Tacoma Station Area Plan

June 2013

City of Milwaukie

This Plan was adopted by the Milwaukie City Council as an Ancillary Plan to the City's Comprehensive Plan by Ordinance No. 2071

This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETY-LU), a local government, and the State of Oregon funds.

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Overview and Planning Process

This Plan provides a foundation for future development in the Tacoma Station Planning area – located in the City of Milwaukie south of the future Tacoma Light Rail Station. It incorporates a set of recommendations for future land uses, new and improved transportation facilities, design concepts and standards for future development in the area. It also includes a set of strategies to implement the Plan. The Plan is a supporting document of the City of Milwaukie Comprehensive Plan and the city's Development Code has been updated to help provide for future implementation of the Plan.

Land Use Recommendations

Future development in the planning area is organized by four sub-areas shown in Figure ES-1. The recommendations are illustrated in Figure ES-2. These recommendations include:

- **Subarea 1** (also identified in the Plan as Opportunity Site A) is currently owned and operated by Pendleton Woolen Mills. It is located directly adjacent to the future Light Rail Transit (LRT) station and is planned for a mix of retail and commercial uses, with upper story housing also potentially allowed. It is envisioned that the existing structure on the site could be renovated to accommodate a variety of retail and commercial uses that would cater to light rail users and surrounding businesses and neighborhood residents.
- **Subarea 2** is planned for a mix of employment and residential uses, including live/work and possibly other types of residences. It should be noted that this area is also in close proximity to Johnson Creek and portions of the land may be within the city's Natural Resource Overlay zone intended to protect water quality resources.
- **Subarea 3** includes a broad mix of employment uses, with generally higher employment densities than existing uses resulting in an Employment Transit Oriented Development (ETOD) district. Future uses could include light manufacturing, research and development, commercial uses, and a limited amount of retail and office use to support other employment uses, as well as area workers and nearby residents. Certain types of residential use also will be allowed in this area. They are not envisioned as a dominant use.
- **Subarea 4** generally continues to be used primarily for industrial, manufacturing or other employment uses. Over time, employment uses in this area could transition to other industrial or manufacturing uses with higher employment densities. In addition, smaller scale commercial or office uses also will be allowed.

Figure ES-1. Tacoma Station Planning Area Subareas

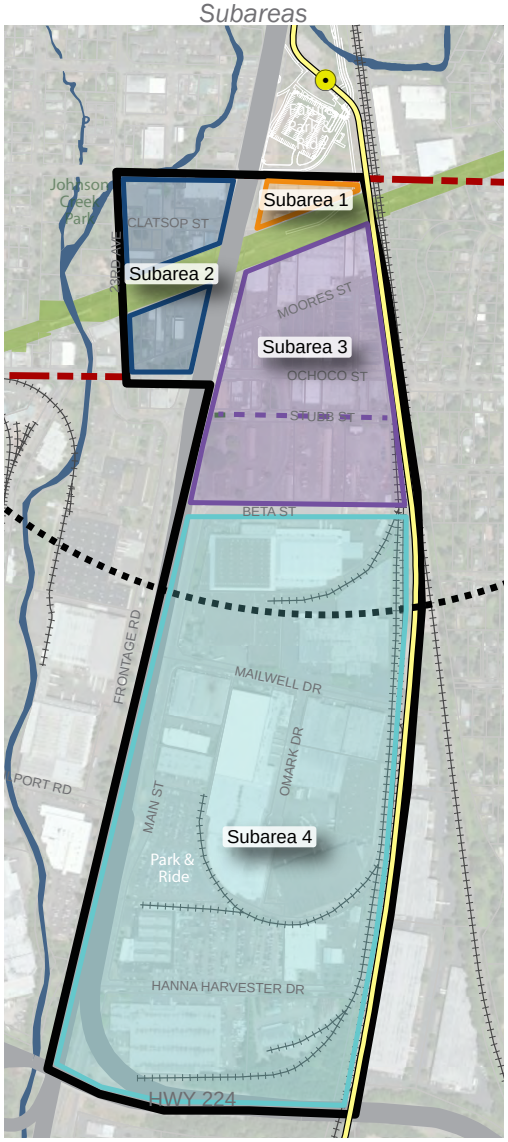
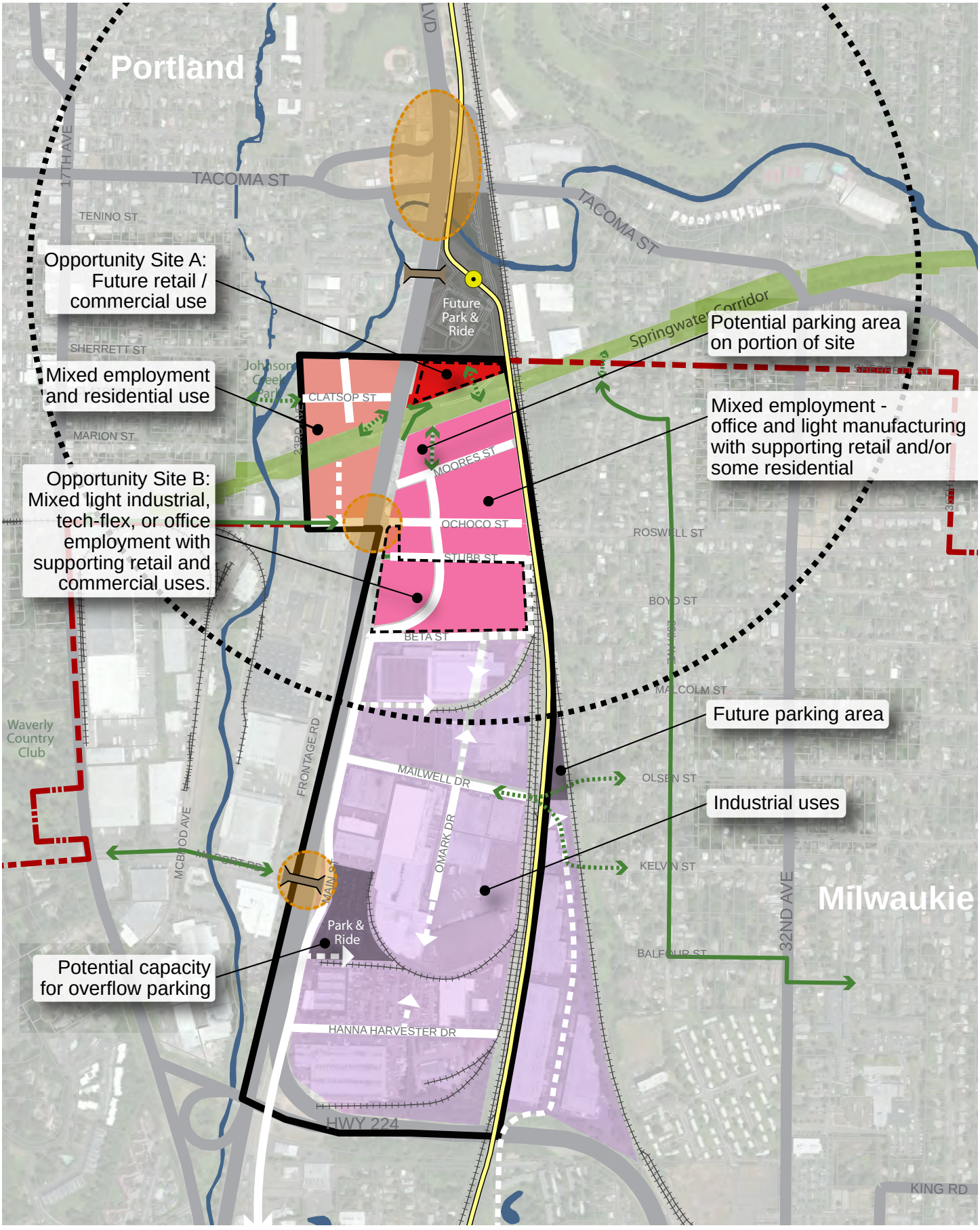


Figure ES-2. Redevelopment Plan



These recommendations are described in more detail in Section 2 of this Plan. The Draft Tacoma Station Area Overlay Zone in Appendix E provides additional detail regarding allowed uses and design standards for each subarea.

Transportation Facility Improvements

A variety of transportation improvements are included in the plan to support future development in the area, improve access between the planning area and adjacent areas (including the LRT station, downtown Milwaukie and surrounding neighborhoods) and enhance the ability of all transportation users (pedestrians, bicyclists, drivers, freight operations and transit users) to move through and within the area.

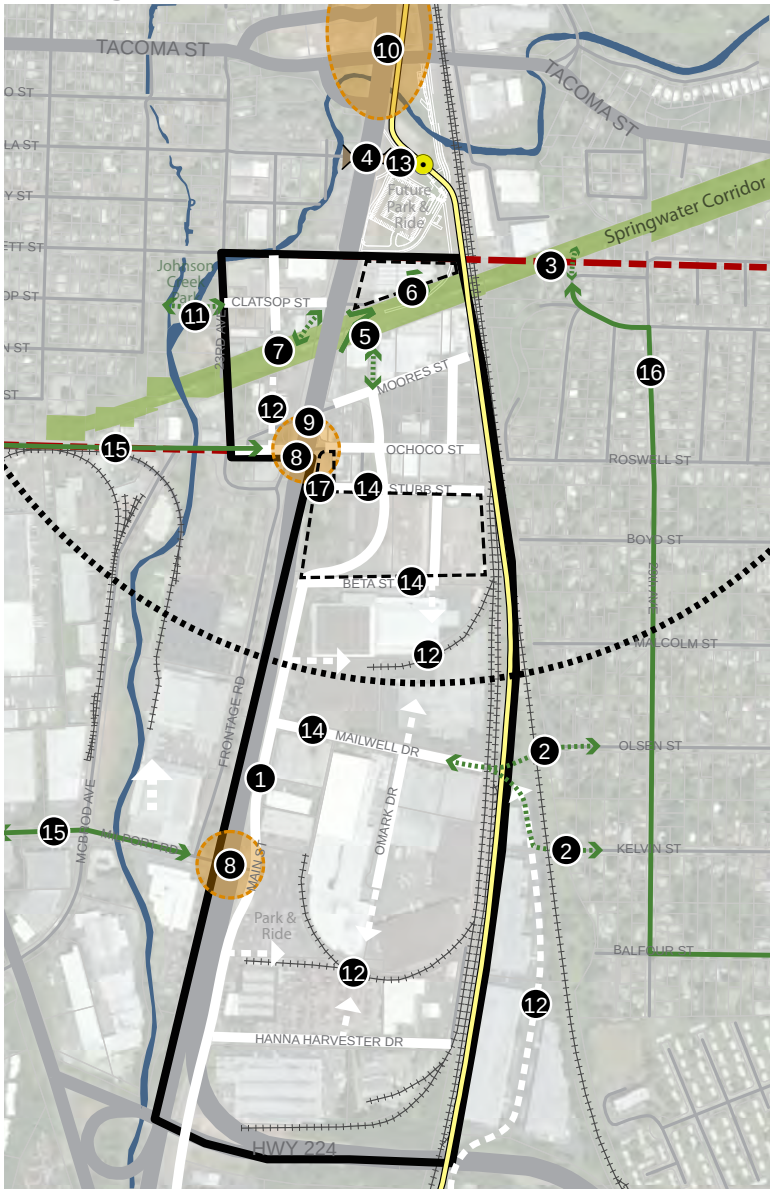
- **Design of Main Street and other local streets, including "Key Streets"**
- **Highway 99E Intersection Improvements**
- **New or improved bicycle and pedestrian pathways and connections**
- **Potential new pedestrian/bicycle crossings on or over McLoughlin Boulevard**

Top priority improvements identified by Station Area Plan advisory committee members include:

- **Main Street improvements, coupled with a more direct and improved connection from the north end of Main Street to the light rail station (projects 1 and 5).**
- **Enhanced connections to the Springwater Corridor (projects 3, 6 and 7).**
- **Pedestrian and bicycle connections from adjacent neighborhoods to the Station Area (projects 2, 11 and 15).**
- **Improved ability to cross McLoughlin Blvd (projects 4 and 8).**
- **Truck signage improvements at the intersection of Ochoco Street and McLoughlin Boulevard (project 9).**

More detailed descriptions of these projects are found in Section 3 of the Plan. Cost estimates for these projects are found in Section 3 and in Appendix C.

Figure ES-3. Proposed Transportation Improvements



Implementation of the Plan

A variety of strategies will be needed to implement the Station Area Plan. They include the following.

- **Comprehensive Plan Amendments.** The city has adopted the Tacoma Station Area Plan as an ancillary document to the Comprehensive Plan. This means the plan will remain a stand-alone document that is referenced and supported in the Comprehensive Plan through the addition of policy language that is consistent with the primary goals and objectives of the Plan.
- **Zoning Ordinance Amendments.** Several different sections of the city's zoning ordinance have been updated to implement the Plan. Amendments include revisions to the base Manufacturing zone; use of a "Station Area Overlay" zone to define how allowed uses and other development standards will differ from standard requirements for the base zone in the planning area; and revisions to selected parking ratio requirements in Subarea 4.
- **Station Community Boundary.** Per Metro Title 6, the City of Milwaukie has adopted a Station Community Boundary by resolution to establish the portion of the boundary within the City of Milwaukie. The City of Portland will take a similar action for the portion of the boundary within Portland.
- **Transportation System Plan (TSP) Updates.** Several sections of the city's TSP will be updated to ensure consistency with the Station Area Plan. This will include Chapters 2 (Goals and Policies), 5 (Pedestrian Element), 6 (Bicycle Element), 8 (Auto Street Network Element), 10 (Street Design Element) and 13 (Funding and Implementation Plan).
- **Transportation and Parking Demand Management.** The topic of parking supply, demand and management has been a key issue for property and business owners in the Station Area. The Plan includes strategies to manage the future demand for parking.
- **Funding Strategies.** The Station Area Plan transportation improvements total over $30 million. A variety of funding sources and strategies will be needed to pay for these improvements.
- **Marketing and Development Partnerships.** The city will need to continue to work closely with local business and property owners and others in the development committee to implement future development and redevelopment projects, particularly for the two opportunity sites described in this Plan. Strategies may include the following:
  - **Communication.** The City will regularly communicate with property owners and prospective developers to provide clarity and certainty about design and permitting process.
  - **Development Incentives.** A variety of incentives can be considered, as appropriate and consistent with other Station Area Plan goals.
  - **Marketing specific sites.** The city can be proactive about working with prospective developers to provide information or guidance about development goals for specific sites in the Station Area, with Opportunity Site B as a prime example.

Section 1: Background and Planning Process

Project Overview

Background

The Portland to Milwaukie Light Rail line is expected to open for service in 2015 and will include a station near the McLoughlin Boulevard/Tacoma Street interchange, just north of the Milwaukie city limits. The Tacoma Station Area Plan (Plan) has been developed by the City of Milwaukie in coordination with others to examine opportunities for redevelopment and investment in the vicinity of the new light rail station. Plan development began in summer 2012, with completion in June 2013. Participation from area property owners, tenants, interested community members and affected public agencies was an essential component of preparing the Plan.

Station Area Boundary

The Station Area is generally bounded by McLoughlin Boulevard (OR 99E) on the west, the railroad on the east, the Tacoma Station on the north and Highway 224 on the south. The Station Area also includes the area west of McLoughlin within the City of Milwaukie between Ochoco Street and the Springwater Corridor. The larger planning area around the station includes areas within the city of Portland; however, most recommendations in the final Plan will be limited to those areas within the City of Milwaukie (see Map 1: Tacoma Station Planning Area on page 2).

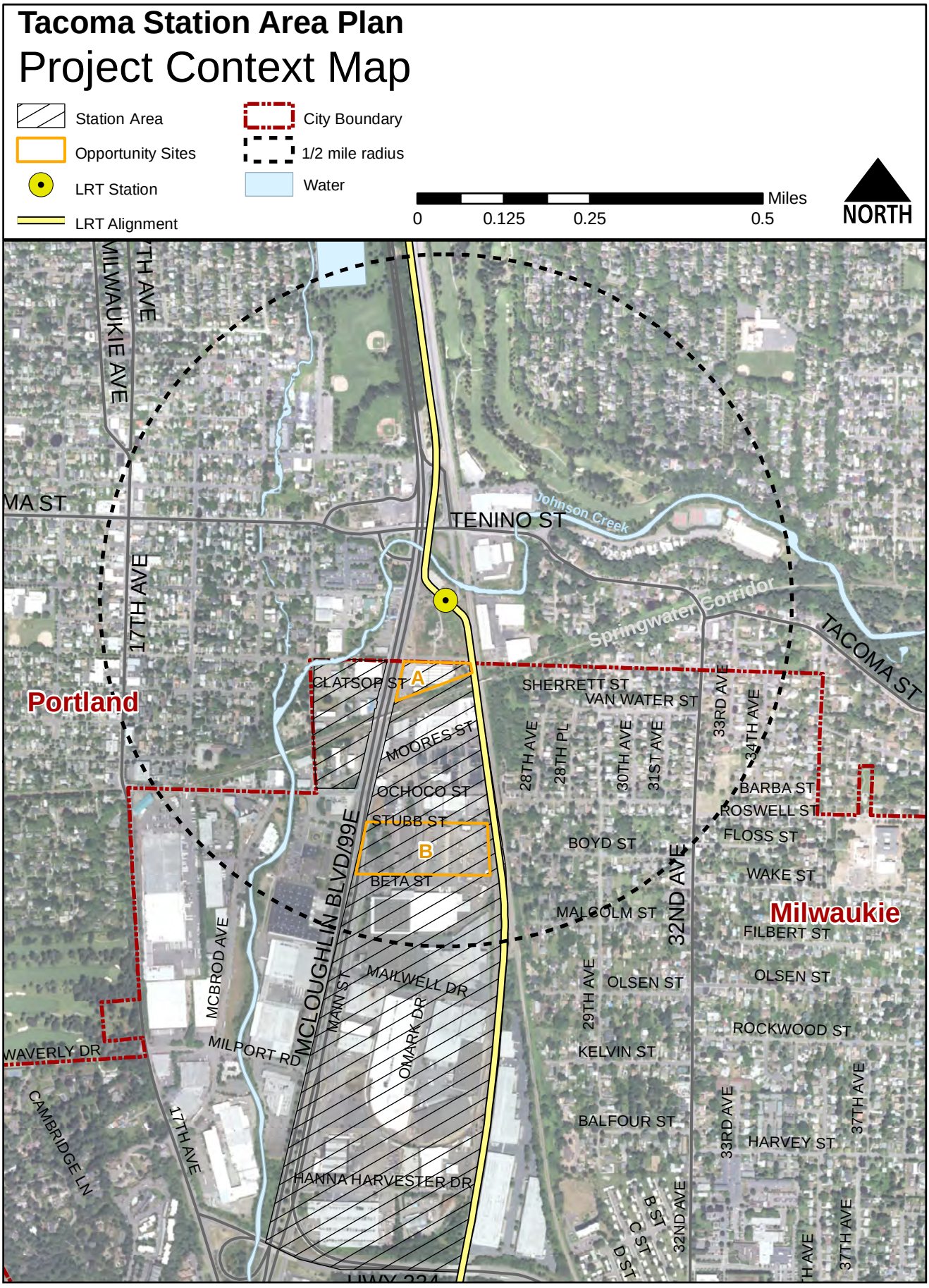
Since the project was undertaken by the City of Milwaukie, the Station Area was defined to focus on areas near the station within Milwaukie (rather than Portland). Because limited funds were available for the Study, the size of the Station Area was limited to include the area most affected by the station and with fewer barriers to the station. Because McLoughlin Boulevard acts as a physical barrier to the station, areas west of McLoughlin Boulevard, particularly south of Ochoco, are expected to be less affected by the light rail station and are not included in the Station Area boundary. Nearby residential neighborhoods (e.g., Ardenwald) were not included in the boundary because they are not expected to change in terms of land uses and zoning. However, connections between the Station Area and these neighborhoods are important and are being considered in the project.

As part of this project a "Station Community Boundary" is being recommended and adopted by the City of Milwaukie as part of this project and by the City of Portland during a future adoption process. The Station Community Boundary is described in more detail in Section 4 of this Plan.

Project Goals and Objectives

Goals and objectives of this Plan include the following:

- Promote an active Station Area community, while addressing barriers to future redevelopment.
- Increase employment intensity and the number of high paying jobs in the area while supporting existing businesses, and complementing development goals in the nearby downtown.
- Improve access to the Tacoma light rail station, particularly for bicyclists and pedestrians.
- Design local streets and intersections and improve circulation in the planning area for all types of transportation modes and people, including pedestrians, bicyclists, drivers, trucks and transit users.


Tacoma Station Area Plan
Project Context Map
Station Area
Opportunity Sites
LRT Station
LRT Alignment
City Boundary
1/2 mile radius
Water
0
0.125
0.25
0.5
Miles
NORTH
MILWAUKIE AVE
17TH AVE
MA ST
TENINO ST
Johnson Creek
Springwater Corridor
TACOMA ST
Portland
CLATSOP ST
A
MOORES ST
OCHOCO ST
STUBB ST
B
BETA ST
MCLOUGHLIN BLVD/99E
MCBROD AVE
MAIN ST
MAILWELL DR
OMARK DR
MILPORT RD
WAVERLY DR
CAMBRIDGE LN
17TH AVE
HANNA HARVESTER DR
SHERRETT ST
VAN WATER ST
28TH AVE
28TH PL
30TH AVE
31ST AVE
33RD AVE
34TH AVE
BARBA ST
ROSWELL ST
FLOSS ST
BOYD ST
WAKE ST
32ND AVE
MALCOLM ST
Milwaukie
FILBERT ST
OLSEN ST
29TH AVE
OLSEN ST
ROCKWOOD ST
KELVIN ST
BALFOUR ST
33RD AVE
HARVEY ST
37TH AVE
B ST
C ST
D ST
32ND AVE
37TH AVE

- Address current and future parking needs within the area, including providing an adequate supply of on and off-street parking and managing parking in a way that meets this objective while also encouraging use of alternative modes of travel.
- Design future buildings and public facilities to make the area attractive for businesses, residents and visitors.
- Develop an achievable plan that is acceptable to stakeholders and policy-makers.

Planning Process and Outreach

After gathering and synthesizing information on existing land use and transportation conditions within the Station Area, three potential scenarios for future use and development or redevelopment of the opportunity sites and other portions of the Station Area were developed. These scenarios were refined based on comments from project advisory committees and other community members. They were evaluated against a set of measures developed at the outset of the planning process, which are tied to the project goals and objectives related to land use, transportation and implementation. The results of the evaluation led to development of a preferred scenario, which was reviewed with project advisory committees and other community members and subsequently refined. This Plan is based on that refined preferred scenario.

As described above, community members were actively involved in the Station Area planning process. The city and consulting team conducted the following activities to provide information to a variety of stakeholders and solicit their opinions and guidance in the planning process.

- **Informational materials.** The City made all project reports and other information available via its website and encouraged community members to review and comment on these materials. Advisory committee meeting agendas and summaries also were posted to the city's website and community meetings were announced on the City's website, as well as via public notices and coordination with the local media.
- **Advisory Committee meetings.** The project team met four times with members of a Technical Advisory Committee (TAC) and a Stakeholder Advisory Group (SAG) to review and discuss key project results and recommendations. The TAC included representatives of partnering public agencies including the Oregon Department of Transportation, TriMet, City of Portland, Metro and the Oregon Department of Land Conservation and Development. The SAG included local property and business owners, neighborhood association representatives, nearby residents, the North Clackamas Chamber of Commerce, the City's Planning Commission and other community groups.
- **Stakeholder Interviews.** The project team conducted interviews with a number of business and property owners and other stakeholders at the outset of the study to identify their goals and concerns related to future planning and development in the Station Area.
- **Additional outreach to Station Area property and business owners.** City staff contacted all property owners in the planning area directly by e-mail or phone to encourage them to review information about the project via the City's website and to attend advisory committee and public meetings.
- **Community Meetings.** The project team conducted a community meeting to review and discuss preliminary redevelopment scenarios. A second Community Meeting was held to review and solicit comments on a draft of this Plan.
- **Expert Panel meeting.** In addition to review by the groups noted above, the project team facilitated a meeting of developers and economists who have participated in a variety of commercial, residential, mixed use and other developments throughout the Portland Metro region to advise the team on the economic

feasibility of different redevelopment scenarios and other implementation issues. Their recommendations were incorporated into this plan.

This process is illustrated in Figure 1.

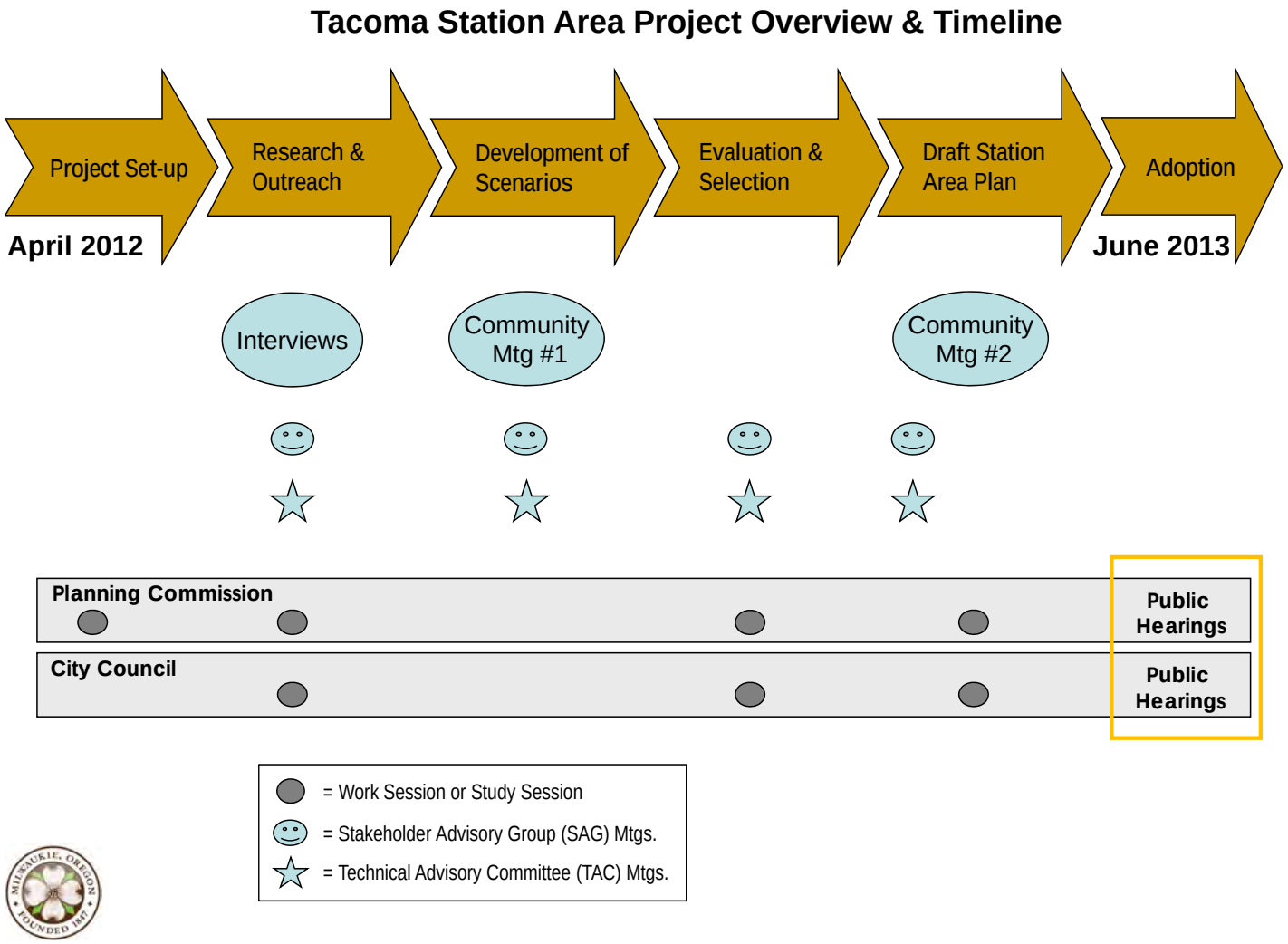


Figure 1. Tacoma Station Area Project Overview and Timeline

Station Area Overview

Existing Conditions

The entire Station Area is currently zoned Manufacturing (M) by the city. The M zone generally allows any combination of manufacturing, office and commercial uses as long as 25 percent of the total project involves an industrial use. Natural resource extraction and high-impact commercial uses (those uses which would result in significant amounts of traffic or noise) are allowed conditionally in the M zone. New residential construction, churches and schools are not permitted although other community and public facilities are allowed under certain conditions. A number of the properties within the Station Area and north of Stubb Street have been designated by the city as (Metro) *Title 4 Employment Lands*; none of the Station Area has been designated as *Title 4 Industrial Lands*. The *Employment Land* designation means that retail uses are limited to 5,000 square feet per building or 20,000 square feet for multiple retail uses. As part of this project, amendments to the M zone have been drafted that will help clarify existing requirements and improve enforceability of the chapter.

Additional amendments also are applied to the Station Area specifically to support and implement the Tacoma Station Area Plan. The recommended amendments are described in Section 5 of this Plan and in Appendices D and E.

The Station Area has a number of unique strengths and weaknesses that affect future redevelopment opportunities in the area. These include:

- The area is adjacent to but physically separated from several adjacent neighborhoods, including the Sellwood Moreland neighborhood in Portland to the west and north, the Ardenwald neighborhood in Milwaukie to the east and Downtown Milwaukie to the south. While the Ardenwald and Sellwood Moreland neighborhoods include residents who could potentially take advantage of future amenities and/or retail shopping opportunities in the Station Area, those residents face physical barriers to accessing the area, including McLoughlin Boulevard, the Springwater Corridor berm and rail lines on the eastern edge of the Station Area.
- Downtown Milwaukie represents both opportunities and barriers for future redevelopment of the Station Area. Improved connections to the Downtown could provide workers in the Station Area with better access to Downtown shopping and other opportunities. At the same time, the Downtown will compete with the Station Area for the location of future office or other non-industrial businesses. Given the importance of the City's Downtown to the community's economic success, competition between the two areas should be avoided.
- Limited access to the Station Area and the physical barriers described above represent constraints to development of significant retail, commercial and residential uses within the Station Area. Noise and other factors associated with nearby rail facilities also represent constraints to residential development within the portion of the Station Area east of McLoughlin Boulevard.
- Rail facilities serving the Station Area provide a unique regional asset for businesses located within the area. They provide direct access to rail freight movement to locations within and outside the Station Area. Regional highway facilities within or close to the Station Area (McLoughlin Boulevard and OR 224) provide similar opportunities for freight moved by truck.

Identified Opportunity Sites

Two properties within the Station Area are identified as "Opportunity Sites" A and B due to their size location, ownership and other characteristics (see Map 1). They are the Pendleton Woolen Mills property (Opportunity Site A) located between the future LRT station and the Springwater Corridor trail and the property owned by the Oregon Department of Transportation located east of McLoughlin Boulevard, between Stubb and Beta Streets (Opportunity Site B). They are described in more detail in the Redevelopment Scenarios Report and in subsequent sections of this report. [1]

Redevelopment Scenarios Development and Evaluation

Summary of Redevelopment Scenarios

As noted above, three scenarios were developed and refined through a collaborative process with city staff, the consulting team assisting with the project, and members of the project technical and stakeholder advisory committees, Planning Commission, City Council and other community members. The three scenarios differed primarily in terms of the land uses envisioned for the northern portion of the Station Area (north of Mailwell Drive). In Scenario 1, the area is anchored by a large civic or entertainment use on Opportunity Site

1 More information about conditions, opportunities and constraints in the area can be found in a detailed report available on the city of Milwaukie's web site (http://www.ci.milwaukie.or.us/planning/tacoma-station-area-plan-0) and by request from city staff.

B, with supporting commercial uses. In Scenario 2, the area becomes an employment-based transit-oriented development area with higher-density redevelopment through new multi-story buildings; Opportunity Site B becomes new creative office/flexible employment uses. In Scenario 3, the area is mainly industrial and manufacturing, with an improved circulation network; the historic ODOT building found on Opportunity Site B would be reused for dining/entertainment, with the remainder of the site for industrial use. A number of bicycle and pedestrian improvements were identified, which were common to all scenarios. These have been refined and incorporated into the preferred scenario, and are discussed in that section.[2]

Evaluation Criteria and Process

As a preliminary step in the Tacoma Station Area planning process, the consultant team developed measures to evaluate the proposed redevelopment scenarios. The evaluation measures are consistent with the project goals and objectives as well as the requirements of the Transportation and Growth Management (TGM) Program Grant for the Tacoma Station Area Plan. They include a combination of qualitative and quantitative indicators that provide a comprehensive assessment of the redevelopment scenarios. The evaluation criteria address factors including:

- How well the scenarios generate land uses and densities that meet the project's objectives (i.e. transit-supportive uses and densities with an emphasis on high-paying employment uses);
- How realistic the scenarios are based on market feasibility and redevelopment costs;
- How much support the scenarios have from area property owners, how much they would impact existing industrial businesses, and to what extent they would provide amenities for existing workers and residents;
- How much the scenarios impact traffic operations on Highway 99E;
- How much the scenarios improve bike/pedestrian connectivity and potentially shift travel behavior towards these modes of travel; and
- How much the scenarios improve roadway safety and freight access.

Several of the measures address sustainable planning goals, including addressing health and safety issues, promoting use of more active modes of transportation and fostering economic sustainability by creating the opportunity to generate additional jobs in the area.[3]

Evaluation Analysis and Results

Each of the three redevelopment scenarios was assessed against each evaluation measure and a "score" was assigned using the appropriate qualitative or quantitative indicator. Highlights of the evaluation results for each scenario are summarized below. A more detailed summary of the evaluation is found in Appendix B.

- **Scenario 1:** Scenario 1 would result in the lowest impact in terms of total vehicle miles traveled within the Station Area. This is due to the sporadic, non-peak hour traffic that would be generated by the large civic/entertainment use. This scenario would also be moderately supportive of transit-oriented development and a mix of uses that will benefit future workers and visitors to the area. However, challenges presented by Scenario 1 include a potential lack of high-paying jobs and minimal connectivity through Opportunity Site B.

2 Additional detail on the three scenarios can be found in the Scenarios Evaluation Report, available on the city of Milwaukie's web site (http://www.ci.milwaukie.or.us/planning/tacoma-station-area-plan-0) and by request from city staff.

3 The full list of evaluation criteria and the outcomes of the evaluation for the three redevelopment scenarios analyzed can be found in the Scenarios Evaluation Report, available on the city of Milwaukie's web site (http://www.ci.milwaukie.or.us/planning/tacoma-station-area-plan-0) and by request from city staff.

- **Scenario 2:** Scenario 2 provides the most benefit in terms of land use, including creation of higher paying jobs, increases in employment densities, and greater cost/market feasibility. This scenario also has the potential to provide the most improvement to connectivity in the Station Area and bicycle/pedestrian mode share increases. However, because Scenario 2 represents the most intensive development, it also generates the most vehicle miles traveled at peak hours, which could result in negative impacts to manufacturing uses in the Station Area. While not explicitly addressed in the evaluation criteria, it also could hamper development in the downtown by creating a competing area for office or commercial development.
- **Scenario 3:** The greatest benefit from Scenario 3 comes from its focus on maintaining existing industrial uses while enhancing access for those uses. This scenario is the most feasible from a market perspective and has more support from property owners than the other two scenarios. Scenario 3 falls short of meeting project goals, however, because it likely would not support transit-oriented development or create new services or amenities for employees or nearby residents. This scenario does also not necessarily support increased employment density or bicycle/pedestrian mode share outside of implementing a variety of bicycle and pedestrian-oriented transportation improvements.

Redevelopment Plan

Based on the results of the Scenarios evaluation, as well as feedback from project advisory committee members and other community members, the project team identified a redevelopment plan for the Station Area. It incorporates elements of Scenarios 1 and 2, including the proposed transportation improvements common to all three scenarios. It also addresses the strengths and obstacles associated with the Station Area described in the previous section.

Generally speaking, the redevelopment plan was chosen because it achieves a high level of consistency with the project evaluation criteria, and is consistent with feedback received from advisory groups, local property owners, an "expert panel" of developers and economists, and other community members.

- This plan represents a relatively intensive level of redevelopment that would support an increase in transit, bicycle and pedestrian mode share while balancing redevelopment expectations with results of market analyses for the area and allowing the majority of industrial uses in the area to continue with minimal disruption. At the same time, the amount of potential commercial and office use would not be expected to compete with or draw resources and market activity away from the Downtown.
- This plan allows for transit-supportive development, including potential employment densities of 45 employees per acre within the primary redevelopment portion of the Station Area. It also allows for large-scale redevelopment of Opportunity Site B and of the surrounding area, pending market support for a transition to non-industrial uses north of Beta Street, which are identified as feasible from a market perspective in the long-term. The overall mix of land uses proposed for the area represents more of a mixed "Employment Transit Oriented Development" (ETOD) pattern, as opposed to a more traditional TOD area. The inner Southeast area in Portland could serve as a model for this area.
- Proposed land uses in the plan would benefit future residents and workers in the area to the same (high) degree as Scenario 2.
- This alternative would have the highest or second highest level of consistency with all transportation-related evaluation measures compared to the redevelopment scenarios evaluated in this report. A variety of transportation improvements are identified to improve access from this area to adjacent neighborhoods and to help overcome existing surrounding physical barriers.
- The plan is identified as feasible by local developers and economists.

- The plan allows for and envisions a modest amount of residential use west of McLoughlin Boulevard where it is deemed to be most appropriate and feasible from a market perspective. Residential uses will be allowed east of McLoughlin Boulevard and north of Beta Street but will not be considered a predominant use and likely will be limited, given barriers to residential use in that area.
- The plan will not necessitate off-site transportation capacity improvements to Highway 99E and will ensure that the plan is consistent with the state's Transportation Planning Rule.

The Redevelopment Plan has been refined to become the basis for this Station Area Plan, and is described in greater detail in the following sections. This Plan will be implemented primarily through adoption of a new overlay zone described in Appendix E. In addition, the City's Comprehensive Plan has been updated to include the following policies for the Station Area.

1. The Tacoma Station Area Plan is hereby adopted as an ancillary document to the Comprehensive Plan and will be implemented through these policies and associated Tacoma Station Area Overlay in the zoning code.

2. The Tacoma Station Area Overlay boundary includes those lands shown on Map 7.

3. The City will strive to increase employment densities in the Tacoma Station Area by attracting high-employment businesses and supporting existing businesses.

4. The City will work to increase bicycling and walking trips between the Tacoma LRT Station, the Springwater Corridor, and downtown Milwaukie.

5. The City will strive to improve Main Street through the Tacoma Station Area to better serve all transportation modes by the year 2035.

6. The City will encourage and support formation of a transportation management association (TMA) among businesses within the Tacoma Station Area to increase transit use and multiple occupant trips and to manage parking supply/demand. At the time the TMA is established, the City may wish to include the downtown area businesses as well. Additionally, the City will work to bring on-street parking into conformance with City standards to increase driver, pedestrian and cyclist safety.

7. The City will actively foster and support redevelopment of Opportunity Site B and the existing TriMet park and ride located in Subarea 4 consistent with the Station Area Plan.

8. The City supports the recommended improvements to the intersection of Highway 99E and Ochoco Street as proposed by ODOT.

Section 2: Station Area Plan Land Use and Urban Design

Overall Goals and Assumptions

Land use and urban design recommendations for the Tacoma Station Area are organized by subarea. The four subareas within the Station Area are shown on Map 2 on page 10. Land uses are also illustrated on Map 3: Tacoma Station Planning Area Land Use.

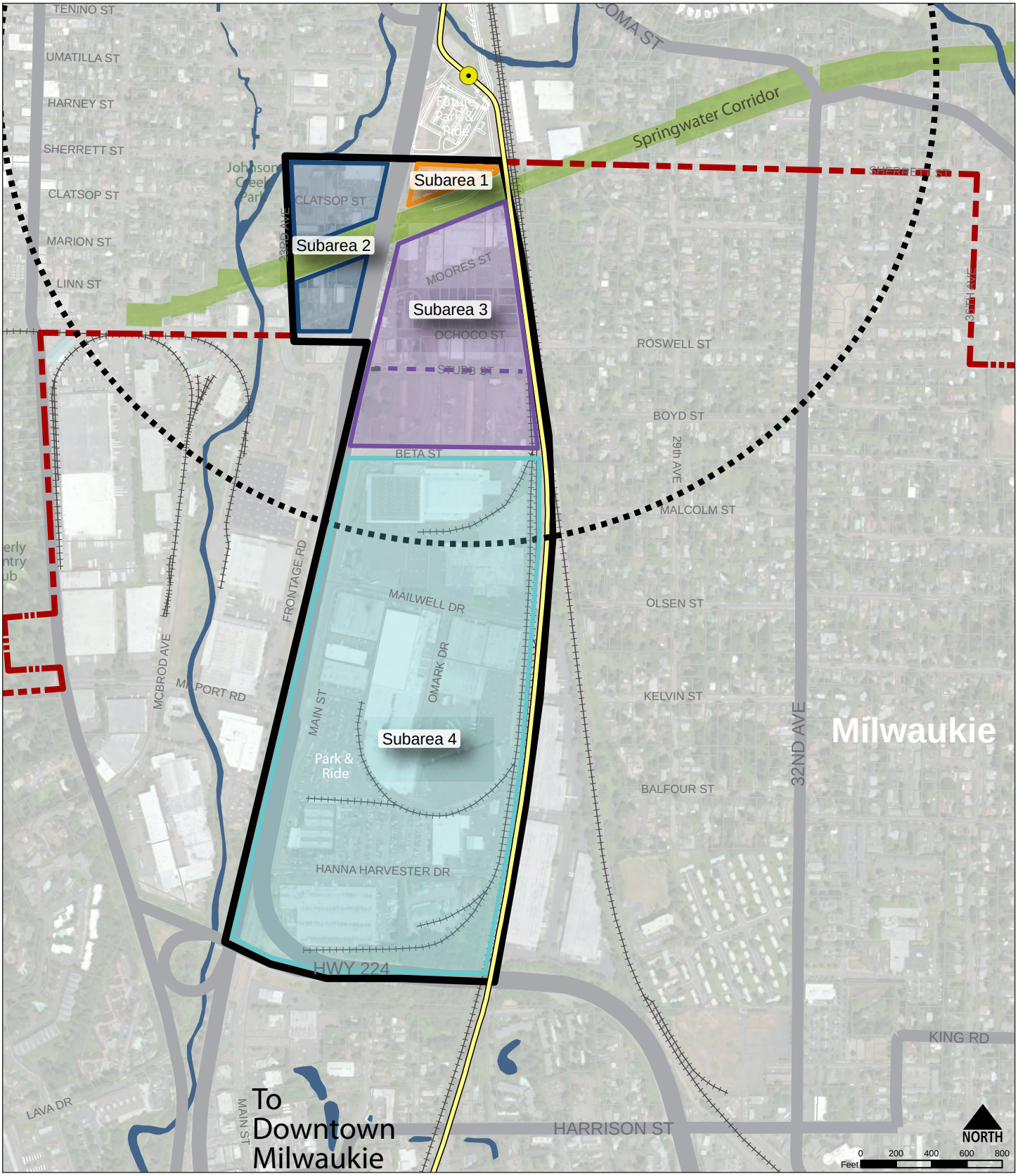
Changes in land use are focused primarily north of Beta Street (subareas 1, 2, and 3). This portion of the Station Area is closest to the future light rail station (approximately one-third mile or less) and is expected to see the greatest impact from the station in terms of land value. This proximity to the station will facilitate transit-supportive development and higher employment densities and generate more bicycling or walking trips to the station, compared to properties located further away. Limiting the most significant redevelopment to this area also will reduce impacts on the surrounding transportation system, will help preserve the remainder of the area for continued manufacturing and other industrial uses, and reduce competition between this area and the Downtown for office or other commercial uses, consistent with project goals and city policies. At the same time, supporting retail, office and commercial uses will be allowed in this area, creating an "Employment Transit Oriented Development" (ETOD) pattern. While redevelopment in this area occurs, a high degree of flexibility and support for existing businesses will be important.

Land Use by Subarea

Subarea 1: North of Springwater

Subarea 1 (which is the same as Opportunity Site A, identified in the previous section) is planned for commercial uses with allowances for residential. This is due to its close proximity to the Tacoma LRT station, park and ride lot and Springwater Corridor. The site was identified as the most viable location for commercial uses that will serve users of those nearby amenities. It is envisioned that the existing structure on the site could be renovated to accommodate commercial uses such as a small brewery, flexible office/incubator space, dining, coffee shop and café, convenience market, bicycle shop, and/or potentially second story small offices or possibly upper story residential units. Redevelopment of this site also will be required to incorporate improvements to the building façade (e.g., introduction of more windows) and to the parking area (e.g., inclusion of trees or other landscaping). Existing and planned pedestrian and bicycle connections to and from Tacoma Station and the Springwater Corridor will help draw people into the redeveloped site. See Figure 2 for a conceptual site plan for redevelopment of Subarea 1.

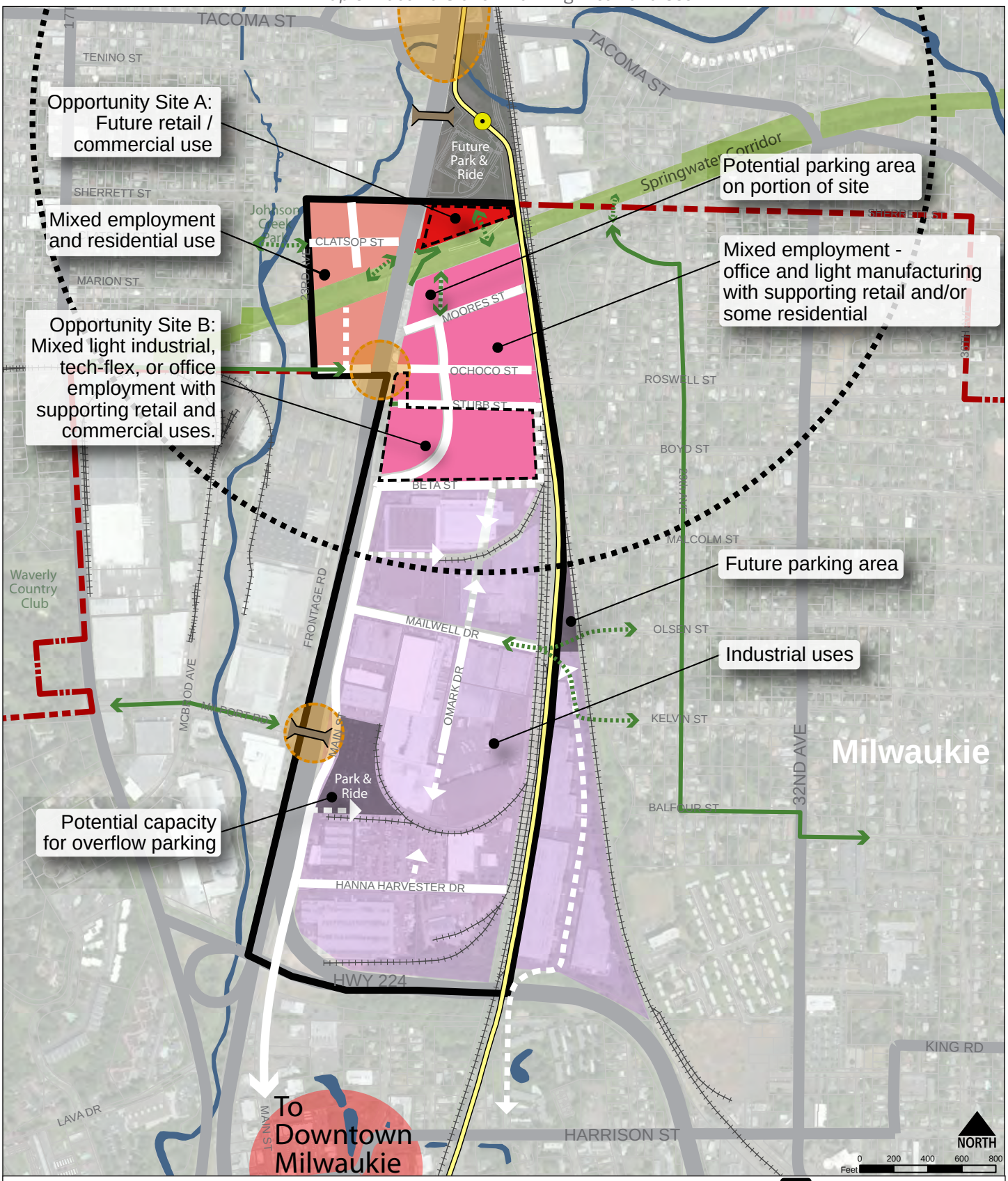
Map 2: Tacoma Station Planning Area Subareas



Study Sub-Areas
TACOMA STATION AREA PLAN
4 February 2013

- Subarea 1: Opportunity Site A
- Subarea 2: Area west of McLoughlin
- Subarea 3: South of Springwater and North of Beta, including Opportunity Site B (this subarea split into two parts for the transportation analysis)
- Subarea 4: South of Beta
- Project Study Area
- Station Area (1/2 mile radius)
- City Boundary
- LRT Station
- LRT Alignment

Map 3: Tacoma Station Planning Area Land Use



Preferred Concept Alternative
TACOMA STATION AREA PLAN

4 February 2013

- Commercial
- Live Work (Mixed Residential / Employment)
- Civic / Entertainment
- Mixed Employment
- Existing Industrial Uses
- Study Area Streets
- New Street Connections
- Bike / Ped Improvements
- New Bike / Ped Connections
- Intersection Improvements
- Project Study Area
- Station Area (1/2 mile radius)
- City Boundary
- LRT Station
- LRT Alignment

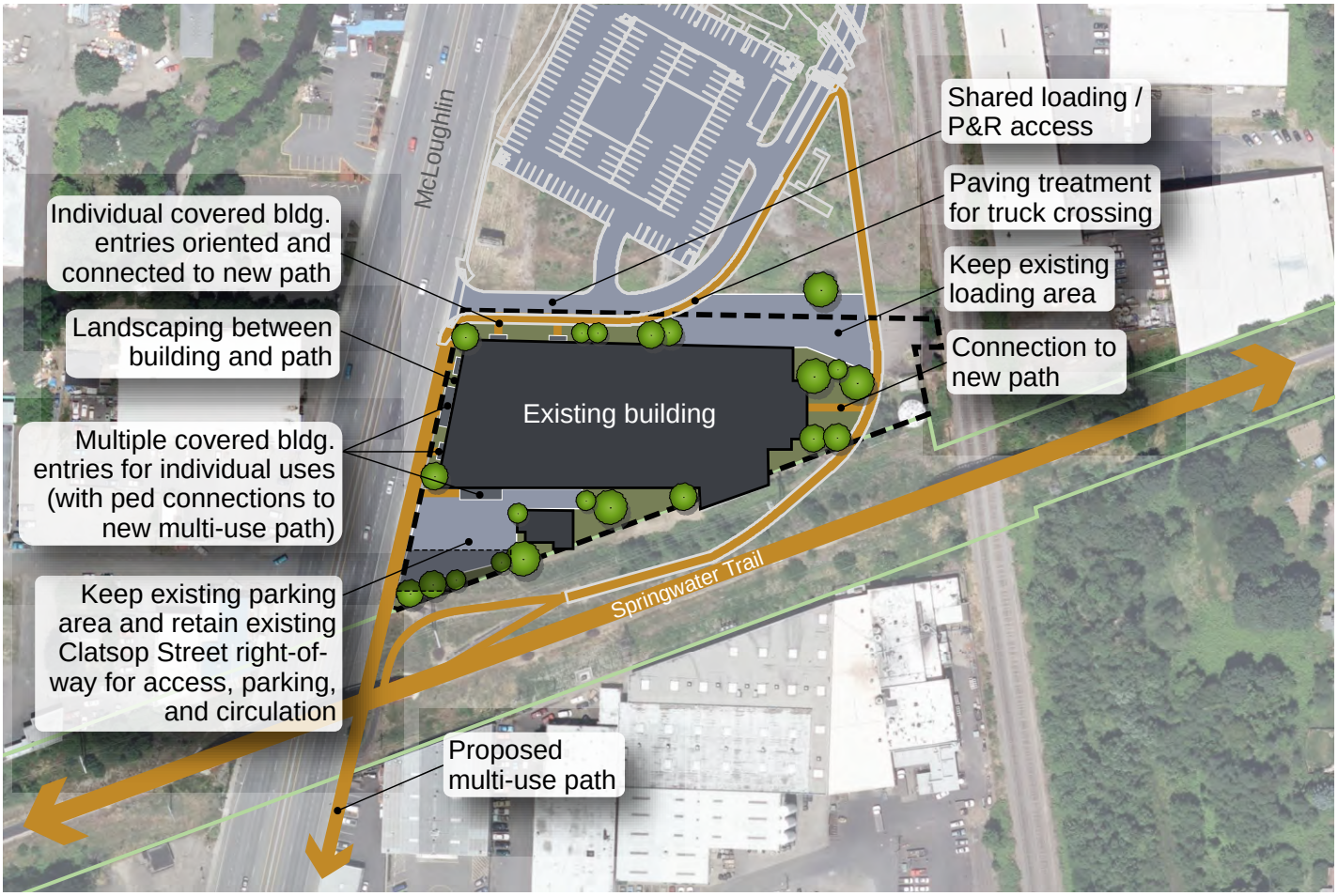


Figure 2. Conceptual Site Plan for Redevelopment of Opportunity Site A

Subarea 2: West of McLoughlin

Subarea 2 is planned for a mix of employment and residential uses, including live/work and possibly other types of residences, such as multi-family residences or townhomes. This will create a more transit-supportive mix of land uses in one of the areas closest to the LRT station. This area is adjacent to other residential areas and not directly adjacent to rail lines in the area, making it relatively more appropriate for residential use than other portions of the Station Area. It should be noted that this area is also in close proximity to Johnson Creek and portions of the land are subject to the city's Natural Resource regulations, intended to protect water quality resources. Development within the Natural Resource Overlay may be limited and/or subject to additional levels of review, necessitating careful siting and planning of future development in this area.

Subarea 3: Mixed Employment

A mix of employment uses is envisioned for Subarea 3, with generally higher employment densities than existing uses but a limited amount of office use to avoid pulling potential office uses away from downtown Milwaukie. The mix of employment uses could include light manufacturing, commercial, and a limited amount of retail and office use. This supports the goal of increasing employment densities and providing a mix of land uses that will help maximize use of the new LRT station. This represents an "Employment Transit Oriented Development" (ETOD) pattern, as opposed to a more traditional TOD area.

The vision for Opportunity Site B, which is located in this subarea, is that the historic building on the western half of Opportunity Site B would become an eating and drinking establishment or other appropriate use that serves local workers and nearby residents. The remainder of the site would be developed as a mix of employment uses. The exact type or mix of uses is not prescribed in this Plan but should support the overall vision for the planning area and take advantage of the relatively large size of the site and opportunity to incorporate improved amenities for area workers (e.g., small plazas or gathering spaces, pedestrian pathways, high-quality building and site design, etc.). An example of one approach to the future design of the site is shown in the diagram below but many other specific designs could be appropriate for this site. This is consistent with the goal of providing a mix of uses within the Station Area that will serve future workers, visitors and residents; facilitating transit-supportive development and potentially achieving higher employment densities.

Site B - Preferred Conceptual Scenario
TACOMA STATION AREA PLAN
4 February 2013

Figure 3. Conceptual Site Plan for Redevelopment of Opportunity Site B

The existing alignment of Main Street through Opportunity Site B will be preserved. The Main Street right-of-way, which is currently under ODOT jurisdiction will be transferred to the City. More detail about this jurisdictional transfer is provided in Section 5: Implementation Strategies. Existing right-of-way in the center of the eastern portion of the site may be vacated as part of the process of redeveloping the site. The site also would incorporate community gathering spaces, including several small plaza areas, as shown on Figure 3. These would serve as places where local workers could congregate for lunch or other activities. They would

be oriented both to eating/drinking uses on this opportunity site and to Main Street due to its role as a key street and transportation spine for the area. The plazas would provide amenities such as benches or other seating, tables, pedestrian scale lighting, trees or other landscaping and/or special paving, as illustrated in the example photo from North Mississippi Avenue in Portland below. The exact combination of amenities will be determined as part of future detailed design and development processes.

Figure 4. North Mississippi Avenue in Portland

Subarea 4: Manufacturing

Minimal changes to the basic land use pattern are recommended for Subarea 4. Over time, employment uses in this area could transition to other industrial or manufacturing uses with higher employment densities. However, such uses also should take advantage of the unique rail infrastructure assets in this portion of the Station Area. This recommendation is based on comments from property owners in this area who note that the area remains a viable industrial area where industrial uses are expected to continue operating through the planning horizon (20 years). In addition, given that this portion of the Station Area is more than a half-mile from the LRT station, impacts of the LRT station on redevelopment potential in this portion of the Station Area are expected to be limited. At the same time, smaller scale commercial or office uses also will be allowed in this sub-area to allow for land use and development flexibility over time.

Building and Site Design Elements

In order to promote quality development in the Station Planning Area and support the objectives of the Plan, the city will implement a number of development and design standards that will help achieve a more active and pedestrian-oriented district, while preserving the industrial character of the district.

Throughout the Portland region there are examples of how existing industrial/employment areas can successfully accommodate new and expanding uses that cater to local residents and employees. In particular, Portland's Eastside Industrial District, the MAX Yellow Line's Mississippi/Albina Station, and the former

industrial areas of the Pearl District illustrate how the existing industrial character of the local building stock can be leveraged to create a unique sense of place for a burgeoning retail and entertainment destination and in some cases also maintain the integrity of surrounding employment uses. The photographs on this and the following pages provide some examples of recent developments in these three areas which might serve as a precedent for the type and character of development envisioned for the Tacoma Station Area.

Figure 5. New commercial uses including restaurants, coffee roasters, and architectural salvage companies have opened near the Albina/ Mississippi MAX station. The district is a precedent for how industrial areas can accommodate an expanding array of uses while preserving the industrial character of the district.

Figure 6. The River East building in the Central Eastside Industrial District has been converted from a defunct warehouse into ground floor retail and office space for several major tenants, bringing over 300 employees to the area. The development illustrates how new project can successfully coexist with existing industrial development.

Figure 7. This new employment incubator project within the Central Eastside Industrial District provides affordable office and artist space. The building illustrates how new development can relate to the surrounding industrial character by using "industrial" building materials, and also demonstrates how buildings can provide architectural elements to address the corner.

Potential development and design elements are described below and are incorporated into the code amendment discussion in Section 4 beginning on page 45. The code amendment discussion describes the overlay zone that will be used to implement these standards within the various subareas of the Station Area. Development and design standards are included in the outline and apply primarily to retail, office and stand-alone multifamily development, with more limited design standards for manufacturing or other industrial uses in some cases.

Site Design Elements

- **Building setbacks:** Landscaped building setbacks can create a layer of semi-public space inviting to pedestrians and create a sense of enclosure along the sidewalk. Forecourts and other public spaces along the sidewalk should be allowed and potentially encouraged along key streets, including adjacent to Main Street on Opportunity Site B associated with proposed civic/gathering spaces there, and where sidewalks are narrower than ideally desired. On-site surface parking will be oriented to secondary streets rather than to key streets, wherever possible.

- **Building Orientation and Entrances:** New buildings will be oriented to and provide entrances that are directly connected to public sidewalks. Building entrances should provide lighting that is architecturally consistent with the overall building design. For corner parcels (particularly at important corners along key streets), buildings should ideally orient to the corner and/or provide architectural elements that address the corner. This may include projecting bays or articulated elements (as seen in Figure 9), chamfered corners, or changes in color/material.

- **Landscaping:** Where on-site surface parking is located adjacent to a sidewalk, dense landscaping should be provided in order to create a visual buffer.

Building Design Elements

- **Weather Protection:** At a minimum, building entrances should provide ample weather protection in the form of horizontal awnings; more continuous awnings that extend beyond the building entrance may also be provided (both variations are shown in Figure 8). Retrofitting existing industrial buildings to accommodate retail, office, or other commercial or employment uses may also create opportunities to incorporate other industrial building elements such as loading docks and covered bays, as shown in Figure 9.

Figure 8. Retrofitted Industrial Buildings with Horizontal Awnings

- **Fenestration:** When retrofitting existing industrial buildings, increasing ground floor transparency is crucial in terms of improving the pedestrian experience along the sidewalk. In many instances this may require increasing the size and number of ground floor windows. Figure 11 illustrates the importance of avoiding blank walls along the sidewalk, and provides a contrast to the renovated buildings with expanded ground floor windows shown in Figure 10. A minimum transparency requirement along ground floors can ensure that windows are provided; the minimum will be higher in more pedestrian-oriented portions of the Station Area.

Figure 9. Incorporating existing elements such as loading docks and covered bays can help retain the area's unique character

Figure 10. These examples of retrofitted industrial buildings illustrate how existing buildings can be rehabilitated to accommodate commercial, employment, or other uses. This type of redevelopment often includes improving the pedestrian experience by increasing the size and/or number of windows along the ground floor. These redevelopments should be encouraged, as they help create a unique "industrial" character for new development within a district.

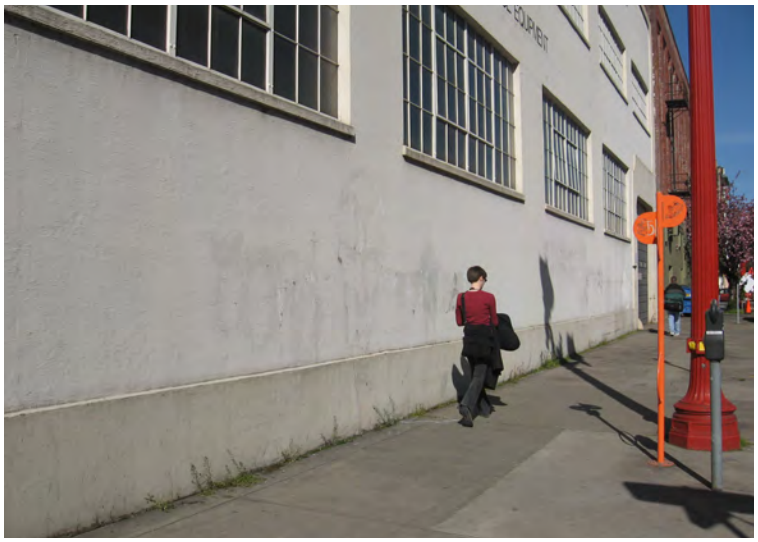


Figure 11. Blank walls should be avoided along sidewalks.

- **Building Materials and Articulation:** A variety of materials and color and/or changes in building articulation should be provided to visually break up large building planes and to create visual interest. Figure 7 illustrates how change in color and material can be used to visually break up a building's mass. The new building shown in Figure 7 also illustrates how "industrial" materials (in this case, metal) can be used to relate to the district's surrounding industrial character. Figure 8 illustrates how articulated ground floor bays can create visual interest along the sidewalk by avoiding large, uninterrupted building planes.

- **Building Signage:** Pedestrian-oriented building signage in the form of blade signs, awning signs, building signs, or projecting signs will be provided where uses are transitioning to retail or commercial uses (see Figure 12 as well as other examples on the following page).

Figure 12. Retrofitted Industrial Buildings with Pedestrian-Oriented Signs

Figure 13. Examples of façade improvements to existing industrial uses

- **Design of industrial uses.** Design standards for new or redeveloped industrial uses will be less strict than for commercial or retail uses and would focus primarily on landscaping, street design, parking area and building entrances, as illustrated in Figure 14. Some window coverage requirements also will be implemented.
- **Illumination of Potential Gateway Features.** Two areas can serve as future gateways to the Station Area - the existing stone building on Opportunity Site B and the intersection of Ochoco and McLoughlin Blvd. Illuminating these areas at night would help attract people into the area and highlight these features and points of access.

Figure 14. Examples of landscaping, parking lot and sidewalk improvements in an existing industrial area

Section 3: Station Area Plan Transportation

This section describes recommended transportation improvements and strategies, including improvements to Station Area streets and intersections, bicycle and pedestrian Facility Improvements, and parking and transportation demand management strategies.

Traffic Analysis

In order to determine whether the proposed Station Area Plan is likely to create more demands on the transportation system than the existing zoning, a trip generation analysis was conducted (see the Future Traffic Conditions Analysis Memorandum in Appendix A). Trip generation refers to the number of vehicles coming and going from a specific destination or land use. The analysis was based on the estimated number of dwelling units and the leasable square feet of various land uses (industrial, retail, and office) that would potentially be built in the planning area under existing zoning and under the recommended Station Area Plan. Standard trip generation rates associated with these land uses were used. The analysis was broken down by the subareas shown in Map 2 on page 10. The land use assumptions for the purposes of the transportation analysis are considered "reasonable worst-case" from a trip generation perspective – "worst case" in the sense that they assume the most trip-intensive land uses allowed under the existing or proposed zoning (as applicable) and "reasonable" in the sense that they are feasible from a market perspective. For the recommended land use scenario, a 30% reduction in trip generation was assumed for land uses north of Stubb Street based on proximity to the LRT station, improvements to bicycle and pedestrian infrastructure, and the presence of transit-supportive mixed use development.[4]

The reasonable worst case of land uses for the Station Area Plan generates 12 fewer peak hour trips than the existing Manufacturing zoning. The recommended land use scenario includes more retail, which typically yields high trip generation, but this is offset by new residential uses and less office than in the existing zoning, along with the 30% trip reduction in the area north of Stubb Street. This means that this plan does not trigger Transportation Planning Rule requirements and no changes are needed to address capacity of Highway 99E or other transportation facilities in the area beyond those that are currently planned to address deficiencies under existing zoning.[5]

Transportation Infrastructure Improvements

Recommended infrastructure improvements are illustrated on Map 5: Proposed Transportation Improvements on page 43.

Street and Intersection Improvements

While no off-site (i.e. outside the Station Area) roadway improvements for vehicle capacity are required under the forecasted conditions beyond those already being planned, improvements are proposed to the local streets within the Station Area and several intersections with McLoughlin Boulevard. In addition, several non-capacity (connectivity) improvements are recommended outside the Station Area.

4 The assumed 30% reduction in trip generation is allowed under Metro's Urban Growth Management Functional Plan for Station Areas where certain conditions are met, including those identified above and adoption of a TDM and/or parking management plan that helps meet regional mode split goals.

5 The Transportation Planning Rule (Oregon Administrative Rule 660-012-0060) restricts amendments to City plans and regulations that would "significantly affect" a state highway. Because the recommended land use scenario would produce fewer trips than the existing zoning in the area, it does not "significantly affect" the highway and does not require additional analysis or off-site transportation mitigation measures.

Station Area Streetscapes

Improvements to all streets within the Station Area are recommended to provide easy access within and through the Station Area, including linking pedestrians to the station and surrounding neighborhoods.

Two "key streets" are given special design treatment in order to emphasize their role within the district. Both Main and Ochoco Streets provide key gateways into the Tacoma Station Area. Main Street connects the Station Area to Downtown Milwaukie to the south, and serves as the primary local access into the site. Ochoco Street is the primary entrance into the site for northbound and southbound vehicular traffic from McLoughlin Boulevard (for southbound traffic, it is the only entrance into the Station Area). Given that they both function as important gateways into the site, and given that Main Street is the primary north/south spine within the district, Main and Ochoco Streets are the primary streets where the majority of redevelopment will likely occur in the district. Accordingly, the conceptual street designs reflect the key role that these streets play within the district. One of the primary design goals for Main Street is to provide a continuous north/south pedestrian and bicycle connection from the light rail station to Downtown Milwaukie.

In addition, special street trees, paving, stormwater treatments, street "furniture" (e.g. benches, water fountains, pedestrian scale street lighting, and/or newspaper boxes), and wayfinding signage and/or public art are recommended for these streets

A conceptual design of Main Street, incorporating the proposed new cross-sections described on the following pages has been prepared and is presented in Appendix F. The appendix includes a set of plan views of the new alignment and accompanying narrative descriptions. This design would require significant public review and subsequent refinement prior to more detailed design and implementation. The right-of way available on Main Street varies considerably, particularly north and south of Milport Road. The conceptual cross sections for each of these segments of Main Street (from south to north) are as follows:

- **Main Street South of Milport Road:** Right-of-way on Main Street is constrained south of Milport Road, with a typical cross section of 39 feet. However, the City desires a wider cross-section for Main Street in this area and will seek additional right-of-way as new development or redevelopment occurs in order to build the cross-section shown in Figure 15. If the City is unable to obtain needed right-of-way, it would need to either reduce or eliminate the parking strip/on-street parking to 0-4 feet, and/or reduce the width of the multi-use path to 9-13 feet.
- **Main Street Milport to Beta Street:** North of Milport Road, approximately 45 feet of right-of-way is available east of the existing jersey barrier of McLoughlin Boulevard, which is not proposed to be narrowed. For this section of Main Street, the conceptual cross section (shown in Figure 15) allows 7 feet for intermittent on-street parking with landscaped bulbouts (ideally designed to capture stormwater).

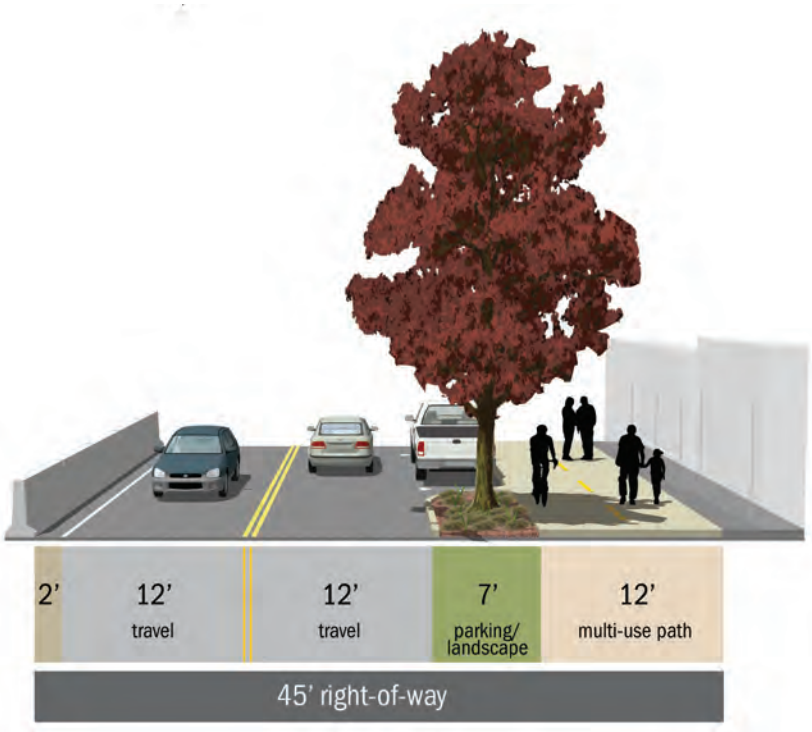


Figure 15. Conceptual Cross-Section for Main Street – Milport Road to Beta Street within existing right-of-way (looking north)

- **Main Street North of Beta Street: North of Beta Street, right-of-way on Main Street varies between 53 feet and 60 feet.** Figure 16 illustrates that this allows for a six- to eight-foot sidewalk with special paving, a 7-foot planting strip on the east side of the street with intermittent parking, and 0-7 feet of on-street parking on the west side of the street with landscaped bulbouts (ideally designed to capture stormwater). When opportunities arise for expanding right-of-way through redevelopment of fronting properties or other methods, the preferred cross section for this area of Main Street would include the full 60 feet of right-of-way.

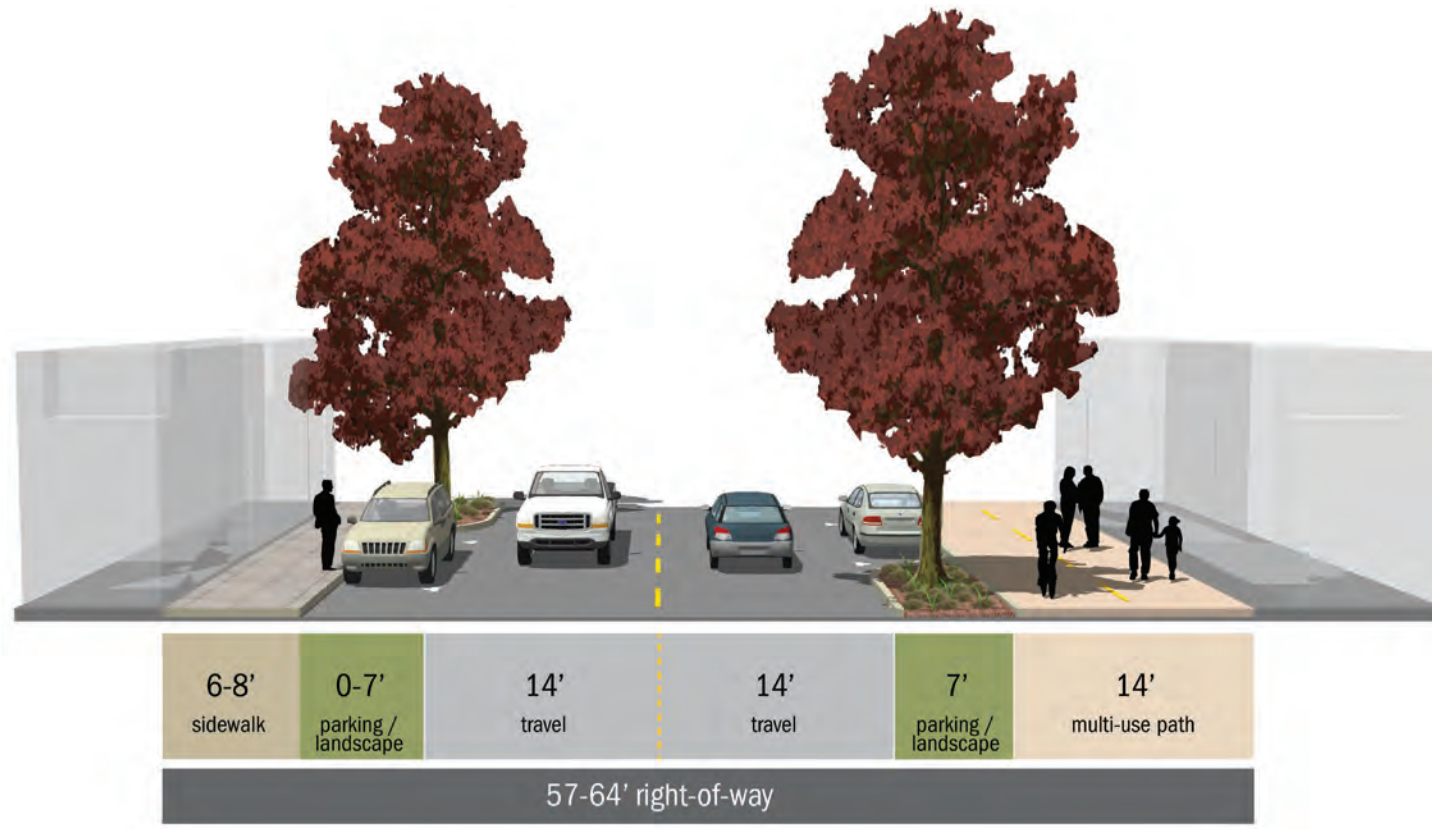


Figure 16. Conceptual Cross-Section for Main Street – North of Beta Street within existing right-of-way (looking north)

Ochoco Street

Like Main Street, Ochoco Street is a "key street" within the district. Accordingly, the conceptual cross sections for Ochoco Street reflect the urban design, "place-making" treatments described in the previous section. The signature trees, special sidewalk paving, and urban landscaping treatments provided along Main Street are repeated along Ochoco Street, helping to create a true "gateway" experience as one enters the site from McLoughlin Boulevard.

- **Ochoco Street West of Main Street:** West of Main Street, Ochoco Street retains its existing three vehicular travel lanes, as the westbound approach to the McLoughlin Boulevard/Ochoco Street intersection requires a separate right turn lane to maintain operations. This accounts for 36 feet of the existing 54 feet of right-of way. The remaining right of way allows for 5-foot sidewalks and a 4-foot landscaping zone, within which signature trees are provided within grated tree wells. Note that the existing 54 feet of right-of-way does not allow for wider sidewalks or stormwater planters (Figure 17).

- **Ochoco Street East of Main Street:** East of Main Street, 45 feet of right-of-way is currently available. This allows for two 12-foot travel lanes, 5-foot sidewalks, and a 5.5 feet landscaping zone, within which constructed stormwater planters are provided (Figure 18). When opportunities arise for expanding right-of-way through redevelopment of fronting properties or other methods, the preferred cross section for this part of Ochoco Street would include 52 feet of right-of-way with 8-foot sidewalks and 6-foot planting strips (a minimum sidewalk width of 8-feet is recommended along "key streets").

Map 4: Existing Station Area Parking Capacity

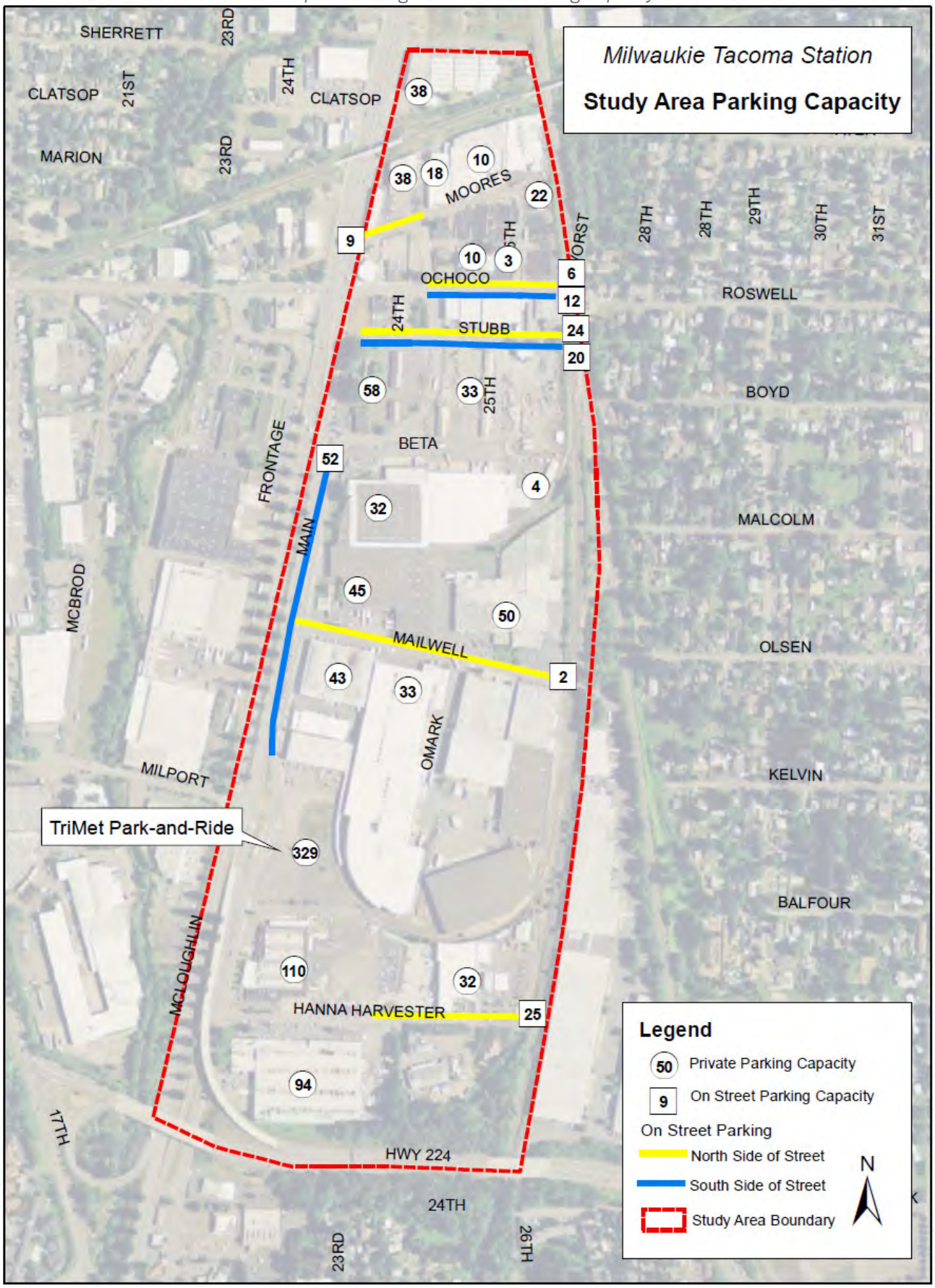


Figure 17. Conceptual Cross-Section for Ochoco Street – West of Main Street within existing right-of-way (looking east)

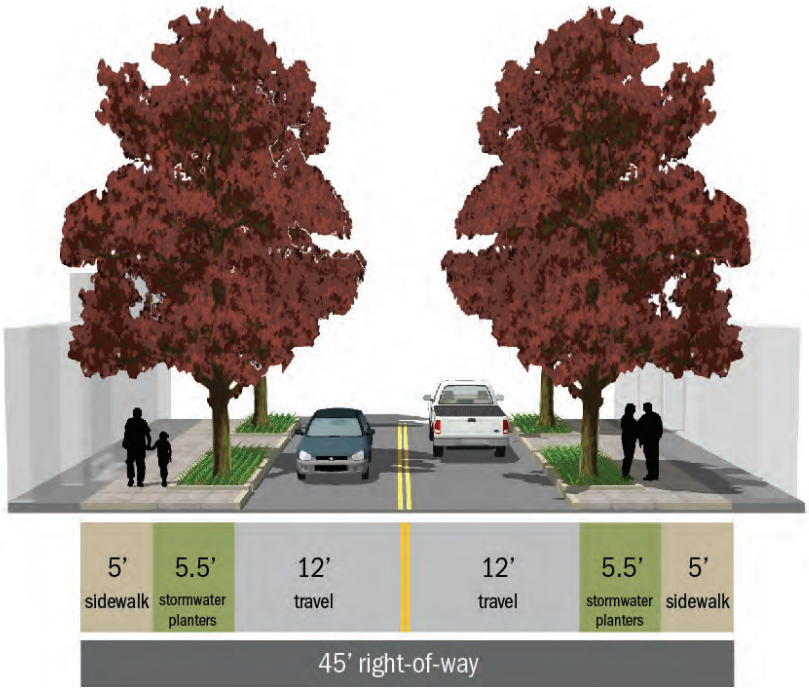


Figure 18. Conceptual Cross-Section for Ochoco Street – East of Main Street within existing right-of-way (looking east)

Special Streetscape Treatments for Key Streets

The following urban design "place-making" elements should be considered for Main and Ochoco Streets as street design transitions from the initial concepts to recommended designs:[6]

- **Signature landscaping:** While street trees are proposed throughout the district, the conceptual cross sections for Main and Ochoco Streets suggest that a large, colorful, signature tree be used to emphasize the special nature of these two streets where available right-of-way and other conditions allow for it. Signature tree species to consider could include Scarlet Oaks or non-fruiting cherry trees. The notable color and larger size of these species can help create visual emphasis along the primary gateways into the district, thereby "announcing" one's entrance into the site.
- **Special paving:** The conceptual cross sections for Main and Ochoco Streets suggest that special paving might be used within the sidewalks and planting strips to highlight the key role of these two streets. While sidewalks for local streets within the District may be constructed of concrete, sidewalks along Main and Ochoco Streets could be comprised of special pavers or stamped concrete.
- **"Urban" landscaping treatments:** In order to create a more "urban" treatment along Main and Ochoco Streets, the conceptual cross sections suggest that "constructed" stormwater planters be provided. These types of planters are illustrated in the photographs in Figure 19, and are typically designed with concrete edges and separated by hardscape to allow for pedestrian egress. Where street trees are provided along the key streets independent of stormwater planters, tree grates are provided to establish a more "urban" feel.
- **Street furniture and lighting:** While it is not within the scope of this project to recommend specific street furnishings or lighting treatments, it is suggested that future work in this arena focus on Main and Ochoco Streets when considering the location and style of furnishings. Such furnishings could include benches, water fountains, pedestrian scale street lighting, newspaper boxes, wayfinding signage, and public art.
- **Gateway signage:** As stated above, both Main and Ochoco Streets serve as important gateways into the site. As such, there may be an opportunity to provide monument gateway signage and/or signature public art at the entrances into the site at Ochoco Street and McLoughlin Boulevard and along Main Street just north of the Highway 224 overpass, announcing one's entrance into the district. In addition, some kind of illuminated feature at these gateways is recommended to announce entry to the area. Night-time exterior lighting of the historic building on Opportunity Site B also is recommended to highlight this key element of the Station Area.

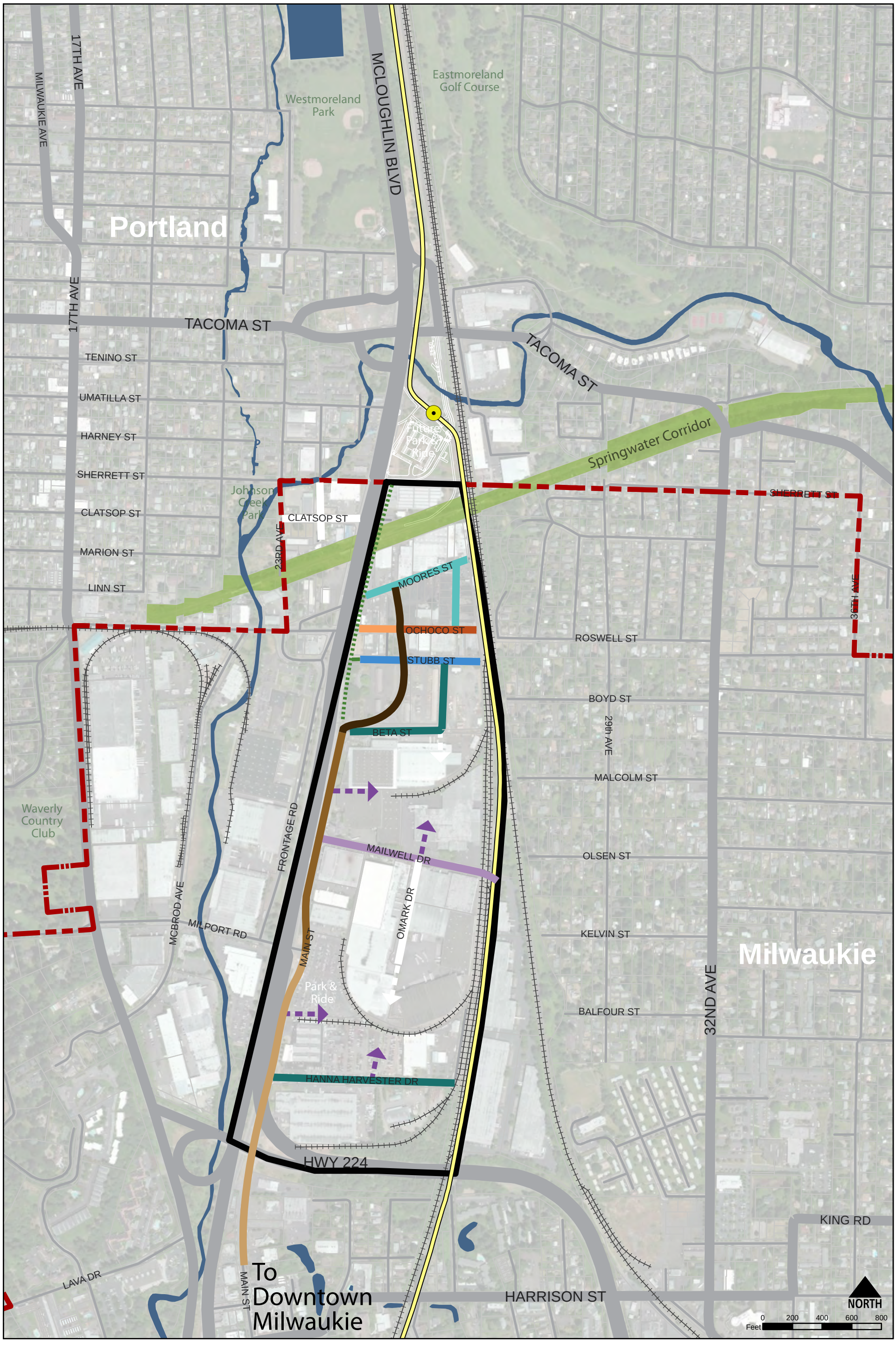
6 If ODOT continues to own and maintain Ochoco and Main Street, elements such as tree species, special pavers or stamped concrete, and stormwater planters would need to be approved by ODOT.

Figure 19. Examples of constructed stormwater planters, as proposed for key streets

Local Streets

All local streets within the Station Area are proposed to be improved and/or formalized to provide sidewalks (or multi-modal paths), landscaping, and where right-of-way permits, on-street parking. These streets will provide comfortable, safe, and attractive pedestrian facilities throughout the Station Area. However, in order to create a sense of distinction, local streets will not receive the same high level of urban design emphasis as the "key streets." The conceptual cross sections suggest that street trees will be slightly smaller, and sidewalks slightly narrower (5 feet instead of 8 feet) and comprised of concrete rather than special pavers. Stormwater catchment planters are provided along local streets where right-of-way, drainage and other conditions permit. However, in order to create a sense of distinction between local streets and more "urban" key streets, planters along local streets are proposed to be more natural in character.

Map 3-1: Street Cross-Section Location Key



Tacoma Station Area Plan

STREET CROSS-SECTION LOCATION KEY

SERA 25 OCTOBER 2012

- Project Study Area
- Station Area (1/2 mile radius)
- City Boundary
- LRT Station
- LRT Alignment
- Main Street (north of Beta)
- Main Street (Beta to Milport)
- Main Street (south of Milport)
- Local Streets (40-42' ROW)
- Local Streets (60' ROW)
- Ochoco (east of Main)
- Ochoco (west of Main)
- Mailwell
- Stubb
- General Industrial Streets

Figure 20. Examples of linear stormwater swales, as proposed for Local Streets

Local Streets (60' Right of Way)

Based on the right-of-way width currently available on Hanna Harvester Drive, Stubb Street, and Beta Street, a 60-foot cross section was developed to provide for movement of heavy trucks within a 40-foot roadway, as well as improve the pedestrian environment (see Figure 21). The cross section is intended to match the existing frontage on the north side of the street at the eastern end, which features a sidewalk and landscaped buffer totaling ten feet. Note that a minimum of 6 feet is needed to provide stormwater swales adjacent to on-street parking (4 feet for the planter, plus a 2-foot disembarkment zone).

Figure 21. Proposed Conceptual Cross-Section for Local Streets with a 60' right of way

Local Streets (40' Right of Way)

Portions of Moores Street and 25th Avenue in the Station Area have about 40 feet of right-of-way, providing enough space for two eleven-foot travel lanes with landscaped buffers and sidewalks on each side, with no parallel parking (see Figure 22). Because these streets are expected to retain their Local classification, no separate bike facilities are provided. Because no on-street parking is provided along these streets, a stormwater swale is shown within the landscape zone. However, a minimum of 4 feet is typically necessary in order to provide a stormwater planter. Where the right-of-way narrows to 40 feet, a stormwater planter may not be feasible.

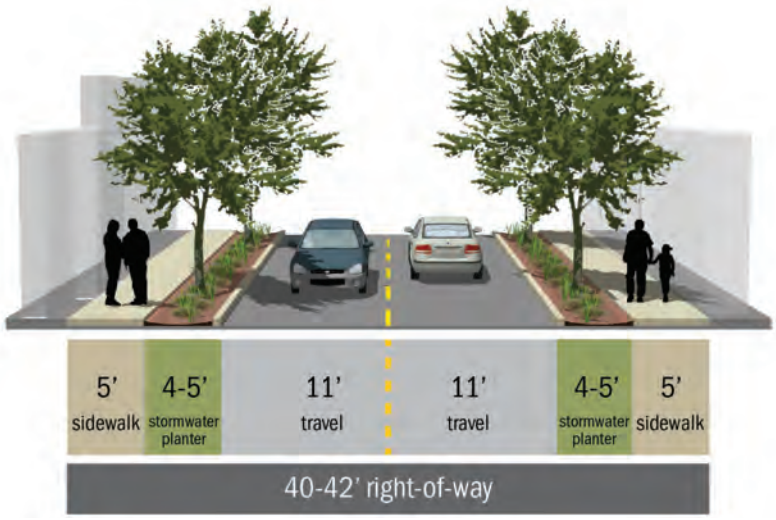


Figure 22. Proposed Conceptual Cross-Section for Local Streets with a 40' right of way

Mailwell Drive

Mailwell Drive provides an important connection between proposed multimodal facilities on Main Street and two proposed facilities to the east: a new grade-separated bicycle/pedestrian connection to Olsen Street or Kelvin Street, and a new multi-use path connection south to Harrison Street at 26th Avenue. To complete a high quality bicycle/pedestrian network, the Mailwell Drive cross section includes a 14-foot multi-use path on the north side of the street.

In order to allow for continuous vehicular parking between the building and the street (as requested by local property owners and as currently practiced in this area), the cross section does not provide on-street parking or a landscape buffer on the southern side of the street. An 8-foot furnishing zone is provided on the north side of the street, which allows for a 6-foot stormwater planter and a 2-foot disembarkment zone for the adjacent on-street parallel parking (see Figure 23).

Where truck movements need to be accommodated, 40-feet of roadway would need to be provided. In these areas, the continuous access would be eliminated and the 8-foot stormwater planter reallocated to on-street parking in order to provide the necessary 40 feet. When opportunities arise to reconfigure Mailwell Drive and expand right-of-way through redevelopment of fronting properties, the preferred cross section would not include continuous access with head-in parking. Instead, the south side of the roadway would include a 12-foot travel lane, a four-foot planting strip, and a five-foot sidewalk, which would be an expansion of right-of-way to 63 feet.

Design and implementation of improvements will need to balance the importance of pedestrian and bicycle safety and connectivity with freight use of the area, as well as impacts to existing on and off-street parking for local businesses. Local business owners have expressed concerns about these issues, including potential conflicts between truck traffic and bicyclists and pedestrians.

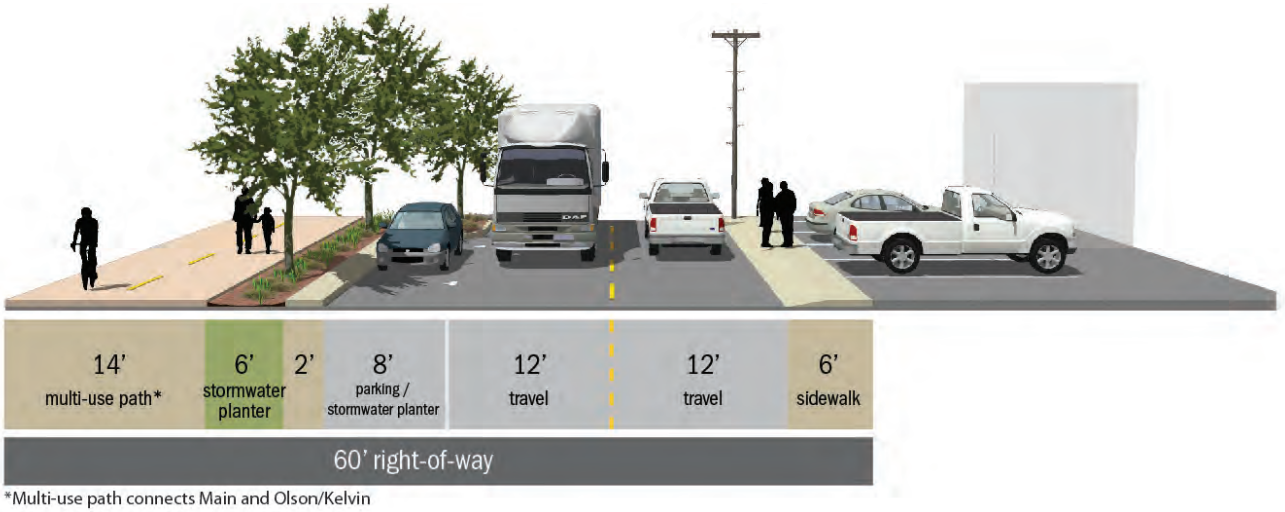


Figure 23. Conceptual Cross-Section for Mailwell Drive with continuous access (looking east)

Stubb Street

Like Mailwell Drive, the north side of Stubb Street currently provides continuous access to on-site parking located between the building and the street. The cross section retains this continuous access (as requested by local property owners) by not providing on-street parking or landscaping along the northern side of the street (Figure 24). On-street parking is provided along the southern side of the street, along with an 8-foot sidewalk and 10 foot landscape zone (comprised of an 8-foot stormwater swale and 2-foot disembarkment zone). When opportunities arise to reconfigure Stubb Street and expand right-of-way through redevelopment of fronting properties, the preferred cross section would not include continuous access with head-in parking. Instead, the north side of the roadway would include a 12-foot travel lane, a 4-foot planting strip, and a 5-foot sidewalk, which would be an expansion of right-of-way to 59 feet.

Where truck movements need to be accommodated, 40-feet of roadway would need to be provided. In these areas, the continuous access would be eliminated and 8 feet of the landscape zone reallocated to on-street parking on the north side of the street in order to provide the necessary 40 feet.

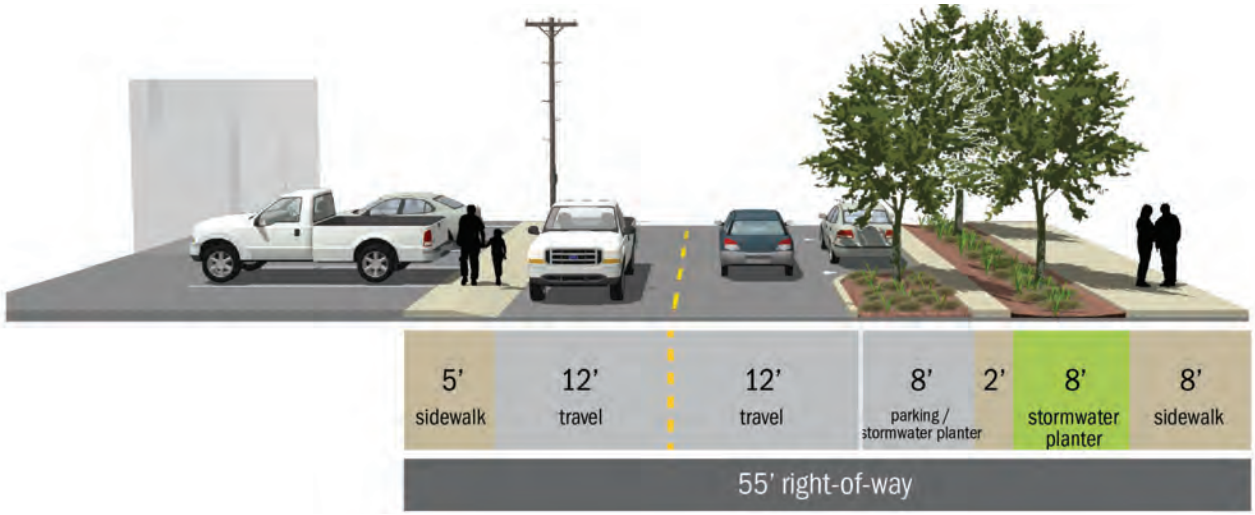


Figure 24. Conceptual Cross-Section for Stubb Street with continuous access (looking east)

General Industrial

This cross section is included to illustrate the minimum elements needed for an industrial access street (other than Mailwell Drive or Hanna Harvester Drive) in the area: 40 feet of roadway, and five-foot sidewalks with five feet of landscaping on each side (see Figure 25). Note that a minimum of 6 feet is needed to provide stormwater swales adjacent to on-street parking (4 feet for the planter, plus a 2-foot disembarkment zone). When opportunities arise to utilize on-street parking areas for stormwater treatment, pockets of on-street parking areas may be utilized for a stormwater planter.

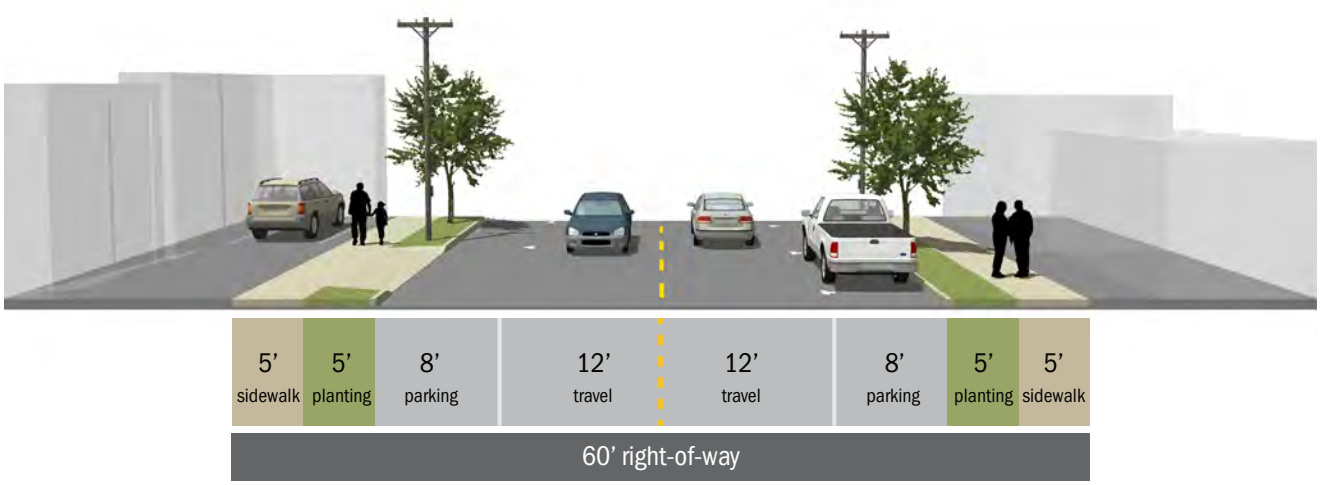


Figure 25. Proposed Conceptual Cross-Section for General Industrial Streets South of Mailwell Drive

New Street Connections

If larger blocks in the southern portion of the area are redeveloped in the future, additional local street connections would be recommended or required to break up large blocks and improve local access and connectivity. (This is keyed to the map on page 43 as project #12.) Future block lengths associated with residential, commercial or office use are recommended to be 250-530 feet, consistent with existing city standards. Block sizes for industrial uses may be larger (e.g., 600-1,200 feet), given the need to accommodate larger industrial users and associated infrastructure (e.g., rail lines and spurs). In addition, future additional local street connections are proposed at two other locations: (1) Through the industrial park east of the rail lines, connecting Mailwell Street to Harrison Street; and (2) An additional north/south local street between Ochoco Street and the Springwater Corridor west of McLoughlin Boulevard to improve local connectivity and access to future land uses in this area.

Highway 99E Intersection Safety Improvements

Improvements to several intersections/interchanges on Highway 99E are recommended to enhance safety for bicycles and pedestrians, freight vehicles, and/or passenger vehicles. Projects range from minor enhancements that are already programmed to long-term conceptual projects. The project numbers below correspond to the numbers shown on Map 5 on page 43.

8 **Pedestrian/bicycle safety/crossing improvements at Ochoco Street and Milport Road intersections with McLoughlin Boulevard**, with specific design options to be identified at a later date.

9 **Truck signage improvements at the Ochoco Street intersection.** ODOT Region 1 staff has developed several concepts to improve the SE McLoughlin Boulevard / SE Ochoco Street intersection for trucks and other vehicles, as well as pedestrians. A preferred solution to address this goal is illustrated and described further in Appendix G. It includes a two phased approach that includes signage on McLoughlin Blvd and changes to the southbound "jug-handle" access and associated intersections, frontage roads and access points in that area. This solution would not preclude future implementation of a southbound left turn from McLoughlin to Ochoco although that project is not currently recommended by ODOT. Implementation of this concept will require significant outreach and review of the concept with adjacent property owners and other community members.

10 **Planned safety improvements at the Tacoma Street interchange (on/off ramp improvements).** These are part of a planned ODOT re-striping under construction at the time of adoption of this plan that will change lane configurations on southbound SE McLoughlin Boulevard near the Tacoma Street interchange. It will shift the start of the third southbound travel lane so it begins at the Tacoma Street on-ramp rather than at Nehalem Street, allowing a dedicated lane for drivers entering McLoughlin Boulevard from the Tacoma Street ramp. The project will also add a raised pedestrian refuge island at the southbound Tacoma Street ramp.

Bicycle/Pedestrian Facility Improvements

In addition to improvements to sidewalks and bike facilities on the local street network and at key intersections, several new or improved bicycle/pedestrian facilities are recommended within the Station Area. The project numbers below correspond to the numbers shown on Map 5 on page 43.

Improved Connections to LRT station and Springwater Corridor from within the Tacoma Station Area

A variety of projects are proposed to better connect the Springwater Corridor trail with both the LRT station and the broader Tacoma Station Area, including the following:.

6 **Improved connection from the Springwater Corridor to the LRT station** (south side of Pendleton site). This connection will be enhanced as part of construction of the new light rail station.

7 **Stairway from the Springwater Corridor to McLoughlin Boulevard from west.** The city of Portland has obtained partial funding for this project element through a Transportation Enhancement grant. It will build a stairway from the Springwater Corridor to the west side of McLoughlin Blvd. on the north side of the Springwater.

Three potential options for an improved direct connection from the north end of Main Street to the LRT station are indicated as project #5. In order of preference (highest to lowest), these options would include an improved connection from the area south ofthe Springwater Corridor to the light rail transit (LRT) station. The first option (5A) assumes a new pathway from the north end of Main Street to the Springwater Corridor, then connecting to the new pathway to connect from the Corridor to the LRT station. The second option (5B) would be to widen and improve the existing sidewalk/pathway adjacent to McLoughlin Blvd. under the Springwater Corridor. The third option (5C) would be to create a tunnel under the Springwater Corridor going directly north from Main Street to the LRT station. A preliminary conceptual design for option 5C is provided in Appendix F. Detailed design and implementation of this concept will require significant outreach and review with adjacent property owners and other community members. This concept is the lowest priority concept due to its relatively high cost for design and construction, and its impacts to properties and buildings from acquisition of right-of-way for connections from the undercrossing.

An additional short bicycle/pedestrian connection is recommended from the existing dead end at west end of Stubb Street to McLoughlin Boulevard (project #17). Currently, Stubb Street ends just east of McLoughlin Boulevard A short pathway could be provided across the vacant area between the west end of Stubb Street and the proposed multi-use path along this section of McLoughlin Boulevard. This would provide parallel routes on both Main Street and McLoughlin Boulevard to the north to access the LRT station, further enhancing bicycle and pedestrian connectivity in the area. No crossing of McLoughlin Boulevard is proposed at this location.

Improved Bicycle/Pedestrian Connections to and within Adjacent Neighborhoods

Existing bicycle and pedestrian connections to the Tacoma Station Area are limited in some places due to the presence of the railroad on the east and McLoughlin Boulevard on the west, as well as Johnson Creek and adjacent commercial/industrial development. The following projects would improve bicycle and pedestrian access to the LRT station and the Tacoma Station Area from surrounding neighborhoods.

2 **Bicycle/pedestrian connection from the eastern neighborhoods to the Station Area across the railroad tracks (underpass or overpass) at approximately Kelvin or Olsen Streets.** Coming from the east, users would go from the proposed new crossing to the existing private at-grade crossing over the western set of railroad tracks at Mailwell Drive. They could then access the light rail transit (LRT) station via existing and potential new local streets (Mailwell, Main, Moores and McLoughlin). This would also provide improved access to the downtown for residents via Main Street. An alternative to this connection (not shown on the map) would be to connect from the neighborhood further to the north leg, from Roswell or Boyd Street to Ochoco or Beta Street. This would improve proximity to the Tacoma LRT station but would be a less central connection to the Station Area and be further from downtown.

3 **Improvements to access at the Springwater Corridor are recommended to facilitate the connection from the west end of Sherrett Street to the trail**. This is related to item #16, and improvements include paving the existing gravel pathway that people currently use to access the trail, as well as possibly providing additional signage at Sherrett/29th to direct people to this connection and the trail.

4 **Potential pedestrian overcrossings of McLoughlin Boulevard at Umatilla Street.** A potential overcrossing is shown at Umatilla Street – a location where there currently is no existing at-grade pedestrian and bicycle crossings. An overcrossing at this location would improve pedestrian access to the future LRT station and reduce out-of-direction travel for people walking to the LRT station from areas to the north (as an alternative to using the Springwater Corridor or the Tacoma Street overpass to access the station). However, similar to project #4, this project likely would be extremely expensive ($2 million or more based on similar crossings constructed elsewhere) and would be challenging to design and locate, given the amount of space needed to meet accessibility requirements.

11 **New bicycle/pedestrian connection**. This project represents a bicycle/pedestrian bridge over Johnson Creek to improve access into this relatively isolated portion of the Station Area. In combination with a new access from this area to the Springwater Corridor trail, this would significantly improve access to surrounding areas for people living and working in this area and also would provide another connection to the LRT station and Station Area from the neighborhood to the northwest. The proposed alignment across SE Clatsop Street may be able to utilize existing bridge supports from a bridge that once existed in that location. Design of the connection will be based on project cost and feasibility, limiting impacts to Johnson Creek and safety for bicycle and pedestrian traffic, and impacts to adjacent properties. It is recommended that the connection be made only after, or concurrent with, improvements to the rights-of-way in the area to provide a safe street for pedestrians and bicycles.

15 **Improved bicycle/pedestrian connections from and within the neighborhood to the west along Ochoco Street and Milport Road**. This could include filling gaps in the sidewalk system on one or both sides of these streets and possibly adding dedicated bicycle lanes if right-of-way is available.

16 **Connection from the SE 29th Avenue bicycle route to Springwater Corridor.** Currently, 29th Avenue from Sherrett to Balfour is a designated "Shared Roadway Low Traffic" for bike travel.

Figure 26. Example of pedestrian undercrossing, Washougal, WA.

High Priority Projects

Top priority improvements resulting from plan process include:

- Main Street improvements, coupled with a more direct and improved connection from the north end of Main Street to the light rail station.
- Pedestrian and bicycle connections from adjacent neighborhoods to the Station Area.
- Improved ability to cross McLoughlin Boulevard.
- Enhanced connections to the Springwater Corridor.
- Truck signage improvements at the intersection of Ochoco Street and McLoughlin Blvd.

Coordination with Improvements Already Included in the City's Transportation System Plan

Several of the transportation improvements and strategies recommended in the Tacoma Station Area Plan are related to projects that were included in the City of Milwaukie's 2007 Transportation System Plan (TSP). Table 1 lists the TSP projects and identifies the related Tacoma Station Area Plan projects.

The multi-use path on Main Street replaces the bike lane project listed in the TSP, while general improvements to Main Street and Mailwell Drive allow for reconstruction of intersections to improve turning radii as needed for freight. The transportation demand management strategies for the Station Area, discussed below, should be combined with similar efforts for Milwaukie Town Center, creating organizational efficiencies that benefit the larger area.

Table 1. Transportation System Plan projects and Related Tacoma Station Area Plan projects

Project Name	Project Description	From	To	Related TSAP project
Intersection Improvements at Main and Mailwell	Upgrade intersection turning radii to better accommodate freight movements	Location specific	Location specific	1
Main Street Bike Lanes	Fill in gaps in existing bicycle network with bike lanes	Harrison Street	Moores Street	1
Ochoco Street Sidewalks	Construct sidewalks on Ochoco Street to connect bus stops to Goodwill	19th Avenue	McLoughlin Boulevard	15
Springwater Trail Ramp Improvement	Improve ramp at Springwater Trail and McLoughlin Boulevard	Location specific	Location specific	5
Intersection Improvements at Mailwell and Omark	Upgrade intersection turning radii to better accommodate freight movements	Location specific	Location specific	14
Milwaukie Transportation Management Association Program	Implement a transportation management association for employers	Milwaukie Town Center	Milwaukie Town Center	See project TDM strategies

Parking and Transportation Demand Management Strategies

Existing Parking Utilization

The supply of on-street and off-street parking varies throughout the Station Area, with some locations near capacity and some relatively empty. Existing parking utilization on parcels throughout the Station Area is shown in Figure 27. Not all of the potential parking supply was available due to lots being used for purposes other than parking. For example, some parking areas are currently used for outdoor storage of equipment and expected to be used for this purpose for the foreseeable future.

Generally, conditions were near capacity north of Stubb Street, while parking facilities to the south were less than 85% full. A notable exception was the TriMet park and ride facility, where 316 out of 329 available spaces were occupied (over 95% occupancy).

The accompanying chart shows generally how well off-street parking is utilized throughout the area. For this analysis, the TriMet park-and-ride lot was not included, as its function eventually will be replaced with a new park-and-ride at the Tacoma LRT station. Parking lots that were partially or fully occupied by non-parking uses were excluded as well. The issue of non-parking uses is covered later in this section. Head-in parking along streets was considered off-street parking for this analysis.

Projected Parking Demand and Supply

Parking demand was estimated for the land uses proposed in this Plan using the leasable square footage assumptions for each land use and typical parking demand profiles for each land use, with a 30% reduction in demand assumed for areas north of Stubb Street. Minimum required off-street parking supply was calculated based on the same leasable square footage assumptions by land use and the requirements specified in the city code. On-street parking is included in the supply as well.

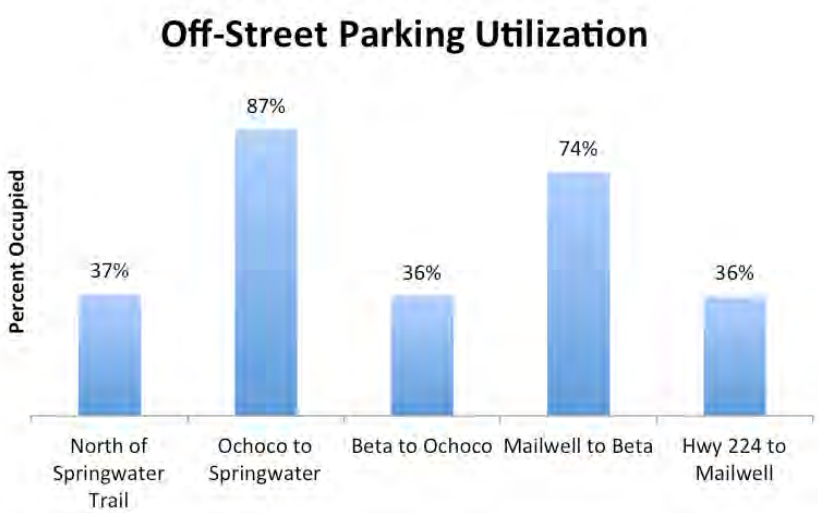


Figure 27. Existing Weekday Off-Street Parking Utilization

Analysis shows that parking demand under this Plan is forecast to significantly exceed the supply that would be provided per minimum requirements of the City's Development Code, particularly south of Beta Street. In order to meet a target of 85% on-street occupancy, assuming off-street parking is occupied at the same rate, additional capacity beyond the minimum would be needed in these areas.

The parking demand analysis points to a potential deficit of several hundred parking spaces if the assumptions in the analysis hold. However, a number of factors could mitigate this potential deficit. First, the analysis is based on a "worst case land use scenario" and assumes a relatively significant amount of potential office development in the portion of the planning area south of Beta Street (sub-area 4), based on existing development code provisions. However, planned amendments to the City's development code will limit the amount of office and other non-industrial uses in this area, which in turn should reduce parking demand in that area in particular. In addition, a number of parking demand management strategies would be implemented to further reduce parking needs. These strategies are described further later in this section. Finally, this plan recommends use of some portion of the existing TriMet park and ride facility for shared business/employee parking for the area if the park and ride is no longer used for that purpose by TriMet in the future. All of these measures could mitigate the parking demand estimated in this analysis. If they are not successful in doing so, additional parking may need to be developed in the Station Area to address future demand. More detailed information on this topic is found in Appendix I.

Transportation Demand Management Strategies

The redevelopment plan will require a mix of Transportation Demand Management (TDM) and parking management strategies in order to minimize parking supply needs and traffic generation. They will be essential to achieving the 30% share of non-auto trips assumed in the traffic and parking analysis conducted for this report. Improving the multimodal infrastructure connecting the Station Area to adjacent areas and the Tacoma LRT station is likely to reduce the share of trips made by motor vehicle. However, infrastructure improvements are much more effective when leveraged by TDM and parking management policies and programs. TDM and parking management can work together, as strategies that regulate, price, or restrict parking can also shift travel behavior. Parking and transportation demand management elements relevant to the Tacoma Station Area are described below.

TDM refers to various strategies that increase overall system efficiency by encouraging a shift from single-occupant vehicle (SOV) trips to non-SOV modes, or shifting motor vehicle trips out of peak periods. Non-SOV

modes may include walking, cycling, ridesharing (HOV/carpool), and public transit. In the case of the Tacoma Station area, which has been and will continue to be a major employment area, TDM solutions will be geared primarily towards employees. Metro requires a TDM plan for Station Areas to qualify for the 30% reduction in trip generation described previously. Elements of such a TDM plan include:

- **Individualized marketing programs:** An individualized marketing program promotes a variety of alternatives to motor vehicle travel rather than focusing on just a single option. It aims to raise awareness of potential travel options in a targeted geographic area through strategies such as consistently branded information, programmed walks and bike rides, and incentives for people to try different transportation modes. The opening of the new light rail service in particular provides a uniquely powerful opportunity to raise awareness of the alternatives to driving. Research has shown that an individualized marketing program can reduce vehicle trips by 5-8%.
- **Rideshare programs:** Ridesharing reduces motor vehicle demand by taking advantage of vehicle seats that would otherwise be unoccupied. Carpooling, which relies on participants' own vehicles, and vanpooling, which uses vans supplied by employers, non-profits, or government agencies, are typical forms of ridesharing. A rideshare program will typically be administered by an employer commute trip reduction plan or an organization coordinating multiple employers. The program may use incentives such as preferential parking, awards, or cash payments. According to research, ridesharing can reduce vehicle trips to employment areas by 5-15%.
- **Employer transportation programs:** These programs, sometimes called commute trip reduction (CTR), focus on creating incentives to use alternatives to the motor vehicle as well as encouraging alternative work hours and telecommuting. A CTR program often includes strategies such as:
  - » Commuter financial incentives (such as a subsidized transit pass)
  - » Guaranteed ride home (for transit users occasionally needing to return home at a time when transit is not a viable option)
  - » Secure bicycle parking and/or end-of trip facilities (i.e., showers)
  - » Ridesharing (discussed above)

  This type of program is typically administered by individual employers or building managers, but could also be administered effectively by a larger organization coordinating multiple employers frequently referred to as a Transportation Management Association or "TMA." The effectiveness of a CTR in reducing vehicle trips depends on which strategies are included. A 50% subsidized transit pass, guaranteed ride home, and end-of-trip facilities have been shown to reduce vehicle trips by approximately 10%, 2%, and 2% respectively.

These and other potential TDM strategies have the potential to limit motor vehicle traffic generation, positively affecting performance measures such as VMT and duration of congestion. Programs that depend on promoting use of transit will be most effective for employees and businesses in closer proximity to the future light rail station.

Parking Management Strategies

In addition to the TDM strategies above, the following strategies can specifically help manage parking demand:

- Shared parking to serve multiple users and destinations
- Parking regulations (time, limits, loading zones)
- Financial incentives and unbundling of parking costs

- Parking pricing (viable when demand exceeds 85% of capacity)
- Preferred parking for carpools and vanpools
- Overflow parking plans
- Bicycle parking facilities

All elements listed above are viable management strategies that can mitigate the need to devote additional valuable land area to parking. In general, a parking management approach seeks to make access and parking for short-term visitors, customers, and deliveries more convenient while promoting and incentivizing alternatives to parking for everyday users such as employees.

TDM strategies should be implemented using a phased approach. Following is a recommended phasing approach that implements specific actions beginning with those that cost the least and ending with the highest cost strategies:

- **Stage 1: Travel Options.**
  - » As early as possible, implement a low-cost "Smart Trips" individualized marketing program for employees in the Tacoma Station Area. This can result in a measurable reduction in drive-alone trips (8-13% reduction) at a very low cost.
- **Stage 2: Incentives, Transportation Management and Shared Parking.**
  - » Implement an incentive program where employers provide "Transit, Bike and Walk Bucks" to employees who use options other than driving alone on at least 60% of their work days. Transit incentives can be provided pre-tax, which reduces employer and employee taxes.
  - » Implement site or development-specific TDM requirements for new development projects.
  - » Establish mode share targets by the TMA and City, consistent with the types of development and land use in the Station Area.
  - » Evaluate and implement shared parking arrangements in the Station Area.
- **Stage 3: Address Parking Supply**
  - » Update forecasts of parking demand and supply that reflect actions undertaken in Stages 1 and 2.
  - » Increase minimum parking standards and/or construct public parking facilities, if warranted and financially feasible.

Parking Ratio Standards

While parking management strategies such as shared parking, shuttle services, pricing and parking permits may help mitigate the need for additional parking, the city also has considered revising the parking requirements for certain uses to address anticipated demand.

The city's Zoning Code currently requires the following amount of off-street parking for office, retail and manufacturing uses (these are the uses most relevant to the Station Area):

- **General office:** Minimum requirement is 2 spaces per 1,000 square feet of floor area. Maximum allowed is 3.4 spaces per 1,000 square feet.
- **Manufacturing:** Minimum requirement is 1 space per 1,000 square feet of floor area. Maximum allowed is 2 spaces per 1,000 square feet.

- **General retail:** Minimum requirement is 2 spaces per 1,000 square feet (includes grocery stores, convenience stores, specialty retail and shops). Maximum allowed is 5 spaces per 1,000 square feet.

All three of the above uses have off-street parking requirements (both minimums and maximums) that are notably lower than those recommended in the Metro Regional Transportation Functional Plan (RTFP) Regional Parking Ratios Table (Table 3.08.3, including RTFP maximum standards for "transit and pedestrian accessible areas"). However, simply increasing the minimum parking requirement in the Station Area may conflict with the objective of creating a more intensified development pattern and promoting alternative modes of transportation (transit, biking and walking). An oversupply of parking also could potentially reduce the amount of land available for employment, public space or other desirable/valuable uses. At the same time, developers and economists who advised on this project note that providing an inadequate amount of parking also could make properties less marketable or viable for future redevelopment.

In finding the balance between parking supply and demand in the Station Area, the city evaluated the following general approaches:

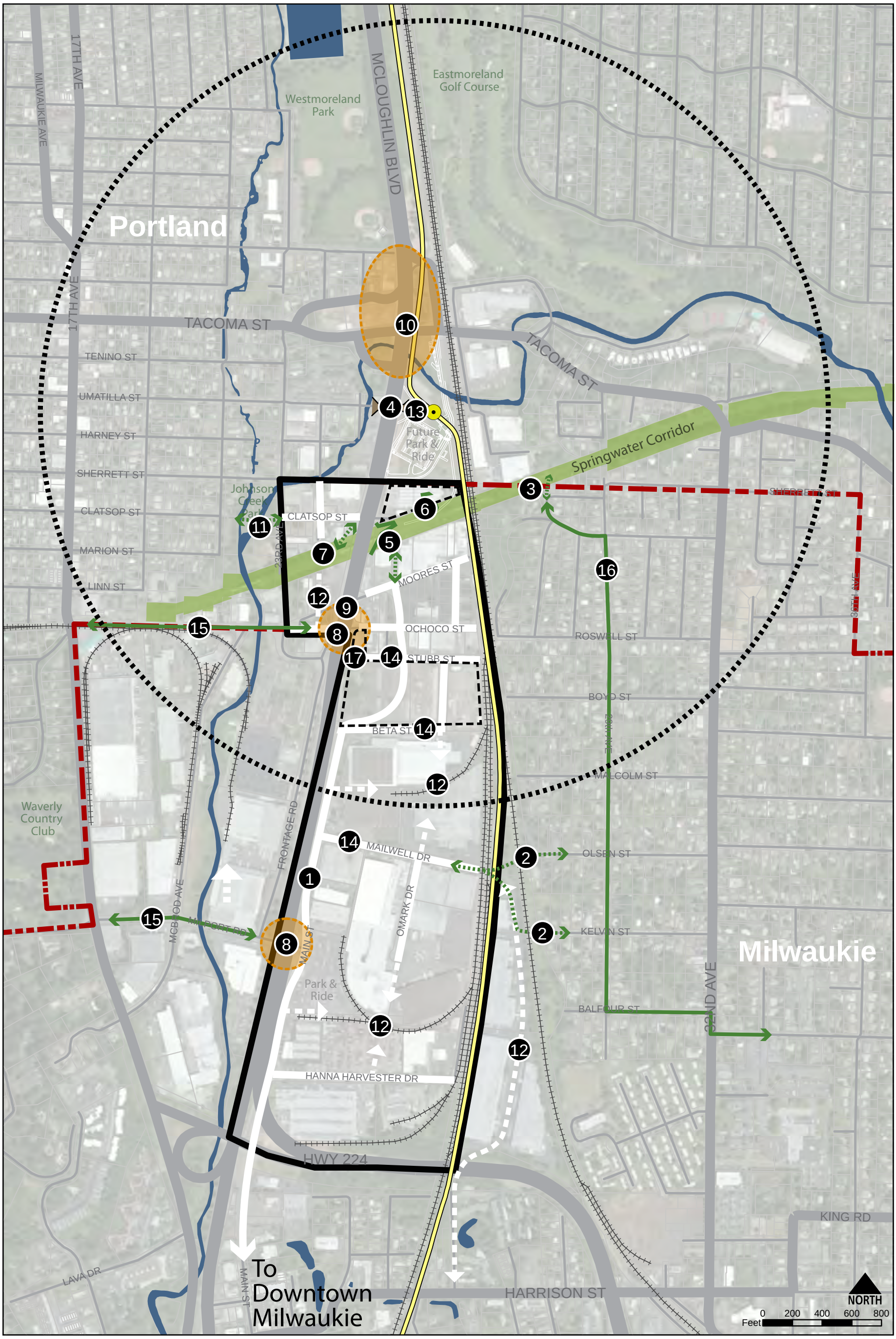
- **Option 1:** Leave the existing parking requirements as they are and rely entirely on parking management strategies to address parking demand. Parking management strategies are discussed in Section 4 of this report.
- **Option 2:** Leave the existing minimum parking requirements as they are but increase the parking maximums for office, retail and manufacturing to allow the option for more parking.
- **Option 3:** Increase both minimum and maximum parking requirements for office, retail and manufacturing uses to be similar to those recommended in the RTFP. The RTFP recommends the following:
  - **General office:** Minimum of 2.7 spaces per 1,000 square feet of gross leasable area, maximum of 4.1 spaces per 1,000 square feet
  - **Manufacturing:** Minimum of 1.6 spaces per 1,000 square feet of gross leasable area, no maximum
  - **Retail/commercial:** Minimum of 4.1 spaces per 1,000 square feet of gross leasable area, maximum of 6.2 spaces per 1,000 square feet

After consideration of these options and discussions with the advisory groups, the city has opted to implement Option 2 above, which is reflected in the code amendments in Appendix E. The revisions to the maximum allowable ratios are recommended to be applied only in Subarea 4 of the Station Area.

Transit Service

Establishing light rail transit service will be a significant strategy in reducing automobile trips, including allowing for workers in the area to walk or bicycle from the station to local businesses. At the same time, in combination with LRT service, some local bus service may be discontinued, leaving some gaps in local transit service. Establishing some type of shuttle service between the LRT station, the Station Area, the downtown and other adjacent neighborhoods could improve use of transit in the area and further reduce automobile trips and parking needs and is strongly recommended by community stakeholders.

Map 5: Proposed Transportation Improvements



Station Area Transportation Improvements
TACOMA STATION AREA PLAN

3 April 2013

- Study Area Streets
- New Street Connections
- Bike / Ped Improvements
- New Bike / Ped Connections
- Intersection Improvements
- Project Study Area
- Station Area (1/2 mile radius)
- City Boundary
- LRT Station
- LRT Alignment

Section 4: Implementation Strategies

A variety of implementation strategies will be required to achieve the Station Area Plan, starting with updating planning and regulatory documents to support, allow, and/or require the land use and transportation recommendations contained in the plan. This includes amendments to the City's comprehensive plan policies and Transportation System Plan to incorporate policy-level changes to support this Plan and amendments to zoning regulations to ensure that future development and redevelopment implement the desired land use and development pattern for the Tacoma Station Area. Additional or subsequent steps will include:

- Addressing current and future parking needs in the area through a comprehensive system of parking regulation and management strategies;
- Funding proposed public improvements in the area though a combination of public and private sources;
- Establishment of a "Station Community Boundary" consistent with Metro rules which will enable the area to be eligible for regional investments to implement the redevelopment plan;
- Working with property owners and prospective businesses to attract businesses with higher levels of employment;
- Working with ODOT and future property owners or developers to plan for the future use of Opportunity Site B through contacts with specific end users, possible use of a request for proposal process to identify potential target developments, use of available public funding to help finance supportive infrastructure improvements and/or assistance with more detailed site planning efforts; and
- Considering formation of a local business association to enable property owners, businesses and other stakeholders to remain engaged in the redevelopment of the Station Area over time.

Comprehensive Plan and Development Code Amendments

Comprehensive Plan Policy Updates

The City has adopted the Tacoma Station Area Plan as an ancillary document to the Comprehensive Plan. This means the plan will remain a stand-alone document that is referenced and supported in the Comprehensive Plan through the addition of some policy language. Policy language included in the Comprehensive Plan is shown below:

CHAPTER 4 - LAND USE

ECONOMIC BASE AND INDUSTRIAL/ COMMERCIAL LAND USE ELEMENT

OBJECTIVE #15 - TACOMA STATION AREA

To adopt and implement the Tacoma Station Area Plan as an ancillary document to the Comprehensive Plan and acknowledge the Tacoma Station Area and Subarea boundaries as shown on ***Map X****.*

Planning Concepts

The Tacoma Station Area Plan establishes a future land use framework for the Tacoma Station Area that promotes the following:

- *An active Station Area employment district*
- *Multi-modal access to the Tacoma Light Rail Station and enhanced connections within the Station Area*

- *Increased employment intensity and number of high paying jobs in the area*
- *Support for existing businesses*
- *Complementing development goals in the nearby downtown area*
- *A more transit-supportive mix of employment uses in the long term*
- *A balanced approach to parking demand management*

Policies

1. The Tacoma Station Area Plan is hereby adopted as an ancillary document to the Comprehensive Plan and will be implemented through these policies and associated Tacoma Station Area Overlay in the zoning code.

2. The Tacoma Station Area Overlay boundary includes those lands shown on Map 7.

3. The City will strive to increase employment densities in the Tacoma Station Area by attracting high-employment businesses and supporting existing businesses.

4. The City will work to increase bicycling and walking trips between the Tacoma LRT Station, the Springwater Corridor, and downtown Milwaukie.

5. The City will strive to improve Main Street through the Tacoma Station Area to better serve all transportation modes by the year 2035.

6. The City will encourage and support formation of a transportation management association (TMA) among businesses within the Tacoma Station Area to increase transit use and multiple occupant trips and to manage parking supply/demand. At the time the TMA is established, the City may wish to include the downtown area businesses as well. Additionally, the City will work to bring on-street parking into conformance with City standards to increase driver, pedestrian and cyclist safety.

7. The City will actively foster and support redevelopment of Opportunity Site B and the existing TriMet park and ride located in Subarea 4 consistent with the Station Area Plan.

8. The City supports the recommended improvements to the intersection of Highway 99E and Ochoco Street as proposed by ODOT.

[Note: The land use designation map, Map 7 of the Comprehensive Plan, should also be amended to show the Tacoma Station Area Overlay boundary.]

Other policy language/revisions include:

ECONOMIC BASE AND INDUSTRIAL/COMMERCIAL LAND USE ELEMENT

OBJECTIVE #1 ECONOMIC DEVELOPMENT [OR #2 EMPLOYMENT OPPORTUNITY]

The City will implement the Tacoma Station Area Plan to promote economic development and employment opportunities.

OBJECTIVE #4 INDUSTRIAL LAND USE

3. Lands designated for industrial use as shown on Map 7, Land Use, should be reserved for industrial, manufacturing, distribution, and supporting land uses, except where otherwise indicated in the Tacoma Station Area Plan.

Zoning Code Amendments

Implementation of the Tacoma Station Area Plan will be done primarily through amendments to the Milwaukie Municipal Code, Title 19 Zoning as part of this plan. The amendments are focused on two areas: the Manufacturing (M) base zone and creation of a new Tacoma Station Area Overlay zone. Amendments to the M zone are discussed in the section below, followed by an overview of the Station Area Overlay zone. Generally speaking, a modified M zone will remain the base zone and the new overlay zone would apply on top of the updated M zone to those properties within the Station Area as identified in Map 1 on page 2.

Manufacturing Zone

One of the preliminary steps in this planning process was to draft recommended amendments to the city's M zone, both to address previously identified existing deficiencies and to support implementation of the Tacoma Station Area Plan. The draft amendments are provided in Appendix D. Generally, the draft amendments include the following:

- A new list of permitted use categories to replace the more specific list in the current code. The draft amendments eliminate existing language that allows "any combination of manufacturing, office, and/or commercial uses…when at least 25% of the total project involves an industrial use…"
- Retail and office uses are allowed only as accessory uses to the primary allowed uses. Language includes size limitations on retail and office space that do not exist in the current code.
- New development standards to regulate outdoor storage uses, location of parking and loading areas, external effects and mechanical equipment.
- The transition area review requirement is deleted and will be replaced by more clear and objective standards.

The most relevant of the above amendments are those that pertain to allowed uses in the M zone and the employment density standard. The current code allows up to 75% of a "project" to be non-manufacturing uses and only limits the size of retail uses in those areas that are designated "Employment" or "Industrial" areas as shown on the Comprehensive Plan Title 4 Lands Map (which does not apply in the Station Area). The adopted amendments significantly limit the amount of non-manufacturing uses allowed in the zone by requiring that retail, commercial and office uses be accessory to a primary permitted use. The amendment language also limits "retail commercial and professional service" uses to a total of 20,000 square feet per project. This change will be applied only in the Station Area.

Figure 28. Industrial development with no setback from the sidewalk and parking lot landscaping.

Station Area Overlay

As mentioned previously, amendments to the zoning code create a Station Area overlay zone to accomplish the following:

- Maintain the Manufacturing (M) designation as the base zone and describe the boundary of applicability for the overlay.
- Adopt an appropriate mix of uses for the Station Area and allow uses beyond what would be permitted by the M Zone.
- Generally support intensification of uses in the Station Area with a focus on increasing employment densities near the Tacoma Station.
- Identify four distinct subareas within the Station Area overlay boundary:
  - **Subarea 1:** the area south of the Tacoma Station and north of Springwater Corridor
  - **Subarea 2:** the area west of McLoughlin Boulevard and north of Ochoco Street.
  - **Subarea 3:** the area east of McLoughlin, between Beta Street and Springwater Corridor
  - **Subarea 4:** the area east of McLoughlin, south of Beta Street

  These subareas will have different land uses and characteristics, which is reflected in the permitted use lists and development standards for each subarea. The types of uses to be permitted are generally described in Section 2 of this Plan and are listed in Appendix E, as noted below.
- Identify and reference street design cross sections that are included in the Station Area Plan.
- Apply building design standards, in appropriate subareas, to encourage new development that caters to local residents and employees while preserving the industrial character of the district. In other subareas, design standards intended to support a more pedestrian-oriented retail/commercial environment may be appropriate.

Appendix E includes code language for the Tacoma Station Overlay Zone, located in Chapter 19.400 Overlay Zones and Special Areas.

Station Community Boundary

Per Title 6 of Metro's Urban Growth Management Functional Plan, a city must take certain actions in order to be eligible for regional investment in a Station Community. Those actions include establishing a boundary for the Station Community that is consistent with Metro's land use final order for the light rail project. The final order identified the location of the light rail alignment, the Tacoma station and the adjacent park and ride. However, it did not specify or provide additional direction for defining the Station Community boundary. Station Communities typically have a mix of uses that is intended to contribute to an active, pedestrian-friendly environment that is transit supportive. An appropriate mix of uses includes commercial uses such as grocery stores and restaurants; institutional uses such as schools, hospitals and medical offices; civic uses including government offices, parks and libraries; and a mix of housing types. In Station Communities established in an industrial area, industrial employment uses are also considered appropriate.

In general terms, the Station Community boundary will consist of land within approximately a one-quarter mile radius of the Tacoma LRT station, similar to Station Communities in other parts of the region. (See Map 6 for more detail.) For the proposed boundary, the southern end of the Station Community will be Beta Street in order to include Opportunity Site B and to generally include the area with the greatest mix and intensities of proposed future land uses. The western edge of the boundary follows 21st Avenue north across Tacoma Street

to Nehalem Street, jog east and potentially encompass Westmoreland Park. The eastern edge is defined by approximately SE 29th Avenue and tapers west until it meets Beta Street at the southern end. This boundary includes a mix of uses appropriate for a Station Community, including parks; future commercial, retail and possible civic/entertainment uses on Opportunity Sites A and B; a mix of housing densities in Milwaukie and Portland; and some existing and future industrial employment uses.

A map and description of the Station Community Boundary has been be adopted by resolution by the City of Milwaukie in coordination with the City of Portland as part of the adoption of the Tacoma Station Area Plan. The resolution included a map of the boundary for the entire area but indicates that the City of Milwaukie is only adopting the portion of the area within Milwaukie and noting that the boundary within the City of Portland is conceptual only. The City of Portland will need to concur with the portion of the boundary within Portland and will adopt a similar map as a follow-up to this planning process.

Transportation System Plan Amendments

The Milwaukie Transportation System Plan (TSP) is the city's long-term plan for transportation improvements and includes policies and projects that could be implemented through the City Capital Improvement Plan, development review, or grant funding. In order to ensure consistency between the TSP and the Station Area Plan, a number of amendments to the TSP may be needed. The city is currently working on an update to the TSP; it is not considered a full update but rather is a "clean up" of certain sections along with updates to ensure consistency with state and regional requirements. Amendments needed for the Tacoma Station Area Plan will be rolled into the current TSP update project.

The following is a summary of the types, and location, of potential amendments to the TSP.

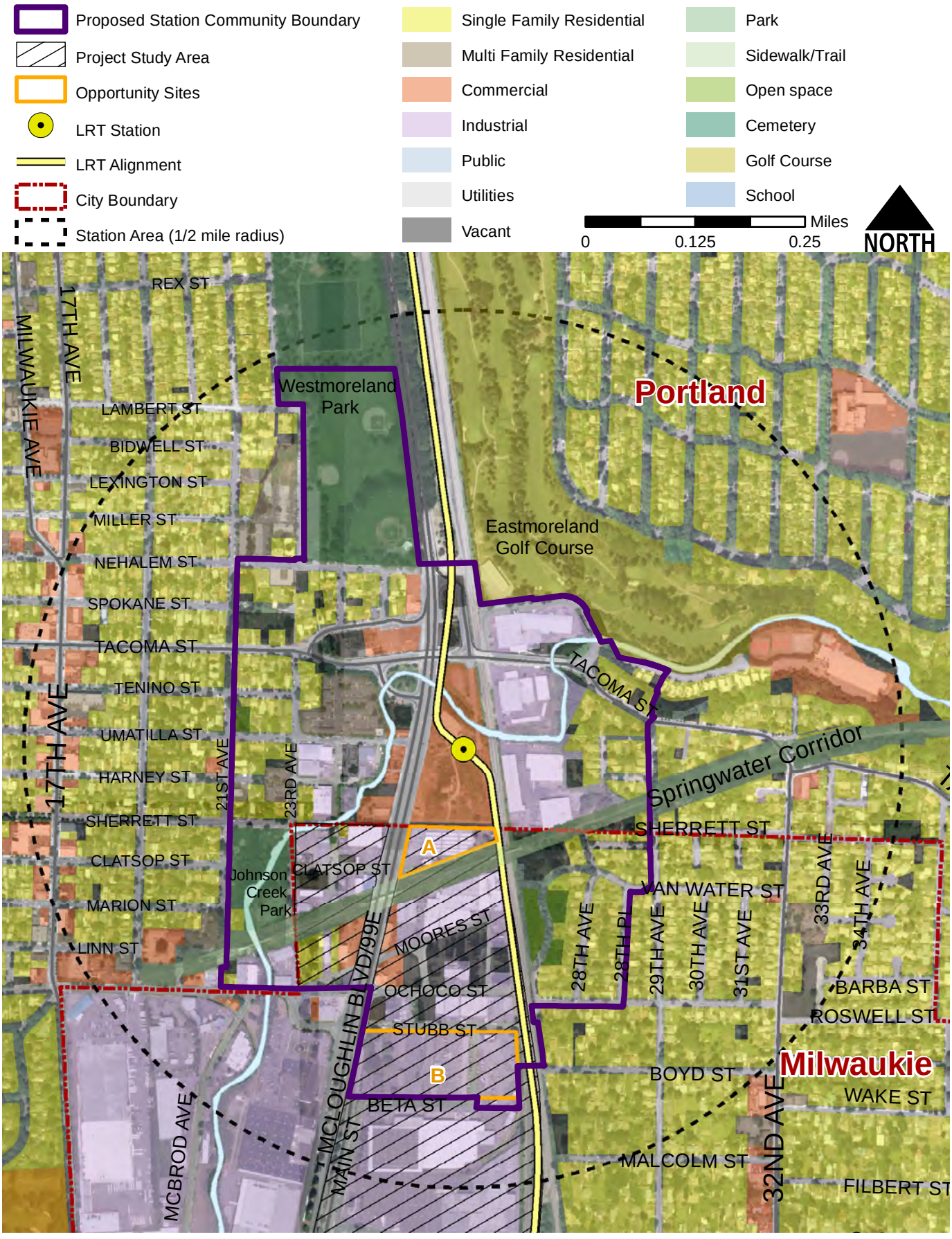
- **Chapter 2 Goals & Policies.** Generally, the goals and policies in this section of the TSP support the Station Area Plan. However, policy language may be needed under Goal 9 Economic Vitality that specifically addresses parking management in the Tacoma Station Area, similar to Policy (f), which states: "Manage parking in downtown to support revitalization, according to the vision in the Milwaukie Downtown and Riverfront Plan. The purpose of, and priority for, on-street parking in downtown is to support the vitality of the retail core."

- **Chapter 5 Pedestrian Element.** Pedestrian improvement projects included in the Tacoma Station Area Plan will need to be added to Figure 5-1 Pedestrian Master Plan and Table 5-1 Pedestrian Master Plan Projects. Pedestrian improvement projects added to the figure and table would potentially include: Projects 1-8, 11 and 15-17.

- **Chapter 6 Bicycle Element.** Similar to Chapter 5, bicycle improvement projects included in the Station Area Plan will need to be added to Figure 6-2 Bicycle Master Plan and Table 6-2 Bicycle Master Plan Projects. Possible projects from the Station Area Plan include: Projects 1-5, 8, 11 and 15-17.

- **Chapter 8 Auto Street Network Element.** The Proposed Street Connectivity and Functional Class Change map (Figure 8-3a) and street network project list (Table 8-8) may need to be updated to indicate street connectivity improvements proposed in the Station Area Plan. Those projects may include: Projects 9, 10 and 12-14. In addition, the current TSP update project will include a new section for this chapter pertaining to Transportation Demand Management (TDM) and Transportation Systems Management and Operations (TSMO); any TDM or TSMO elements specific to the Tacoma Station Area should be included with the new section. Parking management approaches could also be included here.

Map 6: Proposed Tacoma Station Community Boundary



- **Chapter 10 Street Design Element.** This chapter contains the street design cross sections for all arterial, collector and local/neighborhood streets in Milwaukie. The cross sections developed for the Tacoma Station Area Plan may need to be added to this chapter. Alternatively, language could be added to this chapter to reference the Station Area Plan and note that it contains specific cross sections that may be different than the ones identified in this chapter. The city will need to decide which approach is more appropriate.

- **Chapter 13 Funding & Implementation Plan.** This chapter contains the Prioritized Master Plan Project List for the city (Table 13-3). This list identifies all city transportation projects and provides a brief description, project location, project type, relevant TSP chapter and cost estimate for each project. The projects are identified as high, medium or low priority. This list will need to be updated to include projects from the Tacoma Station Area Plan.

- **Transfer of Jurisdiction of Main Street.** In addition to adopting these updates to the TSP, the City will need to work with ODOT to transfer ownership of the Main Street right-of-way from ODOT to the City. The redevelopment of Main Street into a "great street" to support improved pedestrian and bicycle movement, as well continuing to support vehicles and trucks, is an important aspect of the Tacoma Station Plan. Improving access between Downtown Milwaukie and the Tacoma Station also is a key plan goal and objective. In order to achieve those goals, the City of Milwaukie and ODOT need to complete the jurisdictional transfer of Main Street. The jurisdictional transfer will allow Main Street and the ODOT site in Subarea 3 to redevelop consistent with the Tacoma Station Plan. The jurisdictional transfer agreement has been prepared and is awaiting City action to complete Relinquishment No. 6041000A and Miscellaneous C and A Agreement No. 10662. Areas to be transferred are shown in Appendix H. The jurisdictional transfer is a result of the completed Tacoma Street to 17th Avenue OR99E (Pacific Highway East) improvements.

Funding Public Improvements

Planning Level Cost Estimates

Approximate planning-level cost estimates were prepared for the transportation improvements identified in this draft Plan. These cost estimates are approximate and general in nature and are intended to provide a sense of the potential order of magnitude of transportation facility costs. They are not based on detailed facility designs and may not reflect issues specific to individual site conditions. They should be used for general planning purposes only. General assumptions related to these estimates include:

- Most costs are based on unit costs (e.g., costs per linear feet of sidewalk, road or pathway construction) which are in turn based on industry rules of thumb and experience with similar projects in a range of communities.
- Some costs were based on the costs of similar facilities built elsewhere, including in the general vicinity of the Station Area (e.g., potential pedestrian/bicycle overcrossings of McLoughlin Boulevard).
- All costs were computed in 2012 dollars; they should be further updated in future years based on changes in the cost of materials, labor and other elements.
- Costs typically include land acquisition, construction, design and contingency costs, unless otherwise noted.
- Identification of potential responsible parties does not denote a commitment to future funding. In all cases, availability of funding will depend on a variety of factors and funding is not guaranteed at this time.

Table 2 on page 52 summarizes planning level cost estimates. More detailed estimates for individual projects are found in Appendix C: Transportation Project Cost Estimate Details of this draft Plan. As shown in

the table, the total cost for all transportation improvements is about $37 million. A number of projects have potential costs of close to $3 million or more (projects 1, 2, 8, 12 and 14), while others are comparatively much less costly. Several are estimated to cost $100,000 or less (projects 3, 5B, 6, 9 and 16). Approximately $6.35 million is attributable to the construction of bicycle and pedestrian improvements, excluding bicycle/pedestrian overcrossings of McLoughlin Boulevard and project 5B (tunnel from Main Street to the LRT station). Those projects are estimated to cost an additional $5.7 million. Improvements to Main Street which would benefit all transportation modes are estimated to cost approximately $2.9 million. Improvements to other existing local streets are estimated at $8.3 million. Costs to improve the intersection of McLoughlin Boulevard with Ochoco Street and Milport Road are estimated at about $5.3 million.

Table 2. Transportation Project Cost Estimates

Project #	Project Description	Approximate Cost	Potential Funding Sources	Possible Phasing
1	**Improvements to Main Street**	**$2,920,000**	**Developer, SDCs, state/fed grants**	**M/L**
2	**Bike/ped connection from eastern neighborhoods to Station Area**	**$3,990,000**	**Federal/State/regional grants, local funds**	**M/L**
3	**Improvements to access at Springwater Corridor to connect to west end of Sherrett Street to the trail**	**$20,000**	**Federal/State/regional grants, local funds, developer funds**	**S**
4	**Ped overcrossings of McLoughlin Boulevard (at Umatilla Street)**	**$2,240,000**	**Federal/State/regional grants, local funds**	**L**
5A	**Improved existing connection from Springwater Corridor to Pendleton site (long ramps from each side of trail)**	**$630,000**	**TriMet (funded)**	**S**
5B	Improved existing connection from Springwater Corridor to Pendleton site (widened Trail undercrossing along 99E)	$100,000	Federal/State/regional grants, TriMet, local funds	S/M
5C	Improved existing connection from Springwater Corridor to Pendleton site (tunnel under Springwater Trail)	$1,200,000	Federal/State/regional grants, TriMet, local funds	M/L
6	**Stairs/improved connection from Springwater Corridor to LRT station**	**$80,000**	**Federal/State/regional grants, TriMet, local funds**	**S/M**
7	**Stairs/improved connection from Springwater Corridor to McLoughlin Boulevard**	**$500,000**	**Federal/State/regional grants, local funds**	**S/M**
8	**Ped/bike safety/crossing improvements at Ochoco St. and Milport Road with McLoughlin Boulevard (full intersection improvements are needed to accommodate this, per ODOT)**	**$8,320,000**	**Federal/State/regional grants**	**M/L**
9	**Truck signage and intersection improvements at Ochoco Street**	**$1,600,000**	**State grant**	**S/M**
10	Safety improvements at Tacoma Street interchange	Already funded		
11	**Bike/ped connection over Johnson Creek**	**$440,000**	**Federal/State/regional grants, local funds**	**M/L**
12	Additional local street connections	$8,120,000	Developer, local funds	M/L
13	Future Portland Bike Share station and car share spaces at LRT station	$70,000	Local funds, private sponsorships	S/M

Project #	Project Description	Approximate Cost	Potential Funding Sources	Possible Phasing
14	Local street improvements to Stubb, Beta, Ochoco, Hanna Harvester, and Mailwell	$5,280,000	Developer, local funds	M/L
15	**Improve bike/ped connections from and within neighborhood to the west along Ochoco & Milport**	**$520,000**	**Federal/State/regional grants, local funds, developer funds**	**M/L**
16	Connection from SE 29th Ave bike route to Springwater Corridor	$50,000	Federal/State/regional grants, local funds	S/M
17	Bike/ped connection between McLoughlin Boulevard and west end of Stubb Street	$20,000	Federal/State/regional grants, local funds, developer funds	M/L
	Total	$36,760,000		

Phasing: S=Short term; M=Medium term; L=Long term High priority projects shown in **bold**.

Funding Sources and Strategies

A variety of mechanisms will be used to pay for the cost of needed transportation improvements in the planning area as development occurs. In many cases, property owners or developers will be expected to pay for or build facilities needed to serve proposed development. For example, developers typically are required to construct local streets and on-site stormwater filtration and detention facilities, as well as a portion of the cost of trails or pathways that would help serve existing or future businesses or residents. However, facilities that serve or provide a benefit to the larger community or region typically will be financed by a combination of funds from the developer and the city, state, or federal government.

In general, available funding sources for capital improvements include the following:

- **Developer land or facility dedications.** As noted above, developers are typically required to build and pay for public facilities that are needed specifically to serve new residents and/or businesses within or adjacent to the development, including local streets and pathways.
- **Fee In Lieu of Construction.** This fee is collected when required street frontage improvements, typically associated with residential construction, are impractical to build at the time of development. These funds are limited in both how and where they can be spent.
- **Development agreements.** These agreements are typically used to help pay for improvements that are not funded through the other sources identified here. This could be a particularly appropriate way to fund a portion of the improvements identified on or adjacent to Opportunity Site B, particularly if the entire site is acquired and redeveloped by a single entity.
- **System development charges and other fees.** System development charges (SDCs) are fees assessed at the time of development (or connection to city services) that can be used to pay for the capital and planning costs associated with public facilities required to support new growth and development. The city of Milwaukie currently has an SDC for transportation. Because the Plan area is an existing area and most improvements would not add new capacity to the transportation system, most identified improvements would not be eligible for SDC funding. The one exception may be a portion of the cost of proposed improvements to Main Street. To enable the use of SDCs to pay for a portion of improvements in this area, the City also would need to update the capital improvements list associated with SDC-eligible projects.

- **General obligation, revenue and other bonds.** Bonds are typically purchased by local governments to pay for the capital costs of construction of public facilities. Costs are then repaid over time through increased tax rates and user fees. Milwaukie could choose to fund selected improvements through a bond measure. While most communities do not finance road improvements using bonds, some do use bond measures to finance trail improvements, particularly if they serve a broader geographic area.

- **Full Faith and Credit Obligation.** This tool dedicates all existing revenue sources of the City for repayment (although the City may intend to use a specific revenue stream). An example would be the League of Oregon Cities Capital Access Program (LOCAP). Unlike general obligation bonds, this mechanism does not require voter approval.

- **State and federal grants or appropriations.** A variety of state and federal grant programs can be used to help pay for the costs of infrastructure, particularly facilities that serve broader community or statewide needs. While these grants are generally competitive, they can be a promising source of funds, particularly for park and trail facilities. Specific opportunities include the following:

  - **Metropolitan Transportation Improvement Program (MTIP).** This program identifies how all federal transportation money is to be spent in the region in two-year increments. Each time the MTIP is developed, Milwaukie competes with other jurisdictions in the region for federal "regional flexible funds" that can be used for most aspects of the local transportation system.

  - **Congressional Appropriations.** It is possible to make federal funds available to Milwaukie through the sponsorship of a U.S. congressperson. Such appropriations are highly sought after and are not easily secured. However, Milwaukie has had some success in receiving appropriations.

  - **Statewide Transportation Improvement Program (STIP).** This is ODOT's project funding and scheduling document. The STIP makes funds available to cities, through a highly competitive process, for expansion, preservation, safety, and other system enhancements. The STIP programs expenditures from both State revenues and some federal programs.

  - **Other state and federal grant programs.** A variety of additional state and federal grant programs can be used for specific types of improvements. For example state Technical Enhancement (TE) grants can be used for eligible improvements to state highway facilities. Various state grants for bicycle, pedestrian and trail improvements also may be an option for selected bicycle and pedestrian improvement projects in the Station Area. A list of specific grant programs will be provided in an appendix to a subsequent draft of this Plan.

- **State Highway Trust Funds.** Another source of state revenue is the city's share of the taxes and fees assessed on Oregon motorists and freight haulers is paid to the City annually on a per capita basis. The primary sources are the State motor vehicle fuel tax, a weight-mile charge on heavy trucks, and vehicle registration fees. ODOT requires that cities set aside one percent of the local share of Highway Trust Fund proceeds for the construction and maintenance of bicycle facilities.

- **Local improvement districts.** These districts are sometimes formed to pay for the cost of facilities within a very specific geographic area. They are more typically used to pay for needed upgrades to facilities than for new facilities and require approval by a majority of residents or property owners within a given area.

- **Serial levies/local option taxes.** Local governments sometimes use this tool to pay for facility improvements or operations. These levies may be imposed up to the less of either ten years or the life of

the asset for capital projects/assets. They require voter approval and essentially increase each resident's property tax rate.

- **Urban renewal districts and tax increment financing.** This tool uses future gains in taxes to finance the current improvements that will create those gains. When a public project (e.g., sidewalk improvements) is constructed, surrounding property values generally increase and encourage surrounding development or redevelopment. The increased tax revenues are then dedicated to finance the debt created by the original public improvement project. Tax Increment Financing (TIF) typically occurs within designated Urban Renewal Areas (URA) that meet certain economic criteria and approved by a local governing body. This tool is generally used in areas where tax revenues are expected to increase more quickly or significantly than in other areas of the city (e.g. in downtown or other commercial or industrial areas). While this is listed as a potential tool here and the City of Milwaukie has used urban renewal funding to pay for improvements in other parts of the City (e.g. the Downtown), city staff has indicated that use of urban renewal funding in the Tacoma Station Area is relatively unlikely in the foreseeable future, in part because the planning area currently is within a city Enterprise Zone.

Implementing Transportation Demand Management

A variety of management strategies are proposed in this memo, many of which cannot be administered at the employer and/or building owner level. Therefore, coordination of businesses throughout the Station Area, and potentially beyond, will be needed.

A Transportation Management Association (TMA) is an association of businesses and other transportation system users in an area that promotes an efficient, balanced transportation system. Typically, a TMA focuses on demand management and marketing, and is able to administer programs than would be inefficient to run on a business-by-business basis. The following are TDM and parking management areas that would benefit from a Milwaukie area TMA.

- Coordination of rideshare/vanpool
- Management of travel incentives (transit/bike/rideshare)
- Coordination of guaranteed ride home program
- Development and administration of branded, individualized marketing
- Management of shuttle services
- Development of user information and maps for parking, walking, and transit access
- Overflow/event parking planning
- Ongoing parking data collection to determine potential pricing and other demand strategies as the area develops

Because a TMA tends to function better at a larger scale than the Station Area, it is recommended that the City work with business owners to form a TMA that includes both the Station Area (or portions of it) and downtown Milwaukie. Recommendations for phasing of TMA and other TDM actions are included in Section 4.

Developer and Property Owner Coordination

The following strategies are recommended to work with property and business owners and developers to implement specific development projects within the planning area.

Communication with the Development Community

Private market developers appreciate clarity and certainty in the design and permitting process. Certainty helps the developer save time, make decisions to proceed, and avoid costly surprises further along in the process. In some cases, a developer will even prefer the certainty of a clear process even if it has greater requirements and fees, over a complex and unclear process with nominally lower requirements and fees. This means that City development code, design review process, permitting process, fees etc. should be as easy to understand and navigate for the developer as possible. These are some general ways that a city can facilitate communication with the development community:

- Ensure that primary documents such as the Development Code and design guidelines are easy to use for a person moderately informed in the design or development process;
- Provide knowledgeable staff to answer questions regarding the entire process from planning to permitting;
- Create additional materials such as one page handouts that summarizes relevant code and process information, even if it is already available in longer documents;
- Assign a single contact person to facilitate the development process in the case of projects the City deems particularly important, such as a large-scale development, prominent site location, or catalyst project;
- Provide as much of this information in advance as possible. Try to provide estimates of time, requirements and fees to the extent practicable, while emphasizing that these are all preliminary estimates that may change. Avoid processes which require developers to commit extensive time and money before key requirements or public processes become apparent.

Development Incentives

A variety of incentives may be appropriate for future consideration in this area, potentially including the following:

Allowing Dense Development

The impact on viability of allowing density via increased permitted densities, density bonuses, development rights transfers or mixed use zoning will only be effective in areas where higher densities are viable from a market perspective.

Reduced Planning and Information Costs

Specific strategies can include streamlined permitting processes, reduced requirements for traffic impact analyses or other technical requirements, or reduced planning, permitting or development fees. The reduction of planning and information costs improves viability in a number of ways. Increased certainty regarding what will be approved and abbreviated approval timelines lowers the level of uncertainty associated with entitlement, which lowers holding costs and may lower the required return parameters. This can have a substantial financial impact on the development, as well as lowering the required yield to induce new development. Readily available and current information lowers predevelopment costs. More importantly, it can broaden interest in the area by lowering the "learning costs" associated with understanding the local market.

Land Assembly

By assisting in land assembly, the City can reduce the developer's carrying costs (i.e. cost of financing land during predevelopment phase) as well as uncertainty.

Tax Abatement

Measures to reduce ongoing property taxes have a significant impact on viability. Tax abatement programs are the most commonly used of these types of measures, typically with a term of ten years on qualifying projects. One approach is to maintain the tax on the underlying land, but exempt some or all of the built structure for the specified time period. The savings on tax costs changes the operating pro forma and makes more costly development feasible.

The trade-off is that for the abatement period, the site is not generating new tax increment other than appreciation on the land.

Phased Development

Phased development, or shadow platting, is an aggressive tool to ensure that current development does not preclude future development at greater densities. It is generally applied to larger sites that have the land area to accommodate multiple phases. A common approach is to allow for future development on surface parking lots of earlier development phases.

Depending on how this is handled the cost to the developer can be low to high. If the phasing does not significantly disrupt what was planned for the current development, then costs will be low. If the phasing plan does change the current plan in significant ways, requiring redesign, the costs to the developer could be large. Phased development should be carefully designed and well-promoted to ensure property owners and developers understand it is in place and the types of requirements it brings with it.

Direct Grants/ Parking Subsidy

These types of actions have a direct impact on the bottom line, delivering a large impact but at a large cost. The present value of grants is fairly straightforward to calculate, as is removing the cost of structured parking from a project. Low interest loans provide a number of benefits. First of all, they typically reduce the equity requirement for the project, with equity carrying a relatively high cost for the development. This can be through a better debt coverage ratio associated with lower-cost funds, and/or a lower equity requirement per the terms of the debt.

Subordinated Debt

A commonly used tool for providing subsidy is subordinated or second position debt, which is a loan to the developer which is subordinate to senior lenders. This type of debt is not typically available in the market, as it is not adequately secured by real property. Nevertheless, senior lenders often accept it as a form of equity, and therefore it doesn't reduce senior loan amounts.

Subordinated debt is often provided with favorable terms and lower-than-market interest rates. It is used to reduce equity requirements for the developer, and directly impact the feasibility gap in the project. If the project is successful, the loan provides a return of principal with modest interest gains. Due to the investment and favorable terms, subordinated debt should be used on projects meeting key public goals, such as provision of affordable housing, public amenities, or a catalyst project.

The administration of a direct grant or loan program often requires access to a program such as Urban Renewal or an Improvement District to provide a large-enough dedicated source of funding.

Marketing of specific sites

Key public sites in the Station Area offer the opportunity to create catalyst projects and set development benchmarks for the area. The public ownership of these potential redevelopment sites gives greater control

over what will happen there, and the opportunity to offer developer incentives through discounting the purchase price.

Offering these sites as public/private development opportunities through a formal RFP process can ensure that development of these key sites meets the goals and intent of the Station Area Plan. Simply selling the land for development may achieve the market price, but leaves only the standard City processes such as development code requirements to guide the private development there. An RFP process can explain what the public owner is trying to achieve on the site, and make it requirement of forming the public/private partnership.

While the RFP process offers greater control, it is also important that the process not be too prescriptive on the private partner. The developer should bring expertise in the development process, including development programing, site and building design, private financing, construction, and end marketing. It is important that the public partner strike the right balance between ensuring that the goals and vision for the Station Area development are achieved, while allowing the developer flexibility to create a successful development within those parameters.

Appendix A: Future Traffic Conditions Analysis Memorandum

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MEMORANDUM

DATE: January 16, 2013

TO: Matt Hastie, AICP, Angelo Planning Group

FROM: Chris Maciejewski, P.E., PTOE, DKS Associates
Ray Delahanty, AICP, DKS Associates

SUBJECT: **Tacoma Station Area Plan**
Preferred Redevelopment Scenario Trip Generation Analysis (for Task 5)
P12071-000-005

Potential Impacts to Transportation Facilities and Capacity

In order to determine whether the preferred redevelopment scenario is likely to create more demands on the transportation system than the existing zoning, a trip generation analysis was conducted. Table 1 shows the estimated leasable square feet assumed, by land use, for the existing zoning and the preferred scenario. Note that both scenarios are broken out into subareas, and the analysis now includes an additional area to the west of McLoughlin Boulevard (Subarea 1). Subarea 3 is divided into two parts (3a and 3b) to account for the fact that the area north of Stubb Street (3a) is closer to the LRT station and can be considered a Station Area under Metro's Urban Growth Management Functional Plan, while the part south of Stubb Street (3b) is too far from the LRT station to be considered a Station Area in that context. This distinction affects the assumptions for trip generation, as described below.

Table 1: Estimated Leasable Square Feet by Land Use and Subarea (1,000 SF)

Existing Land Use	Subarea 1	Subarea 2	Subarea 3a	Subarea 3b	Subarea 4	TOTAL
Industrial	24.8	6.0	24.0	33.5	199.3	287.6
Office	66.7	16.0	64.8	90.3	536.7	774.5
Retail	7.4	1.8	7.2	10.0	59.5	85.9
TOTAL	98.9	23.8	96.0	133.8	795.5	1148.0
Preferred Scenario						
Industrial	25.3	0	35.8	42.0	199.3	301.9
Office	25.3	11.3	40.9	48.0	536.7	662.3
Retail	10.1	21.0	20.4	24.0	59.5	135.2
TOTAL	60.7	32.3	97.1	114.0	795.5	1099.4
Residential (dwelling units)	63	0	8	11	0	82

The following ITE codes were used for estimating reasonable worst-case trip generation for each of the land uses. Trip rates reflect the p.m. peak hour of adjacent street traffic, including General Office, for which the peak hour of the trip generator coincides with the peak hour of adjacent street traffic.

- Industrial. ITE Code 110, Light Industrial, 0.97 p.m. peak hour trips per 1,000 square feet (KSF)
- Office (including Station Area). ITE Code 710, General Office, 1.49 p.m. peak hour trips per KSF
- Retail. Split between two uses. ITE Code 932, Sit-Down Restaurant, 11.15 p.m. peak hour trips per KSF; ITE Code 492, Health/Fitness Club, 3.53 p.m. peak hour trips per KSF
- Residential. ITE Code 221, Low-Rise Apartment, 0.58 p.m. peak hour trips per dwelling unit
- Subarea 2 (Pendleton Site) Retail. ITE Code 820, Shopping Center, 3.71 p.m. peak hour trips per KSF

The General Office (710) use meets the ITE guidelines for using the given fitted curve equation rather than specific trip generation rates. The equation for Code 710 was applied to the total leasable office space in the study area, and then the trips derived from the equation were allocated proportionately back to the subareas. All other land uses relied on rates per 1,000 square feet or dwelling unit. For the Sit-Down Restaurant (932) Shopping Center (820) uses, it is appropriate to apply a reduction for "pass-by" trips (trips attracting motorists who are already on the street). The pass-by reduction applied for code 932 is 43%, and for code 820 it is 34%.

Additionally, a 30% reduction from ITE rates for trips generated north of Stubb Street was included for the Preferred Scenario, given certain conditions in Metro's Urban Growth Management Functional Plan being met for Station Areas. This resulted in an a reduction of 44 trips from Subarea 1, 19 trips from Subarea 2, and 56 trips from Subarea 3A, for total reduction of 119 trips. Final trip generation totals are shown in Table 2, below.

Table 2: Trip Generation Estimates (PM Peak Hour)

Existing Land Use	Subarea 1	Subarea 2	Subarea 3a	Subarea 3b	Subarea 4	TOTAL
Light Industrial (110)	24	6	23	33	193	279
General Office (710)	99	20	80	112	665	976
Sit-Down Restaurant (932)	24	6	23	32	189	273
Health/Fitness Club (492)	13	3	13	18	105	152
TOTAL	160	34	139	194	1152	1680
Preferred Scenario	Subarea 1	Subarea 2	Subarea 3a	Subarea 3b	Subarea 4	TOTAL
Light Industrial (110)	18	0	25	41	193	277
General Office (710)	27	10	36	60	667	800
Sit-Down Restaurant (932)	22	0	46	76	190	334
Health/Fitness Club (492)	13	0	25	42	105	185
Shopping Center (820)	0	36	0	0	0	36
Low-Rise Apartment (221)	26	0	4	6	0	36
TOTAL	106	46	136	225	1155	1668

The reasonable worst case of land uses for the Preferred Scenario generates 12 fewer trips than the existing Manufacturing zoning. The Preferred Scenario includes more retail, which typically yields high trip generation, but this is offset by new residential uses and less office than in the existing zoning, along with the 30% trip reduction.

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Appendix B: Redevelopment Scenario Evaluation Matrix

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Following is a table summarizing the results of an evaluation of three redevelopment scenarios that were prepared and evaluated during a previous phase of the Tacoma Station Area planning project. Evaluation Criteria also were developed during an earlier phase of the effort. This evaluation was used to inform and help develop a preferred plan for the Tacoma Station Area which is described in the body of the Plan.

Goal	Evaluation Measure	Scenario 1 Large civic/ entertainment use	Scenario 2 Intensive employment use	Scenario 3 Modest land use changes
Land Use	**LU-1:** The Plan allows existing industrial uses to continue with minimal disruption – e.g., preserves rail spurs and maintains or improves freight access, land use flexibility, and predictability in permitting. (Relative Ranking of Alternatives)	★ ★	★ ★	★ ★ ★
		• Major events could cause traffic disruptions affecting freight operations • Realignment of northern portion of Main Street would affect freight access from Ochoco Street	• Typical commute period traffic would have some impact on freight operations, but would be fairly predictable • Represents most significant traffic impacts of all scenarios	• Largely maintains current industrial uses
		• Most transportation improvements would enhance access for businesses, workers (all scenarios)		
	LU-2: The Plan facilitates transit-supportive development, including development intensity, land use mix, and building or site design, pedestrian-orientation and connectivity. (Relative Ranking of Alternatives)	★ ★	★ ★	★
		• People often take transit to major events; however usage would be low between events	• Land use mix would be supportive of transit use • Potential degree of redevelopment offers highest potential to fund bike, pedestrian improvements & building and site design proposals	• Represents least transit supportive land use mix • Limited redevelopment potential would reduce potential for funding transportation improvements
		• Proposed transportation improvements would enhance bicycle, pedestrian connectivity (all scenarios)		
	LU-3: The Plan allows new employment uses at densities of 45 persons per acre, consistent with Metro Functional Plan Title 6, Sections 3.07.610 – 3.07.640. (Yes/No)	✓	✓	✘
		• Limited areas would be zoned for employment uses at relatively high densities	• New zone would allow more intense employment uses	• Limited changes to zoning would not allow significantly higher employment density
	LU-4: The Plan results in a net increase in the number of employees at buildout, based on proposed zoning, including high-paying jobs. (Relative Ranking of Alternatives)	★	★ ★ ★	★ ★
		• Large scale civic use would introduce a moderate number of service jobs, which are typically not high-paying, while displacing some industrial jobs that typically are high-paying	• Focus is on office and flex uses, which are typically denser than industrial uses and include high-paying jobs	• Introduction of some amenities would add a limited number of new jobs, mostly in the service sector (typically not high-paying), while retaining existing industrial jobs

Goal	Evaluation Measure	Scenario 1 Large civic/ entertainment use	Scenario 2 Intensive employment use	Scenario 3 Modest land use changes
Land Use	**LU-5:** The Plan accommodates large-scale redevelopment, where applicable. (Relative Ranking of Alternatives)	★★★ • Large scale civic use would accommodate large-scale redevelopment, other supporting uses	★★ • Represents most significant level of redevelopment in terms of transition to higher intensity uses	★ • Assumes relatively minimal change in character or intensity of development
	LU-6: The Plan provides for land uses and/or other amenities that would benefit future workers and residents in the area. (Relative Ranking of Alternatives)	★★★ • Civic uses and associated commercial services and gathering would benefit workers, residents	★★★ • Commercial services, new residents, more intensive redevelopment would create market for beneficial services, amenities	★ • Continued pattern of development, employment would create fewer new services, amenities or attractions for workers, residents
	LU-7: The Plan provides for a mix of feasible uses, based on market analysis. (Relative Ranking of Alternatives)	★★ • Potentially feasible in long term per team market analysis • Local development experts say creating a destination in area would be challenging and could adversely impact downtown	★★ • Potentially feasible in long term per team market analysis • Local development experts indicate level of development very challenging and level of development may not generate funding for needed public improvements	★★★ • Most feasible based on previous and current market analyses
	LU-8: The Plan is generally supported by Station Area property owners. (Relative Ranking of Alternatives)	★★ • Mixture of support and concern expressed by property owners in advisory committee, public meetings	★★ • Mixture of support and concern expressed by property owners in advisory committee, public meetings	★★★ • Most property owners indicate area viable for continued industrial use with no plans for change in short to medium term (next 5-20 years)
	LU-9: Potential redevelopment costs are reasonable based on the professional opinion of a market analyst and feedback from property owners. (Relative Ranking of Alternatives)	★★ • Ratio of potential level of redevelopment to cost of improvements likely lower than for Scenario 2, but higher than for Scenario 3	★★★ • Ratio of potential level of redevelopment to cost of improvements likely to be highest of three scenarios	★ • Ratio of potential level of redevelopment to cost of improvements likely to be lowest of three scenarios
		• Unable to quantify further at this time; may further evaluate in subsequent tasks		

Goal	Evaluation Measure	Scenario 1 Large civic/ entertainment use	Scenario 2 Intensive employment use	Scenario 3 Modest land use changes
Transportation	**T-1:** The Plan improves connections to and between the station, the Springwater Trail, the Ardenwald & Sellwood Moreland neighborhoods, and downtown Milwaukie. (Relative Ranking of Alternatives)	★	★★★	★★
		• Large civic/ entertainment facility on Opportunity Site B will decrease connectivity through the site	• Redevelopment of Opportunity Site B will provide a new street connection and new bike/ped paths through the site	• Renovation of part of Opportunity Site B will provide new pedestrian connections on part of the site
		• All three scenarios include the same set of new and improved connections to adjacent areas outside of Opportunity Site B		
	T-2: At Plan buildout, projected pedestrian and bicycle mode share is significantly increased through transit-supportive development and design, safe and convenient access and supportive amenities.* (Relative Ranking of Alternatives)	★★	★★★	★
		• Increased density of office and commercial uses is expected to improve non-motor vehicle mode share somewhat	• Diverse mix of uses near Tacoma Station is expected to boost pedestrian and bicycle mode share the most among alternatives	• Minimal change in zoning does not promote an increase in the pedestrian/bicycle mode share
	T-3: At Plan buildout, the number of motor vehicle trips on OR 99E does not exceed the "worst case" vehicle trip projection under existing zoning and/ or mitigates those increases to ensure compliance with the Oregon Transportation Planning Rule. (Yes/No)	✘	✘	✘
		• All scenarios are estimated to increase vehicle trips compared to existing zoning • Zoning ordinance amendments and small operational improvements may be used to mitigate impacts and will be explored in preparing a draft Station Area Plan.		
	T-4: The duration of congestion on OR 99E, is lower than for other alternatives. (Relative Ranking of Alternatives)	★★★	★★★	★★★
		• Under all three scenarios, OR 99E north of Ochoco Street does not exceed roadway capacity at any hour of the day		
	T-5: The Plan is not predicated on ODOT making motor vehicle capacity improvements to OR 99E. (Yes/No)	✓	✓	✓
		• Traffic mitigations can be addressed either through down-zoning in the Station Area south of Mailwell Drive, or with smaller operational improvements on 99E (not mainline capacity improvements)		

Goal	Evaluation Measure	Scenario 1 Large civic/ entertainment use	Scenario 2 Intensive employment use	Scenario 3 Modest land use changes
Transportation	**T-6:** The total vehicle miles traveled generated within the Station Area is lower than for other alternatives.* (Relative Ranking of Alternatives)	★★★ • Scenario 1 generates the fewest VMT (23,151) in the PM peak hour due to the sporadic nature of traffic generated at Opportunity Site B	★ • Scenario 2 generates the most VMT (24,693) in the PM peak hour due to the most intensive set of land uses	★★ • Scenario 3 generates the second most VMT (23,881) in the PM peak hour
	T-7: As applicable, the Plan (or portion of Plan) potentially complies with the definition of a Multimodal Mixed Use Area, under the Transportation Planning Rule. (Yes/No/NA)	N/A • Would not meet residential use and density requirements; MMA would not be recommended	✓ • Scenario incorporates residential use on west side of McLoughlin Boulevard which would meet MMA requirements in combination with other recommendations	N/A • Would not meet residential use and density requirements; MMA would not be recommended
	T-8: The Plan includes transportation safety improvements which can reasonably be expected to mitigate the causes of accidents described in crash history data and to address Tacoma interchange queuing per TPR 0060(10). (Yes/No)	N/A	N/A	N/A
		• The Plan is not expected to result in new vehicle trips on the interchange sufficient to degrade safety at the Tacoma Street interchange.		
	T-9: The Plan provides for needed local street network improvements within the plan area, including improvements for parking and freight access. (Yes/No)	✓	✓	✓
		• All scenarios propose improvements to the local street network and street cross sections, including better-defined parking areas and appropriate turning radii for freight		
Overall	Best meets project criteria (Relative Ranking of Alternatives)	★★ • Average relative ranking = 2.1 • 4 pass, 1 fail, 1 N/A	★★★ • Average relative ranking = 2.6 • 5 pass, 1 fail	★ • Average relative ranking = 1.9 • 3 pass, 2 fail, 1 N/A

** This evaluation measure is part of the Sustainable Transportation Analysis & Rating Systems (STARS). The STARS rating system informs the transportation planning process by establishing clear sustainability goals and providing quantitative measurements for comparing outcomes.*

Appendix C: Transportation Project Cost Estimate Details

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Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

1) Changes to cross section on Main Street -- assumes 64' north of Beta, 45' south of Milport.

Distance = 4110 ft
Width= 45 (avg) ft

Project Description:

	UNITS		UNIT COSTS		ESTIMATED COST	
Remove Pavement	184950	SF	$	0.33	$	61,034
Clear & Grub	0	SF	$	0.05	$	-
Remove Curb	5270	LF	$	10.00	$	52,700
Remove Sidewalk	31620	SF	$	1.50	$	47,430
Grading	0	SF	$	1.25	$	-
Pavement	114980	SF	$	8.00	$	919,840
Pavement Elevated/Subgrade	0	SF	$	150.00	$	-
Sidewalk	66120	SF	$	4.00	$	264,480
Right of Way	5200	SF	$	20.00	$	104,000
Curb and gutter	5270	LF	$	14.00	$	73,780
Landscaping	4110	LF	$	12.00	$	49,320
Wall	0	LF	$	120.00	$	-
Lighting	5270	LF	$	60.00	$	316,200
Full Drainage	0	LF	$	100.00	$	-
Drainage Modifications	5270	LF	$	25.00	$	131,750
Driveway Adjustments	4	Driveways	$	2,000.00	$	8,000
Roundabouts	0	EA		$500,000	$	-
Traffic Signals	0	Unit	$	300,000.00	$	-
Signing and Striping	0	EA	$	500.00	$	-
Signing and Striping	4110	LF	$	3.00	$	12,330
SUBTOTAL					$	2,040,864
Traffic Control				5%	$	102,043
Mobiliization				10%	$	204,086
Design/Administration/Management				15%	$	306,130
Contingency				25%	$	510,216
Project Development				5%	$	102,043
Sales Tax				0.0%	$	-

PROJECT COST:	**$**	**3,265,382**
	$	**3,265,000**

Notes: High contingencies are due to uncertainty regarding storm drainage/utility needs.
Storm drain base cost = $75.00/LF, assumes storm drain connections only at $28.00/LF.
These issues should be further resolved in project development. Assumes no ROW costs.
Note: Costs are for constant 2005 dollars; annual adjustments are necessary to address inflation to get to year of construction project estimates (presently 3 to 4 % per year is adequate)

***DKS** Associates*

4/4/13 10:49

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

Project Name:	"Bike/Ped Connection from Eastern Neighborhoods"
Project Number*:	2
Date	12/28/2012
Prepared by:	Alta Planning + Design

Item	**Comments**	**Quantity**	**Units**	**Unit Cost**	**Total**
Bike/ped undercrossing		600	LF	$4,000.00	$2,400,000
Grading		150	SY	$10.00	$1,500
Excavation		150	SY	$16.00	$2,400
Clearing and grubbing		400	SF	$0.50	$200
Erosion controls	Both sides, length of project	800	LF	$1.50	$1,200
Catch basin		10	EA	$1,500.00	$15,000
Path lighting	Ped height lighting	600	LF	$125.00	$75,000
		Total Estimated Construction Cost			***$ 2,495,300***
Multipliers (expressed as a proportion of the construction cost)**					
Design/Administration (15%)					$ 374,295
Contingency (25%)					$ 623,825
Mobilization (10%)					$ 249,530
Traffic Control (5%)					$ 124,765
Project Development (5%)					$ 124,765
			Multipliers Total		***$ 1,497,180***
				GRAND TOTAL***	**$ 3,992,480**

* Project numbers gleaned from the TSAP Redevelopment Scenarios Evaluation Report, pages 20-22.

** Note: "Zero" values indicate non-applicable multipliers.

*** Construction cost plus multipliers.

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

Project Name:	"Improved Connection between Springwater Trail and Sherrett Street"				
Project Number*:	3				
Date	12/28/2012				
Prepared by:	Alta Planning + Design				
Item	**Comments**	**Quantity**	**Units**	**Unit Cost**	**Total**
Shared use path	12' wide asphalt	125	LF	$108.00	$13,500
Erosion controls	Both sides, length of project	250	LF	$1.50	$375
Topsoil shoulders	2' wide, each side of path	500	CF	$1.85	$925
		Total Estimated Construction Cost			***$ 14,800***
Multipliers (expressed as a proportion of the construction cost)**					
Design/Administration (15%)					$ 2,220
Contingency (25%)					$ 3,700
Mobilization (10%)					$ 1,480
Traffic Control (5%)					$ 740
Project Development (5%)					$ 740
			Multipliers Total		***$ 8,880***
				GRAND TOTAL***	**$ 23,680**

* Project numbers gleaned from the TSAP Redevelopment Scenarios Evaluation Report, pages 20-22.

** Note: "Zero" values indicate non-applicable multipliers.

*** Construction cost plus multipliers.

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

4) **Pedestrian bridge over 99E at Umatilla Street**

Project Description:

LOW

	UNITS	UNIT COSTS	ESTIMATED COST
Pedestrian bridge	1 EA	$ 1,200,000.00	$ 1,200,000
SUBTOTAL			$ 1,200,000
Traffic Control		5%	$ 60,000
Mobiliization		10%	$ 120,000
Design/Administration/Management		15%	$ 180,000
Contingency		25%	$ 300,000
Project Development		5%	$ 60,000
Sales Tax		0.0%	$ -
PROJECT COST:			**$ 1,920,000**
			$ 1,920,000

DKS *Associates*

4/4/2013 14:40

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

Project Name:	"Improve Existing Connection from Springwater to Pendleton Site"				
Project Number*:	5A				
Date	12/28/2012				
Prepared by:	Alta Planning + Design				
Item	**Comments**	**Quantity**	**Units**	**Unit Cost**	**Total**
Shared use path (ramp, north side)	10' wide asphalt	550	LF	$90.00	$49,500
Shared use path (ramp, south side)	10' wide asphalt	550	LF	$90.00	$49,500
Retaining Wall		1,100	LF	$120.00	$132,000
Grading		1,100	SY	$10.00	$11,000
Erosion controls	Both sides, length of project	1,100	LF	$1.50	$1,650
Sedimentation controls	Hay bales	1,100	LF	$7.15	$7,865
Topsoil shoulders	2' wide, each side of path	2,200	CF	$1.85	$4,070
Path lighting	Ped height lighting	1,100	LF	$125.00	$137,500
		Total Estimated Construction Cost			***$ 393,085***
Multipliers (expressed as a proportion of the construction cost)**					
Design/Administration (15%)					$ 58,963
Contingency (25%)					$ 98,271
Mobilization (10%)					$ 39,309
Traffic Control (5%)					$ 19,654
Project Development (5%)					$ 19,654
			Multipliers Total		***$ 235,851***
				GRAND TOTAL***	**$ 628,936**

* Project numbers gleaned from the TSAP Redevelopment Scenarios Evaluation Report, pages 20-22.

** Note: "Zero" values indicate non-applicable multipliers.

*** Construction cost plus multipliers.

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

5B) Bike/ped connection along 99E under Springwater

Distance = ft

Project Description:

	UNITS		UNIT COSTS		ESTIMATED COST	
Remove Pavement	0	SF	$	0.33	$	-
Clear & Grub	5000	SF	$	0.05	$	250
Remove Curb	0	LF	$	10.00	$	-
Remove Sidewalk	2400	SF	$	1.50	$	3,600
Grading	5000	SF	$	1.25	$	6,250
Pavement	0	SF	$	8.00	$	-
Pavement Elevated/Subgrade	0	SF	$	150.00	$	-
Sidewalk	2400	SF	$	4.00	$	9,600
Curb and gutter	0	LF	$	14.00	$	-
Landscaping	200	LF	$	12.00	$	2,400
Wall	200	LF	$	120.00	$	24,000
Lighting	50	LF	$	60.00	$	3,000
Full Drainage	0	LF	$	100.00	$	-
Drainage Modifications	200	LF	$	25.00	$	5,000
Driveway Adjustments	0	Driveways	$	2,000.00	$	-
Roundabouts	0	EA		$500,000	$	-
Traffic Signals	0	Unit	$	300,000.00	$	-
Signing and Striping	2	EA	$	500.00	$	1,000
Signing and Striping	0	LF	$	3.00	$	-
SUBTOTAL					$	55,100
Traffic Control				5%	$	2,755
Mobiliization				10%	$	5,510
Design/Administration/Management				15%	$	8,265
Contingency				50%	$	27,550
Project Development				5%	$	2,755
Sales Tax				0.0%	$	-
Right Of Way	0	SF	$	20.00	$	-

PROJECT COST:	**$**	**101,935**
rounded	**$**	**100,000**

Notes: High contingencies are due to uncertainty regarding storm drainage/utility needs.
Storm drain base cost = $75.00/LF, assumes storm drain connections only at $28.00/LF.
These issues should be further resolved in project development. Assumes no ROW costs.
Note: Costs are for constant 2005 dollars; annual adjustments are necessary to address inflation to get to year of construction project estimates (presently 3 to 4 % per year is adequate)

DKS *Associates*

1/18/2013 11:09

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

Project Name:	"Bike/Ped Connection under Springwater Trail"				
Project Number*:	5C				
Date	12/28/2012				
Prepared by:	Alta Planning + Design				
Item	**Comments**	**Quantity**	**Units**	**Unit Cost**	**Total**
Bike/ped undercrossing		175	LF	$4,000.00	$700,000
Grading		300	SY	$10.00	$3,000
Excavation		300	SY	$16.00	$4,800
Clearing and grubbing		400	SF	$0.50	$200
Erosion controls	Both sides, length of project	800	LF	$1.50	$1,200
Catch basin		10	EA	$1,500.00	$15,000
Path lighting	Ped height lighting	200	LF	$125.00	$25,000
		Total Estimated Construction Cost			***$ 749,200***
Multipliers (expressed as a proportion of the construction cost)**					
Design/Administration (15%)					$ 112,380
Contingency (25%)					$ 187,300
Mobilization (10%)					$ 74,920
Traffic Control (5%)					$ 37,460
Project Development (5%)					$ 37,460
			Multipliers Total		***$ 449,520***
				GRAND TOTAL*	**$ 1,198,720**

* Project numbers gleaned from the TSAP Redevelopment Scenarios Evaluation Report, pages 20-22.

** Note: "Zero" values indicate non-applicable multipliers.

*** Construction cost plus multipliers.

Cost Estimate Summary

6) Stairway to Station
Distance = ft

Project Description:

	UNITS		UNIT COSTS		ESTIMATED COST
Remove Pavement	0	SF	$	0.33	$ -
Clear & Grub	1000	SF	$	0.05	$ 50
Remove Curb	0	LF	$	10.00	$ -
Remove Sidewalk	500	SF	$	1.50	$ 750
Grading	1000	SF	$	1.25	$ 1,250
Pavement	0	SF	$	8.00	$ -
Pavement Elevated/Subgrade	0	SF	$	150.00	$ -
Sidewalk	2000	SF	$	4.00	$ 8,000
Curb and gutter	100	LF	$	14.00	$ 1,400
Landscaping	100	LF	$	12.00	$ 1,200
Wall	100	LF	$	120.00	$ 12,000
Lighting	100	LF	$	60.00	$ 6,000
Full Drainage	100	LF	$	100.00	$ 10,000
Drainage Modifications	0	LF	$	25.00	$ -
Driveway Adjustments	0	Driveways	$	2,000.00	$ -
Roundabouts	0	EA		$500,000	$ -
Traffic Signals	0	Unit	$	300,000.00	$ -
Signing and Striping	2	EA	$	500.00	$ 1,000
Signing and Striping	0	LF	$	3.00	$ -
SUBTOTAL					$ 41,650
Traffic Control				5%	$ 2,083
Mobiliization				10%	$ 4,165
Design/Administration/Management				15%	$ 6,248
Contingency				50%	$ 20,825
Project Development				5%	$ 2,083
Sales Tax				0.0%	$ -
Right Of Way	0	SF	$	20.00	$ -

PROJECT COST:		**$ 77,053**
	rounded	**$ 75,000**

Notes: High contingencies are due to uncertainty regarding storm drainage/utility needs.
Storm drain base cost = $75.00/LF, assumes storm drain connections only at $28.00/LF.
These issues should be further resolved in project development. Assumes no ROW costs.
Note: Costs are for constant 2012 dollars; annual adjustments are necessary to address inflation to get to year of construction project estimates (presently 3 to 4 % per year is adequate)

DKS *Associates*
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Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

7) Stairway

Distance = ft

Project Description:

	UNITS		UNIT COSTS		ESTIMATED COST	
Remove Pavement	0	SF	$	0.33	$	-
Clear & Grub	0	SF	$	0.05	$	-
Remove Curb	0	LF	$	10.00	$	-
Remove Sidewalk	0	SF	$	1.50	$	-
Grading	0	SF	$	1.25	$	-
Pavement	0	SF	$	8.00	$	-
Pavement Elevated/Subgrade	0	SF	$	150.00	$	-
Sidewalk	0	SF	$	4.00	$	-
Curb and gutter	0	LF	$	14.00	$	-
Landscaping	0	LF	$	12.00	$	-
Wall	0	LF	$	120.00	$	-
Lighting	0	LF	$	60.00	$	-
Full Drainage	0	LF	$	100.00	$	-
Drainage Modifications	0	LF	$	25.00	$	-
Driveway Adjustments	0	Driveways	$	2,000.00	$	-
Roundabouts	0	EA		$500,000	$	-
Traffic Signals	0	Unit	$	300,000.00	$	-
Signing and Striping	0	EA	$	500.00	$	-
Signing and Striping	0	LF	$	3.00	$	-
SUBTOTAL					$	-
Traffic Control				5%	$	-
Mobiliization				10%	$	-
Design/Administration/Management				15%	$	-
Contingency				25%	$	-
Project Development				5%	$	-
Sales Tax				0.0%	$	-
Right Of Way	0	SF	$	20.00	$	-

PROJECT COST:	**$**	**500,000**
rounded	**$**	**500,000**

Notes: High contingencies are due to uncertainty regarding storm drainage/utility needs.
Storm drain base cost = $75.00/LF, assumes storm drain connections only at $28.00/LF.
These issues should be further resolved in project development. Assumes no ROW costs.
Note: Costs are for constant 2012 dollars; annual adjustments are necessary to address inflation to get to year of construction project estimates (presently 3 to 4 % per year is adequate)

DKS *Associates*

2/7/2013 10:29

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

8) Intersection improvements @ Ochoco/McLoughlin & Milport/McLoughlin

Project Description:

	UNITS		LOW UNIT COSTS	LOW ESTIMATED COST	HIGH UNIT COSTS	HIGH ESTIMATED COST
Add SBLT @ Ochoco	1	EA	$ 2,400,000.00	$ 2,400,000	$ 4,200,000.00	$ 4,200,000
Flatten NW corner @ Ochoco	1	EA	$ 1,600,000.00	$ 1,600,000	$ 1,700,000.00	$ 1,700,000
Both modifications @ Ochoco	1	EA	$ 3,400,000.00	$ 3,400,000	$ 5,200,000.00	$ 5,200,000
Remove Pavement	0	SF	$ 0.33	$ -	$ 0.33	$ -
Clear & Grub	0	SF	$ 0.05	$ -	$ 0.05	$ -
Remove Curb	0	LF	$ 10.00	$ -	$ 10.00	$ -
Remove Sidewalk	0	SF	$ 1.50	$ -	$ 1.50	$ -
Grading	0	SF	$ 1.25	$ -	$ 1.25	$ -
Pavement	0	SF	$ 8.00	$ -	$ 8.00	$ -
Pavement Elevated/Subgrade	0	SF	$ 150.00	$ -	$ 150.00	$ -
Sidewalk	0	SF	$ 4.00	$ -	$ 4.00	$ -
Curb and gutter	0	LF	$ 14.00	$ -	$ 14.00	$ -
Landscaping	0	LF	$ 12.00	$ -	$ 12.00	$ -
Wall	0	LF	$ 120.00	$ -	$ 120.00	$ -
Lighting	0	LF	$ 60.00	$ -	$ 60.00	$ -
Full Drainage	0	LF	$ 100.00	$ -	$ 100.00	$ -
Drainage Modifications	0	LF	$ 25.00	$ -	$ 25.00	$ -
Driveway Adjustments	0	Driveways	$ 2,000.00	$ -	$ 2,000.00	$ -
Roundabouts	0	EA	$500,000	$ -	$500,000	$ -
Traffic Signals	0	Unit	$ 300,000.00	$ -	$ 300,000.00	$ -
Signing and Striping	0	EA	$ 500.00	$ -	$ 500.00	$ -
Signing and Striping	0	LF	$ 3.00	$ -	$ 3.00	$ -
SUBTOTAL				$ 3,400,000		$ 5,200,000
Traffic Control			5%	$ 170,000	5%	$ 260,000
Mobiliization			10%	$ 340,000	10%	$ 520,000
Design/Administration/Management			15%	$ 510,000	15%	$ 780,000
Contingency			25%	$ 850,000	25%	$ 1,300,000
Project Development			5%	$ 170,000	5%	$ 260,000
Sales Tax			0.0%	$ -	0.0%	$ -
Right Of Way	0	SF	$ 20.00	$ -	$ 20.00	$ -
PROJECT COST:				**$ 5,440,000**		**$ 8,320,000**
				$ 5,440,000 rounded		**$ 8,320,000**

Notes: High contingencies are due to uncertainty regarding storm drainage/utility needs.
Storm drain base cost = $75.00/LF, assumes storm drain connections only at $28.00/LF.
These issues should be further resolved in project development. Assumes no ROW costs.
Note: Costs are for constant 2012 dollars; annual adjustments are necessary to address inflation to get to year of construction project estimates (presently 3 to 4 % per year is adequate)

DKS *Associates*
2/7/2013 10:29

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

9) Truck signage and intersection improvements @ Ochoco/McLoughlin

Project Description:

	ESTIMATED COST (Low)	ESTIMATED COST (High)
Cantilever Sign North of Springwater Bridge	$ 295,000	$ 325,000
Cantilever Sign North of Springwater Bridge and Improvements	$ 390,000	$ 430,000
Cantilever Sign North of Springwater Bridge and Improvements	$ 1,450,000	$ 1,600,000
PROJECT COST:	**$ 2,135,000**	**$ 2,355,000**

Source: Oregon Department of Transportation Region 1

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

Project Name:	"New Bike/Ped Connection over Johnson Creek"				
Project Number*:	11				
Date	12/28/2012				
Prepared by:	Alta Planning + Design				
Item	**Comments**	**Quantity**	**Units**	**Unit Cost**	**Total**
Bike/ped overcrossing	Bridge over Johnson Creek	75	LF	$3,500.00	$262,500
Shared use path	12' wide asphalt (south of creek)	100	LF	$108.00	$10,800
Clearing and grubbing		100	SF	$0.50	$50
Topsoil shoulders	2' wide, each side of path	200	CF	$1.85	$370
		Total Estimated Construction Cost			***$ 273,720***
Multipliers (expressed as a proportion of the construction cost)**					
Design/Administration (15%)					$ 41,058
Contingency (25%)					$ 68,430
Mobilization (10%)					$ 27,372
Traffic Control (5%)					$ 13,686
Project Development (5%)					$ 13,686
			Multipliers Total		***$ 164,232***
				GRAND TOTAL***	**$ 437,952**

* Project numbers gleaned from the TSAP Redevelopment Scenarios Evaluation Report, pages 20-22.

** Note: "Zero" values indicate non-applicable multipliers.

*** Construction cost plus multipliers.

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

12) Local street connections

Distance = ft

Project Description:

	UNITS		UNIT COSTS		ESTIMATED COST	
Remove Pavement	180000	SF	$	0.33	$	59,400
Clear & Grub	0	SF	$	0.05	$	-
Remove Curb	0	LF	$	10.00	$	-
Remove Sidewalk	0	SF	$	1.50	$	-
Grading	180000	SF	$	1.25	$	225,000
Pavement	126000	SF	$	8.00	$	1,008,000
Pavement Elevated/Subgrade	0	SF	$	150.00	$	-
Sidewalk	43200	SF	$	4.00	$	172,800
Curb and gutter	7200	LF	$	14.00	$	100,800
Landscaping	7200	LF	$	12.00	$	86,400
Wall	0	LF	$	120.00	$	-
Lighting	7200	LF	$	60.00	$	432,000
Full Drainage	7200	LF	$	100.00	$	720,000
Drainage Modifications	0	LF	$	25.00	$	-
Driveway Adjustments	4	Driveways	$	2,000.00	$	8,000
Roundabouts	0	EA		$500,000	$	-
Traffic Signals	0	Unit	$	300,000.00	$	-
Signing and Striping	5	EA	$	500.00	$	2,500
Signing and Striping	3600	LF	$	3.00	$	10,800
SUBTOTAL					$	2,825,700
Traffic Control				5%	$	141,285
Mobiliization				10%	$	282,570
Design/Administration/Management				15%	$	423,855
Contingency				25%	$	706,425
Project Development				5%	$	141,285
Sales Tax				0.0%	$	-
Right Of Way	180000	SF	$	20.00	$	3,600,000

PROJECT COST:	**$**	**8,121,120**
rounded	**$**	**8,120,000**

Notes: High contingencies are due to uncertainty regarding storm drainage/utility needs.
Storm drain base cost = $75.00/LF, assumes storm drain connections only at $28.00/LF.
These issues should be further resolved in project development. Assumes no ROW costs.
Note: Costs are for constant 2012 dollars; annual adjustments are necessary to address inflation to get to year of construction project estimates (presently 3 to 4 % per year is adequate)

DKS *Associates*

2/7/2013 10:29

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

Project Name:	"Future Bike Share Station and Car Share Spaces"				
Project Number*:	13				
Date	12/28/2012				
Prepared by:	Alta Planning + Design				
Item	**Comments**	**Quantity**	**Units**	**Unit Cost**	**Total**
Bike share station	6 bikes, 11 docks	1	EA	$45,000.00	$45,000
Car share parking stalls signage	Assumes 4 car share parking spaces	4	EA	$300.00	$1,200
		Total Estimated Construction Cost			***$ 46,200***
Multipliers (expressed as a proportion of the construction cost)**					
Design/Administration (15%)					$ 6,930
Contingency (25%)					$ 11,550
Mobilization (10%)					$ 4,620
Traffic Control (5%)					$ -
Project Development (5%)					$ 2,310
			Multipliers Total		***$ 25,410***
				GRAND TOTAL***	**$ 71,610**

* Project numbers gleaned from the TSAP Redevelopment Scenarios Evaluation Report, pages 20-22.

** Note: "Zero" values indicate non-applicable multipliers.

*** Construction cost plus multipliers.

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

14) Changes in cross-section for local streets

Distance = ft

Project Description:

	UNITS		UNIT COSTS		ESTIMATED COST	
Remove Pavement	255250	SF	$	0.33	$	84,233
Clear & Grub	255250	SF	$	0.05	$	12,763
Remove Curb	8900	LF	$	10.00	$	89,000
Remove Sidewalk	255250	SF	$	1.50	$	382,875
Grading	0	SF	$	1.25	$	-
Pavement	178675	SF	$	8.00	$	1,429,400
Pavement Elevated/Subgrade	0	SF	$	150.00	$	-
Sidewalk	51050	SF	$	4.00	$	204,200
Curb and gutter	8900	LF	$	14.00	$	124,600
Landscaping	8900	LF	$	12.00	$	106,800
Wall	0	LF	$	120.00	$	-
Lighting	8900	LF	$	60.00	$	534,000
Full Drainage	0	LF	$	100.00	$	-
Drainage Modifications	8900	LF	$	25.00	$	222,500
Driveway Adjustments	40	Driveways	$	2,000.00	$	80,000
Roundabouts	0	EA		$500,000	$	-
Traffic Signals	0	Unit	$	300,000.00	$	-
Signing and Striping	0	EA	$	500.00	$	-
Signing and Striping	8900	LF	$	3.00	$	26,700
SUBTOTAL					$	3,297,070
Traffic Control				5%	$	164,854
Mobiliization				10%	$	329,707
Design/Administration/Management				15%	$	494,561
Contingency				25%	$	824,268
Project Development				5%	$	164,854
Sales Tax				0.0%	$	-
Right Of Way	0	SF	$	20.00	$	-

PROJECT COST:	**$**	**5,275,312**
rounded	**$**	**5,275,000**

Notes: High contingencies are due to uncertainty regarding storm drainage/utility needs.
Storm drain base cost = $75.00/LF, assumes storm drain connections only at $28.00/LF.
These issues should be further resolved in project development. Assumes no ROW costs.
Note: Costs are for constant 2012 dollars; annual adjustments are necessary to address inflation to get to year of construction project estimates (presently 3 to 4 % per year is adequate)

DKS *Associates*

2/7/2013 10:29

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

Project Name:	"Improve Bike/Ped Connections along Ochoco Street and Milport Road"
Project Number*:	15
Date	12/28/2012
Prepared by:	Alta Planning + Design

Item	Comments	Quantity	Units	Unit Cost	Total
Concrete curb and gutter	North side of Ochoco	800	LF	$30.00	$24,000
Sidewalk	North side of Ochoco (6' wide)	800	LF	$48.00	$38,400
Storm sewer pipe	North side of Ochoco	800	LF	$50.00	$40,000
Storm manhole	North side of Ochoco	2	EA	$2,500.00	$5,000
Catch basin	North side of Ochoco	2	EA	$1,500.00	$3,000
Concrete curb and gutter	South side of Milport	1,200	LF	$30.00	$36,000
Sidewalk	South side of Milport	1,200	LF	$48.00	$57,600
Storm sewer pipe	South side of Milport (6' wide)	1,200	LF	$50.00	$60,000
Storm manhole	South side of Milport	4	EA	$2,500.00	$10,000
Catch basin	South side of Milport	4	EA	$1,500.00	$6,000
Curb ramp	South side of Milport	4	EA	$2,500.00	$10,000
Prefabricated bridge	South side of Milport (over Johnson Cr.)	1	EA	$35,000.00	$35,000
		Total Estimated Construction Cost			***$ 325,000***
Multipliers (expressed as a proportion of the construction cost)**					
Design/Administration (15%)					$ 48,750
Contingency (25%)					$ 81,250
Mobilization (10%)					$ 32,500
Traffic Control (5%)					$ 16,250
Project Development (5%)					$ 16,250
				Multipliers Total	***$ 195,000***
				GRAND TOTAL*	**$ 520,000**

* Project numbers gleaned from the TSAP Redevelopment Scenarios Evaluation Report, pages 20-22.

** Note: "Zero" values indicate non-applicable multipliers.

*** Construction cost plus multipliers.

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

Project Name:	"Connection from SE 29th Ave. to Springwater Corridor"
Project Number*:	16
Date	12/28/2012
Prepared by:	Alta Planning + Design

Item	**Comments**	**Quantity**	**Units**	**Unit Cost**	**Total**
Regulatory signs	Every 400', each direction	22	EA	$300.00	$6,600
Pavement markings	Every 200', each direction, thermo.	45	EA	$200.00	$9,000
Turn stop signs	8 signs per mile (4 intersections)	8	EA	$150.00	$1,200
Speed humps	Every 800'	6	EA	$2,000.00	$12,000
					$0
Note: Improvements apply to segments of Van Water, 29th, and Balfour between Sherrett and 32nd					$0
Note: corridor is 4,500' long					$0
		Total Estimated Construction Cost			***$ 28,800***
Multipliers (expressed as a proportion of the construction cost)**					
Design/Administration (15%)					$ 4,320
Contingency (25%)					$ 7,200
Mobilization (10%)					$ 2,880
Traffic Control (5%)					$ 1,440
Project Development (5%)					$ 1,440
			Multipliers Total		***$ 17,280***
				GRAND TOTAL***	**$ 46,080**

* Project numbers gleaned from the TSAP Redevelopment Scenarios Evaluation Report, pages 20-22.

** Note: "Zero" values indicate non-applicable multipliers.

*** Construction cost plus multipliers.

Milwaukie Tacoma Station Area Plan
Cost Estimate Summary

Project Name:	"Bike/Ped Connection between McLoughlin Boulevard and Stubb Street"				
Project Number*:	17				
Date	12/28/2012				
Prepared by:	Alta Planning + Design				
Item	**Comments**	**Quantity**	**Units**	**Unit Cost**	**Total**
Shared use path	12' wide asphalt	80	LF	$108.00	$8,640
Curb ramp	Connection to Stubb Street	1	EA	$2,500.00	$2,500
		Total Estimated Construction Cost			***$ 11,140***
Multipliers (expressed as a proportion of the construction cost)**					
Design/Administration (15%)					$ 1,671
Contingency (50%)					$ 5,570
Mobilization (10%)					$ 1,114
Traffic Control (5%)					$ -
Project Development (5%)					$ 557
			Multipliers Total		***$ 8,912***
				GRAND TOTAL***	**$ 20,052**

* Project numbers gleaned from the TSAP Redevelopment Scenarios Evaluation Report, pages 20-22.

** Note: "Zero" values indicate non-applicable multipliers.

*** Construction cost plus multipliers.

Appendix D: Draft Amendments to Manufacturing (M) Zone

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MEMORANDUM

DATE: April 3, 2013

TO: Milwaukie Tacoma Station Area Plan Project Management Team

FROM: Matt Hastie, Angelo Planning Group
Serah Breakstone, Angelo Planning Group

SUBJECT: **Tacoma Station Area Plan**
DRAFT Manufacturing Zone Revisions

The purpose of this memorandum is to recommend revisions to Milwaukie's Manufacturing (M) zone in order to address existing deficiencies and support implementation of the Tacoma Station Area Plan (Plan). Land within the Plan study area is currently zoned for manufacturing uses under Section 19.309 of the city's zoning code. Land use analyses[1] conducted for the study area in 2002 and 2011 concluded that manufacturing uses, including flexible industrial space and office uses, remain the most appropriate uses for the study area. However, the city has identified several issues with its existing manufacturing zone that make it difficult to implement and present barriers to efficiently regulating and developing the area. Those issues are described in a 2009 code audit[2] and are briefly summarized below:

- The M zone lists uses that are permitted, permitted conditionally, or prohibited. Clear definitions or descriptions of those uses are not provided which makes it difficult for staff to determine if a use is allowed or to make a "similar use" determination for those uses that are not listed.
- The M zone lacks clear and objective development standards intended to preserve the zone primarily for industrial uses.
- The zone requires that combined uses provide at least ten employees per net acre on every site, but the code lacks guidance for calculating employment density and monitoring or enforcing the standard.

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[1] *Land Use Analysis for Milwaukie's North Industrial Area*, Hobson Ferrarini Associates, November 2002 and *SE McLoughlin Best Use Study*, Kidder Mathews, July 2011.

[2] *Milwaukie Code Evaluation Report*, Angelo Planning Group, July 2009.

- Size limitations for retail space currently only apply to areas within the Title 4 "Employment Area" boundary, which is limited in its scope.

Recommended amendments to the Manufacturing zone are presented in Attachment A of this memorandum and are intended to address the issues described above. Those recommended amendments are summarized below:

- The amendments define general categories of land uses that are allowed outright or conditionally. Examples of uses for each category are also provided. Some of the recommended categories include uses that are not allowed under the current code; city staff will need to carefully review the list to ensure it is suitable.

- Retail, professional service and office uses are allowed only where they are accessory to the primary uses permitted in the Manufacturing zone. The recommended amendments would limit the size of individual retail and office spaces.

- Recommended amendments include new development standards to regulate outdoor storage uses, location of parking and loading areas, external effects, and mechanical equipment. In addition, a reference to the supplemental development standards in Chapter 19.500 is included.

- The transition area review requirement is deleted and will be replaced by more clear and objective standards.

The Tacoma Station Area Plan project will evaluate additional code amendments needed to promote an active station area community and encourage redevelopment, consistent with the goals and objectives of the Plan. The draft M zone code presented with this memo is intended to be a reasonable baseline that could apply to the entire M zone area, and from which the city may develop additional policies to implement the Plan redevelopment scenarios.

The recommended code amendments in Attachment A are shown in <u>underline</u> for new text and ~~strikethrough~~ for deleted text.

Attachment A
Recommended Code Amendments

Municipal Code Title 19 Zoning

CHAPTER 19.300 BASE ZONES

19.309 MANUFACTURING ZONE M

Statement of Purpose. The purpose of this manufacturing zone is to promote clean, employee-intensive industries which may also include related accessory uses, such as commercial and office uses, which serve the industrial area.

19.309.1 ~~Permitted Uses~~ Use Categories

The categories of land uses that are permitted in the Manufacturing Zone are listed in Table 19.309.1. Permitted uses are designated with a "P". A "C" in this table indicates a use that may be authorized as a conditional use in conformance with Chapter 19.905. An "L" indicates a use that is permitted outright with certain limitations as described in Section 19.309.X. Uses not listed in the table are prohibited.

All uses must comply with the land use district standards of this section and all other applicable requirements of the Zoning Code. If it is unclear whether a proposed use is allowed under the use categories, the applicant may submit a Director Determination application per 19.903 to resolve the issue.

[NEW TABLE]

Use Category	Status
A. Construction: Contractors and Related Businesses. This category comprises businesses whose primary activity is performing specific building or other construction related work, on or off site. Examples of contractors are residential and nonresidential building construction, utility/civil engineering construction, specialty trade contractors, and moving companies. Any associated office use on site must be accessory to the primary construction business consistent with Subsection (G) in this section.	P
B. Manufacturing. Manufacturing comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products, including the assembly of components parts. Examples of manufacturing include alternative energy development, biosciences, food and beverage processing, software and electronics production, printing, fabrication of metal products, products made from manufactured glass, products made from rubber, plastic or resin, converted paper and cardboard products, and microchip fabrication. Manufacturing may also include high tech and research and development companies.	P
C. Wholesale Trade. Wholesale Trade comprises establishments engaged in selling / and or distributing merchandise to retailers; to industrial, commercial, or professional business users; or to other wholesalers, generally without transformation, and rendering services incidental to the sale of merchandise. Wholesalers sell or distribute merchandise	P

exclusively to other businesses, not the general public, and normally operate from a warehouse or office and are not intended for walk-in traffic. Associated retail is only allowed as an accessory use in conformance with subsection (G) in this table and other applicable standards in this chapter.	
D. Warehousing and Storage. These industries are primarily engaged in operating warehousing and storage facilities for general merchandise, refrigerated goods, and other products and materials that have been manufactured and are generally being stored in anticipation for delivery to final customer. This category can include transportation and distribution uses with loading docks, temporary outdoor storage and fleet parking. Mini-storage facilities (generally used by many individual customers to store personal property) are not considered industrial warehousing and storage and are not permitted in the Manufacturing district.	P
E. Trade schools. Establishments whose primarily purpose are to provide training to meet industrial needs and often lead to job-specific certification. Examples of this use category are electronic equipment repair training, truck driving school, welding school, training for repair of industrial machinery and other industrial skills.	P
F. Accessory Uses and Structures. Accessory uses and structures are defined as those that are incidental and subordinate to the main use of property and located on the same lot as the main use, including accessory parking.	P
G. Limited Uses. This category includes uses that are primarily intended to support and serve other allowed uses in the Manufacturing Zone. Limited uses are divided into two sub-categories. See Section 19.309.5 for applicable limitations on these uses (1) Administration and support in office buildings. This category includes uses in office-type buildings that are accessory to an industrial use; establishments which administer, oversee, and manage companies; which manage financial assets and securities; research and design; laboratories and testing facilities; provide document preparation and other industrial support services; including corporate offices, company business offices, call centers, and other office type uses that primarily serve other industries and do not generate a significant number of daily customer visits. (2) Retail commercial and professional services. The sales of goods and materials and of professional services. Examples of retail commercial uses include restaurants, mini-marts, factory outlet stores and office supplies. Examples of professional services that cater to employees and	L

customers include bank branches, day cares, dry cleaning and health clubs.	
H. Exclusive Heavy Industrial Uses. Uses exclusive to the HI category include sites which are primarily rock crushing facilities; natural resource extraction; aggregate storage and distribution facilities; and concrete and/or asphalt batch plants. See Section 19.309.4.A.	C
I. Waste Management. Businesses that provide garbage and recycling hauling, including fleet parking and maintenance.	P
J. Repair and Service. Firms involved in repair and servicing of industrial, business or consumer electronic equipment, machinery and related equipment, products, or by-products. Examples include welding shops; machine shops; tool, electric motor, industrial instruments repair; sales, repair or storage of heavy machinery, metal and building materials; heavy truck servicing and repair; tire retreading or recapping; exterminators including chemical mixing or storage and fleet storage and maintenance; janitorial and building maintenance services that include storage of materials and fleet storage and maintenance; fuel oil distributors; solid fuel yards; and large scale laundry, dry-cleaning and carpet cleaning plants. Few customers, particularly not general public daily customers, come to the site. Auto service and repair shops for personal vehicles are not included in this category and are not allowed in the M zone.	P
K. High-Impact Commercial Use. A high impact commercial use is a use that generates substantial traffic, noise, light, irregular hours, or other potential impact on the community. Examples include, but are not limited to: drinking establishments, commercial recreation, adult entertainment businesses, theaters, hotels, and motels. See Section 19.309.4.B.	C

~~Permitted uses are limited to industrial uses meeting the following criteria:~~

~~A. Any combination of manufacturing, office, and/or commercial uses are allowed when at least 25% of the total project involves an industrial use as described under Subsection 19.309.1.B. The combined uses shall provide at least 10 employees per net acre.~~

~~B. A use which involves the collection and assembly of durable goods, warehousing of goods, transshipment of goods from other sources, and/or the assembly of goods from products which have been processed elsewhere, general manufacturing, and production.~~

~~C. Commercial and office uses which are accessory to the industrial use(s). Such uses may include gymnasium, health club, secretarial services, sandwich deli, small restaurant, and retail/wholesale commercial use and showroom.~~

~~D. May produce small amounts of noise, dust, vibration, or glare, but may not produce off-site impacts that create a nuisance, as defined by DEQ or the City Noise Ordinance.~~

~~E. Has access to a collector or arterial street.~~

~~F. A permitted use may require outside storage areas. These storage areas shall be screened with a sight-obscuring fence or dense plantings from any adjoining residential uses or public streets.~~

~~G. Warehouse use which is accessory to an industrial use.~~

19.309.2 Preexisting Uses and Developments

Notwithstanding the provisions of Chapter 19.800 Nonconforming Uses and Development, prohibited uses and structures located in any mapped "employment" or "industrial" area, as shown on the Milwaukie Comprehensive Plan Title 4 Lands Map, that were lawfully in existence prior to May 6, 1999, and would be impacted by ~~amendments prohibiting retail uses in excess of 60,000 sq ft,~~ the size limitations on retail uses in Section 19.309.5, are considered to be approved uses and structures for the purposes of this section. If such a preexisting use or development is damaged or destroyed by fire, earthquake, or other natural force, then the use will retain its preexisting status under this provision, so long as it is substantially reestablished within 3 years of the date of the loss.

Notwithstanding the provisions of Chapter 19.800 Nonconforming Uses and Development, prohibited uses and structures located in any mapped "industrial" area, as shown on the Milwaukie Comprehensive Plan Title 4 Lands Map, that were lawfully in existence prior to March 17, 2009, may continue and expand to add up to 20% more floor area and 10% more land area than exists on the above-stated date. This expansion requires a conditional use review.

19.309.3 Specific Prohibited Uses

A. Any use which has a primary function of storing, utilizing, or manufacturing explosive materials or other hazardous material as defined by the Uniform Fire Code, Article 80;

B. New residential ~~construction~~, churches, public school~~s~~.~~s~~

~~C. Retail uses greater than 60,000 sq ft gross floor area per building or business are prohibited on all lots included in mapped "Employment" or "Industrial" areas as shown on Milwaukie Comprehensive Plan Title 4 Lands Map, April 6, 1999.~~

~~D. All lots included in mapped "Industrial" areas, as shown on Milwaukie Comprehensive Plan Title 4 Lands Map, April 6, 1999, carry the following additional restrictions:~~

~~1. Individual retail trade uses greater than 5,000 sq ft gross floor area per building or business are prohibited.~~

~~2. Multiple retail trade uses that occupy more than 20,000 sq ft gross floor area are prohibited, whether in a single building or in multiple buildings within the same project.~~

~~3. Facilities whose primary purpose is to provide training to meet industrial needs are exempted from this prohibition.~~

19.309.4 Standards for Conditional Uses

The following standards apply to those uses listed as conditional (C) in Table 19.309.1.

A. ~~Natural Resource Extraction~~ Exclusive Heavy Industrial Uses

1. Open pit and gravel excavating or processing shall not be permitted nearer than 50 ft to the boundary of an adjoining property line, unless written consent of the owner of such property is first obtained. Excavating or processing shall not be permitted closer than 30 ft to the right-of-way line of an existing platted street or an existing public utility right-of-way.
2. An open pit or sand and gravel operation shall be enclosed by a fence suitable to prevent unauthorized access.
3. A rock crusher, washer, or sorter shall not be located nearer than 500 ft to a residential or commercial zone. Surface mining equipment and necessary access roads shall be constructed, maintained, and operated in such a manner as to eliminate, as far as is practicable, noise, vibration, or dust which is injurious or substantially annoying to persons living in the vicinity.

B. High-Impact Commercial Uses

When considering a high-impact commercial use, the Commission shall consider the following:

1. Nearness to dwellings, churches, hospitals, or other uses which require a quiet environment;
2. Building entrances, lighting, exterior signs, and other features which could generate or be conducive to noise or other disturbance for adjoining uses;
3. Parking vehicles and pedestrian access and circulation could contribute to noise or attract habitual assembly or unruly persons;
4. Hours of operation;
5. In addition to consideration of the above with respect to building and site design, the Planning Commission may attach conditions or standards of performance and impact, and methods for monitoring and evaluating these, to ensure that such establishments do not become unduly or unnecessarily disruptive.
6. In addition, when considering an adult entertainment business, the following criteria shall be used:

    a. The proposed location of an adult entertainment business shall not be within 500 ft of an existing or previously approved adult entertainment business or within 500 ft of ~~either~~ a public park, a church, a day-care center, a primary, elementary, junior high, or high school, or any residentially zoned property.

    b. ~~both of which~~ ~~distances~~ Distances shall be measured in a straight line, without regard to intervening structures, between the closest structural wall of the adult entertainment business and either the closest property line of the ~~impacted~~ applicable property or the closest structural wall of any pre-existing or previously approved adult entertainment business.

19.309.5 Standards for Limited Uses

The following standards apply to those uses listed as limited (L) in Table 19.309.1.

A. Administration and support in office buildings. Only administrative and support offices which are related to the operation of a manufacturing use on the property are permitted in the Manufacturing zone. No greater than 20% of the floor area of a building may be used for administrative office space.

B. Retail commercial and professional services. In order to ensure that these uses are limited in size and scale and do not dominate land intended for manufacturing uses, the following standards apply. See Figure 19.309-1 for an illustration of the size limitations.

1. The total gross leasable square footage of an individual retail or professional service use shall not exceed 5,000 square feet or 40% of the floor area of an individual building, whichever is less.

2. Multiple retail or professional service uses shall not exceed 20,000 cumulative gross leasable square feet within the same development project. For the purposes of this section, a development project is defined as:

   a. A single building with 50,000 square feet or more of gross floor area.

   b. Multiple buildings, each with less than 50,000 square feet of gross floor area, that share common development features (such as access, parking, or utilities), whether or not the buildings are located on the same or a different parcel or lot.

3. Retail and professional services uses shall not be permitted in a stand-alone building. They must be included within a building whose primary purpose is for an allowed manufacturing use. The retail commercial or professional service use is not required to be related to the primary manufacturing use. Food carts are permitted as a stand-alone use.

Figure 19.309-1 Size Limitations for Retail and Professional Service Uses

~~**19.309.5 Site Development Requirements**~~

19.309.6 Development Standards for All Uses

The following development standards apply to all uses in the Manufacturing district.

A. Setbacks

Front: 20 ft

Side: None*

Corner side yard: 10 ft

Rear: None*

* Except when abutting a residential district, in which case the setback shall match the abutting property.

B. Height. 45 ft

C. Parking and loading. See Chapter 19.600.

D. Landscaping

15% landscaping of the site is required. The required landscape area shall comply with the following:

1. Permitted landscape materials include trees, shrubs, ground cover plants, non-plant ground covers, and outdoor hardscape features. ~~A variety of trees, shrubbery, and ground cover is encouraged. Street trees are required along~~

~~street frontages and within parking lots to help delineate entrances, provide shade, and permeable areas for storm water runoff. A bond or a financial guarantee of performance will be required.~~

2. No more than 20% of the required landscape area shall be covered in mulch or bark dust. Mulch or bark dust under the canopy of trees or shrubs is excluded from this limit.
3. Hardscape features (i.e., patios, decks, plazas, and similar) may cover up to 10% of the required landscape area,
4. Trees shall have a minimum diameter or caliper 4 feet above grade of two inches or greater at time of planting.
5. Shrubs shall be planted from 5 gallon containers or larger.
6. All landscaped area that is not planted with trees and shrubs, or covered with non-plant material (bark dust or mulch), shall have ground cover plants that are sized and spaced as follows: a minimum of one plant per 12 inches on center in triangular spacing, or other planting pattern that is designed to achieve 75% coverage of the area not covered by shrubs and tree canopy.

~~E. Site access. 1 curb cut (45 ft maximum) per 150 ft of street frontage.~~

~~F. Transition Area~~

~~Industrial development adjacent to and within 120 ft of areas zoned for residential uses is subject to Type I or II review per Section 19.906 Development Review. The following characteristics will be considered:~~

~~1. Noise~~

~~2. Lighting~~

~~3. Hours of operation~~

~~4. Delivery and shipping~~

~~5. Height of structure~~

~~6. Distance to residential zone boundary~~

~~The review authority may attach conditions to reduce any potentially adverse impacts to residential properties.~~

~~G~~E. Transportation requirements and standards. As specified in Chapter 19.700.

F. Outdoor uses shall be screened as follows:

1. All outdoor storage areas shall be screened from adjacent properties by a six-foot high sight-obscuring fence or wall or by the use of vegetation. Vegetation used to screen outdoor storage areas shall be of such species, number, and spacing to provide the required screening within one (1) year after planting.
2. All screened or walled outdoor use and storage areas which abut a public street shall be set back a minimum of 25 feet from the property line(s). Within that setback area trees and evergreen shrubs shall be planted. The plants shall be of such a variety and arranged to allow only minimum gaps between foliage of mature trees and plants within four years of planting.

G. Parking, loading and unloading areas shall be located as follows:

1. Parking, loading and unloading areas shall not be located within a required setback.

2. No loading or unloading facilities shall be located adjacent to lands designated for residential uses or a residential community service if there is an alternative location of adequate size on the subject site.

H. External effects. The potential external effects of manufacturing uses shall be minimized as follows:

1. Except for exterior lighting, operations producing heat or glare shall be conducted entirely within an enclosed building.

2. Potential nuisances such as noise, odor, electrical disturbances and other public health nuisances are subject to Title 8 of Milwaukie's Municipal Code.

3. Roof mounted mechanical equipment such as ventilators and ducts for buildings located adjacent to residential districts, arterial streets or transit streets shall be contained within a completely enclosed structure that may include louvers, latticework, or other similar features.

J. Chapter 19.500, Supplementary Development Regulations contains additional standards that may apply.

Appendix E: Draft Tacoma Station Area Overlay Zone

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[NOTE: THE LANGUAGE IN THE OVERLAY ASSUMES THAT THE RECOMMENDED AMENDMENTS TO THE M ZONE, AS DESCRIBED IN APPENDIX D, ARE ADOPTED.]

CHAPTER 19.400 OVERLAY ZONES AND SPECIAL AREAS

19.406 TACOMA STATION AREA OVERLAY ZONE

19.406.1 Purpose . This overlay zone implements the Tacoma Station Area Plan and will help ensure that future development in the Station Area is consistent with the vision established in the Plan. The overlay zone is intended to facilitate the following:

- *A mix of employment and other appropriate uses with employment densities that support light rail transit, particularly in close proximity to the Tacoma light rail station*
- *Support for existing businesses*
- *An appropriate amount of parking for employees and visitors*
- *Attractive building designs and public facilities*
- *A simple and timely review process for new development*

19.406.2 Applicability. The standards and requirements in this section apply to all properties within the Tacoma Station Area Overlay Zone boundary as shown on Figure X.

19.406.3 General Provisions. The following provisions apply to all development within the Tacoma Station Area Overlay:

A. *Consistency with base zone.* The Manufacturing zone is the base zone for the overlay and all requirements of the base zone apply in the overlay unless otherwise noted in this section. Where conflicts occur between this section and other sections of the code, the standards and requirements of this section shall supersede.

B. *Off-site impacts.* In order to ensure greater compatibility between manufacturing and non-manufacturing uses in the Tacoma Station Area, the following off-site impact standards apply in Subareas 1-3.

1. Applicability. The off-site impact standards in this section apply to all new machinery, equipment and facilities associated with manufacturing uses. Machinery, equipment or facilities that were at the site and in compliance with existing regulations at the effective date of these regulations are not subject to these off-site impact standards.

2. Noise. The City's noise control standards and requirements in Chapter 8.08 apply.

3. Vibration. Continuous, frequent or repetitive vibrations that exceed 0.002g peak are prohibited. Generally, this means that a person of normal sensitivities should not be able to feel any vibrations.

(a) Temporary vibrations from construction activities or vehicles leaving the site are exempt.

(b) Vibrations lasting less than 5 minutes per day are exempt.

(c) Seismic or electronic measuring equipment may be used when there are doubts about the level of vibrations.

4. Odor. Continuous, frequent or repetitive odors are prohibited. The odor threshold is the point at which an odor may just be detected. An odor detected for less than 15 minutes per day is exempt.

5. Illumination. Machinery, equipment and facilities may not directly or indirectly cause illumination on other properties in excess of 0.5 foot candles of light.

6. Measurements for compliance with these standards may be made from the property line or within the property of the affected site. Measurements may be made at ground level or at habitable levels of buildings.

7. An applicant must provide documentation certified by a registered engineer or architect, as appropriate, to ensure the proposed activity can achieve compliance with these standards.

C. *Additional standards.* In addition to the standards of the base zone and the overlay zone, the following chapters of code contain requirements and standards that may apply:

1. Chapter 19.500 Supplementary Development Regulations

2. Chapter 19.600 Off-Street Parking and Loading

3. Chapter 19.700 Public Facility Improvements

4. Chapter 19.800 Nonconforming Uses and Development

D. *Street design.* New or improved streets within the Station Area shall be constructed consistent with the street design cross-sections established in the Tacoma Station Area Plan, which can be found in Chapter X of the Transportation System Plan (TSP).Transition area standards to ensure compatibility with such a broad mix of allowed uses. The existing transition area standards in Section 19.504.6 may be sufficient to address transitions in the overlay zone. If not, some clear and objective standards could be added here to strengthen or expand on the existing standards.

E. *Review process.* All new or expanded/modified development within the overlay shall be processed through a Type I or Type II Development Review, consistent with Chapter 19.906. Review process. All new or expanded/modified development in the overlay will be processed through Type I or Type II Development Review consistent with Chapter 19.906.

19.406.4 Overlay Subareas. The Tacoma Station Area Overlay has been divided into four subareas to further refine the design and appropriate mix of uses for the different districts within the Station Area. Subarea boundaries are shown on Figure X. The intent of the subareas is to recognize that the Station Area is not anticipated to develop uniformly in the future. Lands closest to the future Tacoma light rail station are expected to support a different mix of uses and design standards than lands further from the station. The transportation network, existing and planned, also establishes a distinction between the varying transportation demands associated with anticipated land uses within the overlay subareas. As such, street design cross sections for the Tacoma Station Area, found in Chapter X of the TSP, may vary by subarea. The following sections define the four subareas and provide specific requirements and standards for each.

19.406.5 Subarea 1: North of Springwater

A. *Subarea boundary.* Subarea 1 is located north of Springwater Corridor and south of the Tacoma light rail station, as shown in Figure X.

B. *Subarea characteristics.* Due to its proximity to the Tacoma light rail station, Subarea 1 is intended to develop a mix of land uses, including retail commercial and limited residential uses that cater to light rail users. Subarea 1 is anticipated to develop as an active "Station Area community" supported by convenient access to light rail.

C. *Permitted uses.* Permitted uses in Subarea 1 are the same as those permitted in the base M zone, with the following exceptions:

1. Professional service and office uses are permitted in a stand-alone building with no size limitations (they do not need to be accessory to a manufacturing use).

2. Multifamily residential in a stand-alone building and second-story residential (above a ground floor commercial or office use) is permitted outright.

D. *Limited and prohibited uses.* The following uses are not allowed or are allowed with limitations:

1. Retail uses are permitted in a stand-alone building (do not need to be accessory to a manufacturing use). Retail uses shall not exceed 60,000 square feet per building or development project.

2. Warehousing and storage uses, as defined in 19.309.1.D, are allowed only as accessory or secondary uses to a permitted use. Stand-alone warehouse and storage uses are prohibited.

3. Only those manufacturing uses that comply with the off-site impact standards in Section 19.406.3B are allowed.

E. *Development standards for non-manufacturing uses.* In addition to the standards in the base M zone, non-manufacturing uses shall comply with the standards below.

1. Density. The density standards below apply to residential developments only:

2. Floor-area-ratio: Minimum of 0.5:1 and maximum of 3:1

3. Building height: Minimum of 25 feet and maximum of 65 feet

4. Minimum setbacks:

   (a) (Front: 0 feet [City is evaluating this standard and may revise.]

   (b) Side and rear: 0 feet or 10 feet if abutting a residential zone

5. Parking location. No surface parking shall be located within a front setback.

6. Signage. At least one pedestrian-oriented sign shall be provided along the building façade that faces the street. Pedestrian-oriented signs may be attached to the building, an awning, a kiosk, hanging, or otherwise so long as it is displayed at a height no greater than 10 feet above the sidewalk and faces the street. All signs must comply with Title 14 Signs of the Milwaukie Municipal Code.

7. Stand-alone multifamily residential development shall comply with section 19.505.3 Design Standards for Multifamily Housing. In addition, the ground floor of stand-alone multifamily buildings shall be constructed to meet building code standards for a retail use. This will facilitate efficient conversion of the ground floor space from residential to retail in the future.

F. *Design standards for all new construction and major exterior alterations.* In addition to the standards in the base M zone, both manufacturing and non-manufacturing uses shall comply with the standards below. Exterior maintenance and repair and minor exterior alterations are not subject to these standards. Stand-alone multifamily buildings are not subject to these standards. Subsection (G) below defines exterior maintenance and repair and major/minor exterior alterations.

1. Ground floor windows and doors. Long expanses of blank walls facing the street or other public area have negative impacts on the streetscape and the pedestrian environment. To minimize these effects, the standards of this section are intended to enhance street safety and provide a comfortable walking environment by providing ground-level features of interest to pedestrians. All exterior walls facing the street or sidewalk must meet the following standards:

(a) 50% of the ground-floor street wall area must consist of openings; i.e., windows or glazed doors. The ground-floor street wall area is defined as the area up to the finished ceiling height of the space fronting the street or 15 ft above finished grade, whichever is less. See Figure 19.406-1. Percent window coverage is defined as the total ground floor window area divided by the total ground floor street wall area.

(b) Ground floor windows shall be distributed along the wall area such that there are no lengths of window-less wall greater than 20 feet.

(c) Clear glazing is required for ground-floor windows. Nontransparent, reflective, or opaque glazing are not permitted.

(d) Ground-floor windows shall allow views into storefronts, working areas, or lobbies. No more than 50% of the window area may be covered by interior furnishings including but not limited to curtains, shades, signs, or shelves. Signs are limited to a maximum coverage of 20% of the window area.

2. Design Standards for Windows. The following standards are applicable to building windows facing streets, courtyards, and/or public squares.

(a) Windows shall be “punched” openings recessed a minimum of 2 in from the wall surface.

(b) Window height shall be equal to or greater than window width.

(c) The following windows are prohibited:

(i) Reflective, tinted, or opaque glazing;

(ii) Simulated divisions (internal or applied synthetic materials);

(iii) Exposed, unpainted metal frame windows.

(iv)

3. Building orientation. All buildings shall have at least one primary building entrance (i.e., dwelling entrance, customer entrance, a tenant entrance, lobby entrance, or breezeway/ courtyard entrance) facing an adjoining street (i.e., within 45 degrees of the street property line). If the building entrance is turned more than 45 degrees from the street (i.e., front door is on a side elevation), the primary entrance shall not be more than 40 feet from a street sidewalk, except to provide pedestrian amenities. In all cases, a walkway shall connect the primary entrance to the sidewalk. See Figure 19.406-2 for illustration.

4. Weather protection. All building entrances shall include an awning, canopy, recess or some other form of shelter to provide weather protection and shade for users.

5. Design Standards for Walls. The following standards are applicable to the exterior walls of buildings facing streets, courtyards, and/or public squares.

(a) Exterior wall-mounted mechanical equipment is prohibited.

(b) The following wall materials are prohibited at the street level of the building:

(i) EIFS or other synthetic stucco panels;

(ii) Splitface or other masonry block.

(iii) Plywood paneling;

(iv) Brick with dimensions larger than 4 by 8 by 2 in;

(v) Vinyl or metal cladding;

(vi) Composite wood fiberboard or composite cement-based siding;

6. Design Standards for Roofs. The following standards are applicable to building roofs.

(a) Flat roofs shall include a cornice with no less than 6 in depth (relief) and a height of no less than 12 in.

(b) Mansard or decorative roofs on buildings less than 3 stories are prohibited.

G. *Definitions for design standards applicability.*

1. Exterior maintenance and repair includes refurbishing, painting, and weatherproofing of deteriorated materials, and in-kind restoration or replacement of damaged materials. Exterior maintenance and repair does not include replacement of materials due to obsolescence or when associated with minor or major exterior renovation, as defined below. Exterior maintenance and repair does not include the placement of signs.

2. Minor exterior alterations include the exterior alterations of any portion of a structure that do not fall within the definitions of “exterior maintenance and repair” or “major exterior alterations.” Minor exterior alterations include, but are not limited to, the application or installation of finish building treatments, including windows and other glazing, doors, lintels, copings, vertical and horizontal projections including awnings, and exterior sheathing and wall materials. Minor exterior alteration does not include the placement of signs.

3. Additions not exceeding 250 sq ft may be considered a minor exterior alteration only when the additional floor area is designed and used for utility, HVAC, other mechanical equipment, ADA upgrades, or egress required by applicable fire safety or building codes.

4. Major exterior alterations include any of the following:

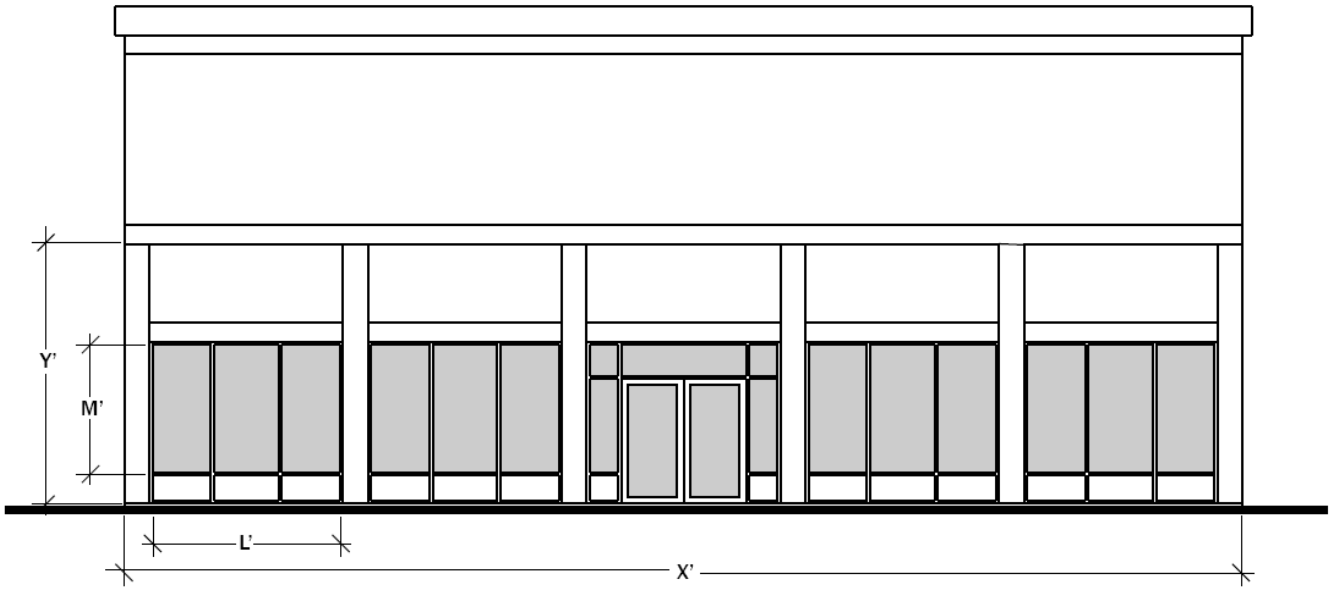
(a) Alterations that do not fall within the definitions of “exterior maintenance and repair” or “minor exterior alterations”;

(b) Demolition or replacement of more than 25% of the surface area of any exterior wall or roof;

(c) Floor area additions that exceed 250 sq ft or do not meet the limited purposes as defined under the minor exterior alteration (ADA upgrades, etc.).

5. The design standards in subsection (F) above are applicable to major exterior alterations as follows: Major exterior alterations involving a wall(s) shall comply with the design standards for walls and the design standards for windows for that wall(s). Major exterior alterations involving a roof shall comply with the design standards for roofs.

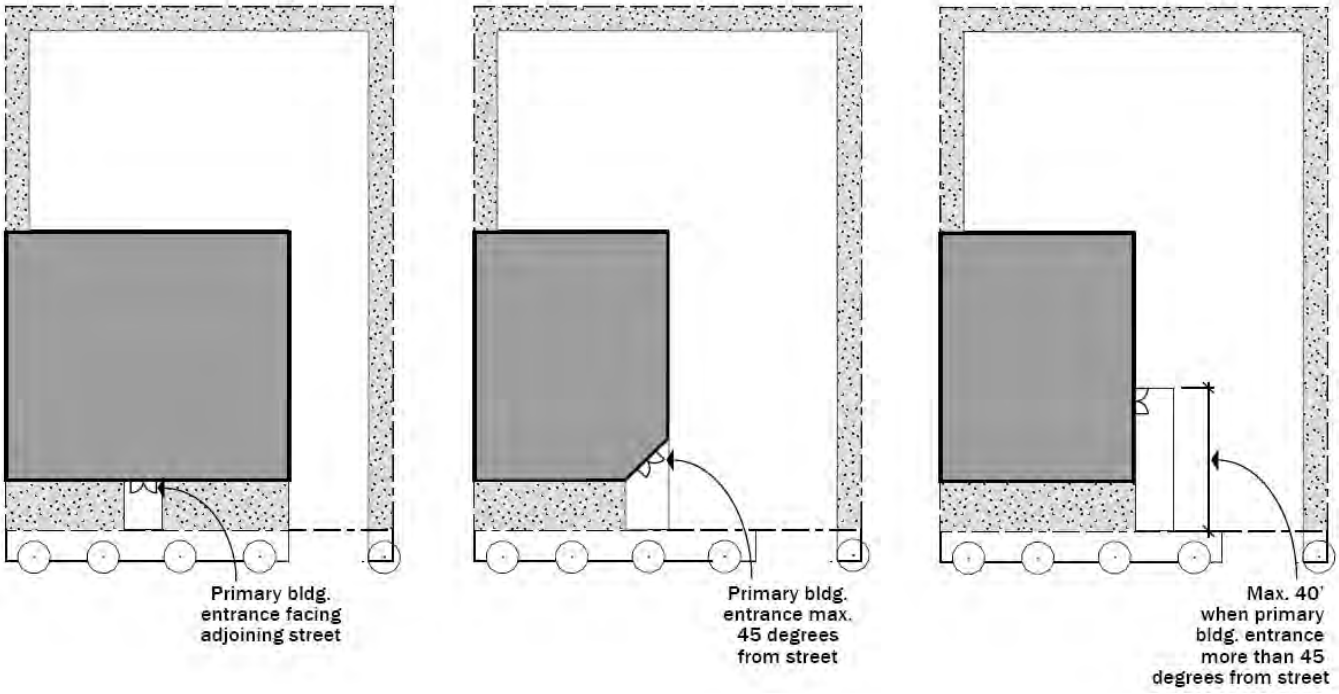
Figure 19.406-1 Ground Floor Windows and Doors



Ground Floor Windows and Doors Area Calculation:

Single window area = L*M
Total window area (TWA) = (L*M) * (number of window bays, including transparent doors)
Total ground floor street wall area = X*Y

Figure 19.406-2 Building Entrances



19.406.6 Subarea 2: West of McLoughlin.

A. *Subarea boundary.* Subarea 2 is the area of land north of Ochoco Street, surrounding the Springwater Corridor west of McLoughlin Blvd, as shown in Figure X.

B. *Subarea characteristics.* This subarea is intended to develop with a mix of employment and residential uses, including live/work units that can be compatible with surrounding manufacturing uses.

C. *Permitted uses in Subarea 2 are the same as those permitted in the base M zone, with the following exceptions:*

1. Professional service and office uses are permitted in a stand-alone building with no size limitations (they do not need to be accessory to a manufacturing use).

2. Multifamily residential in a stand-alone building and second-story residential (above a ground floor commercial or office use) is permitted outright.

3. Rowhouse development is permitted and can include live/work style units with ground-floor work space or commercial space.

D. *Limited and prohibited uses.* The following uses are not allowed or are allowed with limitations:

1. Retail uses are permitted in a stand-alone building (do not need to be accessory to a manufacturing use). Retail uses shall not exceed 30,000 square feet per building or development project.

2. Warehousing and storage uses, as defined in 19.309.1.D, are allowed only as accessory or secondary uses to a permitted use. Stand-alone warehouse and storage uses are prohibited.

3. Only those manufacturing uses that comply with the off-site impact standards in Section 19.406.3B are allowed.

E. *Development and design standards.* The development and design standards for Subarea I in Sections 19.406.5(E-G) also apply to Subarea 2, with the following addition:

1. Rowhouse development in Subarea II shall comply with Section 19.505.5 Standards for Rowhouses.

19.406.7 Subarea 3: Mixed Employment.

A. *Subarea boundary.* Subarea 3 is the area between Beta Street and Springwater Corridor, east of McLoughlin Blvd., *as shown in Figure X.*

B. *Subarea characteristics.* Subarea 3 is intended to develop as a relatively intense mixed employment district including office, light manufacturing, research and development, and other general employment uses, along with supporting retail/commercial uses. Subarea 3 is also appropriate for larger scale civic or institutional uses.

C. *Permitted uses.* Permitted uses in Subarea 3 are the same as those permitted in the base M zone, with the following exceptions:

1. Professional service uses are permitted in a stand-alone building with no size limitations (they do not need to be accessory to a manufacturing use).

2. Multifamily residential in a stand-alone building and second-story residential (above a ground floor commercial or office use) is permitted outright. Deed restrictions will apply to multifamily development in order to reduce potential conflicts between residential uses and surrounding manufacturing uses.

D. *Limited and prohibited uses.* The following uses are not allowed or are allowed with limitations:

1. Retail uses are permitted in a stand-alone building (do not need to be accessory to a manufacturing use). Retail uses shall not exceed 30,000 square feet per building or development project.Development standards for manufacturing uses will be the standards of the base zone plus additional standards similar to those in the Business Industrial zone (Section 19.310.6).

2. Warehousing and storage uses, as defined in 19.309.1.D, are allowed only as accessory or secondary uses to a permitted use. Stand-alone warehouse and storage uses are prohibited.

3. Only those manufacturing uses that comply with the off-site impact standards in Section 19.406.3B are allowed.

E. *Development and design standards.* The development and design standards for Subarea 1 in Sections 19.406.5(E-G) apply to Subarea 3, with the following additions:

1. All development with frontage along Main Street shall have a front setback of 10 feet.

19.406.8 Subarea 4: Manufacturing.

A. *Subarea boundary.* Subarea 4 is comprised of the area south of Beta Street and north of Highway 224, as shown on Figure X.

B. *Subarea characteristics.* This subarea is intended to continue to develop as a manufacturing district with some flexibility for non-manufacturing uses to occur at higher levels than would be allowed in the base M zone.

C. *Permitted uses.* Permitted uses.in Subarea 4 are the same as those permitted in the base M zone, with the following exceptions:

1. Retail commercial and professional service uses may be permitted in a stand-alone building (they do not need to be included with a manufacturing use). The size limitations of the base M zone, Section 19.309.5(B1-2) still apply.

D. *Limited and prohibited uses.* The following uses are not allowed or are allowed with limitations:

1. Warehousing and storage uses, as defined in 19.309.1.D, are allowed only as accessory or secondary uses to a permitted use. Stand-alone warehouse and storage uses are prohibited.

E. *Parking requirements.* In Subarea 4, the following parking requirements apply and supersede any conflicting requirements found in Table 19.605.1 or other sections of the code.

1. For general office uses:

   (a) Minimum number of parking spaces: 2 per 1,000 square feet of gross floor area

   (b) Maximum number of parking spaces: 4.1 per 1,000 square feet of gross floor area

2. For retail commercial uses:

   (a) Minimum number of parking spaces: 2 per 1,000 square feet of gross floor area

   (b) Maximum number of parking spaces: 6.2 per 1,000 square feet of gross floor area

3. For manufacturing uses:

   (a) (a) Minimum number of parking spaces: 1 per 1,000 square feet of gross floor area

   (b) (b) Maximum number of parking spaces: none

4. The minimum and maximum parking requirements in this section may be modified consistent with Section 19.605.2 Quantity Modifications and Required Parking Determinations.

   (a)

F. *Development and design standards.* In addition to the development standards in the base M zone, the design standards in Sections 19.406.5(F-G) apply to developments that have frontage on Main Street in Subarea 4, with the following changes:

1. All development with frontage along Main Street shall have a front setback of 10 feet.

2. The ground floor window coverage requirement in Section 19.406.5.F(1a) is reduced to 30% in this subarea.

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Appendix F: Conceptual Designs for Main Street and Springwater Corridor Undercrossing

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Conceptual Design Project 1. Main Street Plan

This project is described elsewhere in the Station Area Plan as a set of proposed improvements to Main Street through the length of the planning area. Cross-sections further illustrating the design of Main Street are included in Appendix F. They are referenced in the text below and in the maps on the following pages. This additional design work included a more detailed look at how a new Main Street might vary along its length, including intersection geometry and crosswalk locations.

The following maps compare existing and proposed designs for SE Main Street. The designs shown generally correspond to the cross-sections for different segments of the street as shown in the appendix. However, the illustrations on these sheets show more detail in transition areas and at intersections, and they show how on-street parking might be allocated along the street. The dimension of all elements in these illustrations is to scale.

Sheet 1: From Highway 224 to Milport Road

The preferred cross-section shown in Appendix F, Figure F-1 allows for either a 13-foot multi-use path or a 9-foot path with a 4-foot planted buffer for Main Street south of Milport Road. The conceptual design shown on Sheet 1 shows an option with a 4-foot planted buffer with street trees and a 9-foot multi-use path. Additional design elements in this section of Main Street include a marked crossing for the multi-use path at SE Hanna Harvester Drive and driveway cuts where needed for existing uses.

The 39-foot cross-section shown in Figure F-1 and assumed in the conceptual design works with the existing constraints of structures along the east side of Main Street. As redevelopment occurs south of Milport Road, however, additional right-of-way should be obtained to allow an increase in the right-of-way to 45 feet in order to match the cross-section north of Milport Road.

Sheet 2: From Milport Road to Beta Street

This sheet illustrates the preferred cross-section (Appendix F, Figure F-2) for Main Street north of Milport Road and south of Beta Street. This segment of Main Street includes a 12-foot multi-use path with a 7-foot buffer that includes either landscaping or on-street parking. The conceptual design shown gives an example of how landscaping and parking could be allocated along the segment. The illustration also shows two new crosswalks: one where the multi-use path crosses SE Mailwell Drive, and one at the north end of the segment, where a walkway connects Main Street to the sidewalk on McLoughlin Boulevard.

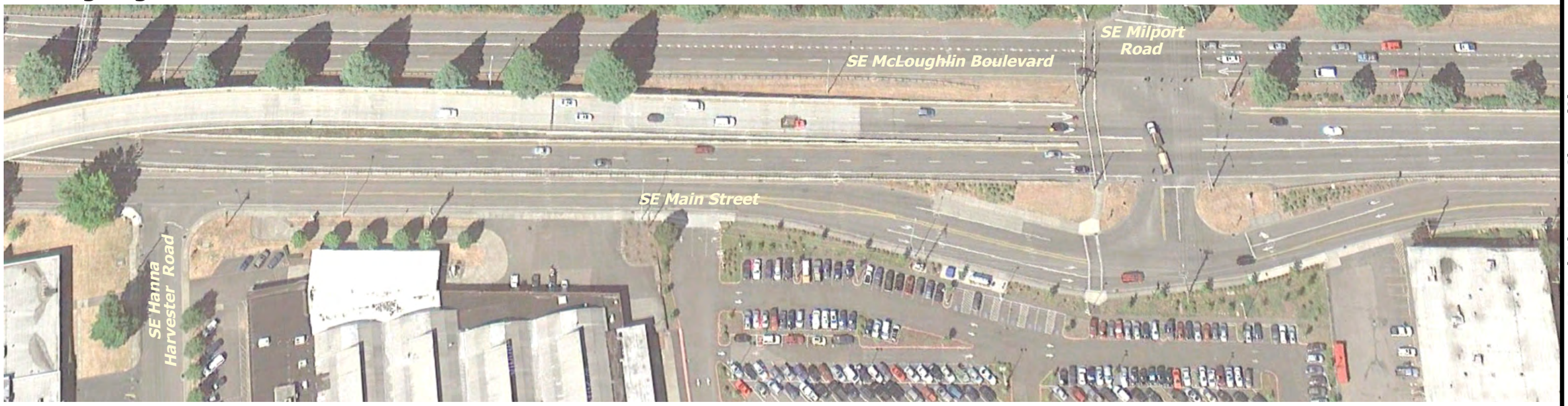
The proposed Main Street cross-section impacts off-street parking in a few areas. At the properties adjacent to Mailwell Drive, head-in parking directly from Main Street (both north and south of Mailwell Drive) would no longer be possible with the new cross-section in place, as long curb cuts are not part of the design. Also, off-street parking at the lot south and east of Main Street where it bends toward Beta would need to be reconfigured. The multi-use path would travel along space currently dedicated to angled parking along the north side of the lot, and space for vehicles to maneuver into angled parking against the existing building would be lost on the west side of the lot.

Finally, this sheet illustrates how the cross-section shown in F-2 could transition at the bend in the road to meet the next proposed cross-section (F-3) north of Beta Street, which includes 14-foot travel lanes as well as sidewalks and buffers on the west side of the street.

Sheet 3: From Beta Street to Moores Street

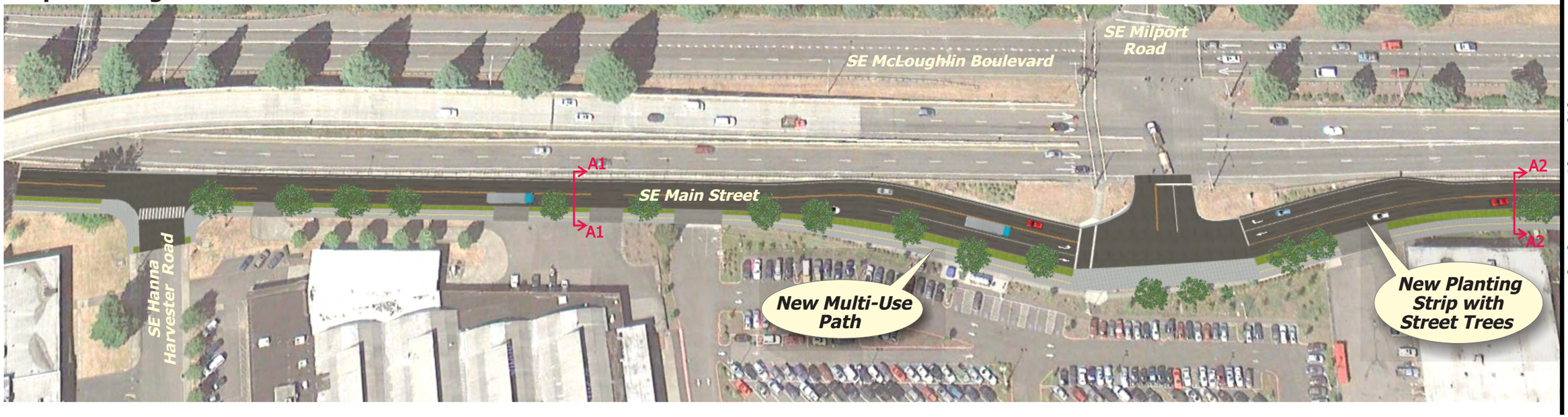
This sheet shows a conceptual design for the cross-section north of Beta Street (Appendix F, Figure F-3), assuming a total of 64 feet of right-of-way. This wider right-of-way allows 14-foot travel lanes to accommodate truck movements through Main Street's curves, as well as sidewalks on the west side of the street. The cross-section allows for 7 feet of either on-street parking or landscaping on each side as well. The conceptual design layout shows an example of how the landscaping and parking might be allocated along this segment of Main Street. The design includes marked pedestrian crossings at all legs for all intersections.

Existing Alignment



Match Line Next Sheet (2)

Proposed Alignment



Match Line Next Sheet (2)

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EXISTING & PROPOSED ALIGNMENT

Main Street from Hwy 224 to Milport Road

0 25′ 50′ 100′ 200′

Scale

Existing Alignment

Proposed Alignment

Sheet 2 of 3

EXISTING & PROPOSED ALIGNMENT

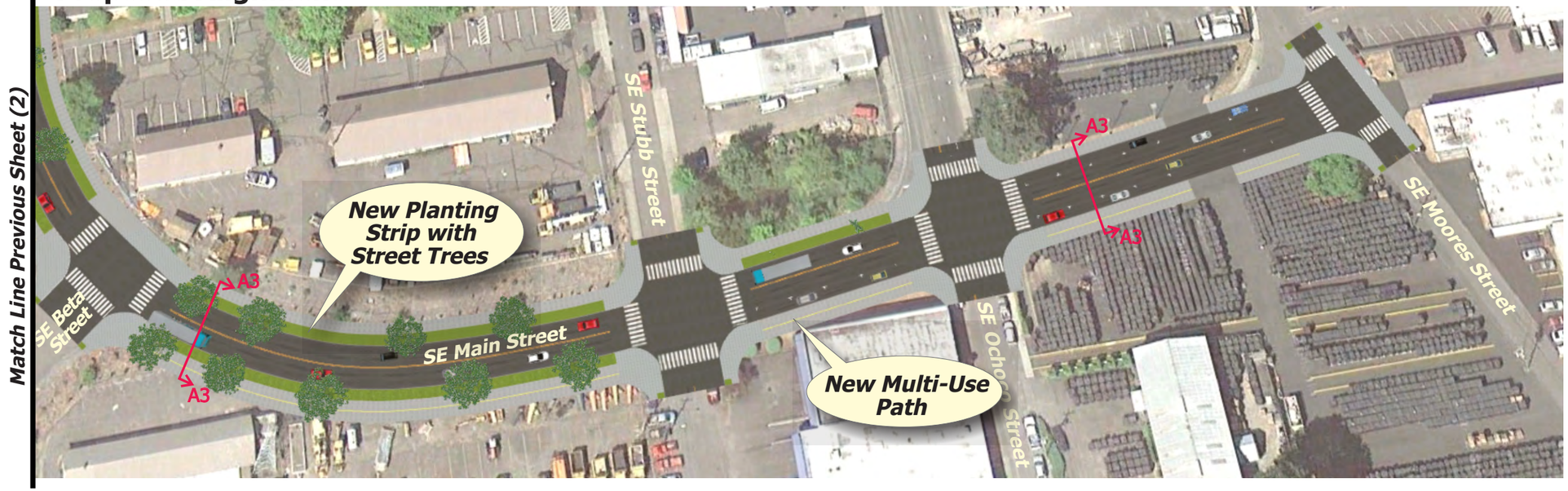
Main Street from North of Milport Road to South of Beta Street

0 25′ 50′ 100′ 200′

Scale

Existing Alignment

Proposed Alignment



EXISTING & PROPOSED ALIGNMENT

Main Street from South of Beta Street to Moores Street

0 25′ 50′ 100′ 200′

Scale

Conceptual Design Project 2. Pedestrian and Bicycle Undercrossing – Main Street to Opportunity Site A

This new pedestrian and bicycle connection would act as an extension of the Main Street multi-use path, extending the path north under the Springwater Trail. Where it emerges on the north side of the Springwater Trail, it joins a modified pathway network that connects the Springwater Trail and the Tacoma Station.

South of the Undercrossing

The new pedestrian and bicycle connection begins at Moores Street. Here, a marked crossing connects the multi-use path on the south side of Moores Street to a 14-foot wide path on the north side that leads to the new Springwater Trail undercrossing.

North of the Undercrossing

Where the undercrossing emerges on the north side of the Springwater Trail berm, some realignment of existing and planned trails is needed in order to create new connections. The existing path that connects from the McLoughlin Boulevard sidewalk is realigned north so that it can intersect with the undercrossing at grade.

If the existing property north of the Springwater Trail redevelops, there may be an opportunity to create a more direct connection from this undercrossing to the Tacoma Station. This could be done through an easement, potentially with a covered pathway through the property (e.g., between buildings or through an "open air" space in a building).

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Appendix G: Conceptual Design for Ochoco/OR 99E Intersection Improvements

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Conceptual Design Project 3. SE McLoughlin Boulevard / SE Ochoco Street intersection

ODOT Region 1 developed several different concepts to improve the SE McLoughlin Boulevard / SE Ochoco Street intersection with the following goals:

- Improve access for all modes to the area; and in particular the area south of the Tacoma Station.
- Enhance the delineation of the 'indirect left' from SE McLoughlin Boulevard to SE Ochoco Street eastbound.

Existing Conditions: Vehicles traveling southbound on SE McLoughlin Boulevard with the destination to go eastbound on SE Ochoco Street uses the right-turn lane at the signalized intersection that directs vehicles to travel through the intersection onto a 'jug-handle' connection with SE Ochoco Street. Vehicles then travel on SE Ochoco Street through the SE McLoughlin Boulevard signal to access the eastside of the roadway. This type of design is referred as an 'indirect left.'

Preferred Solution: ODOT Region 1 considered various different concepts of modifying the SE McLoughlin Boulevard / SE Ochoco Street intersection including flattening the turning radius on the northeast corner of the intersection. Figures A and B show the preferred solution to address the mixed transportation mode needs in this area. The preferred solution is broken into two projects for phasing purposes.

Indirect Left and Left-Turn Lane Comparison: The 'indirect left' have the following operational and safety benefits in comparison with a left-turn lane from SE McLoughlin Boulevard southbound to eastbound SE Ochoco Street:

- Reduction in the number of signal phases to an intersection reducing delay for all vehicles, bicycles, and pedestrians using the signal;
- The distance across SE McLoughlin Boulevard is shorter for pedestrians;
- The shorter distance for pedestrians to cross SE McLoughlin Boulevard allows the signal timing to have less delay on SE McLoughlin Boulevard through movement;
- Reduction in the risk of turning crashes on SE McLoughlin Boulevard;
- Reduction in the risk of rear-end crashes on SE McLoughlin Boulevard from the signal allowing more green time to the through movement on SE McLoughlin Boulevard; and
- Prevention of a scenario of a vehicle queue overflowing the left-turn lane causing the risk of a speed differential rear-end or sideswipe crashes.

Figure A adds sidewalk on the north side of the 'jug-handle' connector road. It also reduces the crossing distance for pedestrians at the connector road intersection with SE Ochoco Street. The southwest corner of the intersection in this Figure is designed for trucks with 33-foot trailers, but can accommodate trucks with 53-foot trailers. The southwest corner of the intersection is designed for trucks with 53-foot trailers.

Figure A: Indirect Left Pedestrian Enhancements Conceptual Designs

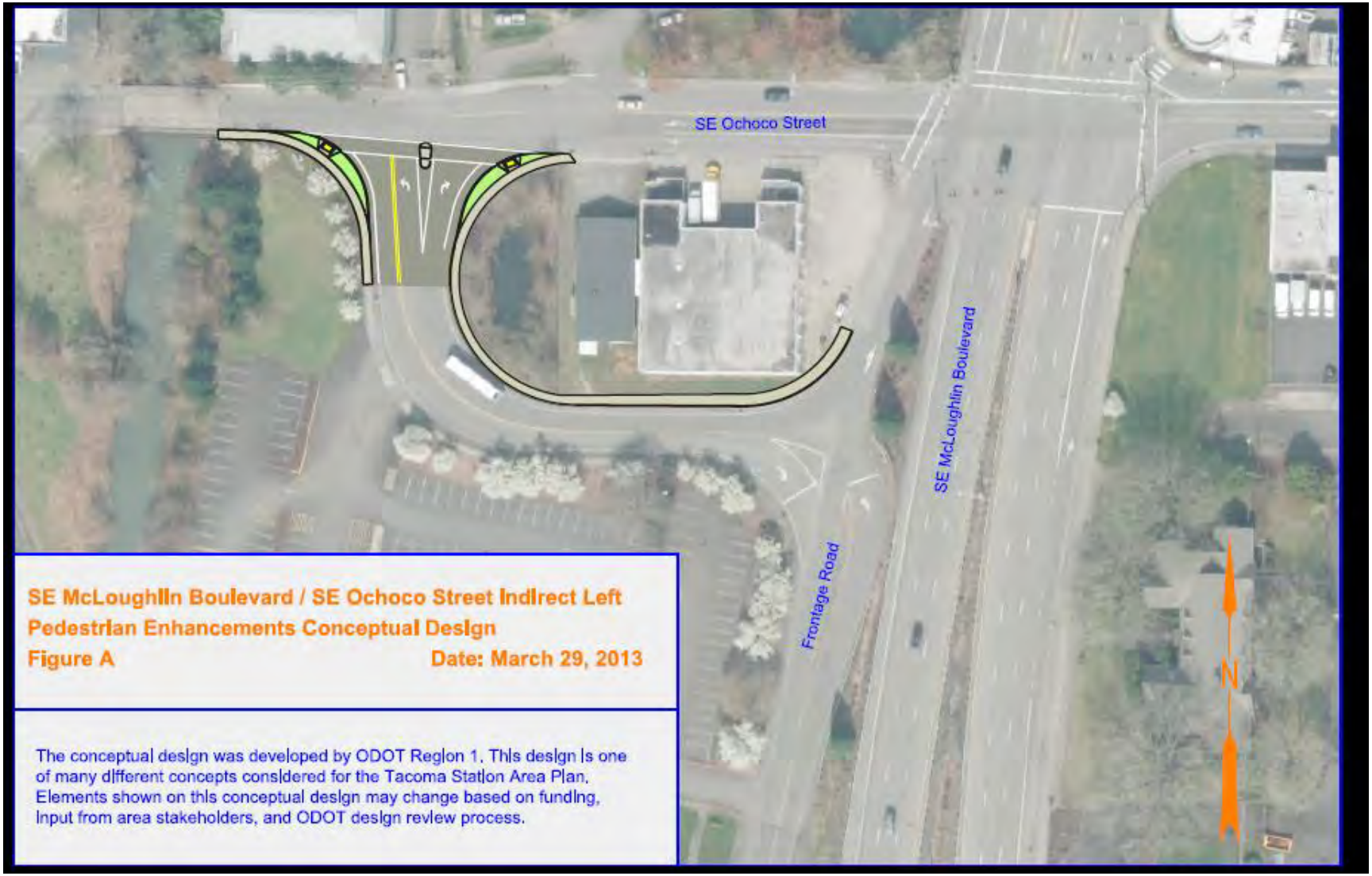

Figure B. Indirect Left Pedestrian and Delineation Enhancements Conceptual Design

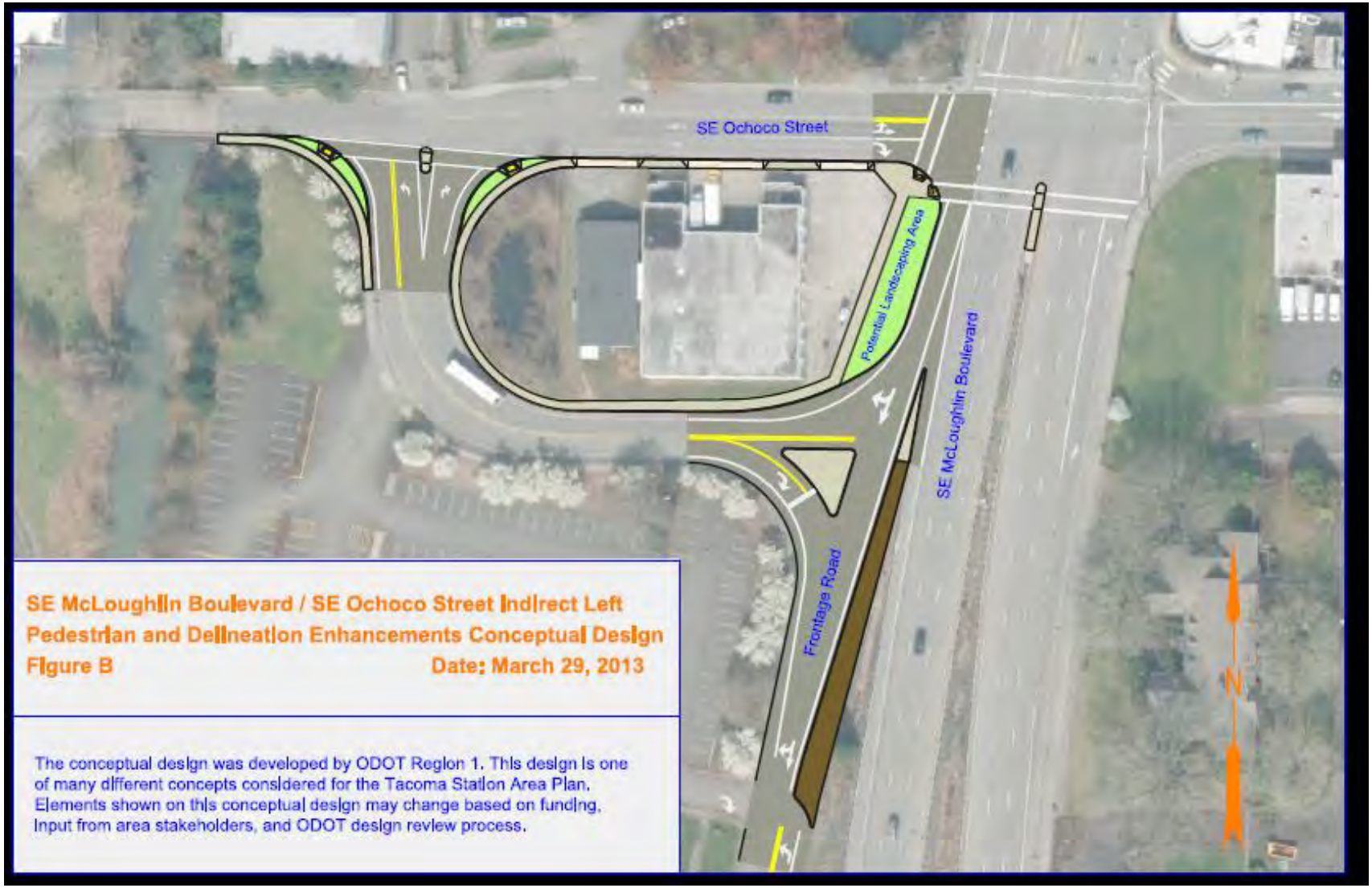

Figure B uses the same concept as Figure A, but also enhances the delineation of the 'indirect left.' This concept places access to the 'indirect left' after the intersection instead as a fifth-leg to the intersection. It allows the opportunity to place a marked crosswalk across the south leg of the SE McLoughlin Boulevard intersection. This concept requires a new traffic signal to be installed at the SE McLoughlin Boulevard intersection and working with TriMet to relocate the bus stop to a different location in the 'indirect left' path. Signs will be placed throughout the 'indirect left' to guide vehicles to their destinations.

Figure B removes the left-turn movement from northbound direction of the frontage road to the westerly-north direction of the 'jug-handle' connector since the proposed concept creates design challenges of keeping this movement. Traffic volumes for this left-turn movement have very low number of vehicles in an hour. Vehicles with the destination to SE McLoughlin Boulevard or SE Ochoco Street from the frontage road can reach these destinations via the frontage road connection with SE Milport Road. If this concept develops into a project, the project team should collect input from businesses on the frontage road to determine if the removal of the left-turn movement is a viable option.

Other Recommended Improvements

Other recommended improvements to improve area operations include:

- A cantilever sign north of the Springwater Bridge structure informing vehicles of the 'indirect left' at the SE McLoughlin Boulevard intersection;
- Additional sidewalk ramps on the north side of SE Ochoco Street from the 'jug-handle' connection; and
- Improvements and modifications to the sidewalk ramps to/from the frontage road sidewalk in the area of 'jug-handle' connector road.

Preferred Solution Project Cost Estimates: Table 1 shows planning level cost estimates in 2013 dollars. These cost estimates will need more refinement as a project develops. Installation of a new traffic signal is the highest cost item in these estimates followed by the cantilever sign.

Improvement Concept	Order of Magnitude Costs
Cantilever Sign North of Springwater Bridge	$295,000 to $325,000
Cantilever Sign North of Springwater Bridge and Improvements Shown in Figure A	$390,000 to $430,000
Cantilever Sign North of Springwater Bridge and Improvements Shown in Figure B	$1.45 to $1.60 million

Preferred Solution Implementation: No funding is identified for the identified for the SE McLoughlin Boulevard / SE Ochoco Street intersection improvements. It is possible that the improvements can be carried out incrementally as described above or that portions or all of the phased improvements will be a condition of area redevelopment. The improvements in Figures A and B reduce impervious surface removing the need for new stormwater facilities.

Alternative Analysis

Left-Turn Alternative: A panel of developers organized by the plan project team requested ODOT to examine adding a protected signal phase left-turn lane from SE McLoughlin Boulevard southbound to eastbound SE Ochoco Street to replace the 'jug-handle' configuration that exists today. Interest from the panel in adding a signalized left-turn lane includes having more direct access to the area; and specifically, the area south of the Tacoma Station transit station and to help change the character of McLoughlin from an expressway to a more traditional downtown treatment. ODOT concluded that the current 'jug-handle' configuration operates safer and reduces delay for all transportation than an addition of a left-turn lane to the signal. The cost estimate to reconfigure the intersection with left-turn lane is $2.4 to 4.8 million and has been provided in the plan project list as background only. The reconfiguration to a left-turn lane is not supported by ODOT in the short to mid-term. Should area redevelopment occur beyond the forecast conditions, ODOT is willing to re-examine and discuss the trade-offs. The "Indirect Left and Left-Turn Lane Comparison" below provides more information on the findings.

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Appendix H: Main Street Jurisdictional Transfer Order Map

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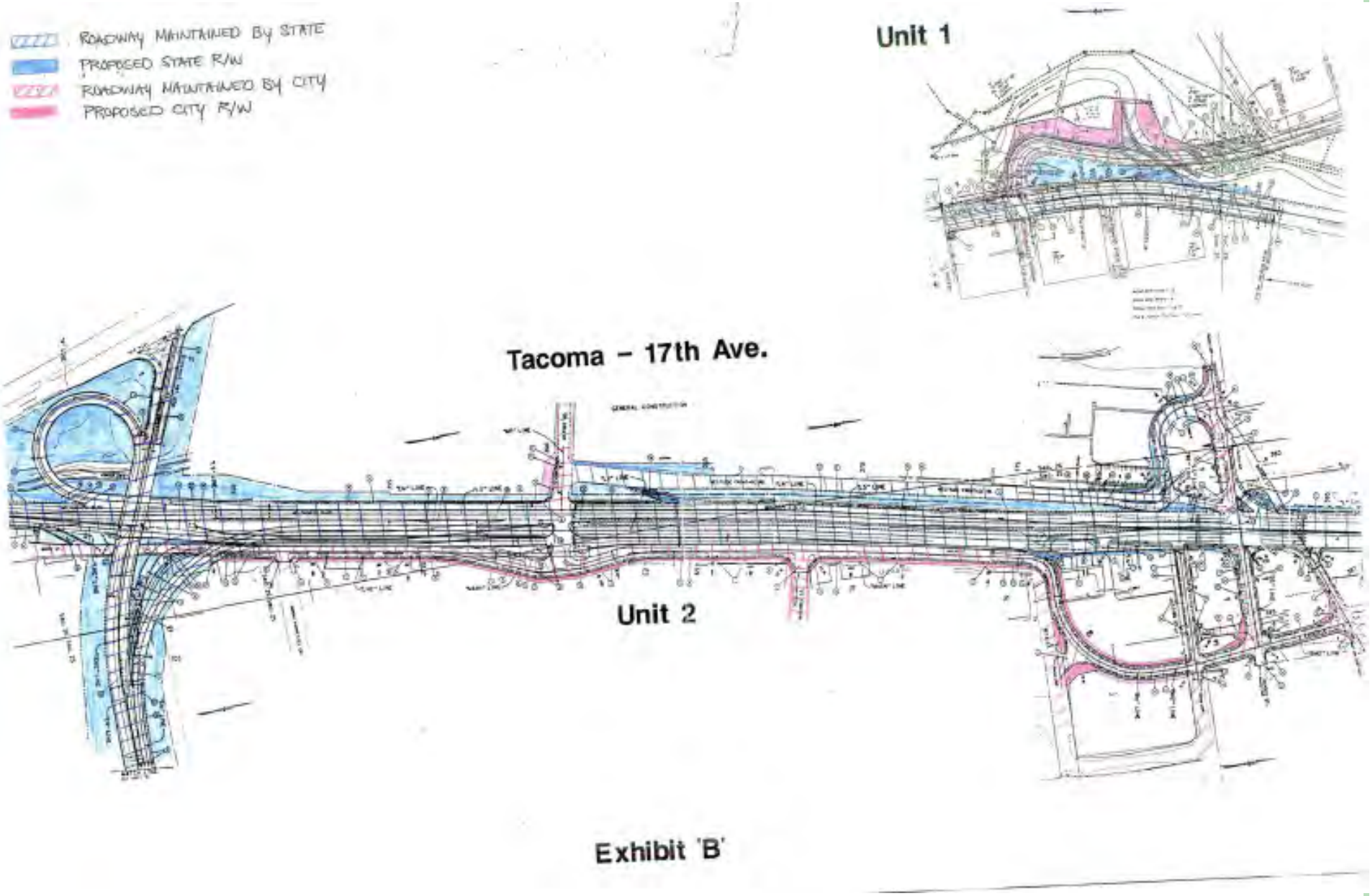
ROADWAY MAINTAINED BY STATE
PROPOSED STATE R/W
ROADWAY MAINTAINED BY CITY
PROPOSED CITY R/W
Unit 1
Tacoma – 17th Ave.
Unit 2

Exhibit 'B'

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Appendix I: Station Area Parking Supply & Demand Analysis

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Parking Demand and Management

This section provides a brief summary of key issues and findings regarding parking demand and management for the Preferred Redevelopment Scenario.

Projected Parking Demand and Supply

Parking demand was estimated for the Preferred Redevelopment Scenario using the leasable square footage assumptions for each land use and typical parking demand profiles for each land use, with a 30% reduction in demand assumed for areas north of Beta Street. Minimum required off-street parking supply was calculated based on the same leasable square footage assumptions by land use and the requirements specified in the city code. On-street parking is included in the supply as well.

Analysis shows that parking demand under the Preferred Redevelopment Scenario is forecast to significantly exceed the supply provided under the city code, particularly south of Beta Street. In order to meet a target of 85% on-street occupancy, assuming off-street parking is occupied at the same rate, additional capacity beyond the minimum is needed in these areas. Table 1, below, shows the results of this supply and demand analysis.

Table 1: Preferred Redevelopment Scenario Supply vs. Demand

	Supply provided on street and in code	Demand	Additional supply needed to meet 85% occupancy target
Subarea 1	179	140	0
Subarea 2	86	61	0
Subarea 3A	186	152	0
Subarea 3B	263	306	97
Subarea 4	1,515	1,997	834
TOTAL	**2,229**	**2,656**	**931**

The imbalance between parking capacity and parking demand highlights the importance of demand-oriented strategies (discussed in the Redevelopment Scenarios Evaluation Report) and shared parking among different land uses. This is true particularly north of Beta Street, where the proposed mix of uses includes residential and significant retail. South of Beta Street (Subarea 4), however, the imbalance between supply and demand means additional strategies need to be considered:

- Repurposing the existing TriMet park-and-ride lot to provide more parking capacity
- Changing the code for the Manufacturing zone to increase the proportion of industrial use required
- Changing the code to increase the parking minimums for office and retail uses

To illustrate how these strategies might work, two alternative parking scenarios were developed: one that relies on additional capacity from the TriMet lot, and one that makes more substantial code changes that eliminate the need for the TriMet lot.

Alternative Parking Scenario 1

This scenario combines all three strategies in order to balance supply with demand. It assumes the following changes from the baseline scenario analyzed above:

- The TriMet lot (329 spaces) is repurposed as general parking for the surrounding land uses.
- The Manufacturing zone code is modified (or an overlay zone created) that requires **50%** industrial use rather than the current 25%.
- The parking code is modified to require a minimum of **2.5** spaces per 1,000 square feet for office uses (rather than the current 2) and **3.5** spaces per 1,000 square feet for retail uses (rather than the current 2.5).

Industrial uses tend to generate the least parking demand out of all of the allowed Manufacturing zone uses. Also, the city code's parking minimums for industrial uses are generally in line with likely demand. Therefore, increasing the proportion of industrial use and increasing parking minimums for other uses helps balance supply with demand.

Alternative Parking Scenario 2

This scenario avoids using the TriMet property for parking, making it a candidate redevelopment site instead. It assumes the following changes from the baseline scenario analyzed above:

- The Manufacturing zone code is modified (or an overlay zone created) that requires **75%** industrial use rather than the current 25%.
- The parking code is modified to require a minimum of **3** spaces per 1,000 square feet for office uses (rather than the current 2) and **4** spaces per 1,000 square feet for retail uses (rather than the current 2.5).

To avoid the need for the TriMet lot's additional capacity, more substantial changes to the code are needed. The proportion of industrial use south of Beta Street must be increased further, and the parking minimums for other uses are increased as well.

Table 2 shows how the supply and demand for parking south of Beta Street (Subarea 4) differ between the two alternatives.

Table 2: Alternative Parking Scenario Supply vs. Demand

	Demand	Supply provided on street, in TriMet lot, and in code	Supply needed to meet 85% occupancy target
Baseline	1,997	1,515	2,349
Alternative Scenario 1	1,509	1,816	1,775
Alternative Scenario 2	1,053	1,273	1,239

While both alternatives address both supply (parking minimums and potential TriMet lot use) and demand (reduced parking intensity from land use), they arrive at significantly different supply and demand totals. A more aggressive change to the land uses allowed south of Beta Street, as in Alternative 2, reduces both supply and demand significantly below baseline conditions. A less aggressive change to the land use mix reduces demand more modestly, and still requires more capacity (1,816 spaces vs. 1,515) than is provided under baseline conditions.

Other combinations of zone change, parking minimum change, and TriMet lot use are possible. Deciding which combination of strategies is most desirable will require further assessment of market conditions for the TriMet lot, as well as the desirability of the code changes described above.

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