%	606	<1%	(442)
Sub-Total	**361,843**	**57%**	**333,114**	**53%**	**(28,729)**
Total Emissions	**639,410**		**625,112**		**(14,296)**

Notes:

- Transportation emissions are overstated since it includes I-5 and Highway 512 emissions, but it is difficult to determine emissions using the Google EIE model.
- Residential & non-residential emissions are also overstated since Google uses a 50/50 mix of electricity to carbon fuels. In actuality, the mix is closer to 80/20. If the 80/20 split is used, MgCO2e emissions are calculated at 194,297 for both residential and non-residential.

Source: City of Lakewood Energy and Climate Change Chapter, 2021; Google Environmental Insights Explorer 2024; BERK 2024

D.4.2 Potential Strategies

Overview

The metrics assessed to understand climate change impacts include the following:

- Actions would prevent or deter statewide, regional, or local efforts to reduce GHG emissions.
- Increase in per capita vehicle miles traveled (VMT).

- Growth concentrated in areas with high exposure to air pollution, noise pollution, or environmental hazards. Increases exposure of vulnerable populations to climate stressors or reduces adaptive capacity to respond.

GHG emissions associated with each alternative would likely decline at a per capita level even with planned growth due to the federal, state, and regional regulations. This includes but is not limited to:

- Fuel economy standards.
- Energy codes and standards.
- GHG and VMT reduction goals and new climate elements.
- Land use patterns promoting transit-oriented development and infill development.
- Tree canopy protection and enhancement.

Growing consistent with regional growth strategies such as growth targets, land use patterns, multimodal transportation investments, retention of environmental and natural resource lands and other strategies are anticipated to help achieve reductions in regional air pollutant emissions. (PSRC, 2020)

With transportation and on-road vehicles representing a significant contributor to GHG emissions, a measure of VMT helps measure the alternatives' impact on GHG emission reduction. Exhibit D-9 shows how VMT compares across two alternatives:

- A "No Action" alternative, defined as the current set of land use policies in place in the city; and
- A "Proposed Alternative", which includes the proposed land use changes incorporated into this Comprehensive Plan update, as well as changes in state planning requirements.

Based on future estimated VMT, the current plan ("No Action") results in a higher amount of VMT in the City overall. However, the revisions under the "Proposed Alternative" result in a higher amount of VMT in the CBD and Station area due to the concentration of growth in these areas, and the remaining area in the City is significantly lower as a result.

Exhibit D-9. VMT Comparison by Alternatives

Alternative	Estimated Vehicle Miles Traveled (VMT)			
No Action Alternative	75,412	11,630	8,539	55,243
Proposed Alternative	74,496	12,339	9,489	52,668
Difference	**(916)**	**709**	**950**	**(2,575)**
Percentage Difference	-1.2%	6.1%	11.1%	-4.7%

Source: The Transpo Group, 2024

Both alternatives concentrate growth in centers like Downtown and the Station District. Both alternatives include a tree canopy goal of 40% and implementation of an Urban Forestry Program and recent tree code amendments.

Some centers and higher density employment and multifamily areas have high or moderately high exposure to adverse air quality or noise. These areas also show a lower tree equity score and more exposure to urban heat islands. Both alternatives would apply the City's tree code and urban forest program and development in these locations, such as housing and mixed uses. Development represent opportunities to integrate green infrastructure and to place transit oriented development with amenities at all income levels. These activities would help the community adapt to climate change and realize greater climate resilience.

Note that the Tillicum-Woodbrook Subarea is part of the cumulative consideration of GHG reduction and VMT reduction above. It is a subarea where the population is exposed to air and noise pollution, and in part has a lower tree equity score. The alternatives address the subarea differently and climate adaptation is addressed under each below.

Potential Actions

The transition to a new Comprehensive Plan with revised policies and future actions have the potential to address greenhouse gas emissions in several ways:

Reduced VMT

The revised Comprehensive Plan is expected to encourage growth near the city center, with middle housing densification throughout residential areas, resulting in a potential for a greater reduction of VMT than the current Plan despite modeling greater growth that is consistent with the 2044 growth targets. Changes in multimodal transportation are expected due to densification, leading to a decrease in car usage and a decrease in expected transportation-generated GHGs, one of the main contributors to overall GHGs.

Compact Form and Energy Efficiency

The revised policies are expected to result in higher density and more compact urban form, which results in less energy use for heating and cooling buildings, and therefore a reduction in GHG emissions created by the built environment. This approach includes updated middle housing regulations and critical areas regulations that provide additional habitat and stream protective measures (Washington Department of Commerce, 2023)

Expanding Tree Canopy

Increasing tree canopy cover can boost carbon sequestration, reduce heat islands, and improve air quality, prioritizing overburdened communities.

Expanding Housing Availability

Increasing housing diversity and supply within urban growth areas can help to reduce greenhouse gas emissions and support environmental justice by preventing displacement and discouraging people and families from living long distances away from jobs. This can be done through policies that will allow middle housing types, such as duplexes, triplexes, and ADUs, on all residential lots.

Solar Energy Production

The City has the rooftop solar potential to reduce GHG emissions by 223,000 MgCO2e on an annual basis. Assuming solar panels receive 75% of the maximum annual sun in the City, this represents an approximate 35% reduction in total annual GHG emissions produced within the City using 2022 GHG emission totals. See Exhibit D-10. In the City, the existing solar arrays are 57, which represent less than 1% of the total solar potential. Specific locations for potential solar panel placement are shown in Exhibit D-11.

Exhibit D-10. City's Total Solar Potential

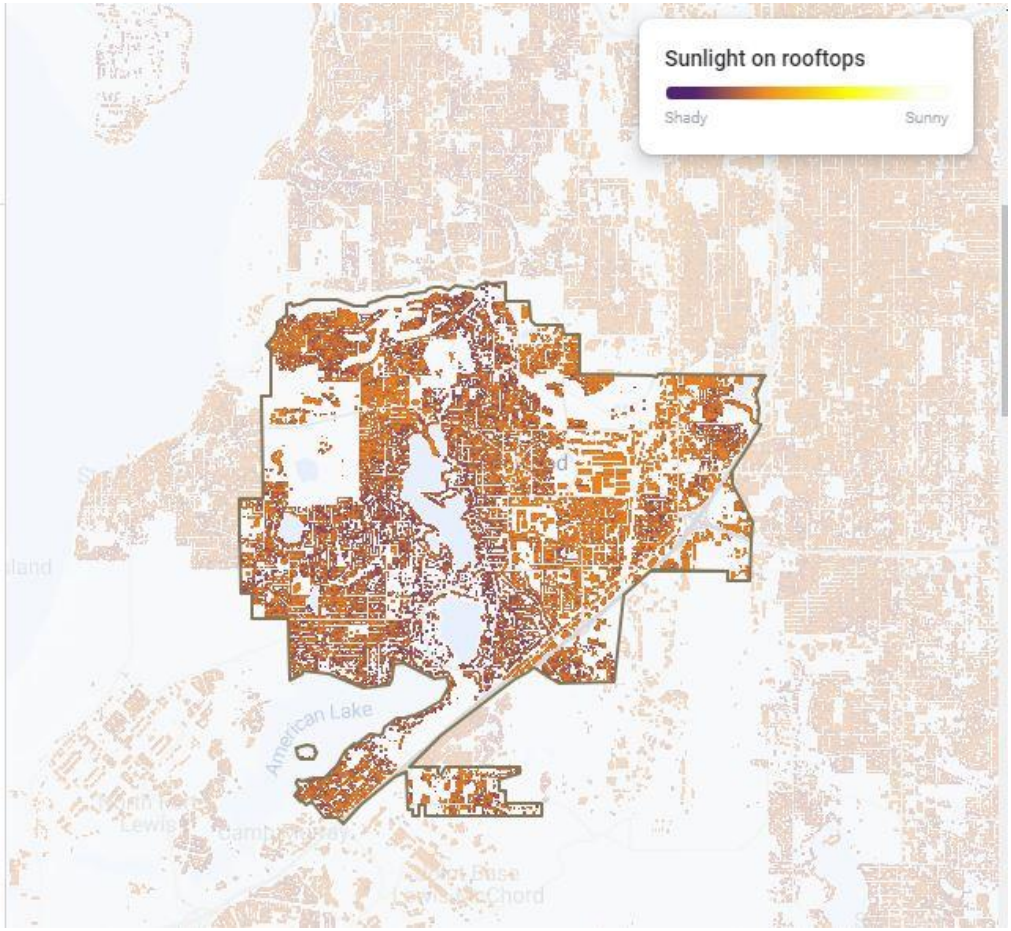
Carbon Offset Metric Tons	(Property) Count Qualified	KW Median	KW Total	Percent Covered	Percent Qualified
223,314	14,589	11.75	331,290	97.5%	80.3%

Notes: Google's definition of "technical potential" requires solar installation to meet the following criteria:

- Sunlight: every included panel receives at least 75% of the maximum annual sun in the area
- Installation size: Every included roof has a total potential installation size of at least 2kW.
- Space and Obstacles: Includes only areas with roofs that have space to install four adjacent solar panels.

Source: City of Lakewood Energy and Climate Change Chapter, 2021; Google EIE, 2024.

Exhibit D-11. Concentration of Sunlight on Rooftops in Lakewood



Source: Google EIE, 2024

Carbon Sequestration

To remove carbon emissions, the City analyzed how to improve carbon sequestration, which is the process of utilizing forested areas and tree canopy in designated open space areas, lawns/fields, and wetlands to remove carbon emissions from the atmosphere and store them back into the earth. Wetlands, such as the Fleet Creek Complex, can store a significant amount of carbon.

The City's forested areas and freshwater inland wetlands are protected or preserved through the City's open space policies, its shoreline master program, and its development regulations, including the tree preservation ordinance. However, the City does not yet consider the benefit of carbon sequestration within these resources and does not have an estimate of the amount of carbon removed from the atmosphere through these resources.

D.4.3 Options for Mitigation

A variety of GHG mitigation measures could be implemented to reduce the exposure to residents and work towards goals. The following measures could be applied to reduce GHG emissions:

GHG Emissions Reduction

- Reduce exposure to traffic through the implementation of mitigation strategies, such as reducing VMT, land use buffers, improved urban design, building design strategies, and decking / lids over highways and high-capacity roadways
- Develop and implement strategies to reduce vehicle trips, improve vehicle fuel efficiency, and facilitate rapid adoption of zero-emissions alternative fuel vehicles.
- Apply transit oriented development to include more walkable communities.
- Promote the integration of neighborhood commercial uses in residential areas.
- Coordinate with and support local and regional transit efforts with Pierce County, Sound Transit and WSDOT (Washington Department of Transportation) towards expanding public transit service to improve mobility and reduce reliance on the private automobile.
- Promote walking and bicycling as safe and convenient modes of transportation, improving bicycling, pedestrian, and transit access through support for safe routes and infrastructure investment.
- Work with energy providers (Puget Sound Energy, Lakeview Light & Power, and Tacoma Power) to develop strategies that reduce energy demand and promote energy conservation.
- Increase the amount of locally forested areas and tree canopy in the City's designated open space areas, lawns/fields, and wetlands to increase the removal of carbon emissions from the atmosphere, otherwise known as carbon sequestration.
- Provide incentives to add solar panel capacity on commercial and industrial buildings.
- Promote mixed-use and infill development in the Downtown and other major activity centers, along key commercial corridors and on vacant and underutilized parcels.
- Prioritize the use of green and sustainable development standards and practices in planning, design, construction, and renovation of buildings and infrastructure.
- Ensure that buildings use renewable energy, conservation, and efficiency technologies and practices to reduce greenhouse gas emissions.
- Use urban design to enhance open space and urban tree canopy, and incorporate strategic building placement.
- The City could develop pre-prepared housing plans for ADUs and other small, attached dwellings that minimize footprints and retain tree canopy to the extent feasible.

Adaptation Measures

- Develop a Hazards Management Plan that works toward developing a climate-resilient community.
- Increase green infrastructure to cool stormwater runoff and work to mitigate urban heat island effects. Examples include rain gardens, planter boxes, bioswales, permeable pavements, green streets and alleys, green parking, and green roofs. (U.S. Environmental Protection Agency (EPA), 2024)
- Develop and implement an urban heat resilience strategy that includes land use, urban design, urban greening and tree canopy expansion, and waste heat reduction actions.

- Consider project-specific mitigation measures to limit exposures to emissions sources, such as high-capacity roadways. Land use buffers or building design (e.g. air filtration, thicker sound transmission classes, other) could be included near high-impact areas such as industrial and other nonresidential zones.

D.5 Community Engagement Report

This section summarizes engagement activities and high-level themes of community input to inform an update to the City of Lakewood's Energy & Climate Change Chapter (ECCC) and conversations regarding middle housing in Lakewood. This is drawn from the summary memo about the implementation of the ECCC, which includes further details about individual engagement events.

Recommendations from community members regarding the ECCC are incorporated directly into the Implementation Plan. The following report summarizes additional takeaways. The engagement process included:

- **Stakeholder and community leader interviews** to gain an understanding of the landscape in Lakewood. The interviews were the primary strategy to recruit members to the Steering Committee.
- A **Steering Committee**, comprised of 10 individuals, to give recommendations on the ECCC Implementation Plan as well as input on the community engagement approaches. This group met four times and included participation by city staff.
- **Focus groups and pop-up events** to engage additional community members.

D.5.1 Recommendations for City-Led Community Engagement

The recommendations below summarize lessons learned from the engagement process for the ECCC implementation plan. They are informed by community input on best practices for engagement, lessons learned during the process, and from the steering committee.

- **Develop trusted relationships with organizations and community leaders:** The City should invest in infrastructure, including staffing and programming, to foster relationships with community groups. Equitable community engagement means supporting common goals, rather than informational transactions to collect information. Community members noted that past engagement with the City has been inconsistent. Intentional relationship building at a department level will enable the City to reach community members more easily for input on initiatives and future comprehensive plan updates, especially for community members who may not participate in conventional public participation processes, such as public hearings. It will also create a clearer communication channel for community members to request resources from the City, especially in historically underserved neighborhoods like Springbrook and Tillicum.
- **Conduct outreach to Korean businesses:** In addition to more intentional engagement with community leaders and organizations, outreach to small businesses is crucial for information and resource sharing. A stakeholder noted that some small Korean-owned businesses have struggled and not felt supported by the City, especially since the COVID-19 pandemic. While the International District has many businesses of different backgrounds, Korean businesses play are a vibrant part of

the City's diverse community fabric. Strong first steps include providing materials and outreach in Korean and building relationships with the Korean Women's Association, Multicultural Self-Sufficiency Movement, and other cultural organizations.

- **Track neighborhood investments:** Ensuring equitable distribution of investments is crucial for a sustainable future. For example, Springbrook is one specific neighborhood where community members feel forgotten and wish to see more investment from the City. To ensure equitable distribution, the City should develop publicly accessible tools that track community investment and engagement while inviting the public into funding decisions to ensure city decisions are transparent and coordinated. The City of Tacoma's Equity Index is an example of a publicly accessible data tracking system that helps decision makers prioritize investments. Developing consistent demographic questions for City surveys, including formalizing neighborhood areas, could be a helpful tool to track community member participation over time and provide consistent language for community members and staff to rely on when discussing City investments.
- **Continue to support innovative ideas from organizations:** Interviewees mentioned financial support and partnership as a positive role that the City has played for local organizations. Continuing to partner with organizations to meet community needs and invest in creative solutions are foundational steps to meeting the human services needs of a growing population.

D.5.2 Interview Summary

BERK contacted community stakeholders identified by city staff and the BERK team to conduct pre-engagement interviews. These interviews asked local stakeholders about previous engagement with the City and effective engagement strategies. Refer to the Appendix of the Implementation Plan memo for the full list of questions.

Interviews Conducted

Person	Organization	Organization Type
Rachel Lehr	Rebuilding Together South Sound	Community Organization
David Anderson	Tillicum Woodbrook Neighborhood Association	Neighborhood Association
Terry Love	NE Neighborhood Association	Neighborhood Association
Janne Hutchins	Living Access Support Alliance	Community Organization: Housing
Linda Smith	Lakewood Chamber of Commerce	Chamber of Commerce
Mary Moss	Lakewood Multicultural Coalition	Community Organization
Maureen Fife	Habitat for Humanity	Community Organization: Housing
Mandy Ma	Multi-Cultural Self-Sufficiency Movement	Community Organization
John DeVore	Lakeview Light & Power	Utility Company
LaTasha Wortham	Tacoma Public Utilities	Utility Company
Matthew Perry **Kristine Rompa**	Puget Sound Energy	Utility Company
Jeanine Adams	Pierce County Library	Library

Interview Themes

Themes from the interviews were summarized below but are in no order. We present notable quotes alongside themes to provide further illustration of the ideas shared.

Community Engagement: Successes

Interviewees generally had positive engagement experiences with the City.

The City hosts fun events that organizations are invited to.

- "I find Lakewood to be very adaptive and responsive to trying some new ideas… They're great at inviting community partners at events like 'Summerfest.' They have a lot of fun events that they host as well. Their farmer's markets are popular."

The City's financial support and partnership has been appreciated.

- "The City was one of the first organizations to put money aside to support nonprofits like ours."
- "[The City] has always been a good partner."
- "City staff at Lakewood are great!"

Lakewood is seen as a place where public participation is valued.

- "Public outreach is huge with the City."
- "If you are a recognized organization and contact the City, they always respond and have representatives at meetings."

Community Engagement: Challenges and Opportunities

However, some identified inconsistent engagement and support.

The City could improve its intentional outreach to communities of color.

- "There is a reputation that the City is not communicating with minority communities… They closed a lot of Korean small businesses, but the City says it's their issue and doesn't do much to provide small business support."
- "Lakewood has provided resource officers - people to connect folks to services. However, they often show up in uniform, and there is a definite fear and anxiety when they show up in uniform."

The City could improve on engaging the community members with the most needs.

- "The City does a good job reaching out to homeowners who engage with City staff, councilmembers and go to planning meetings, but I don't see the same level of effort for the neediest population."
- "We've been struggling to find some of the deeper residential bases and community groups [to connect to]. There's a lot more city level support in Tacoma to establish engagement with residents than in Lakewood. That makes it easier for service providers to do community-based work."

The City could improve on providing consistent support and uplifting community participation.

- "They have a heart for new agencies that are super Lakewood-focused. Once we get large enough, we are competing with other large agencies for the same funds. We really need Lakewood to continue to be supportive. We are the ones that will serve Lakewood."
- "It is important to make sure that community participation and decision making is clear. We don't want the [steering] committee to just make the City look good."

The City has unique engagement opportunities that they should utilize.

- JBLM and Camp Murry are huge, diverse communities.
- Working with employers on housing issues is essential. Homeownership provides stability, which is important to employers.

Housing and Climate Change

Housing is a major issue in the community.

- "I wish I saw more of an attempt by the City to support people who have lost housing… Did they have a plan to provide housing for people that were displaced [referencing the 2011 Tillicum Neighborhood Plan]?"

Some organizations and individuals discuss/consider climate change more than others.

- "We would like to be at the table when talking about residential and commercial planning. There are opportunities around resiliency and sustainability as areas are being redeveloped."

Tillicum Neighborhood

The Tillicum Neighborhood has a division between rich and poor.

- "People live on waterfront and others are united by poverty."

The Library is an important part of Tillicum.

- "The library location in the community center is essential… the City has strong interest in maintaining the library in Tillicum."
- Some people feel unsafe walking around the library in the dark on the stretch of Union. It's by a bus stop and lacks sidewalks.

D.5.3 Steering Committee

The Steering Committee led identifying engagement strategies and planning policy design around climate and housing. Steering Committee members were intentionally selected from the pre-engagement interviews. They also provided feedback on best practices for equitable engagement.

The Committee met four times over four months. These meetings were organized by the following topics:

- Kick Off: February 24, 2023
- Priorities Exercise and Engagement Workshop: March 28, 2023

- Recommendations Draft Report Out: May 9, 2023
- Engagement Findings Report Out and Next Steps: May 30, 2023

City staff participated in the meetings as equal members and listened to community feedback.

Committee Members

Person	Organization
Alex Harrington	Master Builders Association of Pierce County
Amy Tousley	Puget Sound Energy
Janne Hutchins	Living Support Access Alliance (LASA)
Jason Gano	Master Builders Association of Pierce County
Jesse Black	Springbrook Connections
LaTasha Wortham	Tacoma Public Utilities
Mandy Ma	Self-Sufficiency Multicultural Movement
Rachel Lehr	Rebuilding Together South Sound
Sarah LaBrasca	Lakeview Light and Power
Tod Wolf	Business owner of Rodi's Cameras

D.5.4 Survey

From May 11th to June 11th, 2023, BERK conducted a community survey in Lakewood to identify climate resiliency and housing priorities. The survey was translated into Spanish and Korean and offered a raffle prize to encourage participation. This section presents the survey findings from 163 valid responses.[2]

The survey had four quantitative questions and two qualitative questions, as well as demographic questions.

[2] The survey attracted many computer-automated responses, likely as a means for non-residents to win the raffle prize. Analysts reviewed all responses and flagged invalid responses based on a set of criteria, such as having duplicate or non-sensical answers in open survey questions.

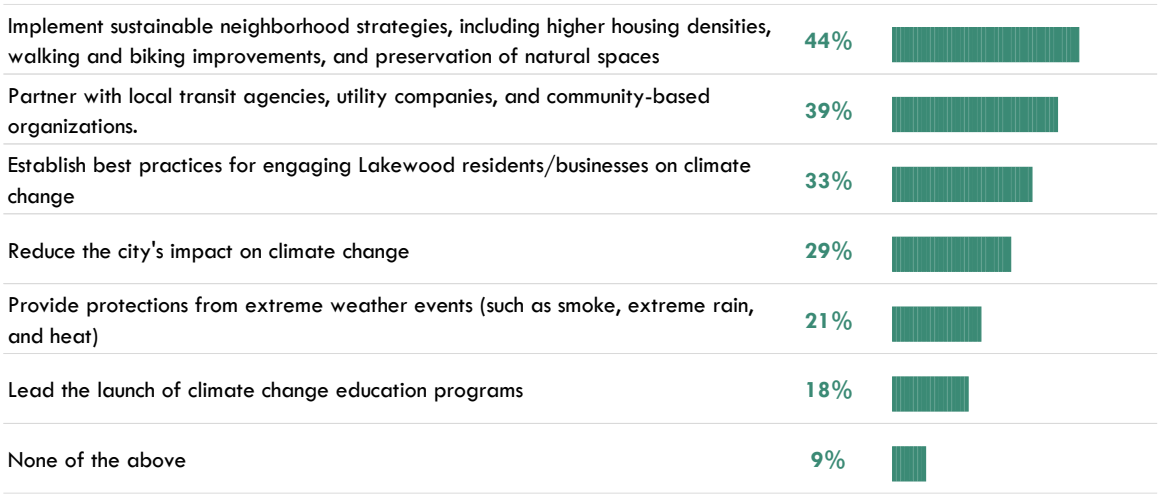
Survey Question Responses

Exhibit D-12. Respondents' Priorities for the City of Lakewood to Address Climate Change (n=163)Exhibit D-12 shows survey respondents' priorities for the City of Lakewood to address climate change. The top three priorities that respondents would like to see are implementing sustainable neighborhood strategies (44%), partnering with local transit agencies, utility companies, and community-based organizations (39%), and establishing best practices for engaging the Lakewood community on climate change (33%). Additional priorities listed in open responses include:

- Make funding available for homeowners to update their homes.
- Planting more trees.
- Using solar panels for schools.

Exhibit D-12. Respondents' Priorities for the City of Lakewood to Address Climate Change (n=163)

What do you think the City of Lakewood should prioritize when addressing climate change?

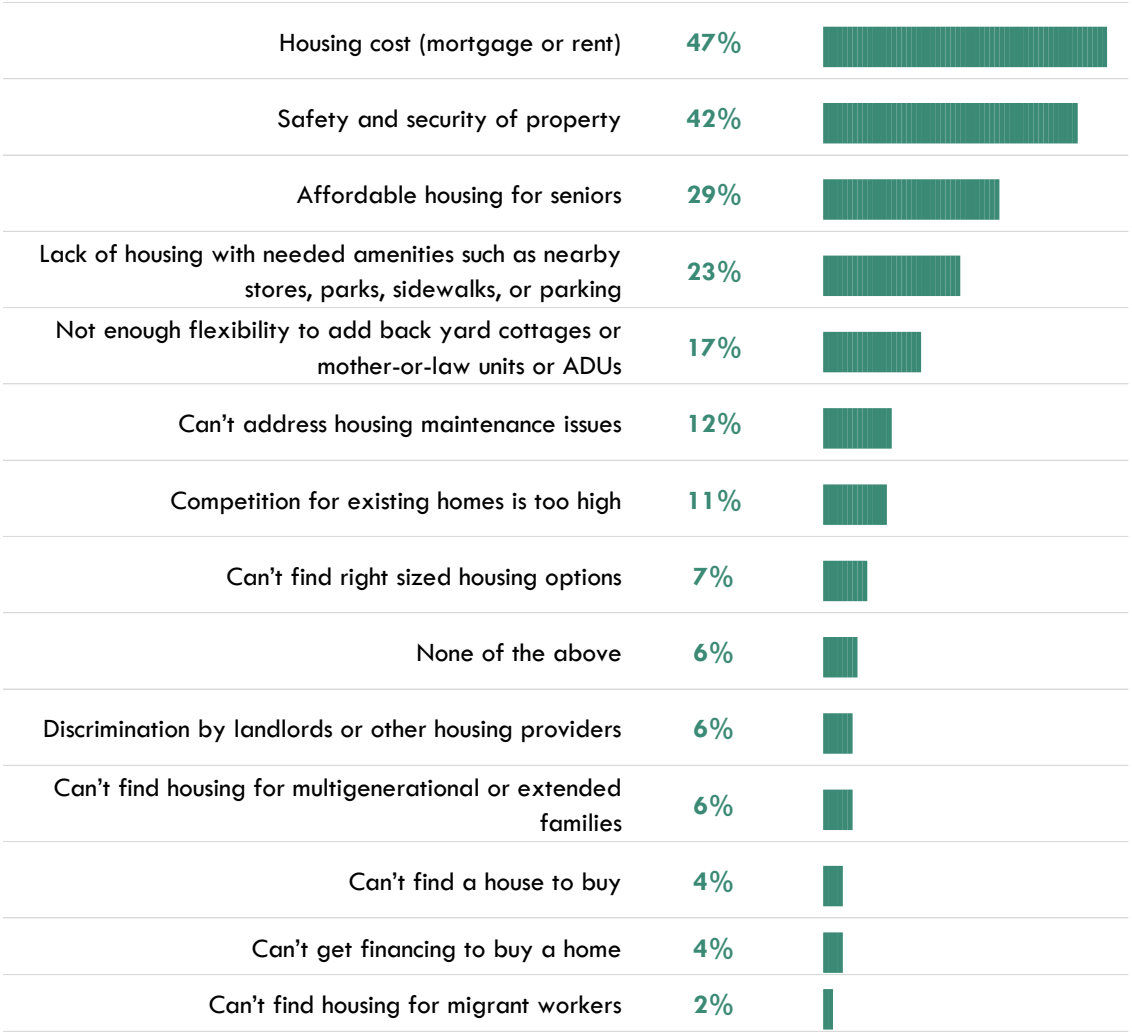


Source: BERK, 2023

Exhibit D-13 shows respondents' opinions on Lakewood's greatest housing challenges. Almost half (47%) say the cost of housing, followed by the safety and security of property (42%). More than a quarter of respondents (29%) said that affordable housing for seniors is one of Lakewood's greatest housing challenges.

Exhibit D-13: Respondents' Opinions on Lakewood's Greatest Housing Challenges (n=163)

What are Lakewood's greatest housing challenges?

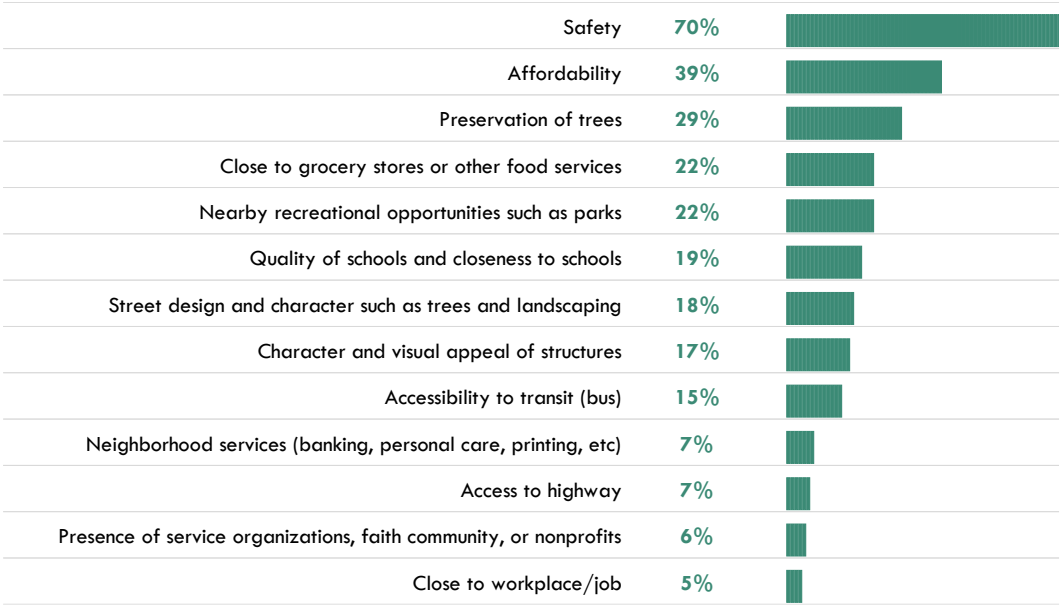


Source: BERK, 2023

Exhibit D-14 shows survey respondents' most important neighborhood characteristics. Most respondents (70%) said safety was most important. Affordability was also important to survey respondents (39%). At least one-fifth of respondents said that the preservation of trees, being close to grocery stores or other food services, and being nearby to recreational opportunities like parks were important to them (29%, 22%, and 22% respectively).

Exhibit D-14: Respondents' Most Important Neighborhood Characteristics (n= 163)

What neighborhood characteristics are most important to you?



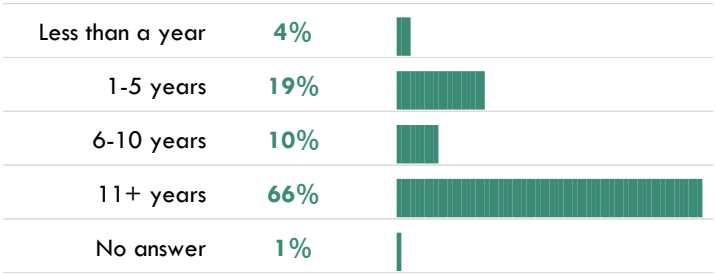
Source: BERK, 2023

Demographics of Survey Respondents

Exhibit D-15 shows the length of time that survey respondents' have lived in the City of Lakewood. Most respondents (66%) have lived in Lakewood for 11 years or more. Almost one in five respondents (19%) have lived in Lakewood for 1-5 years. Only 4% of survey respondents have lived in Lakewood for less than a year.

Exhibit D-15: Length of Time of Respondents Living in Lakewood (n=163)

How long have you lived in Lakewood?

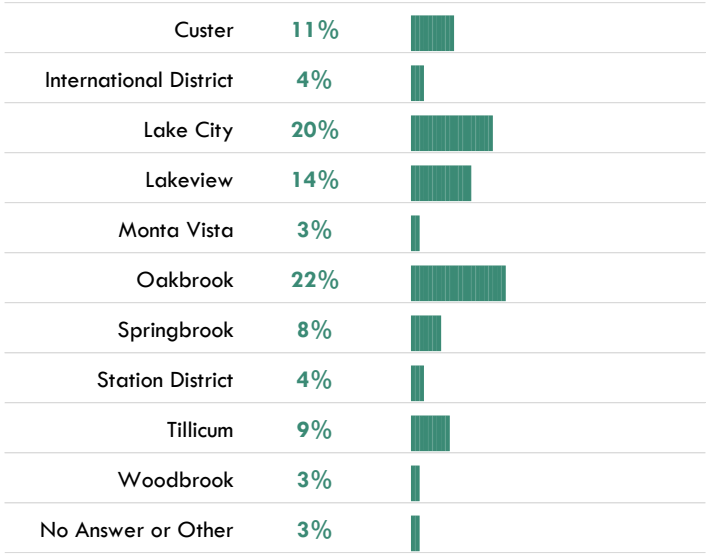


Source: BERK, 2023

Exhibit D-16 shows the neighborhoods that survey respondents live in. One-fifth of survey respondents live in either Lake City or Oakbrook, with a spread through other neighborhoods in the City of Lakewood.

Exhibit D-16: Neighborhood of Respondents (n=76)

Which neighborhood do you live in?

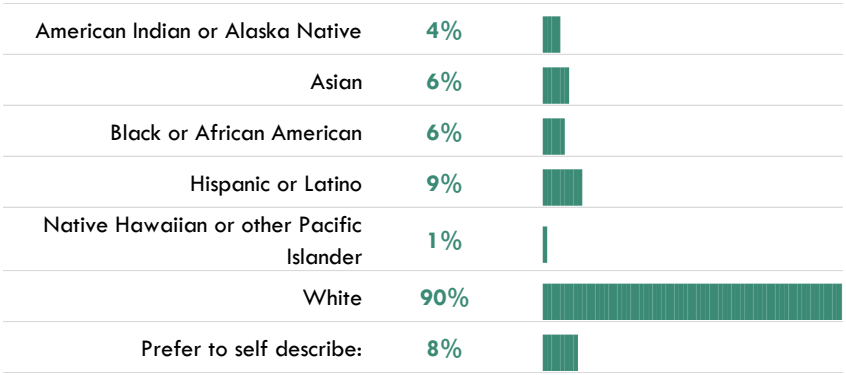


Source: BERK, 2023

Exhibit D-17 shows the race and/or ethnicity of survey respondents using Census categories. Most of the survey respondents identify as White (90%), 9% identify as Hispanic or Latino, while 6% identify as Asian or Black/African American.

Exhibit D-17: Respondents' Race and/or Ethnicity (n=146)

What is your race and/or ethnicity? (choose all that apply)

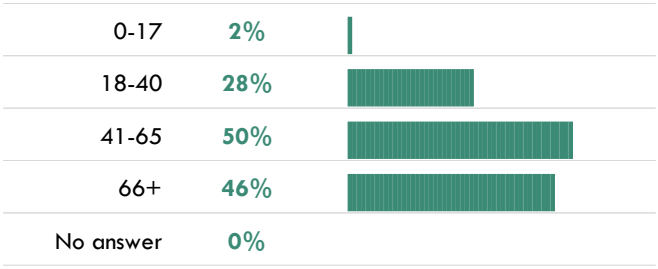


Source: BERK, 2023

Exhibit D-18 shows the survey respondents' age. Half of respondents (50%) are 41-65. A little less than half (46%) of survey respondents are ages 66 or older.

Exhibit D-18: Respondents' Age (n=161)

What is your age?

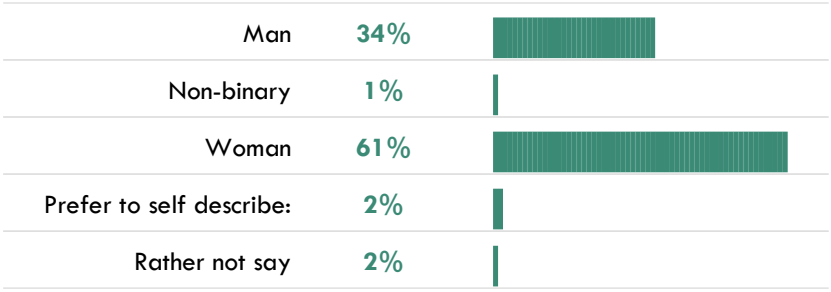


Source: BERK, 2023

Exhibit D-19 shows survey respondents' gender identity. Most survey respondents (61%) identify as a woman, 34% identify as a man.

Exhibit D-19: Respondents' Gender Identity (n=161)

How do you describe your gender identity?



Source: BERK, 2023

Open-Ended Comments

The survey asked all respondents to share how they have been impacted by recent climate change events like heat, smoke, extreme precipitation, and reduced snowpack. The survey also asked if there was anything else respondents would like to share with the City of Lakewood regarding climate change or housing.

The following includes common themes that were reflected in a notable number of respondents' comments. The quotes are illustrative of the ideas shared.

Impacts from Recent Climate Change Events

A total of 136 survey respondents provided input, with several categories of responses:

Common themes

- **Smoke:** Respondents commonly mentioned the adverse effects of wildfire smoke, especially for people with asthma or other respiratory issues. Other effects include itchy or watery eyes and having to stay inside.
- **Heat:** Respondents noted the increasing frequency of hotter temperatures in the city. Many mentioned the need for air conditioning or a heat pump, as well as increasing electric bills and water usage.
- **Have not been affected:** Some respondents noted that they have not been impacted by climate change.

Other responses

- **Floods and droughts:** Some respondents noted the occurrence of increased rainstorms and droughts have impacted their lives. One respondent noted the "spread of invasive species" while another noticed "mold and moss" flourishing after heavy rain.

Other Comments for the City of Lakewood

119 survey respondents provided input.

Common themes

- **Lack of affordable housing.** The most common response was the unaffordability of housing, including rising rents and unable to find affordable housing. A few respondents noted that they think landlords to have too much power or that rents should have a cap.
- **Importance of preserving tree canopy:** Some respondents noted the importance of protecting trees. A few specifically called out being disappointed in seeing warehouses replace trees.

Other responses

- A few respondents said that climate change is not real, or there are other issues Lakewood should focus on.
- Other individual responses included a desire to see more transit options and for Lakewood to work with non-profit organizations and affordable housing initiatives.

D.5.5 Pop Up Events and Focus Groups

BERK Consulting reached out to Lakewood community partners to participate in local neighborhood, or pop-up, events and hold focus groups through the month of June. The goal of these events was to have a wider conversation around housing and climate resiliency challenges and opportunities in Lakewood while gathering input for the ECCC Implementation Plan.

Event	Date of Event	Type of Event
Springbrook Connections residents	May 18	Focus Group
Clover Park Technical College	May 25	Pop Up
Affordable Housing Consortium	June 6	Focus Group
Lakewood Youth Summit	June 10	Pop Up
Lakewood Community Collaboration	June 14	Focus Group

Structure

At the pop-up events, BERK had two poster boards each with a question for individuals who stopped by. These questions were:

- Strengths and challenges of Lakewood's housing options
- How have you been impacted by climate change? What recommendations do you have to the City?

At the focus groups, BERK focused on similar questions.

- How have you or people that you know been impacted by recent climate events?
- What can the City do to help address those concerns raised?

Pop Up and Focus Group Themes

The major themes about climate change and housing from these events are summarized below.

Climate Change

- Higher temperatures and effects from wildfire smoke were the two main issues that community members discussed at all pop-up events and focus groups.
- Older residents and people with respiratory issues are especially impacted by increasing wildfire smoke.
- There is a growing need for air conditioners, but many residents cannot afford to purchase and run A/C. Some even mentioned not being allowed to run air conditioning in their apartments.
    - Puget Sound Clean Air used to hand out box fans for free but are no longer able to do so.

Housing

- Lakewood is a great place to live because of its proximity to neighborhood amenities, work, and good parks.
- Lakewood is getting more expensive. Finding affordable housing in Lakewood is difficult.
- There is a need for programs to help residents with homeownership and renting costs.

D.6 Policy Review

The Energy and Climate Change Chapter (ECCC) has over 96 action items to address climate change. A core goal of this plan is to work with community-based organizations and local agencies in establishing a priority framework for the plan. The implementation framework and strategies are a culmination of input from the Steering Committee, community outreach, and internal review.

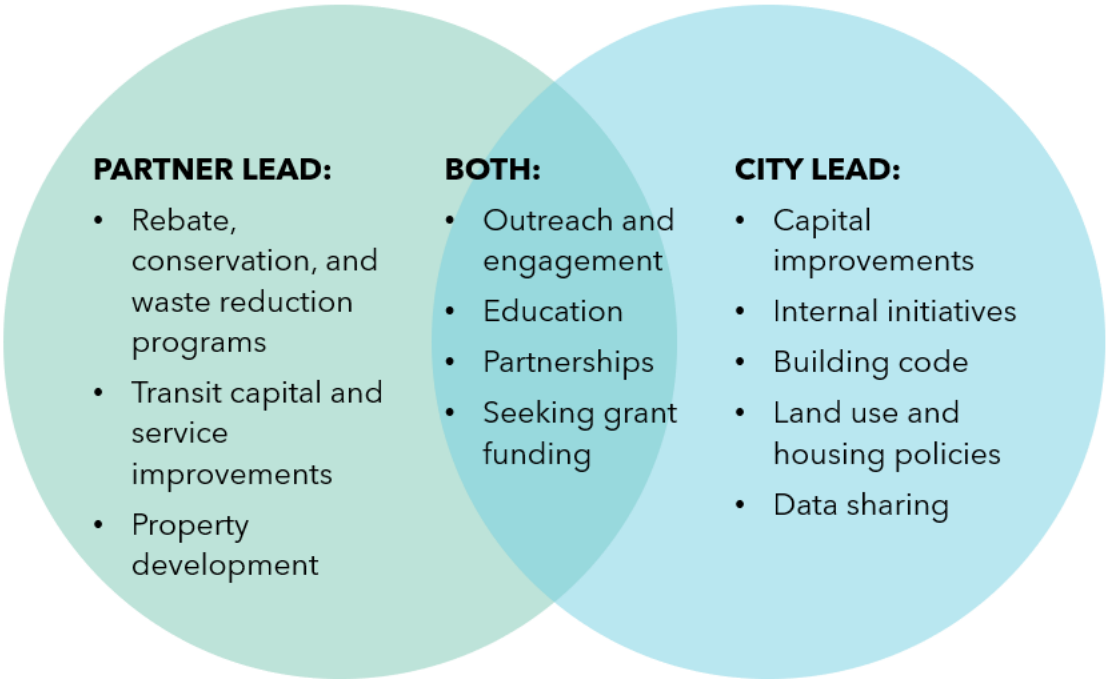
D.6.1 Process

First, the Steering Committee held a 2-hour workshop where each committee member reviewed each chapter of the ECCC in small groups. BERK reviewed the comments and created an implementation framework for the policy strategies (see next section). After the Steering Committee reviewed the framework, BERK conducted a deeper strategy analysis of each action item to group strategies into categories and prioritize strategies.

D.6.2 Recommendations Rationale

The recommendations for the implementation plan were made in combination with feedback from the Steering Committee and a policy review of the plan. The implementation framework was created with the lens of understanding where decision making lies. Priority action items were identified by understanding where the City can take a lead, where community partners could lead, or where both could lead. Exhibit D-20 shows a Venn diagram outlining the roles of the City of Lakewood and the service providers, and where both can partner to address climate change.

Exhibit D-20. Recommendations Rationale



D.6.3 Implementation Framework and Strategies

The Implementation Framework consists of four themes and eight strategies. Each action item was sorted into a theme and strategy, and then given a priority ranking. A “high” priority indicates an action item the Steering Committee supported. A “low” priority indicates an action item that the City should not prioritize. A “medium” was in between a high and a low. Potential partners on action items were also identified.

Framework Themes

The Steering Committee established four key themes in framing implementation policy recommendations for Lakewood. The purpose of the framework is to provide a rationale of how Lakewood can increase climate resiliency and mitigate greenhouse gas emissions.

- **Collaborate and Partner:** Addressing climate change involves everybody. The ECCC identifies the roles of various public agencies within Lakewood in mitigating climate risk and adapting to extreme weather events. The City should work with transit agencies, utility agencies, and private developers to establish best practices for a greener Lakewood. Furthermore, the Steering Committee recognized that addressing climate change cannot happen without community participation. Future advocacy, education, and engagement require local partnerships to establish a vision for a more equitable, sustainable Lakewood.
- **Design Sustainable Neighborhoods:** The City can play a leadership role in establishing land use patterns that increase social and economic opportunity, access to open/green spaces, and placemaking opportunities. There are numerous planning efforts to promote smart growth strategies, including the Non-Motorized Plan Update, the Critical Areas Ordinance review, and various elements of the Comprehensive Plan.
- **Prioritize Climate Resiliency:** The Steering Committee identified the need to prioritize climate resiliency. This includes actions to reduce emissions that cause climate change and actions to manage climate change impacts. Additional data related to measuring factors contributing to climate change should be made available for the public to support additional planning efforts.
- **Educate and Engage:** Public education was a core theme from the review of the implementation plan by the steering committee. The City can take a lead in providing educational materials on conserving resources, marketing campaigns, and data sharing. The City can also continue to partner with housing and service providers to support equitable outreach and engagement efforts.

Implementation Strategies

The strategies for this framework outline clear actionable steps for the City to take in addressing climate change. Under each strategy are a series of policy items associated with each action item. This section outlines core takeaways, associated action items, and next steps. Based off feedback from the Steering Committee and the policy review, the following steps are recommended for strategy implementation of the City’s ECCC.

Community Engagement and Collaboration (High priority): City staff shall work with community-based organizations on programmatic recommendations. Community engagement should continue to be a top priority for Lakewood with future planning efforts, particularly around non-motorized transportation improvements across I-5. A core key theme from initial interviews was that the City has been a great partner for local organizations in the past. This should continue over into local programming events (urban agriculture, park events, education, and resources) and work with business organizations. Partnerships with developers will also be critical to support public amenities for green infrastructure.

Education, Data, and Information (High Priority): Education and data was another top priority identified by the Steering Committee. It involves equal partnership from the City, community-based organizations, and utility companies to build resident and business capacity to understand the impacts of climate change. The City can also establish dashboards and data sets to inform climate vulnerability and resiliency wins within the City.

Agreements and Partnerships (Medium priority): The City shall work with partners identified in the ECCC. The City can partner with the following agencies and organizations to develop a more climate-resilient community:

Transit agencies (Pierce Transit, Sound Transit, WSDOT, Amtrak): Transit agencies lead the design of the City's local and regional transit connections. Transit improvements should be aligned with land use policy designs to foster more walkable neighborhoods.

Utility companies (Lakeview Power, Tacoma Public Utilities, PSE): The City can work with utility companies to support waste reduction programs, water conservation efforts, and energy efficiency improvements. Utility companies can also develop strategies to manage energy demand.

Clover Park School District: Lakewood can partner with the Clover Park School District in anti-idling programs for buses.

Community-based Organizations: Climate resiliency is tied to the social and economic success of the City's residents and communities. The City can work with workforce development programs to promote green jobs, and collaborate with service providers in providing resources and information.

Comprehensive Plan Update (Medium priority): A majority of the action items identified a need to adopt new development standards for walkable neighborhoods, green building regulations, and energy efficiency. The City can adopt these standards through its Comprehensive Plan update. These policy recommendations should be incorporated into other Comprehensive Plan elements.

Grant Funding (Medium priority): The City shall take the lead to identify grant funding opportunities and should work with local organizations and partners in applications. Grant funding opportunities should focus on non-motorized improvements across I-5, street network improvements for transit, renewable energy sources, and the development of community education tools.

Internal City Initiatives (Low priority): 11 of the action items in the ECCC called for internal city initiatives on how the municipality can reduce its own greenhouse gas emissions and carbon footprint. These action items do not provide a direct impact on the overall Lakewood community. However, the City can

be a green business leader as one of the largest employers in the city on sustainable practices. The City should remove these action items from the ECCC and use them as a framework for its own internal green initiative.

Remove: (Low priority): There are eight ECCC action items that referenced others as redundant strategies. These should be removed from the ECCC.

Exhibit D-21, below, shows a total count of how each of the 96 Action items in the ECCC are sorted into implementation strategies, themes, and priorities. The top priority strategies for the implementation plan are rooted in community engagement, collaboration, and providing education, data, and resources. The City should lead as a convener of local and regional partners in building a collective movement for a thriving sustainable city rooted in social and economic success. The City should also be a local and regional advocate for policies that develop multimodal transportation networks with supportive land use decisions. Finally, the City should uplift community voices through supportive neighborhood programming efforts to establish a collective understanding on how to address climate change and build resiliency.

Exhibit D-21. Implementation Plan Framework

		THEME				PRIORITY		
STRATEGY	COUNT	Collaborate and Partner	Design Sustainable Neighborhoods	Prioritize Climate Resiliency	Educate and Engage	High	Medium	Low
Agreements and partnerships	16	12	0	4	0	6	7	3
City Initiative	11	2	0	9	0	0	10	1
Community Engagement and Collaboration	15	9	2	1	4	13	3	0
Comprehensive Plan Update	32	1	10	19	1	22	9	0
Education, Data and Information	6	4	1	0	1	6	0	0
Grant Funding	8	1	3	3	1	1	7	0
Remove	8	1	1	6	0	0	0	8
TOTAL	**96**	**30**	**17**	**42**	**7**	**48**	**36**	**12**

Source: BERK 2023

E Housing

E.1 Introduction

The Housing Element sets the stage for a vibrant, sustainable, family-oriented community through the balanced allocation of land for a variety of housing types affordable to all household incomes. It accommodates growth and promotes the use of transit amenities in the city. Housing and retail or commercial development may be interwoven in some areas where they would mutually benefit one another; elsewhere, different land uses remain discrete to meet other goals.

E.2 Housing Needs Assessment

E.2.1 Overview

Lakewood possesses a diverse housing stock with a wide range of unit types and prices, most of which were constructed prior to incorporation in 1996. The inventory includes large residential estate properties, single-family homes of all sizes, some townhouses, semi-attached houses, low- and mid-rise apartments, and high-density apartments.

The Housing Element is based on an assessment of Lakewood's current demographics and existing housing stock. It also is consistent with:

- the GMA;
- the MPPs and Regional Growth Strategy included within VISION 2050;
- the Pierce County CPPs; and
- other elements of the Lakewood Comprehensive Plan.

The city is required under the GMA to plan towards specific housing targets to address expected growth over the next 20 years. These targets include:

- Overall estimates of the housing necessary to meet population growth.
- Targets for housing affordable across different economic segments of the population, reflecting a variety of residential densities and housing types, as well as preservation of existing affordable housing.
- Needs for housing to meet specific needs for housing insecure groups, including permanent supportive housing (PSH) and emergency shelter beds.

These targets have been adopted as part of the Pierce County CPPs for Pierce County, with the breakdown of housing by income category and specific needs provided under Pierce County Ordinance 2023-22s.

E.2.2 Population

Overview

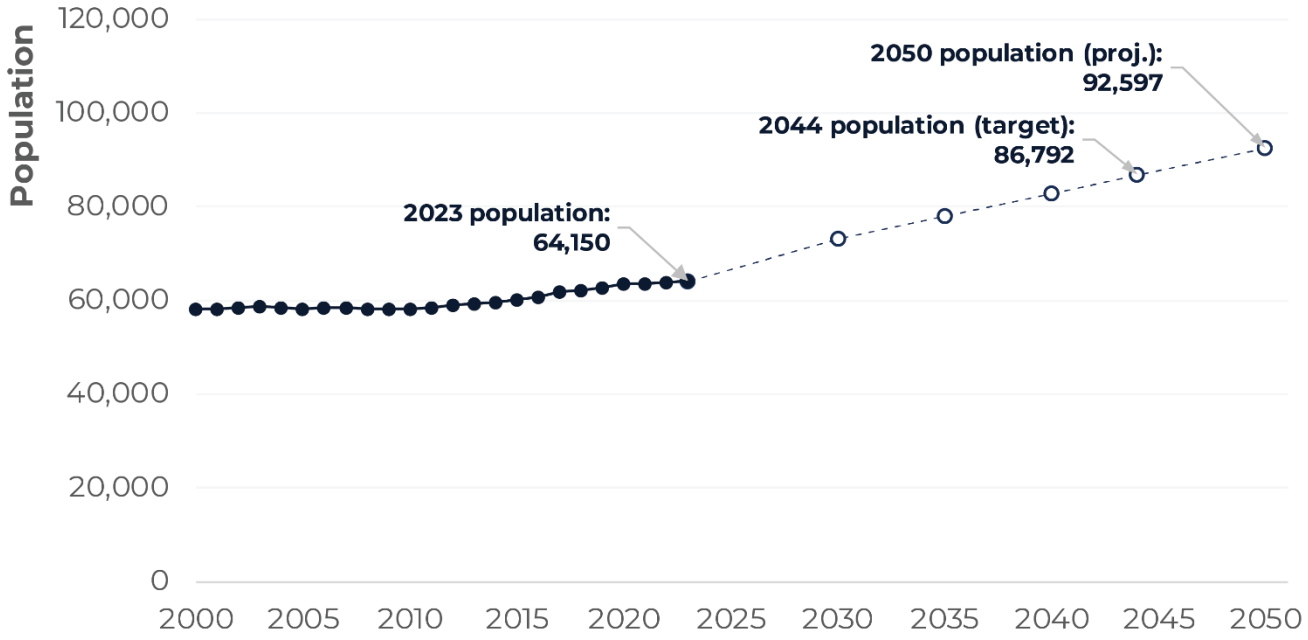
The following exhibits highlight details about the population of Lakewood, including population counts, projected targets, and age and race/ethnicity characteristics. From this information, there are several findings that are relevant looking at future housing needs:

- Exhibit E-1 provides the current population of Lakewood and expected population in 2044 under the current CPPs, as well as a projected population to 2050 according to the Puget Sound Regional Council.
- Exhibit E-2 shows the population of Lakewood divided according to age cohorts in 2022, with a comparison to the proportions found in Pierce County as a whole.
- Exhibit E-3 highlights the proportion of city residents by immigration status in 2022, including the proportion of naturalized citizens and non-citizens in the city.
- Exhibits E-4 to 6 provide the breakdown of the population of the city by race and ethnicity in 2022, and provide a comparison to the breakdown by race in 2017 and in the County as a whole in 2022. (Note that the figures for "Hispanic/Latino" include people across all racial groups.)
- Exhibit E-7 provides statistics on the current veteran population in the city by age group in 2022, with a comparison to the Pierce County average.

These statistics highlight the following:

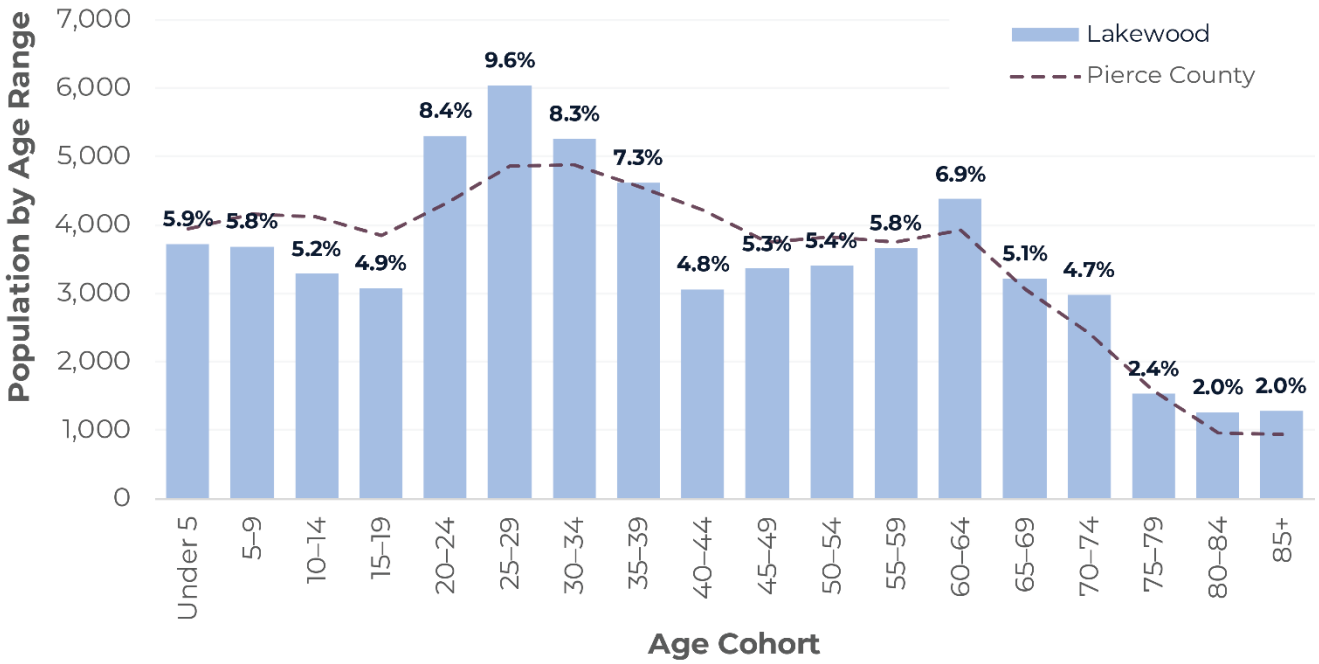
- **Lakewood has had notably low population growth.** Exhibit E-1 highlights population trends for Lakewood. Overall, this highlights that Lakewood has had low population growth, amounting to about 0.7% per year since 2016 and 0.4% since 2000.
- **Expected population targets are significantly higher than historical population trends.** Exhibit E-1 also highlights that under the recently approved Countywide Planning Policies for Pierce County, it is expected that Lakewood's population will grow to 86,792 total residents by 2044. This represents a growth rate of about 1.4% per year, which is a significant increase over recent historical trends.
- **The local population has a disproportionate number of younger adults.** Exhibit E-2 highlights the age profile of Lakewood residents, with a comparison to the average for Pierce County as a whole. In comparison to other communities, Lakewood has a greater proportion of residents that are 20–29 years old. There is also a higher proportion of residents 60 years of age and older. This is possibly tied to the proximity to Joint Base Lewis-McChord (JBLM), both with younger service members living off-base and older veterans living closer to available veterans' facilities, but can also relate to the availability of both affordable housing and high-amenity lakefront housing.

Exhibit E-1. Current and Projected Lakewood Population, 2000–2044.



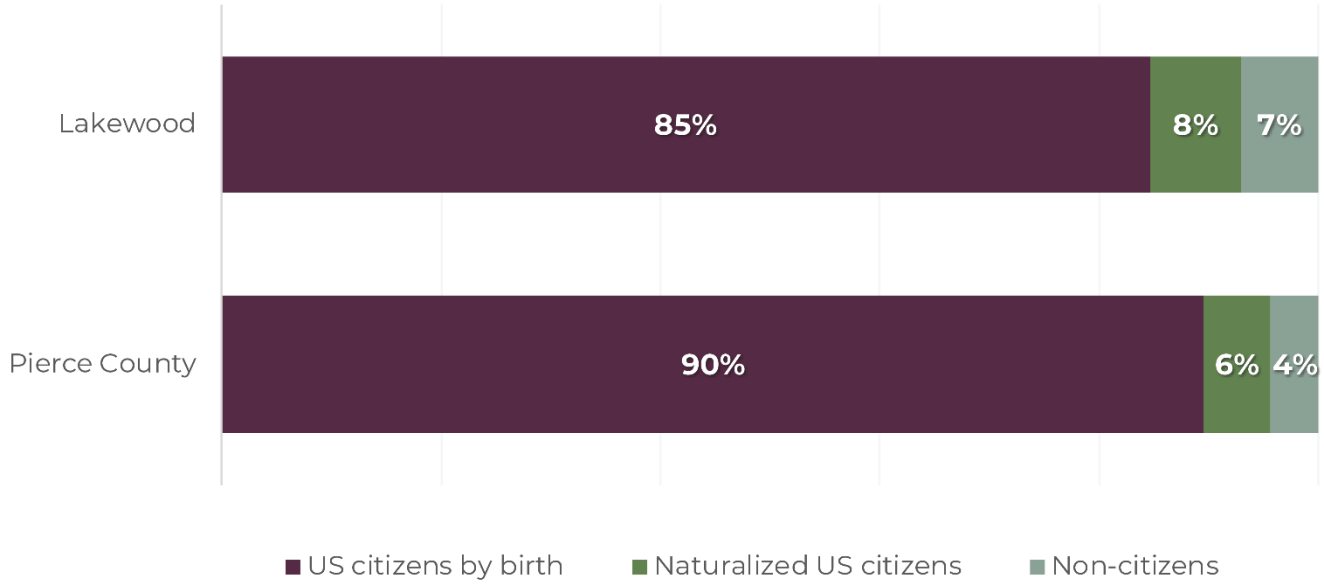
Source: WA Office of Financial Management, 2024

Exhibit E-2. Age Cohorts in Lakewood and Pierce County, 2022.



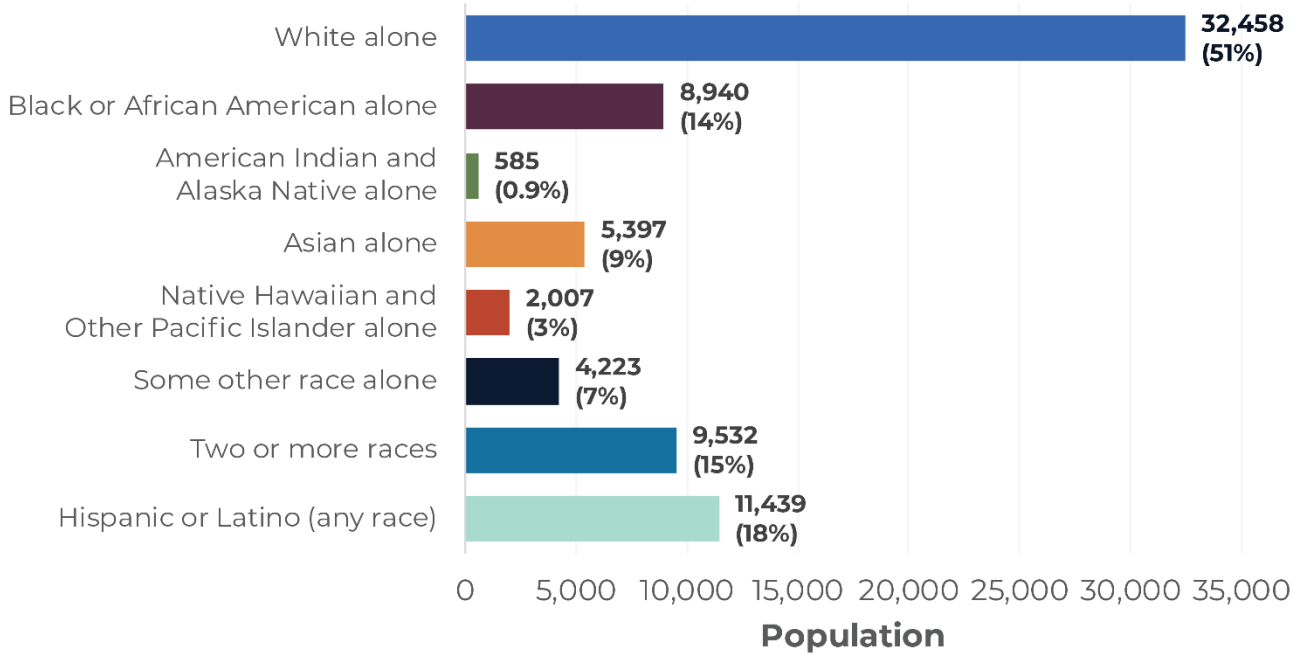
Source: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates

Exhibit E-3. Lakewood and Pierce County Population by Citizenship Status, 2022.



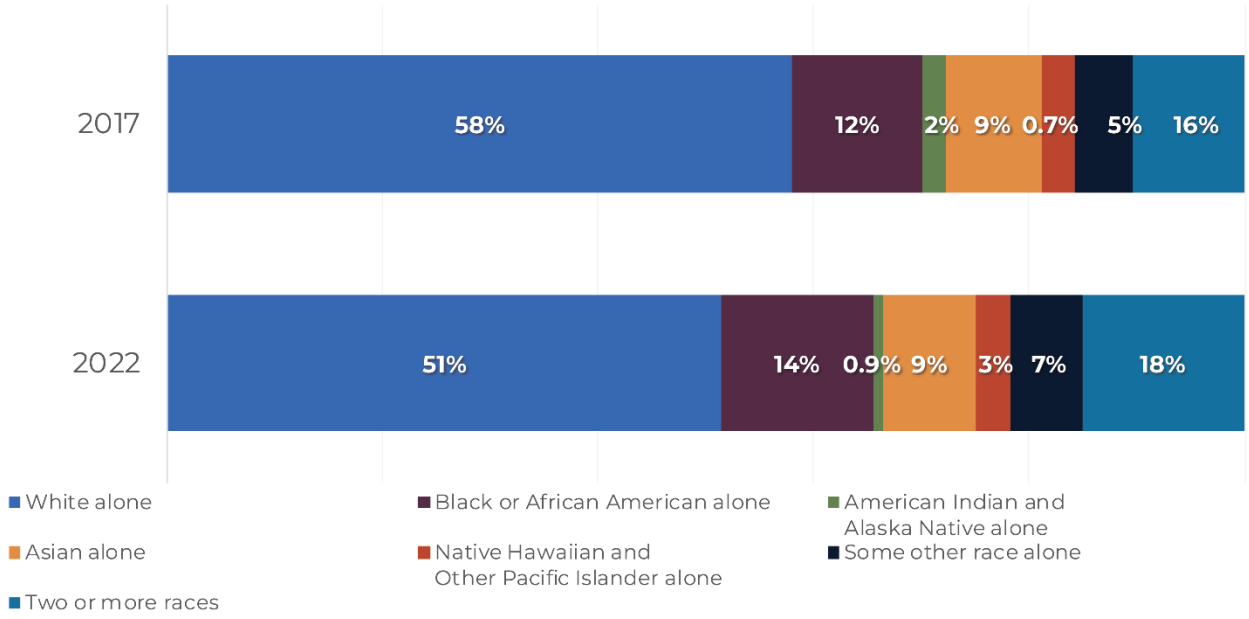
Source: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates

Exhibit E-4. Lakewood Population by Race, 2022.



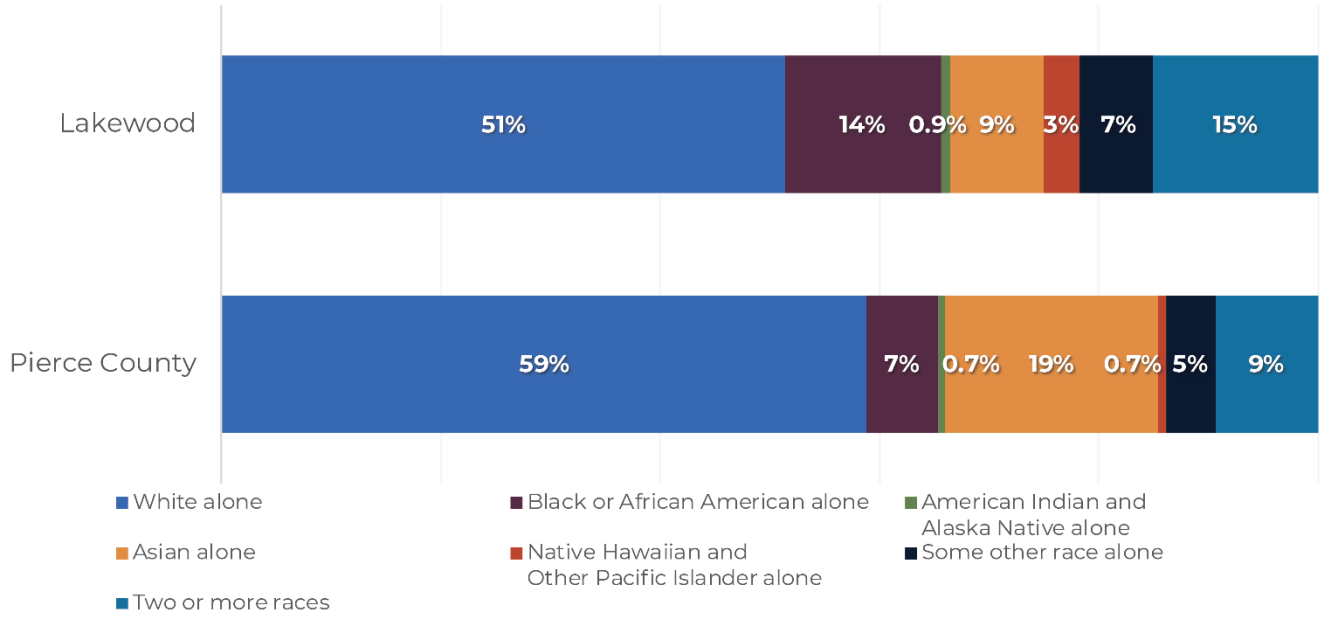
Source: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates

Exhibit E-5. Lakewood Population by Race, 2017 and 2022.



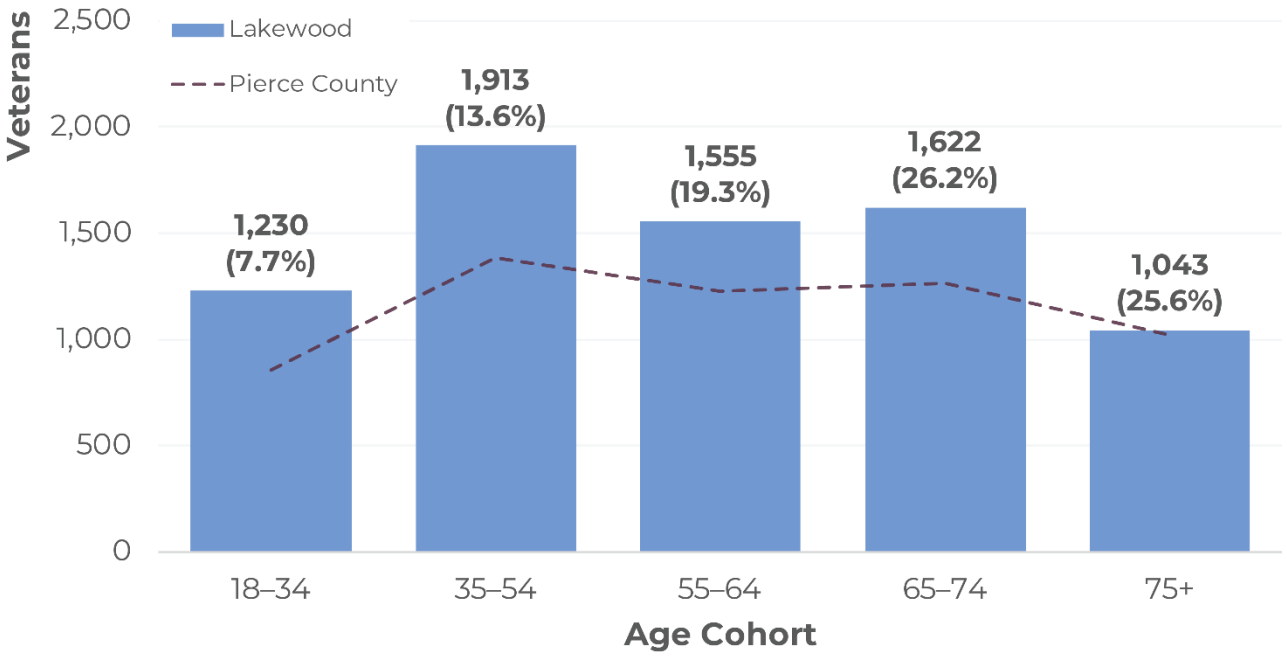
Source: US Census Bureau, 2018-2022 and 2013–2017 American Community Survey 5-Year Estimates

Exhibit E-6. Lakewood and Pierce County Population by Race, 2022.



Source: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates

Exhibit E-7. Lakewood and Pierce County Veteran Population by Age, 2022.



Source: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates

- **The community is becoming more diverse in Lakewood.** Over the past decade, Lakewood has become notably more diverse. There has been a decline in both the proportional and total number of white residents by racial category (from 58% in 2017 to 51% in 2020), while other populations of people of color have increased over time. Lakewood is also home to a higher percentage of Black, Indigenous and people of color compared to Pierce County in 2022, as shown in Exhibit E-6, and a higher proportion of foreign-born residents (Exhibit E-3).
- **Veterans form a key part of the population of the city.** Exhibit 8 provides a comparison between the proportion of veterans by age in Lakewood versus Pierce County has a whole. While the oldest veterans are represented at rates comparable to the county overall, Lakewood has a greater proportion of veterans in its population between the ages of 18 and 74. This is due in part to the presence of JBLM, including the availability of services to veterans in the community.

E.2.3 Households

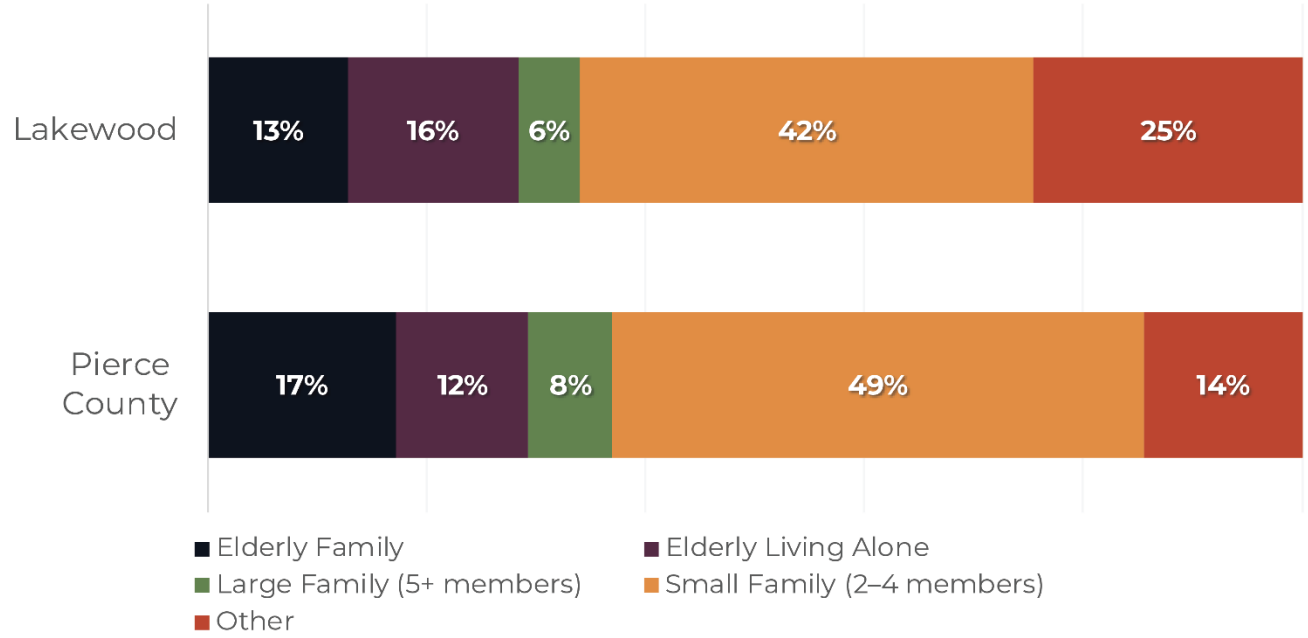
The following exhibits highlight major characteristics of households in Lakewood, with a focus on household income and tenure.

- Exhibit E-8 provides the proportion of households in the city and Pierce County in 2022 by general category, including types of families, elderly residents living alone or in a family, and other types (including people living alone and with roommates).
- Exhibit E-9 relates the total number of households in each category and provides a breakdown of these households by tenure (e.g., whether they rent or own).
- Exhibit E-10 provides median household incomes for Lakewood and Pierce County in 2022, divided between families and non-family households. (As above, "nonfamily" households include people living alone or with roommates).
- Exhibit E-11 gives the distribution of household incomes for Lakewood in 2022, with a reference for the Pierce County average also included.
- Exhibit E-12 provides the proportion of renter and owner households in 2020 by general income category (from "extremely low-income" to "above median income") for Lakewood and Pierce County.
- Exhibit E-13 highlights the divide between renter and owner households in Lakewood in 2020 by race and ethnicity. (Note in this chart, "Hispanic or Latino" is not combined with other categories.)
- Exhibit E-14 presents a breakdown of renter households in Lakewood by race/ethnicity and income category in 2020.

Conclusions based on this information are important to consider when developing new housing goals and policies:

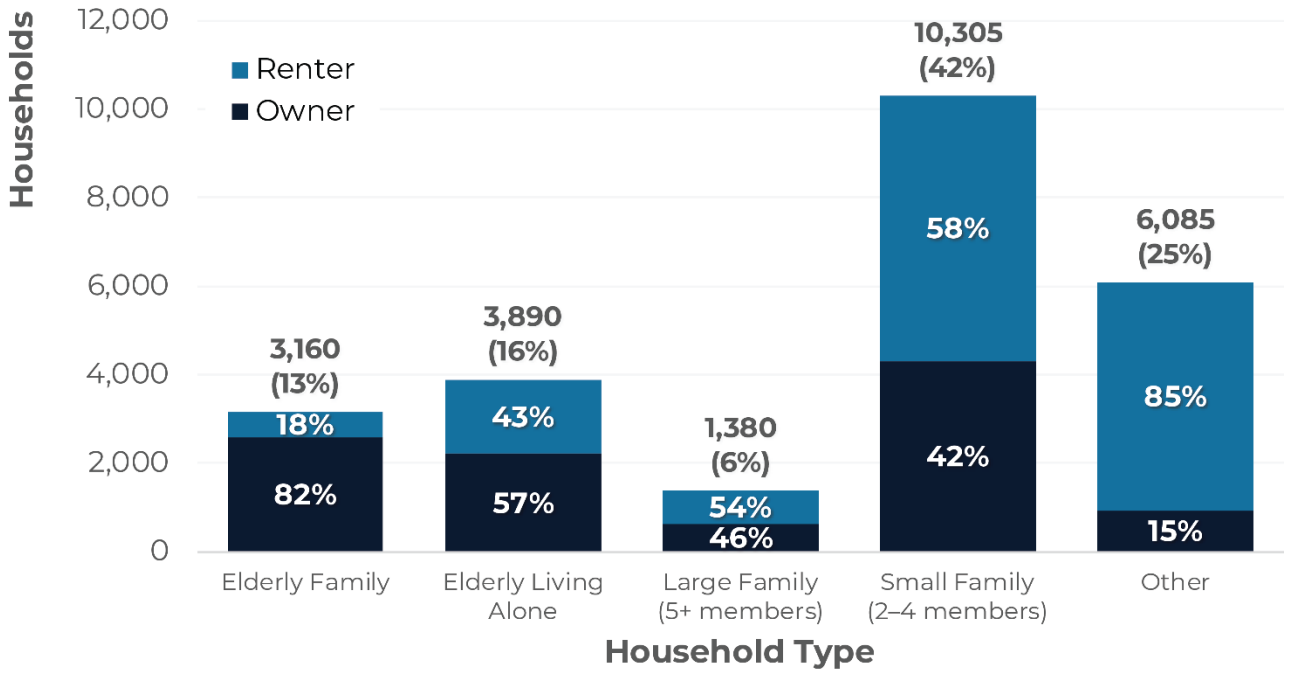
- **Small families are the most common type of household in Lakewood.** Exhibit E-9 highlights that about 42% of households in the City are small families with two to four members. Although this is the most dominant type of household, a majority of these households (58%) are renters similar to larger families (54%), but not like seniors living alone (43%) or senior families (18%). A significant number of non-family, non-senior households (including individuals and unrelated people living together) are renters, with 85% of these households renting, and this represents a much larger proportion of households in Lakewood (25%) than the Pierce County average (14%).
- **Household incomes are lower than the county average.** As shown in Exhibit E-10, the median household income for Lakewood in 2022 was $65,531, about 28% lower than the median household income of Pierce County. This percentage difference is true for both family and non-family households.
- **The lower median income is due to a higher representation of lower-income households.** As shown in Exhibit E-11, there are a greater proportion of households earning less than $75,000 in Lakewood than in the county. Although higher-income households are found in the City, the availability of affordable housing options needs to consider this skew in the distribution.

Exhibit E-8. Proportion of Households by Type, Lakewood and Pierce County, 2022.



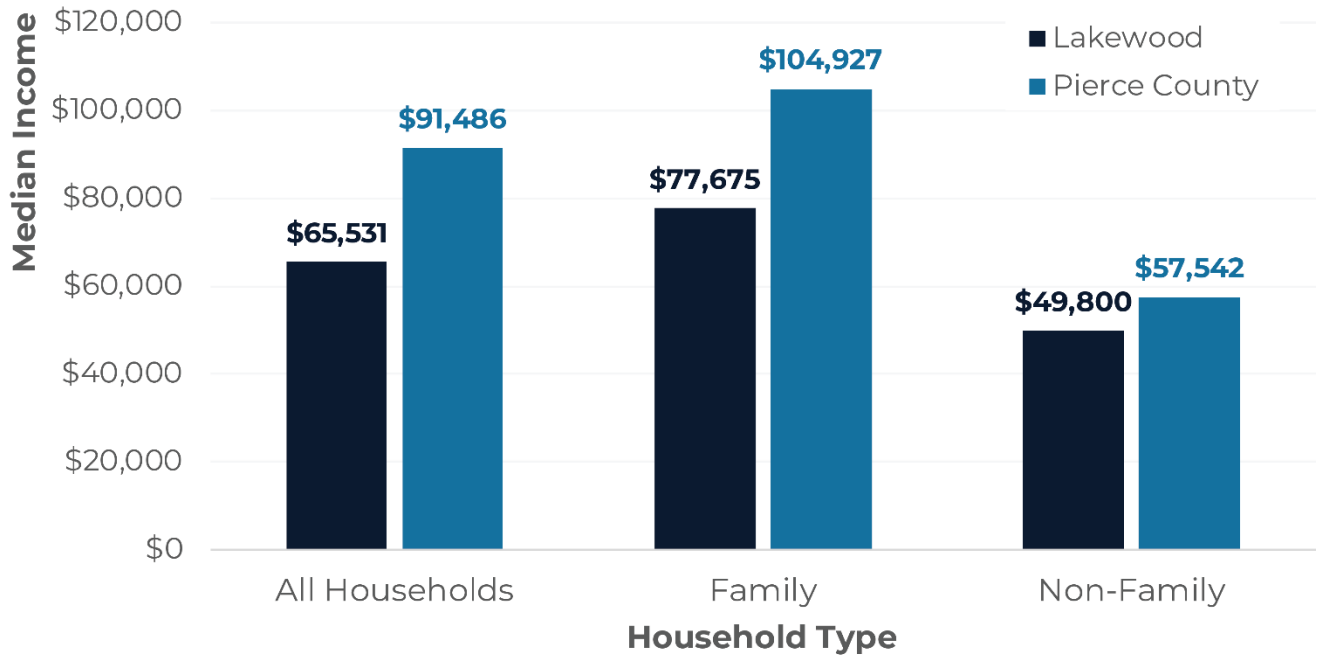
Source: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates

Exhibit E-9. Households by Type and Tenure, Lakewood, 2022.



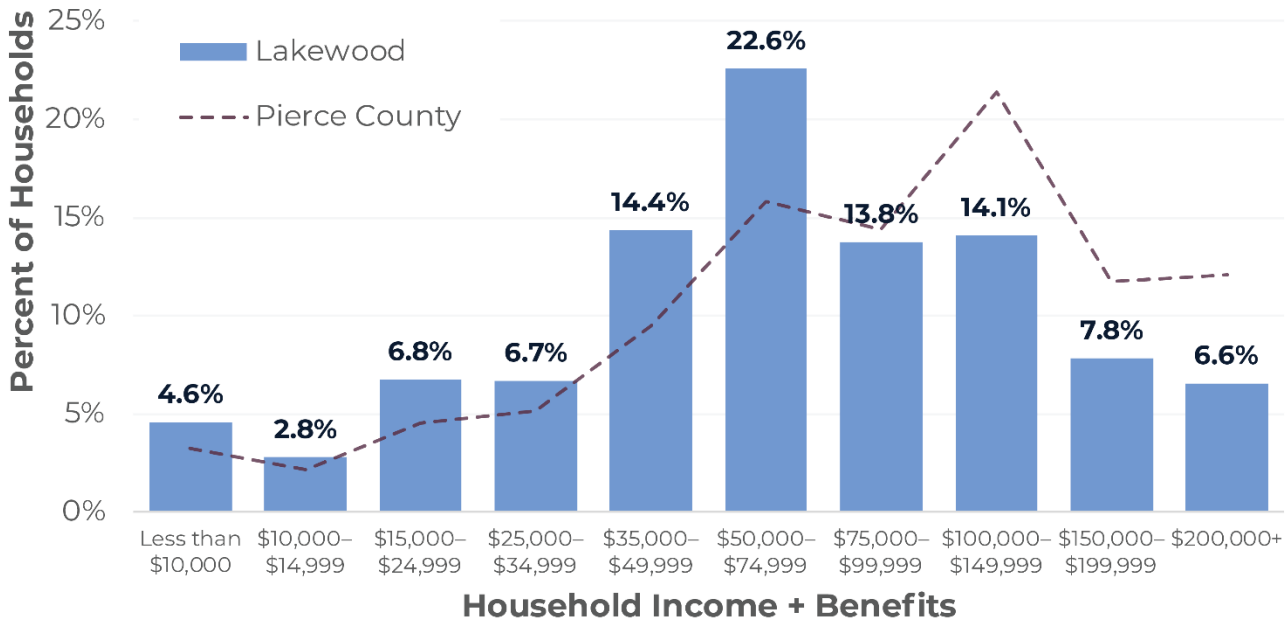
Source: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates

Exhibit E-10. Lakewood and Pierce County Median Household Income, 2022.



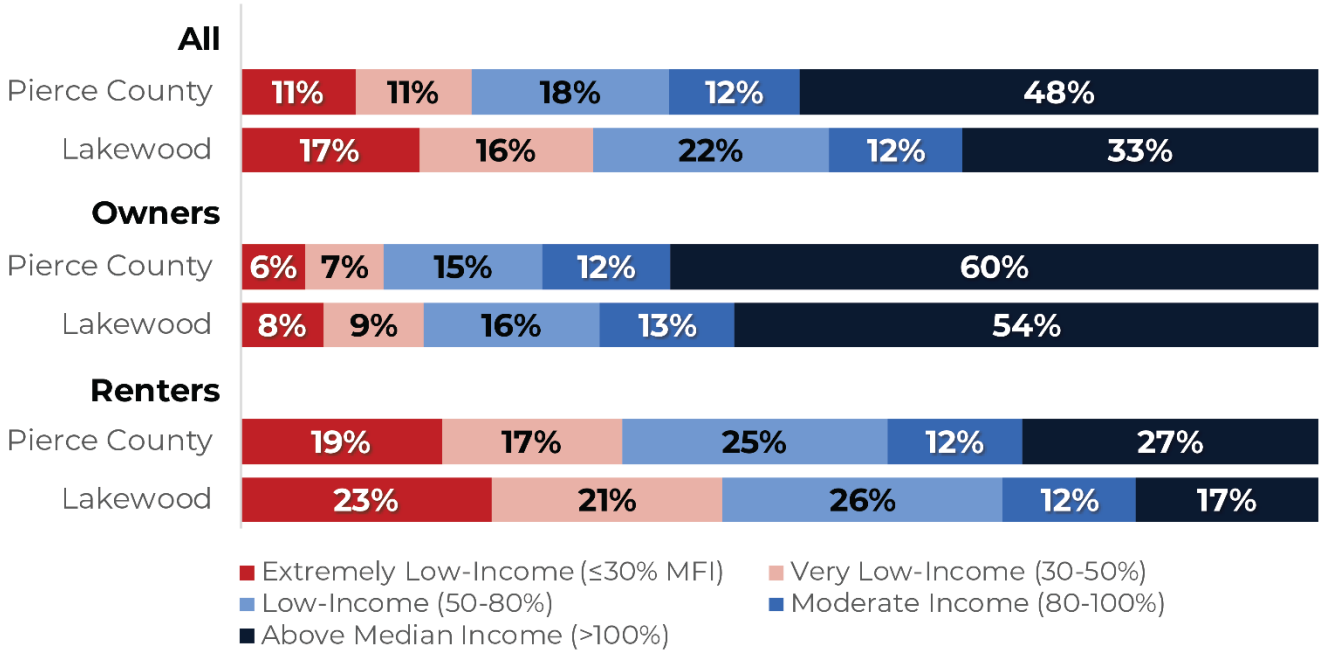
Source: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates

Exhibit E-11. Distribution of Household Income, Lakewood and Pierce County, 2022.



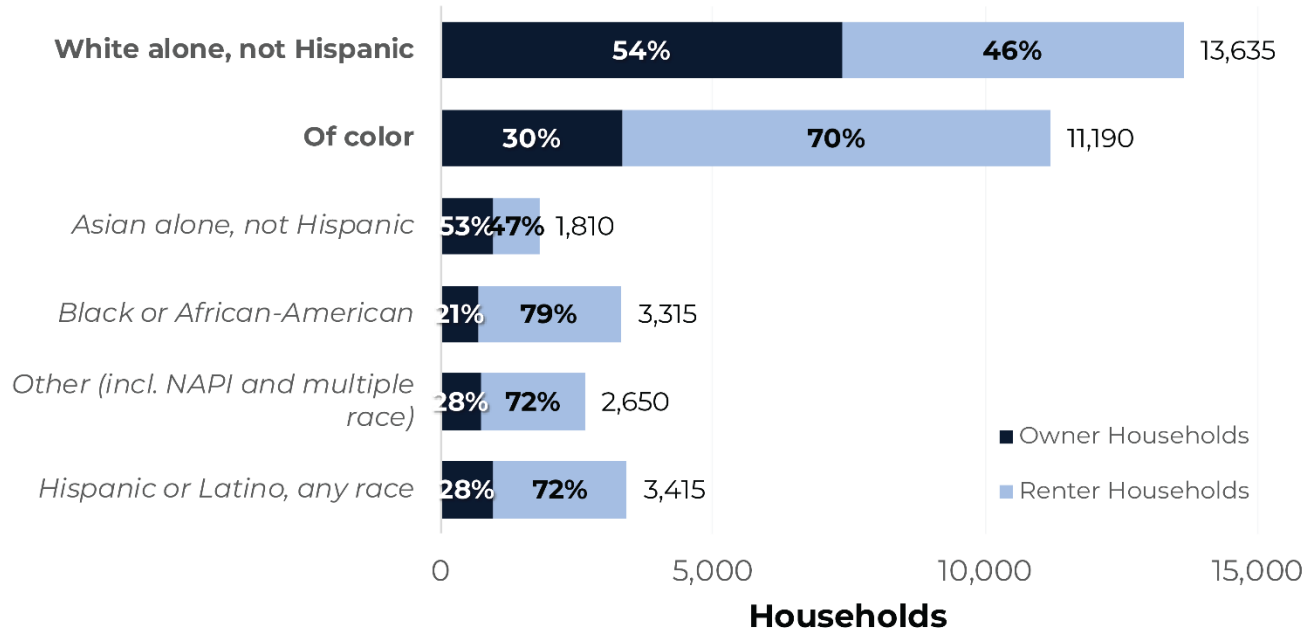
Source: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates

Exhibit E-12. Lakewood and Pierce County Household Income Categories by Tenure, 2020.



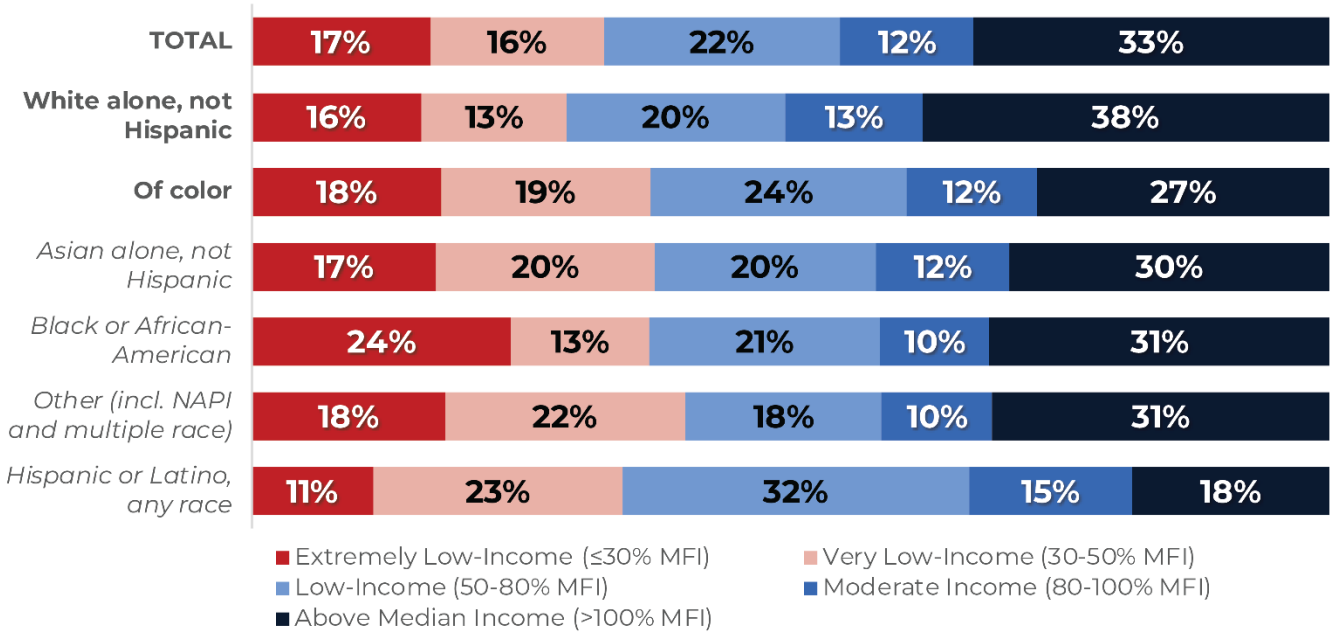
Source: US HUD Comprehensive Housing Affordability Strategy (CHAS) data, 2016–2020

Exhibit E-13. Households by Race/Ethnicity and Tenure in Lakewood, 2020.



Source: US HUD Comprehensive Housing Affordability Strategy (CHAS) data, 2016–2020

Exhibit E-14. Renter Households by Race/Ethnicity and Income Category in Lakewood, 2020.



Source: US HUD Comprehensive Housing Affordability Strategy (CHAS) data, 2016–2020

- **Household income differs distinctly between renters and owners.** Exhibit E-12 highlights that there are clear differences in incomes between renters and owners. For owners in Lakewood, about 60% have household incomes that are at least at the county area median income (AMI) or higher. Conversely, about 61% of all renters are below 80% of the county AMI, and 21% are considered extremely low-income.
- **Black and Indigenous households and other households of color are more likely to rent than to own.** Examining the distribution of renters versus owners from available CHAS data as shown in Exhibit E-13, households of color are more likely to rent, with about 70% renting in comparison to 46% of white, non-Hispanic, households. This is even more true for African American (79% renter) and non-white Hispanic (72%) households.
- **Generally, a greater percentage of renting African-Americans households are lower income.** In Exhibit E-14, the proportion of households renting in Lakewood are divided by race/ethnicity and income category. This distribution shows that overall, the income distribution of white renting households skews slightly higher, while Black households skew lower. According to this dataset, 28% of Black or African American households are extremely low-income, compared to 18% of households overall.

E.2.4 Housing Stock and Production

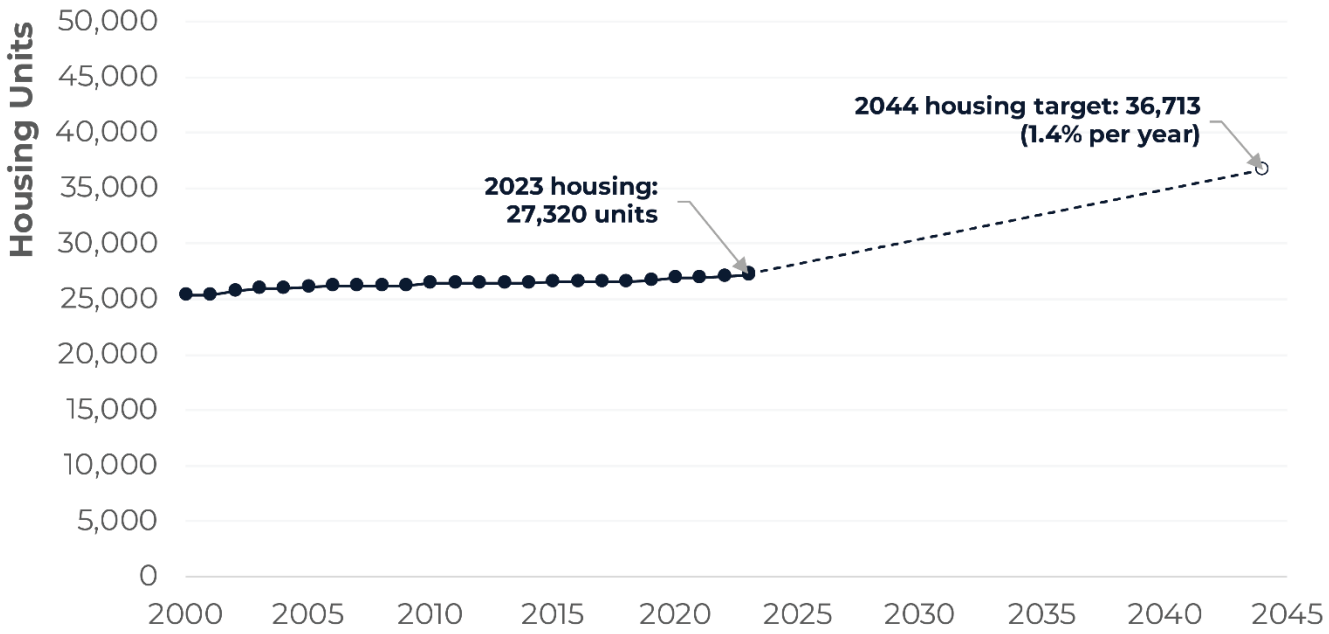
As of April 2023, the state Office of Financial Management estimated that Lakewood had a total of 27,320 housing units. The following exhibits provide perspectives on the current stock and production of housing in Lakewood. This includes:

- The historical count of housing units in Lakewood, and the 2044 housing target under the Pierce County CPPs (Exhibit E-15).
- The current housing inventory in Lakewood by housing type, including comparisons with surrounding communities (Exhibit E-16).
- Total housing completions in Lakewood between 2010 and 2023 by housing type, including breakdowns by year (Exhibit E-17), with comparisons to other communities in Exhibit E-18.
- Effective rents by the size of rental units, provided both in dollars (Exhibit E-19) and as a proportion of the city's median income (Exhibit E-20). (Note that the median income values were projected here for 2022 and 2023.)
- The "Zillow Home Value Index", providing a general assessment of local home values in the market, including median and low/high estimates for Lakewood and a reference to Pierce County. This is provided in full in dollars in Exhibit E-21, and the median value was provided as a proportion of the city's median income in Exhibit E-22.

This information highlights the following:

- **Net housing production in Lakewood since incorporation has been nominal.** Between 2014 and 2023, there has been only a very small net increase in the total amount of housing, with a net 0.28% increase per year, as shown in Exhibit E-15. Note that this is substantively lower than the population growth rate provided previously, implying that population increases have been accommodated through household size increases.
- **Future housing production can be accommodated to meet the City's growth targets, but the rate of development will have to increase significantly.** To meet the 2044 housing target for Lakewood of 36,713 housing units as shown in Exhibit E-15, there needs to be a substantive and sustainable increase in housing production over the next 20 years. An average of 447 units per year or an average growth rate of 1.4% will be required. This average rate is 79% higher than the peak housing completions recorded in 2020.
- **Lakewood has predominantly been building multifamily housing in the last ten years.** Lakewood has seen a net increase of housing production from 2010 to 2023 (see Exhibit E-17). Overall Lakewood has built 1,231 units, predominantly multifamily, from 2010–2023.
- **Lakewood has had a greater amount of attached and multifamily development than many comparable communities.** Exhibit E-18 highlights the differences between housing production from 2011 to 2020 by type between Lakewood and area communities (Federal Way, Puyallup, University Place, Tacoma, and Fife). Of all of these communities, only Tacoma has had a lower percentage of their total housing production as single-family detached homes. A significantly larger percentage of local development in Lakewood has also been developed as duplexes, triplexes, and fourplexes, consisting nearly 12% of the total development in the community.

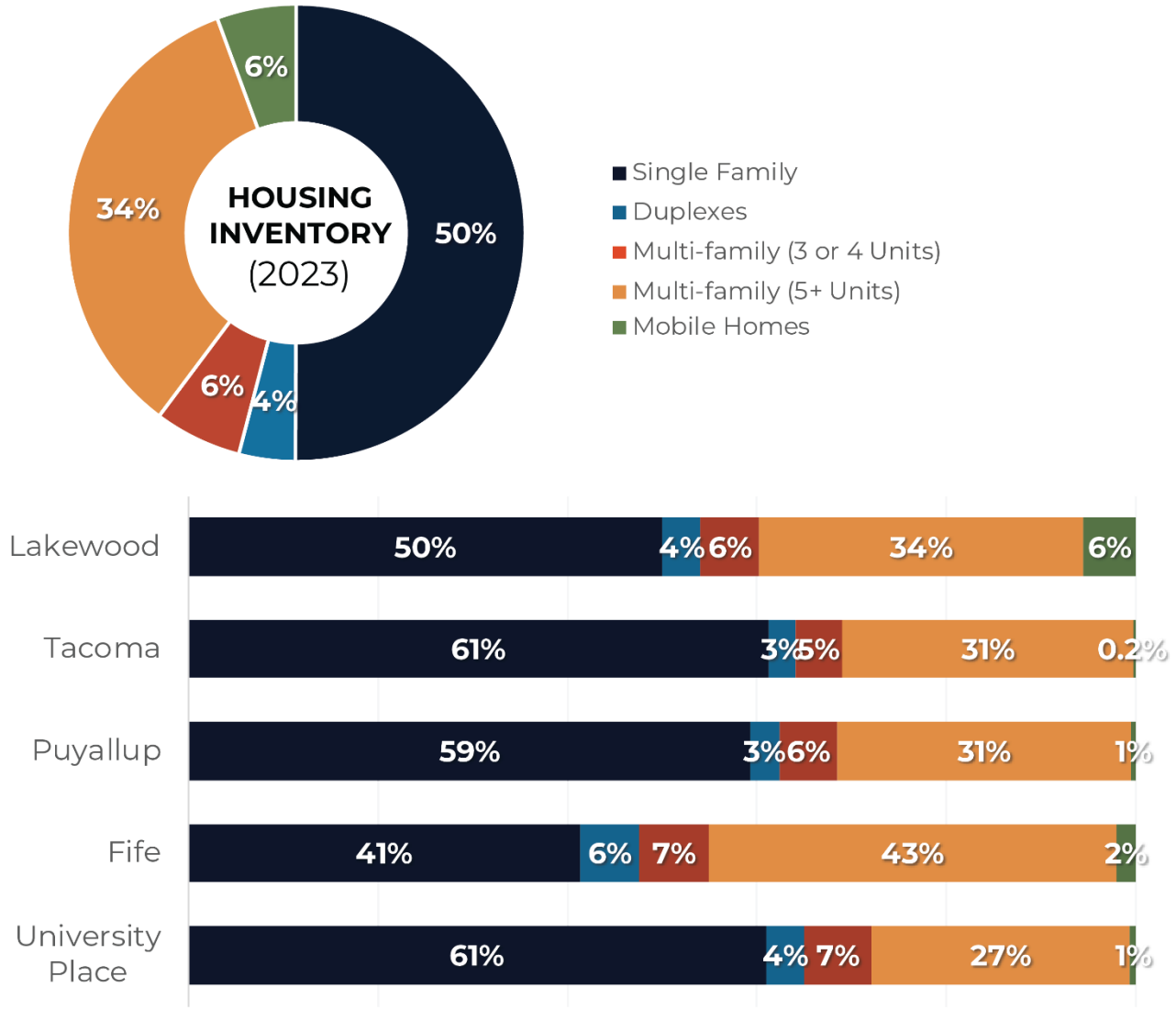
Exhibit E-15. Historical and Projected Housing Counts for Lakewood, 2000–2044.



Source: WA Office of Financial Management, 2024.

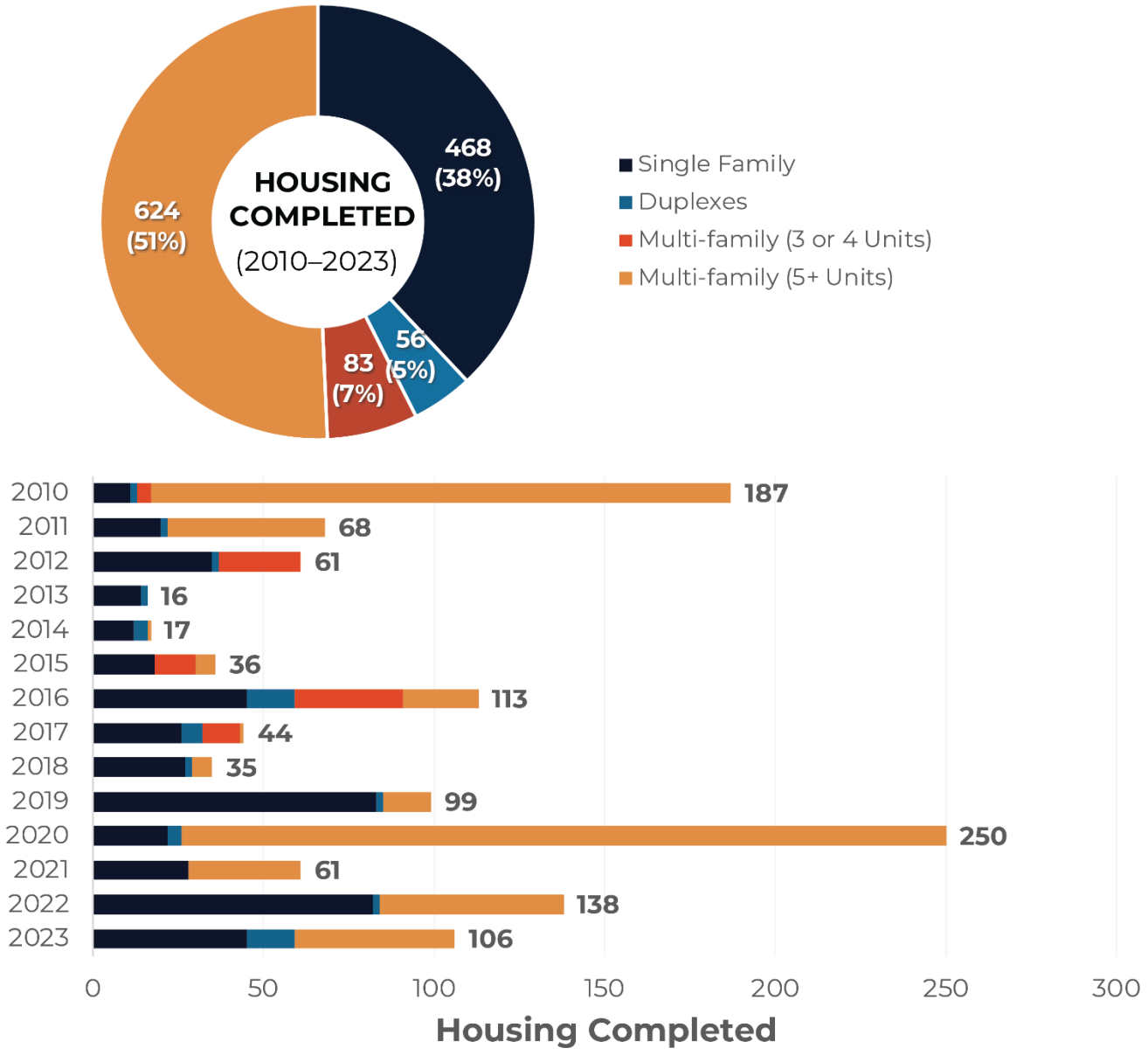
- **Rents in Lakewood have been increasing since 2014, with larger units increasing by the greatest amount.** The changes in rents identified in Exhibit E-19 highlight that across all rental units, there was relatively little changes in median rents between 2000 and 2014, but more significant changes since that point. For studio apartments, this increase has been at the rate of about 4.4% per year on average, but rents for larger units with three bedrooms have increased by over 7% per year. This is highlighted in comparison to household incomes in the chart in Exhibit E-20, with the greatest rise between 2014 and 2016. This is most notable for units with three bedrooms, which have increased to almost 118% of what would be affordable at median income.
- **Substantial increases in housing value began in 2013, with overall decreases in affordability.** The figures in Exhibits E-21 and 22 also indicate an increase in home values starting in 2012 and 2013, and while there have been slight declines from the 2022 peak, median prices in early 2024 are at over $474,000. While these slight declines can be seen when compared to median incomes, the median home value index increased from about 4.3 times the city's median income to almost 6.9 times median income.

Exhibit E-16. Proportion of Current Housing Types, Lakewood and Surrounding Communities, 2023.



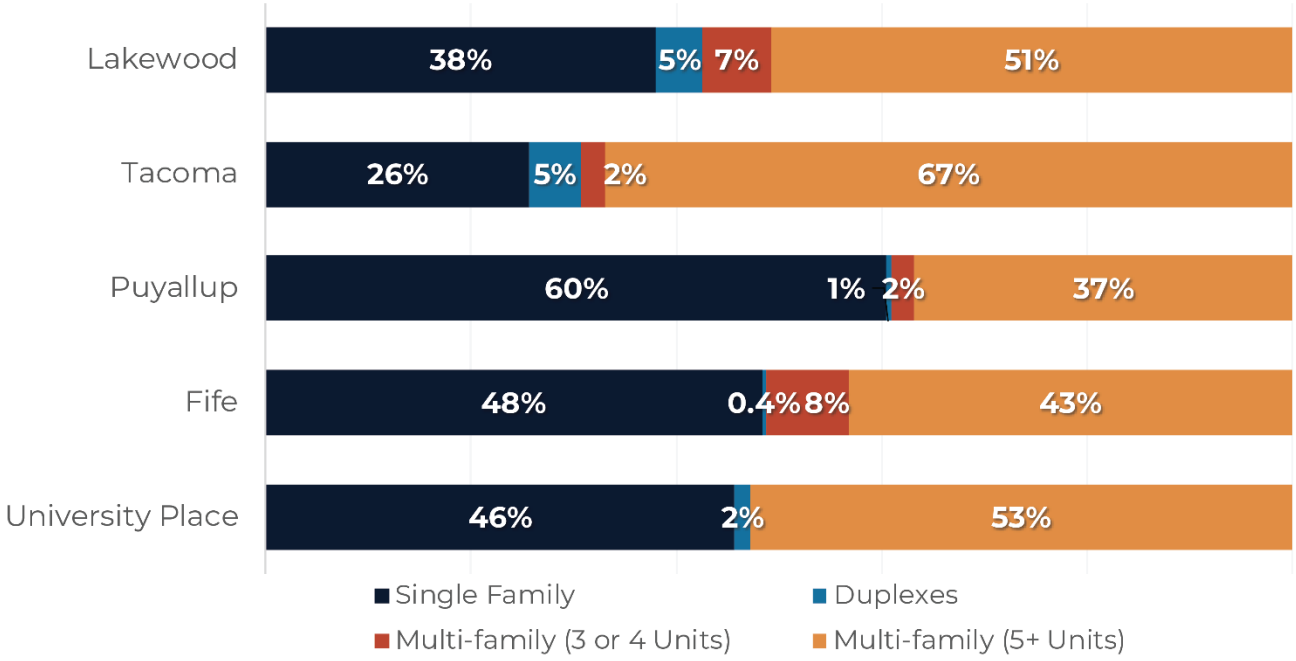
Source: WA Office of Financial Management, 2024.

Exhibit E-17. Housing Units Completed in Lakewood by Type, 2010–2023.



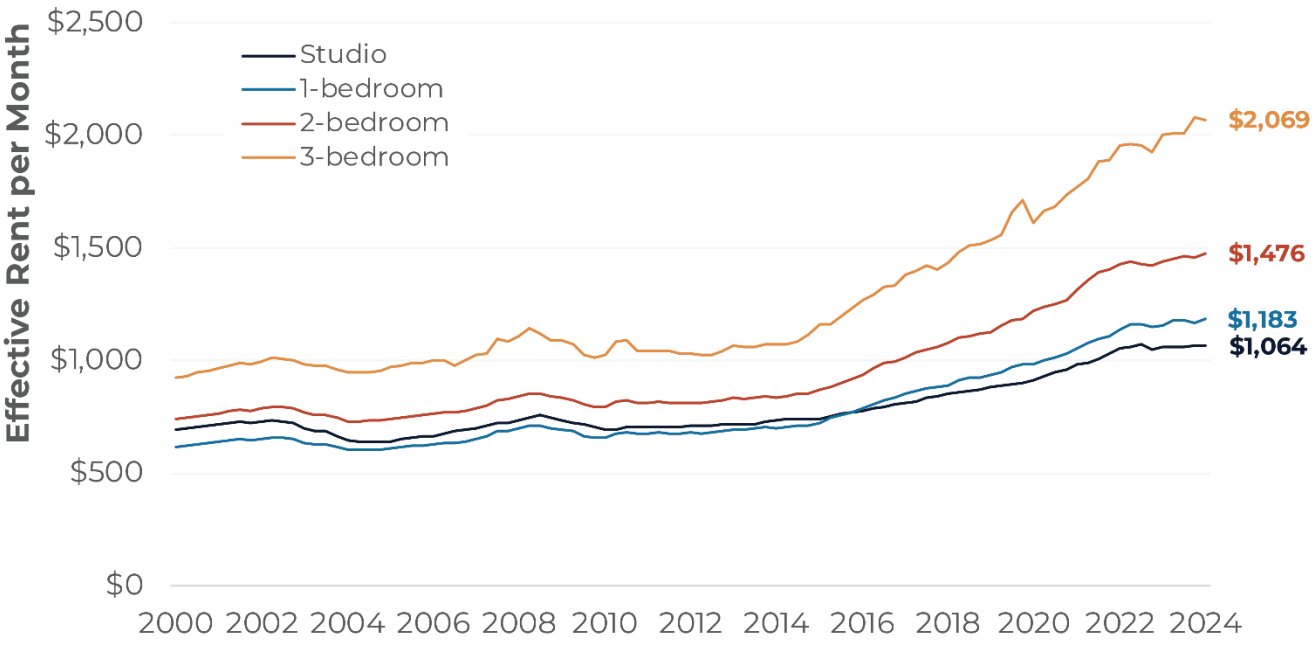
Source: WA Office of Financial Management, 2024.

Exhibit E-18. Housing Units Completed in Lakewood and Surrounding Communities by Type, 2010–2023.



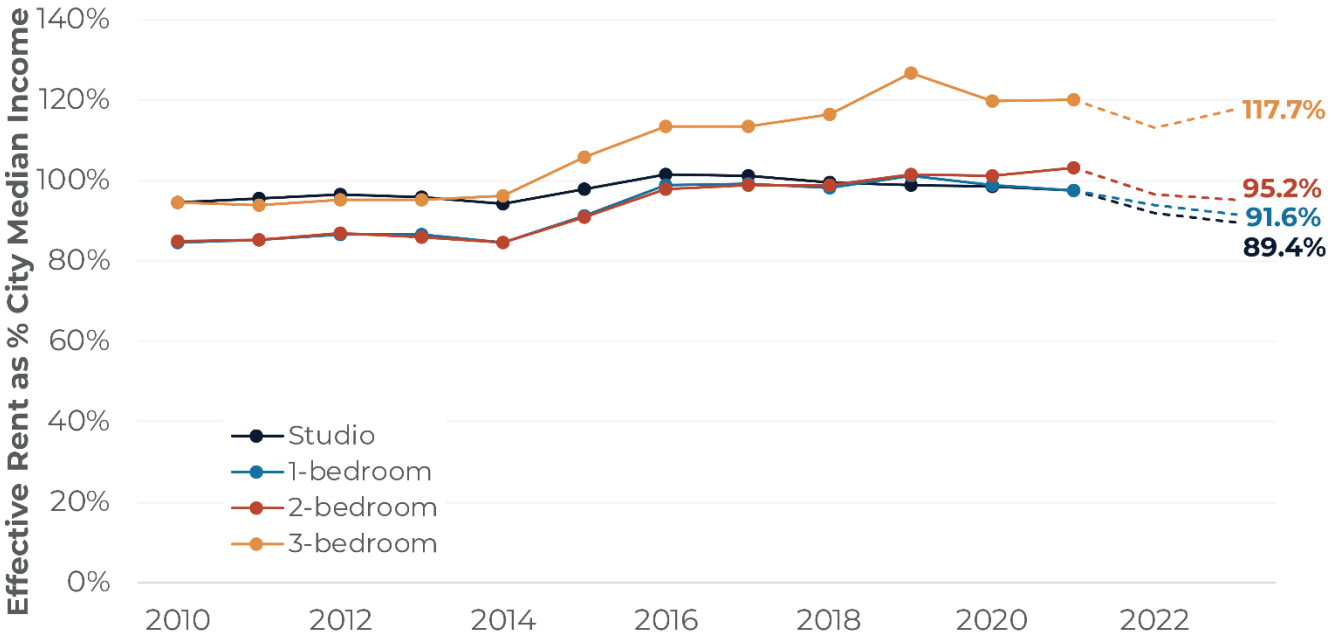
Source: WA Office of Financial Management, 2024.

Exhibit E-19. Effective Rents by Unit Size in Lakewood, 2001–2024 (YTD).



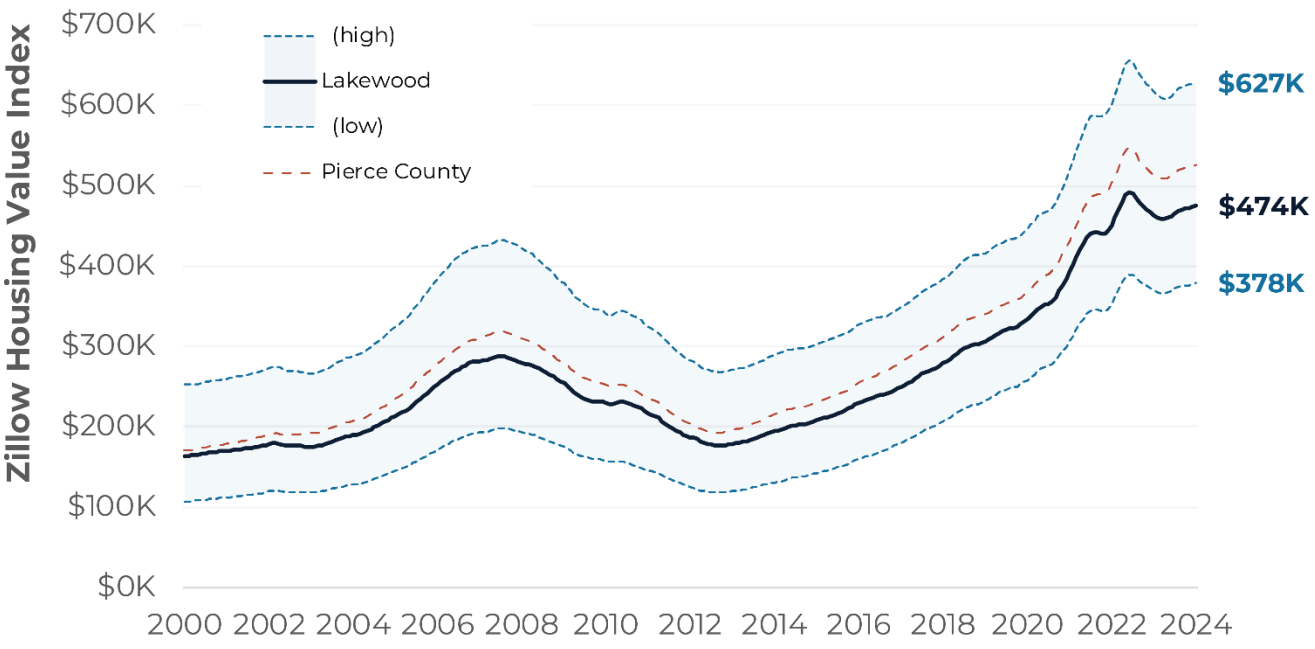
Source: CoStar, 2024; US HUD CHAS data (multiple years)

Exhibit E-20. Effective Rent as Percent Lakewood Median Income by Size, 2010–2023 (YTD).



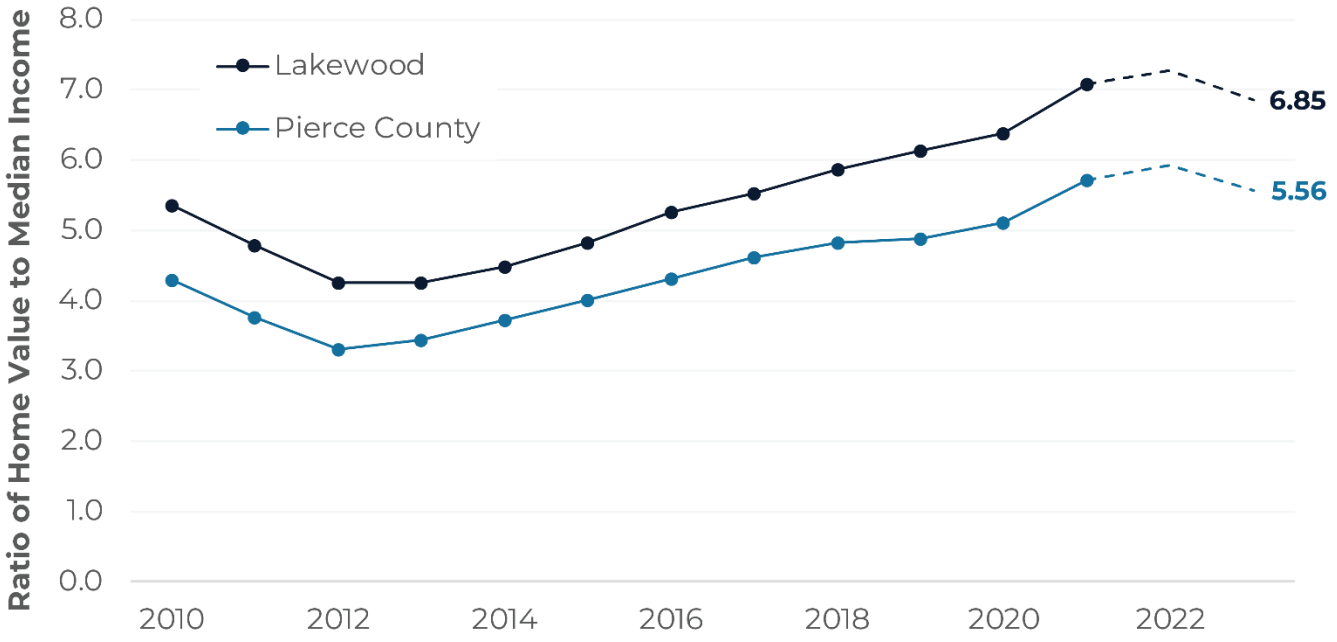
Source: CoStar, 2024; US HUD CHAS data (multiple years)

Exhibit E-21. ZHVI Home Value, Lakewood and Pierce County, 2000–2024 (YTD).



Source: Zillow, 2024; US HUD CHAS data (multiple years)

Exhibit E-22. Ratio of ZHVI Median Home Value to Median Income, Lakewood and Pierce County, 2010–2023 (YTD).



Source: Zillow, 2024; US HUD CHAS data (multiple years)

E.2.5 Housing Targets

As noted above, the City of Lakewood is planning to a total of **36,713 housing units**. This is a target based on the Pierce County Countywide Planning Policies, the PSRC VISION 2050 Regional Growth Strategy, and new state requirements regarding county-based housing production targets.

For the purposes of the CPPs, this growth target has been divided between different housing types, with a start date in 2020. Exhibit E-23 highlights this as a **net increase of 9,378 housing units** required between 2020 and 2044. These targets are divided by area median income in the following categories:

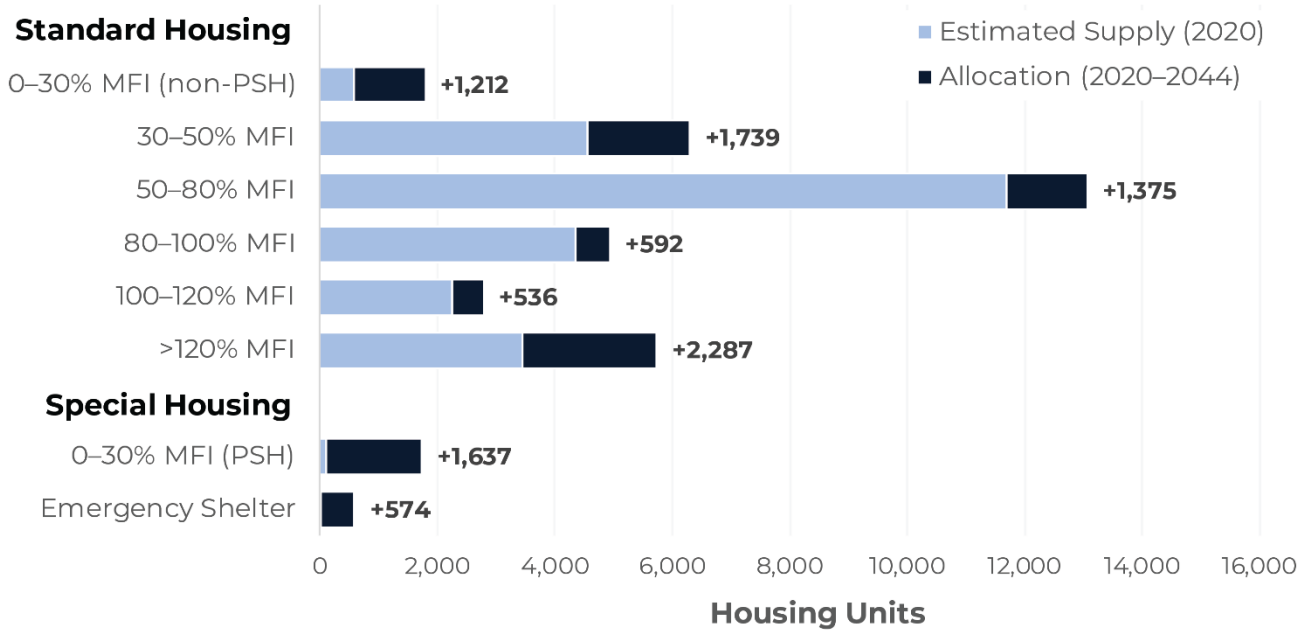
- Extremely low income (0–30% AMI)
- Very low income (30–50% AMI)
- Low income (50–80% AMI)
- Moderate income (80–100% AMI)
- Moderate income above median (100–120% AMI)
- Above median (120% AMI or higher)

Additionally, there are specific targets which will impact the types of housing that will need to be built to meet local needs. These targets translate to housing types as follows:

- **Permanent supportive housing: 1,637 units**, which includes not only housing, but also wraparound services for residents, will require multifamily apartment development types and will be account for 17% of the net increase in housing by 2044..
- **Multifamily apartment units: 4,326 units,** in denser formats are allocated to meet the needs of households at 80% of AMI or below. This amounts 46% of the net housing increase. Given the comparatively low rents, these unit types may need to be built with additional financial support and subsidies from government agencies and other organizations.
- **Middle housing units: 1,128 units,** such as townhouses and plex development are assumed to meet needs at 80–120% of AMI. These housing units may need some subsidies or incentives to be built but can largely consist of market-rate units. About 12% of the total housing built will be needed to accommodate the AMI range's housing needs by 2044.
- **Other housing types: 2,287 units**, including single-family detached housing, for the needs of households at 120% of AMI or higher. Note that these units will account for about 24% of the total target. These will likely be fully market-rate housing with no need for additional incentives but note that these targets could be built within mixed-income housing projects that include both affordable and market-rate units.

Exhibit E-23. Lakewood Housing Needs by Income Level (% of Area Median Income).

	2020 Est. Supply	2044 Target	Allocation, 2020–2044
Total Housing Units	**26,999**	**36,377**	**9,378**
0–30% AMI			
Permanent Supportive Housing	101	1,800	1,637
Additional Housing	588	1,468	1,212
30–50% AMI	4,565	6,304	1,739
50–80% AMI	11,699	13,074	1,375
80–100% AMI	4,347	4,939	592
100–120% AMI	2,250	2,786	536
120% AMI or higher	3,449	5,736	2,287
Emergency Units	**8**	**582**	**574**



Source: Pierce County, 2023.

In addition to the overall needs for housing, including subsidized housing types and permanent supportive housing for people facing chronic housing instability, these housing targets also specify the need for an **additional 574 emergency shelter beds** to be built by 2044.

As of 2023, the city had eight units of emergency housing. However, historical data underlines the growing need for additional emergency shelter units in our city. Exhibit E-24 provides unique client numbers, consisting of those who reportedly last resided or slept in Lakewood, which escalated by 47% from 2017 to 2022. Additionally, a total of 416 unique referrals were made to the Pierce County HMIS system within the period of January 1 to September 20, 2023.

Exhibit E-24. HMIS Data on Lakewood Clients Requiring Emergency Shelter, 2017–2023.

Note: This includes clients who reported the city they last slept in was Lakewood or who reported their last permanent zip code was in Lakewood.

Source: HMIS, 10/27/2023

E.2.6 Housing Capacity

In calculating the amount of developable land available for accommodating future growth, there are several considerations involved.

Updates to Previous Assessments

The 2022 Pierce County Buildable Lands Report concluded that Lakewood had land capacity for 10,242 new housing units, more than enough for its draft 2044 housing target of 9,714 new units. The BLR calculation demonstrated that 7,756 units, or 76% of the City's housing capacity, was on underutilized subarea, mixed use, multifamily, and single family parcels. The BLR's housing capacity analysis results are shown per zone in **Error! Reference source not found.** below.

The 2023 adoption of new state housing laws (i.e., "HB 1110" and "HB 1337") requiring that Lakewood plan for and accommodate middle housing and accessory dwelling units (ADUs) in historically single family areas forced significant changes to all single family zones' allowed uses and densities. The BLR capacity analysis conclusion summarized above will no longer be accurate, as additional capacity must be located in historically single family areas.

Exhibit E-25. Lakewood 2020–2044 Housing Capacity (Buildable Lands Report).

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
AC1	0	0	0	0	0
ARC	4	123	0	0	127
C1	0	-12	0	0	-12
C2	0	-2	0	0	-2
C3	0	0	0	0	0
CBD	181	2,342	0	67	2,590
I1	0	-5	0	0	-5
I2	0	0	0	0	0
IBP	0	-18	0	0	-18
MF1	132	1,028	16	5	1,181
MF2	304	1,130	0	80	1,514
MF3	152	978	0	1	1,131
MR1	0	116	0	1	117
MR2	42	480	5	5	532
NC1	2	10	0	42	54
NC2	49	370	0	2	421
PI	0	-1	0	0	-1
R1	7	20	17	1	45
R2	15	74	39	20	148
R3	172	553	91	34	850
R4	23	182	58	24	287
TOC	124	388	0	771	1,283
Total	1,207	7,756	226	1,053	10,242

Source: Pierce County 2020 Buildable Lands Report, November 2022

Subarea Planning

Lakewood adopted two subareas between 2018 and 2022. Each had significant housing unit allocations; together, the count totaled 38% of the City's 2044 target of 9,378 new units:

- 2035 housing growth target in 2018 Downtown Subarea Plan: 2,257 units
- 2035 housing growth target in 2021 Station District Subarea: 1,179 units
- Total 2035 subarea planned growth as of 2021: 3,436 units

However, both subarea plans were adopted prior to the 2021 requirements to plan for a specific number of housing units at various levels of affordability as well as the 2023 middle housing and ADU unit laws. As a result, in the 2024 Periodic Update, the subarea housing targets were analyzed and updated to reconcile them as much as possible with these recent state law changes.

Limited Buildable Land in Lakewood

As shown in the table in **Error! Reference source not found.** and map in **Error! Reference source not found.**, only about 52% of Lakewood's overall acreage is buildable for residential, commercial, industrial, or any other type of private use. 20% of the non-buildable area is in public institutional ownership; 27% consists of lakes and open space lands. The remaining 5% is located under the Joint Base Lewis McChord (JBLM) military flight paths and as a result has no or significantly limited land use types and development capacity allowed per FAA and DoD safety guidelines.

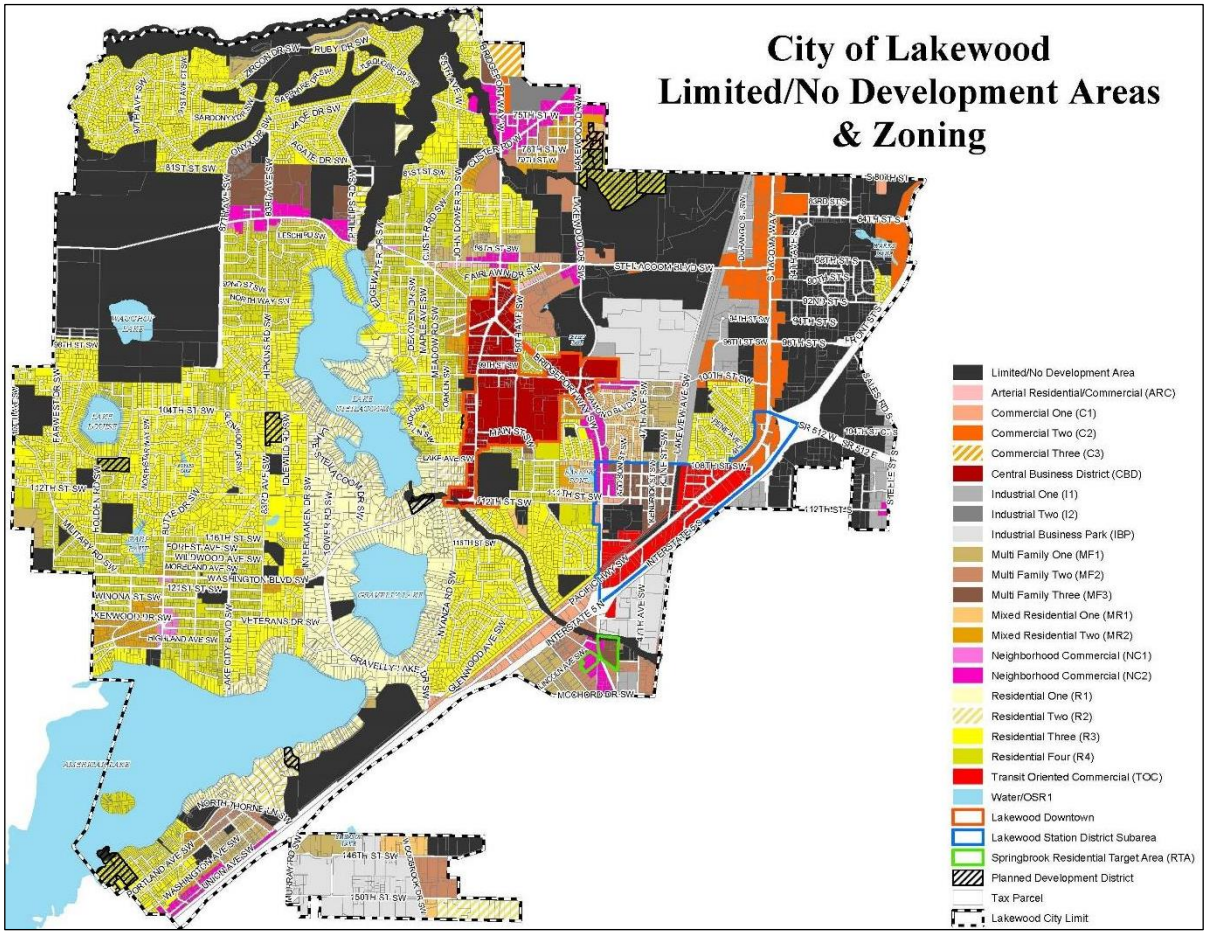
Exhibit E-26. Total Area of Limited or No Development by Type.

Use Types Limiting Capacity	Area (acres)	% of City Area
Public Institutional[1]*	2,442	20%
Lakes*	1,700	14%
Open Space Lands	1,520	13%
JBLM Air Corridor Zones and Clear Zone*	637	5%
Military Lands*	25	0.2%
Total of Lakewood land acreage with no or limited availability for development	**6,324**	**52%**

[1] This includes Western State Hospital; Pierce College; Clover Park Technical College; St. Clare Hospital; Clover Park School District properties; Sound Transit and Pierce Transit properties; and City-owned properties.
Source: City of Lakewood, 2024.

As Lakewood reviewed how to update its land use zones and regulations to accommodate more middle housing and ADU units during the 2024 Periodic Update, the results were influenced by the limited acreage available for development citywide.

Exhibit E-27. Map of Limited/No Development Areas.



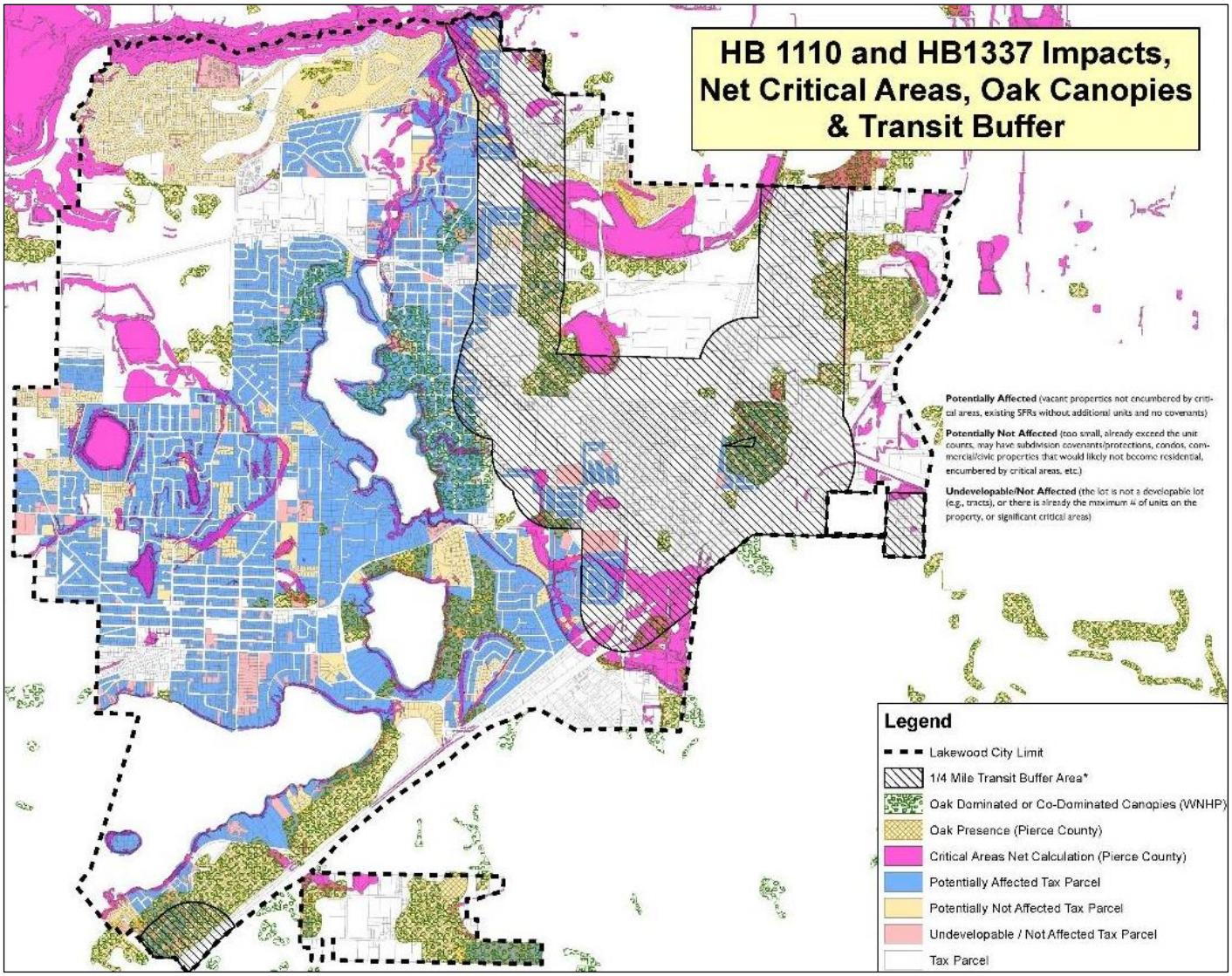
Source: City of Lakewood, 2024.

Environmental Issues and Housing Densification

As part of the 2024 Periodic Update, Lakewood updated its Comprehensive Plan, land use zoning, and development regulations to reflect housing law changes adopted by the state legislature. However, planning for housing affordability and accessibility must be balanced with achieving the other GMA goals of equal weight under the law, including: protecting and enhancing the natural environment; protecting private property rights; encouraging economic development; retaining and enhancing open space and recreation areas; and planning for climate change and resiliency (see RCW 36.70A.020.)

The map in **Error! Reference source not found.** depicts the results of the City's 2023 inventory of its critical areas, Oregon White (Garry) Oak canopies, and residential areas with preexisting development covenants and restrictions limiting the number of housing units per acre or per lot. The applicability of middle housing and ADU unit requirements in historically single family areas will be limited by these factors. Residential densification in certain areas of the City may also be limited by insufficient infrastructure (i.e., sewer, water, and/or road) capacity.

Exhibit E-28. Environmentally Sensitive Areas and Housing Intensification.



Source: City of Lakewood, 2024.

The hatch-marked area on the following map is where 4 middle housing units per lot must be allowed due to ¼ mile proximity to “major transit stops.”

Note: Lakewood’s identified “major transit stops” include the existing Sounder Station on Pacific Avenue, the planned Pierce Transit Bus Rapid Transit (BRT) in central Lakewood, and the new Sounder Station in Tillicum. As of late 2023, the BRT route has not yet been scheduled for construction and will required at least 7 years to complete once construction begins. As of late 2023, the Tillicum Sounder Stop is not scheduled for completion until 2045 – after the end of the 2044 planning horizon for the 2024 Comprehensive Plan Periodic Update. The completion of both of these transit projects is ultimately subject to economic trends, transit agency budgets, and ridership numbers, all of which are out of the City’s control.

Parking Issues and Housing Densification

Due in part to pre-incorporation residential street designs and widths in its historically single family areas, through 2023, Lakewood did not allow on-street/off-site parking in residential areas; it only allowed off-street/on-site parking.

Under the 2023 state laws mandating multiple middle housing and ADU units per lot in historically single family areas, Lakewood is prohibited from:

- requiring more than 1 off-street/on-site parking space per unit for middle housing or ADUs on lots smaller than 6,000 sq. ft.;
- requiring more than 2 off-street/on-site parking spaces per unit for middle housing or ADUs on lots greater than 6,000 sq. ft.;
- requiring public street improvements as a permitting condition for ADUs in any of the historically single family areas of the City; and
- requiring off-street/on-site parking as a permitting condition for middle housing or ADUs ½ mile or less from a Major Transit Stop.

The following maps show:

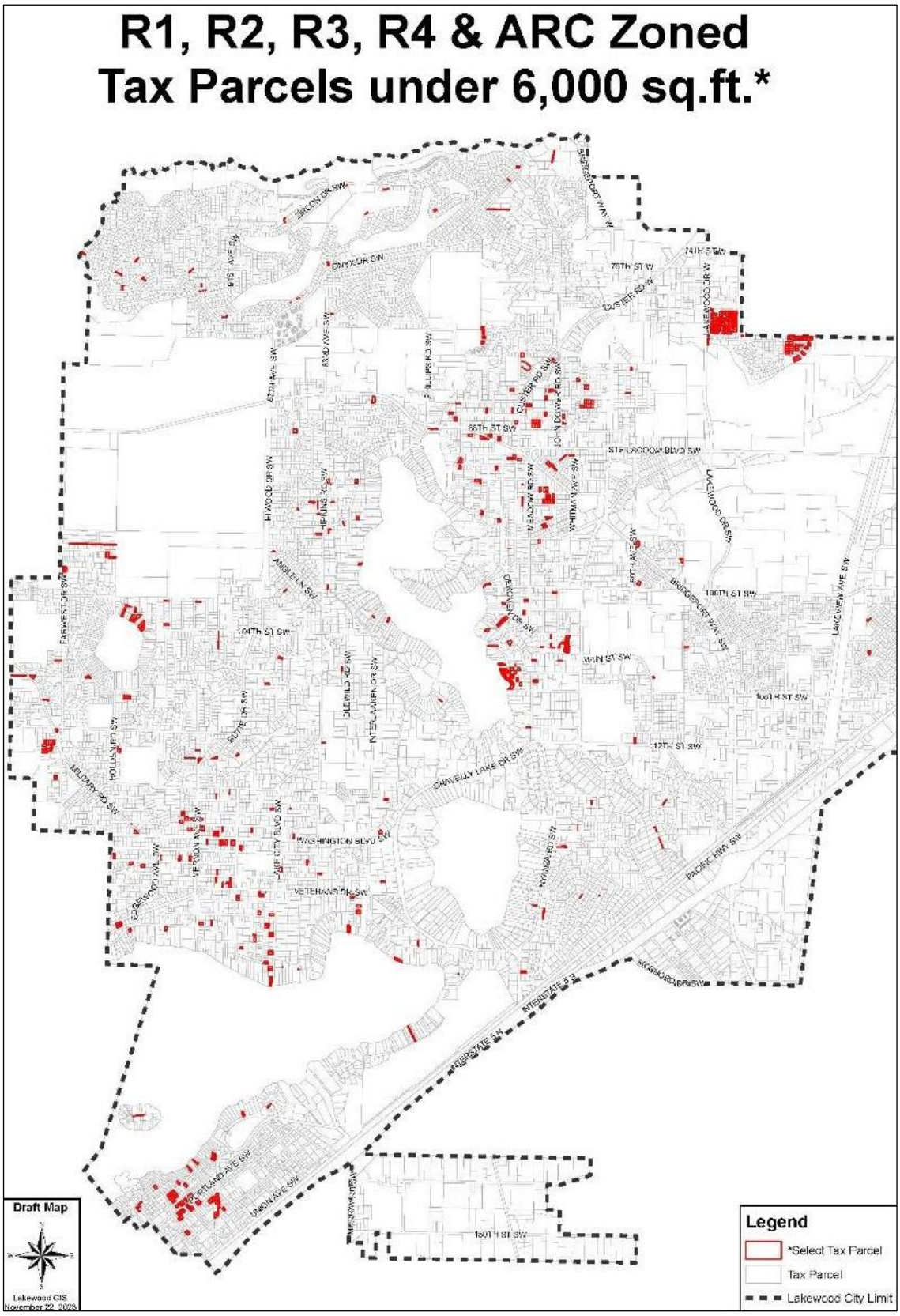
- The 611 parcels in the R1 through R4 and the ARC zones smaller than 6,000 sq. ft. (**Error! Reference source not found.**)
- Parcels within ¼ mile from "major transit stops" as defined in HB 1110 and HB 1337 in 2023. (**Error! Reference source not found.**)
- Parcels within ½ mile from major transit stops. (**Error! Reference source not found.**)

The City's research regarding effects of middle housing and ADU laws highlighted not only environmental impact concerns, but also potential safety concerns related to the impacts that parking needs from middle housing and ADU units in the R1-R4 zones will have in established neighborhoods as new units are occupied.

As of 2023, due in part to pre-incorporation residential street designs and widths in its historically single family areas, Lakewood did not allow on-street/off-site parking in residential areas; it only allowed off-street/on-site parking. Research revealed a number of existing public residential streets with ROW widths below 60 feet, meaning there was inadequate space to allow on-street parking under the City's standard street designs. These streets are shown on the map in Exhibit E-32 in red, and most of them are located within the same parts of the City where middle housing units and ADUs must now be allowed per the GMA:

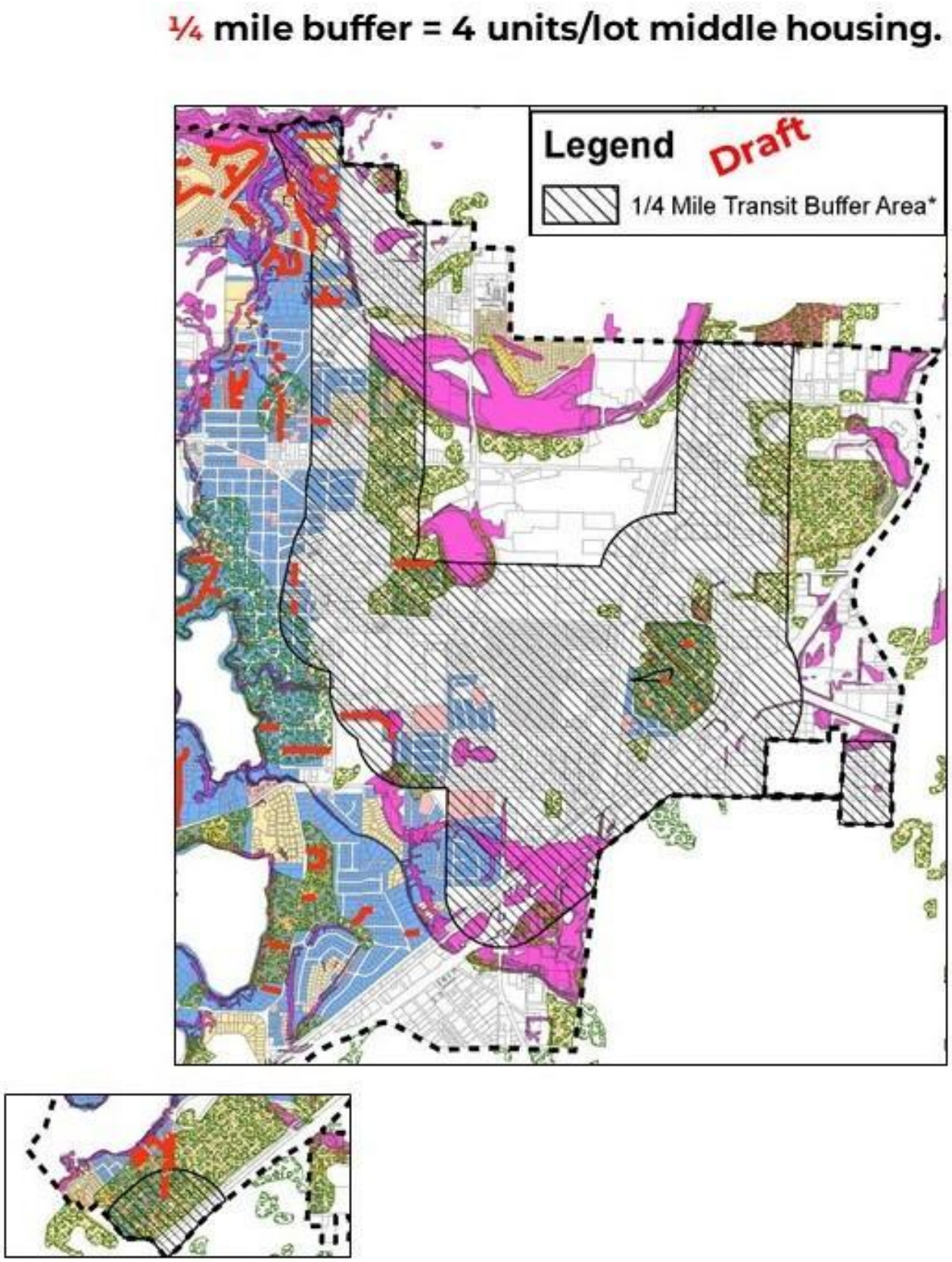
There are also a number of private residential streets with ROWs less than 60 feet in the historically single family areas of Lakewood, as shown in red on the map in Exhibit E-33:

Exhibit E-29. Applicable Residential Parcels Smaller than 6,000 SF.



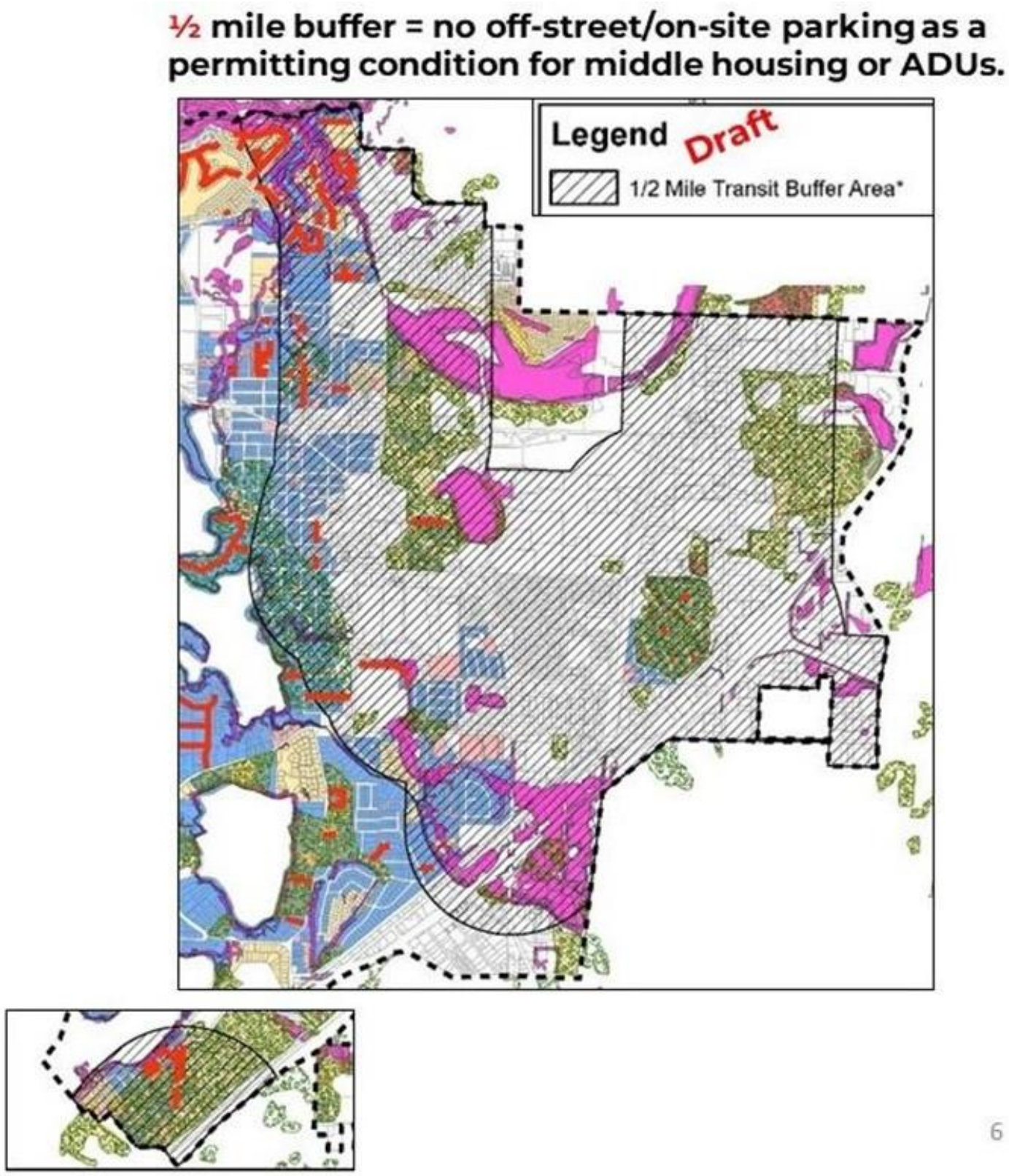
Source: City of Lakewood, 2024.

Exhibit E-30. Quarter-Mile Buffer from Transit and Residential Properties.



Source: City of Lakewood, 2024.

Exhibit E-31. Half-Mile Buffer from Transit and Residential Properties.



Source: City of Lakewood, 2024.

Exhibit E-32. Parcels of Concern for Significant On-Street Parking Safety Issues

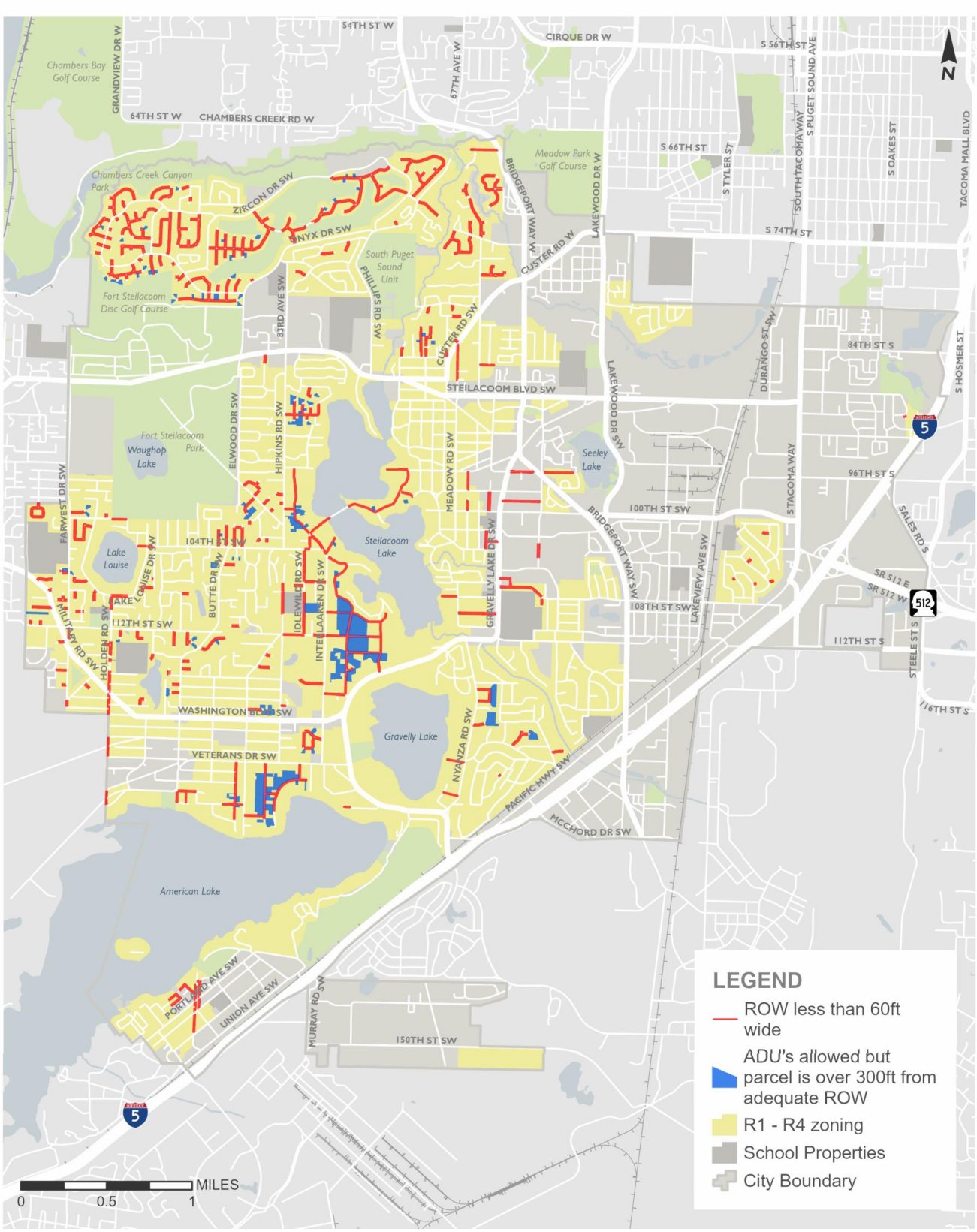
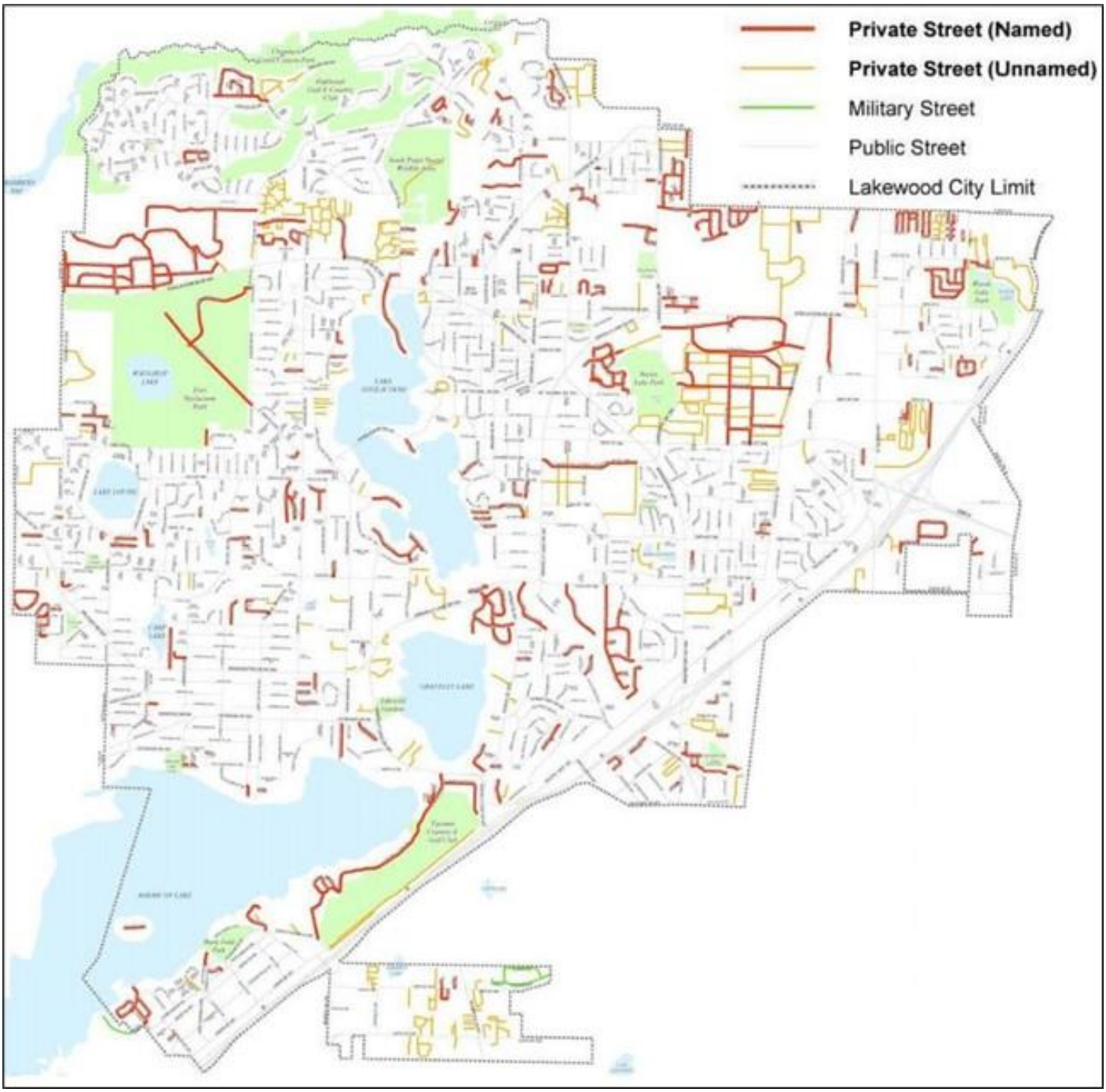


Exhibit E-33. Existing Private Streets with Widths of Less than 60 Feet.



Source: City of Lakewood, 2024.

The City of Lakewood's housing policies and development regulations are consistent with the GMA, VISION 2050, and Countywide Planning Policies. However, the City also recognizes and is concerned about the insufficient street grid within some of the single family areas preventing safe on-street parking. In order to protect the safety of those residents living on residential streets less than 60 feet wide, once the Department of Commerce develops the guidance to local government required by RCW 36.70A.636(7)(a), Lakewood will consider preparing an empirical study prepared by a credentialed transportation or land use planning expert that clearly demonstrates, and Commerce certifies, that parking limits for middle housing will be significantly less safe for vehicle drivers or passengers, pedestrians, or bicyclists than if the jurisdiction's parking requirements were applied to the same location for the same number of detached houses.

Assessment of Capacity

A detailed analysis of available buildable capacity in Lakewood is described in Section A.4, which outlines the updates provided to the earlier 2020 Buildable Lands Report. In addition to this broad assessment of the capacity to accommodate enough housing to meet identified targets, this evaluation also references the units by housing type according to the zoning districts to determine whether the city is compliant with requirements under RCW 36.70A.070(2)(a).

Exhibit E-34 provides a summary of this capacity calculation, and includes:

- The projected housing need included from the Pierce County Countywide Planning Policies;
- The general types of housing that would be needed to meet these targets;
- Aggregate targets based on the types of housing available;
- The total estimated capacity for these types of housing in Lakewood; and
- An estimation of the surplus or deficit of housing available to meet targets.

Exhibit E-34. Estimates of Total Capacity and Expected Growth, 2020–2044.

Income	Projected Housing Need	Zoning Categories Serving Needs	Aggregated Housing Needs	Total Capacity	Capacity Surplus/Deficit
0-30% Non-PSH	1,212	**Low-Rise Multifamily + ADUs**	5,963	9,064	3,101
0-30% PSH	1,637				
>30-50%	1,739				
>50-80%	1,375				
>80-100%	592	**Moderate Density**	1,128	2,969	1,841
>100-120%	536				
>120%	2,287	**Low Density**	2,287	5,455	3,168
Total	**9,378**		**9,378**	**17,488**	**8,110**

Under this assessment, three different targets by housing type are included:

- Low-rise multifamily and accessory dwelling units for households at **80% AMI or below**, likely identified for rentals;
- Moderate density housing, specifically middle housing options such as plexes and townhomes, identified for **80–120% AMI**, with a mix of rental and ownership options; and
- Lower density housing, including infill middle housing and single-unit housing, allocated for **120% AMI or above** and likely including mostly owner-occupied housing.

These targets are broad and need to be considered in the context of several conditions:

- **Housing of different types are not exclusive to one income category.** While low-rise multifamily may be a target for meeting the needs of lower-income households, luxury units may cater to higher-income households. Conversely, moderate density developments could be the subject of affordable housing programs that could meet the needs of households below 80% AMI. The general changes in housing uptake and housing affordability should be examined in the long term, both in Lakewood and at the state level.
- **Filtering will shift needs as market-rate housing becomes available.** Although building housing can help to meet direct needs in the market, there are also indirect impacts for affordability as households move out of their original housing and into new housing units. Freeing up older housing units that may not meet the needs of one household can help to accommodate another household that may be better suited for the unit. Additionally, adding new housing capacity can also adjust the rents and local sale prices of homes by making a more competitive market.
- **Affordability for lower-income households may also depend on subsidies and supporting programs.** Although these targets are a start to increasing affordability and access to housing, new units may be challenged to meet needs across the range of households in the community. Market-rate housing cannot be built to accommodate the needs of lower-income households. While some of these needs are envisioned to be accommodated through preservation of "naturally occurring" affordable housing in the market or filtering of households when new housing becomes available, subsidies will be necessary to meet these needs as well.
- **There are challenges to making use of this capacity.** As noted in previous sections, while there is capacity available, there are distinct challenges in the ability to build and the historical rate of housing construction in Lakewood has been well below what will be required to meet these targets. While available capacity is one issue, the ability to make use of this capacity will be an ongoing concern for policy.

Overall, however, the identified capacity described in Exhibit E-34 highlights that the city has the base land capacity sufficient to meet state requirements, both in terms of the overall housing target and targets necessary to meet household needs by income. Additional policy efforts will be necessary to ensure that future development can utilize this capacity to meet these identified needs.

E.2.7 Racial Equity and Displacement

The region is experiencing critical challenges with its housing supply not keeping pace with growth, resulting in significant impacts. These impacts are particularly felt by communities of color that do not have the resources available to respond to these trends. These communities often face higher costs, poorer housing quality, and reduced opportunities for homeownership due to longstanding discriminatory practices.

The 2024 updates to the Comprehensive Plan must address these disparities through various strategies, including identifying and amending policies that contribute to racial disparities and displacement, and implementing anti-displacement measures, particularly in areas prone to market-driven displacement.

Displacement in housing is increasingly problematic as rising costs and inadequate housing supply prevent many from securing suitable, affordable homes. Displacement types include:

- **Economic displacement**, when increases in rents and other costs result in people and businesses moving where these costs are lower;
- **Physical displacement**, when housing units and other buildings are demolished or renovated and no longer available; and
- **Cultural displacement**, when a local community changes due to economic and/or physical displacement, and other residents are driven away because of declining community cohesion and social bonds.

Displacement has broader implications for community dynamics and regional stability. It leads to longer commutes, fragmented community ties, and increased strain on social services, potentially escalating homelessness. Addressing these issues through local policies can help retain community integrity and support economic and social sustainability in the face of inevitable urban changes.

Comprehensive Plan updates for cities like Lakewood are encouraged to integrate racial equity in housing policies to mitigate displacement risks. These updates should include thorough assessments of existing housing policies that might perpetuate racial disparities and propose new strategies to prevent displacement. The focus will be on preserving community and cultural continuity while providing practical housing solutions to meet the diverse needs of the population.

The following exhibits highlight relevant statistics for the city regarding racial equity in housing:

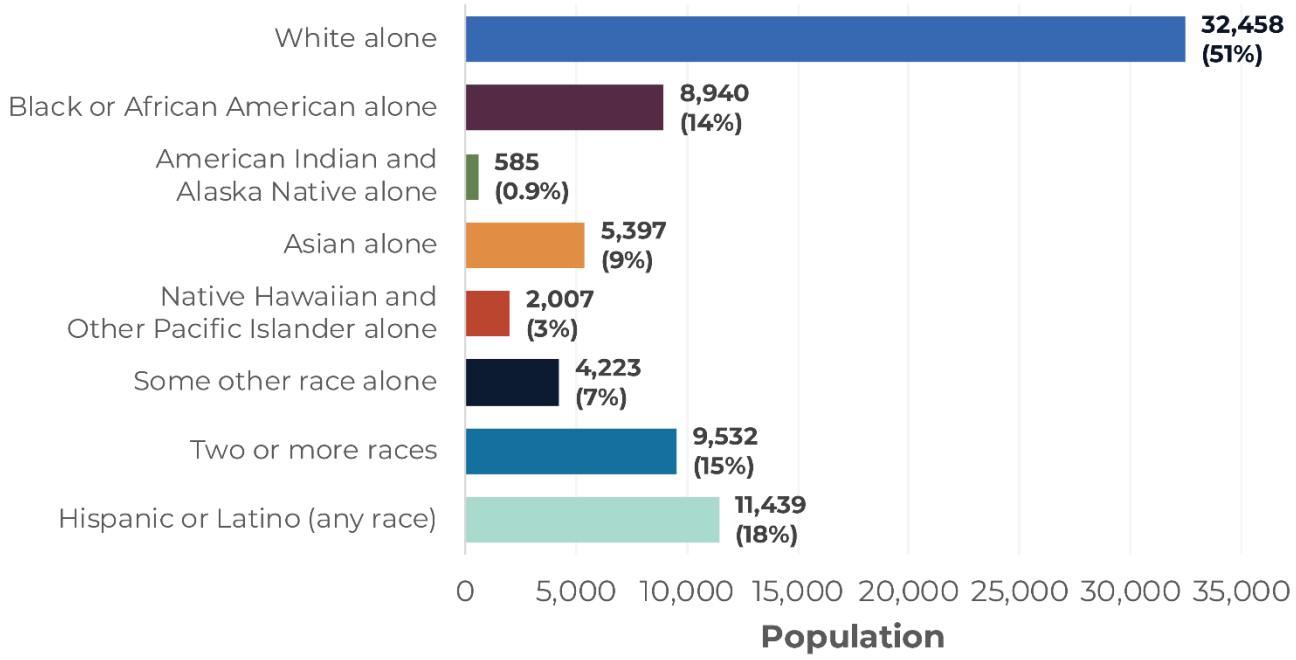
- Exhibit E-35 provides a breakdown of the Lakewood population by race and ethnicity, based on 5-year American Community Survey data from 2022. (Note that these statistics do not separate Hispanic/Latino residents by race.)
- Exhibit E-36 highlights the difference of tenure by race and ethnicity, indicating how many renters versus owners are found in each category.
- Exhibit E-37 breaks down proportions of households by income categories, determined by percent of area median income (AMI).
- Exhibit E-38 indicates housing cost burdens by race and ethnicity in Lakewood, highlighting cases where households are cost burdened (paying over 30% of their income on housing costs) or severely cost burdened (paying over half of their income on housing).

- Exhibit E-39 provides a displacement risk index provided by the PSRC by US Census Bureau census tract. This is divided based on the regional distribution and indicates where the risks of displacement may be “higher”, “moderate”, or “lower” in the regional distribution.
- Exhibit E-40 provides a distribution of residents by race at the Census block level, based on information from the 2020 US Decennial Census.

There are several high-level conclusions that can be reached from this information:

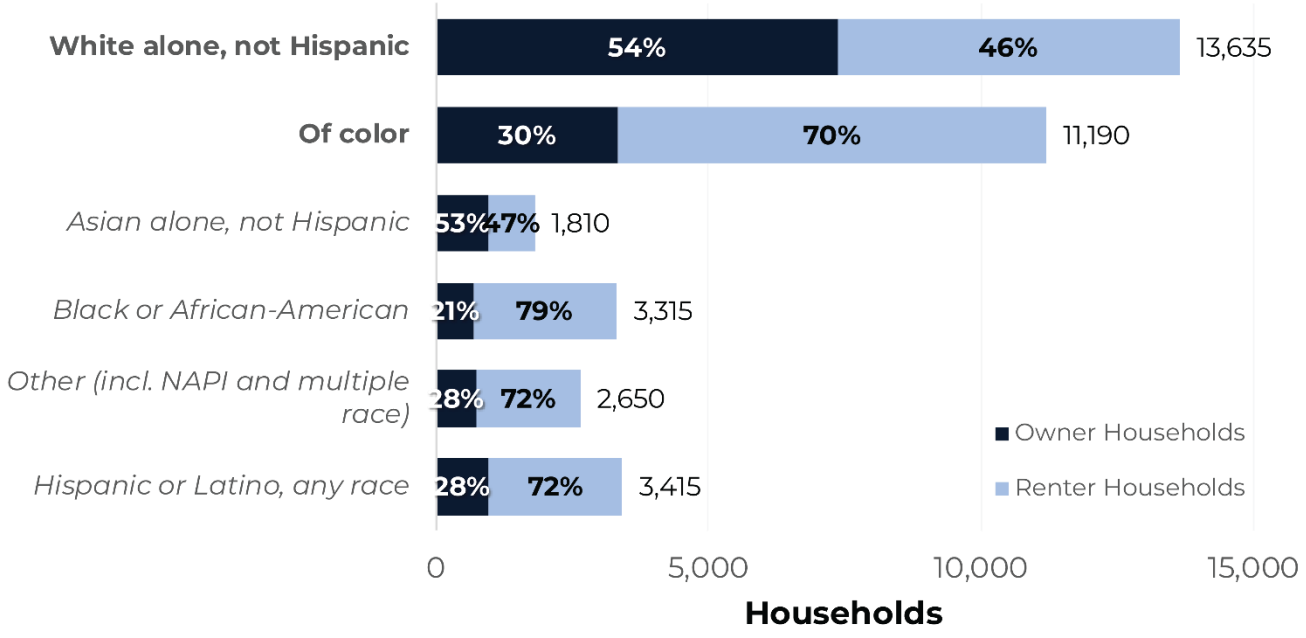
- **There are some income disparities by race/ethnicity in Lakewood that could lead to housing challenges.** The distribution of white households in the city generally includes greater representation at higher income levels, with only 16% households at extremely low-income and 38% above median income. In contrast, about 21% of households of color are extremely low-income, and only 24% surpass the median income threshold.
- **The distribution of households between renters and owners by race suggests some vulnerabilities to housing stability by race/ethnicity.** Households of color face significant challenges in homeownership and housing stability: about 54% of White households own homes compared to only 30% of BIPOC households. Particularly, about 79% of Black or African American and 72% of Hispanic/Latino households are renters, which indicates possible vulnerabilities to local rent increases.
- **On average, higher housing cost burdens are more common for Black households.** A substantial number of Black or African American households in Lakewood (58%) experience some type of housing cost burden, with 34% facing severe difficulties. These economic pressures suggest a critical need for targeted housing policies and community support.
- **There is a likely risk of displacement in key areas of the city.** The Lakewood Station District and the Lakeview/Kendrick area are identified as high-risk zones for displacement, especially among communities of color. These neighborhoods, along with the International District, face challenges that may also extend to local businesses, potentially necessitating protective measures and anti-displacement strategies.

Exhibit E-35. Lakewood Population by Race and Ethnicity, 2022.



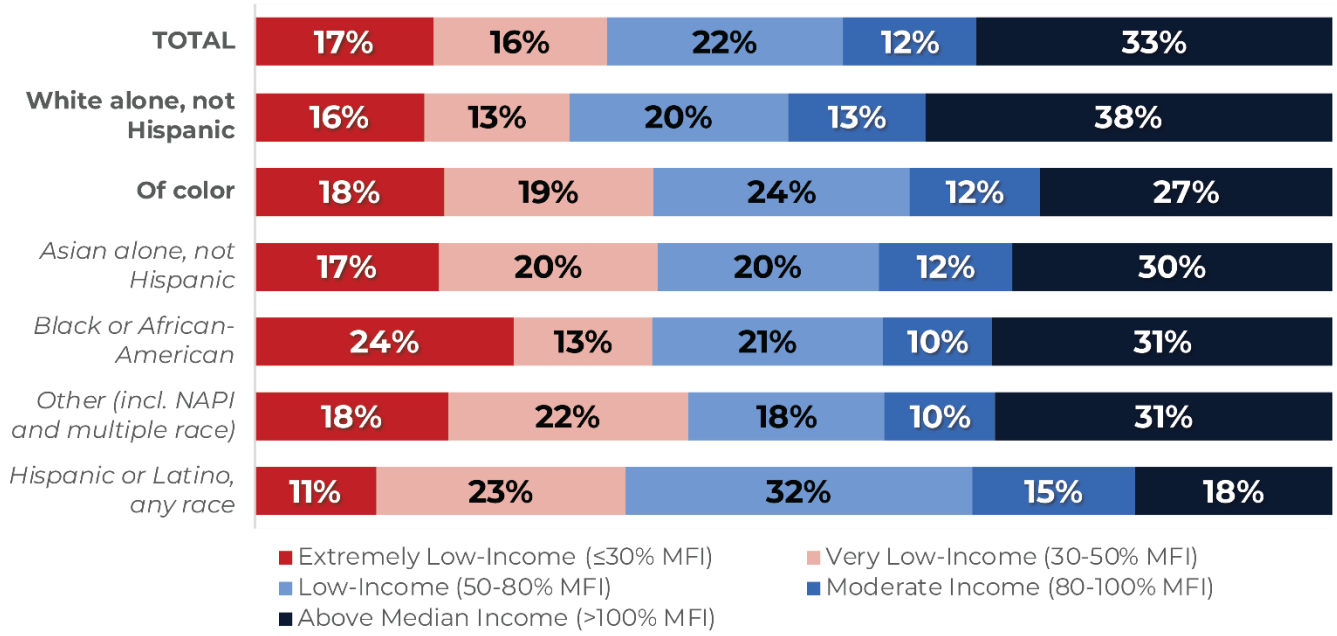
Source: US Census Bureau, 2018-2022 American Community Survey 5-Year Estimates, 2023.

Exhibit E-36. Lakewood Households by Race/Ethnicity and Tenure, 2020.



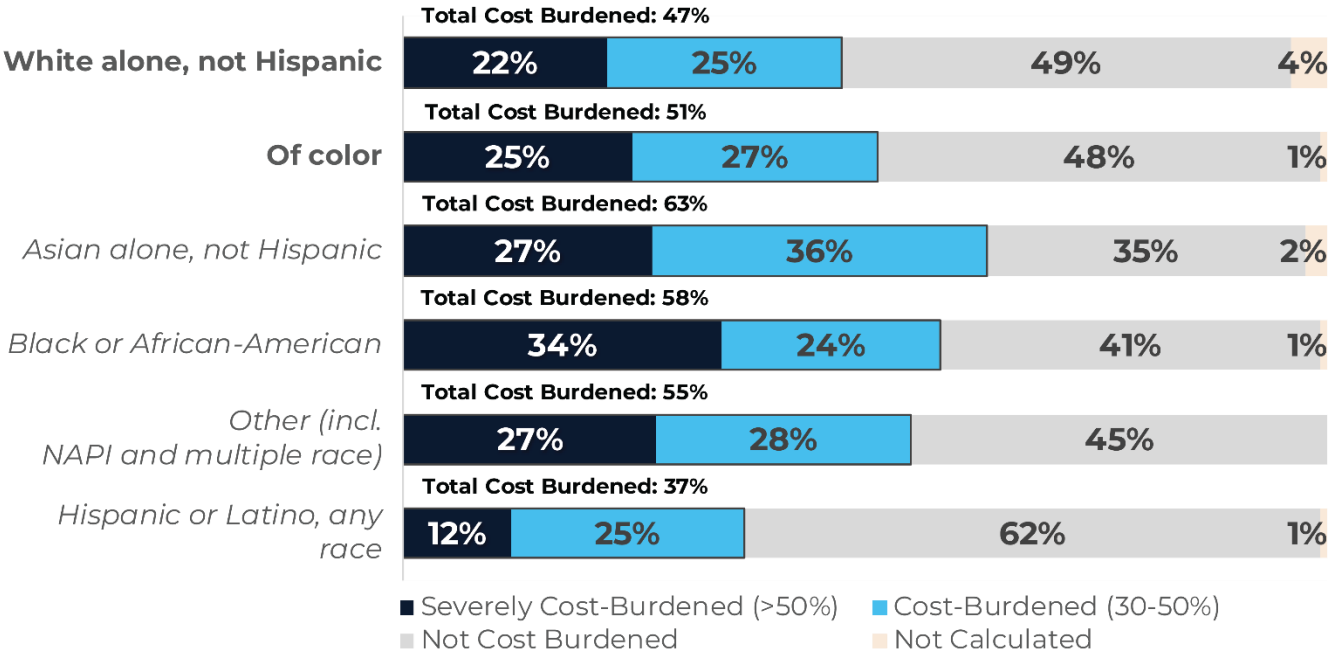
Source: US HUD Comprehensive Housing Affordability Strategy (CHAS) data, 2016–2020.

Exhibit E-37. Lakewood Households by Race/Ethnicity and Income Category, 2022.



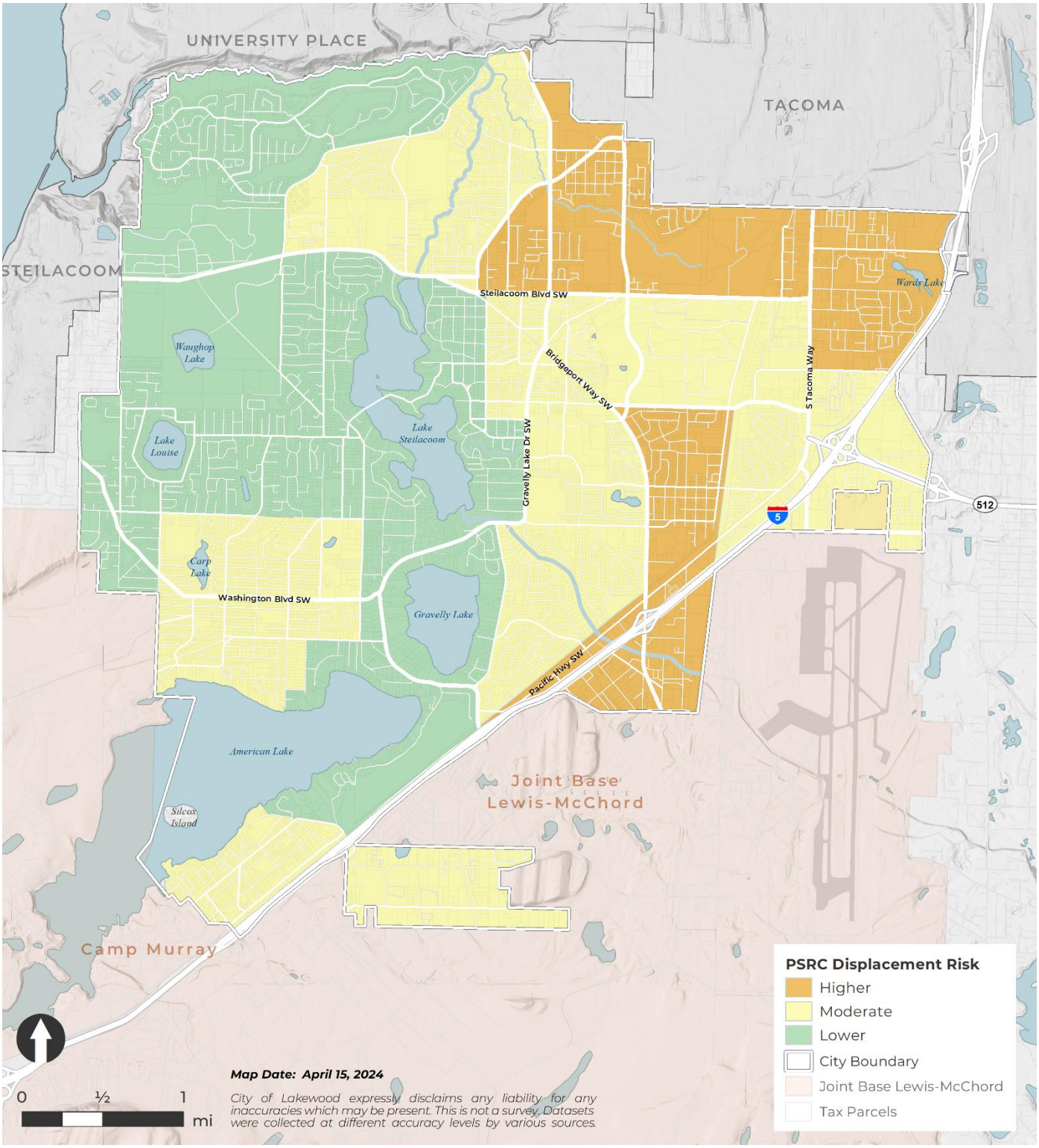
Source: US HUD Comprehensive Housing Affordability Strategy (CHAS) data, 2016–2020.

Exhibit E-38. Lakewood Households by Race/Ethnicity and Cost Burden, 2020.



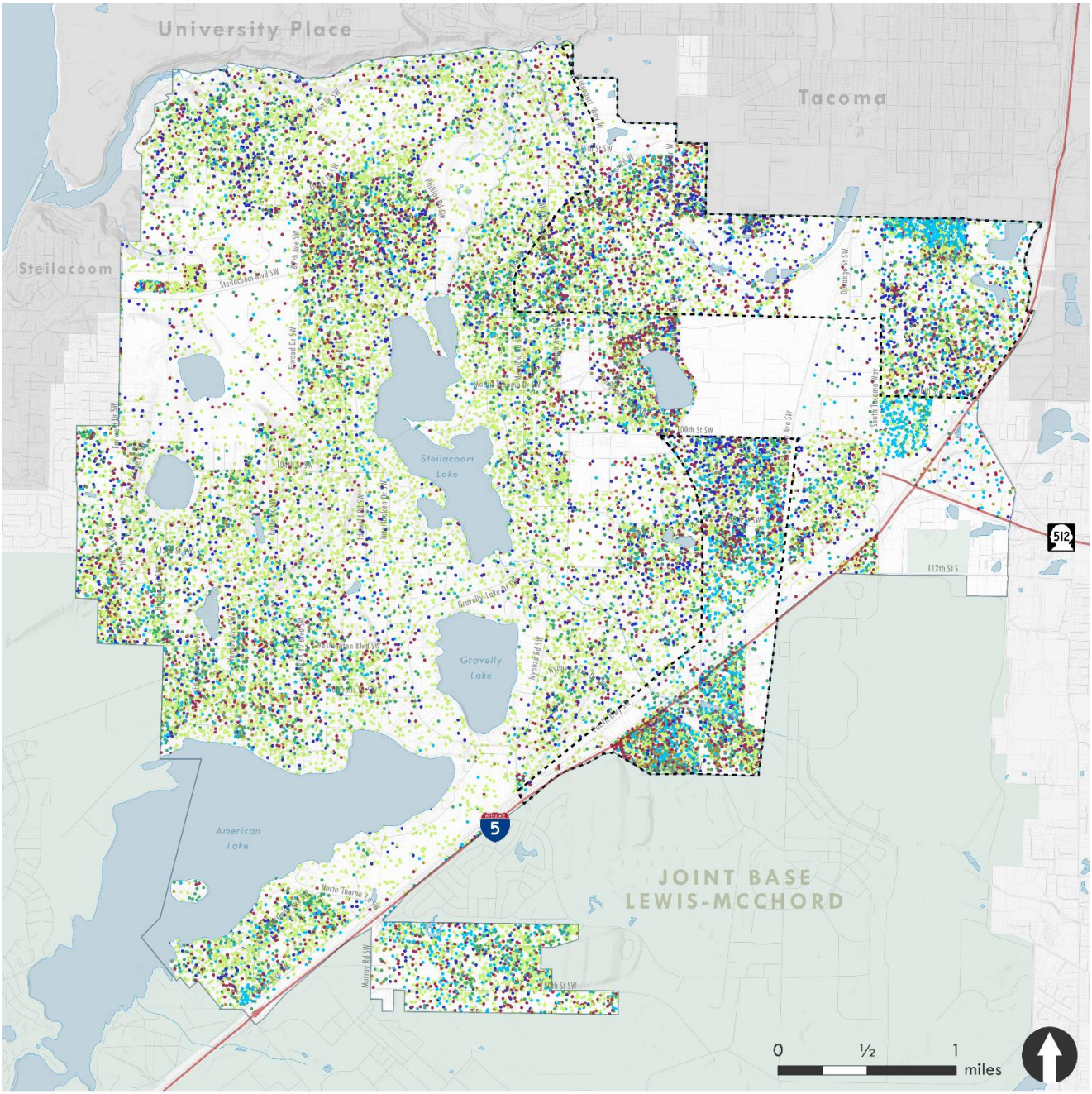
Source: US HUD Comprehensive Housing Affordability Strategy (CHAS) data, 2016–2020.

Exhibit E-39. PSRC Displacement Risk Index for Lakewood.



Source: PSRC, 2024; City of Lakewood, 2024; Pierce County GIS, 2024.

Exhibit E-40. Distribution of Population by Race in Lakewood, 2020.



Legend

- City of Lakewood
- Other cities
- Joint Base Lewis-McChord
- Water

Distribution of Population by Race

- White alone
- Black or African American alone
- American Indian and Alaska Native alone
- Asian alone
- Native Hawaiian and Other Pacific Islander alone
- Some Other Race alone
- Two or more races

- Highways
- Arterials
- Roads

PSRC Displacement Index: Higher Risk

BERK

Map Date: January 2023

Sources: Pierce County GIS, 2022; ESRI, 2022; City of Lakewood, 2022; BERK, 2022.

E.3 Affordable Housing and Housing Preservation Programs

Lakewood elected and staff representatives actively participate, and serve in leadership positions, on countywide and regional work groups, advisory boards, etc. that address the need for emergency, transitional, permanent supportive, and subsidized and market rate affordable housing, such as the:

- Tacoma-Lakewood-Pierce County Continuum of Care;
- Comprehensive Plan to End Homelessness (CPEH) Implementation Advisory Board;
- Pierce County Behavioral Health Advisory Board;
- South Sound Affordability Partners (SSHA3P); and
- South Sound Military & Communities Partnership (SSMCP.)

Given the importance of housing, the City has invested a significant portion of its federal block grant monies it receives from the U.S. Department of Housing and Urban Development, specifically Community Development Block Grant (CDBG) and Home Investment Partnership Program (HOME) funds, to:

- support Habitat for Humanity to construct about 50 new low-income housing units in the Tillicum neighborhood,
- fund needed remodels of older homes citywide,
- assist with down payment assistance for first-time homeowners, and to
- provide low-interest sewer loans so property owners can connect to the sewer system.

The City also funds and supports a number of municipal programs addressing homelessness and mental health. For instance, the 2023-2024 Biennial Budget set aside $2.44 million in support of a number of housing and homeless prevention programs.

E.3.1 CDBG & HOME Programs

The City of Lakewood has been a federal entitlement city under the Community Development Block Grant (CDBG) program since 2000 and receives and annual allocation directly from the federal government. Additionally, through the City's consortium with the City of Tacoma, the City qualifies to receive additional funding through the HOME Investment Partnerships Program (HOME) program. HOME provides funds in support of affordable housing, particularly housing for low- and very low-income individuals. HOME funds have been used for Habitat for Humanity to construct roughly 50 low-income housing units in the Tillicum neighborhood.

Between 2000 and 2021, the City invested $4.6 million in CDBG investments to construct road safety improvements such as adding sidewalks and installing street lights in a large number of low-income neighborhoods. The City also invested almost $6.6 million to support existing affordable and low-income housing such as home repair loans and grants, emergency assistance to help displaced individuals find housing, down payment assistance, and repair to affordable housing units owned and operated by the Pierce County Housing Authority.

E.3.2 Affordable Housing Sales Tax Credit Program

In March 2020, the Lakewood City Council adopted an ordinance authorizing a sales and use tax credit for affordable and supportive housing in accordance with SHB 1406 (codified as RCW 82.14.540) that was approved by the State Legislature in 2019. The City receives an estimated $98,000 per year for twenty years totaling an estimated $1,960,000. The funds have been used to bolster the City's CDBG Major Home Repair Program, CDBG Major Home Repair and Sewer Loan Program, and HOME Housing Rehabilitation Loan Program. In 2024 and beyond, these funds may also be used for emergency rental assistance and eviction prevention.

E.3.3 Rental Housing Safety Program (RHSP)

Out of the 26,999 total housing units within the City, Lakewood has approximately 15,335 rental properties. In addition, much of the rental housing stock is at an age that requires life cycle investments. Lakewood's Rental Housing Safety Program (RHSP) has identified many rental units in need of maintenance, and aims to reduce, and eventually eliminate, all substandard rental housing in Lakewood.

Lakewood implemented the RHSP in late 2017. By addressing housing conditions proactively through the mandatory periodic life/safety/habitability property inspections and quickly identifying and addressing substandard conditions and code violations, this program is preserving Lakewood's existing affordable housing stock.

The results show that the quality of the rental housing stock in Lakewood is quickly improving and the City is beginning to see a substantial decline in inspection-failed properties and rental units. The percentage of failed properties in 2017/18 was 20%; in 2022, it had dropped to 3%.

E.3.4 2021 American Rescue Plan Act Investments in Housing

Lakewood was allocated $13.76 million in ARPA funds in 2021. The City Council allocated over $4M to the following affordable and emergency housing programs:

- $1M to partner with Tacoma and Pierce County in purchase of a hotel to be run as an emergency shelter by LIHI from 2022-2023;
- $1M to help fund 25 affordable housing units in LASA's Gravelly Lake Commons Affordable Housing Phase 3;
- $1M to help fund Community First Village, a project to house Pierce County chronically homeless, including veterans.
- $254,100 to fund sewer extension to 12 new affordable housing units built by Habitat for Humanity in Tillicum;
- $341,250 to fund Rebuilding Together South Sound (RTSS) outreach in underserved communities to connect people with essential services like food banks and home repairs. RTSS repaired homes in Woodbrook, Springbrook, and Monte Vista through this program;
- $472,500 to fund the Tacomaprobono's Lakewood Housing Justice Project to provide free legal aid and direct representation, including to prevent eviction, of hundreds of low-income tenants disproportionately impacted by COVID-19.

E.3.5 Multifamily Housing Tax Exemption (MFTE)

The Multifamily Property Tax Exemption (MFTE) program enables cities and counties to promote multifamily housing development in specific areas. Initially aimed at spurring economic growth and new multifamily constructions, the MFTE program has evolved to be a crucial mechanism for fostering affordable housing and advancing the objectives of the Growth Management Act.

Lakewood has implemented an MFTE program through Chapter 3.64 LMC. This program includes the ability to exempt the residential improvement value of new projects and rehabilitated housing that provides 15 or more new housing units. This exemption is provided for eight years but can be extended to 12 years in exchange for the housing being restricted to low- and moderate-income households of up to 115% AMI. This exemption can cover both rental and owner-occupied housing.

This exemption is applicable in three specific targeted areas located in:

- Downtown (CBD)
- Lakewood Station District
- Springbrook

F Military Compatibility

F.1 Background

F.1.1 Introduction

RCW 36.70A.530(3) requires that local governments adopt comprehensive plans and development regulations that should not allow development in the vicinity of a military installation that is incompatible with the installation's ability to carry out its mission requirements.

VISION 2050 includes the following multicounty planning policies (MPPs):

- Consult with military installations in regional and local planning, recognizing the mutual benefits and potential for impacts between growth occurring within and outside installation boundaries, (MPP-RC-6);
- Recognize the beneficial impacts of military installations as well as the land use, housing, and transportation challenges for adjacent and nearby communities (MPP-RC-7);
- Protect military lands from encroachment by incompatible uses and development on adjacent land (MPP-DP-49); and
- Foster a positive business climate by encouraging regionwide and statewide collaboration among business, government, utilities, education, labor, military, workforce development, and other nonprofit organizations (MPP-Ec-2);

VISION 2050 also includes a transportation project selection action item that allows for the inclusion and funding of transportation projects, identified in a completed local or regional transportation study, that relate to and potentially benefit access to military installations and surrounding jurisdictions.

The Lakewood Urban Growth Area (UGA) currently includes Camp Murray, which is part of the Washington Military Department, and the urban areas of Joint Base Lewis McChord (JBLM.)

F.1.2 Camp Murray

Camp Murray is owned by Washington State. There are no residential uses located onsite. Developed areas encompass about 52% of the installation. The built environment provides statewide wheeled vehicle support, storage buildings, administrative offices, classrooms, a heliport, and a drill field. There are 88 buildings on Camp Murray, approximately a third of which are over 50 years old. Water and sewer facilities are provided by JBLM.

The Washington State Emergency Operations Center is located on Camp Murray, which aids local emergency responders in coordinating search and rescue operations, wildfire mobilization, environmental responses, and other emergencies. Recreational amenities include a physical training

course, campground, and a boat launch. The remaining portions of the installation consist of undeveloped forest, wetlands, shoreline, and riparian areas.

In 2012, following the WA Military Department's approving a Camp Murray master plan including a proposal to relocate its main gate from Union Avenue SW to Portland Avenue SW, Lakewood examined whether to pursue annexing Camp Murray into the City.

Annexation of Camp Murray proved to be infeasible given its unique nature. State enabling legislation would be required to annex it. However, the City and WSA Military Department agree that Camp Murray should remain in the City's UGA due to their shared interests. Primary ingress/egress into Camp Murray is through the Lakewood, and road improvements have been made in Lakewood to improve access into Camp Murray. Both the City and Camp Murray are located on the shores of American Lake. A boat launch and an enclosed boat storage facility housing fire district and police boats straddle current boundaries.

In 2023, Lakewood committed to providing $100,000 in American Rescue Plan Act (ARPA) funds to partner with Camp Murray in drafting a master plan for improvements of the American Lake boat launch that would allow public access to the facility.

F.1.3 Joint Base Lewis McChord (JBLM)

JBLM was formally established in 2010, combining Fort Lewis and McChord Air Force Base into a single administrative unit. JBLM is home to the U.S. Army I Corps and 7th Infantry Division, the U.S. Air Force 62nd and (Total Force Partner) 446th Airlift Wings, Madigan Army Medical Center, 1st Special Forces Group, U.S. Navy and U.S. Marine Corps elements, and other commands and tenant organizations.

There are two airfields on the installation: McChord Field, which is home to both active duty and Air Force Reserve C-17A airlift wings; and Gray Army Airfield (GAAF), which supports mainly helicopter operations. JBLM has a rail loading complex that connects to the Burlington Northern-Santa Fe (BNSF) line. The training lands on JBLM include 115 live-fire training ranges. Convoys to Yakima Training Center (YTC) use I-5 to State Route (SR 18) to I-90 to I-82. The ports of Olympia, Tacoma, and Seattle provide deep water seaport capabilities.

JBLM is a power projection platform with many strategic advantages, including: its location on the Pacific Rim; its hosting of the I Corps; its historical Asia/Pacific focus; its deep water port access, global airlift capabilities; and its extensive training ranges.

JBLM is also a major economic engine in Lakewood, Pierce County, the South Sound, and in Washington State. In 2018, JBLM provided direct employment for 52,000 active duty and civilian South Sound citizens, as well as engendering demand for local services through its tens of thousands of personnel. As of 2021, there were approximately 54,355 active duty service members, civilians, and contractors supporting JBLM. JBLM forecasts its military personnel and civilian population to increase by 2,537 persons by 2026.

"Economic impact multipliers" are a mechanism to summarize the importance of different areas of activity within an economy. The employment multiplier represents the change in the number of additional jobs gained or lost from an initial change in employment on JBLM. JBLM enjoys a multiplier of

1.42, meaning that for every 100 soldiers stationed at JBLM, an additional 42 jobs in the local economy are generated.

Aside from quantifiable economic impacts, military-related activity provides numerous benefits to the local, regional, and state economies, including: generating employment opportunities for a wide range of individuals and skilled workers such as retiring military personnel; creating supplementary markets for firms, whose principal focus is not defense; offering relative insulation from the volatility of market demand; and spurring technological innovation.

JBLM's cantonment area (installation areas designated for existing and proposed urban-scale development) is located within Lakewood's UGA and is shown in Figures _____ and _____. The cantonment area includes residential, commercial, industrial and military related uses. Over the past 15-20 years, JBLM has experienced significant development activity; that activity has been entirely confined to the cantonment area in an effort to both maximize and preserve JBLM's existing military training areas and to preserve wildlife habitat.

JBLM has approximately 23 million square feet of facilities. There are about 5,000 family housing units on JBLM with additional units are planned per DoD 2020 and 2023 housing accessibility studies. JBLM provides its own water and sewer utilities. The installation maintains 11,779 permanent party barracks/dorm spaces; 2,488 of those spaces have been constructed since 2010. JBLM has recently constructed 408 Wounded Warriors barracks units. Many of the new barracks units are replacing spaces in 1950's gang latrine barracks and will not add to the overall barracks inventory.

Six elementary schools are located on base. There is an existing prison and two airfields. JBLM maintains 278 miles of streets, a 3.3 million gallon water treatment plant, and a 4 million gallon wastewater treatment facility. The Madigan Army Medical Center is a part of JBLM. It is located on 120 acres and is the second largest treatment facility in the US Army.

JBLM has created its own master plan with design principles to preserve rangeland and airfield space, construct mixed-use buildings, create car parks, and establish a Town Square.

F.1.4 JBLM Joint Land Use Studies

Land use compatibility challenges can occur when military operations produce impacts, such as noise that affects surrounding communities, or when civilian growth and development interfere with the ability to conduct military operations safely and effectively. A military installation "joint land use study" (JLUS) is a collaborative, four-part military-civilian planning process that starts with: identifying current study area conditions and issues; identifying both current and foreseeable compatibility challenges based on land use, growth and development trends; and identifying both civilian and military interests and mission needs.

In 1992, a JLUS was completed for Fort Lewis and McChord Air Force Base. It resulted in several successful implementation actions, including both Pierce County and eventually the City of Lakewood addressing JBLM-related land use impacts within their comprehensive plans and development regulations, particularly with regard to land uses in the North McChord Field Clear Zone (CZ) and

Accident Potential Zones (APZs.) Funding was identified the US Air Force and Pierce County to start acquiring private property within the NCZ mitigate and eliminate the presence of incompatible land uses over time.

A new JLUS was completed in 2015 for JBLM. The 2015 JLUS was a collaborative process among federal and state governmental representatives; regional, and local governments and agencies within two miles of the JBLM boundary within Pierce and Thurston Counties; tribes; the public; JBLM; and Camp Murray. The study area generally encompassed those communities.

The 2015 JBLM JLUS consists of three documents: an Existing Conditions Report; a Compatibility Report, which identifies points of conflict or encroachment; and an Implementation Plan that lists strategies to solve current conflicts and to avoid future ones. Lakewood and other jurisdictions are implementing recommendations from the 2015 JLUS over time.

F.2 JBLM Growth Coordination Plans

The 2010 and 2022 Joint Base Lewis-McChord (JBLM) Growth Coordination Plans (GCPs) are the product of partnerships formed to prepare for growth and change in the South Puget Sound region associated with JBLM. The GCP study boundaries encompassed areas in Pierce and Thurston Counties. Representatives from JBLM, Washington State, and community leaders from Pierce and Thurston counties, Lakewood, Tacoma, DuPont, Steilacoom, Lacey, Yelm, Roy, area School Districts, health and social service agencies, and non-profit service providers in Pierce and Thurston counties participated in the development of the Plan.

The intent of the 2010 GCP was to assist the communities in planning and preparing effectively to maintain and enhance the quality of life of the region as the installation grew in response to then-recent Base Realignment and Closure (BRAC), Army Modular Force, and other Department of Defense initiatives.

The 2010 GCP was drafted to:

- Convey more information to regional service providers about JBLM population and employment they can use to better support military families in the region;
- Provide JBLM and community providers with recommendations for leveraging the economic opportunities of base expansion and for providing adequate off-base support services; and
- Provide public agencies with a consolidated document that provides supporting data for the opportunities and needs identified that can support future grant applications, and inform decision-makers of the urgency for implementation and benefits to both JBLM and the larger region.

The 2010 GCP also recommended establishing a new JBLM regional partnership. In response, in 2011, the South Sound Military & Communities Partnership (SSMCP) was created to provide a framework for collaboration between local governments, military installations, state agencies, and federal agencies to better coordinate efforts in areas such as: military relations; transportation and land use planning; environmental protection; emergency preparedness; grant applications; health care; population

forecasting; workforce development; education; housing; and economic development. The City of Lakewood has been a key leader in the SSMCP since its inception, serves as SSMCP's fiscal agent, and also hosts SSMCP's staff at Lakewood City Hall.

The 2022 Growth Coordination Plan (22GCP) built on and updated the 2010 GCP, reflecting changes in the region since 2010, including the 2010 creation of Joint Base Lewis-McChord and the 2011 formation of the South Sound Military & Communities Partnership (SSMCP.)

The 22GCP assessed the continued relevance of the strategies and priorities described in the 2010 GCP and, based on the assessment, modified SSMCP Work Plan priorities.

Eleven core resource areas were identified and discussed:

- Economics
- Transportation
- Land Use
- Housing
- Education and Child Care
- Social Services
- Health Care
- Public Utilities and Infrastructure
- Public Safety
- Quality of Life
- Climate Change

While the 22GCP efforts began by examining issues focused on the 11 core resource areas listed above, the greatest identified needs largely aligned with the pressing needs for the region as a whole.

The 22GCP included a ten-year work plan to drive SSMCP's efforts through 2032. It also recommended a 2023-2024 Work Plan that included the highest priority and the short-term implementation strategies:

- Support development of and access to on- and off-base housing;
- Advocate for occupational licensure portability;
- Pursue funding for I-5 corridor improvements;
- Measure and communicate the economic benefits of JBLM to the region;
- Support improvements to family and childcare provider communications and connections;
- Support behavioral health care initiatives that expand services;
- Implement land use compatibility in policies and at the North Clear Zone;
- Evaluate and update working group work plans;
- Support regional initiatives to address military family food insecurity; and
- Support DoD efforts to address climate change and mitigate impacts to mission readiness.

F.3 Clear Zones and Accident Potential Zones

A “Clear Zone” (CZ) is a federally designated, 3,000-by-3,000-foot safety area adjacent to the end of a runway. This area has the highest statistical possibility of aircraft accidents. Any existing or future development in the CZ is of concern as it often results in flight obstructions such as trees, physical structures, smoke, and glare, and challenges the military’s ability to safely carry out missions.

USAF analysis indicates that 28% of all air accidents occur within CZs, and Federal Aviation Administration (FAA) and Department of Defense (DoD) guidelines call for CZs to be undeveloped and free of people and flight obstructions in order to protect the public’s safety and the military’s ability to carry out its missions. Any use other than airfield infrastructure (e.g., approach lighting) is incompatible in the CZ, and development should be prohibited in this zone.

Accident Potential Zones (APZs) vary in size from the CZ: the APZ I is 3,000 feet wide by 5,000 feet long; APZ II is 3,000 feet wide by 7,000 feet long. APZ I and II areas have proportionately lower accident potential than the CZ, but the potential is still high enough that most types of development in these zone are discouraged, including residential uses.

The Clear Zone located at the North McChord Field runway is located partly within JBLM’s boundaries and partly within the City of Lakewood. Many privately-held buildings and business are located in Lakewood’s CZ area that are incompatible with runway operations and pose public and flight safety risks per FAA and DoD guidance. At the same time, existing businesses operating in the North Clear Zone are an important part of the local, regional and State economy. One of the highest priority recommendations that came out of 2015 JLUS was to develop solutions for the North Clear Zone based on Air Force Instruction 32-7063:

> *The potential for accidents is so high [in the Clear Zone] that the land use restrictions necessary to ensure compatibility would prohibit reasonable economic use of the land. Therefore, it is DOD and USAF policy to own the land within the Clear Zone, or control the land through restrictive use easements. (Air Force Instruction 32-7063, 18 DEC 2015)*

The SSMCP and partners from Washington State, Pierce County, City of Lakewood, JBLM and the Department of Defense have since completed work on the North Clear Zone Action and Implementation Plan (NCZAIP). The NCZAIP set forth a four-phased strategy consisting of six actions and corresponding implementation steps to be carried out over the next 10-20 years to accomplish project objectives, while balancing benefits and costs among stakeholders.

The NCZAIP Project Objectives include the following:

- Ensure public and air safety;
- Bring use of the North Clear Zone into Federal Aviation Administration and Department of Defense regulatory compliance;
- Preserve JBLM “Mission Assurance”;
- Implement the 2015 JBLM Joint Land Use Study; and
- Maintain full airfield operational capacity and capability.

In April 2017, the City of Lakewood adopted Resolution No. 2017-09, authorizing the City to sign and execute a Memorandum of Agreement (MOA) for implementation of the NCZAIP. In May 2017, the MOA was signed by all NCZAIP partners. All of the actions (listed below) are anticipated to begin if not be completed in the short term (0-5 years):

- Adopt changes to City of Lakewood Code and Administrative Processes;
- Prepare an amortization study;
- Seek voluntary property acquisitions and business relocation;
- Continue efforts on habitat restoration and preservation;
- Explore the "Woodbrook Land Exchange"; and
- Establish and maintain an AIP Implementation Team.

Most implementation actions will be led by project partners such as the City of Lakewood, Pierce County and JBLM. SSMCP will continue to be actively engaged, for instance by supporting formation and regular meetings of the AIP Implementation Task Force.

F.4 Supporting Military-Civilian Compatibility

F.4.1 Overview

In 2018 and 2019, Lakewood worked with the SSMCP and JBLM to develop a lighting ordinance and regional lighting code templates for jurisdictions around the JBLM boundaries. Lakewood adopted the ordinance and development code in 2019.

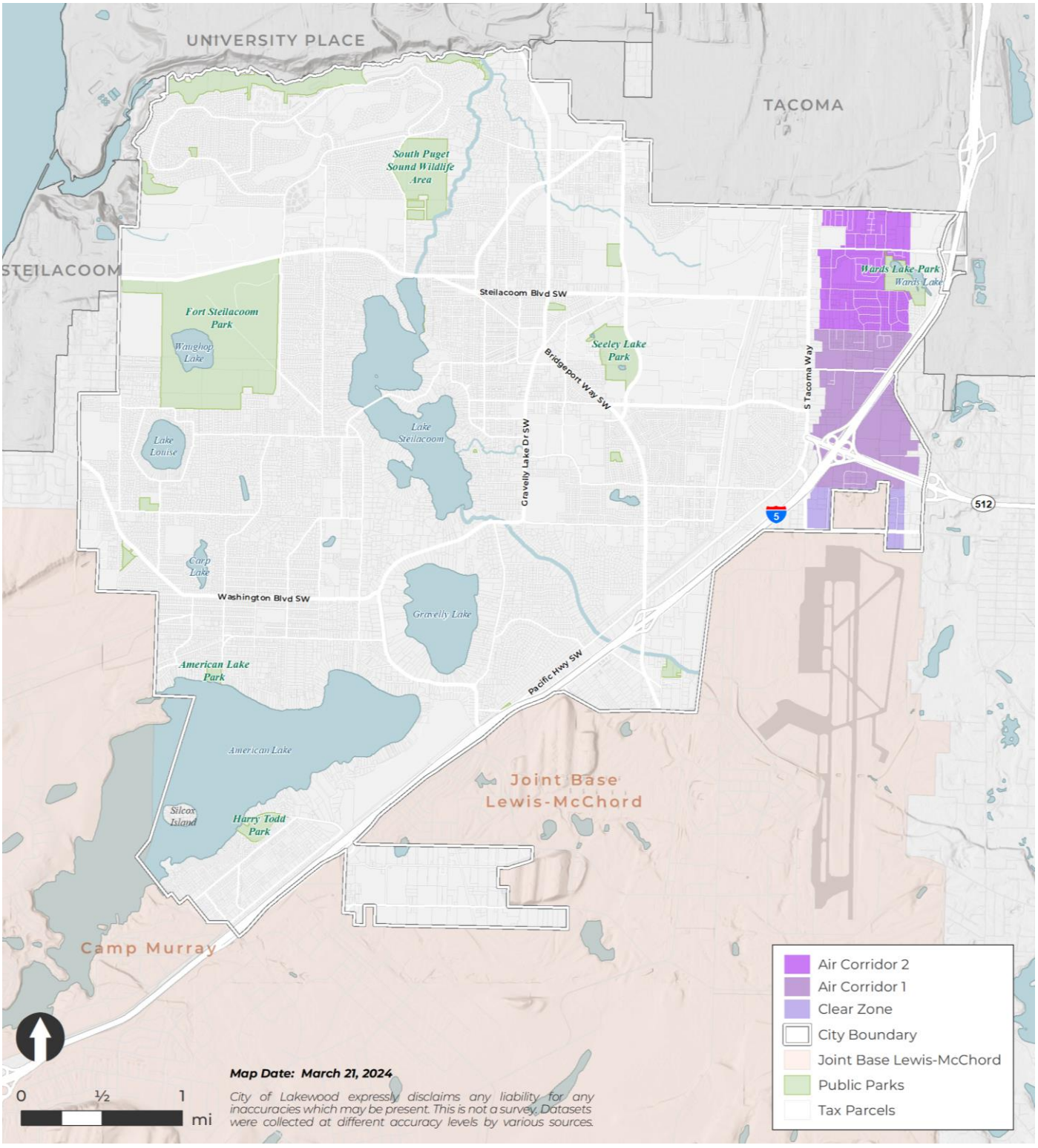
Lakewood and SSMCP also lead the successful advocacy efforts for the creation of the WA Defense Community Compatibility Account (DCCA.) The DCCA funds necessary infrastructure and supports establishing compatible land use and infrastructure near military installations in Washington. The program provides a framework for evaluating and prioritizing projects that enhance the economy, environment and quality of life opportunities for local communities affected by the presence of military installations.

Two Lakewood land use zones (Air Corridors (AC) 1 and 2) extend northward from the McChord Field runway and are subject to noise and safety impacts of military flight operations. These are based on the JBLM Air Installation Compatible Use Zone (AICUZ) Accident Potential Zones (APZ) I & II, but do have slightly different boundaries.

Special Note on Air Corridor 1 and 2 boundaries: There are minor discrepancies in the boundaries the City's Air Corridor 1 and 2 zones and the JBLM CZ, APZ I and APZ II boundaries. The Air Corridor boundaries follow property lines, whereas the CZ, APZ I and APZ II are based on imaginary surface areas.

Exhibit F-1 shows the AC1 and AC2 boundaries. The potential risk to life and property from hazards that may be associated with military aircraft operations, as distinguished from general/commercial aviation corridors necessitates control of the intensity, type, and design of land uses within the designation.

Exhibit F-1. Lakewood Air Corridors.



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

Air Corridor 2 (AC2) is generally coterminous with the McChord Field Accident Potential Zone Designation II (APZ II), as identified through the JBLM AICUZ program. The APZ II designation has a lower accident potential, and some compatible uses are appropriate; however, uses that concentrate people in the APZ II, including residential uses at densities greater than two dwelling units per acre, are considered incompatible per federal guidance.

F.4.2 Action Items

The following action items have been identified through military compatibility planning coordinated with JBLM, and should be considered as part of the Comprehensive Plan:

1. If military lands revert to Pierce County, coordinate with JBLM and the County to identify the desired character of the reverted property.
2. Recognize safety issues associated with training, artillery, and small-arms activities on JBLM.
3. Promote cooperation between JBLM and Lakewood to address the reduction or mitigation of noise-generating uses.
4. In accordance with RCW 36.70A.530 and VISION 2050 MPP-RC-6, MPP-RC-7, MPP-DP-49, and MPP-Ec-2, provide to JBLM official(s) for review and comment:
    a. all applications for commercial development, subdivision review, variances, conditional uses, special exceptions; and
    b. proposed amendments to Comprehensive Plans and development regulations proposed within the AC1 and AC2 zones, including applications concerning telecommunications, broadcast towers, and hobby communication towers.
5. Invite JBLM representatives to advise the City Planning Commission on community and economic development issues which have the potential to impact base military operations.
6. Provide City environmental policies to JBLM to encourage consistency with any environmental policies adopted by the military.
7. Cooperate with JBLM and Camp Murray in developing plans for circulation improvements in and around the installations.
    a. Plan public services, transportation, land use, and other decisions on the ability of the public transportation network to meet access needs without depending on military roads;
    b. Cooperate in the development of mitigation plans for military road closures that affect public use; and
    c. Promote the continued operation of existing rail lines to serve the transportation needs of Lakewood businesses and Joint Base Lewis-McChord.
8. Review proposed Comprehensive Plan and zoning amendments for compatibility with the JBLM Air Installation Compatible Use Zone (AICUZ) program and most recent Joint Land Use Study (JLUS.) Identify priority areas in which to resolve inconsistencies with AICUZ regulations.
9. Consider regional and national needs as well as local concerns in City land use decisions regarding proposals located in the AC1 and AC2 zones.
10. Prohibit Comprehensive Plan amendments and land use zone reclassifications within AC1 and AC2 that would increase residential densities, geographically expand residential zones, establish a new

residential designation, change an existing commercial or industrial designation to a residential designation, or allow residential uses in commercial or industrial zones.

11. Prohibit the following land uses within appropriate areas and zones:
    a. New residential uses, unless the design of the structure and general site plan incorporate noise-reduction measures to meet the Department of Housing and Urban Development (HUD) standards;
    b. Public services and quasi-public services such as hospitals, public meeting rooms, and libraries, and cultural, recreational, and entertainment land uses, unless the design of the structure and general site plan incorporate noise reduction measures to meet HUD standards;
    c. Uses which attract birds, create visual hazards, discharge particulate matter into the air which could adversely alter atmospheric conditions, emit transmissions which would interfere with military aviation communications and instrument landing systems, otherwise obstruct or conflict with airport operations or aircraft traffic patterns, or result in potential hazard for off-base land uses;
    d. Schools, daycare facilities, and other facilities which incorporate outside activities; and
    e. Sensitive uses that have a high concentration of people such as, but not limited to, schools, religious institutions, theaters, public assembly facilities and day care facilities are prohibited from locating near McChord Field and/or within the AC1 and AC2 zones.
12. Promote the conversion of existing higher density housing in eth AC1 and 2 land use zones, including mobile home parks and apartments and other high occupancies, to less intensive land uses.
13. Direct the following land uses away from property abutting the JBLM boundary:
    a. High density residential;
    b. Public buildings (such as schools, medical facilities, public meeting facilities, and churches); and
    c. Cultural facilities.
14. Preserve and encourage existing and new industrial uses that complement aviation facilities in the AC1 and AC2 zones, including warehousing, storage, open space, and other appropriate land uses.
15. Require future construction adjacent to the installation to provide for fire protection at installation boundaries.
16. Control light and glare in the AC1 and AC2 zones to protect the operational environments near McChord Field.
17. Protect military airspace by preventing structural penetration of Imaginary Surfaces as described in UFC 3-260-01 and in the most recently published JBLM AICUZ Report. Development within the AC1 and AC2 zones which may affect UFC 3-260--01 imaginary surfaces shall obtain necessary approvals from the Federal Aviation Administration (FAA). Operators of construction cranes within the AICUZ Accidental Potential Zones shall coordinate with JBLM and the Federal Aviation Administration prior to commencing operations.
18. Require the application of noise abatement through acoustical analysis, structure design and construction techniques and materials in residential developments within the AC1 and AC2 zones per FAA regulations (FAR Part 150).

19. Require Title Notice for new development or substantial redevelopment of lots, buildings, and structures in the AC1 and AC2 zones that may experience low overhead flights, odor, vibrations, noise and other similar aviation impacts.
20. Support workforce development programs for military personnel transitioning out of military service.
21. Conduct industry justification and economic diversification studies in response to drawdown and potential loss of Department of Defense contracts.
22. Regarding South Sound Military & Communities Partnership (SSMCP):
    a. Continue role as the fiduciary agent of the SSMCP and remain responsible for all its staffing and budgetary activities;
    b. Retain membership on the SSMCP Executive Leadership Team (ELT);
    c. Conduct periodic meetings of elected local, state, and federal officials and military commanders on growth management issues of mutual concern;
    d. Engage JBLM and Pierce County in determining land valuations and business relocation costs in the McChord Field North Clear Zone;
    e. Using funds from the U.S. Department of Defense Office of Local Defense Community Cooperation (OLDCC), Washington State, and other available sources, lead efforts to implement the JBLM JLUS, including the North Clear Zone Action Implementation Plan; and
    f. In consultation with the SSMCP's members and partners:
        i. develop, and maintain a business plan for the SSMCP;
        ii. work to establish a permanent funding source for the SSMCP;
        iii. encourage the dissemination of information to the public regarding JBLM mission activity and associated impacts through such means as website postings, distribution of brochures, distribution of information to the regional print and broadcast media; and
        iv. develop a JBLM Regional Policy Considerations Guide. The guide would include background text on JBLM operations and policies associated with economic development and housing.

G Natural Environment

G.1 Introduction

The Natural Environment Element has goals and policies that will be implemented over time through development regulations, an urban forestry program, an Energy & Climate Change Implementation Plan, and continued partnership with community environmental groups.

Over the past century, Lakewood's transformation into an urban area has often come at the expense of its natural landscape, leading to significant degradation and, in some cases, the complete loss of natural environments. Looking ahead, prioritizing the enhancement and protection of these remaining natural spaces will be crucial for improving local quality of life and preventing the perception of Lakewood as merely another "paved over" urban area.

In recent years, the city has actively engaged in initiatives to improve environmental quality in the community. In 2004, Lakewood implemented new critical areas policies along with updates to its environmental protection regulations, which have been continually refined. Additionally, in 2019, the city approved a new Shoreline Management Plan and Restoration Plan. Community organizations collaborate closely with the city and Pierce County, reporting annually to the Planning Commission on efforts to preserve and rejuvenate Lakewood's shorelines. These projects are supported financially through Lakewood's biennial budget allocations for shoreline restoration.

G.2 The Natural Environment and Critical Areas

G.2.1 Overview

Under the GMA, Lakewood is required to review its critical area regulations when adopting its comprehensive plan. The primary purpose of this subsection is to evaluate consistency between existing goals and objectives governing critical areas and each of the three alternatives under consideration. An additional function is to compare the impact of each alternative on resource lands.

Critical areas in the City of Lakewood include wetlands, aquifer recharge areas, fish and wildlife habitat, flood hazard areas, geologically hazardous areas. Creeks, streams, and lakes are part of fish and wildlife habitat. Chambers Creek and the many lakes in Lakewood are shorelines of the state.

- **Wetlands** are areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. They include swamps, marshes, bogs, and similar areas.

- **Aquifer recharge areas** are areas where the prevailing geologic conditions allow infiltration rates which create a high potential for contamination of groundwater resources or contribute significantly to the replenishment of groundwater with potential to be used for potable water.
- **Fish and wildlife habitat areas** are habitats considered to be critically important to the maintenance of fish, wildlife, and plant species, including areas with which endangered, threatened, and sensitive species have a primary association; habitats and species of local importance lakes, ponds, stream, rivers, state natural area preserves and natural resource conservation areas. Priority Oregon White Oak Woodland are a habitat and species of local importance (LMC 14A.154.020(B)(1)).
- **Flood hazard areas** are lands located in floodplains which are subject to a one percent or greater chance of flooding in any given year.
- **Geologically hazardous areas** are areas that because of their susceptibility to erosion, sliding, earthquake, or other geological events, may pose a risk to the siting commercial, residential, or industrial development consistent with public health or safety concerns.

Each of these is described in the comprehensive plan background report (EDAW 1997) and in the Environment and Critical Areas sections of the interim comprehensive plan (City of Lakewood 1996).

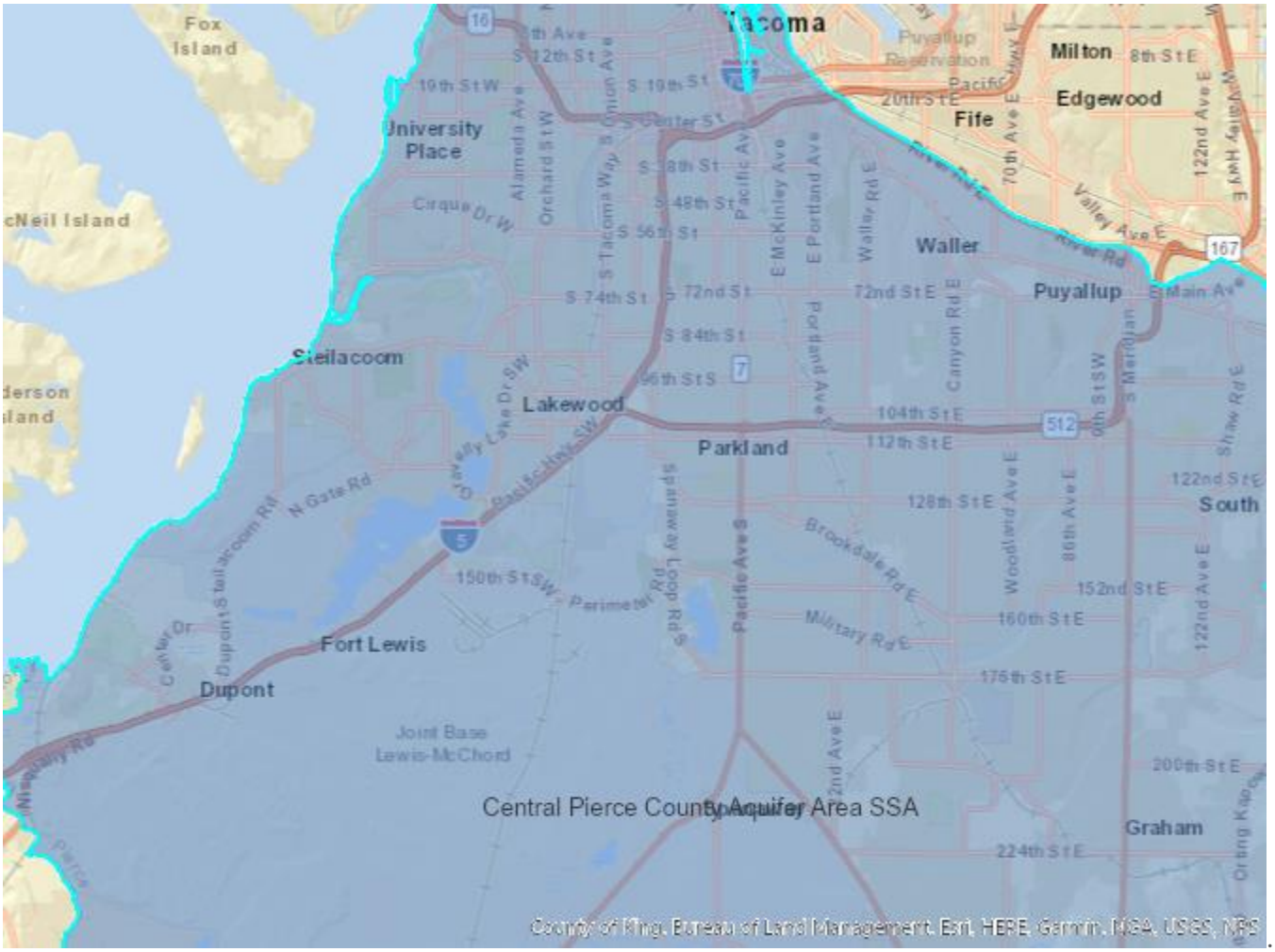
G.2.2 Wetlands

Lakewood has an estimated 155.3 acres of wetlands in addition to 1,098 acres of lakes (City of Lakewood 1996). The largest non-lacustrine wetland is the 106-acre Flett Creek floodplain in northeast Lakewood. The second largest wetland is the 37-acre Crawford Marsh comprising much of Seeley Lake Park. Both contain peatbogs and waterfowl and animal habitat. Other wetlands are scattered throughout Lakewood on both public and private property along stream corridors and in isolated depressions.

G.2.3 Aquifer Recharge Areas

Lakewood and much of the county is in the Central Pierce County Sole Source Aquifer. See Exhibit G-1.

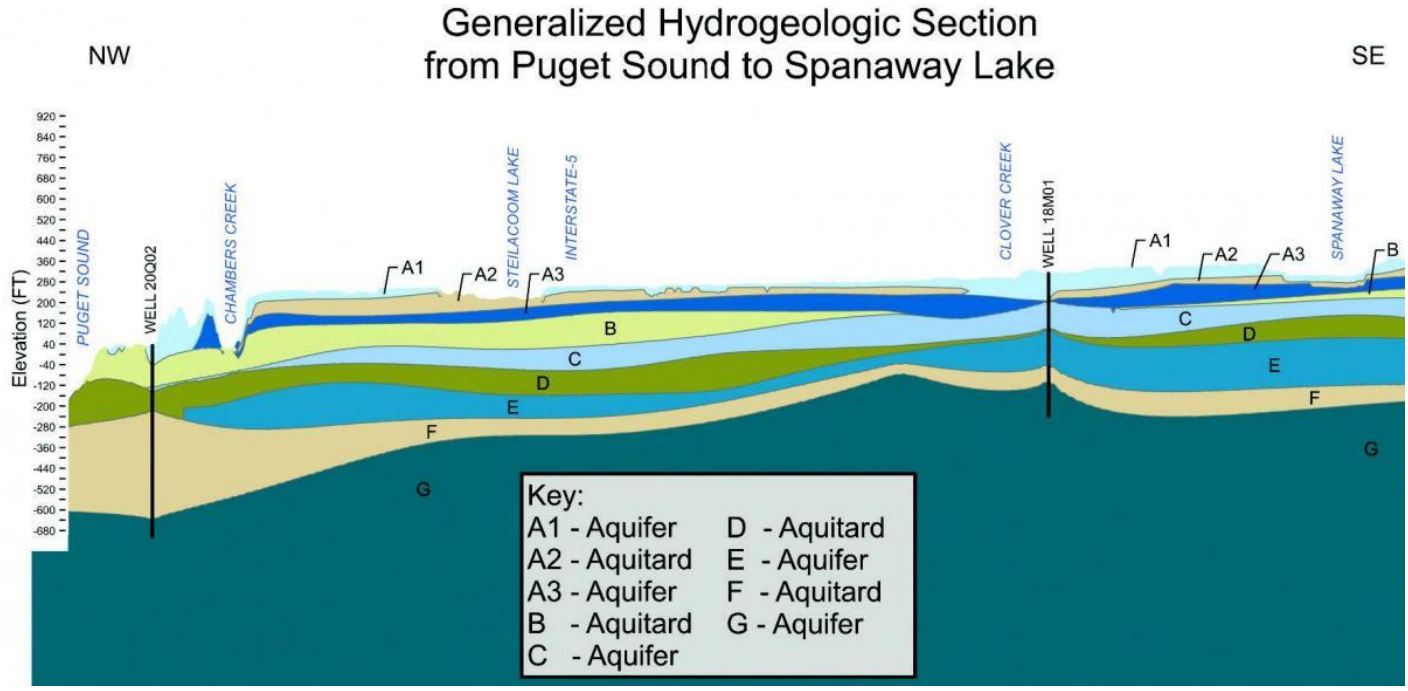
Exhibit G-1. Central Pierce County Sole Source Aquifer Area Lakewood Vicinity



Source: US EPA, 2024.

The Lakewood Water District's sole source of water is from underground aquifers, water-bearing strata of permeable rock, sand, or gravel. Most of Lakewood is built above a series of four underground aquifer systems that supply the Lakewood Water District with well water, serving Lakewood with water for domestic and industrial uses. See Exhibit G-2.

Exhibit G-2. Aquifers from Puget Sound to Spanaway Lake



Source: (Lakewood Water District, 2024)

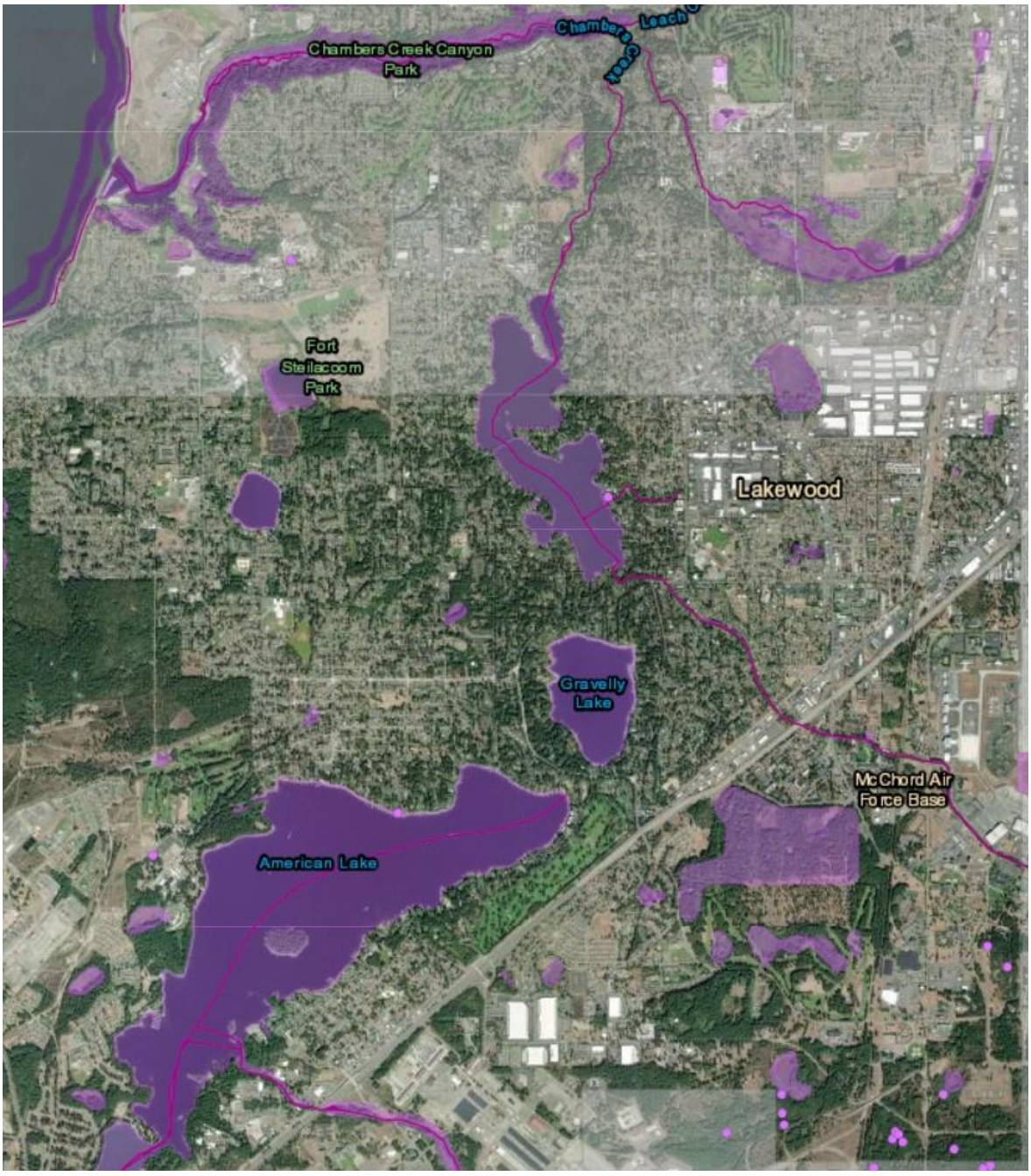
The District's 30 active wells provide a maximum production capacity of approximately 30 million gallons per day (mgd), with a total water-right capacity to pump up to over 60+ mgd. Recharge (replenishing) of the aquifers comes from local rainfall in the Clover/Chambers drainage basin.

The District adheres to a wellhead protection program. The Wellhead Protection Plan identifies Aquifer A as the shallowest aquifer with the most direct hydrologic relation to the surface. In addition, it is composed of highly permeable glacial deposits resulting in hydrologic conductivity values averaging approximately 1,650 feet per day (Economic and Engineering Services, Inc. and Robinson & Noble, Inc. 1997). Because of these factors, Aquifer A is the shallowest and most vulnerable of Lakewood's aquifer systems. This aquifer is generally located along the I-5 corridor in eastern Lakewood with water contribution flowing west from McChord AFB and Spanaway. American Lake is believed to have a direct hydrologic connection to the aquifer. This shallow aquifer also includes a smaller area in western Lakewood that includes Waughop Lake and Lake Louise, both of which are believed to contribute directly to three wells south of Fort Steilacoom Park.

G.2.4 Fish and Wildlife Habitat

In the present era, most of Lakewood is composed of suburban and urban development, with remnant areas of native vegetation found in a patchy mosaic throughout the city. Significant remaining intact stands of native vegetation include the Flett wetlands, the Chambers Creek canyon, and Seeley Lake Park. The mapped priority habitats and species reflect these major areas of habitat. See Exhibit G-3.

Exhibit G-3. Priority Habitats and Species in Lakewood Vicinity



Source: WDFW, 2024

Wildlife habitat has been greatly reduced as a consequence of development, with little suitable habitat for large mammals remaining. Information provided by the Washington Department of Fish and Wildlife (WDFW) regarding lands meeting the criteria as priority wildlife habitats indicates a number of those habitats are present in the city, including wetlands, riparian zones, and other biodiversity areas. The remaining habitat can support a variety of smaller mammals, reptiles, amphibians, and birds. Standing

water in the form of lakes accounts for 1,098 acres, or 9% of Lakewood's surface area. These lakes support a variety of water and shorebirds, as well as aquatic fauna.

The Clover Creek watershed is the principal watershed in the city. Clover Creek empties into Lake Steilacoom. The lake then flows into Chambers Creek, which empties into Puget Sound immediately west of the city limits. Chambers Creek forms the boundary between the cities of Lakewood and University Place. Major tributaries of Chambers Creek include Leach Creek and Flett Creek. Chambers Creek has been dammed to form Steilacoom Lake. Two streams flow into Steilacoom Lake, Clover Creek and Ponce de Leon Creek. Chambers Creek, Leach Creek, Flett Creek, and Clover Creek are all identified by the WDFW as having anadromous fish runs. In addition, there is a critical spawning habitat identified near the mouth of Chambers Creek.

Because of the presence of endangered salmonids in the watershed, land use activity must conform to ESA regulations for Lakewood to receive protection under Section 4(d) of the ESA. These are identified in the National Marine Fisheries Service 4(d) rules, which identify the elements that must be present in an approved stormwater management plan. The Chambers/Clover Creek watershed forms Water Resource Inventory Area (WRIA) 12, as defined by the Washington Department of Ecology. The Chambers/Clover Creek Watershed Action Plan is the watershed-wide document under development to manage non-point source pollution within WRIA 12. This Action Plan contains a number of recommendations with regards to habitat, water quality, and related issues of importance to salmon recovery efforts, and has been approved by Lakewood as well as most other jurisdictions within WRIA 12.

Although Lakewood is generally a disturbed landscape, some federal or state plant and animal species of concern are known to occur. Lakewood's critical areas regulations (LMC 14.154.020) identify Critical Fish and Wildlife Habitat Areas as including federal and state listed species and their associated habitats. The Lakewood Shoreline Restoration Plan (AHBL, Otak, Herrera, 2019) has identified the following listed species:

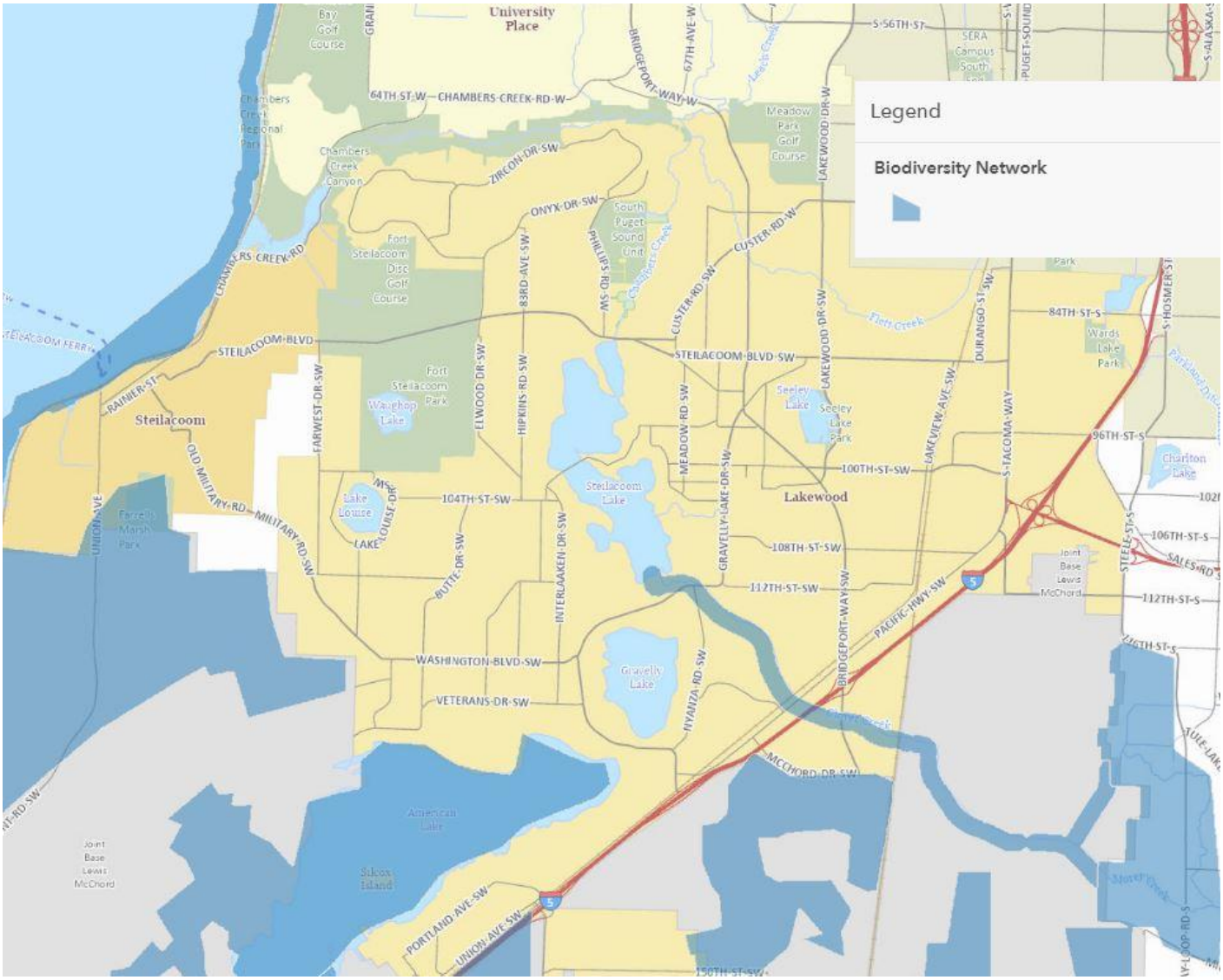
> *Steelhead of the Puget Sound Distinct Population Segment (DPS) (U.S. Federal Register, 11 May 2007) is the only federally listed salmonid species that occurs in the City of Lakewood. Steelhead presence is documented in Chambers Creek and their presence is assumed in Lake Steilacoom and Clover Creek Page 6 (StreamNet 2010). Additionally, Puget Sound-Strait of Georgia coho salmon (a PHS Species) also occur in the basin and are listed as a Species of Concern (U.S. Federal Register, 15 April 2004), indicating that they are under less active consideration for formal listing. Coho spawn in Chambers and Clover Creeks and their presence is documented in Lake Steilacoom (StreamNet 2010). Critical habitat for Puget Sound steelhead within the City of Lakewood was finalized in 2016 (Federal Register 2016). The Chambers Bay estuary fish ladder traps are used at certain times to capture upstream adult migrants, mainly Chinook, as part of a segregated hatchery and estuary fishery program. The fish ladders are left open during the remainder of the year to allow passage of other diadromous species (e.g., chum, coho, steelhead and cutthroat trout). Chinook salmon are usually not released upstream, but spawn are taken to Garrison Springs Hatchery for rearing. The Garrison Springs Hatchery is located in the City of Lakewood near Chambers Creek. (AHBL, Otak, Herrera, 2019)*

The Lakewood Municipal Code (LMC 14.154.020) also lists the following as habitats and species of local importance as part of critical fish and wildlife habitat areas:

- Priority Oregon white oak woodlands.
- Prairies.
- Old growth forests.
- Caves.
- Cliffs.
- Snag-rich areas.
- Rivers and streams with critical fisheries.
- Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat.
- Waters of the state, including all water bodies classified by the Washington Department of Natural Resources (DNR) water typing classification system as detailed in WAC 222-16-030, together with associated riparian areas.
- Lakes, ponds, streams, and rivers planted with game fish by a governmental entity or tribal entity.
- State natural area preserves and natural resource conservation areas.

Some lakes and streams noted as habitats of local importance have been mapped as biodiversity corridors by the state WDFW and Pierce County. See Exhibit G-4.

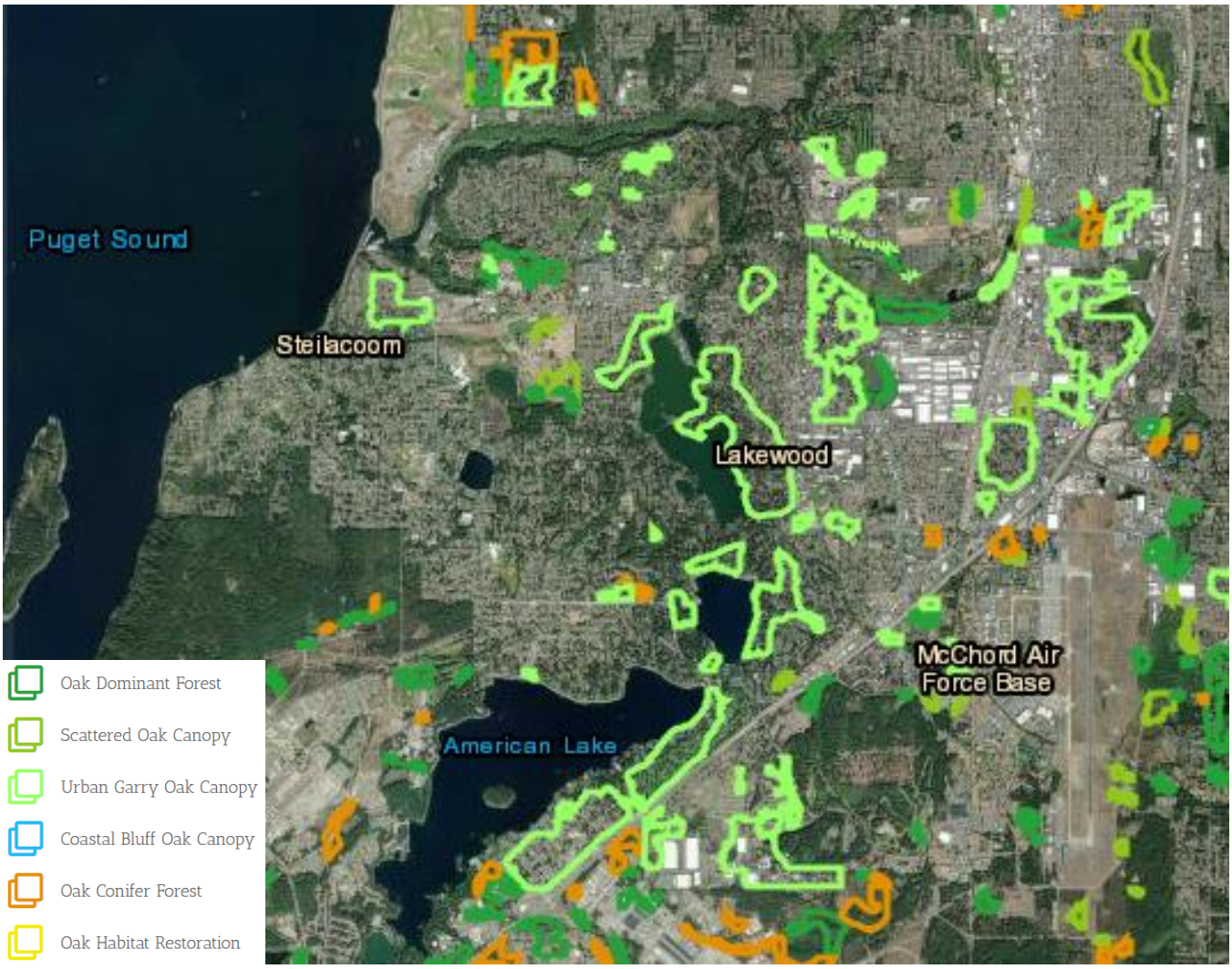
Exhibit G-4. Biodiversity Areas Lakewood Vicinity



Source: Pierce County GIS, 2017

Regulated by the City's critical area regulations and tree preservation regulations (LMC 18A.70 Article III), Oregon white oak woodlands, are found in portions of the city in parks and private lands. See Exhibit G-5.

Exhibit G-5. Oregon White Oak Woodlands

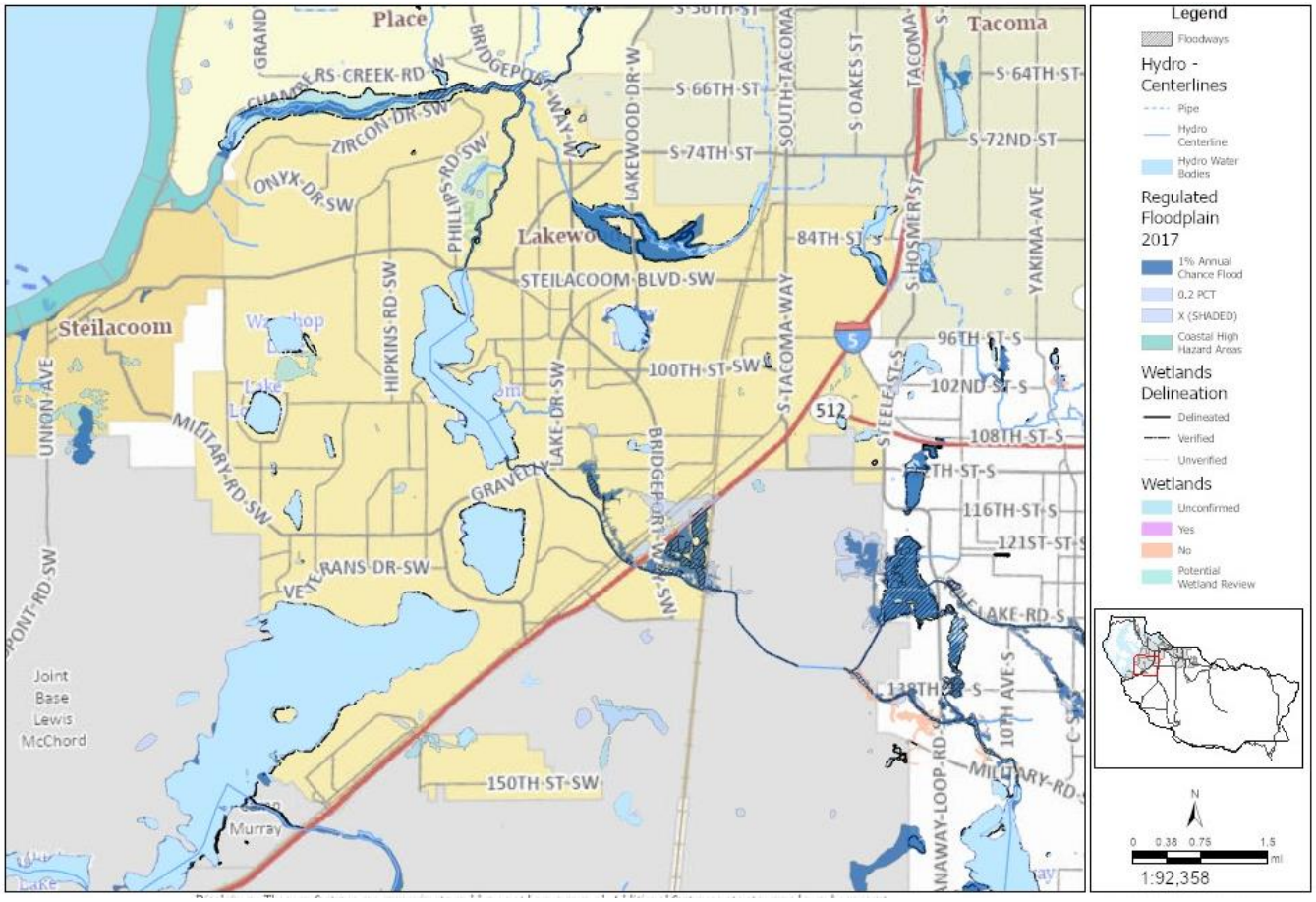


Source: Department of Natural Resources, 2017-2022; Sound Oaks Initiative, 2024

G.2.5 Flood-Prone Areas

Flooding is the most common natural hazard in Lakewood due the area's hydrologic conditions, topography, and development patterns. Portions of northeast and east Lakewood, especially in the Clover and Flett Creek drainage area, are susceptible to flooding. Other areas prone to flooding include wetlands and adjacent low-lying upland areas. See Exhibit G-6 for a citywide view of floodplains and wetlands.

Exhibit G-6. Lakewood Floodplains and Wetlands



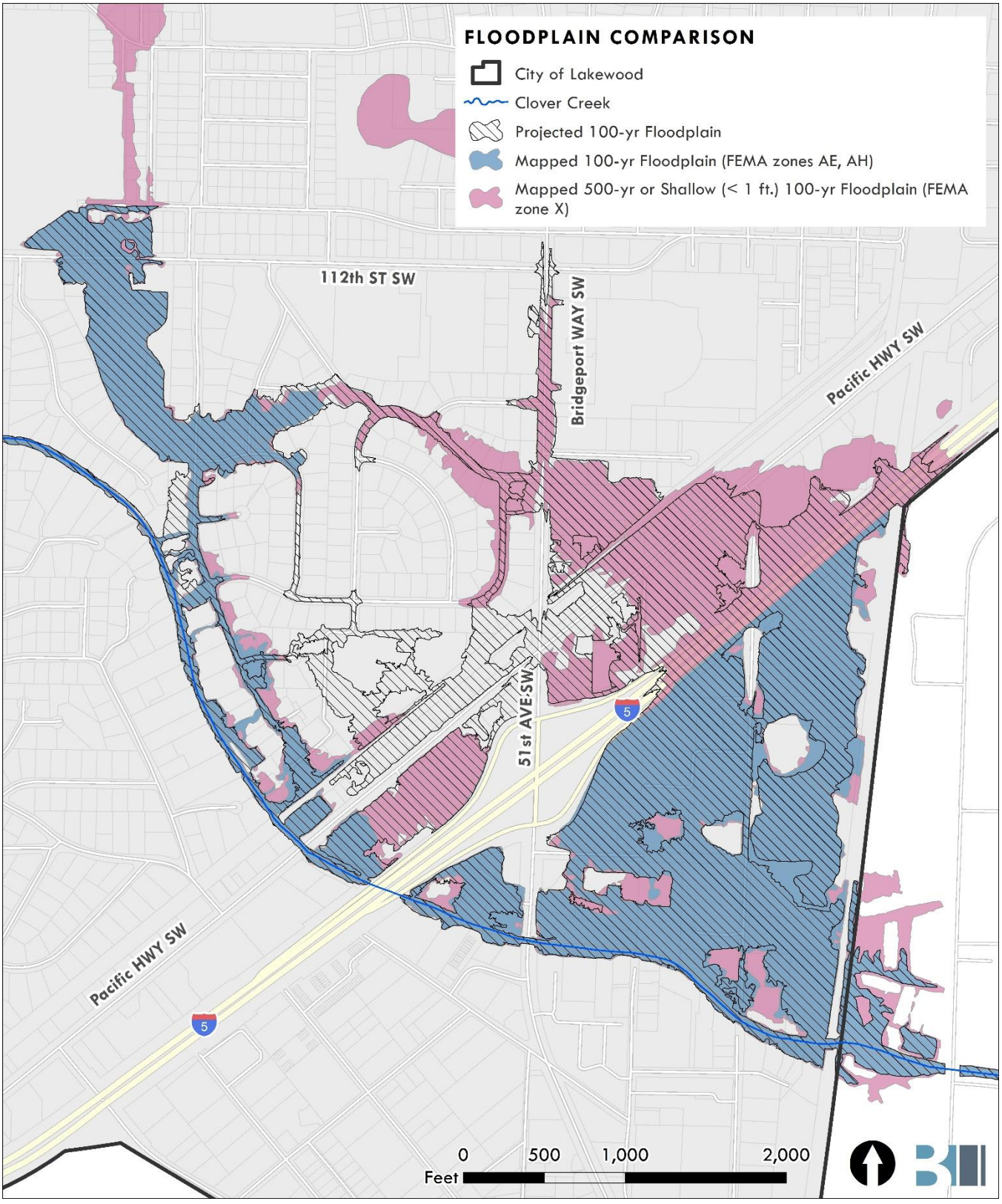
Sources: Pierce County GIS, 2024; FEMA, 2017

The City of Lakewood evaluated a portion of Clover Creek through the Clover Creek Flood Mitigation Study in 2022-2023. Points along the Clover Creek alignment have experienced flooding during large storm events, particularly in the area between Joint Base Lewis-McCord and I-5, as well as northwest of I-5 along Pacific Highway. The City proactively developed a study (Brown and Caldwell, 2023), which:

- Developed conceptual alternatives and flood mitigation strategies,
- Evaluated flood mitigation concepts,
- Engaged stakeholders throughout the study, and
- Provided funding alternatives.

The floodplain areas reviewed are shown on Exhibit G-7.

Exhibit G-7. Clover Creek FEMA Floodplain Comparison



Sources: FEMA, 2017

Flooding threatens lives and damages property. Its frequency and severity tend to increase as a result of development, specifically as permeable forest cover is replaced by impervious surfaces such as rooftops or concrete or even by semi-permeable ground covers such as lawns. The most effective way to limit increasing urbanization-related flood risk is to limit changes to natural hydrologic functions. Accordingly, natural drainage channels need to be preserved whenever possible, and permeable surfaces should be protected. Changes to these system functions should be compensated by engineered systems such as retention/detention basins, swales, and other approaches designed to simulate natural flood control mechanisms by allowing stormwater to slowly seep into the ground or gradually drain downstream.

G.2.6 Geologically Hazardous Areas

Geologically hazardous areas typically include areas subject to structural failure, usually as a result of mass wasting or seismic incident. Most of Lakewood is located on relatively flat lands sloping 8% or less. The steepest significant land area in Lakewood, and consequently the area most vulnerable to landslide, is the southern rim of the Chambers Creek canyon, which is the northwestern boundary of the city. (Washington Department of Natural Resources, 2024) Other sloping areas include hillsides with moderate slopes scattered in primarily residential areas and some former gravel quarries with slopes over 30% grade.

Each shoreline water body's shoreline contains a small amount of steep slope areas, with the exception of Clover Creek, which contains no documented geologic hazards. (AHBL, Otak, Herrera, 2019)

Most of the city is mapped as having very low risk of seismic liquefaction except in the Chambers Creek Canyon area, or around the rim of lakes and wetlands. (Washington Department of Natural Resources, 2024)

G.2.7 Creeks, Streams, and Lakes and their Shorelines

Much of Lakewood lies within the Chambers Creek drainage basin. Chambers Creek flows into Puget Sound between Steilacoom and University Place and forms Lakewood's northern boundary. Chambers Creek is joined by Leach and Flett Creeks near Lakewood's boundary with University Place and Tacoma. Flett Creek originates in southern Tacoma and drains the largest palustrine wetland system in the city, Flett wetlands.

As previously mentioned, there are numerous lakes in Lakewood. Most of these lakes, including American, Gravelly, Waughop, and Seeley lakes and Lake Louise, are of glacial origin. Steilacoom Lake was formed as the result of damming Clover Creek to create a millpond. Chambers Creek flows from the south and drains Lake Steilacoom, which is impounded by the dam at Steilacoom Boulevard. The largest stream feeding Lake Steilacoom is Clover Creek, which flows from the southeast through Ponders Corner and Springbrook. A smaller stream, Ponce de Leon Creek, drains the Lakewood Mall site flowing past the current City Hall, emptying into Lake Steilacoom.

Many of Lakewood's lakes are fed by groundwater flow. The water table underlying the city is very shallow and moves rather freely through the permeable glacially deposited sandy and gravelly soils.

Where the depressions in local topography go deep enough, they intercept the water table and form lakes. Lake levels fluctuate seasonally with local water tables.

Waterbodies with water quality impairments include:

- American Lake - Phosphorus
- Spanaway Lake - Bacteria
- Clover Creek - Bacteria, Temperature
- Steilacoom Lake - Phosphorus
- Chambers Creek - Bacteria, Copper
- Leach Creek - Mercury

Stormwater runoff is one of the major causes of pollution. State and county watershed assessments have identified mitigation approaches. (Chambers-Clover Creek Watershed Council, ND)

G.3 Review of the Critical Areas Ordinance

Note that this section is based on a review memo developed by Facet (formerly DCG/Watershed).

G.3.1 Introduction

With passage of the Growth Management Act (GMA), local jurisdictions throughout Washington State, including the City of Lakewood, were required to develop policies and regulations to designate and protect critical areas. Critical areas, as defined by the GMA (RCW 36.70A.030(5)), include wetlands, areas with a critical recharging effect on aquifers used for potable water, fish and wildlife habitat conservation areas, frequently flooded areas, and geologically hazardous areas.

An ongoing requirement of the GMA is for local jurisdictions to periodically review and evaluate their adopted critical areas policies and regulations. In accordance with the GMA, the City adopted a Critical Areas Ordinance (Ordinance No. 362) in 2004 and sections of this ordinance were updated and adopted in Ordinance No. 630 in 2015. The City is now considering further updates to its critical area policies and regulations to be consistent with recent updates to the best available science (BAS). Any deviations from science-based recommendations should be identified, assessed, and explained (WAC 365-195-915). In addition, jurisdictions are to give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries.

The City's critical areas regulations are currently codified in Chapters 14.02 through 14.165 of the Lakewood Municipal Code.

This gap analysis provides a review of the current critical areas regulations, noting gaps where existing policies or regulations may not be consistent with BAS or the GMA. It also documents where revisions could be made to aid in clarity and general usability of the code based on a review and use of the code by DCG/Watershed and City staff. The primary intention of this gap analysis is to help guide the update of the City's critical areas regulations.

G.3.2 GMA Regulatory Process

The City of Lakewood is conducting a substantive review and revision of its Critical Areas Ordinance (Chapter 14.02 LMC). The Growth Management Act (GMA) requires all cities and counties in Washington to adopt regulations protecting critical areas to preserve the natural environment, wildlife habitats, and sources of fresh drinking water. Critical areas regulation also encourages public safety by limiting development in areas prone to natural hazards like floods and landslides. All jurisdictions are required to review, evaluate, and, if necessary, revise their critical areas ordinances according to an update schedule. Furthermore, the GMA, under RCW 36.70A.172 requires all counties and cities to "include the best available science in developing policies and development regulation to protect the functions and values of critical areas."

G.3.3 Document Organization

Recommendations for updating the City's existing critical areas regulations are provided below, including general provisions that are applicable to all critical areas and individual sections that address the different types of critical areas covered by the GMA. To highlight findings of the gap analysis, a Code review summary table is provided at the beginning of each section. Where a potential gap is identified, subsections provide further discussion.

G.3.4 Ordinance Review

General Provisions – LMC 14.142

Sections LMC 14.142.010 through 14.142.200 contain general provisions that are applicable to all types of critical areas. While overall the general provisions contained in these sections are strong, some refinements could be made to further align these sections with the GMA and BAS. Exhibit G-8 below provides a summary of recommendations that are described in detail in this section.

Exhibit G-8. General provisions review summary

Code Section	Title	Review Comment / Recommendations*
14.142.010–14.142.200	General Provisions	Add a section for best available science Add allowed activities section
14.142.010	Authority and title	None
14.142.020	Intent	None
14.142.030	Interpretation	None
14.142.040	Applicability and Mapping	Create City-owned critical area maps or add reference to BAS map resources in individual sections
14.142.050	Permitted Uses	None
14.142.060	Regulated uses/activities	None
14.142.070	Exemptions	Specify requirements for demonstrating project exemption Add reference to Pierce County Noxious Weed Control Board species list

Code Section	Title	Review Comment / Recommendations*
14.142.080	Reasonable use exception	▪ Update reasonable use exceptions
14.142.090	Reasonable use exception and modification of critical requirements for individual single-family residences	None
14.142.100	Process	▪ Add requirement in subsection (B), requiring staff to confirm no net loss of ecological function for each project application, pursuant to WAC 365-196-830(4). ▪ Add general language on impact avoidance and mitigation sequencing.
14.142.110	Variances	None
14.142.120	Current use assessment	None
14.142.130	Compliance provisions	None
14.142.140	Appeal procedures	None
14.142.160	Fees	None
14.142.170	Title and pat notification	▪ Correct spelling of “plat”
14.142.180	Nonconforming uses	▪ Recommend breaking section into subsections for Nonconforming use, nonconforming structure, and nonconforming lots ▪ Recommend adding definitions for new items to Section 14.165
14.142.190	Administrative procedures and technical criteria	None
14.142.200	Severability	None
14.165	Definitions	▪ Review and consider revisions

* See discussion of comments/recommendations in the subparts below this table.

General Provisions (LMC 14.142.010–200, LMC 14.165)

- **Add a section for best available science.** RCW 36.70A.172(1) requires the inclusion of best available science (BAS) in critical area regulations. The application of BAS is not discussed in the current CAO. Such a section could identify criteria for what qualifies as BAS, identify the process to be followed in absence of valid scientific information, and how BAS will be used to preserve or enhance anadromous fisheries (a special consideration required by Chapter 365-195 WAC).
- **Add allowed activities section.** Some jurisdictions have expressed an interest in adding an allowed uses section which lists activities allowed in critical areas. Creation of such a section should involve review of the existing exemptions section of the code and reconcile and clarify which activities are considered exempt and which are allowed and what the difference is. As the code is currently written, it appears exempt uses do not require submittal of a critical areas report, or mitigation. Allowed uses should still be required to provide mitigation if activities would result in a loss of the function and values of the critical area.

Applicability and Mapping (LMC 14.142.040)

- **Add City maps or map resources.** The current CAO defines/designates regulated critical areas according to guidelines, however there are no reference maps or resources which applicants can use to identify potential critical areas in their project area. The City should either add a reference to publicly available resources for critical areas identification or create City maps containing those designations that are updated regularly.

Exemptions (LMC 14.142.070)

- **Specify requirements for proving project exemptions.** This section lists actions which are exempt from the critical areas code. However, it does not specify what the responsibilities of a project proponent are in proposing such an action. The City should consider adding language clarifying what, if any, approval is needed prior to engaging in an exempt activity. To promote protection of critical areas even from exempt activities, language similar to the following is recommended for insertion at the beginning of this section:

  > *All exempted activities shall use reasonable methods to avoid potential impacts to critical areas. To be exempt from this Chapter does not give permission to degrade a critical area or ignore risk from natural hazards. Any incidental damage to, or alteration of, a critical area that is not a necessary outcome of the exempted activity shall be restored, rehabilitated, or replaced at the responsible party's expense (CTED 2007).*

- **Add reference to Pierce County Noxious Weed Control Board species list.** Regulation R of this section references the state noxious weed list allowed to be removed under the stated exemption. To include the coverage of more weeds, the City should consider adding a reference to include all weeds listed on the Noxious Weeds Designated for Control or Eradication in Pierce County by the Pierce County Noxious Weed Control Board annual list.

Reasonable Use Exceptions (LMC 14.142.080)

The LMC currently allows for "reasonable use" if the CAO would otherwise deny all reasonable use of a property, however it only outlines a process for consideration of a development proposal. The code does not provide a list of qualifying exceptions or developments.

Process (LMC 14.142.100)

- **Add requirement in subsection (B), requiring staff to confirm no net loss of ecological function for each project application, pursuant to WAC 365-196-830(4).** Pursuant to WAC 365-196-830(4), Counties and Cities are required to ensure no-net-loss of critical area functions for any proposed development. Although counties and cities may protect critical areas in different ways or may allow some localized impacts to critical areas, or even the potential loss of some critical areas, development regulations must preserve the existing functions and values of critical areas. Avoidance is the most effective way to protect critical areas. If development regulations allow harm to critical areas, they must require compensatory mitigation of the harm. Development regulations

may not allow a net loss of the functions and values of the ecosystem that includes the impacted or lost critical areas.

- **Add general language on impact avoidance and mitigation sequencing.** Pursuant to WAC 197-11-768, mitigation consists of a specific sequence which includes: avoidance, minimization, rectification, reduction, and compensatory mitigation. We recommend adding general language on impact avoidance and each step of the mitigation sequence.

Title and Pat Notification (14.142.170)

- Correct spelling of "plat".

Nonconforming Uses (LMC 14.142.180)

- **Recommend breaking section into subsections for nonconforming use, nonconforming structure, and nonconforming lots.** The Lakewood Shoreline Master Program (SMP) adopted in 2019 incorporates the Department of Ecology recommended changes listed in WAC 173-27-080, which separates "nonconforming uses and development" into "nonconforming uses", "nonconforming structures", and "nonconforming lots". These updates are only required for SMPs, however we recommend updating the CAO sections with similar verbiage to be consistent with the SMP as well as provide clarity on "nonconforming" regulations. We also recommend adding the new definitions to Section 14.165.

Definitions (LMC 14.165)

- **Review and consider revisions.** The City should conduct a thorough review of the definitions section and remove or modify redundant definitions, those which are not used in the code, and those which may require revisions as a result of other code amendments.

Geologically Hazardous Areas – LMC 14.146

The goal of geologic hazard regulations is to classify and designate areas on which development should be prohibited, restricted, or otherwise controlled because of danger from geological hazards. Geologically hazardous areas addressed in the Code include erosion and landslide hazard areas and seismic hazard areas. The Code does not designate mine, volcanic or tsunami hazard areas as geologically hazardous areas.

Exhibit G-9. Geologically hazardous areas review summary

Code Section	Title	Review Comment / Recommendations*
14.146.010-14.146.050	Geologically Hazardous Areas	▪ Consider updating definition to match RCW definition
14.146.010	Purpose	▪ Update types of hazards included
14.146.020	Designation of erosion and landslide hazard areas	▪ Update classification criteria consistent with WAC 365-190-120 ▪ Update list of mapping resources

Code Section	Title	Review Comment / Recommendations*
14.146.030	Protection standards for erosion and landslide hazard areas	None
14.146.040	Designation of seismic hazard areas	▪ Update definition of seismic hazard areas
14.146.050	Protection standards in seismic hazard areas	None

* See discussion of comments/recommendations in the subparts below this table.

Geologically Hazardous Areas (LMC 14.146.010-14.146.050).

- **Consider adding RCW definition.** The LMC contains a definition of geologically hazardous areas, however the language differs slightly from the RCW definition. The City should consider adding the definition of geologically hazardous areas consistent with RCW 36.70A.030(9) to the definitions section in 14.165.
- **Consider adding a section for designation of Mine Hazard Areas.** The LMC does not address volcanic or mine hazard areas. Based on the DNR Geologic Information Portal there are no volcanic vents in the area around Lakewood however there are surface mines within the City limits such as the Miles Sand and Gravel Company. Areas such as this should be addressed in the CAO to address future development of these areas.

Purpose (LMC 14.146.010).

- **Consider adding further explanation for areas that are considered geologically hazardous.** This section specifies geologically hazardous areas to include erosion and landslide hazard areas and seismic hazard areas. The City should consider adding the following language "For purposes of this title, geologically hazardous areas include the following: erosion, landslide and seismic hazard areas, *and other hazard areas subject to other geological events such as coal mine hazards and volcanic hazards including mass wasting, debris flow, rock falls, and differential settlement*" to align with WAC-190-120.

Designation of erosion and landslide hazard areas (LMC 14.146.020).

- **Consider adding further explanation for areas that are considered geologically hazardous.** The classification criteria included in this section are not complete and lack criteria for landslide hazard areas. This list should be updated consistent with WAC 365-190-120(6)(a-i).
- **Consider updating map resources.** The LMC contains a list of sources that may be used to delineate geologically hazardous areas. These sources may be out of date and/or other sources that are considered BAS may be available. For example, the Soil Survey of Pierce County Area listed in this section is from 1979.

Designation of seismic hazard areas (LMC 14.146.040).

- **General.** The LMC contains a list of areas considered seismic hazard areas, however the language differs slightly from the RCW designation. The City should consider adding the complete list of seismic hazard areas consistent with WAC 365-190-120(7).

- **Mapping.** The Lakewood code references two sources for mapping of seismic hazard areas, both of which were published in 2003. The Washington Department of Commerce recommends the following source: Geologic Hazards and the Environment | WA - DNR.

Critical Aquifer Recharge Areas – LMC 14.150

Critical Aquifer Recharge Areas (CARA) are defined in Chapter 14.150 LMC and designated in LMC 14.150.020. LMC 14.150.040 lists the requirements for hydrogeological assessments when required through the permitting process. The current regulations appear generally consistent with the CARA guidance provided by the Department of Ecology. The following subsections are suggestions for improving the level of aquifer protection and general clarification of regulations to implement the plan.

- **Consider adding maps of CARAs.** The LMC designates CARAs based on DRASTIC zones seen in the Pierce County Map of Groundwater Pollution Potential and the Clover/Chambers Creek Aquifer Basin boundary, as identified in the Draft Clover/Cambers Creek Basin Ground Water Management Program. However, there are no listed resources for applicants to see if their project site is within a regulated CARA. We recommend either listing resource map links (such as those mentioned in LMC 14.150.020(B)(1) or for the City to consider creating its own CARA map for applicants to utilize as a reference during project development.
- **Create an inventory of potential contaminant sources.** Aquifer vulnerability analyses based on susceptibility assessments benefit from updated inventories of potential contaminant sources and their pathways. A monitoring well program (resource protection wells) with piezometers above and below the aquitards can provide early detection of changes in groundwater levels or water quality in specific aquifers, as well as long-term monitoring of water level trends and aquifer recharge. An inventory of existing wells in the CARA, particularly smaller domestic water supply wells, can be used to assess hazards from spills and contamination affecting municipal water supplies. An inventory of existing wells in the CARA can provide information for implementing a well abandonment program to prevent abandoned wells or open casings from causing contamination of groundwater supplies in the future.

Fish and Wildlife Habitat Areas – LMC 14.154

Code sections 14.154.010 through 14.154.090 contain provisions that are applicable to all Fish and Wildlife Habitat Areas. The City's habitat conservation areas regulations require some modifications to align with BAS and to clarify applicability and facilitate ease of use. The following subsections are suggestions for improving the level of Fish and Wildlife Habitat protection and general clarification of regulations to implement the plan.

Exhibit G-10. Fish and wildlife habitat areas review summary

Code Section	Title	Review Comment / Recommendations*
14.154.010-14.154.090	Fish and Wildlife Habitat Areas	▪ Update title of chapter ▪ Update definition in 14.165 ▪ Include designation and protection of waters of the State

Code Section	Title	Review Comment / Recommendations*
14.154.010	Purpose and intent	None
14.154.020	Designation of critical fish and wildlife habitat areas	▪ Provisions of this title apply to both public and private lands ▪ Add identification information consistent with WAC 365-190-030 ▪ Update map resources ▪ Update identification consistence with WAC-365-190-130 ▪ Include anadromous fisheries
14.154.030	Habitat protection standards	▪ Add BAS to section B ▪ Expand on the sources and methods of identifying critical fish and wildlife habitat areas
14.154.040	Title and plat notification	None
14.154.050	Habitat protection for rivers and streams	▪ Update stream protection buffers to ensure consistency with BAS ▪ Add language for "no-net-loss" of ecological function
14.154.060	Habitat protection for lakes	▪ Update the buffer requirements for lakes that are urban in character
14.154.070	Habitat protection ponds	▪ Add buffer requirements for naturally occurring ponds under 20-acres in size
14.154.080	Provisions for priority Oregon white oak trees and woodlands	None
14.154.090	Provisions for fish and wildlife, habitat buffers, where required	None

* See discussion of comments/recommendations in the subparts below this table.

Fish and Wildlife Habitat Areas (LMC 14.154.010-14.154.090).

- **Update title of chapter.** Chapter 14.154 of the LMC is currently titled Fish and Wildlife Habitat Areas, the RCW 36.70A.030(6) references these areas as Fish and Wildlife Habitat Conservation Areas. For clarity, the City could consider revising the chapter title and applicable language throughout the chapter to be consistent with the title "Fish and Wildlife Habitat Conservation Areas".
- **Update definition in 14.165.** Concurrently with the update suggested in 5.1.1, we recommend updating the definition for "Fish and Wildlife Habitat Areas" in Section 14.165 to be consistent.
- **Include designation and protection of waters of the State.** RCW 90.48.020 defines waters of the State, which include all surface waters, salt waters, groundwater, and all other water courses in Washington. Per WAC 365-190-1300(2) all waters of the state should be designated as fish and wildlife habitat conservation areas. The City should add a definition for "waters of the state" as well as designating them under this chapter.

Designation of critical fish and wildlife habitat areas (LMC 14.154.020).

- **Provisions of this title apply to both public and private lands**. Chapter 14.154 currently states that this chapter applies to proposed regulated activities within critical fish and wildlife habitat areas. For the purpose of adding clarity to the document it is recommended that the City add language

stating that this chapter applies to proposed regulated activities within critical fish and wildlife habitat areas on all public and private lands.

- **Add identification information consistent with WAC 365-190-030.** Section A of this chapter includes areas currently identified as critical fish and wildlife species and habitats are referenced by CFR and WAC sections. For consistency with WAC 365-190-030 these areas should include: rare or vulnerable ecological systems, communities, and habitat or habitat elements including seasonal ranges, breeding habitat, winter range, and movement corridors; and areas with high relative population density or species richness, in addition to locally important habitats and species. Language stating "and which, if altered, may reduce the likelihood that the species will maintain and reproduce persist over the long term" should be retained.
- **Update map resources.** The LMC references four resources for information on critical fish and wildlife habitat areas. This section lists both the Washington Department of Wildlife and the Washington Department of Fisheries. This section should be updated with the BAS as well as updating these two departments to the single entity of the Washington Department of Fish and Wildlife.
- **Update identification consistency with WAC-365-190-130.** Section B of this chapter should expand on the sources and methods of identifying critical fish and wildlife habitat areas as outlined in WAC-365-190-130(4)(a-i). WAC 365-190-130(4)(i) recommends sources and methods for protecting fish and wildlife habitat conservation areas, including salmonid habitat. BAS is available from the US Department of Fish and Wildlife Service, the State Recreation and Conservation Office, and the Puget Sound Partnership and the City should consider recommendations found in the regional and watershed specific salmon recovery plan (Governor's Salmon Recovery Office - Recreation and Conservation Office (wa.gov).
- **Include anadromous fisheries.** RCW 36.70A.172(1) requires policies and regulations for protecting critical areas and gives special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries. WAC 365-195-925 lists the criteria for this requirement and includes all five types of critical areas.

Habitat Protection Standards (LMC 14.154.030).

- **Add BAS to Section B.** Section B of this chapter references existing codes and policies, both state and local, that are used to implement Habitat Protection Standards. This list should include BAS as set forth in RCW 36.70A.172. in addition to the WDFW's Priority Habitat and Species webpage (Priority Habitats and Species (PHS) | Washington Department of Fish & Wildlife) as required by WAC 365-190-130 (4).
- **Expand on the sources and methods of identifying critical fish and wildlife habitat areas.** The City should consider listing publicly available resources to help applicants identify critical fish and wildlife habitat areas. At minimum the City should list the WDFW's Priority Habitat and Species webpage (Priority Habitats and Species (PHS) | Washington Department of Fish & Wildlife) as required by WAC 365-190-130(4).

Habitat protection for rivers and streams (LMC 14.154.050).

- **Update stream protection buffers to ensure consistency with BAS.** The current standards set forth in 14.154.050 for river and stream buffers have not been updated since 2015 (Ordinance No. 630). In 2020, the Washington Department of Fish and Wildlife (WDFW) came out with new guidance ((Rentz et al. 2020)) for protection of riparian areas that heavily emphasizes a shift in terminology from the concept of "stream buffers" to "riparian management zones" (RMZs). An RMZ is defined as "...a scientifically based description of the area adjacent to rivers and streams that has the potential to provide full function based on the SPTH [site potential tree height] conceptual framework." This differs from the use of "buffer(s)," as an RMZ is by definition wide enough to potentially provide full riparian function. Stream buffers are established through policy decisions and are clearly intended to protect streams but may or may not be intended to provide full riparian function or a close approximation of it. The guidance recommends that a RMZ be delineated on a site-specific basis and be measured from the outer channel migration zone.

  The City could consider requiring site specific RMZs, rather than set buffer widths. However, this approach is difficult to implement, and many jurisdictions are choosing to continue with set buffer widths, while taking into consideration the range of widths that the custom RMZ mapping would produce. The 200-foot set buffer width currently recommended for Type F streams is on the larger end of what is seen in many jurisdictions and should be adequate to protect most stream and stream buffer function.
- **Add language for "no-net-loss" of ecological function.** Section D of this chapter currently states that "new development shall not reduce the effective flood storage volume of the regulatory floodplain". The current recommended language states that there shall be "no-net-loss of ecologic function". This language should be added to this section per WAC 365-196-830(4).

Habitat protection for lakes (LMC 14.154.060).

- **Regulated activities.** Regulated activities proposed on lakes that are urban in nature are currently exempt from buffering requirements of this chapter. However, the lakes in the City of Lakewood fall under the jurisdiction of the Shoreline Master Program. We recommend adding a clarifying statement to this section such as:

  All activities within 200 ft. of regulated shorelines are subject to the regulations in the Shoreline Master Program (SMP). Applicants should consult the Lakewood SMP for setback/buffer requirements.

Habitat protection for ponds (LMC 14.154.070).

- **Regulated activities.** Naturally occurring ponds under 20-acres and their submerged aquatic beds that provide fish or wildlife habitat are considered Fish and Wildlife Habitat Conservation Areas per WAC 365-190-130. The state code also states that "naturally occurring ponds do not include ponds deliberately designed and created from dry sites, such as canals, detention facilities, wastewater treatment facilities, farm ponds, temporary construction ponds (of less than three years duration) and landscape amenities. However, naturally occurring ponds may include those artificial ponds intentionally created from dry areas in order to mitigate conversion of ponds, if permitted by a

regulatory authority." It is recommended that the City update this section to provide clear buffer requirements for ponds under 20-acres in size.

Flood Hazard Areas – LMC 14.158

The existing Code includes restrictions on development within floodplains, which are outlined in LMC 18A.50 – Article 1. Flood Hazard Overlay (FHO). Existing regulations could be enhanced by providing specific critical area special study and/or habitat assessment requirements as detailed below.

Exhibit G-11. Flood hazard areas review summary

Code Section	Title	Review Comment / Recommendations*
14.158.010-14.158.030	Flood Hazard Areas	▪ Consider revising chapter title to "frequently flooded areas", consistent with GMA language ▪ Specific critical area report requirements for floodplains not included—consider including ▪ Require a habitat assessment (FEMA Biological Opinion process) for development in the floodway or floodplain
14.158.010	Purpose	▪ Consider updating this section to be consistent with referenced LMC 18A.50 (Article 1)
14.158.020	Designation	▪ Consider adding links to FEMA resource maps
14.158.030	Protection	None

Flood Hazard Areas (LMC 14.158.010-14.158.030)

- **Consider revising chapter title to "frequently flooded areas".** RCW 36.70A.030 defines the five types of critical areas which are required to be protected, including "frequently flooded areas". "Frequently flooded areas" are lands in the floodplain subject to at least a one percent or greater chance of flooding in any given year, or within areas subject to flooding due to high groundwater (WAC 365-190-030). Section 14.158.020 of the Flood Hazard Areas chapter specifies that the chapter applies to all "areas of special flood hazard". A "Flood Hazard areas" definition is included in 14.165, which we recommend be updated to be consistent with the GMA definition in WAC 365-190-030. For clarity, the City could consider revising the chapter title and applicable language throughout the chapter to be consistent with the "frequently flooded area" term.
- **Consider including critical area report requirements for frequently flooded areas.** The Flood Hazard Area chapter does not have a critical area report section specifying requirements for a critical area report specific to frequently flooded areas, nor does the linked Overlay District chapter (LMC 18A.50 – Article 1). The City should consider adding specific requirements for a floodplain critical area report or study to ensure no-net-loss of floodplain function.
- **Require a habitat assessment (FEMA BiOp process) for development in the floodway or floodplain.** As a result of the 2008 National Marine Fisheries Service (NMFS) Biological Opinion (BiOp) on the implementation of the National Flood Insurance Program (NFIP) in the Puget Sound

region, the City is required to adopt one of the three following approaches (or "doors") to managing development within the floodplain:

- Adopt the model ordinance;
- Develop floodplain regulations that protect floodplain functions on a programmatic basis; or
- Require the completion of a floodplain habitat assessment for any development within the floodplain. Habitat assessments must evaluate impacts to stormwater, floodplain capacity, and vegetative habitat.

It is our understanding that the City has not adopted the model ordinance (Door 1) nor has customized floodplain regulations that have been reviewed and approved by FEMA (Door 2), therefore Door 3 is the default requirement. Door 1, the model ordinance, would likely represent the most conservative approach to protecting floodplain functions, but it also would also be expected to be the most restrictive option in terms of future development and provide the least flexibility in implementation. Door 2 allows local jurisdictions to establish regulations that recognize local conditions and may incorporate programs that enhance floodplain functions into the evaluation of how floodplain functions are maintained. However, FEMA must approve any Door 2 approach before it is implemented. The timing to get approval for Door 2 depends on the approach and detail in the application submittal. If Door 3 is the desired approach, a regulation should be added to this section specifying when a habitat assessment is required and the minimum content requirements.

Purpose

- **Consider updating section to be consistent with referenced LMC 18A.50 (Article 1).** The protection standards for "flood hazard areas" are listed via the City's Cite Development Regulations and Chapter 18A.50 of the LMC (Article 1). These standards list the purpose of that section, which mirrors the purpose listed in this section. For consistency as well as highlighting the importance of maintaining no-net-loss standards (pursuant to WAC 365-196-830), recommend updating this section to match LMC 18A.50.010(A)-(L).

Designation

- **Consider adding links to FEMA resource maps.** The designation of flood hazard areas is identified by the Federal Insurance Administration in a report entitled "The Flood Insurance Study for Pierce County and Incorporated Areas" dated March 7, 2017. We understand that the City will update the designated flood hazard areas upon receiving revisions to this report, however we recommend referencing the FEMA floodplain map as an additional resource. The FEMA online floodplain map is updated regularly and is considered a resource for incorporating best available science into local regulations.

Wetlands Areas – LMC 14.162

The wetland sections are extensive, but they could be updated to be consistent with BAS related to habitat score ranges, buffer functionality and mitigation sequencing.

Exhibit G-12. Wetlands areas review summary

Code Section	Title	Review Comment / Recommendations*
14.162.070	Delineation, and wetland analysis requirements	▪ Update Critical Areas Atlas to include BAS resources ▪ Consider establishing a requirement for a qualified wetland professional to complete any needed wetland report ▪ Consider listing requirements of a wetland analysis report
14.152-080	Protection standards – Establishing buffers	▪ Update habitat score ranges to reflect Ecology recommendations ▪ Consider adding provision to end buffer where there is a functional disconnection ▪ Protection of wetland buffer widths
14.162.100	Mitigation	▪ Update mitigation ratio table to reflect Ecology recommendations ▪ Add additional information for required mitigation steps

Delineation, and Wetland Analysis Requirements

- **Update Critical Areas Atlas to include BAS resources.** LMC 14.162.070(A) refers to a Critical Area Atlas which is a City Wetland Inventory map which provides an indication of where potential wetlands are located within the county. This resource does not include the source of its information; therefore it is unknown if it is incorporating BAS as a part of its designation. We recommend either 1) listing resources utilized to create the Critical Areas Atlas and how often it is updated with assurances that BAS is used during the review process; or 2) switching to listed public resources which use BAS and are updating frequently (for example the National Wetland Inventory, Web Soil Survey, WDFW PHS, etc).
- **Consider establishing a requirement for a qualified wetland professional to complete any needed wetland report.** When a wetland analysis report is required by the Department, we recommend listing a requirement which states that such reports must be completed by a qualified professional. Wetlands are complex ecosystems, and to be delineated/classified accurately requires extensive training and experience. The City can refer to the Pierce County approved consultant list or outline specific requirements for certifications and experience.
- **Consider listing requirements for a wetland analysis report.** The City currently has two wetland reports listed in LMC 14.165 – Wetland Verification Report and Wetland Analysis Report. However, neither section lists the requirements for said reports. The City should consider outlining requirements for each report, including (but not limited to) wetland delineation and rating documentation required by the methods referenced in 14.162.020 and 14.162.030, specifically wetland data sheets, and Ecology 2014 rating form(s) and figures.

Protection Standards – Establishing Buffers

- **Update habitat score ranges to reflect Ecology recommendations.** Effective wetland buffer widths vary depending on the targeted wetland functions, intensity of surrounding land use, and buffer characteristics. The Code's existing buffer widths are based on wetland category and habitat score. In July of 2018 Ecology released updated guidance modifying the habitat ranges in their

wetland buffer tables (Granger, 2018). In previous Ecology wetland buffer tables, low habitat function was represented by a habitat score of 3 or 4 points and moderate habitat function by a score of 5 to 7 points. The new guidance re-categorizes a habitat score of 5 as part of the low category. Using the Code's existing buffer system, this change would result in a reduction in the buffer width for wetlands with a habitat score of 5. Therefore, the habitat score ranges and buffer widths used in the current buffer system must be updated to match the revised Ecology guidance. The buffer width table in the current Code, updated to reflect the July 2018 Ecology guidance, is shown below.

Exhibit G-13. Current wetland buffer table, updated with July 2018 Ecology changes

Wetland Category[1]	Buffer Width according to Habitat Score[1]		
Category I: Based on total score	75 ft	110 ft	225 ft
Category I: Bogs and wetlands with a High Conservation Value	190 ft		225
Category I: Coastal lagoons	150 ft (buffer with not based on habitat scores)		
Category I: Interdunal	225 ft (buffer width not based on habitat scores)		
Category I: Forested	75 ft	110 ft	225 ft
Category I: Estuarine	150 ft (buffer with not based on habitat scores)		
Category II: Based on score	75 ft	165 ft	225 ft
Category II: Interdunal wetlands	110 ft (buffer width not based on habitat scores)		
Category II: Estuarine	110 ft (buffer width not based on habitat scores)		
Category III (all)	60 ft	165 ft	225 ft
Category IV	40 ft		

The current buffer system, when updated to reflect the change in habitat score ranges, will be aligned with BAS. The current code also mandates that for any project that does not employ the mitigation measures listed in table 14.2, a 33% buffer width increase will be required. This multi-tiered approach helps to ensure no-net-loss of wetland functions.

- **Consider adding provision to end buffer where there is a functional disconnection.** Areas that are disconnected from the wetland by a permanent road or other substantially developed surface often do not provide significant buffer function. The City could consider adding a provision that the edge of an improved right-of-way or similar infrastructure of a linear nature shall be considered the extent of the buffer, if the part of the critical area buffer on the other side of the infrastructure provides insignificant function in relation to the part of the buffer adjacent to the wetland, unless the infrastructure can be feasibly removed, relocated or restored to provide buffer functions. Such functional analysis should be included in the critical areas report.

Mitigation

- **Update mitigation ratios to reflect Ecology recommendations.** Ecology's recent publication Wetland Guidance for Critical Areas Ordinance (CAO) Updates dated October 2022 (Shorelands and Environmental Assistance Program, 2022) outlines additional research for mitigation practices.

These updates include new recommended mitigation ratios. We recommend that you update the mitigation ratios located in LMC 14.162.100 (B)(3) to reflect Ecology's recommended ratios. The mitigation ratio table in the current Code, updated with Ecology's 2022 guidance is shown below.

Exhibit G-14. Current wetland mitigation ratio, updated with 2022 Ecology guidance

Category and Type of Wetland	Creation or Reestablishment	Rehabilitation	Preservation	Enhancement
Category I: Mature forested	6:1	12:1	24:1	16:1
Category I: Based on functions	4:1	8:1	16:1	16:1
Category II	3:1	6:1	12:1	12:1
Category III	2:1	4:1	8:1	8:1
Category IV	1.5:1	3:1	6:1	6:1

H Parks, Recreation, and Open Space

H.1 Introduction

In 1996, the citizens wanting to create Lakewood voted to incorporate in part to establish greater local control over parks and recreation. In its adopted 2021 Vision for Lakewood at its 30th Anniversary of incorporation, the City Council included that the city should be "characterized by the beauty of its lakes, parks and natural environment."

Parks are also a focus of the City Council's 2021-2024 Strategic Plan, which includes the following goal:

GOAL: The City of Lakewood provides safe, clean, well-maintained, and dependable infrastructure.

2.1 Implement capital infrastructure projects to improve transportation, park, and utility systems.

2.2 Invest in preventative maintenance of facilities, parks, and streets to protect City assets.

2.3 Advance infrastructure projects that enhance the City's identity and diversity.

2.4 Increase connectivity and accessibility.

The City Council's Strategic Plan also directs that the city advocate for increased parks infrastructure funding.

The Parks Legacy Plan and Parks Capital Improvement Plan both help to implement the City Council's Strategic Plan. They are included as separate attachments to the Comprehensive Plan

H.2 Parks, Recreation, and Open Space in Lakewood

The Lakewood area parks developed as part of unincorporated Pierce County's regionally focused parks and recreation system. In the 1970's and 1980's, extensive residential growth occurred in Lakewood without concurrent attention to green spaces and recreational needs. Many neighborhoods had no parks or other such amenities. Further, park areas were in stages of disrepair due to years of deferred maintenance and limited capital improvements. Upon the city's incorporation in 1996, less than 40 acres of parkland and facilities were transferred to the city by other public agencies.

Lakewood adopted its first Parks and Recreation Master Plan in 1998, which included the following priorities:

- Acquisition of future park and open space sites;
- Upgrading existing parks sites; and
- Preservation of natural open space.

The city immediately began investing in parks and recreation to meet community needs, including new park facilities, sports fields, playground structures, irrigation systems and turf areas, new restrooms and shelters, and various recreation programs and community events.

In September 2005, Lakewood adopted a new Parks and Recreation Master Plan. To implement it, the Parks, Recreation and Community Services Department (PRCS) expanded the recreation division, developed new community partnerships, created new citizen advisory boards, added three new parks, a new senior activity center and made system-wide park improvements to better serve Lakewood residents.

Beginning in 2011, a 20-year sustainable park and recreation master plan document was created over a three-year period with extensive public engagement. This work culminated in the 2014 Parks Legacy Plan, which was designed to meet the State of Washington's requirement for a six-year parks, recreation, and open space plan.

In 2019, the city began a two-year update to the Parks Legacy Plan that included a multi-pronged outreach and engagement plan, as well as a detailed demand and need analysis. The demand and need analysis included a review of existing environments, demographic trends, park and recreation trends, and input received from the community at public engagement efforts. For the needs analysis, the city performed gap analyses using the plan's LOS measurements: a walkshed measurement and a quality and diversity assessment, known as the Park Amenity Condition Assessment. The Parks Legacy Plan update was adopted in 2020.

As of 2023, the City of Lakewood manages and maintains 14 parks and open space sites in a variety of sizes and uses that total over 600 acres. Significant investments in parks over the years include:

- Americans with Disabilities Act (ADA) compliant access and waterfront upgrades to American Lake Park;
- Springbrook Park playground upgrades; and
- Harry Todd Park playground and waterfront upgrades.

In 2024, the city is working toward the creation of one or more Downtown parks as well as partnering with Camp Murray to collaborate on a strategy to improve the America Lake park boat launch and public access. ARPA funds have also been allocated to improvements at Edgewater Park.

The Parks Legacy Plan's goals and priorities are incorporated into the Lakewood Comprehensive Plan PROS Element. The Legacy Plan's inventory, implementation strategies, and capital facilities planning are also incorporated in this reference.

H.3 Analysis of Park Land and Facilities Needs

PROS capital expenditures are included in the Comprehensive Plan Capital Facilities Plan Element materials in the Appendix.

H.4 Intergovernmental Coordination Opportunities

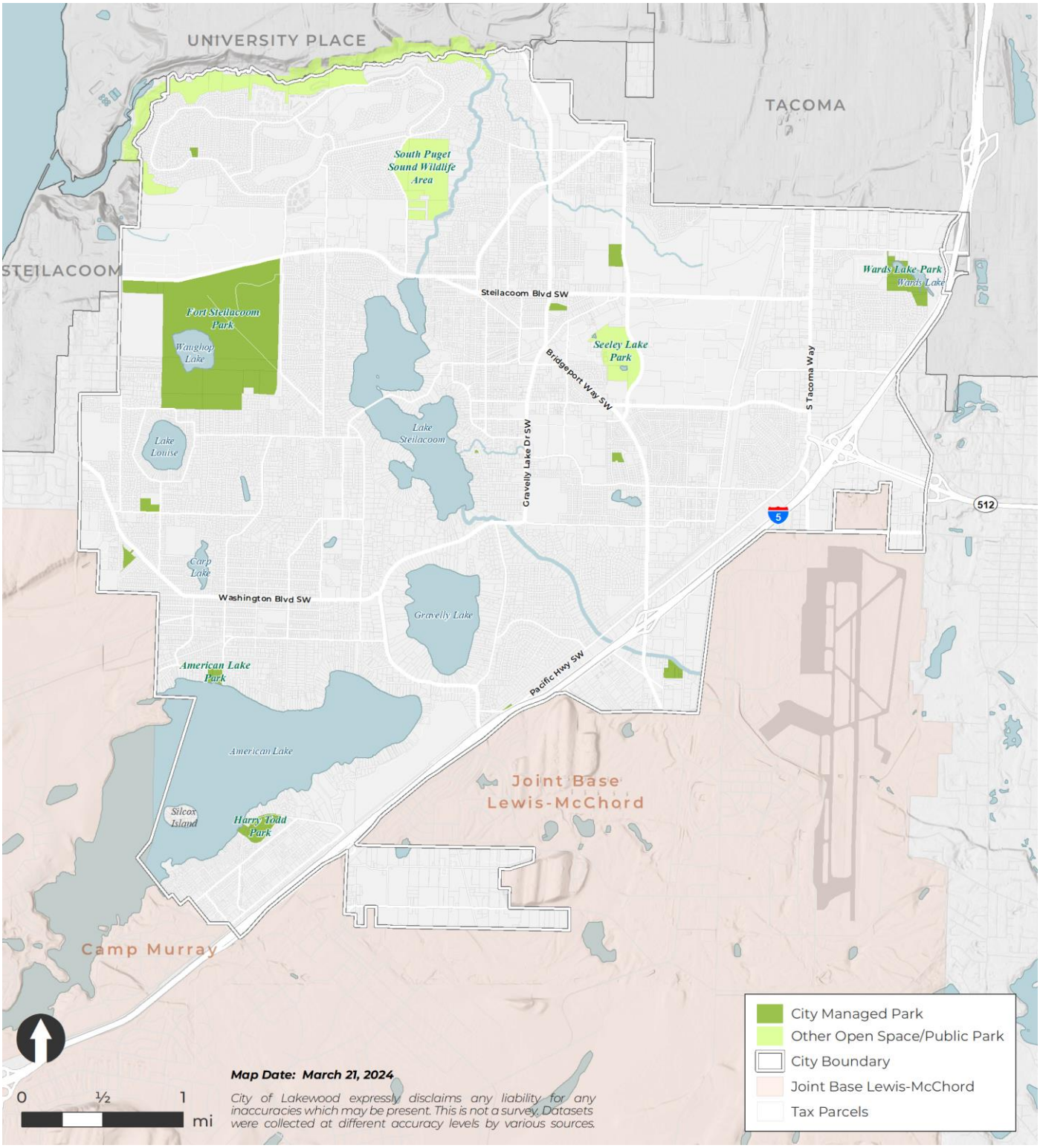
Currently, PRCS collaborates with close to 100 partners, including public, private and non-profit agencies. These collaborations help manage or develop park resources, plan programs and events, deliver activities, market programs, or share the use of facilities or program space.

For park development and management, the department has successfully partnered with public agencies, including the County and the State to operate Fort Steilacoom Park. The city has an interlocal agreement with Clover Park School District to develop and operate a neighborhood-school park at Lake Louise Elementary School.

On the programming side, PRCS works with many agencies, including the CPSD, Pierce College, Pierce County, and roughly 40 non-profit and local interest groups. Over 30 private organizations provide sponsorship and assist in joint marketing programs. Pierce County, Lakewood, and the city of University Place have also entered into an interlocal agreement for the development of Chambers Creek Trail.

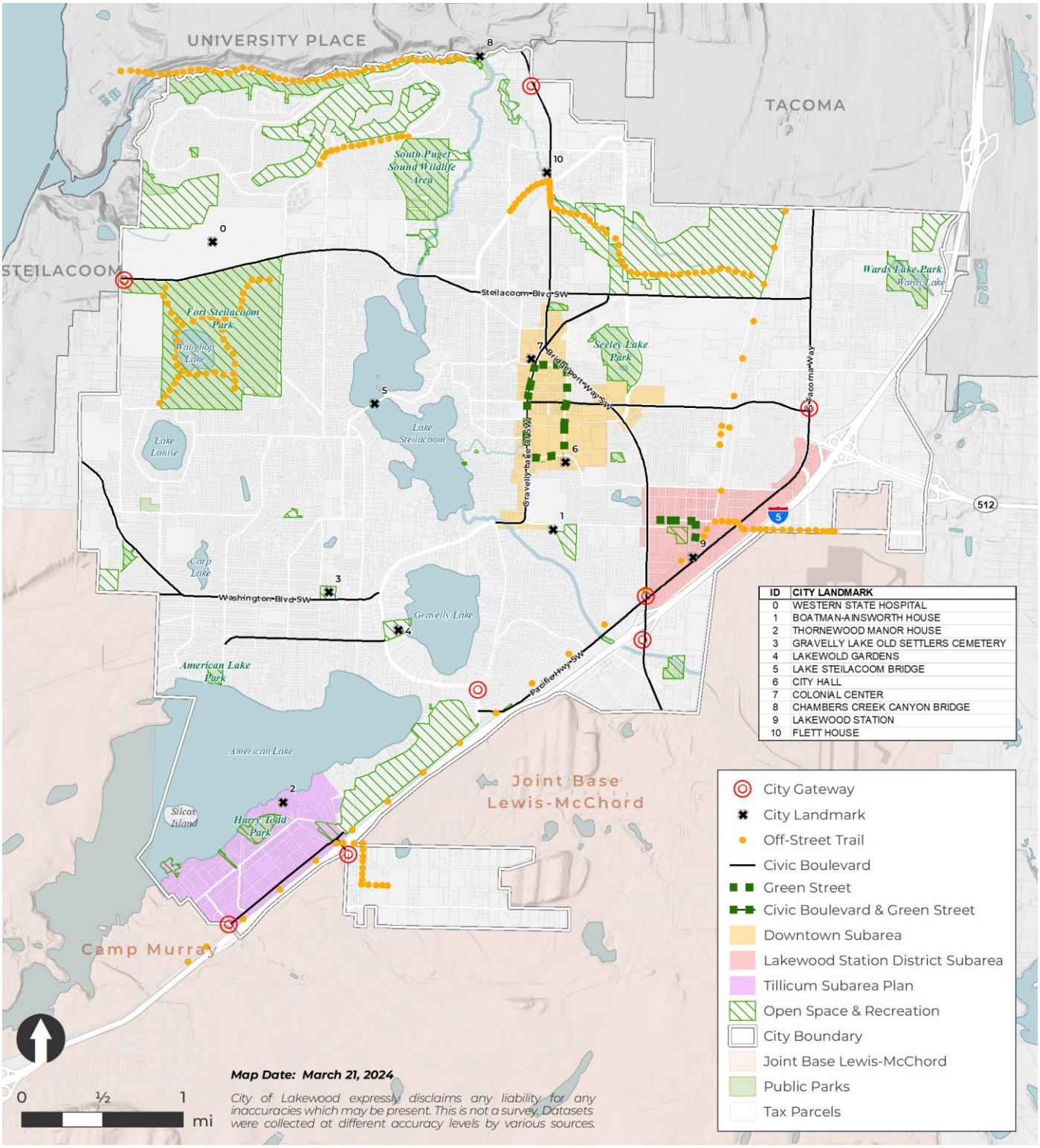
Volunteers are also important. Their contribution to overall PROS operations is significant. Volunteers assist with dog park monitoring, are used as senior ambassadors, and perform invasive plant removal and general park maintenance.

Exhibit H-1. Lakewood Public Parks and Open Spaces.



Sources: City of Lakewood, 2024; Pierce County GIS, 2024.

Exhibit H-2. Lakewood Community Facilities and Recreation.



Sources: City of Lakewood, 2024; Pierce County GIS, 2024.

I Public Services

I.1 Introduction

The Public Services Element is optional under the GMA but is a key tool for Lakewood given its relationships with many partner agencies, utilities, and private entities that provide urban and human services to the city. It contains goals and policies intended to set the stage for cooperative land use and human services planning for everyone member of the community.

I.2 Public Services Summary

Since incorporation, the provision of some public services has been by Lakewood, with other services contracted to other districts and institutions. The table below provides information on the services that either the city, other public or private utilities, public agencies, or private companies provide.

Exhibit I-1. Public Service Providers in Lakewood.

Public Service	Provider
General Administrative Services	City of Lakewood
Police	City of Lakewood
Public Works	City of Lakewood
Stormwater	City of Lakewood
Refuse/Solid Waste	Waste Connections
Fire Protection	WPFR
Emergency Medical Services (EMS)	WPFR
Emergency Management	City of Lakewood
Health & Human Services	City of Lakewood
Housing and Community Development Programs	Tacoma/Lakewood HOME/CDBG Consortium
Schools	Clover Park School District, Pierce College, Clover Park Technical College, and private schools
Library Services	Pierce County Library District

This element concentrates on the following services:

- Fire protection;
- Emergency medical services;
- Police;
- Emergency management;
- Schools and higher education;
- Library services;
- Health and human services; and
- Housing and community development programs.

The Utilities Element and the Capital Facilities and Essential Public Facilities Element (as well as others) also address services identified in the table above.

The city recognizes the importance of coordinated planning for these services with its GMA planning. This will ensure that the city's plans and growth targets inform, and are informed by, public service providers' planning and growth assumptions.

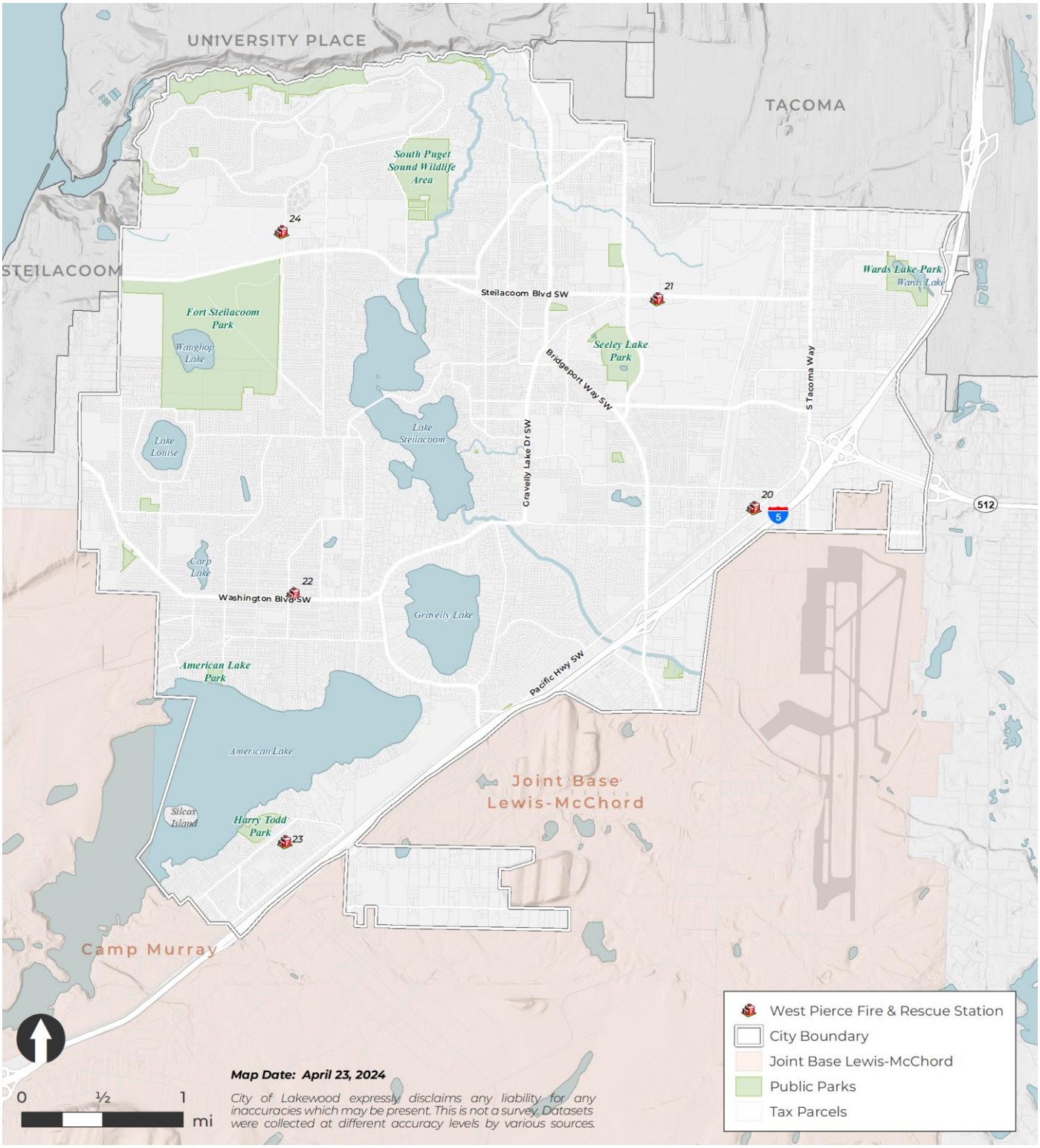
This planning coordination is particularly important for both K-12 and post-secondary education entities, whose enrollment numbers, student populations, and sometimes even course emphases are strongly tied to local growth, but where "disconnects" can easily occur without intentional coordination. This element interrelates Lakewood's Comprehensive Plan to the functions of Clover Park School District, Pierce College, Clover Park Technical College, and the Pierce County Library System.

In setting goals and policies related to human services, this element also sets forth the city's commitment to its citizens' well-being through active participation with countywide and regional partners. Lakewood joins, values, and supports community-based strategic planning efforts for health and human services.

The following maps highlight major facilities for different service providers:

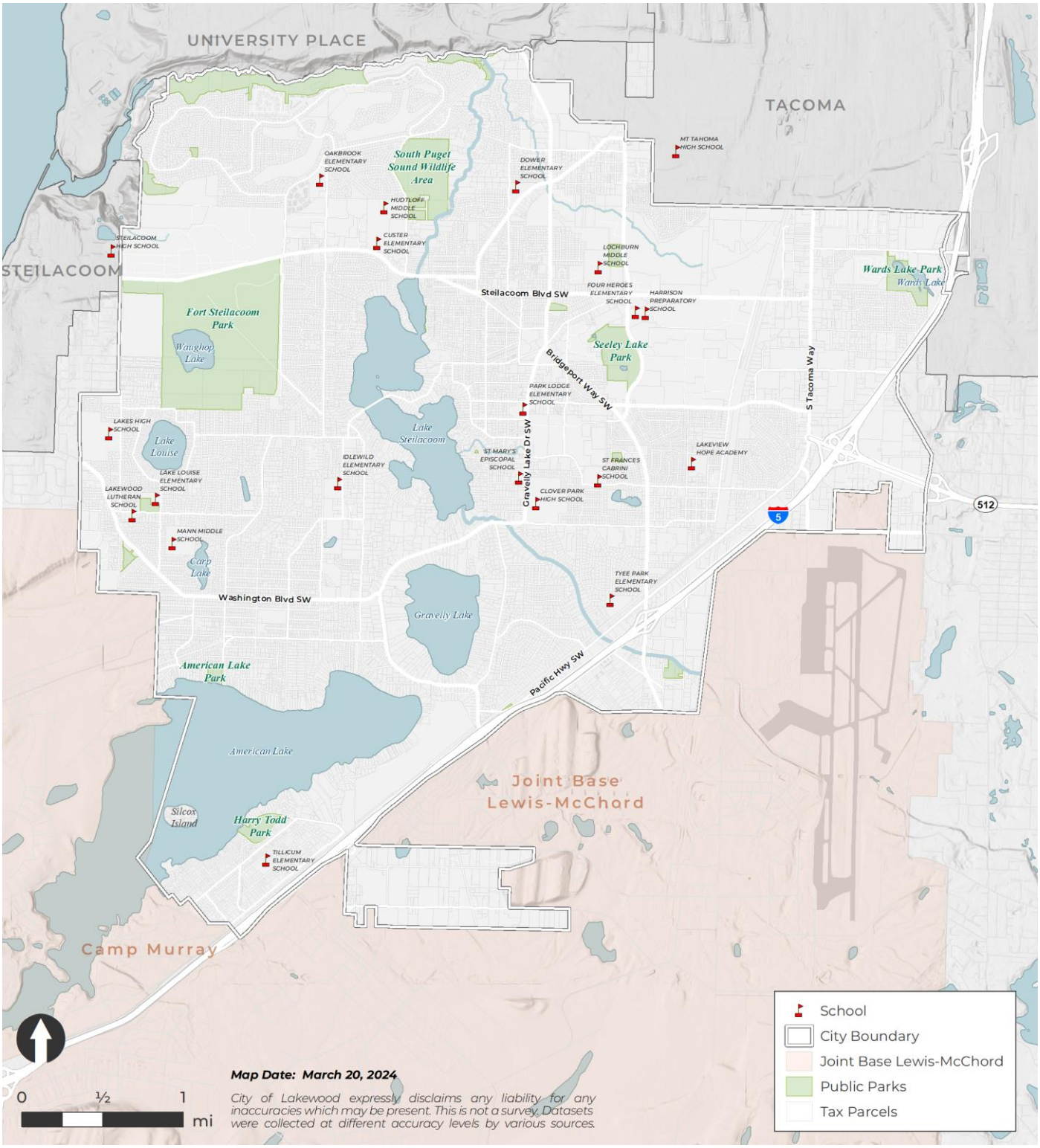
- Exhibit I-2 highlights the WPFR stations in Lakewood, which are the primary provider of fire and emergency medical services.
- Exhibit I-3 shows the locations of schools in Lakewood, including both public and private institutions.

Exhibit I-2. Lakewood West Pierce Fire and Rescue Stations.



Source: City of Lakewood, 2024; West Pierce Fire & Rescue, 2024; Pierce County GIS, 2024.

Exhibit I-3. Lakewood Schools.



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

J Transportation

J.1 Introduction

The content in this Transportation Element is consistent with state law, regional and countywide policies, and other elements of the Lakewood Comprehensive Plan, and will positively contribute to the region's transportation system over time. Transportation planning in Lakewood must consider several major trends that will impact traffic patterns into the future:

- **Expected future growth.** Lakewood is planning for 9,378 more housing units, 574 emergency housing units, and 9,863 new jobs by 2044. This municipal growth, coupled with projected countywide and regional growth, will require Lakewood to plan creatively and efficiently for sufficient motorized and non-motorized ("active") community transportation systems. The 2024 Transportation Element updates are also due to recent changes in the GMA requiring cities to plan to accommodate specific numbers of housing units affordable to different income levels.
- **Proximity to major transportation corridors.** Lakewood is transected by Interstate 5 (I-5) and is immediately adjacent to State Highway 512 (Hwy 512), both major transportation corridors that will be more congested over the next 20 years. This will increase pressures on the city's main transportation corridors over time as travelers seek alternative routes when construction projects and/or natural disasters shut down highways for any length of time.
- **Parking supplies.** Public parking primarily exists in surface parking lots to support commercial, office, light industrial, and multi-family residential areas. There is an abundant supply of parking in most of these areas. While adequate parking is critical to any type of development, an oversupply of parking wastes resources and encourages a continuation of auto-oriented travel. Therefore, the city's parking goals and policies balance these two conflicting outcomes.
- **Expanded development capacity in residential areas.** The 2023 GMA requirements to allow for up to four middle housing units and at least two accessory dwelling units per lot in historically single-family areas will also require the city to proactively prepare for the resulting increased traffic and parking pressures in residential areas, particularly since much of these areas are not located close to transit options.
- **Climate change and resiliency.** 2023 changes to the GMA also require the city to also plan for climate change and resiliency, which will affect the Transportation Element through 2034 and beyond. In 2024, the Transportation Element is reflecting work done to date in preparation of more in-depth climate-related updates by 2029.

J.2 Overview of the System

In its 2023–2024 Strategic Plan, the City Council identified transportation projects as high priorities and adopted a goal to "provide safe, clean, well-maintained, and dependable infrastructure" with the following specific objectives:

- Implement capital infrastructure projects to improve transportation, park, and utility systems;
- Invest in preventative maintenance of facilities, parks, and streets to protect city assets;
- Advance infrastructure projects that enhance the city's identity and diversity;
- Increase connectivity and accessibility.

The Council also adopted an Objective to "advocate for increased transportation and parks infrastructure funding."

The goals and policies contained in the Transportation Element are informed by the City Council's 2021-2024 Strategic Plan. They also reflect technical information from the 2015 Transportation Background Report and 2024 supplements to that report (see Appendix). The 2009 Transportation Background Report and the 2018 Downtown Subarea Plan Transportation Report provided information on existing transportation facilities, travel forecast data, transportation systems plans, LOS, and options for implementation.

The Transportation Element addresses the connection between transportation and land use; establishes means to increase travel options; describes desirable characteristics of transportation facilities' design and operation; and addresses connectivity, access, traffic management, maintenance, and amenities for transportation improvements. The general principles underlying this Element include:

- Promote safe, efficient, and convenient access to transportation systems for all people.
- Recognize transit, bicycling, and walking as fundamental modes of transportation of equal importance compared to driving when making transportation decisions.
- Create a transportation system that contributes to quality of life and civic identity in Lakewood.
- Reduce mobile source emissions to improve air quality.
- Integrate transportation-oriented uses and facilities with land uses in a way that supports the city's land use as well as transportation goals.
- Increase mobility options by actions that diminish dependency on SOVs.
- Focus on the movement of both people and goods.

There are several issues and realities affecting transportation planning and implementation in Lakewood:

- **Physical Features.** Natural obstacles, especially American Lake, Gravelly Lake, and Lake Steilacoom, constrict traffic flow options between the east and west halves of the city to a few arterial connections.
- **Existing Patterns.** Pre-incorporation, Lakewood's street network evolved in a pattern where few principal roadways connect a network largely composed of otherwise unconnected cul-de-sacs.

Because of the city's geographic location, presence of natural features, and adjacent military installations, I-5, and SR 512 form primary connections with the rest of the region.

- **Alternative Transportation Modes.** There are few realistic alternatives to driving for most people in Lakewood. The city's current bicycle and pedestrian network does not provide safe links to all commercial areas, schools, community facilities, and residential neighborhoods. Alternative motorized modes include local and regional transit connections provided by Pierce Transit, Intercity Transit, and Sound Transit systems will improve connectivity as commuter rail and BRT service is established.

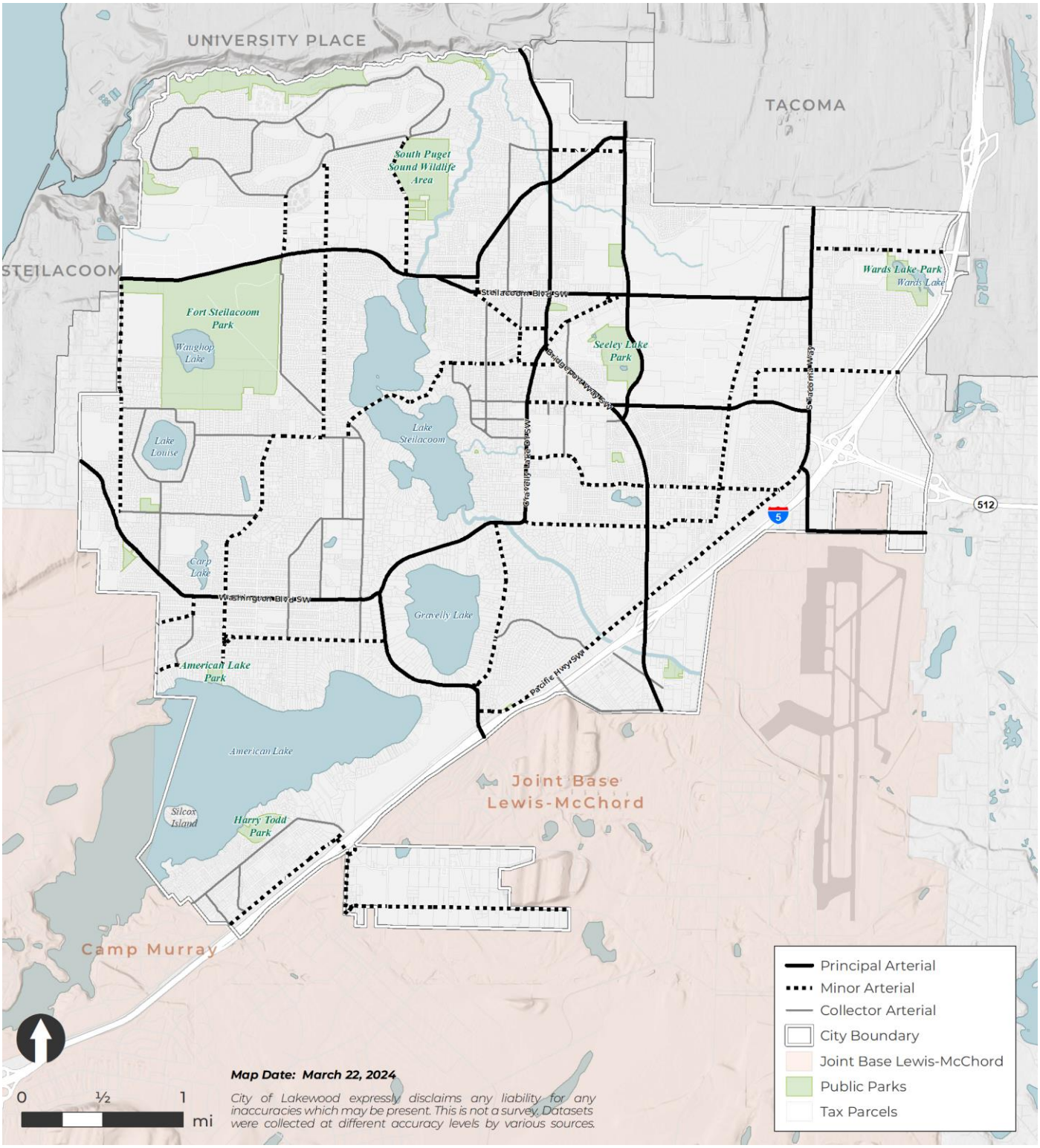
J.3 Street Classifications

For the purposes of managing the city's street network, the streets in the city can be classified as follows:

- **Principal arterials** (major arterials) are roadways that provide access to principal centers of activity. These roadways serve as corridors between principal suburban centers, larger communities, and between major trip generators inside and outside the plan area. Service to abutting land is subordinate to travel service to major traffic movements. The principal transportation corridors within the City of Lakewood are principal arterials. These roadways typically have daily volumes of 15,000 vehicles or more.
- **Minor arterials** (minor arterials) are intra-community roadways connecting community centers with principal arterials. They provide service to medium-size trip generators, such as commercial developments, high schools and some junior high/grade schools, warehousing areas, active parks and ballfields, and other land uses with similar trip generation potential. These roadways place more emphasis on land access than do principal arterials and offer lower traffic mobility. In general, minor arterials serve trips of moderate length, and have volumes of 5,000 to 20,000 vehicles per day.
- **Collector arterials** (minor arterials) connect residential neighborhoods with smaller community centers and facilities as well as provide access to the minor and principal arterial system. These roadways provide both land access and traffic circulation within these neighborhoods and facilities. Collector arterials typically have volumes of 2,000 to 8,000 vehicles per day.
- **Local access roads** (access streets) include all non-arterial public city roads used for providing direct access to individual residential or commercial properties. Service to through traffic movement usually is deliberately discouraged. This also includes private access roads.

The definition of the streets in Lakewood as part of these categories is provided in Exhibit J-1.

Exhibit J-1. Lakewood Street Classifications.



Sources: City of Lakewood, 2024; Pierce County GIS, 2024.

J.4 Road Network Levels of Service

With respect to the road network in Lakewood, the target LOS thresholds for the system are established as shown in Exhibit J-2:

Exhibit J-2. LOS Standards for Lakewood Streets.

Area/Facility	LOS Threshold	Volume/Capacity (VC Ratio)
All arterial streets and intersections in the city, including state highways of statewide significance except as otherwise identified	**LOS D**	**0.90**
▪ Steilacoom Boulevard corridor between 88th Street SW and 83rd Avenue SW	LOS F	1.10
▪ Gravelly Lake Drive, between 1-5 and Washington Boulevard SW ▪ Washington Boulevard SW, west of Gravelly Lake Drive	LOS F	1.30

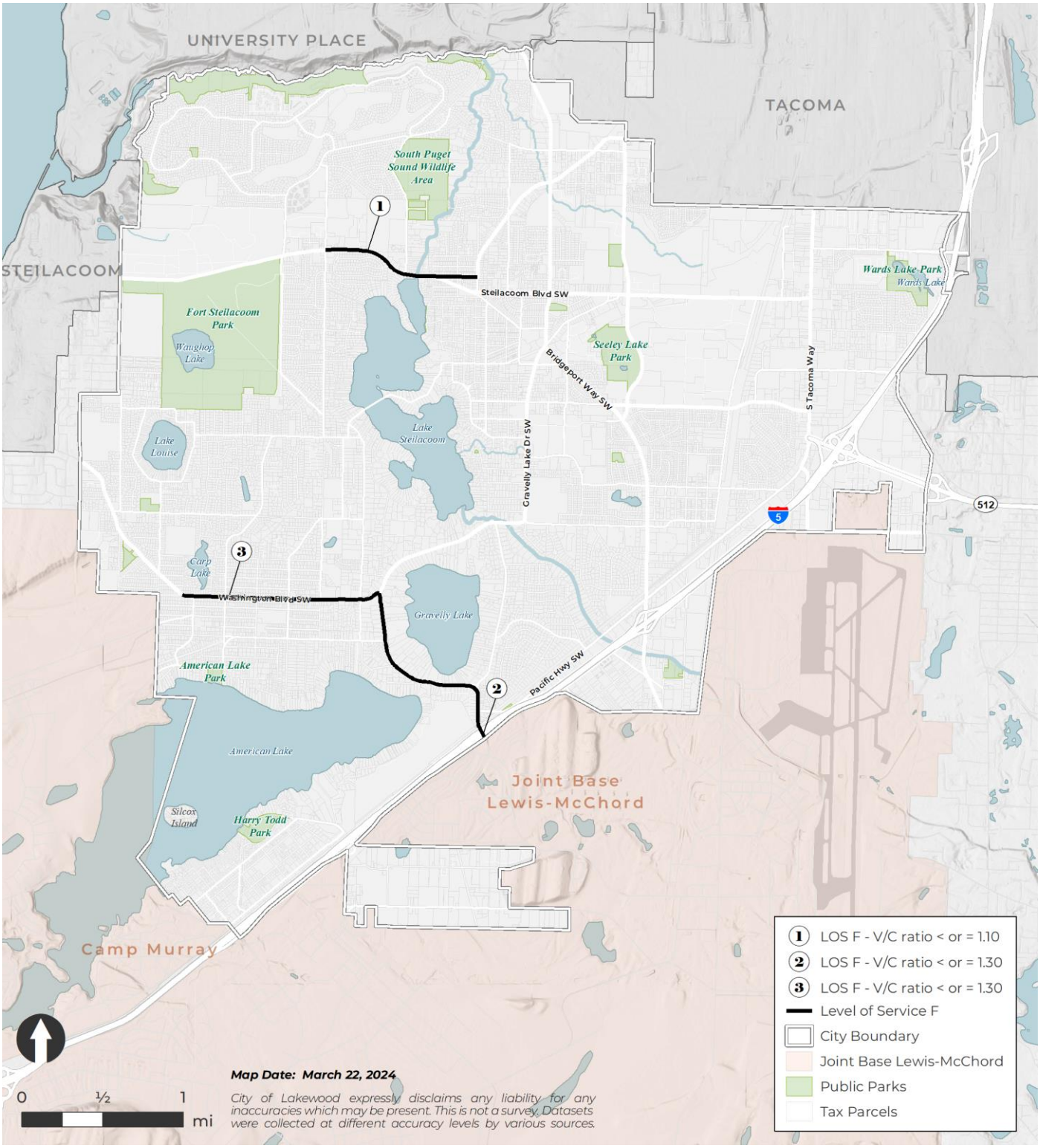
The specific corridors with thresholds of LOS F are also denoted in Exhibit J-3. Note that the City may allow additional two-way and one-way stop-controlled intersections to operate worse than the LOS standards, but these instances should be thoroughly analyzed from an operational and safety perspective.

J.5 Recent Trends

An audit of the city's transportation system offers a detailed assessment of likely traffic patterns projected forward to 2044, evaluating how shifts in demographics and land use will impact transportation patterns and infrastructure needs.

Overall, the future focus of growth is expected to be in the Downtown/Central Business District and the Lakewood Station Subarea, which are anticipated to experience the most significant growth in terms of both housing and employment. Overall, growth projections from the audit also suggest that household and employment growth will occur in the rest of the city, but the concentration of this growth in specific urban centers will align with Lakewood's strategic objectives to boost density in these areas and support a more sustainable urban development model that could reduce reliance on vehicular traffic and promote public and non-motorized transport.

Exhibit J-3. Lakewood Arterials Allowing LOS F Thresholds.



Sources: City of Lakewood, 2024; Pierce County GIS, 2024.

It is expected under transportation modeling conducted that there will be significant changes in vehicle miles traveled (VMT) and travel patterns as a response to anticipated development. Under current growth assumptions without changes to the transportation system, there are several segments of that are expected to exceed LOS D:

- Pacific Highway SW (north of 108th St SW NB/EB)
- South Tacoma Way (north of 84th St SW SB/WB, north of 100th St SW NB/EB, south of SR-512 NB/EB)
- Steilacoom Blvd SW (west of Phillips Rd SW SB/WB, east of Phillips Rd SB/WB)
- Washington Blvd SW (west of Gravelly Lake Dr SW SB/WB)

These areas are expected to achieve LOS E without additional transportation improvements, with the segment of Steilacoom Blvd SW west of Phillips Rd SW SB/WB reaching LOS F.

Overall, historical traffic data analyzed from 2013 to 2022 also indicates a decline in traffic volumes on local streets, suggesting a shift in transportation preferences among Lakewood residents. This trend towards reduced vehicle usage, possibly accelerated by the adoption of remote work and digital services, suggests a potential for lower-than-anticipated future traffic growth rates. These findings reinforce the need for flexible, adaptive strategies in transportation planning to accommodate future shifts in travel behavior in Lakewood.

Employment within the city is suggested to be a continuing driver for traffic in the city. City employment has grown by an average of 2.2% per year since 2012, and meeting the CPP target of 39,735 jobs in the city by 2044 will necessitate an average growth in employment of about 1.8% per year over the next two decades. This employment growth will likely promote further urban development and densification, driving the need for robust transportation solutions that can support increased commuter flows without exacerbating congestion.

With respect to future transportation planning, the expected demographic and economic growth in key urban centers will need thoughtful, strategic planning to ensure that transportation infrastructure keeps pace with development. The focus on enhancing sustainable and efficient transportation options will be crucial in managing the environmental impact and improving the quality of life for Lakewood's residents.

J.6 Multimodal Transportation [NEW]

In addition to the road network, other transportation systems should also be defined in terms of the levels of service they provide to the community.

J.6.1 Non-Motorized Transportation

Overview

The 2023 Non-Motorized Transportation Plan (NMTP) revisited and expanded upon the city's original 2009 plan by assessing the advancements made in Lakewood's non-motorized infrastructure and outlining future projects to address remaining gaps in the pedestrian and bicycle systems. The update process involved gathering community input, revising existing infrastructure records, and utilizing GIS data for spatial analysis to prioritize improvements.

The NMTP includes several key components to support this planning effort:

- **Project outreach.** The city coordinated a ten-question online survey to confirm that the projects and priorities identified within the plan reflect the desires of those who live, work, or visit Lakewood. The 205 responses received by the city provided a clearer understanding of the priorities of potential users of these systems, with the greatest focus on expanding available connections, with the greatest focus on new and better sidewalks in the system.
- **Inventory of existing facilities.** An inventory of existing sidewalk/pedestrian and bicycling facilities is included in the NMTP, which is based on the earlier inventory conducted as part of the 2009 NMTP and updated to account for projects coordinated since the earlier version was completed. Note that with respect to the pedestrian/sidewalk planning, this will be supplemented by an upcoming Transition Plan to comply with the city's obligations under the Americans with Disabilities Act (ADA).
- **Prioritization of pedestrian projects.** The NMTP includes a Pedestrian Priority Index (PPI), a scoring system intended to prioritize future pedestrian improvement projects based on accessibility and need. The PPI evaluates various factors, including proximity to important trip generators like schools, parks, and transit stops; socioeconomic factors such as areas with lower-income or mobility-impaired residents; and the condition of existing pedestrian infrastructure. Each factor is assigned a point value, and the final point values are used to compare different projects to ensure that improvements are made where they are most needed. (Note that bicycle infrastructure is only provided as a complete list with no prioritization system included.)

Based on this work, there are several recommended measures identified in the NMTP. In addition to comprehensive updates of the six-year Transportation Improvement Program (TIP) to reflect these priorities, the Plan included the following recommendations:

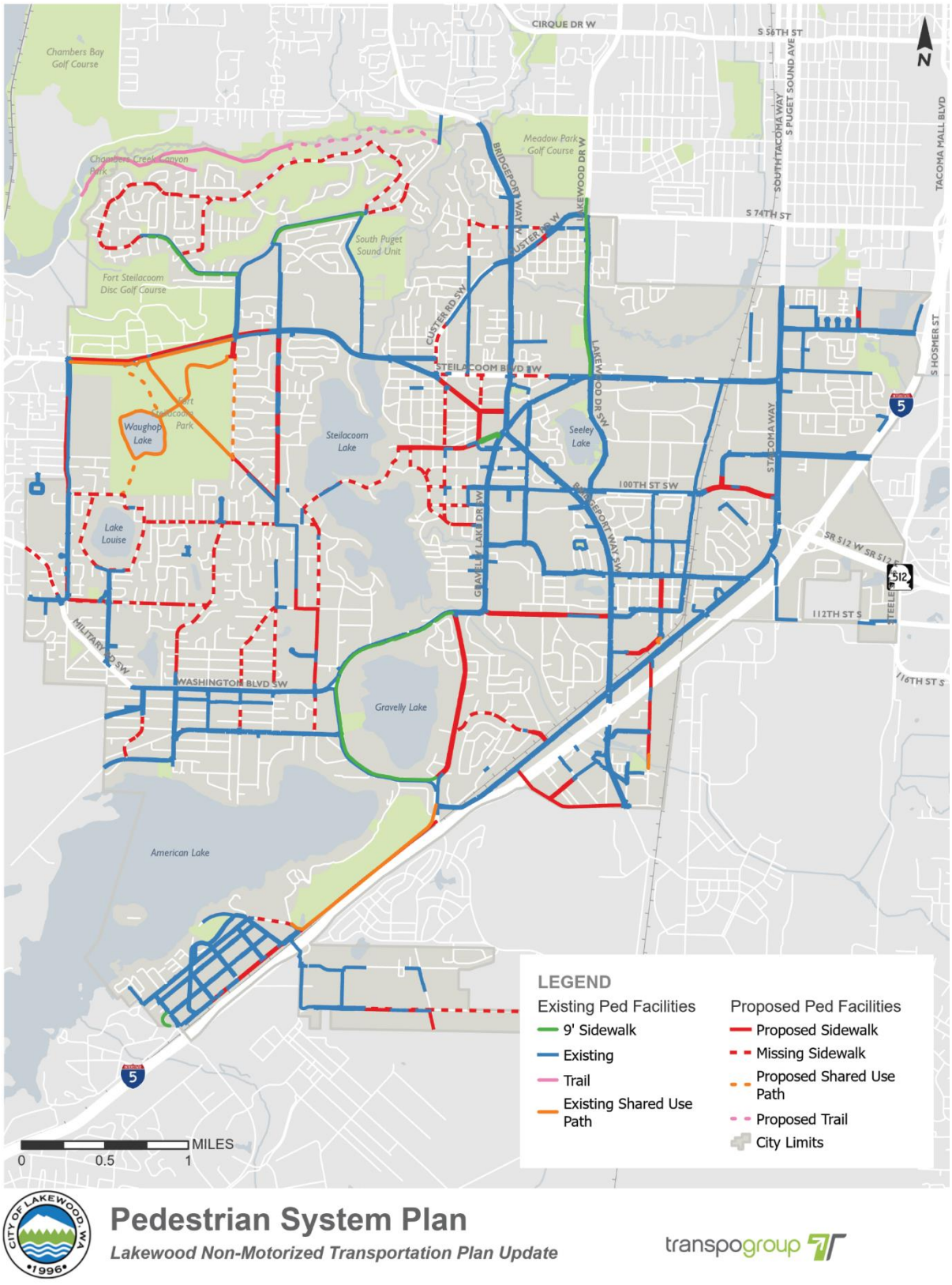
- **Project programming, coordination, and development.** The city should work with neighboring cities, regional transportation agencies, school districts, and neighborhood associations to prioritize and coordinate non-motorized transportation projects. This includes defining comprehensive corridor projects, complementing long-range street projects with non-motorized improvements, and coordinating identified actions with state highway and transit improvements.

- **Database maintenance.** The city should periodically update asset management information in its GIS database to reflect changes to pedestrian and bicycle infrastructure. These updates may be made individually, or as a comprehensive regular update.
- **WSDOT coordination on I-5 facilities.** The city should encourage the Washington State Department of Transportation (WSDOT) to assess pedestrian and bicycle facilities at I-5 interchanges and overcrossings within the city. This effort should be focused on ensuring ADA compliance as well as integrating current and future pedestrian and bicycle facilities into planned upgrades or replacements.
- **Neighborhood traffic management.** The city should continue implementing its Neighborhood Traffic Management Program to address local traffic and safety concerns and integrate considerations from the NMTP into this ongoing effort. This can involve both Phase I operational traffic control measures such as speed radar devices and targeted enforcement, as well as Phase II physical devices like speed humps and traffic circles. Ongoing coordination will be essential to ensure that non-motorized transportation is safe and attractive to local users.
- **Walk-to-school route planning and bicycle education.** The city should revise and coordinate walk-to-school route plans on an ongoing basis in partnership with the Clover Park School District. This can ensure that neighborhood-specific priority projects and comprehensive safety education for pedestrians and bicyclists can support safe facilities for all users and meet the needs of the growing urban population of Lakewood.

Additionally, the NMTP includes an evaluation of the projects necessary to build out the pedestrian and bicycling elements of the city's non-motorized transportation infrastructure:

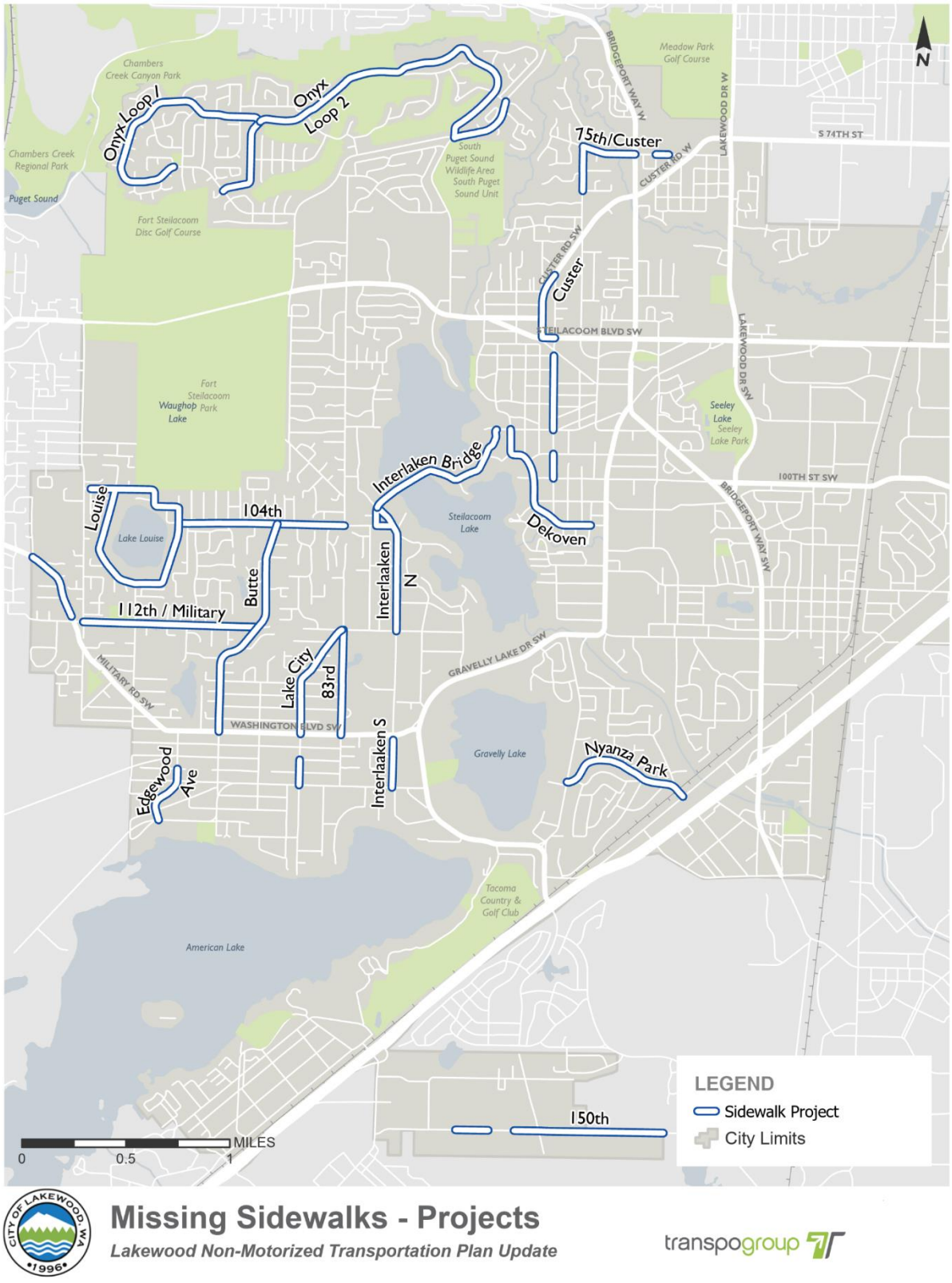
- The **Pedestrian System Plan** is highlighted in Exhibit J-4, which includes all sidewalks, trails, and mixed-use paths available to pedestrians, as well as future priority connections for building out the city's pedestrian network.
- **Pedestrian project locations** from the NTMP are shown in Exhibit J-5, which include the sidewalks and multiuse trails that would be involved with building the identified pedestrian network.
- The **Bicycle System Plan** is summarized in Exhibit J-6. As with the Pedestrian System Plan, this includes a summary of existing facilities, including bicycle lanes, shared use paths available for bikes, sharrows, and road shoulders available for cyclists, as well as identified connections to build a complete network.

Exhibit J-4. Lakewood Pedestrian System Plan.



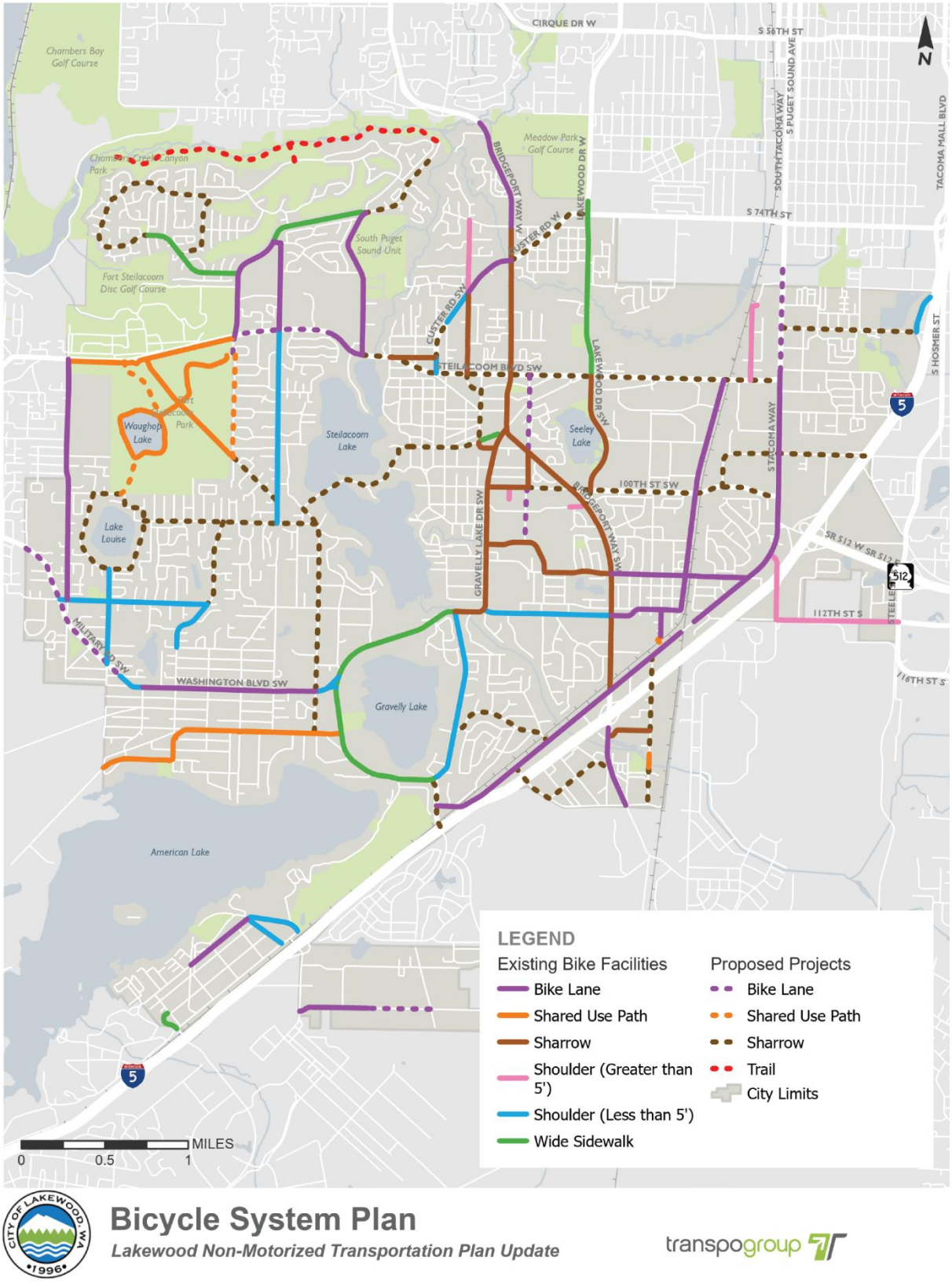
Sources: City of Lakewood, 2023.

Exhibit J-5. Lakewood Pedestrian Project Locations.



Sources: City of Lakewood, 2023.

Exhibit J-6. Lakewood Bicycle System Plan.



Sources: City of Lakewood, 2023.

As noted in the NMTP, funding options to achieve these include the following:

- **State-funded projects** coordinated through the PSRC and programmed under the Statewide Transportation Improvement Program (STIP).
- **State Pedestrian and Bicycle Safety** and **Safe Routes to School** programs, which provide state funding for local projects that improve pedestrian and bicycle safety, with a focus on connections with schools under the latter program.
- **City Transportation Improvement Program** funding, which includes regular capital investment under the city's Capital Improvement Plan.
- **Local improvement districts** (LIDs), which can be used to finance local sidewalk development and critical system enhancements through special assessments on properties that benefit from the improvements.
- **Federal funding**, such as the Federal Safe Streets For All (SS4A) and Safe-Routes-to-School Program, may also provide resources for local improvements.

Given the extent of improvements and the need for greater resources to build out the identified networks, funding strategies to support investment in non-motorized transportation in Lakewood will need to focus on long-term efforts that layer multiple sources of funding in a coordinated way to achieve the identified goals over time.

Levels of Service

With respect to both pedestrian and biking in the city, providing LOS measures similar to those provided for the road network does not make sense. LOS measures for streets and intersections look specifically at the ratio of volume to capacity at peak hours. For the non-motorized transportation network in Lakewood, however, traffic volumes will not likely exceed capacity for available infrastructure in a way comparable to the road network.

Although the Pedestrian Priority Index (PPI) provided in the NMTP provides a detailed metric to prioritizing projects according to a consistent rubric, assessing Levels of Service for existing and potential multimodal corridors may be classified according to their contribution to building a complete network. Considering the outlined existing and proposed networks in Exhibits J-4 and 6, the following three classifications can be used:

- **Adequate facilities.** Under the current system, this category would represent portions of the system that are currently a functional part of the city's multimodal transportation network (walking and/or biking). While improvements and regular maintenance may be necessary, these facilities are designed to a sufficient level to support current and expected users.
- **High priority.** From the NMTP, multiple priority projects have been identified as crucial to expanding the city's network and improving available connections. This includes the sidewalk projects listed in Exhibit J-5, and the proposed projects listed in Exhibit J-6. These projects should be given high priority for future funding and resources, as they are expected to significantly promote walking and biking in the city moving forward.
- **Moderate priority.** While no less of a priority, other projects may represent changes to facilities that currently exist but may not be as functional as an effective transportation connection or as high of a

priority as identified in the NMTP. Additionally, there may be other potential projects that can contribute to the network but are not currently identified in the NMTP. These would be highlighted as important to the city, but not the highest priority projects in building out the desired network.

These classifications would be applied to the proposed networks in Exhibits J-4 and J-6, and updated as required. Ongoing efforts to ensure that MMLOS would be improved for non-motorized systems would focus on how Lakewood is striving towards greater connectivity, safety, and effective use through the complete network identified in the NMTP. Future policy actions should be evaluated on the basis of how moderate and high priority facilities are recategorized as "adequate".

Note that over time, these measures may be expanded further to account for a more detailed perspective on multimodal transportation needs in the city. Regular updates to the NMTP and the Element should revisit these measures and explore how best to reflect these needs in the future.

J.6.2 Public Transit

Overview

Transit service in Lakewood is provided by two agencies:

- **Pierce Transit**, managed by Pierce County, provides local bus service and is coordinating the development of a future bus rapid transit (BRT) system that may include alignments in Lakewood. Routes 2, 3, and 4, providing connections to Tacoma and Puyallup, are frequent lines that converge at the Lakewood Transit Center. Other bus lines include the 206 and 214, which also service JBLM, and the 212, which provides a connection to the Anderson Ketron Ferry in Steilacoom.
- **Sound Transit** (the Central Puget Sound Regional Transit Authority), managed as an independent authority and governed by a Board of Directors drawn from elected officials in the region, provides regional bus, light rail, and commuter rail service across the central Puget Sound. At present, three ST Express buses serve routes that connect Lakewood with Tacoma, Seattle, and Sea-Tac Airport, and the Sounder S Line has its final stop at Lakewood Station. The future Dupont Sounder Extension, expected by 2045, will provide an additional station in the Tillicum neighborhood.

The Lakewood Transit Center and Lakewood Station, located at 11424 Pacific Hwy SW provides the city with a significant transit hub for the area, and includes 600 parking spaces for Sound Transit passengers, as well as bike parking and storage.

Although the transit serving the city is not under local control, these services are important for the city to consider for several reasons:

- As the city grows and traffic volumes increase, providing transit as an alternative to single-occupancy vehicles will be essential to mitigate congestion and ensure that the city's transportation network can operate sustainably.
- New requirements under the GMA link planning requirements to distances from transit stops with different levels of service. For example, under RCW 36.70A.635 cities like Lakewood must allow four housing units per acre for parcels within 1/4 mile of a transit stop for commuter rail or bus rapid transit.

- Access to transit often requires "first mile, last mile" connections between destinations (e.g., residences, workplaces) that would be managed or supported by the city. This may include facilities such as Sound Transit park-and-ride facilities and other parking options, pedestrian and biking connections, and other amenities that can support the use of transit.
- Transit options can provide the ability for people that cannot or choose not to use personal vehicles to have an option to access destinations within and outside the city.

Level of Service

A challenging aspect of providing city Level of Service measures for transit is similar to several other infrastructure systems. While levels of transit service can affect the feasibility of growth and the ability for the city to keep pace with transportation demands, other agencies, specifically Pierce Transit and Sound Transit, oversee the management of services. Even given the input that Lakewood can provide, the final responsibility for service levels is not vested with the city.

However, while the city is not in direct control of managing transit, there is a significant role for the city to play in supporting transit through transportation connections, especially pedestrian and bicycling connections that can influence the use of transit. Similarly, there can be the need to highlight areas where the city should coordinate with Pierce Transit on the expansion of transit options.

A high-level transit Level of Service standard for transit access in Lakewood would include the following:

- **Adequate facilities.** Under the current system, this would represent functional transit stops in the network that can meet local and city-wide needs with current and planned service and include sufficient pedestrian and bicycling connections to link the stops with the surrounding area.
- **High priority.** This would include transit stops that are currently operating and require significant improvements to provide pedestrian and bicycling connections for access, as well as planned transit stops that would be required to support expected increases in density over the short term.
- **Moderate priority.** Other transit stops may be operating and serving the surrounding community, but identified improvements may be necessary by the city to improve transit use. In other cases, longer-term density increases may be planned in certain areas that would require an increase in transit services. While still a priority, these facilities would not be the most essential in addressing immediate concerns with the system.
- **No facilities.** Some parts of the city might not have convenient access to current or planned transit stops, which needs to be considered in this standard. In these instances, potential or existing developments might not generate necessary ridership, or the available rights-of-way could pose difficulties for transit facility accommodation. While these services might not be immediately accessible, the city should support initiatives by agencies like Pierce Transit to offer micro-transit solutions and other alternative transit modes where feasible.

Future efforts to refine this Level of Service measure should work to include the expected number of residents and jobs accessible to frequent transit service in the city and should be coordinated with other measures of MMLOS as noted previously.

J.7 Traffic and Parking Impacts of Land Use Policy

This section is based on a memo provided by Transpo Group in April 2024 on traffic and parking effects of the proposed Comprehensive Plan.

J.7.1 Introduction

The City of Lakewood is currently updating its Comprehensive Plan to comply with the latest State of Washington GMA requirements, PSRC certification standards, and prepare for housing and job growth targets through the year 2044. A previous technical memorandum provided a high-level description of the extent of the effort required to update the Transportation Element portion of the Comprehensive Plan. This memorandum provides a more detailed analysis of components of the Transportation Element which need to be updated as part of the overall Comprehensive Plan update.

Specifically, the analysis described in this memorandum includes the development of travel forecasts for two future scenarios – 2044 Baseline and 2044 Plan. The adopted Roadway Level of Service (LOS) has been updated to show the results for selected corridors for both future scenarios. For any deficiencies identified beyond those described in the adopted Transportation Element, this memorandum provides a potential list of mitigation strategies. Additionally, this memorandum describes a parking analysis conducted to prepare for recent State legislation regarding zoning for middle housing. The results of these analyses will help inform the necessary updates to the Transportation Element.

J.7.2 Travel Forecasts

Introduction

This section provides an overview of the potential roadway deficiencies of the 2044 Plan scenario and any mitigation necessary to accommodate the City's housing and job growth targets. To do this, we conducted a travel demand model comparison between the 2044 Baseline and 2044 Plan land use scenarios.

The travel demand model used for this analysis was derived from the previous Lakewood Model that was prepared as part of the last Comprehensive Plan update and more recent Subarea Plans. This model can be utilized to forecast travel demand based on the City's housing and job growth targets. The land use assumptions included in this analysis are consistent with work being performed in updating the Land Use Plan and are intended for planning purposes only and in no way are meant to restrict or require specific land use actions.

2044 Baseline Scenario

The 2044 Baseline scenario model builds upon the 2030 Plan scenario model used in the previous Transportation Element update and incorporates more recent land use planning efforts, such as the Downtown Plan and Station Area Plan. Additionally, the 2044 Baseline scenario model includes one minor roadway improvement – the widening of Murray Road north of 146th SW to two lanes in each

direction. This scenario is used as a future baseline to consider only approved land use capacity and roadway improvements.

2044 Plan Scenario Model

The 2044 Plan scenario model builds upon the 2044 Baseline scenario model by adding the City's housing and job growth targets through the year 2044. The two models are otherwise identical, allowing for a measurement of the traffic volume effects of the additional housing and job growth.

Land Use Changes

The housing and job growth targets incorporated into the 2044 Plan scenario model were informed by other components of the Comprehensive Plan update. Land use data for this scenario model were provided by the prime consultant (BERK) who is working with the City in updating the Comprehensive Plan.

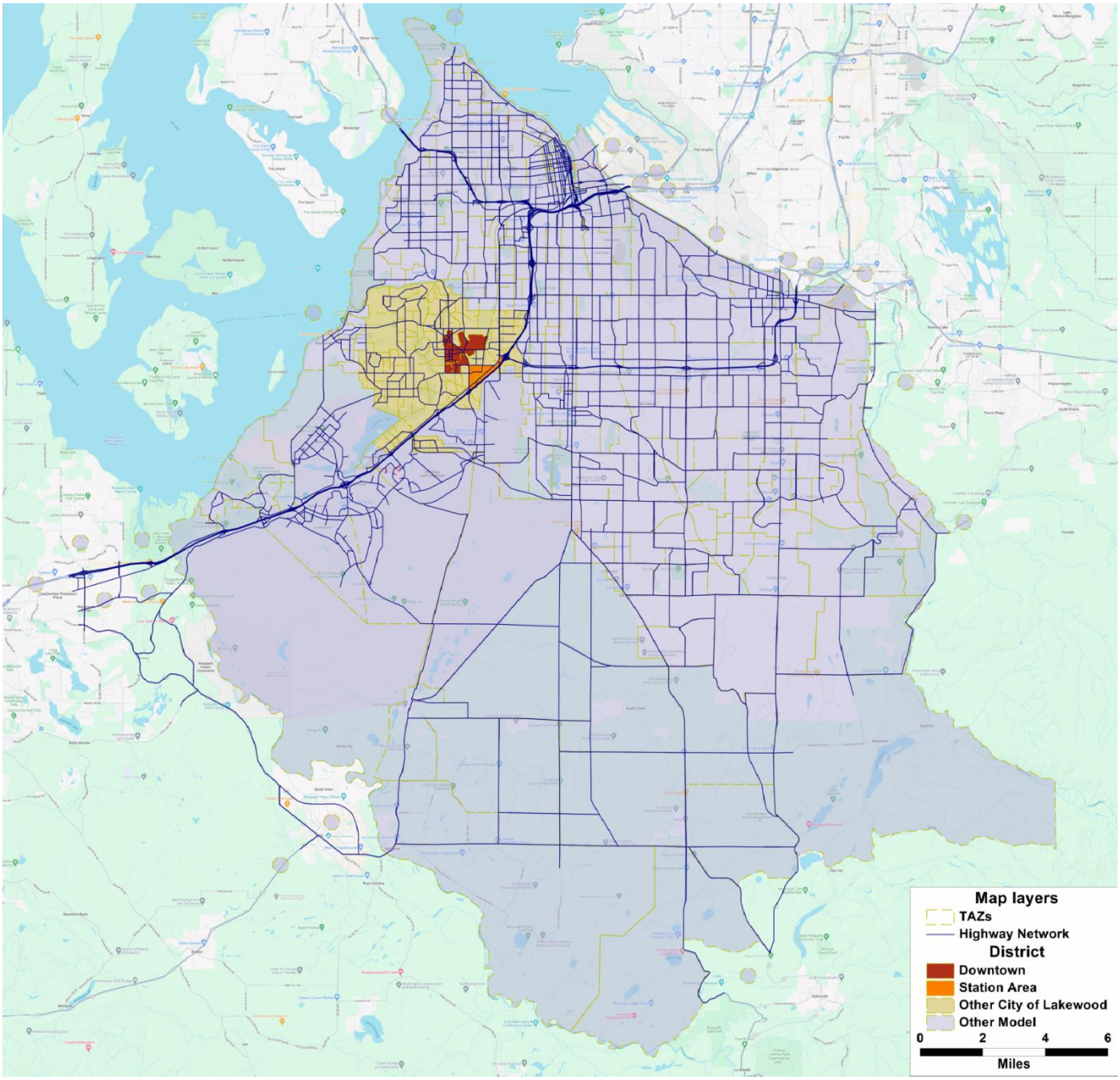
Exhibit J-7 shows a comparison of total occupied households and employees for the 2044 Baseline and 2044 Plan scenarios for the City overall and within specific districts. For reference, Exhibit J-8 shows the analysis districts included in this analysis. Land uses outside of the City of Lakewood were assumed to be unchanged in both future scenarios to compare and contrast the transportation impacts of the land use changes internal to the City.

Exhibit J-7. Transportation Model Land Use Assumptions

	Downtown District	Station Area District	Other Lakewood District[1]	City of Lakewood Total
Occupied Households				
2044 Baseline	2,688	2,553	31,727	36,968
2044 Plan	2,915	2,564	30,151	35,630
Difference	227	11	(1,576)	(1,338)
% Difference	8.4%	0.4%	(5.0%)	(3.6%)
Employees				
2044 Baseline	13,498	3,145	24,407	41,050
2044 Plan	14,739	4,998	20,007	39,744
Difference	1,241	1,853	(4,400)	(1,306)
% Difference	**9.2%**	**58.9%**	**(18.0%)**	**(3.2%)**

1. All other areas in the City outside the Downtown and Station Area Districts.

Exhibit J-8. Traffic Analysis Districts, City of Lakewood



Key Findings

- Under the 2044 Plan scenario, there is a slight decrease in households and employees citywide compared to the 2044 Baseline scenario.
- The 2044 Plan scenario shifts household growth to concentrate more within the Downtown (+227) and Station Area (+11) districts and less outside of these areas (-1,576).
- The 2044 Plan scenario also shifts employee growth to concentrate more within the Downtown (+1,241) and Station Area (+1,853) districts and less outside of these areas (-4,400).

Vehicle Miles Travelled

Vehicle Miles Travelled (VMT) measures the total number of miles travelled by all vehicles leaving, arriving, and/or passing through a geographic region. shows the VMT results for the two future scenarios overall and by analysis district.

Exhibit J-9. Vehicle Miles Travelled Analysis Results

	Downtown District	Station Area District	Other Lakewood Districts	City of Lakewood Total	External to Lakewood Total
2044 Baseline	11,630	8,539	55,243	75,412	1,207,587
2044 Plan	12,339	9,489	52,668	74,496	1,218,125
Difference	709	950	(2,575)	(916)	10,538
% Difference	**6.1%**	**11.1%**	**(4.7%)**	**(1.2%)**	**0.9%**

Key Findings

- Both the Downtown and Station Area districts show VMT increases of 6.1% and 11.1% respectively in the 2044 Plan scenario. These increases are consistent with the changes in land use for this scenario.
- Other areas of the City of Lakewood are projected to produce less VMT (-4.7%) in the 2044 Plan scenario, also consistent with the changes in land use for this scenario.
- VMT within the City of Lakewood overall is projected to decrease slightly (-1.2%) under the 2044 Plan scenario.
- VMT outside of the City of Lakewood is projected to increase slightly (0.9%) under the 2044 Plan scenario.

Level of Service Analysis

The travel demand model was utilized to model both land use scenarios outlined previously. Traffic volumes, roadway volume-to-capacity (v/c) ratios, and level of service (LOS) were then calculated for mid-block arterial roadway segments throughout the City of Lakewood. The v/c and LOS calculations are based on the Highway Capacity Manual (HCM) methodology and the PM peak hour traffic volumes from the two model scenarios. The LOS is consistent with the methodologies adopted in the existing Comprehensive Plan. XX shows the results from this analysis.

Exhibit J-10. Comparison of 2044 Levels of Service, Baseline versus Plan.

	2044 Baseline			2044 Plan		
Ardmore Dr SW						
Southeast of Steilacoom Blvd SW	D	0.74	0.83	C	0.68	0.71
Northwest of Whitman Ave SW	B	0.40	0.63	A	0.36	0.55
Bridgeport Way W						
North of 75th St W	C	0.79	0.69	C	0.80	0.66
North of Custer Rd W	B	0.66	0.62	B	0.69	0.60
South of Custer Rd W	C	0.71	0.63	C	0.76	0.62
North of Gravelly Lake Dr SW	A	0.56	0.54	A	0.59	0.51
South of Gravelly Lake Dr SW	A	0.39	0.43	A	0.42	0.40
North of 100th St SW	A	0.50	0.52	A	0.53	0.53
South of 100th St SW	A	0.26	0.23	A	0.30	0.25
South of Lakewood Dr SW	A	0.51	0.56	A	0.58	0.60
North of 112th St SW	A	0.52	0.58	A	0.59	0.58
North of Pacific Highway SW	C	0.67	0.78	C	0.78	0.78
South of Pacific Highway SW	D	0.79	0.85	D	0.78	0.84
I-5 Overcrossing	B	0.58	0.62	B	0.54	0.65
At Clover Creek Bridge South of I-5	A	0.44	0.31	A	0.44	0.33
Custer Rd SW/W						
Northeast of Bridgeport Way SW	C	0.62	0.75	C	0.64	0.75
Southwest of Bridgeport Way SW	C	0.52	0.72	B	0.52	0.70
North of 88th St SW	B	0.47	0.66	B	0.47	0.64
South of 88th St SW	A	0.55	0.04	A	0.51	0.03
Far West Dr SW						
South of Steilacoom Blvd SW	A	0.12	0.16	A	0.25	0.18
Gravelly Lake Dr SW						
Southwest of Steilacoom Blvd SW	A	0.30	0.56	A	0.34	0.59
Northeast of Bridgeport Way SW	A	0.15	0.37	A	0.19	0.39
Southwest of Bridgeport Way SW	A	0.25	0.29	A	0.26	0.29
South of Mount Tacoma Dr SW	A	0.26	0.19	A	0.29	0.22
South of 100th St SW	A	0.39	0.41	A	0.43	0.45
South of Alfaretta St SW	A	0.26	0.30	A	0.29	0.33
North of Wildaire Rd SW	A	0.48	0.50	A	0.45	0.49
North of 112th St SW	A	0.45	0.45	A	0.45	0.50
West of 112th St SW	B	0.50	0.65	B	0.48	0.62
West of Nyanza Rd SW/S	E	0.89	0.97	D	0.75	0.87
North of Pacific Highway SW	B	0.70	0.54	B	0.67	0.47
South of Pacific Highway SW	B	0.68	0.55	B	0.65	0.51
I-5 Overcrossing	A	0.47	0.33	A	0.45	0.32
Hipkins Rd SW						

	2044 Baseline			2044 Plan		
South of Steilacoom Blvd SW	A	0.33	0.43	A	0.26	0.36
Lakeview Ave SW						
South of 100th St SW	A	0.24	0.39		A	0.27
South of Steilacoom Blvd SW	A	0.34	0.26		A	0.44
Lakewood Dr SW						
North of 74th St W	D	0.66	0.86	D	0.72	0.88
South of 74th St W	D	0.66	0.81	D	0.72	0.82
North of Steilacoom Blvd SW	C	0.67	0.79	C	0.74	0.80
South of Steilacoom Blvd SW	A	0.54	0.51	A	0.60	0.51
North of 100th St SW	A	0.40	0.48	A	0.48	0.54
Military Rd SW						
South of 112th St SW	A	0.39	0.34	A	0.37	0.39
Northwest of 112th St SW	A	0.19	0.16	A	0.17	0.14
Mount Tacoma Dr SW						
West of Bridgeport Way	A	0.15	0.19	A	0.25	0.22
West of Gravelly Lake Dr	A	0.18	0.28	A	0.16	0.26
Murray Rd SW						
North of 146th St SW	A	0.58	0.50	A	0.55	0.45
North Thorne Ln SW						
Southeast of Union Ave SW	B	0.66	0.67	B	0.56	0.65
Nyanza Rd SW						
North of Gravelly Lake Dr SW	A	0.55	0.28	A	0.57	0.26
South of Gravelly Lake Dr SW	A	0.55	0.30	A	0.57	0.30
Pacific Highway SW						
North of 108th St SW	C	0.76	0.69	E	0.94	0.72
Southwest of 108th St SW	A	0.47	0.39	B	0.69	0.48
Northeast of Bridgeport Way SW	A	0.48	0.45	B	0.59	0.68
Southwest of Bridgeport Way SW	B	0.58	0.63	C	0.66	0.71
East of Gravelly Lake Dr SW	B	0.54	0.64	B	0.47	0.63
Phillips Rd SW						
North of Steilacoom Blvd SW	C	0.71	0.35	A	0.58	0.31
South Tacoma Way						
North of 84th St SW	D	0.64	0.89	D	0.65	0.90
North of Steilacoom Blvd SW	D	0.75	0.87	D	0.78	0.87
South of Steilacoom Blvd SW	C	0.72	0.77	D	0.72	0.83
North of 96th St S	C	0.65	0.75	C	0.68	0.80
North of 100th St SW	D	0.89	0.62	E	0.93	0.62
South of SR 512	C	0.79	0.67	E	0.92	0.67
Southeast of Pacific Highway SW	A	0.30	0.29	A	0.30	0.31
Steilacoom Blvd SW						
East of Farwest Dr SW	A	0.39	0.49	A	0.48	0.47
West of 87th Ave SW	A	0.56	0.52	A	0.48	0.47
West of 83rd Ave SW/Hipkins Rd SW	A	0.52	0.51	A	0.46	0.50

	2044 Baseline			2044 Plan		
West of Phillips Rd SW	F	0.84	1.02	E	0.72	0.94
East of Phillips Rd SW	F	0.84	1.12	F	0.73	1.01
Southeast of 88th St SW	C	0.78	0.68	B	0.66	0.60
West of Bridgeport Way SW	B	0.38	0.65	A	0.31	0.57
East of Bridgeport Way SW	A	0.33	0.53	A	0.28	0.49
West of Gravelly Lake Dr SW	A	0.32	0.47	A	0.28	0.43
East of Lakewood Dr SW	A	0.35	0.47	A	0.34	0.44
West of Lakeview Ave SW	A	0.35	0.49	A	0.34	0.46
West of South Tacoma Way	A	0.48	0.54	A	0.55	0.53
Union Ave SW						
Northeast of Berkeley St SW	A	0.16	0.21	A	0.13	0.16
Southwest of North Thorne Ln SW	A	0.37	0.31	A	0.28	0.29
Washington Blvd SW						
West of Gravelly Lake Dr SW	E	0.66	0.99	E	0.65	0.96
Whitman Ave SW						
South of Ardmore Dr SW	A	0.13	0.14	A	0.13	0.13
40th Ave SW						
North of 100th St SW	B	0.32	0.62	B	0.37	0.66
74th St S						
West of Lakewood Dr SW	C	0.56	0.71	A	0.57	0.71
83rd Ave SW						
North of Steilacoom Blvd SW	A	0.56	0.33	A	0.39	0.26
84th St S						
East of South Tacoma Way	A	0.39	0.25	A	0.41	0.26
87th Ave SW						
South of Steilacoom Blvd SW	A	0.09	0.09	A	0.03	0.03
North of Steilacoom Blvd SW	A	0.36	0.28	A	0.30	0.14
88th St SW						
East of Steilacoom Blvd SW	A	0.17	0.58	A	0.15	0.53
93rd St SW						
East of Whitman Ave SW	A	0.46	0.34	A	0.39	0.32
96th St S						
West of South Tacoma Way	C	0.61	0.77	C	0.52	0.73
East of South Tacoma Way	D	0.81	0.45	D	0.81	0.44
100th St SW						
West of South Tacoma Way	C	0.72	0.53	C	0.78	0.53
East of Lakeview Dr SW	D	0.83	0.82	D	0.90	0.83
West of Lakeview Dr SW	C	0.74	0.63	C	0.80	0.63
East of Lakewood Dr SW	C	0.73	0.68	C	0.75	0.67
East of Bridgeport Way SW	B	0.64	0.63	B	0.69	0.65
East of Gravelly Lake Dr SW	A	0.13	0.19	A	0.16	0.21
108th St SW						
West of Pacific Highway SW	C	0.71	0.74	D	0.82	0.80

	2044 Baseline			2044 Plan		
East of Bridgeport Way SW	A	0.57	0.42	A	0.60	0.45
West of Bridgeport Way SW	A	0.45	0.31	A	0.46	0.28
East of Davisson Rd SW	A	0.48	0.34	A	0.47	0.30
112th St SW/S						
Between Military Rd SW & Farwest Dr S	A	0.25	0.35	A	0.26	0.48
East of Gravelly Lake Dr SW	B	0.31	0.61	A	0.32	0.49
East of Bridgeport Way SW	B	0.54	0.66	A	0.56	0.56
West of Bridgeport Way SW	B	0.49	0.68	B	0.57	0.61
150th St SW						
East of Woodbrook Rd SW	F	1.05	0.75	C	0.80	0.57

1. Level of service, based on Highway Capacity Manual, 7th Edition methodology.
2. Level of service reported for worst performing direction of travel

Key Findings

Our analysis of the two model scenarios focuses on roadway segments which operate at LOS E or worse (v/c > 0.90) since the general concurrency threshold for the City of Lakewood is to maintain LOS D or better along all arterial roadways. However, as discussed in greater detail below, the City has previously identified some roadway segments that are unable to maintain LOS D or better through feasible mitigation or improvements in the future. For these roadway segments, the City has established either a LOS E or LOS F threshold, depending on the roadway segment.

The following two lists summarize the roadway segments projected to operate at LOS E or worse in either the 2044 Baseline or the 2044 Plan model scenarios. The first list shows roadway segments projected to operate better in the 2044 Plan than the 2044 Baseline model scenario.

The second list shows roadway segments projected to operate worse in the 2044 Plan than the 2044 Baseline model scenario.

- Roadway operating conditions are projected to improve under the 2044 Plan model scenario for the following segments:
    - Gravelly Lake Dr SW west of the end of Nyanza Rd SW from LOS E (v/c 0.97) to LOS D (V/C 0.87)
    - Steilacoom Blvd SW west of Phillips Rd SW from LOS F (v/c 1.02) to LOS E (v/c 0.94)
    - Steilacoom Blvd SW east of Phillips Rd SW from LOS F (v/c 1.12) to LOS F (v/c 1.01)
    - Washington Blvd SW west of Gravelly Lake Dr SW from LOS E (v/c 0.99) to LOS E (v/c 0.96)
    - 150th St SW east of Woodbrook Rd SW from LOS F (v/c 1.05) to LOS C (v/c 0.80)
- 2. Roadway operating conditions are projected to worsen under the 2044 Plan model scenario for the following segments:
    - Pacific Highway SW north of 108th St SW from LOS D (v/c 0.76) to LOS E (v/c 0.94)

- South Tacoma Way north of 100th St SW from LOS D (v/c 0.89) to LOS E (v/c 0.93)
- South Tacoma Way south of SR 512 from LOS D (v/c 0.79) to LOS E (v/c 0.92)

Potential Mitigations

The roadway segments along Steilacoom Blvd SW and Washington Blvd SW which continue to operate at LOS E or worse in the 2044 Plan model scenario have previously been identified by the City as segments which are unable to maintain LOS D or better through feasible mitigation or improvements. Therefore, our analysis does not consider potential mitigations for these roadway segments since the results are similar to what had been shown in the adopted Transportation Element.

The remaining roadway segments along Pacific Highway SW and South Tacoma Way which continue to operate at LOS E or worse in the 2044 Plan model scenario are considered for potential mitigations in our analysis. These two roadways directly serve the Station Area District and the increased land use intensity in the 2044 Plan model scenario contributed to the worsening roadway segment LOS.

Given the City's focus on improving transit accessibility, especially for active transportation modes such as walking and biking, within the Station Area District, it is not likely feasible to mitigate the roadway segment deficiencies along Pacific Highway SW and South Tacoma Way through roadway widening improvements. However, the Sound Transit Board of Directors approved a series of improvements within the Station Area District which may encourage greater transit, walking, and biking use and decrease the demand for driving on the surrounding roadway network. These improvements include:

- **115th St Ct SW trail to station –** adds a multi-use trail in Sound Transit right-of-way from the end of 115th St. Court SW to the pedestrian bridge over the railroad tracks connecting to Lakewood Station.
- **Station area curb and sidewalk improvements –** improve curbs and sidewalks within a half mile radius of the station area.
- **Pierce Transit Route 206 bus stop at Lakewood Station –** modify the intersection of Pacific Hwy. SW and Bridgeport Way to improve the bus turning radius, which makes a Pierce Transit stop at the station more feasible.

Additionally, the City of Lakewood could consider adjusting the LOS threshold for these deficient roadway segments as they've done previously for other deficient roadway segments in the City. These adjustments would further emphasize the City's focus on improving transit access, walking, and biking within the Station Area District and surrounding area.

J.7.3 Parking Analysis

This section describes the analysis conducted by both BERK and Transpo Group to evaluate and identify areas within the City of Lakewood where a potential increase in on-street parking demand due to middle housing developments allowed under the State of Washington HB 1110 might cause significant safety issues. The State plans to provide guidance to local jurisdictions on how to evaluate significant safety issues related to HB 1110. However, prior to the issuance of this guidance, our analysis provides a methodology for evaluating significant safety issues that can be applied consistently to all roadway segments in the City related to parking impacts.

Our analysis assumes that significant safety issues stemming from increased on-street parking could arise on roadways that were not originally designed for on-street parking. In the context of residential areas within the City of Lakewood, this would typically include narrow local roads without curbs. On-street parked vehicles on these roadways may contribute to significant safety issues, such as reduced sight distances, increased risk of dooring collisions for people biking, or preventing adequate space for two-way travel.

Data and Assumptions

The City of Lakewood provided the data used in this study. GIS data layers used included:

- **Travelways:** a line layer showing the edge of pavement for the entire City. This layer also shows driveway access to/from all parcels.
- **ROW under 60:** a line layer showing areas of the City where the public right of way is less than 60 feet wide.
- **Arterials:** a line layer showing all roads in the City.
- **Parcels:** a polygon layer showing parcels in the City.

These GIS data layers were utilized to identify narrow roadway segments throughout the City of Lakewood. However, it's important to note that since our analysis relies on the "ROWunder60" layer to identify narrow roadway segments, it's possible that this excludes other roadway segments that might have significant safety issues related to on-street parking. For example, a roadway segment with adequate public ROW but the pavement width is still narrow or missing curbs. The City should consider if further study is necessary to evaluate safety in these areas.

Once parcels along narrow roadway segments were identified, our analysis excluded parcels that were within 300 feet walking distance from a roadway segment with adequate public ROW. The assumption here is that a person living at one of these parcels could park their vehicle along the roadway segment with adequate public ROW and conveniently walk to their residence.

Methodology to Identify Inadequate On-Street Parking

The following steps were conducted to identify roadway segments with potentially significant safety issues related to on-street parking.

- **Step 1:** Identify where HB 1110 land uses would initially be allowed absent other data. Utilize the existing low-density residential zoning GIS layer for R1-R4 designated areas. Remove areas with lot sizes below a minimum threshold or lot size.

  This step was completed by BERK and the filtered dataset was then provided to Transpo Group for further analysis. This filtered dataset included 8,983 parcels.
- **Step 2:** Remove properties within ½ mile walking distance of a major transit stop. A major transit stop provides daily service frequency of 30 minutes or greater.

  This step was also completed by BERK. Major transit stops within the City included stops with either future bus rapid transit or commuter rail service. Excluding parcels within a ½ mile walking distance of major transit stops reduced the number of parcels relevant to the parking analysis to 2,300.

- **Step 3:** Utilize estimates of potential development capacity, such as number of additional units that could be added, to highlight areas with higher likelihood of off-site parking needs.

  BERK identified parcels where middle housing would not be allowed or would not be possible to build. The exclusion of these parcels reduced the number of parcels relevant to the parking analysis to 1,615.
- **Step 4:** Highlight properties that have direct access to public streets that have substandard public ROW widths of under 60 feet. Assume on-street parking within 300 feet of a property is within acceptable walking distance.

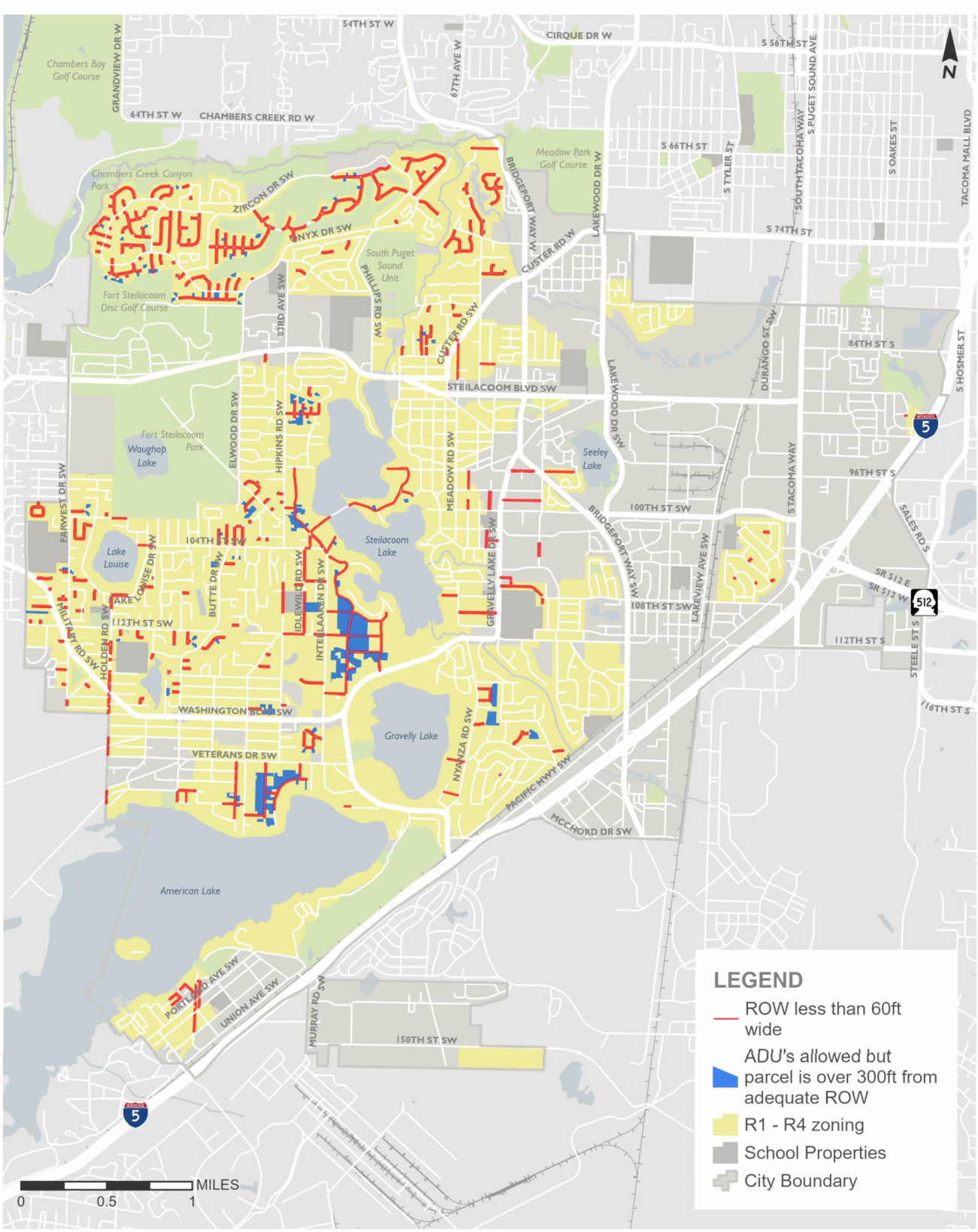
  This step was completed by Transpo Group and reduced the number of parcels relevant to the parking analysis to 191. Figure 2 shows the location of the 191 parcels within the City.

Key Findings

Our analysis highlights two neighborhoods within the City with a high concentration of parcels with potentially significant on-street parking safety issues – the Interlaken and Harts Idyllwild/Lake Holme developments. These neighborhoods include mostly low-density single-family homes.

Roadways within these neighborhoods are primarily narrow and without curbs or sidewalks. The neighborhoods were designed to be accessed primarily by automobile. The low density and roadway connectivity also allows for walking without the need for sidewalks since the traffic volumes are likely low and people walking have the option to walk off pavement within the public right of way. Since these roadways were not designed to accommodate higher residential densities and on-street parking, they may be appropriate areas to exempt from the HB 1110 middle housing zoning requirements. However additional evaluation may be necessary to consider other data points and information, such as equity, demographics, and practicality or risk of exempting these areas from middle housing zoning.

Exhibit J-11. Parcels of Concern for Significant On-Street Parking Safety Issues



K Utilities

K.1 Introduction

Utilities addressed in this element include stormwater, sanitary sewer, water, electricity, communications, solid waste, and natural gas. The purpose of this element is to ensure that:

- Adequate utilities are available,
- Equitable LOS for services are provided across the city;
- Public health and safety are guaranteed;
- Efficiencies and economies of scale are utilized, and
- Coordination is successfully achieved with regional and independent utility providers.

As discussed in the Capital Facilities and Essential Public Facilities Element, Lakewood does not own or operate the city's sewer, water, power, refuse/solid waste, hazardous waste, or telecommunication utilities. Rather, the city has intergovernmental or interagency agreements with the following entities to provide urban services, as shown in Exhibit K-1

Exhibit K-1. Major Utility Providers in Lakewood.

Service / Utility	Agency
Sewer	Pierce County Public Works
Water	Lakewood Water District, Parkland Water District
Electricity	Tacoma Power, Puget Sound Energy, Lakeview Power
Natural Gas	Puget Sound Energy
Telecommunications	Private communications companies
Refuse/Solid Waste	Waste Connections

K.2 Sewer

Sewer service in the City of Lakewood is almost entirely provided by Pierce County Public Works and Utilities. Sewer service was recently expanded to serve the Tillicum and Woodbrook communities. The Town of Steilacoom provides sewer service to Western State Hospital. The connection to the Steilacoom sewer system is at the southwest corner of the WSH campus. This connection is being upgraded in 2023, including the addition of a meter. Future development will require additional sewer capacity charges and will be based on the calculated sewer demand from Pierce County Public Works and Utilities "Documented Water Use Data." The City of Tacoma provides sewer service to the Flett subdivision, and

to commercial and residential users located in northeast Lakewood (80th Street and 84th Streets). Exhibit K-2 describes the locations of all major sewer trunk lines within Lakewood.

The area immediately north of Pierce College and north of 101st Street SW, as well as the area along Clover Creek near Cochise Lane, remain unsewered. Since the adoption of the City's Comprehensive Plan in 2000, sewer trunk lines have been installed in Tillicum and Woodbrook.

K.3 Water

K.3.1 Lakewood Water District

Water service in the City of Lakewood is almost entirely provided by the Lakewood Water District. Small portions of the north and northeast sections of the city are served by the City of Tacoma, the Parkland Light and Water Company, and Southeast Tacoma Mutual Water Company.

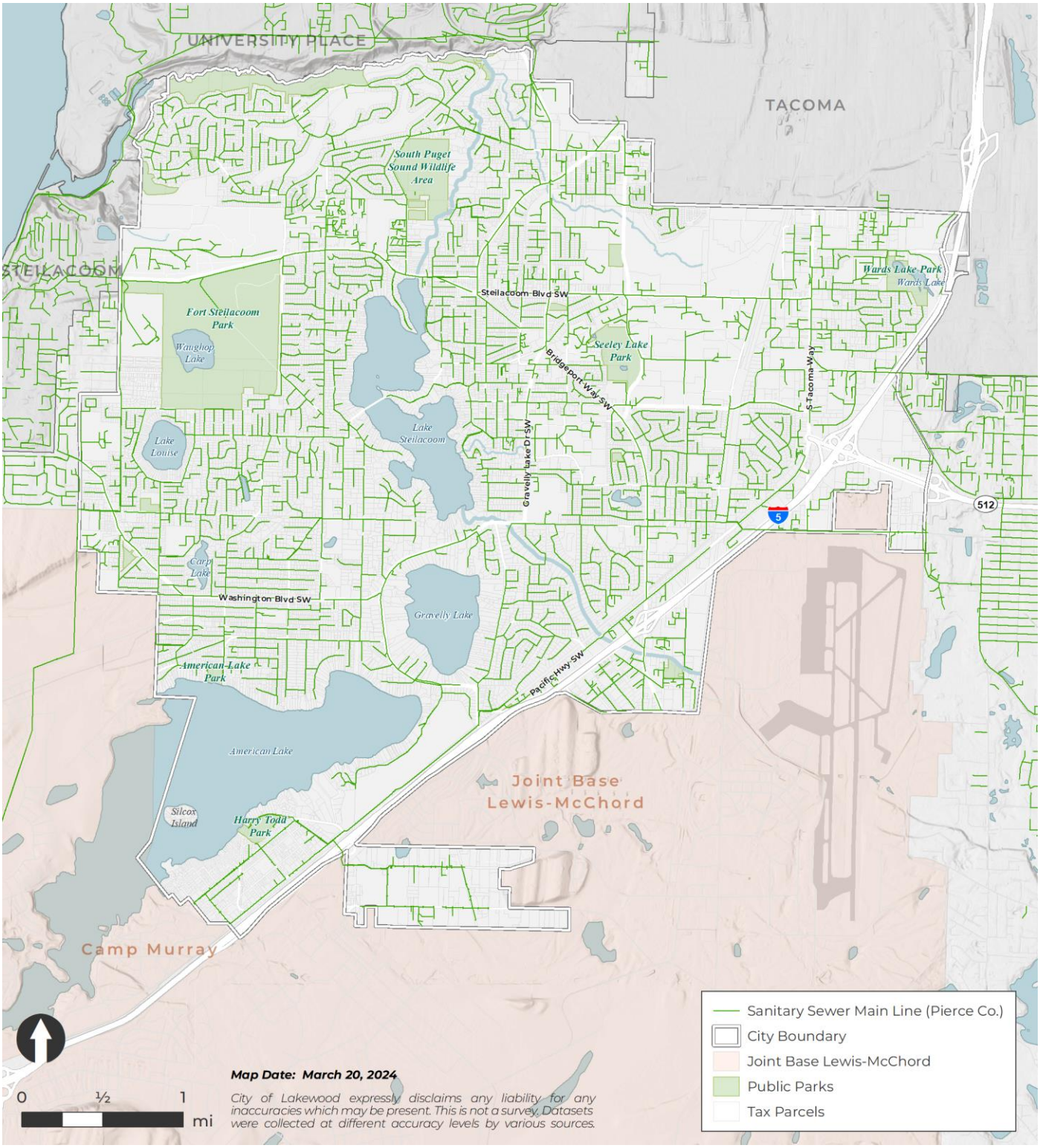
Figure 7.3 shows the water systems service areas, in addition to the location of groundwater pump stations. No surface water, desalinated water, or recycled water is used. The aquifers are at different depths, generally of glacial origin and tend to be coarse- grained and highly permeable. Recharge (replenishing) of the aquifers comes from local rainfall or snowmelt in the Clover/Chambers drainage basin. Some of the aquifers will most likely receive some additional deep underflow ranging from the south Puyallup/Graham area westward to the Puget Sound.

The Lakewood Water District was formed in 1943. The District originally leased its water supply and distribution facilities from the Federal Works Agency, from whom it later purchased the facilities. At that time, the facilities consisted of four wells, three storage tanks, and approximately 41 miles of water main serving approximately 270 connections. The District began its first groundwater drilling efforts in 1943. The District has grown steadily ever since residential and commercial development occurred within its service area. Facilities now include 13 storage tanks and 34 groundwater wells, of which 30 are active. In 2010, the District served approximately 16,425 service connections and had approximately 250 miles of water main.

The District's existing retail and wholesale water service areas, which are the same as the District's future service area. The District's retail water service area includes most of the City of Lakewood's city limits, portions of the Town of Steilacoom and portions of unincorporated Pierce County. The District's wholesale water service area includes the retail water service areas of Pierce County Water Cooperative member systems. The District supplies wholesale water to the City of Steilacoom and Summit Water and Supply Company and has contracts to provide wholesale water to the Rainier View Water Company and Spanaway Water Company.

The average demand per capita in the District's retail water service area between 2004 and 2010 was 139 gallons per person per day, which is a nearly 6% reduction compared to the average per capita demand of 147 gallons per day in the 2006 plan.

Exhibit K-2. Lakewood Major Sanitary Sewer Lines.



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

Lakewood's sole source of water is from underground aquifers supplied by 30 active groundwater wells. These wells have sufficient capacity and water rights to meet current and future demands. However, many of the District's supply facilities have aging mechanical equipment and aging site piping that needs replacing.

In recent years, the District has experienced an increase in distribution system leakage, which it is taking steps to reduce. The steps include conducting leak detection audits, calibrating and replacing water source and service meters and replacing aging water mains which are suspected to have leaks. Figure 7.4 shows the Water Districts water line replacement program as of 2013.

Redevelopment within the District's retail water service area will increase the service area population and demands. Within the 20-year planning period of this plan, the District's retail water service area is anticipated to grow by approximately 13,186 people, or 22%. The increase in total water system demands is anticipated to increase by this same percentage.

All of the water from the Districts wells is chlorinated before it enters the distribution system. Re-chlorination is also used at the District's Western State and American Lake Gardens storage tanks to maintain adequate chlorine residual in the stored water. The District does not fluoridate its water supply.

The District's water system has 12 pump stations. Each pump station serves one of three purposes: Pumping water from a reservoir to the system where the elevation of the reservoir is too low to gravity feed into the system; Continuously pumping water into a pressure zone for maintaining adequate pressures where the pressure zone doesn't have a tank for maintaining pressures; and Pumping water from a lower pressure zone to a higher pressure zone where the higher pressure zone has one or more tanks to maintain pressures.

The Districts water system has 13 active storage facilities. Two tanks have been abandoned. The Washington Boulevard was abandoned by the District several years ago. The Tillicum Elevated Tank has also been abandoned for several years, but remains standing for the sole purpose of supporting cell phone antennas. The storage system meets current and future system needs, but many facilities are aging.

The District's Retail Water Service Area (Lakewood) contains approximately 250 miles of water main ranging in size from less than 2-inches to 16-inches in diameter. Much of the water main (approximately 39 percent) within the service area is 8-inch diameter and an additional 18 percent of District's water main is larger than 8-inch diameter.

Approximately 73% of the water main in the system is asbestos cement (AC). The District has an ongoing program to replace this older AC water main. All new water main installations are ductile iron water main in accordance with the District's current development and construction standards.

The average life expectancy of water mains in the District's system is generally estimated at 50 years. This is partly due to the AC pipe material of much of the water system and to the numerous water mains that were cut and repaired with couplings and fittings as part of a large sanitary sewer system utility local improvement district (ULID) in the early 1980s. Approximately 47 percent of water mains within the system were constructed before the 1960s and are reaching the end of their design life expectancy.

In 2014, the District officially instituted a 50-year water main rehabilitation and replacement program. The program would replace approximately 180-miles of the 256-mile system, in addition to replacing over 16,000 water meters. Total project cost in 2014 dollars is $180 million. The District has also implemented a capital facilities plan to upgrade and expand services to meet the City's economic development priorities.

The District has advanced a capital improvement program (CIP). The CIP has recommended major maintenance and replacement needs of the existing system at an annual rate of $3.65 million minus water main replacement which is funded separately. Capital improvements have been proposed in six categories:

- **Water Main Improvements:** Improvements to existing water mains as well as adding new water mains to improve capacity and reliability.
- **Pressure Control Station Improvements:** Improvements to the system's pressure control stations to improve and sustain pressure.
- **Pump Station Improvements:** Improvements focused on updating the District's pump stations to improve reliability, aesthetics, usefulness, safety and serviceability.
- **Tank/Reservoir Improvements:** Improvements include renovating older tanks as well as replacing entire tanks due to age.
- **Well Capacity & Reliability Improvements:** Improvements focused on updating existing well facilities to improve overall performance.
- **Miscellaneous Improvements:** Program-level planned work required to comply with various state and federal water regulations.

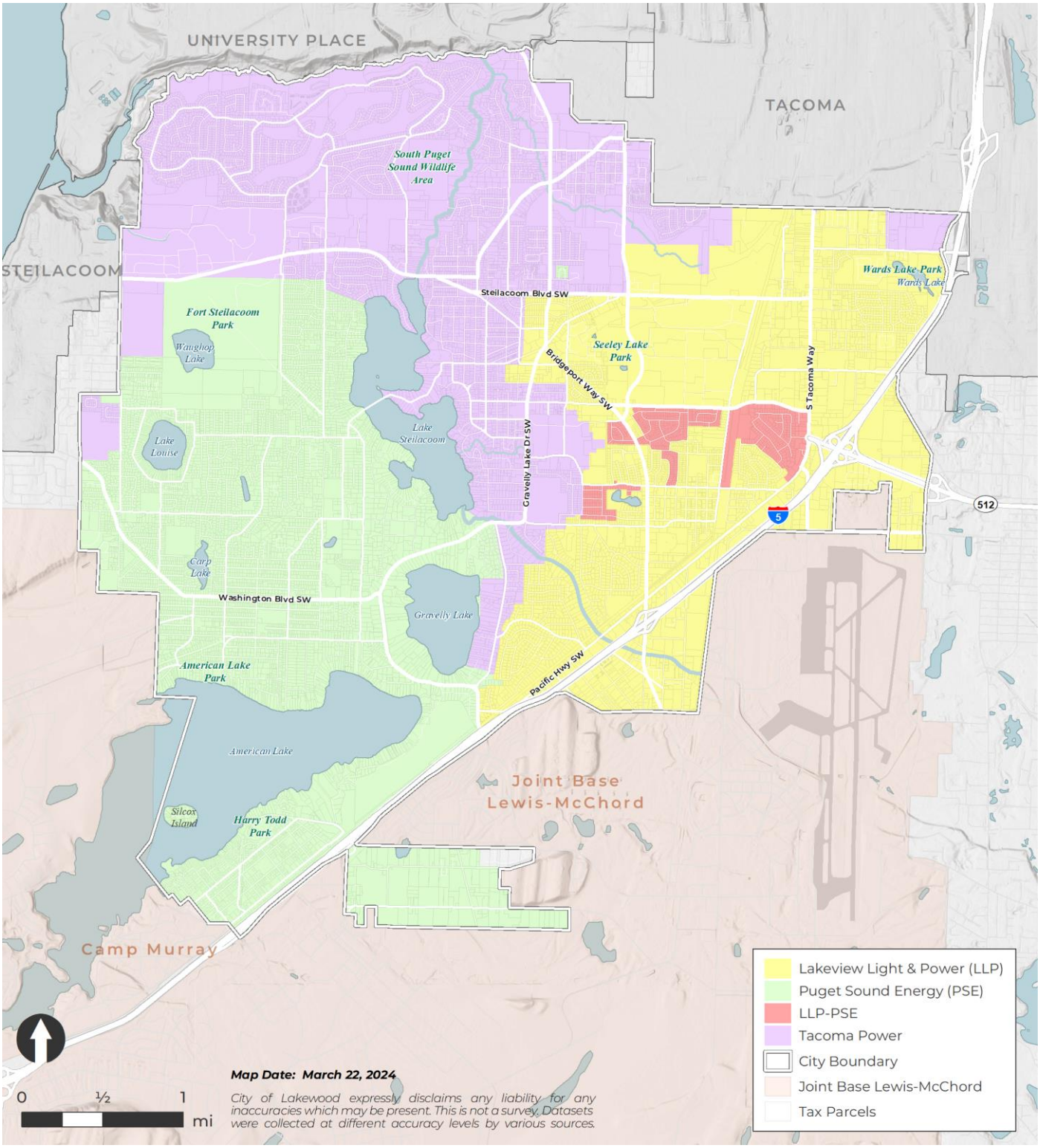
K.3.2 Other Water Purveyors

Minor portions of the city are served by the Southeast Tacoma Mutual Water Company, and the City of Tacoma. Continued service to these areas is expected to be adequate for the 20-year planning period. Western State Hospital provides its own water service. There are also private wells servicing existing mobile home parks scattered throughout Lakewood.

K.4 Electricity

Lakewood is served by three electric utilities. In general, Tacoma Power serves the northern sections of the city, Lakeview Light and Power serves the eastern sections, and Puget Sound Energy (PSE) serves the western sections. Approximate electric service areas are illustrated in Exhibit K-3.

Exhibit K-3. Lakewood Electricity Providers.



Source: City of Lakewood, 2024; Pierce County GIS, 2024.

K.4.1 Lakeview Light and Power

Lakeview Light and Power serves a large portion of eastern Lakewood, including most areas south of Steilacoom Boulevard and east of Gravelly Lake Drive. Lakeview Light and Power's service area also includes the Springbrook neighborhood, most of the area south of 112th Street SW and east of Nyanza Road SW, and west of 1-5.

Approximately one-third of the projected population growth and two-thirds of the projected employment growth will occur in the Lakeview Light and Power service area. Lakeview Light and Power does not anticipate requiring any new facilities to accommodate this projected population and employment growth, provided that the future commercial and/or industrial development is not substantially more energy intensive on a per-job basis than existing commercial and industrial development in the city.

K.4.2 Tacoma Power

Tacoma Power serves most areas north of Steilacoom Boulevard. South of Steilacoom Boulevard, Tacoma Power provides service to Pierce College, Lakes High School, Lakewood Towne Center, and other areas east of Lake Steilacoom and west of the Lakeview Light and Power service area. Tacoma Power has indicated that additional substation and feeder facilities will be needed to meet projected 20-year growth, and that it continues to monitor municipal growth projections and update its utility planning accordingly.

K.4.3 Puget Sound Energy

Puget Sound Energy (PSE) serves most areas south of Steilacoom Boulevard that area west of Lake Steilacoom and Gravelly Lake. Additionally, PSE serves the Tillicum and Woodbrook neighborhoods. Its Operations Planning Department is responsible for identifying future facility needs and uses information provided by Lakewood and other jurisdictions, monitoring of residential development permits, and commercial/industrial land-use applications as tools to maintain a system-wide long range plan for electric facilities. The purveyor has indicated that facilities exist to accommodate proposed residential development, as well as proposed industrial development in the Woodbrook area, provided that industrial development would not create certain above average industrial load demands on the existing system, on either an average or peak demand basis.

New Construction: In 2010 through 2012, PSE rebuilt and relocated 4.5 miles of 55 kV transmission line to the current 115 kV standard from South Tacoma Way to the Gravelly Lake substation in Lakewood. Beginning in 2015 PSE will install a new 115 kV circuit breaker at the Gravelly Lake substation (8304 Washington SW, Lakewood). The work will be performed within the existing substation footprint. The upgrades increase reliability and serve to meet the growing demand for power within the region.

There are no other major projects being planned; however, new projects may come about due to: New or replacement of existing facilities to increase capacity requirements resulting from new construction and conversion from alternate fuels; main replacement to facilitate improved maintenance; or replacement or relocation of gas facilities caused by municipal and state projects.

K.5 Natural Gas

Puget Sound Energy (PSE) is the sole natural gas provider for the city of Lakewood. It is estimated that PSE currently serves over 13,100 customers within the City of Lakewood.

This system includes the following:

- Natural gas comes from wells in the Rocky Mountains and in Canada and is transported through interstate pipelines by Williams Northwest Pipeline to PSE's gas station.
- Supply mains then transport the gas from the gate stations to district regulators where pressure is reduced to less than 60 psi. The supply mains are made of welded steel pipe that has been coated and is cathodically protected to prevent corrosion. These mains range in size from 4 " to 20".
- Distribution mains are fed from district regulators. They range in size from 1-1/4" to 8" and the pipe material is either polyethylene (PE) or wrapped steel (STW).
- Individual residential service lines are fed by the distribution mains and 5/8" or 1-1/8" in diameter. Individual commercial and industrial service lines are typically 1-1/4", 2" or 4" in diameter.

The company's Operations Planning Department is responsible for identifying future facility needs (based on information provided by municipalities), monitoring residential development permits, and implementing commercial/industrial land-use applications using these tools to maintain a system-wide long range plan for natural gas facilities. The purveyor has indicated that facilities exist to accommodate proposed residential development, as well as proposed industrial development in the American Lake Gardens area, provided that industrial development would not create certain above average industrial load demand on the existing system, either on an average or peak demand basis. As regulated by the WUTC, natural gas is not considered a necessity like electricity; rather, it is a utility of convenience. Customer hook-ups to the distribution system are determined by the WUTC. PSE natural gas service is a demand driven utility and as such is prohibited from passing the cost of new construction on to the existing rate base. As driven by demand, PSE installs service for new construction and conversion from electricity or oil to natural gas.

K.6 Telecommunications

In general, the telecommunications (cable/phone/internet) industry has changed considerably in recent decades, due to both federal deregulation and technological advancements. A student project at the University of Texas at Austin adeptly describes the state of the telecommunications industry:

“The [late 1990s/early 2000s] have witnessed historic changes in the realm of communications technology. Government policy makers have struggled to keep up with rapidly evolving Internet, telephone, and cable television technology, trying to generate an effective regulatory balance that ensures consumer protection and facilitates the efficient deployment of new technology by eager companies. One of the most important responses to the changes in the telecommunications sector, the Federal Telecommunications Act of 1996, offered a decrease in government regulation as a response to the uncertainties of technological innovation. Since the passage of the Act, the degree of monopoly power and market concentration the telecommunications sector has been on the rise.”

In part, the project examines the proliferation of telecommunications providers since the AT&T breakup and emergence of "Baby Bells" in the 1980s and industry competition that has evolved since then. This offers a framework for not only the telecommunications utilities available in Lakewood, but throughout communities nationwide. Where a past study such as this might have listed individual providers in a prospective annexation area, consumers now have a myriad of choices.

Many telecommunications providers now focus on "bundling" in their marketing, to entice customers to obtain their phone, internet (including wi-fi), and television (many including digital video recording and on-demand/pay-per-view) access through a single purveyor. Comcast Xfinity, DirecTV, and DISH Network are common examples in this region. At least one provider is incorporating home security monitoring into its program as well. Some customers opt for cellular service instead of the "land-line" phones available in bundled services. Still others might use smart phones for both phone and internet via data plans. As a result of deregulation, the wealth of providers and service options available, and the diversity of consumer preferences, telecommunications services available within the City have not been assumed to be limited to a single or most prominent provider.

K.7 Solid Waste

State law requires counties, in coordination with their cities, to adopt comprehensive solid waste plans for the management, handling, and disposal of solid waste for twenty years, and to update them every five years. Cities may choose to be joint participants in the plan, delegate planning to the county, or do their own plan. In Pierce County, waste management and recycling activities for all jurisdictions, including Lakewood, are coordinated under the umbrella of the Tacoma-Pierce County Solid Waste Plan.

There are three separate collection and disposal systems in the County:

- The County's system includes the unincorporated areas of the county and 19 cities and towns using the County's disposal system;
- Tacoma, as a joint participant in the plan, has its own collection utility and disposal system and the Town of Ruston operates its own collection utility, but has an inter-local agreement with Tacoma for disposal and an inter-local agreement with the County adopting the Solid Waste Plan; and
- Joint Base Lewis McChord uses the Fort Lewis disposal system but coordinates with the County on public outreach and education programs about waste reduction and recycling.

Currently in Lakewood, waste is collected by Waste Connections, a private company under contract with the City. Waste Connections offers residents solid waste and recycling collection programs.

Waste Connections also operates a transfer station located at 3902 Steilacoom Boulevard. The facility operates two 114-cubic yard (25-ton) transfer trailers which service both drop box (primarily construction material) and route collection vehicle waste. About 60% of the waste collected by Waste Connections is handled at this transfer station. The remainder is hauled by collection vehicle to Hidden Valley. The Hidden Valley facility is not open for public disposal but does have a public drop-off site for recyclables (no buyback).

An update of the Solid Waste Plan was adopted in 2000, and a supplemental document was adopted in 2008. Lakewood signed and inter-local agreement with Pierce County pursuant to the Plan. Under this agreement, the County has responsibility for overall planning, disposal and waste reduction and recycling education. Cities are responsible for collections and the development of any recycling program specific to their jurisdiction.

K.8 Hazardous Waste

The Tacoma-Pierce County Local Hazardous Waste Management Plan was adopted by all jurisdictions in 1991. The Plan is administered by the Tacoma-Pierce County Health Department. County health staff indicate that the Plan is anticipated to be updated in 2015. The Hazardous Waste Plan was developed in accordance with RCW 70.105 to "address hazardous waste currently exempt from the State's Dangerous Waste Regulations". This type of waste is mostly household hazardous waste or small quantities from commercial generators. The Tacoma-Pierce County Health Department, Pierce County, and the City of Tacoma provide coordinated management of services, collection, and public outreach for all residents of the county for household hazardous waste.

L Glossary

Accessory Dwelling Unit (ADU). A dwelling unit located on the same lot as a single-family housing unit, or duplex, triplex, fourplex, townhome, or other permitted housing unit. These can be "attached" which is located within or attached to the primary unit, or "detached" which consists partly or entirely of a building that is separate from the primary unit and is on the same lot.

Accident Potential Zones (APZ). Areas in the vicinity of military airfield runways where an aircraft mishap is most likely to occur if one were to occur. These areas are required to have limited development to prevent significant impacts from air accidents.

Activity Units (AUs). A measure of total activity used by PSRC that is calculated as the total of jobs and population.

Affordable Housing. Residential housing for households where monthly housing costs, including utilities other than telephone, do not exceed thirty percent of the monthly income of the household. Affordable housing is typically defined with respect to different income levels based on area median income, with 80% of median income (considered "low income") typically used as the threshold for affordable rental housing.

Air Installation Compatibility Use Zone (AICUZ). A program developed by the Department of Defense to promote public health and safety and protect the operational capability of the air installation through the local adoption of compatible land use controls. These land use controls are intended to promote community growth that is compatible with the airfield operations.

Americans with Disabilities Act (ADA). The Act is a 1990 federal law designed to prohibit discrimination against people with disabilities in everyday activities and guarantee equal access to jobs, transportation, public facilities, and services.

Area Median Income (AMI). The household income that is assumed to be the median for a household within an area. For the purposes of housing, this is projected by the US Department of Housing and Urban Development and is assumed to represent the median income for a family household of four people. With respect to these calculations, Lakewood is assumed to be part of the Tacoma, WA HUD Metro Fair Market Rent Area.

Best Available Science (BAS). The most up-to-date information available for planning and development decision-making, which is defined and required by the Growth Management Act as per RCW 36.70A.172.

Buffer. An area contiguous with a critical area that is required for the integrity, maintenance, function, and stability of that critical area.

Bus Rapid Transit (BRT). A bus-based transportation system that includes additional features to deliver fast and efficient service, such as dedicated lanes, busways, traffic signal priority, off-board fare collection, elevated platforms, and enhanced stations.

Capital Facilities. Capital facilities are tangible assets that generally have a long useful life and include city and non-city operated infrastructure, buildings, and equipment. Under WAC 365-196-415, at a minimum, those capital facilities to be included in an inventory and analysis are transportation, water systems, sewer systems, stormwater systems, reclaimed water facilities, schools, parks and recreation facilities, and police and fire protection facilities.

Center of Municipal Importance (CoMI). A Center of Municipal Importance is designated to identify a local center or activity node that is consistent with regional and local planning. Such an area is intended to promote compact, pedestrian-oriented development with a mix of uses, proximity to diverse services, and a variety of appropriate housing options, or are otherwise located in an established industrial area.

Climate Adaptation. Actions taken to adapt to unavoidable impacts as a result of climate change.

Climate Change. The change in global and regional climate patterns apparent from the mid- to late-twentieth century onward and attributed largely to increased levels of atmospheric carbon dioxide from the use of fossil fuels.

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.

Comprehensive Land Use Plan, **Comprehensive Plan**, or **Plan.** A generalized coordinated land use policy statement of the governing body of a county or city that is adopted pursuant to Chapter 36.70A RCW.

Concurrency. A state planning requirement to ensure that needed services and facilities are in place by the time development is completed and to be occupied, or that funding has been committed to provide such services within 6 years, as per RCW 36.70A.070(6)(b) and WAC 365-196-840.

Consistency. A measure of whether any feature of the Comprehensive Plan or a regulation is incompatible with any other feature or a plan or a regulation. The Growth Management Act addresses consistency in three ways: (1) internal consistency of comprehensive plans, (2) consistency of zoning and regulations with the comprehensive plan, and (3) consistency with other jurisdictions.

Cost Burden. A measure of the percent of household income spent on housing and housing-related expenditures. Households that spend more than 30% of their gross income on housing, including utilities, are considered “cost-burdened”, while households spending more than 50% of their gross income are considered “severely cost-burdened”.

Cottage Housing. Detached residential units on a lot with a common open space that either: (a) is owned in common; or (b) has units owned as condominium units with property owned in common and a minimum of 20% of the lot size as open space.

Cottage. A detached, primary dwelling unit with a footprint of 1,000 square feet or less.

Countywide Planning Policies (CPPs). Under the Growth Management Act, counties and cities are required to collaboratively develop countywide planning policies to set the general framework for coordinated land use and population planning under RCW 36.70A.210.

Courtyard Housing. Up to eight attached dwelling units arranged on two or three sides of a yard or a court.

Covered Employment. Employment covered under state unemployment insurance which is identified as part of labor statistics in the state. Covered employment does not typically include self-employed workers, proprietors, and other non-insured workers.

Critical Aquifer Recharge Areas. Areas that are determined to have a critical recharging effect on aquifers used for potable water.

Critical Areas Ordinance (CAO). An ordinance provided under city code to protect the functions and values of ecologically sensitive areas while allowing for reasonable use of private property, through the application of best available science; implement the GMA and the natural environment goals of the Comprehensive Plan; and protect the public from injury and loss due to slope failures, erosion, seismic events, volcanic eruptions, or flooding.

Critical Areas. Areas and ecosystems that require protection of resources important to the natural environment, wildlife habitats, and sources of fresh drinking water. Under RCW 36.70A.030(6), there are five types of critical areas: (a) wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas; (d) frequently flooded areas; and (e) geologically hazardous areas.

Density. A measure of the intensity of residential development, usually expressed as the number of people, jobs, or housing units per acre.

Development Regulation. Controls placed on the development or land use activities including, but not limited to, zoning ordinances, critical areas ordinances, shoreline master programs, official controls, subdivision ordinances, and binding site plan ordinances.

Displacement. The relocation of current residents or businesses from their current location due to external factors. Displacement can be physical (e.g., the demolition or removal of a housing unit), economic (e.g., relocation due to rising rents), and/or cultural (e.g., ongoing displacement in a local cultural community hastened due to fewer social connections).

Duplex. Two primary attached dwelling units on a lot in any configuration intended for two separate households. Note that a single-family dwelling unit with an attached or detached accessory dwelling unit is not a duplex.

Dwelling Unit. One or more rooms located within a structure, designed, arranged, occupied, or intended to be occupied by one or more persons as living accommodations.

Easement. A grant by the property owner to the public, a corporation, or persons, of the use of land for a specific purpose and on or over which the owner will not erect any permanent improvements which serve to interfere with the free exercise of that right.

Environmental Impact Statement (EIS). A document that identifies potential environmental impacts of a proposed project or action, as required under the State Environmental Protection Act. This can include potential impacts on earth, water resources, plants and animals, land use patterns and environmental justice, plans and policies, population and employment, housing, aesthetics, cultural and historic resources, transportation, public services, and utilities.

Essential Public Facility. Capital facilities of a countywide or statewide nature which have characteristics that make them extremely difficult to site. Essential public facilities include, but are not limited to, sewage treatment plants, reservoirs, electrical substations and transmission lines, local airport and port facilities, landfills and solid waste transfer stations, senior high schools, community colleges, four-year colleges and universities, correctional institutions, special population diagnostic or treatment facilities, opioid treatment programs (including both mobile and fixed-site medication units), recovery residences, harm reduction programs (excluding safe injection sites), and inpatient facilities (including substance use disorder treatment facilities, mental health facilities, group homes, community facilities, and secure community transition facilities), stormwater retention or detention facilities serving large drainage basins, and major transit facilities.

Fish and Wildlife Habitat Conservation Areas. Areas necessary for maintaining species in suitable habitats within their natural geographic distribution so that isolated subpopulations are not created.

Floor Area Ratio (FAR). A measure of development intensity calculated as the gross building area of qualifying improvements on a site divided by the net area of a parcel of property. This is typically expressed as a decimal (not as a percentage).

Fourplex. A building consisting of four primary attached dwelling units intended for four separate households on a lot in any configuration.

Frequently Flooded Areas. Lands in the floodplain subject to a 1% or greater chance of flooding in any given year. These areas could include, but are not limited to, streams, lakes, wetlands and their associated floodplains, flood fringes or the Federal Emergency Management Agency (FEMA) floodway. A flood hazard area consists of the floodplain, flood fringe, and FEMA floodway.

Future Land Use. Policy designations in the Comprehensive Plan that describe use types, densities, and intensities allowed in different areas of the city.

Future Land Use Map (FLUM). A required component of the Comprehensive Plan that shows the proposed physical distribution and location of the various land uses during the planning period.

Geologically Hazardous Areas. Areas that may not be suited to development consistent with public health, safety, or environmental standards, because of their susceptibility to erosion, sliding, earthquake, or other geological events. Types of geologically hazardous areas include erosion, landslides, and seismic hazards.

Goal. A broad, general statement of the community's desired long-term future state. Goals indicate what ought to exist in the community or what is desired to be achieved in the future.

Growth Management Act (GMA). The 1990 State Growth Management Act (Chapter 36.70A RCW), as amended. This statute provides the basis for much of the urban planning in the state of Washington and includes requirements for comprehensive planning for communities.

Habitat. The place or type of site where a plant or animal naturally or normally lives and grows.

High-Occupancy Vehicle (HOV). A motor vehicle with two or more people traveling in it. This may include carpools, vanpools, and transit.

High-Capacity Transit (HCT). Public transportation services within an urbanized region operating principally on exclusive rights-of-way, and the supporting services and facilities necessary to implement such a system, including interim express services and high occupancy vehicle lanes, which taken as a whole, provides a substantially higher level of passenger capacity, speed, and service frequency than traditional public transportation systems operating principally in general purpose roadways (RCW 81.104.015).

Household. A group of people, related or unrelated, living within the same housing unit. This can include a person living alone, a family, or roommates.

Impervious Surface. A surface that cannot be easily penetrated by water, such as buildings or concrete paving.

Income-Restricted Housing or **Rent-Restricted Housing.** Housing units subject to a regulatory agreement, covenant, or other legal document on the property title requiring them to be available to households that can document their incomes as being at or below a set income limit and are offered for rent or sale at below-market rates.

Infill Development. Projects that build new structures on vacant or underutilized land in areas that were previously developed, typically without demolishing existing structures.

Infrastructure. Public and private physical assets that provide services necessary to support existing and future development, such as roads, public buildings, schools, parks, transportation, water, sewer, surface water and communication systems.

Level of Service (LOS). A measure of the performance of a public facility in providing necessary functions to meet public needs and expectations.

Location Quotient. The ratio of the proportion of local employment in a sector to the proportion of regional employment in the sector.

Major Transit Stop. A stop on a high-capacity transportation system such as commuter rail stops, stops on rail or fixed guideway systems, and stops on bus rapid transit routes.

Manufactured Home. A structure designed and constructed to be transportable in one or more sections and built on a permanent chassis, and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities that include plumbing, heating, and electrical systems contained therein.

Manufactured Housing Community. A site divided into two or more manufactured home lots for sale or lease and intended for permanent residential use.

Market-Rate Housing. Housing which is bought, sold, and/or rented in the open market with no restrictions on the purchase price or rent charged.

Middle Housing. Buildings that are compatible in scale and, form, and character with single-family detached houses and contain two or more attached, stacked, or clustered homes including duplexes, triplexes, fourplexes, townhouses, courtyard apartments, and cottage housing.

Mixed Use Development. A project that combines more than one general category use on a site, such as residential, office, or retail. This can include "vertical" mixed-use where these uses are found in the same structure, or "horizontal" mixed-use where different uses are found in adjacent buildings on the same site.

Mode Split. The proportion of trips that use different modes of transportation.

Mode. A particular category of travel, such as walking, bicycling, driving alone, carpool/vanpool, bus/transit, ferry, or airplane.

Municipal Code or the **Lakewood Municipal Code (LMC)**. The local law of the municipal corporation of Lakewood, duly enacted by the proper authorities, prescribing general, uniform, and permanent rules of conduct relating to the corporate affairs of the municipality.

Multicounty Planning Policy (MPP). An official statement adopted in VISION 2050 to provide guidance for regional decision-making, as well as a common framework for countywide planning policies and local comprehensive plans.

Multifamily Housing or **Apartment.** A structure containing five or more attached dwelling units located on a lot.

Multimodal. Issues or activities which involve or affect more than one mode of transportation, such as transportation connections, choices, cooperation, and coordination of various modes.

National Pollutant Discharge Elimination System (NPDES). A federal permit program created in 1972 by the Clean Water Act which addresses water pollution by regulating point sources that discharge pollutants to waters of the US.

Nonconforming Use. The use of a land or structure which was lawful when established but no longer conforms to current regulations. Typically, nonconforming uses are permitted to continue, subject to certain restrictions.

Nonmotorized Transportation. Any mode of transportation that utilizes a power source other than a motor, such as bicycling or walking.

Nonpoint Source Pollution. Pollution that enters water from dispersed and uncontrolled sources (such as surface runoff) rather than through pipes.

On-Street Parking. Parking provided within the public right-of-way of a street.

Open Space. A parcel or area of land that is essentially unimproved and devoted to the preservation of natural resources, the managed production of resources, and/or passive or low-impact recreation.

Permanent Supportive Housing (PSH). Subsidized, leased housing with no limit on length of stay intended for people who need comprehensive support services to retain tenancy and admissions practices that can lower barriers to entry related to rental history, criminal history, and personal behaviors. Permanent supportive housing is paired with off-site voluntary services for behavioral health and physical health conditions intended to help residents retain their housing and be a successful tenant in a housing arrangement, improve their health status, and connect them with community-based health care, treatment, or employment services.

Planned Action. A planned action is a development project whose impacts have been addressed by an Environmental Impact Statement associated with a plan for a specific geographic area before individual projects are proposed. Such up-front analysis of impacts and mitigation measures then facilitates environmental review of subsequent individual development projects.

Planning Period. The 20-year period following the adoption of a comprehensive plan, or such longer period as may have been selected as the initial planning horizon by the planning jurisdiction.

Plex. A building that consists of two to six primary attached dwelling units intended for separate households on a lot in any configuration.

Point Source Pollution. A source of pollutants from a single, identifiable point of conveyance such as a pipe. For example, the discharge pipe from a sewage treatment plant is a point source.

Policy. A principle, protocol, or proposal for action that supports a related goal. Policies are decision-oriented statements that guide the legislative or administrative body while evaluating a new project or proposed change in ordinance.

Public Facilities and Services. Facilities, infrastructure, and services that provide a specific public benefit, including sanitary and storm sewer systems, water supply, energy, public safety, and emergency services, schools, libraries, and other facilities. These facilities and services are provided by governments, contracted for or by governments, or provided by private entities subject to public service obligation.

Puget Sound Regional Council (PSRC). The PSRC is a regional planning and decision-making body for growth and transportation issues in King, Kitsap, Pierce, and Snohomish counties. Under federal transportation law, the Council is the Metropolitan Planning Organization (MPO) responsible for regional transportation planning and programming of federal transportation funds in the four counties. It is also the designated Regional Transportation Planning Organization for the four counties. PSRC manages the adopted regional growth strategy, VISION 2050 (see below).

Redevelopable Land. Non-vacant parcels currently in use with structures and improvements on the site, but not considered to be at their “highest and best use”. These sites are potential locations for new projects where existing improvements on the site are demolished and new buildings and improvements can be constructed.

Regional Growth Center. A mixed-use center formally designated by PSRC that includes housing, employment, retail, and entertainment uses. Regional growth centers are pedestrian-oriented, which

allows people to walk to different destinations or attractions and are well-served by transit. Regional growth centers are planned for significant additional growth. Downtown Lakewood is the only PSRC designated regional growth center in the city.

Regional Growth Strategy. The approach for distributing population and employment growth within the four-county central Puget Sound region included as part of VISION 2050.

Regulation. A rule or directive found in city ordinances or the municipal code that meets the public interest and need and supports the community's framework vision, guiding principles, and goals and policies.

Right-of-Way. The right-of-way is the right to pass over the property of another. It refers to a strip of land legally established for the use of pedestrians, vehicles, or utilities.

Secure Community Transition Facility (SCTF). A residential facility for persons civilly committed and conditionally released to a less restrictive environment. A secure community transition facility has supervision and security, and either provides or ensures the provision of sex offender treatment services.

Shoreline Master Program (SMP). Local land use policies and regulations that guide the public and private use of Washington shorelines under the State Shoreline Management Act (Chapter 90.58 RCW).

Single-Occupancy Vehicle (SOV). A motor vehicle occupied only by a driver.

Single-Family Attached Housing. A primary dwelling unit designed for occupancy by one household located on a lot and sharing at least one wall with another attached dwelling unit.

Single-Family Detached Housing. A primary dwelling unit designed for occupancy by one household located on a lot and not sharing any walls with other primary dwelling units.

South Sound Military & Communities Partnership (SSMCP). An organization with a membership consists of more than fifty cities, counties, tribes, nonprofits, corporations, organizations, and JBLM, formed in 2011 to foster communication and mutual benefits related to complex issues affecting the military and civilian communities.

Special Needs Housing. Housing that is provided for persons, and their dependents who, by virtue of disability or other personal factors, face serious impediments to independent living and who require special assistance and services in their residence. Special needs housing may be permanent, long term or transitional basis.

Species of Local Importance. Those species of local concern due to their population status or their sensitivity to habitat manipulation, or that are game species.

State Environmental Policy Act (SEPA). The State Environmental Policy Act, or Chapter 43.21C RCW, is the state law passed in 1971 requiring State and local agencies to consider environmental impacts in the decision-making process.

Stormwater. Water that falls as rain and flows across the ground, which is typically directed to drains in an urban area to collect the water and eventually direct it to streams, lakes, or other large water bodies.

Streetscape. The physical and aesthetic characteristics of a street, including elements such as structures, access, greenery, open space, view, lighting, etc.

Townhouse. One of multiple attached primary dwelling units that extend from foundation to roof and that have a yard or public way on not less than two sides.

Transit. Motorized public transportation, including public bus, bus rapid transit, and commuter rail.

Tree Canopy. The layer of leaves, branches, and stems that provide tree coverage of the ground when viewed from above. See also urban forest.

Transitional Housing (TH). A facility that provides housing and supportive services for up to two years to individuals or families experiencing homelessness to enable them to move into independent living and permanent housing.

Transition Plan. A plan under the ADA that is required under 28 CFR 35.150 to outline the steps necessary to make city facilities more accessible and provide a schedule for compliance under the ADA.

Transportation Analysis Zone (TAZ). A unit of geography that is typically used for transportation and utility modeling.

Transportation Demand Management (TDM). A program used to maximize travel choices for people and encourage a more efficient use of transportation systems. These strategies are meant to reduce congestion, ease traffic, and improve the range of transportation options available by encouraging carpooling, biking, public transit, or telecommuting.

Trip Generation. The number of trips made to and from each type of land use by day. Trip generation provides the linkage between land use and travel.

Trip. A one-direction movement which begins at an origin and ends at a destination, which is the typical unit of transportation planning.

Triplex. A building consisting of three primary attached dwelling units on a lot in any configuration intended for three separate households.

U.S. Department of Housing and Urban Development (HUD). The federal agency responsible for housing programs. HUD sets income limits for metropolitan areas and counties across the country that determine eligibility for income-restricted housing units.

Undergrounding. The construction or relocation of electrical wires, telephone wires, and similar facilities underground.

Undevelopable Land. Land unsuitable for development due to site conditions and not considered as part of the inventory of development capacity in the city.

Urban Growth Area (UGA). An unincorporated area designated under the Growth Management Act to accommodate projected growth over the next 20 years. A UGA may include areas that are provided urban services, such as sanitary sewer and water.

Urban Growth. Growth that makes intensive use of land for the location of buildings, structures, and impermeable surfaces to such a degree as to be incompatible with the primary use of land for the production of food, other agricultural products, or fiber, or the extraction of mineral resources, rural uses, rural development, and natural resource lands designated pursuant to RCW 36.70A.170. When allowed to spread over wide areas, urban growth typically requires urban governmental services. "Characterized by urban growth" refers to land having urban growth located on it, or to land located in relationship to an area with urban growth on it as to be appropriate for urban growth.

Urban Forest. The trees and associated understory plants existing in the city, extending across public property, private property, and the right of way including parks and natural areas, as well as the trees along streets and in yards.

Vehicle Miles Traveled (VMT). A measurement of the total miles traveled by all vehicles for a specified time period. For transit, the number of vehicle miles operated on a given route, line, or network during a specified time period.

VISION 2050. The long-range growth management, environmental, economic, and transportation strategy for King, Pierce, Snohomish, and Kitsap counties. It was adopted by the Puget Sound Regional Council in October 2020 and is endorsed by more than one hundred member cities, counties, ports, state and local transportation agencies, and Tribal governments within the region.

Watershed. All the land and water that drains toward a particular river, stream, or other body of water. A watershed includes hills, lowlands, and the body of water into which the land drains.

Wetlands. Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands if permitted by the city.

Zoning Overlay. Areas that are subject both to underlying regulations from a zoning district and additional requirements imposed by an overlay district. The overlay district provisions apply if they conflict with the provisions of the underlying zone.

Zoning. A category of land use regulations that manage the use and development of land for distinct, identified areas.