



# Background Report: Public Facilities

## Milwaukie Comprehensive Plan Update

### Block 3 Topic Area

Prepared for the Comprehensive Plan Advisory Committee  
March 2019



### Introduction

Since the Milwaukie Comprehensive Plan was acknowledged in 1981, there have been significant advances in public facilities technology, best practices, and regulations. In addition, the demand and available capacity of Milwaukie’s public facilities has also changed, as the City has continued to grow and develop. Much of the city’s future development is expected to occur within its Urban Growth Boundary (UGB), which likely will require additional capacity of Milwaukie’s public facilities and services infrastructure.

As a sole operator or partner, the City manages several types of public utility facilities and services, including sewer, water, and stormwater. The City’s public facilities and services staff are currently housed at four facilities - City Hall, Public Safety Building, Ledding Library, and the Johnson Creek public works and planning offices. The Kellogg Wastewater Treatment Plant, operated by Clackamas County Water Environmental Services (WES), also is located in Milwaukie (Figure 1).

Public Facilities

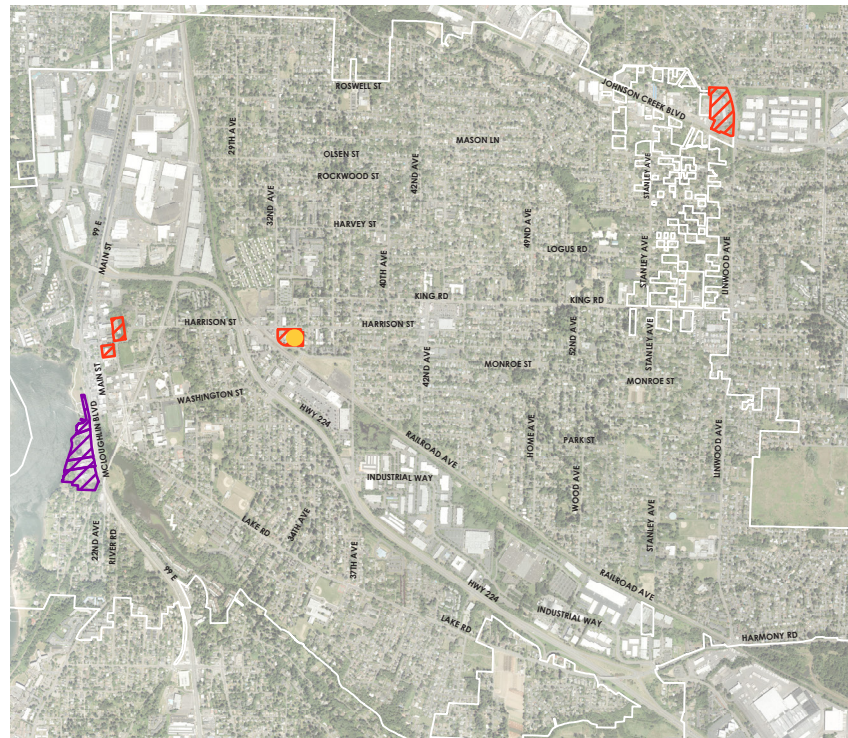
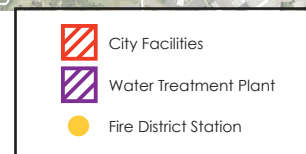


Figure 1. Public Facilities & Buildings



Over the last decade, the City has made minor revisions to the Comprehensive Plan's Public Facilities Element to reflect updated information from its various utility master plans, such as water, wastewater, and stormwater. However, these changes have not resulted in updated goals or policies. As the City begins the process to update the Public Facilities Elements of the Comprehensive Plan, it will build upon past planning efforts and the 2017 Community Vision. The updated element will address emerging trends and information as well as the opportunities and challenges of operating and maintaining public utilities facilities and services.

**NOTE:**

*The City's transportation element also is a part of the public facilities and services element. Cities and counties in Oregon typically plan their transportation systems by preparing and regularly updating Transportation System Plans (TSP). Milwaukie's current TSP was originally adopted in 2007 and the most recent amendments were adopted in 2018. The Transportation Element of Chapter 5 is reflective of the Transportation System Plan (TSP) goals and policies. The current policies listed are those from the 2007 update.*

*Two regional and state documents guide updates to TSPs within the Portland metropolitan region – Metro's Regional Transportation Functional Plan and Oregon's Transportation Planning Rule (TPR). Milwaukie's TSP must be consistent with the policies found in Metro's Regional Transportation Functional Plan. The provisions of the Oregon TPR are found in OAR 660-012, Transportation Planning, which details required elements of TSPs, financing, evaluation of alternatives, and more.*

*The City intends to update the TSP in 2020 or 2021. Transportation issues, opportunities, trends, and challenges will be addressed in detail through the TSP update. The City will update the transportation element Comprehensive Plan in concurrence with the TSP update. As a result, limited information about the transportation system is provided in this Background Report.*

## Planning for Public Facilities

Oregon has a set of 19 Statewide Planning Goals, which serve as the foundation of the state's land use planning program that is implemented at the local level through the Comprehensive Plan. [Statewide Planning Goal 11](#), Public Facilities and Services, seeks to "plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development." Goal 11 requires cities and counties to develop and adopt a public facility plan for areas within the UGB containing population greater than 2,500 persons.

Oregon Administrative Rule OAR 660-011 describes what should be included in a local public facilities plan. Typically, local governments address Goal 11 and prepare Public Facility Plans as part of their periodic review processes. Milwaukie is choosing to update its Comprehensive Plan outside of the periodic review process and is not required to prepare a Public Facility Plan at this time. According to OAR 660-011-0010, public facilities plans must include the following:

- Inventory and general assessment of condition of significant public facility systems
- Rough cost estimates of each public facility project
- Estimate of when each facility project will be needed
- Urban growth management plan identifying the provider of each public facility system
- Existing fund mechanisms and possible new funding mechanisms
- Types of facilities in the plan must include, but are not limited to, the facilities specific in 660-011-0005(5).

Milwaukie currently does not have a consolidated Public Facilities Plan. However, the City has master plans for individual public utilities - Stormwater Master Plan (2014), Wastewater Master Plan (2010), and Water Master Plan (2010) – that provide much of the information required to be included in a public facilities plan. The City will be updating its utility master plans in 2019 and 2020.

## Public Facilities and Milwaukie's Comprehensive Plan

[Chapter 5 – Transportation, Public Facilities and Energy Conservation](#) of Milwaukie's existing Comprehensive Plan addresses public facilities. It is broken into three individual elements, which includes the Public Facilities and Services Element. This element includes one goal statement, twelve (12) objectives, and forty-one (41) policies which are focused on addressing public facilities and services. The objectives and underlying policies are largely still relevant today, but they do not account for changes in service provision and development, nor do they provide guidance for future development of public facilities. The relevant Public Facilities and Services Element objectives are summarized below:

- *Objective 1 – Priority*  
The objective is to “ensure that adequate levels of public facilities and services are provided to existing City residents and businesses as a priority as urban development or growth occurs.” Policies suggest the creation of an overall growth strategy for the City to accommodate development within the UGB and future annexed lands.
- *Objective 2 – Coordination*  
The objective is to encourage cooperation and coordination between all public service agencies to maximize the efficient provision of all services.
- *Objective 3 – Community Development*  
The objective is to utilize public facilities policies to support land uses as outlined in the Comprehensive Plan. The policies state the City will maintain a Public Facilities Plan in conformance with other comprehensive plan elements and will make public facilities improvements as properties develop.
- *Objective 4 – Water Services*  
The objective is to develop and maintain water services. The policies ensure facilities are maintained to provide water, meet water demands to the city's residents, and implement programs to reduce water usage.
- *Objective 5 – Sanitary Sewer*  
The objective is to continue to provide adequate wastewater collection and treatment services to all Milwaukie residents. The policies state that the City will continue to contract water treatment services and improve the existing system through preventative maintenance.
- *Objective 6 – Drainage and Streets*  
The objective is to improve storm drainage and collection systems within the City in order to alleviate seasonal flooding problems for street and sidewalk improvements. Policies are intended to promote construction of a storm drainage system, limit runoff, and work with other affected agencies to explore regional scale solutions.
- *Objective 7 – Solid Waste*  
The objective is to ensure that solid waste services are made available to City residents. The policies state that the city will continue to support waste and recyclable material collection and disposal through private operations.
- *Objective 11 – Governmental Services*  
The objective is to “provide high levels of administrative services to the people of Milwaukie while maintaining cost-effectiveness and convenience.” The policies state the City will evaluate its service capability and adequacy and determine how best to provide sufficient and economically feasible new facilities.
- *Objective 7 – Utilities*  
The objective is to ensure energy and communication services are adequate to meet residential and business needs. The policy states that the City will coordinate with public utility and communication companies towards this end

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## Public Facilities and Milwaukie's Community Vision

In 2016-2017, the City of Milwaukie underwent an extensive public process to craft a Community Vision and Action Plan. The process resulted in a new vision statement, with action items to achieve stated goals over the next 20 years. The vision, goals, and actions received input from

a variety of people and groups. The City received input from the Vision Advisory Committee (VAC), staff, a technical advisory group, town halls, surveys, City Council, Planning Commission, and many more. The following priority actions from the [Milwaukie 2040 Vision and Action Plan](#) capture the community's priorities associated with public facilities and transportation planning:

*Planet 2.2: Implement a plan and funding strategy for stormwater improvements that focuses on natural stormwater management and ensures that by 2040 all stormwater is treated before it is discharged into our creeks and river.*

*Planet 3.1: Encourage energy and water efficiency and the use of renewable sources by offering rebates incentives, and permit fee reduction or waivers.*

*Planet 3.5: Ensure that the City's infrastructure and facilities can reasonably withstand natural or man-made disasters and that the City can continue to provide services during an emergency event.*

## Assets & Trends Related to Public Facilities

There are a number of assets and trends to consider when planning for continued development, operation and maintenance of public facilities and services. Assets include existing city infrastructure for water, wastewater, stormwater and other public facilities, as well as Milwaukie's Kellogg Treatment Facility. Trends include resiliency and growth considerations in public facilities master planning. A few of the most relevant assets and trends are discussed below.

### *Kellogg Wastewater Treatment Plant*

The Kellogg Water Resource Recovery Facility, located in Milwaukie along the Willamette River, is operated by Clackamas County's Water Environment Services (WES). This agency provides sanitary sewer service and surface water management to Clackamas County and Milwaukie residents in partnership with the City. WES operates the Kellogg Wastewater Treatment Facility while the City operates the sewer lines to transfer wastewater and stormwater to the treatment plant. WES has done work to improve the appearance of the facility and reduce associated odors and other impacts. That includes the creation of the Kellogg Good Neighbor Committee formed in 2011, with the goal of engaging the community and ratepayers of the facility to have a more positive relationship with the facility. WES has enhanced the facility's exterior and created a parklike setting around the facility along the riverfront.

The future of the Kellogg Water Resource Recovery Facility has been debated by WES staff and board members and Milwaukie residents for several decades. Previous discussions amongst stakeholders have suggested expansion of the Tri-City Water Pollution Control Plant to alleviate



*Kellogg Wastewater Treatment Plant*

expansion of the Kellogg Facility. However, there are no current plans by WES to close, relocate or replace the facility. Increased wastewater treatment capacity will be needed in the future, which could prompt an expansion of the Kellogg Facility. There have also been discussions about limiting the expansion of the facility, covering the plant facility, and/or encouraging the site to be used as a public open space, given its location on the Willamette River and proximity to Milwaukie Bay Park. The location of the plant on the banks of Willamette River is also a concern for discharge of contaminants and potential rising water levels. Another alternative may be to build a new wastewater facility at another location in Milwaukie. Construction of a new facility could accommodate the increased wastewater treatment capacity needed for long-term future growth. However, the plant's current capacity is adequate to serve growth projected beyond 20 years (see the Opportunities and Challenges: Growth and Public Facilities Master Planning section for more information on this topic). In addition, construction of a new facility would be a very costly undertaking and the City and WES would need to carefully consider the relative costs and benefits of such a project.

#### *Other Public Facilities*

While WES owns and operates the Kellogg facility, the City owns and maintains approximately 75 miles of wastewater sewer lines that feed 1650 manholes and 5 sewage pumping stations. The City's water system assets, which include: 100 miles of water mains, 964 fire hydrants, 7 well houses, 3 storage reservoirs and 4 pump stations. In addition, the City owns and operates a variety of other public facilities, including City Hall, the Public Safety Building (home to Milwaukie Police Department and Clackamas Fire District), Ledding Library, and the Johnson Creek Public Works and Planning offices. These facilities are described in more detail in the Opportunities and Challenges section of this report.

#### *Resiliency*

Resiliency of natural disasters and disaster preparedness are an important trend in the design, operation and maintenance of public facilities, especially given increasing risks and impacts related to climate change. Threats to public facilities include earthquakes, flooding, groundwater depletion and pollution, and increased stormwater runoff.

Milwaukie's flood risks derive from two sources, flooding from precipitation and from flooding of the Willamette River. According to the US Environmental Protection Agency (EPA), heaving downpours have increased in frequency and intensity in the last 50 years and are expected to continue to rise in frequency and intensity<sup>1</sup>. The negative impact these have on the City's stormwater infrastructure can be mitigated through construction of green infrastructure. Green infrastructure is a resilient approach to managing wet weather impacts that reduce stormwater



*Flooding in a Milwaukie Neighborhood, 2015*

<sup>1</sup> <https://www.epa.gov/green-infrastructure/manage-flood-risk>

runoff and protects floodplains. Examples of green infrastructure include rain gardens, bioswales, and permeable pavement.

Milwaukie is also vulnerable to rising water levels of the Willamette River connected to tidal effects of sea level rise. According to estimates in the Milwaukie Climate Change Action Plan, based on existing greenhouse gas emissions, rising water levels would flood Milwaukie Bay Park, Kellogg Wastewater Treatment, and OR-224/OR-99 by 2100. Sea level rise is connected to many human impacts on the environment, so mitigation of this issue requires a wide-scale holistic approach to addressing climate change.

Another concern linked to climate change is the recent decline in snowpack in the Cascade mountains, which serves as storage for rivers, streams, and the groundwater that is Milwaukie's primary source of drinking water. For more information see the Opportunities and Challenges: Threats to Milwaukie's Water Source section below.

These considerations should be included in future master plans and capital improvement plans, which should identify and prioritize infrastructure that is most vulnerable to natural disasters. Additionally, the City should consider the current impact of climate change on public facilities and how it can be reduced.

#### *Growth and Public Facilities Master Planning*

As part of the visioning process for the 2040 Vision and Action Plan, the community identified the increased affordability and availability of housing as a priority for the City's future. To reach this goal, additional development within in the City is needed, including higher density development. Higher density development tends to increase demand for the City's public facilities systems, which poses two major questions for public facilities planning. First, how and where will the additional demand on the utility's infrastructure occur? And second, how will the City pay for needed upgrades to infrastructure to meet increases in demand?

Currently, the city's wastewater treatment capacity at the Kellogg Treatment Facility, is the limiting factor in meeting forecasted development and growth. However, the existing facility includes adequate existing and planned capacity to accommodate a substantial amount of growth. The plant currently treats approximately 18 million gallons per day (mgd). The plant has an existing capacity of 21 mgd and a planned capacity of 25 mgd. This translates into the additional capacity for 3900 more housing units (a 39% increase) over the next 20 years. This is approximately 1,000 more units than the current zoned capacity (supply) of 2,900 units identified in Milwaukie's Housing Needs Analysis (HNA), and more than 2,000 more units than the projected increase in

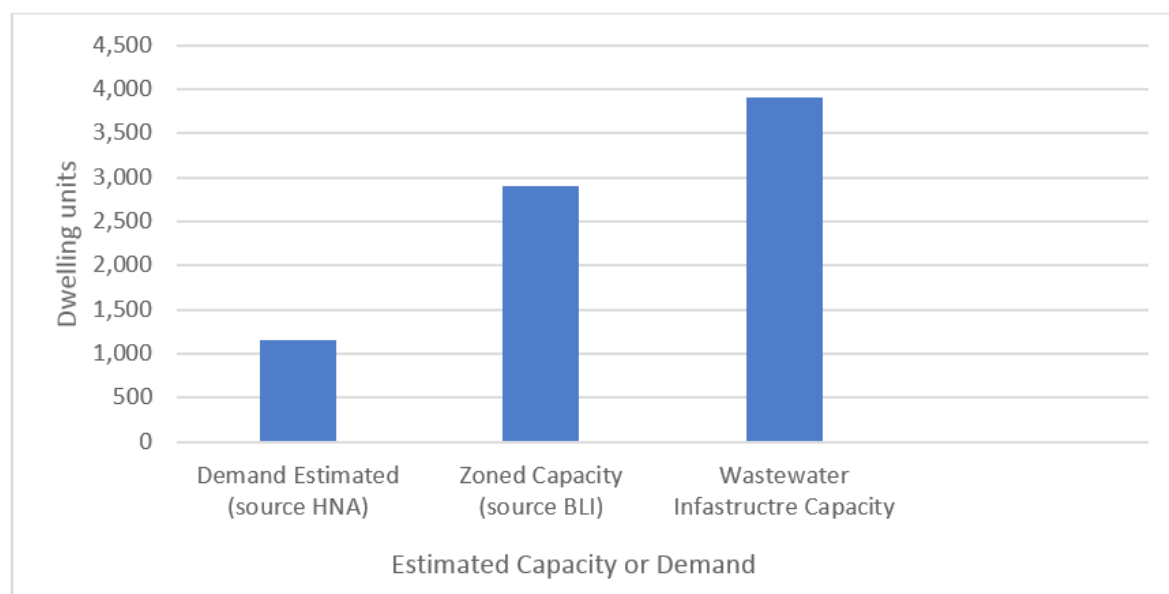


Figure 2: Comparison of Waste Treatment Capacity and Future Growth Projections

housing units during this same period of time (see Figure 2). Water supply does not appear to be a limiting factor to growth, as the City's current water supply can accommodate double the current population of Milwaukie. The water capacity from existing wells is 7.3 mgd compared to the 2.4 mgd used as of 2000 (an amount that has slightly decreased since 2010). However, some water service infrastructure may need to be updated to replace or develop new water pump stations and/or increase the size of water lines in certain parts of the City. The needs will vary depending on the location, amount and density of increased growth.

Once the City determines the extent of additional capacity needed, it must identify and evaluate one or more funding mechanisms to pay for needed new facilities. Historically, additional capacity of public facility systems is primarily associated with expansion of services to new development. Given that new development is likely to be focused in existing developed areas of the City, it will be essential to identify creative approaches to addressing needed capacity.

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## Opportunities & Challenges Influencing Public Facilities Planning

In addition to the assets and trends identified above, the City can also take advantage of opportunities to enhance the community's approach to public facilities planning, while recognizing the challenges that Milwaukie currently faces or may face in the future. A few of these key opportunities and challenges are discussed below.

### *Threats to Milwaukie's Water Source*

As the City of Milwaukie continues to urbanize, increased and emerging contaminants can impact the stormwater, wastewater, and water systems. Milwaukie's water source is from wells supplied by groundwater sources, which is vulnerable to a variety of contaminants. The well source is uncommon for most cities in the Portland metro region. Many of Milwaukie's neighboring communities rely on surface water as their primary water source. However, as surface water pollutants and demand on these sources increases, other providers may also shift to groundwater sources. Surface water sources are also at risk of decline in supply associated with the reduced snowpack levels in the Cascades. Further, increased surface water pollutants, which can threaten surface water as a viable drinking water source, can be linked to several types of impacts associated with climate change. Increased rainfall often leads to higher stormwater runoff which transports additional pollutants to water sources such as rivers and lakes. This is just one example of climate change-related impacts on surface water quality. These effects could create the potential to reduce the quality of Milwaukie's groundwater sources. Existing potential sources of groundwater contamination also affect the quality of the City's water sources. For example, one of the City's existing wells is close to a contained, yet contaminated site - the McFarland property. Close monitoring of contaminants should be prioritized.



*Elk Rock Island on the Willamette River*

*Stormwater Facilities*

Milwaukie's stormwater management system includes: 1,190 catch basins, 548 manholes, 62 sedimentation-manholes, 197 drywells, 37 miles of pipe and open ditches, and 5 detention ponds. The City encourages and/or requires on-site treatment and retention of stormwater through code provisions and future development will be required to treat stormwater on-site. Stormwater requirements for new development or redevelopment is subject to more stringent standards than existing development. However, the location and design of future higher density development may limit the capacity for on-site natural infiltration of stormwater in areas where soils and other surfaces are less permeable and/or where lot coverage increases. Creative stormwater solutions will be required to avoid increased levels of stormwater runoff, which can result in the transport of potential pollutants such as animal waste, pesticides, salt, and soil. At the same time, some research on this topic suggests that on average less stormwater per household is generated in areas with higher density development in comparison to lower-density (single-family) development.

*Other Public Services Facilities*

The City's public service operations are located in four buildings: City Hall, the Public Safety Building, Ledding Library, and the Johnson Creek Public Works and Planning Facility. There are opportunities for those facilities to be updated and improved to better serve City residents and workers. Even at current employment levels, the facilities have barely enough space to house employees and equipment needed to provide city services. Additionally, there are some concerns about the seismic resiliency of City Hall. In considering future changes to public facilities, the City will need to determine if this somewhat fragmented approach to housing its employees is superior to locating all/most of its workers in a single facility. One option would be to keep City Hall and other major city services in the downtown, to help bolster the employment base there and promote a vibrant downtown. The City also should consider the environmental sustainability and emergency preparedness of their facilities. The City should dedicate resources to reducing energy consumption, enhancing stormwater management techniques, and making other environmentally sustainable choices to align with the City's Climate Action Plan (2018).

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## Policy Questions, Observations, and Implications

In determining how the Comprehensive Plan Update can support Milwaukie's Community Vision goals and action items, as well as assets, trends, and challenges, community members should consider the following questions and observations:

- What is the most cost-effective and equitable way to pay for public facilities and infrastructure? Typically, the costs of water, wastewater and stormwater facility construction, repair and maintenance are funded through a combination of monthly utility rates and system development charges assessed on new development. However, this typical model of "development pays for itself" can be less effective when infill is the primary source of new development. The City will need to continue to ensure that costs are fairly and relatively evenly distributed between new growth and existing residents and adequately address costs of operation, maintenance, depreciation, and rate of return. These questions and considerations are primarily related to financial policies but are important considerations for the City's management and development of public facilities and infrastructure.
- Is it a priority to consolidate the City's public services, which are currently spread across four facilities?
- The Climate Action Plan calls for the City to help build out its renewal energy infrastructure and modernize its electrical grid? What are some goals/policies that can help us achieve these objectives?
- Are there additional public facilities and services beyond those noted in Goal 11, such as food composting/mulch production, that should be addressed in this update?
- As broadband services are becoming increasingly important and prevalent the City should consider their preferred role in the provision of broadband services. Is the City interested in providing broadband services (e.g. City of Sandy) or does the City prefer to encourage, assist, and/or incentive private provision of broadband services?
- Undergrounding utilities has many benefits, including protection/ resiliency to natural disasters and other catastrophic events. Undergrounding also can significantly improve



the appearance of a neighborhood. The relative costs and benefits of undergrounding should be considered. Also, standards for undergrounding utilities should incorporate adequate space for tree protection when undergrounding utilities.

- The boundaries for the City of Milwaukie's services were determined in Clackamas County's Public Facilities Plan, adopted in 1989. Milwaukie's service boundaries have not been updated since that time. The City should consider evaluating the existing boundaries in the context of current conditions to determine if the service boundary should be updated, especially in areas located within Milwaukie's UGMA but outside of the UGB, primarily in areas east of the UGB.
- The Comprehensive Plan should establish policies that create a framework and strong future direction for future utility planning. The City also should consider the best way to incorporate information from individual public facilities master plans (Stormwater, Wastewater, and Water Master Plan) in a format that is easy to update as needs and technologies change. When making improvements to the City's facilities, the City should promote or choose environmentally sustainable options, such as EV charging stations and solar panels.