Appendix D: Evaluation and Screening

Three Mile Lane Area Plan

May 2021

MEMORANDUM

Evaluation Criteria

McMinnville Three Mile Lane Area Plan

DATE	March 7, 2018 *Last Revised May 24, 2019*
TO	Heather Richards and Jamie Fleckenstein, City of McMinnville
FROM	Darci Rudzinski, Kate Rogers, and Andrew Parish, Angelo Planning Group
CC	Michael Duncan, ODOT PMT

INTRODUCTION

The purpose of this memorandum is to propose qualitative and quantitative criteria for use in evaluating alternatives developed by the Three Mile Lane Area Plan (3MLAP) process. These criteria are based on the project goals and objectives, and feedback received from focus groups, advisory committee meetings, an online survey, and a public open house.

The purpose of the 3MLAP as described in the project's scope of work is as follows: *The Three Mile Lane Overlay/Area Plan ("3MLAP") will integrate a wide range of land uses (residential, industrial, commercial, tourism, hospital and airport) and a multi-modal transportation system (vehicular, bicycle, pedestrian and transit) that serves both local and state transportation needs to provide active connectivity amongst the land uses on the Three Mile Lane corridor as well as with the city center. Project will consider how to maximize the opportunities for job creation, housing, and resiliency planning in the corridor by leveraging the land assets to their highest and best use for affordable housing, industrial development, tourism development, hospital expansion, airport expansion and gateway improvements.*

VISION STATEMENT

The Three Mile Lane District is a vibrant community that serves as the gateway to Downtown McMinnville and Oregon Wine Country. Employment opportunities, attractive housing options, and tourist destinations characterize the area. Residents and workers enjoy safe and efficient options to travel to Downtown McMinnville and benefit from close proximity to a variety of goods and services, all easily reached by motorist, bicyclist, pedestrian, and transit rider alike. The connection to McMinnville's rich history and the surrounding landscape is reflected in urban design elements throughout the area, highlighting the uniqueness of this special place.

GOALS, OBJECTIVES, AND POTENTIAL EVALUATION CRITERIA

The following project goals and objectives are intended to reflect and implement the project vision statement. Within each goal, several potential evaluation criteria are listed for each goal. These criteria are draft and may change as more becomes known about the corridor and project participants share their knowledge and interests in the area.

Goal 1: Support and enhance the district's economic vitality and marketability
This plan aims to support development of significant industrial and commercial parcels within the study area, enhance existing business by diversifying goods and services available in the area, and increase tourism. Alternatives will be evaluated qualitatively for how well they address the area's development/redevelopment potential.

Objectives:

- Engage and gain support from property owners and other stakeholders.
- Leverage land uses for economic development, urban density, and family wage job creation and retention.
- Optimize existing economic drivers in the area, including the airport, developing business park, tourism areas, the hospital, and community college.
- Capitalize on opportunities for development on large contiguous vacant sites in the district by coordinating with property owners, evaluating potential development scenarios, and maximizing funding opportunities.
- Provide multi-modal access enabling development and redevelopment.
- Maximize the utilization of the McMinnville Municipal Airport as a unique asset to the area.
- Sustain the utility of Highway 18 as a major corridor for goods movement.
- Provide visibility and multi-modal access to tourism uses within the district.
- Create new economic opportunities that capitalize on the area's unique assets and support other uses, while not directly competing with McMinnville's downtown, Granary District, or other parts of the City.

Evaluation Criteria May Include:

- Estimated number of new employment uses.
- Estimated number of new jobs, economic development and business opportunities.
- Opportunity for additional goods and services for employees in the study area.
- Improved airport access for business and tourism.
- Economic feasibility of potential development scenarios for large contiguous vacant sites.
- Support for physical expansion and increased capacity of airport.
- Impacts to the functional integrity of Highway 18 for freight movement.
- Opportunity for enhanced or new tourism opportunities within the area.

GOAL 2: Provide opportunities for a complementary mix of land uses, consistent with the vision of a diverse and vibrant district.

The study area contains several existing residential neighborhoods, including assisted-living and manufactured home residences, as well as major employers and tourism destinations. This plan aims to provide a mix of land uses that support one another to create a unique part of the city.

Objectives:

- Incorporate City of McMinnville Great Neighborhood Principles into residential development.
- Provide an appropriate amount of additional housing.
- Provide for a mix of housing types, including single-family detached, attached housing, and multi-family housing.
- Allow for mixed-use developments that provide housing and non-housing uses.
- Provide a transit-supportive land use pattern.
- Provide access to amenities for residents, employees, and visitors to the area.
- Maintain public access (visual and physical) to natural resources and amenities in the area.
- Create a bicycle/pedestrian trail/pathway system that integrates existing and proposed uses.

Evaluation Criteria May Include:

- Estimated number of City of McMinnville Great Neighborhood Principles achieved in the study area. (See draft list of principles attached.)
- Estimated number of new residential units accommodated in study area.
- Likely mix of residential units within the area at build-out.
- Number of existing and proposed residential units with multi-modal access to parks/natural areas and goods/services.
- Provides transit-supportive land uses.

GOAL 3: Enhance multi-modal connections throughout the district

This plan aims to create a complete, multimodal transportation network that serves the north and south side of Highway 18 within the district, and that connects the business community, the hospital, residential neighborhoods and tourism amenities to each other and to the city center. Alternatives will be evaluated through criteria measuring transportation safety and performance for all modes of travel: pedestrian, bicycle, transit, freight, and personal vehicles.

Objectives:

Pedestrian

- Improve pedestrian realm through design, land use, and connectivity.
- Provide pedestrian connections within the study area and to Joe Dancer Park, downtown McMinnville and the NE Gateway District.
- Improve safety and comfort of pedestrian travel throughout the study area.

Bicycle

- Improve bicycle realm through design, land use, and connectivity.
- Provide bicycle connections within the study area and to Joe Dancer Park, downtown McMinnville and the NE Gateway District.
- Improve safety of bicycle travel within the study area.
- Encourage bicycle use by a range of users, including commuters, students, children, and tourists.

Transit

- Improve connectivity for transit.
- Provide increased access to transit.

Auto/Truck

- Improve driver safety in the corridor.
- Achieve traffic operations on study area transportation facilities that meet state and city mobility targets.
- Sustain the mobility of Highway 18 through the area as a key intercity and freight route.
- Balance access to properties and overall transportation function of facilities in the area.

Evaluation Criteria May Include:

- Pedestrian Level of Traffic Stress (PLTS) of existing and proposed facilities
- Bicycle Level of Traffic Stress (BLTS) of existing and proposed facilities.
- Transit-supportive circulation.
- Traffic volumes (measured at key intersections and along key segments).
- Features that may increase travel time through the district.
- Intersection Operation (typically measured as Volume/Capacity).

GOAL 4: Create an aesthetically pleasing gateway to the City of McMinnville

The study area is a primary gateway to the City of McMinnville. Alternatives will be evaluated qualitatively for how well they provide an identity for the district, reflect McMinnville's intrinsic character and highlight the landscape features of the district.

Objectives:

- Include gateway feature that can be enjoyed from multiple vantage points (i.e. not just from drivers on the highway).
- Create development opportunities and streetscape improvements that are well-designed, beautiful, and signal one's arrival within the City of McMinnville.
- Create a cohesive design language that complements existing developments.
- Utilize context-appropriate landscape design to create a buffer to the highway as well as create a human scale and sense of place.

Evaluation Criteria May Include:

- Qualitative assessment of urban design elements.

Preferred Alternative: Land Use and Design Analysis

McMinnville Three Mile Lane Area Plan

DATE	March 23, 2021
TO	Heather Richards and Jamie Fleckenstein, City of McMinnville
FROM	Darci Rudzinski and Andrew Parish, Angelo Planning Group Ken Pirie, Walker Macy Sam Brookham and Chris Zahas Leland Consulting Group
CC	Michael Duncan, ODOT

INTRODUCTION

Background and Purpose

The goal of the McMinnville Three Mile Lane Area Plan planning project is to create a long-range, 20-year+ plan guiding future growth in the eastern-most area of the City. The purpose of this memorandum is to describe and evaluate the Preferred Alternative for the McMinnville Three Mile Lane Area Plan. The alternative is an outcome of a visioning and refinement process conducted with stakeholders, two advisory committees, and members of the public as described in the Process section.

This memorandum is organized as follows:

1. A brief overview of the process and context of the Three Mile Lane Area Plan project.
2. A detailed description of the Preferred Alternative along with illustrative graphics and precedent photographs.
3. An evaluation of the preferred alternative – how it meets the project's goals and objectives and how the key features of the preferred alternative can be implemented.
4. A description of the next steps in developing the Three Mile Lane Area Plan.

Members of the project's Technical Advisory Committee (TAC) and Citizens Advisory Committee (CAC) will be asked to review this memorandum, provide suggested modifications to the Preferred Alternative, and provide direction for implementation. The material contained herein will be adapted for a public event, tentatively scheduled for April 2021.

Process

The Preferred Alternative reflects community comments, the work of the project's advisory committees, and collaborative efforts between City staff and the consultant team. It is informed by a series of technical memoranda that are available on the project website, www.threemilelane.com.

Goals, Objectives, and Scoring Criteria.

An aspirational vision statement, community goals and objectives, and potential criteria to evaluate land use and transportation options for the Three Mile Lane area were developed early in the project. They were created to articulate the Three Mile Lane Area Plan's desired outcomes and help in the evaluation of options for the area. These materials were discussed in project advisory committee meetings and the subject of an online survey and a public open house.

Three Mile Lane Area Plan: Vision Statement and Project Goals

Project Vision Statement: The Three Mile Lane District is a vibrant community that serves as the gateway to Downtown McMinnville and Oregon Wine Country. Employment opportunities, attractive housing options, and tourist destinations characterize the area. Residents and workers enjoy safe and efficient options to travel to Downtown McMinnville and benefit from close proximity to a variety of goods and services, all easily reached by motorist, bicyclist, pedestrian, and transit rider alike. The connection to McMinnville's rich history and the surrounding landscape is reflected in urban design elements throughout the area, highlighting the uniqueness of this special place.

Goal 1: Support and enhance the district's economic vitality and marketability

Goal 2: Provide opportunities for a complementary mix of land uses, consistent with the vision of a diverse and vibrant district.

Goal 3: Enhance multi-modal connections throughout the district.

Goal 4: Create an aesthetically pleasing gateway to the City of McMinnville.

Based on this vision statement and project goals, the project team developed qualitative and quantitative criteria to evaluate land use and transportation alternatives. These will be discussed in the Evaluation section of this memorandum.

Alternatives Evaluation

Three alternative concepts were created to provide three distinct approaches for the buildout of new land uses, local street networks, and open space amenities. These land use concepts were

developed with input from the community and the project advisory committees, and through in-depth discussions between City staff and the consultant team. The purpose of this evaluation was to identify benefits and drawbacks, rather than to simply pick the highest-scoring concept, and incorporate the best-performing elements into the Preferred Land Use Alternative.

The three land use concepts are described generally below.

Concept 1: Industrial Campus. This concept is most similar to existing zoning south of Three Mile Lane. It allows for a large industrial user, potentially engaged in manufacturing or warehousing, in close proximity to retail services, Three Mile Lane, and other supportive or ancillary uses to the primary industrial employment use.

Concept 2: Corporate Campus. The most significant feature of this concept is a sizable commercially-zoned "corporate campus" and a mix of office/industrial uses south of Three Mile Lane, which would add a significant amount of new office space.

Concept 3: South Yamhill Neighborhood. Concept 3 includes residential land in the southern portion of the study area. Along with a greater number of housing units comes a greater need for amenities such as parks, trails, and services to serve the population.

These land use alternatives were complemented by two alternative designs for Three Mile Lane/Highway 18. The preferred facility option will be informed by additional transportation analysis and modeling and will be the focus of a separate memorandum.

Refinement of the Preferred Alternative

These three concepts were discussed and critiqued by City staff, the project's TAC and CAC, and the broader public at a July 11, 2019 Town Hall meeting. Feedback received from these groups, particularly the CAC, led to the creation of the Preferred Alternative, described in detail in the next section. This feedback included:

- Support for a Retail Center and Corporate Campus for land south of Highway 18 (elements of Concept 2).
- Support for a mixed-use designation including residential uses at the CalPortland site (elements of Concept 1).
- Concern about the appropriateness of community-scale park uses and new residential uses in the eastern part of the study area due to their proximity to the McMinnville Municipal Airport.
- The need for road connections and public open space as part of the Corporate Campus concept.
- Concern with changing land use designations for developed residential areas.

Great Neighborhood Principles

In April 2019, the City of McMinnville adopted the Great Neighborhood Principles into the City's Comprehensive Plan. Their purpose is to guide the land use patterns, design, and development of the places that McMinnville citizens live, work, and play. These 13 principles are listed in Figure 1, with additional details that suggest how these principles can be expressed in a site and context-specific way for the unique setting of the Three Mile Lane area.

Figure 1. Great Neighborhood Principles: Design Elements that express "McMinnville-ness"

1. *Natural Feature Preservation*
   - Strive to protect tree groves
   - Strive to protect individual trees
   - Protect riparian corridors and adjacent native landscape

2. *Scenic Views*
   - Provide and protect views to rolling hills and volcanoes
   - Provide visual and physical access to North Yamhill River
   - Orient streets and open spaces to views

3. *Parks and Open Spaces*
   - Connect to Galen McBee Airport Park
   - Create new gathering spaces that incorporate natural areas and views
   - Plant landscapes that incorporate natives and exhibit seasonal variation

4. *Pedestrian Friendly*
   - Provide a network of sidewalks and trails to connect people to key locations
   - Incorporate shade streets with mature tree canopy

5. *Bike Friendly*
   - Plan safe routes for residents and touring cyclists

6. *Connected Streets*
   - Connect to existing street grid in the Three Mile Lane area

7. *Accessibility*
   - Design new development for ease of use by all ages and abilities

8. *Human Scale Design*

- Respect typical scale of commercial uses in McMinnville
- Design to reflect the micro-climate—outdoor life, porches, balconies
- Promote inclusion and interaction within the right-of-way

9. *Mix of Activities*

- Encourage mixed-use development where feasible

10. *Urban-Rural Interface*

- Reflect patterns of wine industry—eg, rows of vines, southern orientation, shelter belts of trees
- Consider adjacency to agricultural fields and respect this heritage through careful transitions
- Design simple roof forms (industrial and agricultural). Height and distinctive forms of silos can be inspiration
- Consider functional site planning of vineyard and farm complexes as conceptual model for new development

11. *Housing for Diverse Incomes and Generations*

- Allow for a mix of future housing forms and types, respecting the current character of Three Mile Lane

12. *Housing Variety*

- Respect existing variety of housing types in Three Mile Lane and ensure diversity of design for future housing

13. *Unique and Integrated Design Elements*

- Ensure visibility from highway; Welcome to McMinnville
- Make functions of sites visible (airplanes, wine-making); continue expression of industry/making where applicable
- Aviation legacy: display large planes; consider sensation of low-flying planes, potential visual impact of sites from the air
- Consider local materials for cladding and building structure (timber, corrugated steel cladding, red brick)
- Use vibrant color

The Preferred Land Use Alternative

Key Features

The Preferred Land Use Alternative is shown in Figure 2. The defining characteristics south of the highway include a large (90-acre) area envisioned as a future retail center, and a large site for a potential corporate "Innovation Campus" to the south of this retail center. To the west, in areas near SE Norton Lane and the Willamette Valley Medical Center, opportunities for office and medical uses are envisioned. North of the highway is a new mixed-use designation is proposed on the current Cal-Portland site.

The Preferred Alternative is accompanied by context-sensitive urban design considerations that build on the Great Neighborhood Principles. These include:

- Avoid parking lots and blank walls on Highway 18 edge
- Create a walkable retail development with a "town center" feel (as described in following pages)
- Encourage orientation of industrial campus buildings to Yamhill River and maintain view corridors through campus
- Consider setting future development back from Yamhill River to reduce impacts
- Create grid of walkable streets
- Improve frontage roads for safer walking and biking
- Integrate new Evergreen campus development with architectural language of existing buildings and site landscape features, preserve views of oak forest
- Consider aviation-themed gateway features

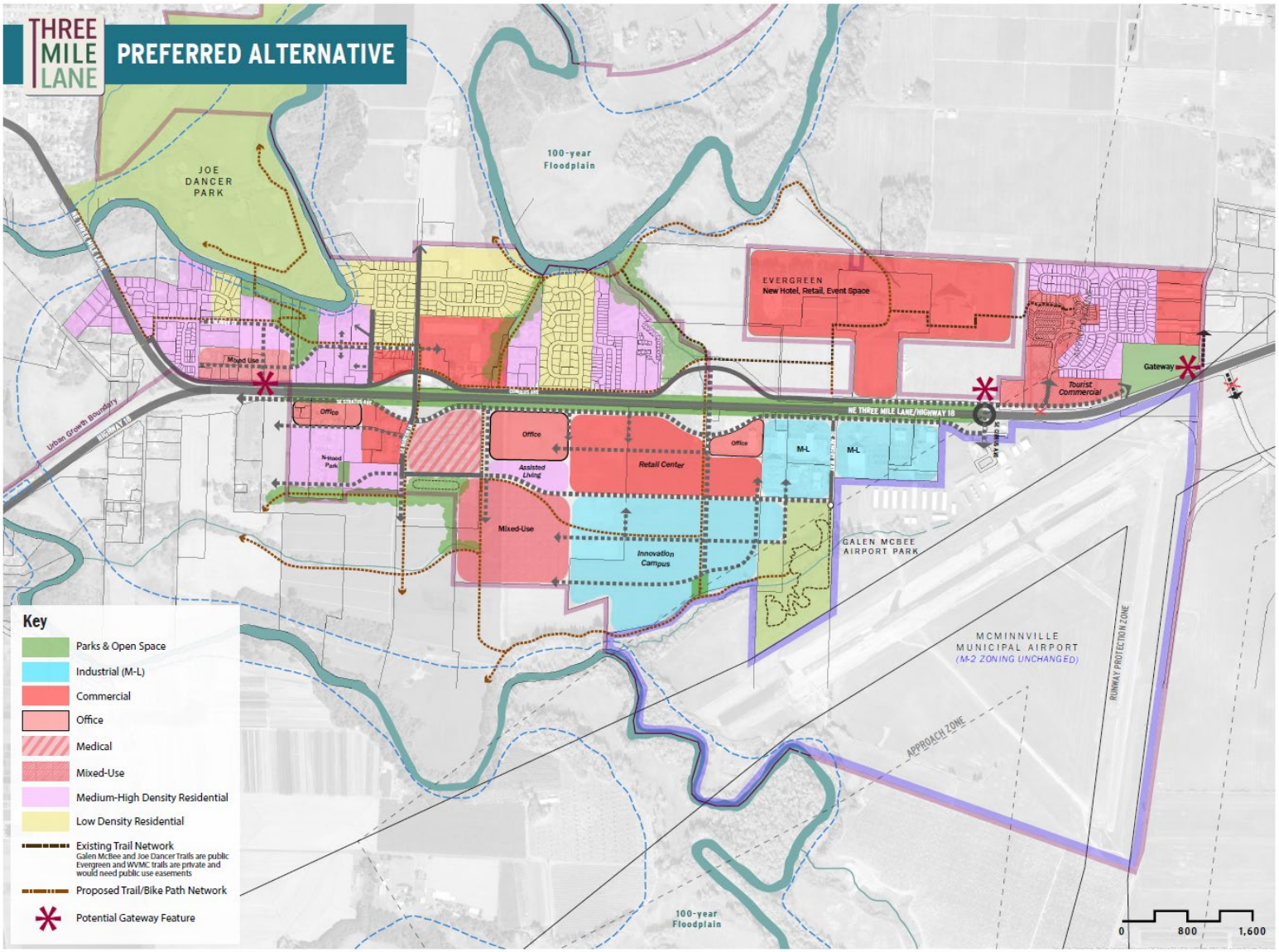
Other land uses and features embodied in Figure 2 were discussed by project participants and viewed to be beneficial. Key features include the following:

- **Walkable Retail Development.** A central feature of the Preferred Alternative is a sizable, (over 30-acre) retail center south of Three Mile Lane at Cumulus. The quality of this development's architecture and streetscape, the connectivity it provides to the street system south of Highway 18, and generally, how well it responds and contributes to McMinnville's Great Neighborhood Principles will be key to the success of this plan in gaining public approval.

- South of this retail development is a prime location for a mix of corporate office and industrial users in an **Innovation Campus**. Due to its proximity to the Yamhill River, the campus has the potential for "Trail-Oriented Development," an increasingly popular amenity-driven development trend which offers future users and tenants an appealing orientation to views of natural features.

- West of the retail center and industrial campus site, a **flexible zone of mixed office or industrial** uses is offered, providing potential sites for users drawn by the synergy of being close to larger corporate users, with subcontractors or suppliers in office or light industrial spaces.

Figure 2. Preferred Alternative Map



- **New mixed-use and health care-related uses** have been identified near the existing hospital. Housing, especially senior housing, is a very strong market opportunity. Building forms are expected to be horizontal mixed-use, rather than vertical mixed-use.
- The **Evergreen Tourism Area** is identified as a good location for new hotel, retail, and event space. The site is highly visible and suitable for a clustering of mutually beneficial uses. Travel-related commercial development is envisioned in the northeastern portion of the study area. This area is advantageously situated near the Evergreen complex, making it a good site for additional services and attractions for the traveling public.
- **New residential neighborhoods and continued development of existing neighborhoods** in locations in the western parts of the study area.
- **A cohesive trails system** that ties together major amenities and neighborhoods, with safe crossings of Highway 18 and a potential connection to Joe Dancer Park.

Opportunity Sites

The Preferred Alternative features some distinct areas where change is expected to occur over time. North of Three Mile Lane, the most notable change is the mixed-use designation in the northwest. South of the highway, land use designations that are distinctly different than what exists today include Medical commercial, office, and residential designations near the Willamette Valley Medical Center and the area of Commercial between the hospital and the McMinnville Municipal Airport. Specific features and design considerations for the Three Mile Lane's diverse areas are discussed in this section.

Mixed-use Area (CalPortland Site)

The Three Mile Lane Area Plan envisions continued growth and development in the northwest of the study area between Cumulus Ave and the Yamhill River. Additional households in the Three Mile Lane area will require and support local services, as well as the improved transportation connectivity envisioned with the Three Mile Lane Area Plan that will provide alternatives to Highway-18 for local trips. Existing residential neighborhoods are anticipated to see gradual infill and redevelopment in this area.

Locally serving retail and services have been a major discussion item during this planning process. As the area continues to evolve, providing more opportunities for a mix of uses, employment, and tourism, the existing industrial site on NE Cumulus Avenue may prove to be a more a lucrative site for something other than a ready-mix concrete plant. Allowing for a variety of commercial and residential uses in this area can provide additional housing, locally serving retail and other amenities, and enhanced multi-modal transportation connectivity. This area is well-suited for mixed-use development because it is large enough to accommodate and separate several uses in a way that responds to different context conditions. The site is also mostly flat with potential for good connections to the east and west.

This opportunity site extends between Highway 18 and a steep bluff overlooking the North Yamhill River, two adjacencies which will shape its eventual development. Most of McMinnville's Great Neighborhood Principles can be honored through future site master planning. This infill development can protect natural areas and views, connect to parks and open spaces, provide a

connected, bike and pedestrian-friendly neighborhood, and encourage mixed-use development with diverse housing types and unique, high-quality design. Retail or office uses are better suited to the more visible and accessible southern half of the site. Residential uses are best suited to the northern half, further away from the freeway, with views to the river and Joe Dancer Park.

KEY URBAN DESIGN ELEMENTS:

- Local street grid. Local streets can be logically extended through the site from the west (NE Atlantic) and the east (NE Dunn Place), creating access to the commercial and residential halves of the site, while a new central 'Main Street' can be extended north from NE Cumulus Avenue, bisecting the site and creating two crossroads intersections. The proposed street extending east-west across the northern half of the site follows the top of the bluff and should be designed as a well-landscaped parkway, with an adjacent multi-use trail which will eventually extend throughout the Three Mile Lane study area as a safe parallel route to Hwy 18.
- Building orientation. New buildings should be located to form an urban frontage, with no setbacks, at the intersections of local streets.
- Building and site design. Pedestrian-scaled ground floors, prominent entries, and canopies over sidewalks with street trees, on-street parking, and safe crossings. Surface parking will be located behind these frontages, separated from adjacent uses by well-landscaped green buffers.
- Natural features. Where the Main Street meets the bluff-top street, a public overlook can provide views to Joe Dancer Park and perhaps even a trailhead for a nature trail switch-backing down the bluff to a riverside trail system and a potential footbridge over the river connecting to the park and beyond to downtown.

Tourist Commercial

The Evergreen complex continues to draw visitors to McMinnville who support other local businesses in the Three Mile Lane area and beyond. The Preferred Alternative foresees the continuation and intensification of tourism-related uses as allowed by existing zoning designations. East of Evergreen, land is currently zoned for commercial uses along the highway and has the possibility of hosting more tourism- and travel-related commercial uses in the vicinity of the Aviation & Space Museum and waterpark. The Preferred Alternative envisions activities and uses related to visitors and the traveling public that could boost tourism and be mutually beneficial to existing attractions. A cluster of these uses in the northeast part of the study area could have a synergistic effect, strengthening McMinnville's and the region's reputation as a destination

KEY URBAN DESIGN ELEMENTS:

- Connectivity to the Evergreen complex. Perhaps the most important design element of this visitor-oriented area is connectivity to exiting Evergreen tourist uses. Providing a safe walking and biking connection parallel to Highway 18 would help integrate future development with the Evergreen attractions, which will continue to attract significant amounts of visitors.
- "Gateway" location. In addition, with a prominent location on the east entrance to McMinnville, this development opportunity area should be required to meet the City's Great Neighborhood Principles with high-quality design.

Health Care Area

Vacant parcels surrounding the Willamette Valley Medical Center are a significant opportunity for medical offices, housing for people reliant on medical services, and other uses that benefit from a health care cluster. As envisioned in the Preferred Alternative, existing industrial and high-density residential land and uses fronting the highway and in close proximity to the Medical Center could, over time, develop with housing – including assisted living and long-term care facilities - office uses, and services related to the hospital.

KEY URBAN DESIGN ELEMENTS

- Transitions between health care facilities and surrounding residential areas. Health care facilities are often active around the clock with bright lighting and they generate significant vehicle traffic. They also require a lot of delivery traffic and, in the case of a major medical center, helicopter use. Buffering between uses should be considered, particularly senior housing or market-rate apartments. Assisted living or nursing care facilities, however, would benefit from close proximity to the hospital.
- Transitions between health care facilities and other commercial uses. The scale and orientation of existing uses, as related to future uses should be considered. For example, while Senior Housing might benefit from a location within walking distance of a retail center, there should be careful site planning to ensure the housing isn't directly adjacent to loading or parking facilities. It may be most feasible to place health-care related housing with an orientation south towards views and the river.
- Walkability between uses. Convenient, safe connections between a variety of uses in this area will be important to current and future users.
- Visual quality of buildings facing Highway 18. New development should avoid placing loading docks or creating blank walls visible from passing vehicles.

Retail Center/Innovation Campus

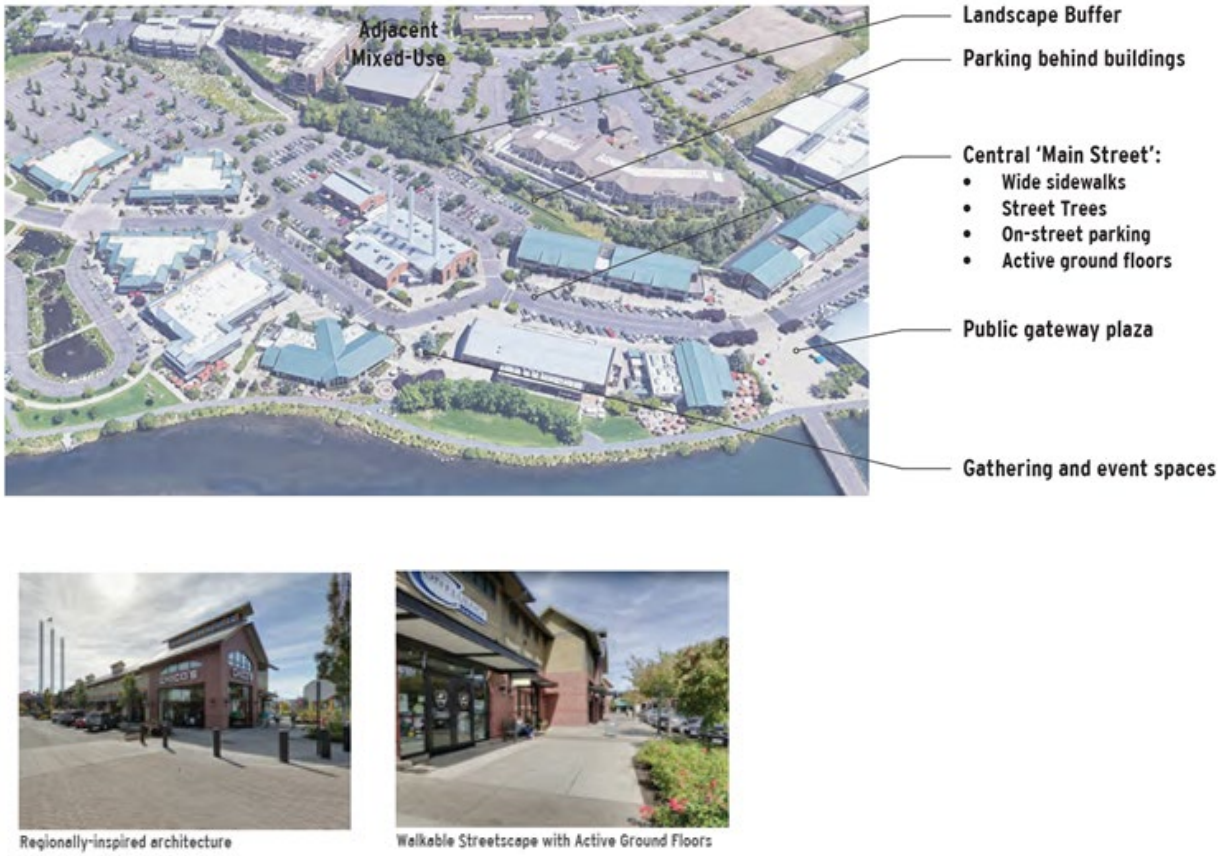
A large area of currently vacant or farmed land stretching from the highway south to the Yamhill River provides a unique opportunity for future development. The design envisioned in the Preferred Alternative is the latest iteration in a process that began with a Property Owners' Workshop. This half-day workshop held at City offices included a presentation of existing site conditions, with confirmation from property owners of natural features, parcel ownership, access, and previous uses. A summary of market conditions was presented, with some suggested adjustments from the owners to reflect their individual research. The workshop concluded with a roundtable discussion of opportunities and constraints, including an exercise where prototypical program 'chips' scaled to the sites, were placed in a variety of potential arrangements to inform initial sketches of concept alternatives.

In addition to the focused property owner workshop, the City of McMinnville held a design charrette for the entire corridor study area with the Citizen Advisory Committee on April 8, 2019. Project participants have identified a number of key strengths, including high visibility from Highway 18, many large and/or underutilized parcels, proximity to the airport, concentration of

tourist amenities and medical uses, strong connections to regional assets, and an abundance of natural features. Specific opportunities the participants identified included: pedestrian bridges over the highway could provide needed connections at key points, the creation of special complete street standards to encourage biking and walking, requiring stormwater treatment and extensive street tree plantings on all study area streets, considering shared parking standards and 'shadow platting' to encourage future infill on surface lots, and opportunities for new residential at the south edge of the case study site and west of the hospital.

The retail market continues to evolve rapidly in response to the challenges of competing with online retail and market consolidation. One tactic that the retail industry has successfully used to attract and retain shoppers to brick and mortar establishments is the creation of mixed-use "town centers" that offer gathering spaces, walkable streets and more dining options than typical strip suburban developments or enclosed shopping centers. Mixed-use town centers offer a greater diversity of uses that typical retail developments, particularly as it pertains to entertainment and some office uses, with the latter providing critical daytime population for retailers.

Figure 3. Retail Center Precedent: Old Mill District, Bend, Oregon



A retail center at Cumulus Ave. is a central feature of the Preferred Alternative. The design of this development, the connectivity it provides to the street system south of Highway 18, and how well it contributes to McMinnville's Great Neighborhood Principles will be key in the success of this plan.

This almost 60-acre parcel is one of the largest regional sites with easy highway access. The site is flat and developable—a unique characteristic for a site of this size, and has a locational advantage being both near to the highway and the McMinnville Municipal Airport. Attachment A provides an example of how this site could develop, implementing design features desired in the Three Mile Lane Area, as well as provides photographic examples of many of the design elements discussed for this area.

Flexibility is key to attracting a corporate Innovation Campus. The City and/or developer would have to be opportunistic and actively market the property and McMinnville as a corporate destination. Early infrastructure investments and construction of housing and commercial amenities within walking distance of the property would help attract a corporate user, as would a clear but flexible vision and development plan for the property.

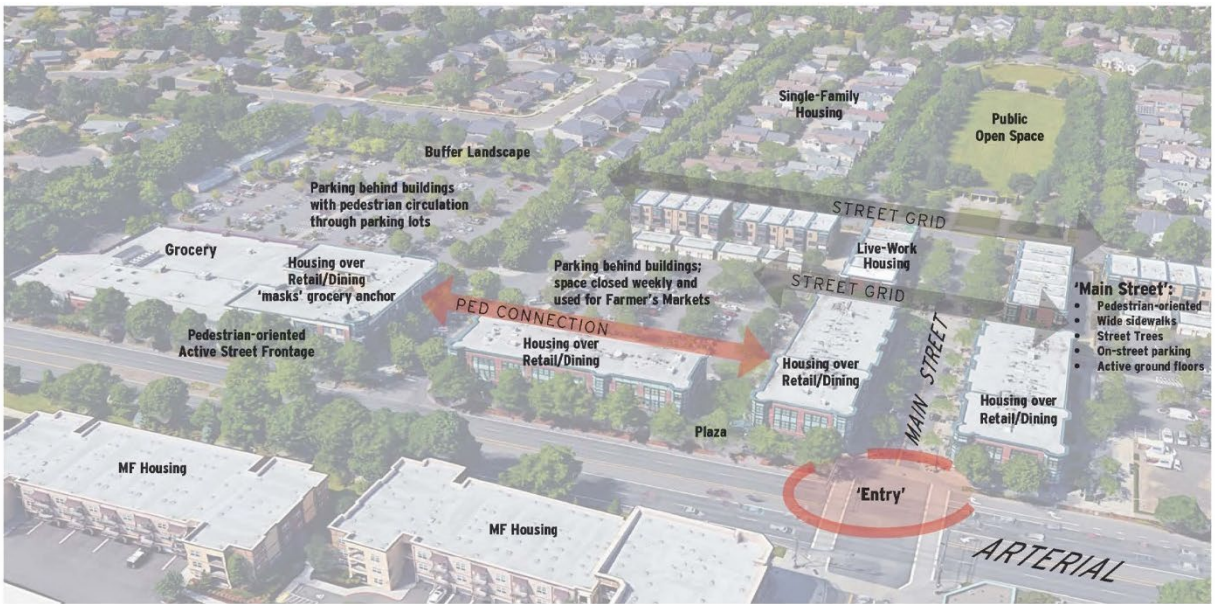
Figure 4. Retail Center Precedent: Northwest Crossing, Bend, Oregon

The overall goal is for new developments in the Three Mile Lane Area is to echo the features of traditional, older retail districts like downtown McMinnville. Figures 3, 4, and 5 show examples from other Oregon communities, with similar common features that include:

- Walkable, narrow main streets connecting through the center, with parallel or angled on-street parking in front of retail storefronts.
- Public gathering spaces, bordered by dining and entertainment attractions, featuring play areas and flexible space for programmed public events.
- Parking lots, generally located behind buildings, featuring wide pedestrian walkways, integrated stormwater treatment and ample landscaping including shade trees.

- High-quality architecture, sometimes themed in a regionally appropriate way, with buildings placed in prominent locations that contribute to the quality of the pedestrian experience, versus behind large surface parking lots.
- Building edges that create 'frontage' on walkable streets or pedestrian walks, with higher-quality materials, generous windows and pedestrian-scale signage in the first 20-30' of elevation.
- Proximity and connection to a mix of other uses, to encourage walking from residential or office areas to the retail center.
- Generous landscape buffers between the retail center and roadways or parking lots while maintaining maximum visibility for retailers.
- A prominent entry to the site, with signage or a gateway feature.

Figure 5. Retail Center Precedent: Orenco Station, Hillsboro, Oregon



KEY URBAN DESIGN ELEMENTS

- Local identity. Maintaining the local identity through gateway design elements and development opportunities; establishing formal view protection corridors for Mt Hood, Mt Jefferson, and Amity Hills encouraging mixed uses whenever feasible; and mitigating the visual impact of development on the Highway 18 edge.
- Connectivity. Transportation and connectivity have been major themes during the planning process. Connectivity—in terms of internal circulation to parks and recreational features and surrounding neighborhoods—is essential.
- Parks and open space. The community has provided input on parks and open space opportunities, identifying the following: prioritizing connections to existing trails and open space (such as connections into Joe Dancer Park), creating a public greenway along South

Yamhill River with trail and connections to the study area and McBee Park, and increasing open space opportunities in the study area adjacent to residential uses.

EVALUATION

The Preferred Alternative provides a framework for potential future land use, transportation, and design elements in the Three Mile Lane area. This section evaluates the merits of the alternative and highlights the changes it represents, as compared to existing land use and development requirements. The next sections examine how the alternative meets the expressed goals and objectives for the area, the changes in land use it suggests, and how desired design elements may be achieved. Answers to questions embedded under these topic areas will lead to recommended actions that will help the City realize the vision of the Preferred Alternative over time.

Meeting Project Goals

The land use concept is intended to meet the goals for the area, included earlier in this memorandum, and help the City realize specific objectives associated with each of these goals. Earlier in the planning process evaluation criteria were suggested to help assess how well alternatives meet community goals and objectives.[1] The evaluation table included in this section employs these criteria once again to show how the Preferred Alternative can help achieve the City's goals. The table includes specific objectives related to individual project goals and indicates how elements of the land use concept perform.

Table 1. Project Goals and the Preferred Land Use Alternative

Evaluation Criteria	Preferred Land Use Alternative Findings
Goal 1: Support and enhance the district's economic vitality and marketability	
Amount and Type of Employment Land	A significant amount of commercial land is envisioned south of Three Mile Lane, refined to suit desired characteristics of a retail "town center." A corporate industrial campus is envisioned between the commercial area and the river. There is also an area identified for health-care related uses near the medical center and continued industrial/office opportunities near the McMinnville Municipal Airport.
Opportunities for Additional Goods and Services in the Area	The retail center, a mixed-use site, and the Evergreen complex and nearby Tourist Commercial area provide the opportunity for goods and services to serve locals and visitors alike.

[1] See Evaluation of Land Use Concepts Section in the *Land Use and Transportation Facility Options and Evaluation* memorandum, June 5, 2019.

Evaluation Criteria	Preferred Land Use Alternative Findings
Relationship with and Impacts To the McMinnville Municipal Airport	Land designated for employment uses within close proximity to the airport will not change; new opportunities for a neighborhood-serving commercial center and industrial campus with good connection to the airport.
Compatibility of uses adjacent to airport	The proposed commercial designation in the northeastern part of the study area and connections to the park and river have been refined from previous alternatives to better support the airport and its planned expansion.
Support for existing and new tourism opportunities	Significant commercial opportunities are identified throughout the district. Tourism-focused development of the Evergreen site and the "Tourist Commercial" area in the northeastern part of the study area will cater specifically to the travelling community.
Goal 2: Provide opportunities for a complementary mix of land uses, consistent with the vision of a diverse and vibrant district.	
McMinnville Great Neighborhood Principles	New residential areas are located in the western portion of the study area to create a greater concentration of activity, support new mixed-use development, and increase the likelihood of success for neighborhood-serving commercial. New roadway and trail connections will better connect the neighborhoods of Three Mile Lane to surrounding amenities and services. *Also, see Figure 1 and Table 7.*
Residential uses, mix, and location	Residential uses are located in the western portion of the study area. The CalPortland site has the opportunity for mixed residential and employment uses, and areas south of Highway 18 may be suitable for senior housing due to the proximity to the medical center.
Transit-supportive land uses	Major new retail, corporate industrial campus, and tourism areas, as well as higher-density housing, can help support transit in the area. The reconnection of Cumulus through the Chemeketa Community College site will be important for improving transit access.
Goal 3: Enhance multi-modal connections throughout the district	
Impacts to OR 18 as a key intercity/freight route.	Key trail and local roadway connections are shown in Figure 2. *Specific impacts to OR 18 will be evaluated as part of more detailed analysis for the preferred land use alternative.*
Vehicular connectivity through land use types (street density)	
Bicycle/pedestrian connections to key locations outside of the study area	

Evaluation Criteria	Preferred Land Use Alternative Findings
Goal 4: Create an aesthetically pleasing gateway to the City of McMinnville	
Gateway features	The Preferred Alternative has three locations identified for gateway features to signal entry into the City of McMinnville and to help define the Three Mile Lane Area's identity. Future design of Highway 18 improvements should consider opportunities for corridor design that respects the area's agricultural heritage and landscape character. There will also be opportunities for specific gateway features that physically mark this entrance to McMinnville.
Building Design	Creating clear requirements for building and site design for the retail center, corporate industrial campus, and other opportunity areas is a priority for this process and will be expanded upon later in this memorandum.
Landscaping and Street Trees	The corporate industrial campus, retail center, and other uses can be compatible with high-quality landscaping. Implementation of these features will be the responsibility of private development and will be required as part of development review. Specific requirements for this area can be included in the City's development requirements.

Economic Findings

Mixed-use

There is strong demand for additional housing development of all types in McMinnville, and the area shown in the Figure 2 for Mixed-use is an attractive location for significant new construction. Mid-rise development will not only help diversify the housing stock but also improve prospects for neighborhood-scale retail by adding rooftops. The dominant use should be residential, with small opportunities for retail to support the needs of the neighborhood, for reasons detailed below.

The CalPortland site is positioned between downtown and large development sites along Highway 18, both of which are either currently or are planned for significant retail development. Retail on this site, therefore, should focus on serving the needs of the local neighborhood rather than looking to compete with either of these locations. Retail should be limited to the south of the site along Cumulus Ave, which provide around 700 feet of frontage and therefore plenty of development flexibility. The combination of existing market conditions and more competitive retail projects may result in horizontal, rather than vertical mixed-use projects, with housing behind frontage retail. At 11 acres, the site is large enough to accommodate high-quality, horizontal mixed-use product.

While Cumulus, the frontage road, provides good access and connectivity to the surrounding neighborhoods, other nearby locations, such as Chemeketa Community College and uses on college-owned property, have more direct access and better visibility to and from the highway for

retail. Existing retail vacancies are therefore more likely to fill before there is demand for new development on the CalPortland site.

Parking will drive the scale and type of development on the CalPortland site. High minimum parking requirements for both residential and retail uses are likely to drive a low-density development type not necessarily in keeping with the City's vision for the area. While the market is unlikely to support the high costs of structured parking, alternative plans for parking should be explored to reduce the burden on the developer but still maintain an adequate parking supply, such as encouraging and codifying shared and on-street parking.

Developing a mixed-use project at greater density may require the City to explore incentives or partnerships that would bridge the feasibility gap. With that said, there are opportunities for additional development on adjacent land parcels, so this site could serve as a catalyst project and build market momentum, thereby improving prospects for a denser mixed-use project at a later date. Facilitating coordination efforts between property owners in the area can help.

For residential development, the existing frontage road (Cumulus) currently provides good access and connectivity to the surrounding area, but improving multimodal connectivity to adjacent land is critical to fostering a high-quality, pedestrian-friendly place. The site benefits from proximity to the river, so improving access to this amenity should be prioritized.

For retail, visibility, access, parking, and signage are critical. Enhancing Cumulus as a multimodal throughway to downtown and the center to the east would improve retail prospects for the CalPortland site, as well as for retail in general.

Travel Commercial

While the existing aviation-oriented uses in the Evergreen Tourism Area are already a regional attraction, there is a significant opportunity to build a substantial tourism hub which integrates additional compatible uses that leverage the region's strong wine industry and build and refine McMinnville's brand.

Specifically, the development of additional lodging and hospitality-related uses would help this area become a premium destination that continues to attract tourists of many different backgrounds and brings additional revenue into the City. Lodging would also likely add to the area's event space inventory, improving McMinnville's marketability for conferences and other events.

The Three Mile Lane Area plan provides a platform to develop a clear vision and brand for the Evergreen Tourism Area. A vision can provide the development community with the confidence to pursue a particular type of development that is consistent with what the City wants for the area. A land use program for the area could include a phasing plan that is consistent with current and future market conditions and trends.

Health Care

The economic analysis shows that medical uses is a growing retail type nationally. There is a forecasted demand for approximately 529,000 square feet of additional retail development within the market area over the next decade and part of that demand is for medical and professional offices that typically occupy retail spaces such as dentists and small medical clinics. Housing demand, too, is strong in the area, especially the demand for senior housing given the forecasted growth in senior age groups. Areas in close proximity to Willamette Valley Medical Center provides opportunities for medical related goods, services, office, and housing.

Retail Center

The property owner workshop provided an opportunity to discuss ideas and information about future land uses and development with key property owners. This discussion was founded on information in the market analysis and a broader discussion of visions, criteria, and principles. The market analysis, for example, provides high-level trends and analysis to indicate development opportunity. Meeting with property owners revealed specific details about the sites, project phasing, and realistic goals and visions for development.

With information from the workshop, the project team develop three alternatives (i.e., case study concepts). Each concept included a description of its primary theme or differentiator as well as key aspects related to its interface with existing adjacent uses and potential phasing implications. A high-level economic impact assessment for each alternative provided an estimated summary of the number of jobs created, the increase in the tax base, and other economic impacts that would result due to the area's development.

The property owner workshop and resulting Case Study Report helped identify opportunities for large-scale retail and employment, as well as continuing housing development. The area's existing industrial designation limits the number of uses allowed in the area; changing to a commercial designation provides for a greater degree of flexibility to respond to fluctuations in market dynamics.

McMinnville is poised to capitalize on strong retail demand and its location in the region. The McMinnville retail trade area extend all the way to the Oregon Coast due to the lack of prominent commercial centers between the Willamette Valley and the coast. However, much of this retail market remains untapped, and the Three Mile Lane study area is poised to capture a significant portion of demand with a diverse array of commercial development. Such development would help foster a sense of place, provide amenities for residents and visitors, and have a significantly greater economic impact than a development build-out comprising simply of traditional industrial.

Corporate Industrial Campus

A large, flat, developable site of this scale is unique in the region and should attract interest from regional and national employers. The campus may be a prime location for light or craft industrial that could align with the City's vision for the area and provide secondary tourism benefits if new development includes experiential or retail components.

With that said, the development of a large campus is likely to be a market-driven initiative. Employment growth in the industries of healthcare and education can be expected to drive most of the demand for new office development. Demand for campus-style industrial is likely tied to food product manufacturing or aviation. However, the emergence of a large corporate user is difficult to forecast, and successful recruitment and the timing of development will require coordinated marketing efforts between the property owner, the City, and local and regional economic development partners.

In fact, development of such a site requires the City to actively market to the development community. Marketing a prospective campus should also involve a compelling story for why McMinnville is an attractive for a corporation to locate. McMinnville's high quality of life, cultural amenities, business incentives, and proximity to the Portland metro region may indeed be sufficient in attracting a larger company. Additionally, target users could include existing companies looking to expand.

This should also be tied to economic development efforts that consider the broader city-wide needs that would come with the addition of a large employer. These needs would include workforce, housing, transit and transportation, and others. For example, a large corporate user would require additional housing to meet growth from employment. Infrastructure investment will also be critical. The City should not necessarily make early investments without knowing the needs of a prospective corporate user, as these infrastructure needs will greatly vary. They should, however, develop a plan that outlines their intent and be prepared to act quickly in order to attract a user.

Existing Regulatory Framework

The following is an overview of existing requirements that govern how land can be used within the Three Mile Lane area and an evaluation of the changes envisioned with the Preferred Alternative. The most pronounced differences between what is allowed today and the Preferred Alternative lie within the opportunity areas; these are the focus of the evaluation.

Existing Requirements

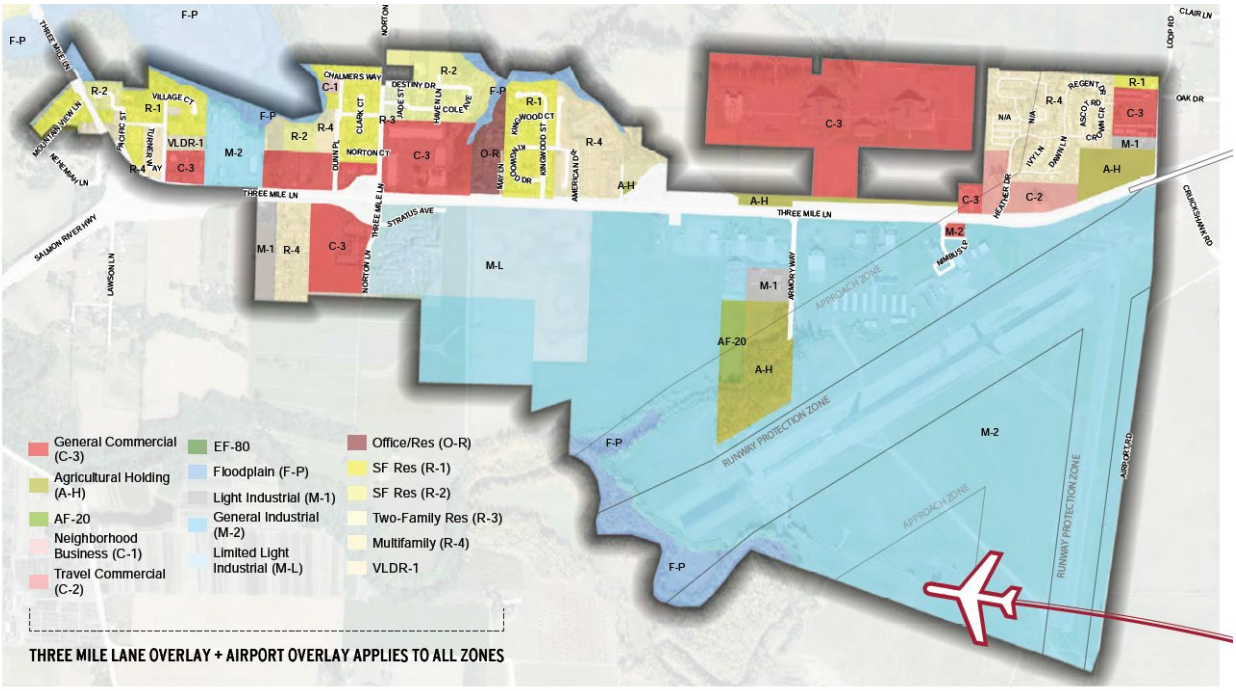
Land use and development in the Three Mile Lane area are currently regulated by the City's Zoning Ordinance and the Three Mile Lane Planned Development Overlay. The Zoning Ordinance governs uses, density, and dimensional requirements for zoning districts in the area, as well as site design and permitting requirements. The Planned Development Overlay contains requirements specific to the Three Mile Lane area that either modify or are in addition to underlying zoning standards.

Zoning

Zoning Ordinance Chapters 17.12 – 17.48 specify the allowed uses and associated regulations for each zoning district in the City. The predominant zoning designation (by acreage) within the study area is Industrial. Most of the land in the study area south of Three Mile Lane is designated General Industrial (M-2) or Limited Light Industrial (M-L). Much of this industrial land is occupied by the McMinnville Municipal Airport. On the north side of Three Mile Lane, there are large areas zoned General Commercial (C-3), including the area that includes the Evergreen Aviation & Space Museum and water park; a small area zoned Travel Commercial (C-2); and a mix of residential zoning. Most of the area zoned for Single-Family Residential (R-1 and R-2) is found in the northwest portion of

the study area. Multiple-Family Residential (R-4) zoning is found in separate areas in the northwest, northeast, and southwest portions of the study area.[2]

Figure 6. Existing Zoning Designations



Development Standards

In the industrial districts, the M-L zone is largely limited to manufacturing and related uses with limited external impacts, while the M-2 zone allows most industrial uses. In the M-L zone, properties are subject to maximum building heights of 60 feet and minimum setbacks from Three Mile Lane of 120 feet from the centerline Development in the M-2 zone is not subject to these review requirements. Maximum building height in the M-2 zone is 80 feet and no minimum yard setbacks are required, except adjacent to residential zones.

A wide variety of commercial uses are permitted in the C-3 zone, including commercial recreation facilities, large format retailers, gas stations, and hotels. The maximum height in the C-3 zone is 80 feet and no minimum yard setbacks are required, except adjacent to residential zones. The C-2 zone only covers a small area near the eastern edge of the study area. Permitted uses are largely limited to travel-related uses such as lodging, restaurants, and gas stations. Building height is limited to 45 feet, and the minimum front setback is 30 feet.

[2] The Airport Overlay Zone (Zoning Ordinance Chapter 17.52) also regulates uses in the Three Mile Lane area. Its intent is to prevent structures or uses that obstruct the safe flight of aircraft in the vicinity of the McMinnville Municipal Airport. Requirements of this overlay are not detailed here, as the Preferred Land Use Alternative assumption is that Airport-related uses will continue to be permitted according to existing City code requirements. The area adjacent to the airport is expected to continue to develop as an airport-oriented commercial and industrial center, reflecting the economic value and potential of this infrastructure.

In the residential zones, density is controlled by minimum lot area per family (or per unit). Within the study area, minimum lot areas are as follows:

- R-1 – 9,000 sf (9,000 sf for two-family corner lots)
- R-2 – 7,000 sf (8,000 sf for two-family corner lots)
- R-3 – 6,000 sf (8,000 sf for two-family corner lots)
- R-4 – 1,500 sf per unit with 2 bedrooms or fewer; 1,750 sf per unit with three bedrooms

The maximum height in the R-4 zone is 60 feet, while the remaining residential zones are limited to 35 feet.

Development within the study area is also subject to floodplain (Chapter 17.48), landscaping (Chapter 17.57), tree (Chapter 17.58), off-street parking (Chapter 17.60), and sign regulations (Chapter 17.62, Planned Development Overlay) requirements.

Three Mile Lane Planned Development Overlay

The 1981 Three Mile Lane Planned Development Overlay outlines several provisions related to the development of properties in the Three Mile Lane area. A 1994 ordinance amending the overlay added a set of detailed provisions related to commercial signage. Provisions include:

- Required 120-foot setback from the centerline of Three Mile Lane
- Access requirements:
  - Minimize access onto Three Mile Lane
  - Provide on-site circulation systems connecting to adjoining properties
  - Provide acceleration-deceleration lanes and left-turn refuges when necessary
  - Provide bikeway connections
- Landscaping and buffering along the highway frontage may be required
- Mixed housing-type residential developments encouraged
- Temporary signage allowed

Development Approval

Development subject to a land use review process within the Three Mile Lane area include the following:

- Plans for proposed uses in the M-L zone. Industrial uses in the M-L zone must be approved by the Planning Commission, after evaluating impacts such as noise, traffic generation, air and water pollution, and appearance.
- Zone changes within the Three Mile Lane Planned Development Overlay. Zone changes in this area are evaluated using Planned Development Overlay standards and procedures and approved by Planning Commission.
- New commercial structures larger than 25,000 square feet of gross floor area. Director approval is required through Large Format Commercial Design Review.

- Signage in areas designated commercial and industrial. Approval by the Three Mile Lane Design Review Committee, after evaluating compatibility and design elements such as color, material, size, form, and relationship to site and building design.

All development within the Three Mile Lane Planned Development Overlay must be approved by the Three Mile Lane Design Review Committee (Ordinance 4572, Section 6(A)).

Preferred Alternative

As described previously, there are particular areas within the Three Mile Lane area that present the greatest opportunities for change. This section compares proposed designations and current zoning for each opportunity area in a series of tables. For each area, there are a series of questions, the answers to which will guide implementation of the Three Mile Lane Area Plan.

As part of plan adoption, the City has an opportunity to modify land uses and requirements either through rezoning or as part of an overlay.

Mixed-use Area (CalPortland)

Table 2. Land Use: Mixed-use Area

Mixed-use Area	
Proposed Designation	**Current Zoning**
Mixed-use	R-1
Medium-High Density	R-2
	M-2
	C-3

NOTES

- Uses permitted in the City's Multiple Family Residential (R-4) and General Commercial (C-3) zones generally meet the purpose statement of the Mixed-Use designation.
- The R-4 zone allows single family dwellings (including attached), duplexes, and accessory dwelling units. Building height is limited to sixty feet.
- Uses permitted in the C-3 zone include commercial recreation facilities, large format retailers, gas stations, and hotels. The maximum height in the C-3 zone is 80 feet and there are no minimum yard setbacks required for commercial uses.

QUESTIONS

- Should all residential use types be allowed outright in the Mixed-Use designation?
- Are there commercial use types that are should be restricted in the Mixed-Use designation?
- Should a mix of uses be *required*? If so, should this requirement apply to development proposals over a certain size? Would the requirement apply to only multi-story development?

Tourist Commercial

Table 3. Land Use: Tourist Commercial

Tourist Commercial	
Proposed Designation	**Current Zoning**
Tourist Commercial	R-4
	C-2
	C-3

NOTES

- The R-4 zone allows single family dwellings (including attached), duplexes, and accessory dwelling units. Building height is limited to sixty feet.
- Uses permitted in the C-3 zone include commercial recreation facilities, large format retailers, gas stations, and hotels. The maximum height in the C-3 zone is 80 feet and there are no minimum yard setbacks required for commercial uses.
- Uses in C-2 Travel Commercial Zone are limited:
    - **Permitted Uses:**
        - Automobile Service Station
        - Gift Shop
        - Lodging
        - RV Park
        - Restaurant
        - Bed and Breakfast
        - Short term rentals
    - **Conditional Uses:**
        - Commercial recreation
        - Repair garage
        - School

QUESTIONS

- Considering the existing uses on the Evergreen site and the land available for development, should the existing C-3 zoning be retained? Are there any use additions or exemptions that should be captured in the plan?
- Given that one of the Preferred Alternative's focus is to provide more opportunities for tourism-related uses, are C-2 uses appropriate for areas east of the Evergreen complex?

Health Care

Table 4. Land Use: Health Care

Health Care	
Proposed Designation	**Current Zoning**
Office	R-4 C-3 M-1
Medium-High Density Residential	
Medical	M-L
Mixed-use	

NOTES

- The R-4 zone allows single family dwellings (including attached), duplexes, and accessory dwelling units. Building height is limited to sixty feet.
- Uses permitted in the C-3 zone include high-density residential and office. Allowed conditional uses include adult day care, or similar use called by a different name or that is a State licensed facility.
- The M-L (Limited Light Industrial) zone is intended to create, preserve, and enhance areas containing manufacturing and related establishments with limited external impact and with an open and attractive setting. Hospitals and medical offices are permitted uses, as is light manufacturing, aerospace industries, warehousing, wholesale distribution, and tasting rooms.
- M-1 (Light Industrial) zone allows all the uses permitted in the M-L zone, plus a wider range of manufacturing, assembly, packaging, or treatment of products from previously prepared or processed materials. Additional permitted uses include warehousing, wholesaling, and limited commercial uses.

QUESTIONS

- Should the overlay restrict commercial uses to those related to medical office and medical services?
- For areas currently zoned for industrial or high-density residential and could not develop/redevelop with all the use types envisions, should the areas be allowed to rezone to C-3, with overlay restrictions?

Retail Center

Table 5. Land Use: Retail Center

Retail Center	
Proposed Designation	**Current Zoning**
Commercial	M-2

NOTES

- The M-2 General Industrial Zone allows for large and impactful industrial development, including all uses allowed in the M-L and M-1 zones.

- A commercial designation of C-3 would allow a broad range of commercial development. The specific uses, site design, and architectural features envisioned by this planning effort are not required in the code today, and are therefore recommended for inclusion in the Three Mile Lane Overlay Zone.

QUESTIONS

- What level of regulatory control should the City use to implement requirements for the Retail Center? What site design standards should be required? What design elements related to future structures should be included in guidelines or codified as requirements?
- Highway visibility and the style/quality of signage will be important for retail users and for the community as a whole. Are there specific sign requirements/restrictions desired?

Innovation Campus

Table 6. Land Use: Corporate Campus

Corporate Campus	
Proposed Designation	**Current Zoning**
Industrial *(no proposed change)*	M-2
	AF-20
	A-H

NOTES

- No change in land use designation is recommended
- Portions of the area are zoned AF-20 and A-H (Agricultural Holding). These are generally associated with Galen McBee Airport Park and not expected to change.

QUESTIONS

- Should the overlay zone require a minimum lot size or other measure to ensure that this space is available specifically for a corporate campus or similar user?
- Design of such a campus will ultimately depend on the needs of the end user. What are the most important elements (e.g., a publicly-accessible park, a connected street grid) that the plan should address or the City should require?

Design Features

Community expectations for the future of the Three Mile Lane Area Plan include ensuring that future development will reflect and respect the unique features of the area and will enhance a neighborhood feel. This section evaluates how the City currently addresses the design features explored in the Preferred Land Use Alternative section through development requirements. Table 7

lists the features, existing requirements, and recommendations on how they might be achieve in the Three Mile Lane area.

Through the development and implementation of the Three Mile Lane Area Plan the City has the opportunity to set land use and transportation policy and create and implement standards and guidelines that will help the community realize the vision for this area.

Table 7. Design Requirement Evaluation

Design Feature	Existing Requirements *(Zoning Ordinance, Three Mile Lane Planned Development Overlay)*	Possible Three Mile Lane Area Plan (3MLAP) Recommendations and Overlay Requirements
1. Natural Feature Preservation		
• *Strive to protect tree groves* • *Strive to protect individual trees*	Proposed multi-family, commercial, office and industrial development must be landscaped (§17.57.030). Landscaping plans must show the existing locations of trees over six inches in diameter, their variety, and If they are to remain or be removed (§17.57.060). The removal of individual significant or historic trees or the removal of tress as part of a proposed development subject to site plan, tentative subdivision, or partition review is subject to City approval (§17.58.040).	New policy, adopted as part of 3MLAP. Consider identifying tree groves and tree types to be protected and develop requirements for preservation.
• *Protect riparian corridors and adjacent native landscape*	Flood Area Zone (§17.48) restrictions. Landscaping required for all development except single-family and two-family residential (§17.57.030).	Confirm riparian corridors are mapped and subject to Chapter 17.48. Require mapping and protection of stream corridors and re-vegetation with native plantings.
2. Scenic Views		
• *Provide and protect views to rolling hills and volcanoes* • *Provide visual and physical access to North Yamhill River* • *Orient streets and open spaces to views*	None.	New policy, adopted as part of 3MLAP. Require viewshed protection as part of Design Review.

Design Feature	Existing Requirements *(Zoning Ordinance, Three Mile Lane Planned Development Overlay)*	Possible Three Mile Lane Area Plan (3MLAP) Recommendations and Overlay Requirements
3. Parks and Open Spaces		
• *Connect to Galen McBee Airport Park*	None.	Proposed trail connecting to Galen McBee Airport Park loop trails and extending access to the South Yamhill River shown in the preferred alternative; plan adoption will modify transportation system plan. Require connection to proposed trail, trail right-of-way dedication, and trail construction as part of Design Review/development approval.
• *Create new gathering spaces that incorporate natural areas and views*	None.	New policy, adopted as part of 3MLAP; require as part of Design Review.
• *Plant native landscapes with seasonal variation*	Proposed multi-family, commercial, office and industrial development must be landscaped (§17.57.030). For industrial, commercial, and parking lot uses landscaping must be 7% of gross area; for multi-family the requirement is 25% of gross area. The Landscape Review Committee approves proposed landscaping; an approval criterion is compatibility with the proposed project and the surrounding and abutting properties.	New policy, adopted as part of 3MLAP. Define approved planting list in plan or in overlay zone.
4. Pedestrian Friendly		
• *Provide a network of sidewalks and trails to connect people to key locations*	Complete Streets standards require sidewalks (§17.53.101 Streets). Sidewalks must be 10'-12' feet wide in commercial areas to accommodate the Pedestrian zone. Street trees must be placed in tree wells; street trees, furniture and	Proposed trail system shown in the preferred alternative; plan adoption will modify transportation system plan. Proposed Complete Streets Design increases sidewalk width. Expand pedestrian walkway/connectivity standards to

Design Feature	Existing Requirements *(Zoning Ordinance, Three Mile Lane Planned Development Overlay)*	Possible Three Mile Lane Area Plan (3MLAP) Recommendations and Overlay Requirements
	business accesses must meet ADA requirements. Pedestrian ways, 10' or greater in width, may be required to "connect to recreation or public areas such as schools, or to connect to existing or proposed pedestrian ways (§17.53.103 Blocks)." Pedestrian walkway standards apply to Large Format Retail; site design requires connections between buildings and from building entrances to streets (§17.56.050.C.2).	apply to all commercial and office development.
• *Shade streets with mature tree canopy*	Street Tree Planting (§17.58.080) and Planting Plan (§17.58.100) required for new multi-family development, commercial or industrial development, subdivisions, partitions, or parking lots.	New policy, adopted as part of 3MLAP. Define approved tree list in plan or in overlay zone. Require as part of Design Review.
5. Bike-Friendly		
• *Plan safe routes for residents and touring cyclists*	Complete Streets standards require bike facilities (§17.53.101 Streets). Minimum bike lane width is 5' on arterial and 4' on collector streets.	Modified Complete Street standards require buffered bike lanes (or cycle tracks) on collector streets and sharrow markings for shared lanes on local residential streets.
6. Connected Streets		

Design Feature	Existing Requirements *(Zoning Ordinance, Three Mile Lane Planned Development Overlay)*	Possible Three Mile Lane Area Plan (3MLAP) Recommendations and Overlay Requirements
• *Connect to existing street grid in 3ML*	Street locations must be consistent with adopted comprehensive plan and subdivision standards (§17.53.101 Streets).	Proposed local street connections shown in the preferred alternative; plan adoption will modify transportation system plan.
7. Accessibility		
• *Design new development for ease of use by all ages and abilities*	Complete Streets standards require sidewalks and bike lanes (§17.53.101 Streets). Sidewalks must be 10'-12' feet wide in commercial areas to accommodate the Pedestrian zone. Street trees must be placed in tree wells; street trees, furniture and business accesses must meet ADA requirements.	New policy, adopted as part of 3MLAP. Modified Complete Street standards increase sidewalk and planter strip widths and require buffered bike lanes (or cycle tracks) on collector streets and sharrow markings for shared lanes on local residential streets.
8. Human Scale Design		
• *Respect typical scale of commercial uses in McMinnville*	Building heights in C-3 zone limited to eighty feet (§17.33.040). No size limits; new commercial structures over 25,000 square feet gross floor area subject to Director's Review/notification. Large Format Retail (Chapter 17.56) requirements address building façade, roof features, and site design (buffering, pedestrian walkways, parking, landscaping), and innovative energy efficient design and construction technologies.	Requirements for commercial building size and massing. Additional guidelines or standards related to façade treatments. Standards for parking maximums for all uses. Parking lot location requirements for commercial uses.

Design Feature	Existing Requirements *(Zoning Ordinance, Three Mile Lane Planned Development Overlay)*	Possible Three Mile Lane Area Plan (3MLAP) Recommendations and Overlay Requirements
	Parking spaces shall be provided at no more than 120 percent of the minimum required Large Format Retail site design requirements (§17.56.050) set an off-street parking maximum (no more than 120 percent of the minimum required by Chapter 17.60, Off-Street Parking and Loading).	
• *Design to reflect the micro-climate—outdoor life, porches, balconies*	Large Format Retail pedestrian walkway standards include awning requirements (§17.56.050.C.2.b). Awning are included in Downtown Design Standards and Guidelines (§17.59.070). No residential standards.	New policy for development within the overlay. Develop clear and objective design standards for muti-family and mixed-use residential.
• *Promote inclusion and interaction within the right-of-way*	None.	Requirements for building orientation (set-to, building orientation). Additional guidelines or standards related to façade treatments, including transparency. Provision of on-street parking for ground-floor commercial uses (new requirements allowing on-street spaces to be counted toward parking minimums, new cross-section standards for streets with ground-floor retail).
9. Mix of Activities		
• *Encourage mixed-use development where feasible*	None.	New policy, adopted as part of 3MLAP.
10. Urban-Rural Interface		
• *Reflect patterns of wine industry—eg, rows of vines, southern*	None.	New policy, adopted as part of 3MLAP. Examples in Design Booklet.

Design Feature	Existing Requirements *(Zoning Ordinance, Three Mile Lane Planned Development Overlay)*	Possible Three Mile Lane Area Plan (3MLAP) Recommendations and Overlay Requirements
orientation, shelter belts of trees		
• *Consider adjacency to agricultural fields and respect this heritage through careful transitions*	None.	New policy articulating transitions; buffer/perimeter requirements.
• *Design simple roof forms (industrial and agricultural). Height and distinctive forms of silos can be inspiration*	Large Format Retail development standards require architectural variability in the roof design((§17.56.050.B). Proposed buildings must incorporate two out of three standards: parapets with cornices; overhanging eaves or cornices, and; prominent portions of the roof design exhibiting slopes with a plane of between 4/12 (33 degrees) and 6/12 (45 degrees).	Require roof features consistent with Large Format Retail standards for all future development in the 3ML area. Design examples in Design Booklet.
• *Consider functional site planning of vineyard and farm complexes as conceptual model for new development*	None.	Examples in Design Booklet.
11. Housing for Diverse Incomes and Generations		
• *Allow for a mix of future housing forms and types, respecting the current character of 3ML*	Existing residential and commercial zoning allows for a variety of housing types.	3MLAP increases the areas available for housing with the change in designation from industrial to Mixed-use use north of Three Mile Lane, and from industrial to residential in the vicinity of the hospital.
12. Housing Variety		
• *Respect existing variety of housing types in 3ML and ensure diversity of design for future housing*	Housing variety and design not addressed. Site design requirements for Large Format Retail require buffering, (§17.56)	Guidelines in Design Booklet Buffer/perimeter requirements for Mixed-use, Medical, and Commercial.

Design Feature	Existing Requirements *(Zoning Ordinance, Three Mile Lane Planned Development Overlay)*	Possible Three Mile Lane Area Plan (3MLAP) Recommendations and Overlay Requirements
	Light industrial uses (M-1) must include perimeter treatments to buffer adjacent residential uses.	
13. Unique and Integrated Design Elements		
• *Ensure visibility from highway; Welcome to McMinnville*	None.	Guidelines in Design Booklet. Requirements for landscape buffering fronting Three Mile Lane. Requirements for façades facing Highway 18, including addressing blank walls and requiring articulation and materials or color variation; design guidelines to encourage a more cohesive visual character along the corridor.
• *Make functions of sites visible (airplanes, wine-making); continue expression of industry/making where applicable*	None.	Examples in Design Booklet.
• *Aviation legacy: display large planes; consider sensation of low-flying planes, potential visual impact of sites from the air*	None.	Examples in Design Booklet.
• *Consider local materials for cladding and building structure (timber, corrugated steel cladding, red brick)*	Large Format Retail (Chapter 17.56) requirements address building façade, roof features, and site design (buffering, pedestrian walkways, parking, landscaping), and innovative energy efficient design and construction technologies.	Additional guidelines or standards related to façade treatments. Expand requirements to uses other than commercial, including office, mixed-use, and multi-family.

Design Feature	Existing Requirements *(Zoning Ordinance, Three Mile Lane Planned Development Overlay)*	Possible Three Mile Lane Area Plan (3MLAP) Recommendations and Overlay Requirements
• *Use vibrant color*	None.	Additional guidelines or standards related to façade treatments; define acceptable color palate. Require for all new commercial, office, mixed-use, and multi-family.

NEXT STEPS

This memorandum and associated materials will be presented to the Three Mile Lane TAC and CAC at their next meetings. The committees are expected to evaluate elements of the Preferred Alternative and provide additional direction and suggestions for refinement, including:

- Refinement of the attributes that define the Three Mile Lane Area.
- Refinement of the specific attributes desired in the opportunity areas.
- Desired policy, design elements, and code concepts to implement the plan and effectively guide and regulate development within the Three Mile Lane Area.

Following the advisory committee meetings, the project team will bring a revised set of materials to the broader public at Public Event #3, tentatively scheduled for early 2021. The plan concepts of the Preferred Alternative and land use implementation measures will be the focus of this event.

A companion memorandum to this piece (TM 8b) evaluates the transportation impacts of proposed land uses and provides recommendations for the design of Highway 18 through this area. This work is based on a detailed transportation analysis, performed in partnership with the City and Oregon Department of Transportation.

Reflecting revisions informed by public involvement and City review, a final plan document will be created and prepared for adoption. The adoption process will include a public Planning Commission/City Council work session, a Planning Commission hearing, and a City Council hearing. Each of these points provide an opportunity for public participation to review and provide comments on the Three Mile Lane Area Plan.

Walkable Streetscape with Active Ground Floors

Regionally-influenced architecture

PRECEDENT STUDY:
Old Mill District, Bend

Regionally-influenced architecture

Distinctive entry to Commercial Center

Protected mountain views

PRECEDENT STUDY:
NorthWest Crossing, Bend

PRECEDENT STUDY:
Orenco Station, Hillsboro, OR

COMMERCIAL DESIGN OPPORTUNITIES

Three Mile Lane Area Plan
March 2021

MEMORANDUM

Preferred Facility Design Option

McMinnville Three Mile Lane Area Plan

DATE	March 31, 2021
TO	Heather Richards and Jamie Fleckenstein, City of McMinnville Michael Duncan, ODOT
FROM	Andrew Mortensen, David Evans and Associates, Inc.
CC	Darci Rudzinski, Angelo Planning

1 INTRODUCTION AND PURPOSE

The City of McMinnville, in partnership with the Oregon Department of Transportation (ODOT), is updating the Three Mile Lane Overlay/Area Plan (3MLAP), which was originally drafted in 1997. The Plan will be used to help guide future land use planning and investments in transportation operations, maintenance, and facilities. The consulting team of David Evans and Associates (DEA), Angelo Planning Group, Walker Macy and Leland Consulting are assisting the city with the Plan.

The purpose of the memorandum is to summarize the Preferred Facility Design Option supporting the Preferred Land Use Plan. Consistent with the project's scope of work, this memorandum summarizes the following:

- Indicate how the Facility Design alternative would be accommodated within the right-of-way and at street intersections.
- Identified design and facility configuration elements that vary from City and ODOT standards (if any) and why those deviations are recommended.
- Show where alteration of existing public and private approaches (driveways) would be required, and where opportunities exist for landscaped medians or where opportunities exist to alter existing public and private approaches to improve operation of the street or to mitigate safety concerns.
- Include a high-level cost estimate of the Facility Design alternative. The cost estimate must include demolition, pavement, curb, sidewalk, signing and striping, drainage and landscaping.
- Outline general implementation strategy, such as potential phasing approach that identifies conceptual packages of near-term and longer-term improvements.

1.1 FINDINGS FROM MEMORANDUM USED TO GUIDE PLAN UPDATE

As shown below, findings from this *Memorandum* (#8c) will have important input to key tasks of the Three Mile Lane Area Plan (3MLAP).

3MLAP Project Timeline

1.2 ORGANIZATION OF THE MEMORANDUM

The memorandum is organized in three major sections as follows:

2 FACILITY DESIGN OPTIONS

2.1 OPTIONS CONSIDERED

Two significant facility design options for Oregon Highway 18 (OR 18) major study accesses were originally reviewed and considered by the TAC and CAC in 2020, during which a third option was defined as the Preferred Option by the CAC. In March of 2021, the Preferred Alternative design option was slightly refined following analysis of future year 2041 traffic operations. The traffic analysis focused on future operations at key study area intersections reflecting both the (a) adopted Comprehensive Plan land uses for the McMinnville urban area and study area, and (b) the Preferred Land Use Plan for the study area.

2.2 OPTION 1: OR 18 INTERCHANGES

Option 1 generally adheres to the historic (1997) corridor plan for OR 18 in study area, as shown in **Figure 1**.

Figure 1. OR 18 Facility Design Option – Interchanges

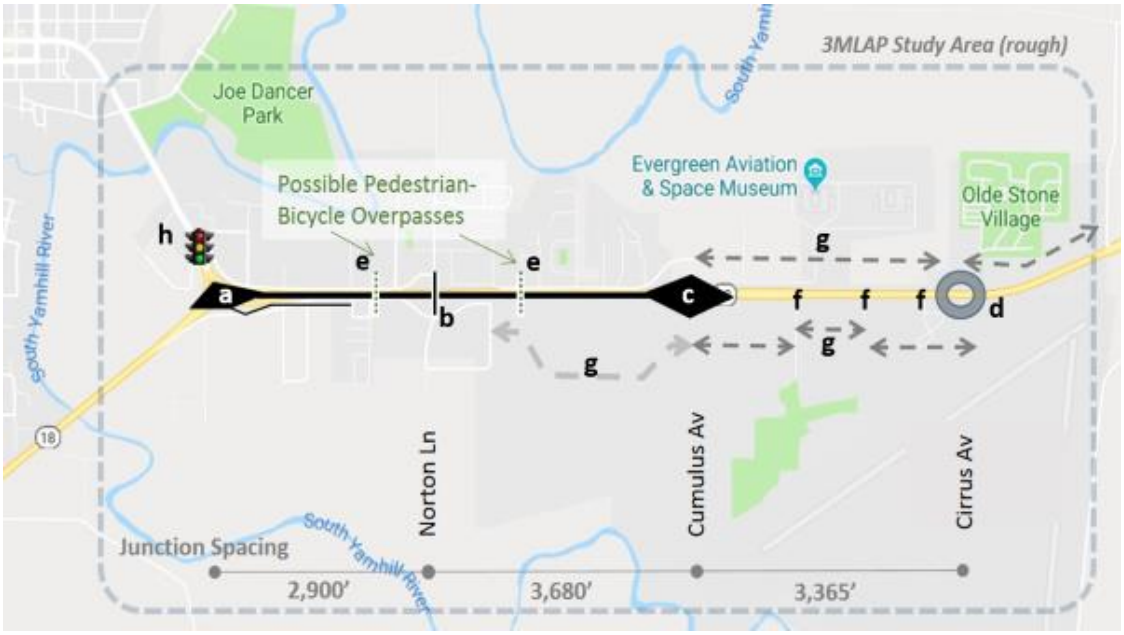


Figure 1 Notes:

a) Three Mile Lane interchange - reconstructed for full access and crossing, including extension of Stratus Avenue and the potential to signalize the OR 18 eastbound off-ramp and Stratus Avenue.
b) Norton Lane - replacement of at-grade traffic signal with a street overcrossing.
c) Cumulus Avenue - replacement of at-grade traffic signal with a new diamond interchange.
d) Cirrus Avenue - new roundabout on OR 18, with McMinnville gateway features.
e) New pedestrian/bicycle overpass connectors located east and west of Norton Lane, linking Cumulus Avenue and Stratus Avenue, and areas beyond.
f) Removal of at-grade street and driveway accesses to OR 18 between Cumulus Avenue and the eastern edge of the study area, including Loop Road and Cruickshank Road[1] (not shown in Figure 1, as Cruickshank Road is external to the Three Mile Lane Study area).
g) New east-west frontage streets along OR 18 linking Cirrus Avenue, Cumulus Avenue and Norton Lane.
h) New traffic signal at Three-Mile Lane and Cumulus Avenue (will require further study and design to determine feasibility of new signal placement in proximity of new interchange ramp termini).

[1] Consistent with the McMinnville Airport Layout Plan (2004), future plans are to close the Cruickshank Road connection and re-direct county traffic to a new roundabout on OR 18 at the current junction of Lafayette Highway.

Figure 2 (west section) and **Figure 3** (east section) illustrate a more detailed plan view of Option 1.

The reconstruction of the Three-Mile Lane interchange provides full connectivity from OR 18 to downtown McMinnville and land uses on both sides of OR 18 in the study area. New route options afforded by the new interchange include:

- Linking OR 18 from the west (eastbound) to downtown McMinnville. Currently, drivers need to travel east to Norton Lane, turn left onto Norton Lane and then left again to Cumulus Avenue and travel west to Three Mile Lane.
- Linking downtown McMinnville and the Willamette Valley Medical Center and other lands south of OR 18 via new Stratus Avenue connection. Currently, drivers travel from downtown on Three Mile Lane to OR 18 and turn right at Norton Lane to access these destinations (and vice-versa).

As shown in **Figure 2,** Lawson Lane is the existing county road connecting to Stratus Avenue immediately south of the Three-Mile Lane interchange. In this option, Lawson Lane would be re-aligned eastward, paralleling Stratus Avenue, to a new connection at Martin Lane.

Figure 2. OR 18 Interchange Design Option – West Section Plan View

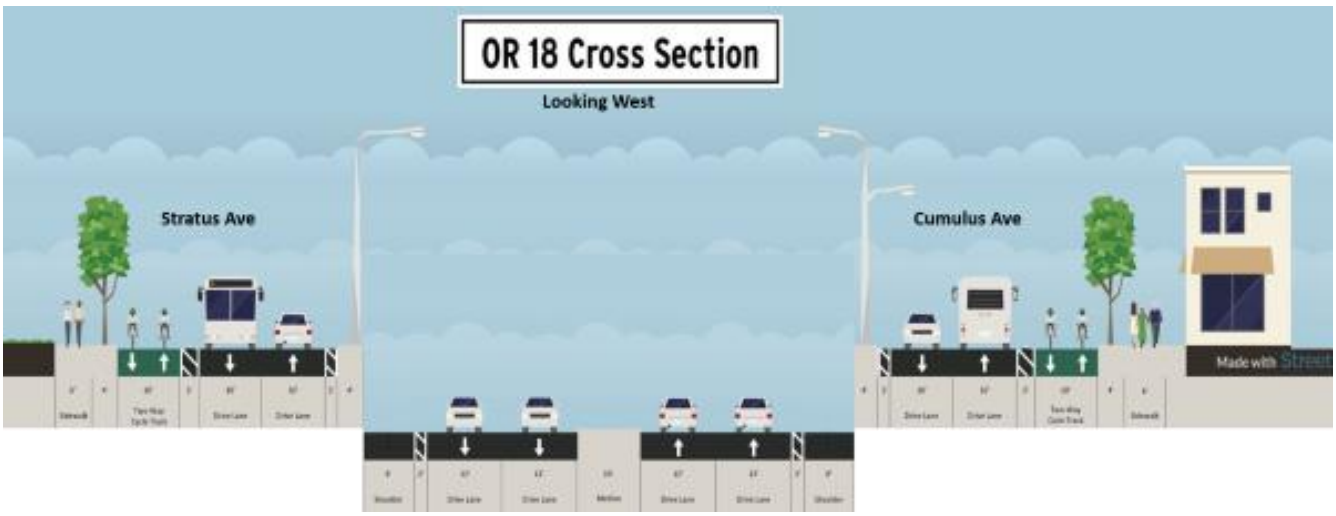
As shown in **Figures 2** and **3**, motorists traveling westbound on OR 18 (Three Mile Lane) wanting to get to the Willamette Valley Medical Center (and other immediate area destinations) will be required to exist OR 18 at the new Cumulus interchange and travel west along a new network of local street connectors (shown in Figure 1). Today, motorists turn left at the existing traffic signal on OR 18 at Norton Lane to make this connection. Motorists leaving the Willamette Valley Medical Center area will travel east on the new network of street connectors to the Cumulus Avenue interchange to connect back to OR 18, and be able to travel either westbound or eastbound on OR 18.

Figure 3. OR 18 Interchange Design Option – East Section Plan View

Figure 4 illustrates a cross-sectional view of OR 18 taken in a location just west of Norton Lane. OR 18 would need to be re-constructed at a lower elevation and cross under Norton Lane, and include a median, two travel lanes in each direction, and wide shoulder lanes (consistent with the Oregon Highway Design Manual, with sufficient width to accommodate buffered bike lanes in the even they are desired at some time in the future).

Bi-directional cycle tracks are located on both Stratus Avenue and Cumulus Avenue. Buffer strips and sidewalks are reconstructed adjacent to land use activities on the north side of Cumulus Avenue and south side of Stratus Avenue.

Figure 4. OR 18 Interchange Design Option – Cross-Section View



Full page format of Figure 4 is shown in Appendix A.

2.3 OPTION 2: OR 18 ROUNDABOUTS

Option 2 incorporates roundabouts as a consistent junction design in the study area, as shown in **Figure 5**.

Figure 5. OR 18 Facility Design Option – Roundabouts

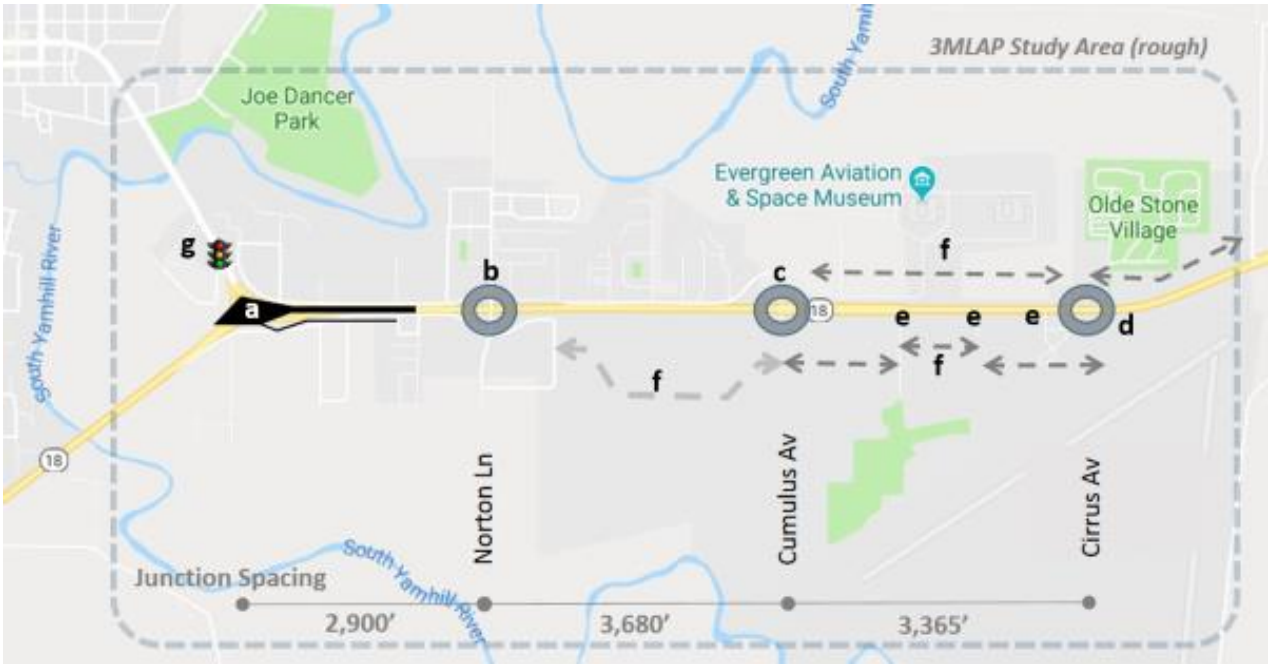


Figure 5 Notes:

a) Three Mile Lane interchange - reconstructed for full access and crossing (identical to Option 1), including extension of Stratus Avenue and the potential to signalize the OR 18 eastbound off-ramp and Stratus Avenue.
b) Norton Lane - replacement of at-grade traffic signal with a multilane roundabout.
c) Cumulus Avenue - replacement of at-grade traffic signal with a multilane roundabout.
d) Cirrus Avenue - new roundabout on OR 18, with McMinnville gateway features.
e) Removal of at-grade street and driveway accesses to OR 18 in the section between Cumulus Avenue and the eastern edge of the study area, including Loop Road and Cruickshank Road (Cruickshank Road is not shown in Figure 5, as Cruickshank Road is external to the Three Mile Lane Study area).
f) New east-west frontage streets along OR 18, linking Cirrus Avenue, Cumulus Avenue and Norton Lane.
g) New traffic signal at Three-Mile Lane and Cumulus Avenue (will require further study and design to determine feasibility of new signal placement in proximity of new interchange ramp termini).

Figure 6 (west section) and **Figure 7** (east section) illustrate a more detailed plan view of Option 2.

Like Option 1, the reconstruction of the Three-Mile Lane interchange provides full connectivity from OR 18 to downtown McMinnville and land uses on both sides of OR 18 in the study area.

Figure 6. OR 18 Roundabout Design Option – West Section Plan View

Figure 7. OR 18 Roundabout Design Option – East Section Plan View

As shown in **Figures 6** and **7**, access to and from lands north and south of OR 18 are made via roundabouts at Norton Lane, Cumulus Avenue and Cirrus Avenue, and then along a new network of local street connectors (shown in Figure 5). Both Cumulus Avenue and Cirrus Avenue will need to be re-aligned at Norton Lane in order to provide sufficient spacing from the new roundabout.

2.4 EVALUATING THE OPTIONS

2.4.1 Initial TAC and CAC Evaluation

Both the Technical Advisory Committee (TAC) and Citizens Advisory Committee (CAC) reviewed and discussed the two main OR 18 facility design options. For their further consideration, the project team developed evaluation criteria to help compare and contrast the two options. As listed in **Table 1**, the applied criteria include:

- Foster Economic Development
  - Ease of access to existing/future land use
  - Land use visibility from Three-Mile Lane
- Sustain OR 18 as a Key Intercity Freight Route
  - Desired travel speed on OR 18
  - OR 18 truck maneuverability
- Enhance Multimodal Connectivity
  - Within the Three-Mile Lane study area
  - Between the Study Area and City Center
- Minimize Rights-of-Way and Cost Requirements
  - Rights-of-way
  - Cost

Option 1 (interchanges) best meets the criteria to sustain OR 18 as a key intercity freight route, but is more expensive (conceptually) because of needed additional rights-of-way and infrastructure.

Option 2 (roundabouts) best meets the criteria to foster economic development because it provides more direct access to area land uses.

Both options enhance multimodal connectivity, improving connectivity within the study area and between the study area and the city center. Both options also provide access management which should reduce crashes and help sustain OR 18 as a key intercity freight route.

The CAC considered these inputs and determined that they could not reach consensus supporting either option. Through continued deliberation the CAC concluded that their preferred facility design option is to replace the existing interchange on OR 18 at Three-Mile Lane as depicted in both Options 1 and 2, but retain the at-grade traffic signals on OR 18 at Norton lane and Cumulus Avenue, and construct a new roundabout at Cirrus Avenue.

The CAC recommendations formed the initial Preferred Facility Design, which was intended for more detailed discussion in Section 3.

Table 1. Evaluating the OR 18 Facility Design Options

Evaluation Criteria	OR 18 Facility Design Options	
	1 - Interchanges	1 - Roundabouts
Facility Design Features Help:		
A. Foster Economic Development		
Ease of Access to Existing and Planned Land Use**	Interchange at Cumulus Avenue and Norton Lane overcrossing reduces direct accessibility to Willamette Valley Medical Center and other Norton lane destinations.	Multiple, dual lane roundabouts provide more direct access to existing and planned land uses both north and south of OR 18.
Land Uses are Visible from Three Mile Lane (OR 18)	Land uses are visible from Three Mile Lane (OR 18), when highway is lowered to fit interchange and overcrossings.	Land uses are more visible with OR 18 at grade through the three conceptual roundabouts.
B. Sustain OR 18 as a Key Intercity Freight Route		
Desired Travel Speed on OR 18	Limited access highway with single roundabout at Cirrus Avenue and interchange at Cumulus Avenue facilitates desired travel speed along OR 18.	Multiple, dual lane roundabouts (modestly) impeded desired speed along OR 18.
OR 18 Truck Maneuverability	Limited access highway with single roundabout at Cirrus Avenue and interchange at Cumulus Avenue facilitates intercity truck maneuverability.	Multiple, dual lane roundabouts impeded truck maneuverability.
C. Enhance Multimodal Connectivity		
Within the Three Mile Lane Study Area	Overcrossing of Norton Lane, interchange at Cumulus Avenue, roundabout at Cirrus Avenue and potential pedestrian-bicycle overcrossings are good vehicle (including transit), pedestrian and bicycle connectivity across OR 18.	Evenly-spaced roundabout provide good vehicle (including transit), pedestrian and bicycle connectivity across OR 18. Dual lane roundabouts may intimidate north-south pedestrian and bicycle connectivity, especially as OR 18 traffic increases in the future.
Between the Study Area and City Center	Replacement of OR 18/Three Mile Lane interchange with new Stratus Avenue connection, and new two-way cycle tracks and sidewalks along Cumulus and Straus Avenues, significantly improve connectivity between the study area and city center.	Replacement of OR 18/Three Mile Lane interchange with new Stratus Avenue connection, and new two-way cycle tracks and sidewalks along Cumulus and Straus Avenues, significantly improve connectivity between the study area and city center.
D. Minimize Rights-of-Way Cost Requirements* **		
Rights-of-Way	ROW requirements for diamond interchange at Cumulus Avenue is greater than roundabout (Option #2).	ROW requirement for dual lane roundabout at Cumulus Avenue expected to be less than tight diamond interchange (Option #1). Roundabout at Norton lane will require additional ROW and impact several homes and possible businesses to realign Cumulus and Stratus Avenues.
Cost (conceptual)	Costs are significant: new interchange at Cumulus Avenue, lowering OR 18, and overcrossings at Norton lane and possible pedestrian-bicycle crossings.	Cost of roundabouts at Cumulus Avenue is modest. Cost to re-align Cumulus and Stratus Avenues at Norton Lane is significant.

Notes

* Within the Three Mile Lane Study Area

** Auto, Truck, Pesdestrian, Bicycle and Transit

*** As differentiated between options 1 and 2

Key

Meets Criteria

Marginally Meets Criteria

Does Not Meet Criteria

2.5 OVERVIEW OF FUTURE TRAFFIC ANALYSIS

The analysis of future vehicle traffic conditions for the study area is predicated on three key steps:

1) **Housing and Employment Demographic Data**
   Demographic data within the McMinnville UGB was prepared and summarized for year 2015, 2041 Base and 2041 Tier 2 land use plan, based housing and employment demographics (McMinnville UGB) for ODOT model inputs.
   - Year 2015 demographic data were prepared and agreed to by the City of McMinnville and ODOT.
   - Year 2041 Base demographic data was developed by David Evans and Associates, Inc. (Memorandum - McMinnville OSUM Input Demographic Data Refinement and Excel file dated January 15, 2021, reviewed and agreed to by the City of McMinnville, and submitted to ODOT).
   - Year 2041 Tier 2 Land Use Plan demographic data was developed by David Evans and Associates, Inc. (E-mail and Excel file reviewed and agreed to by the City of McMinnville, and submitted to ODOT, March 15, 2021).

2) **ODOT OSUM Model Network Refinement – Preferred Alternative**
   David Evans and Associates, Inc. coordinated with ODOT Region 2 and ODOT TPAU to incorporate results from Draft Memorandum #8B to develop assumptions for the OSUM travel demand model of the preferred land use option and future OR 18 facility design and street system network reflecting the Preferred Alternative.

3) **OSUM Model Outcomes and Study Area Intersection Analysis**
   David Evans and Associates, Inc. obtained future year (2041) model volumes and select-link volumes from TPAU. The analysis for the street design alternative used the travel demand model results to generate traffic forecasts at study are Intersections consistent with the Methodology Memorandum (December 10, 2018). David Evans and Associates, Inc. conducted detailed traffic analysis using the model to evaluate future intersection operations in the Study Area.

2.6 FUTURE VEHICLE TRAFFIC ANALYSIS RESULTS – 2041 BASE

Signalized Intersections

Table 2 summarizes the v/c mobility scores for year 2041 Base traffic conditions at the two study area signalized intersections. Year 2041 Base traffic conditions generally reflect the City of McMinnville's current Comprehensive Plan for the study area (and city-wide). Further details regarding the traffic analysis outcomes are included in **Appendix B**.

Both the OR 18 and Norton Lane, and OR 18 and Cumulus Avenue intersections are found to operate at volume-to-capacity ratios below ODOT's established standards under year 2041 Base traffic conditions.

Table 2. Signalized Intersection Operations – 2041 Base Traffic

Signalized Intersections				
ID	**Name**	**v/c**	**LOS**	**Mobility Target**
2	OR 18 & Norton Lane	0.74	C	0.80
3	OR 18 & Cumulus Avenue	0.63	B	0.80

Shaded *cells indicate the movement fails to meet applicable mobility target*

Notes:

1. *At signalized intersections, the results are reported for the overall intersection performance.*
2. *The v/c ratios and LOS are based on the results of the macrosimulation analysis using Synchro, which cannot account for the influence of adjacent intersection operations.*

Source: David Evans and Associates, Inc.

Unsignalized Intersections

Critical movements at unsignalized intersections are typically the minor street approach left-turn or through movements. These movements require yielding to all other movements at the intersection, and are subject to longer delays. Left-turn movements from the major street are also subject to delays for those motorists yielding to oncoming traffic. **Table 3** summarizes the year 2041 Base traffic operations (peak hour) at the study area unsignalized intersections.

Five of the study area unsignalized intersections fail to meet established mobility targets based on estimates of future year 2041 Base traffic:

- **Three Mile Lane & First Street** – Three Mile Lane experiences high traffic volumes throughout the day, especially during the PM peak hour. There are limited gaps in the Three Mile Lane traffic flow for motorists turning from First Street. The intersection also doesn't meet mobility targets based on 2018 traffic conditions.

- **Three Mile Lane & Cumulus Avenue** – The westbound and eastbound approaches are controlled with stop signs. There is no separate left-turn lane on the north leg of Three Mile Lane. Future traffic on Three Mile Lane and Cumulus Avenue is sufficiently high that westbound motorists will find insufficient gaps to turn and travel north or south through the intersection.

- **OR 18 & RV Park Entrance –** Future traffic on OR 18 is sufficiently high that RV park motorists will have difficulty finding sufficient gaps to turn left onto eastbound OR 18.

- **OR 18 & Cruickshank Road** – Located just outside of McMinnville's UGB and the 3MLAP study area, Cruickshank Road serves as a primary route to locations that are south of McMinnville via OR 233 and OR 154. OR 18 has a posted speed of 55 mph. Cruickshank Road is posted with a stop sign. The northbound left-turn from Cruickshank Road is channelized and becomes the second westbound travel lane on OR 18. The intersection also doesn't meet mobility targets based on 2018 traffic conditions. The City of McMinnville Airport Master Plan recommends disconnecting Cruickshank Road from OR 18.

- **Norton Lane & Cumulus Avenue** – Both southbound and eastbound approaches are controlled with stop signs. The northbound approach is uncontrolled to help ensure traffic queuing on Norton lane does not back into the OR 18/Norton Lane signalized intersection. Future traffic on both Cumulus Avenue and Norton Lane is sufficiently high that southbound motorists will find insufficient gaps to travel south through the intersection.

Table 3. Unsignalized Intersection Operations – 2041 Base Traffic

Unsignalized Intersections		Northbound/Southbound				Eastbound/Westbound			
ID	Name	Critical Movement	v/c	LOS	Mobility Target	Critical Movement	v/c	LOS	Mobility Target
1	Three Mile Lane & First St	NBL	0.52	C	0.90	**EBLTR**	1.70	F	0.90
4	OR 18 & Armory Way	NBLR	0.26	F	0.95	WBL	0.01	B	0.80
5	OR 18 & Cirrus Avenue	NBL	0.53	F	0.95	WBL	0.01	B	0.80
6	OR 18 & RV Park Entrance	**SBLR**	**1.64**	**F**	**0.95**	EBL	0.20	B	0.80
7	OR 18 & Loop Rd	SBLR	0.38	F	0.95	EBL	0.01	B	0.80
8	OR 18 & Cruickshank Rd	**NBLR**	4.48	F	0.75	WBL	0.07	B	0.70
9	Norton Lane & Cumulus Avenue	**SBTR**	**1.05**	**F**	**0.90**	EBLR	0.16	B	0.90
10	Norton Lane & Stratus Ave	SBLTR	0.09	A	0.90	EBLTR	0.71	F	0.90
11	Three Mile Ln & Cumulus Ave	SBLTR	0.16	B	0.9	**WBLTR**	**1.54**	**F**	**0.9**

Acronyms: EB = eastbound; WB = westbound; NB = northbound; and SB = southbound. L = left; T = through; and R = right.

Example: EBTR = eastbound through-right

***Shaded** cells indicate the movement fails to meet applicable mobility target*

Notes:

1. *At unsignalized intersections, the results are reported for the worst operating movements on major and minor approaches that must stop or yield the right of travel to other traffic flows.*
2. *The v/c ratios and LOS ratings are based on the results of the macrosimulation analysis using Synchro, which cannot account for the influence of adjacent intersection operations.*
3. *Mobility target is reported for the critical movement, as defined in Note 1.*

Source: David Evans and Associates, Inc.

3 PREFERRED FACILITY DESIGN

3.1 Preferred OR 18 Facility Design Concept

Figure 8 shows the preferred facility design concept for OR 18.

Figure 8. Preferred Facility Design Concept

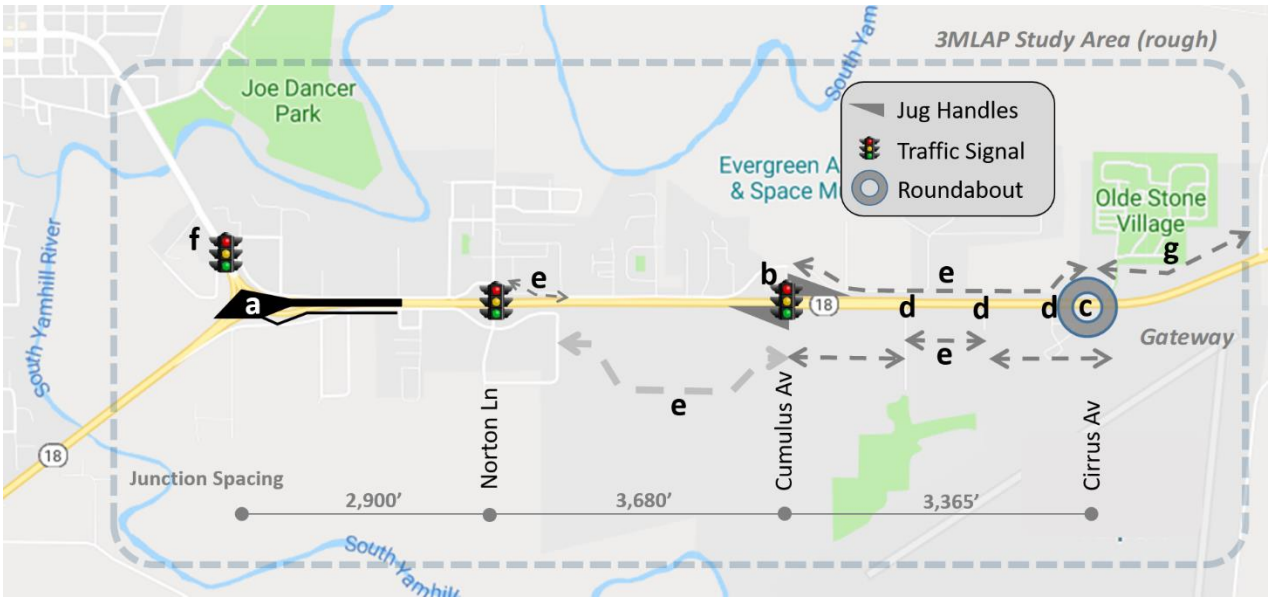


Figure 8 Notes:

a) Three Mile Lane interchange - reconstructed for full directional access and crossing, with new connector to Stratus Avenue - see **Figure 9**).
b) Cumulus Avenue – construct new "jug handles" for local traffic exiting OR 18, as shown in **Figure 10,** and modify or replace the existing at-grade traffic signal.

> Note: The draft Preferred Facility Design was developed in coordination with the CAC prior to the development and evaluation of future traffic volumes and operations. The later traffic operations analysis indicates that the traffic signal at OR 18/Cumulus Avenue will accommodate year 2041 traffic operations under both the Base and Preferred Alternative scenarios, without the need for additional jug handles. Jug handles may be needed beyond the 20-year planning horizon.

c) Cirrus Avenue - new roundabout on OR 18, with McMinnville gateway features.
d) Removal of at-grade street and driveway accesses to OR 18 in the section between Cumulus Avenue and the eastern edge of the study area, including Loop Road and Cruickshank Road (Cruickshank Road is not shown in Figure 8, as Cruickshank Road is external to the Three Mile Lane Study area).
e) New east-west frontage streets north and south of OR 18, linking Cirrus Avenue, Cumulus Avenue and Norton Lane. These and other local street connectors are depicted in **Figure 11**.
f) New traffic signal (or roundabout) at Three-Mile Lane and Cumulus Avenue.
g) Loop Road - disconnect from OR 18 and realign to new Cirrus Avenue connector and roundabout.

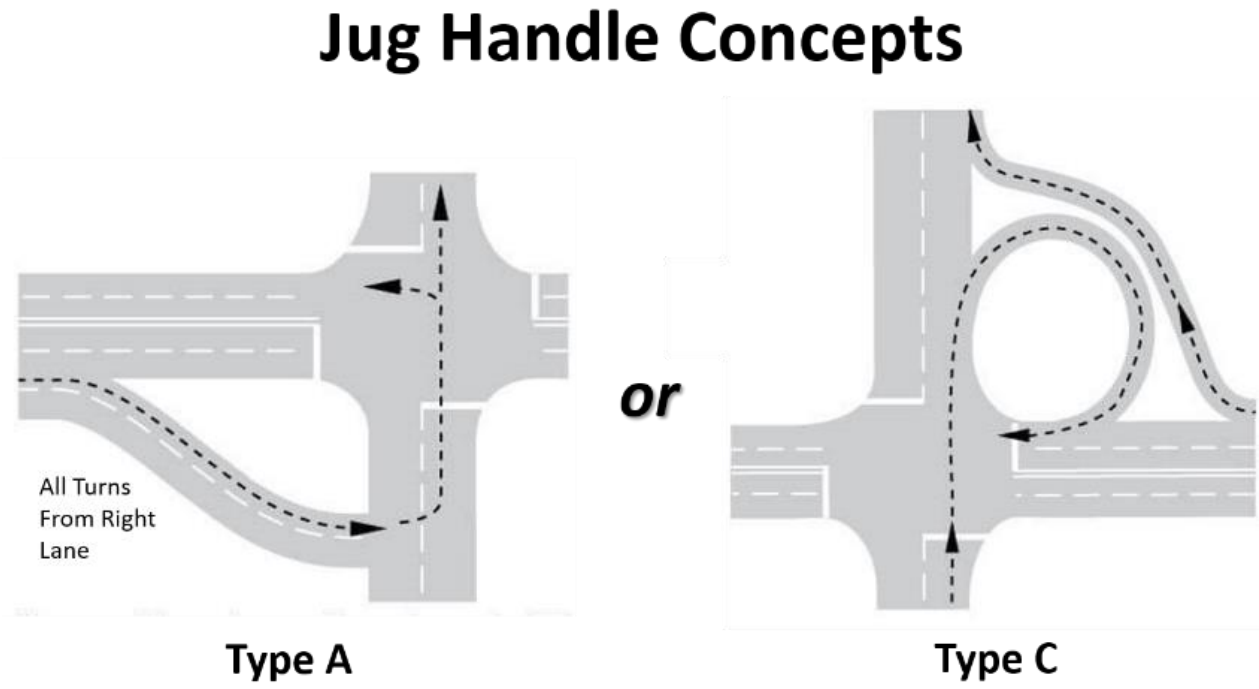
Figure 9 illustrates the reconstructed interchange of OR 18 at Three Mile Lane. The interchange modifications allow full vehicular movement to and from OR 18 in all directions, and a bi-directional connection between the southern half of the Study Area and McMinnville's city center via Stratus Avenue. These new connections will likely carry significant local traffic demand that would otherwise travel on OR 18 between the study area and McMinnville's city center. The Stratus Avenue connection also provides direct connectivity for pedestrian and cyclists traveling between the southern half of the Study Area and McMinnville's city center. Separated, two-way cycle tracks on both Cumulus Avenue and Stratus Avenue will improve rider comfort and significantly reduce level of traffic stress on these routes.

Figure 9. OR 18 / Three Mile Lane Interchange Preferred Facility Design

As noted in **Figure 9**, there are interchange layout and traffic control concepts that will require further study and engineering analysis, including:

A. Re-alignment of Cumulus Avenue (and Nehemiah Lane) intersection with Three Mile Lane.
B. New traffic signals (whether MUTCD warrants are met) or roundabouts.
C. Spacing sufficiency on Three Mile Lane between the new traffic signal and OR 18 westbound off-ramp.
D. Re-alignment of Lawson Lane and its new connection to Martin Lane.
E. The Urban Growth Boundary (UGB) is approximately coterminous with Stratus Avenue. The Stratus Avenue extension to the new interchange (and Lawson Lane re-alignment) will likely not require a UGB amendment (see ORS 215.283).

Figure 10. Cumulus Avenue Jug Handle Concept Options



Source: New Jersey Department of Transportation

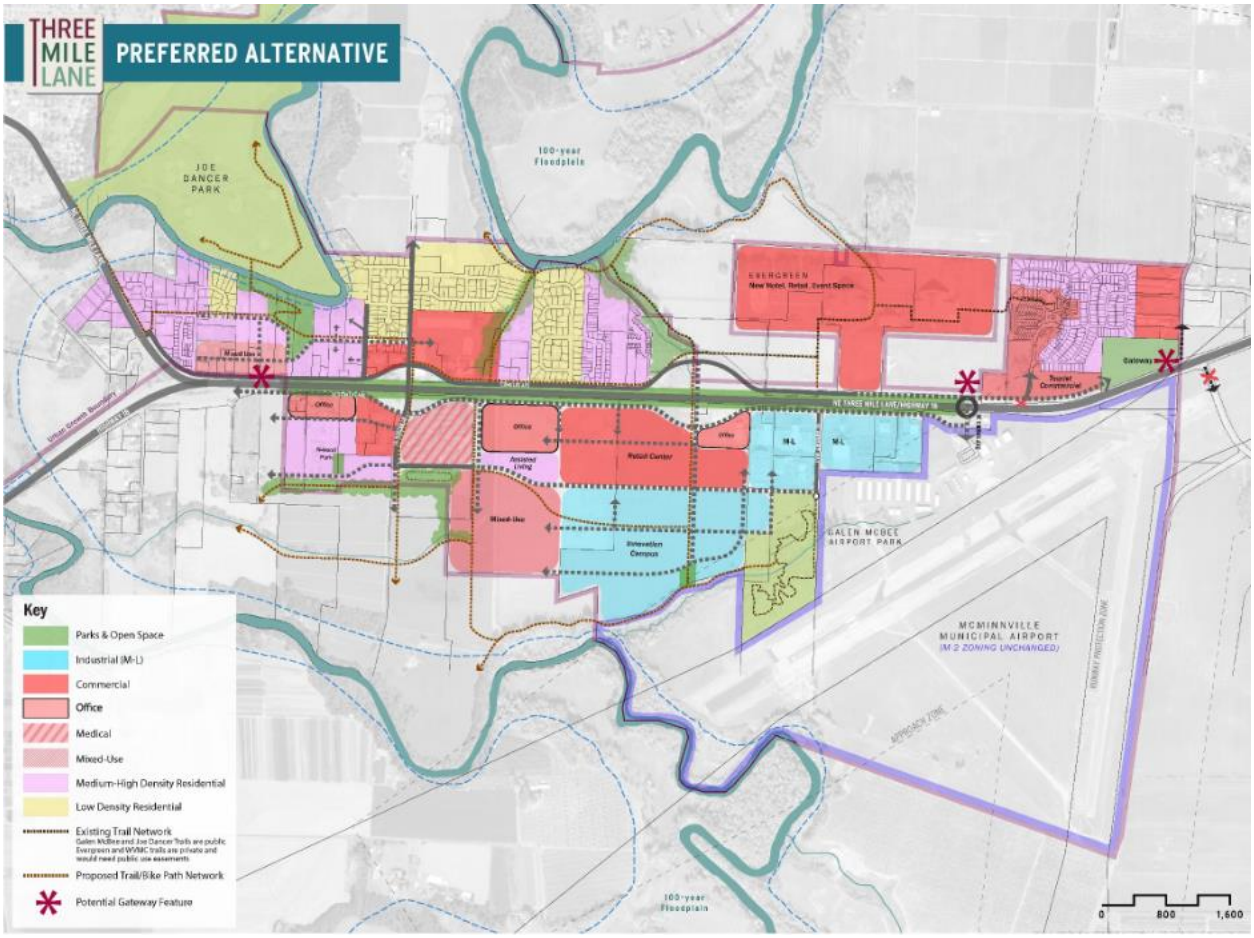
The Jug Handle concept removes all turn movements from the major highway and shifts them to the cross-street via a right-turn lane.

Note: The draft Preferred Facility Design was developed in coordination with the CAC prior to the development and evaluation of future traffic volumes and operations. The later traffic operations analysis indicates that the traffic signal at OR 18/Cumulus Avenue will accommodate year 2041 traffic operations under both the Base and Preferred Alternative scenarios, without the need for additional jug handles. Jug handles may be needed beyond the 20-year planning horizon.

3.1 STUDY AREA TRANSPORTATION NETWORK PLAN

Enhancements to the existing local street network supporting the Preferred Alternative Land Use plan are illustrated in **Figure 11**. The network includes completion of parallel and intersecting streets both north and south of OR 18 and network extension within currently undeveloped lands. New shared-use paths complement the planned street network that link neighborhoods with planned activity centers and the Galen McBee Airport and Joe Dancer Parks.

Figure 11. Preferred Alternative – Land Use and Local Street/Pathway Network



Full page format of Figure 11 is shown in Appendix A.

3.2 FUTURE VEHICLE TRAFFIC ANALYSIS RESULTS – 2041 PREFERRED ALTERNATIVE

Signalized Intersections

Table 4 summarizes the v/c mobility scores for year 2041 'Preferred Alternative' traffic conditions at the two study area signalized intersections, generally reflecting the Preferred Land Use Plan and street network for the study area (see Figures 9 and 11). Further details regarding the traffic analysis outcomes are included in **Appendix B**.

Both the OR 18 and Norton Lane, and OR 18 and Cumulus Avenue intersections are found to operate at volume-to-capacity ratios below ODOT's established standards under year 2041 Preferred Alternative traffic conditions.

Table 4. Signalized Intersection Operations – 2041 Preferred Alternative Traffic

ID	Signalized Intersection	v/c	LOS	Mobility Target
2	OR 18 & Norton Lane	0.76	C	0.80
3	OR 18 & Cumulus Avenue	0.64	B	0.80

Shaded *cells indicate the movement fails to meet applicable mobility target*

Notes:

3. *At signalized intersections, the results are reported for the overall intersection performance.*
4. *The v/c ratios and LOS are based on the results of the macrosimulation analysis using Synchro, which cannot account for the influence of adjacent intersection operations.*

Source: David Evans and Associates, Inc.

Unsignalized Intersections

Critical movements at unsignalized intersections are typically the minor street approach left-turn or through movements. These movements require yielding to all other movements at the intersection, and are subject to longer delays. Left-turn movements from the major street are also subject to delays for those motorists yielding to oncoming traffic. **Table 5** summarizes the 2041 Preferred Alternative traffic operations (peak hour) at the study area unsignalized intersections.

Two of the study area unsignalized intersections fail to meet established mobility targets:

- **Three Mile Lane & First Street** – Three Mile Lane experiences high traffic volumes throughout the day, especially during the PM peak hour. There are limited gaps in the Three Mile Lane traffic flow for motorists turning from First Street. The intersection also doesn't meet mobility targets based on 2018 traffic conditions.

- **Three Mile Lane & Cumulus Avenue** – The westbound and eastbound approaches are controlled with stop signs. There is no separate left-turn lane on the north leg of Three Mile Lane. Future traffic on Three Mile Lane and Cumulus Avenue is sufficiently high that eastbound and westbound motorists will find insufficient gaps to turn and travel north or south through the intersection.

Table 5. Unsignalized Intersection Operations – 2041 Preferred Alternative Traffic

Unsignalized Intersections		Northbound/Southbound				Eastbound/Westbound			
ID	Name	Critical Movement	v/c	LOS	Mobility Target	Critical Movement	v/c	LOS	Mobility Target
1	Three Mile Lane & First St	NBL	0.52	C	0.90	**EBLTR**	1.76	F	0.90
5	OR 18 & Cirrus Avenue	Replaced with OR 18/Cirrus Avenue roundabout – See Table 6							
7	OR 18 & Loop Rd	Disconnected – Loop Road re-aligned to new roundabout at OR 18/Cirrus Avenue							
8	OR 18 & Cruickshank Rd	Disconnected – Cruickshank Rd re-aligned to new roundabout at OR 18/Lafayette Highway							
9	Norton Lane & Cumulus Avenue	NBLTR	0.17	A	0.90	EBLT	0.89	F	0.90
10	Norton Lane & Stratus Ave	SBLTR	0.02	A	0.90	EBLTR	0.26	C	0.90
11	Three Mile Ln & Cumulus Ave	SBLTR	0.24	B	0.9	**EBLTR**	**2.17**	**F**	**0.9**

Acronyms: EB = eastbound; WB = westbound; NB = northbound; and SB = southbound. L = left; T = through; and R = right.

***Shaded** cells indicate the movement fails to meet applicable mobility target*

Notes:

1. *At unsignalized intersections, the results are reported for the worst operating movements on major and minor approaches that must stop or yield the right of travel to other traffic flows.*
2. *The v/c ratios and LOS ratings are based on the results of the macrosimulation analysis using Synchro, which cannot account for the influence of adjacent intersection operations.*
3. *Mobility target is reported for the critical movement, as defined in Note 1.*

Source: David Evans and Associates, Inc.

Table 6 summarizes the operations at the proposed OR 18/Cirrus Avenue roundabout. The Preferred Alternative assumes two approach lanes to the roundabout on OR 18, and single-lane approaches from Cirrus Avenue. The intersection is estimated to operate at volume-to-capacity ratios below ODOT's established standards under year 2041 Preferred Alternative traffic conditions.

Table 6. OR 18/Cirrus Avenue Roundabout Operations - 2041 Preferred Alternative Traffic

		OR 18				Cirrus			
ID	Name	Critical Movement	v/c	LOS	Mobility Target	Critical Movement	v/c	LOS	Mobility Target
5	OR 18 & Cirrus Avenue	EB Approach	0.55	A	0.80	NB Approach	0.41	B	0.80
		WB Approach	0.55	B	0.80	SB Approach	0.20	B	0.80

Acronyms: EB = eastbound; WB = westbound; NB = northbound; and SB = southbound. L = left; T = through; and R = right.

***Shaded** cells indicate the movement fails to meet applicable mobility target*

Notes:

1. *At roundabout intersections, the results are reported for all approaches, including major and minor approaches that must stop or yield the right of travel to other traffic flows.*
2. *The v/c ratios and LOS ratings are based on the results of the Sidra analysis, which cannot account for the influence of adjacent intersection operations.*
3. *Mobility target is reported for the critical movement, as defined in Note 1.*

3.3 MULTIMODAL PLAN ASSESSMENT

3.3.1 Future Transit Performance

The extension of frontage roads east along the north and south sides of OR 18 identified in the Preferred Alternative (see Figure 11) will provide opportunity for YCTA to extend Route 2 service within the study area.

The Transit Multimodal Level of Service (LOS) scores are based on user perceptions (traveler satisfaction) and are graded like a report card from best (LOS A) to worst (LOS F). More frequent and on-time bus service will rate better than infrequent, often late arrival bus service.

Figure 12. YCTA Route 2 Service in the 3MLAP Area

Transit Level of Service					
A	B	C	D	E	F
Route #2 Service				X	

As shown in **Figure 12**, the current, hourly transit service on Route #2 in the 3MLAP area is the primary factor considered in transit scoring (regardless of possible service area expansion partially enabled by the Preferred Alternative), resulting in LOS E on Cumulus Avenue and Norton Lane. Other factors being equal, and if and when YCTA service increases to a 30 minute frequency, the future transit operations will improve to **LOS C** on the study area street system.

3.3.2 Future Pedestrian System Performance

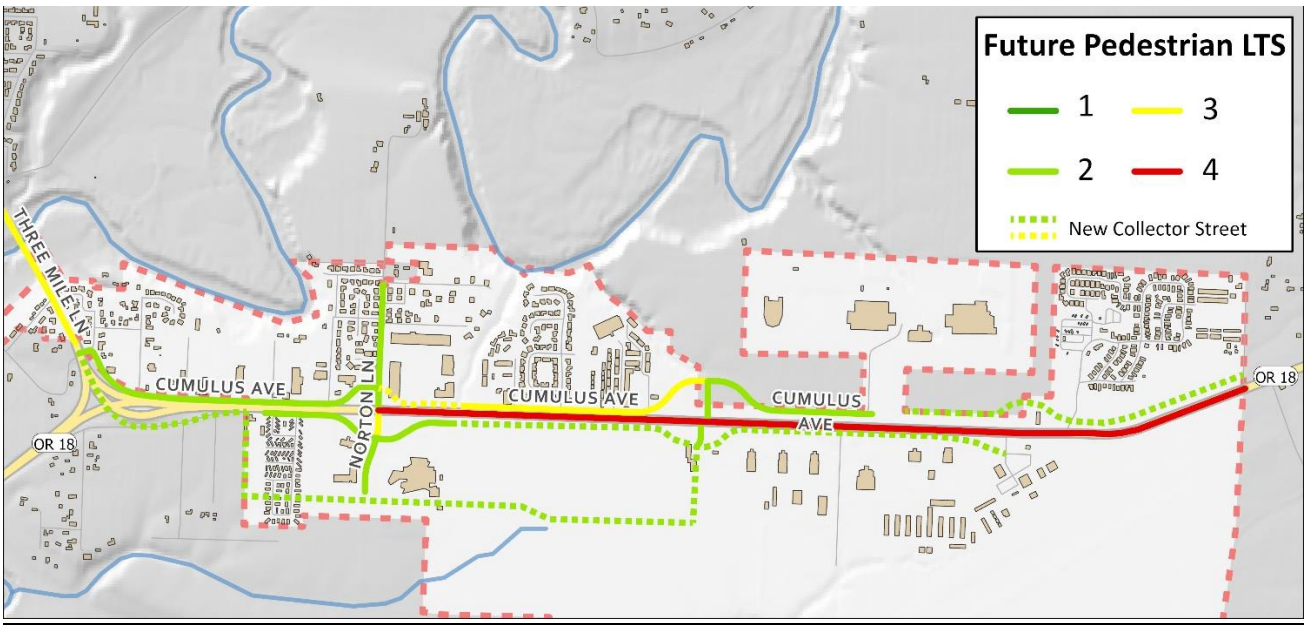
ODOT's Analysis Procedures Manual (APM) provides a detailed description of recommended multimodal analysis methodologies. For analysis of future pedestrian system performance in the study area, the Pedestrian Level of Traffic Stress (PLTS) is applied to existing and future collector and arterial streets, similar to existing conditions (see Technical Memorandum #2, February 28, 2019).

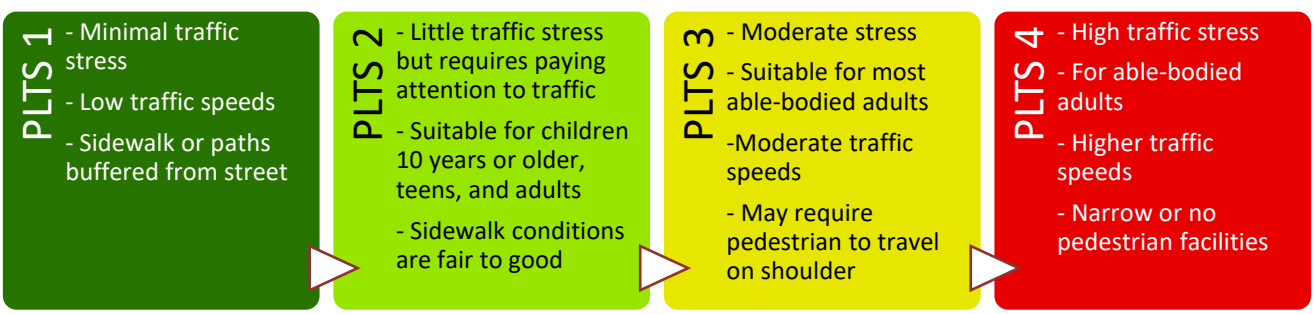
The PLTS methodology classifies street segments according to the level of pressure or strain, or comfort level, experienced by pedestrians and other sidewalk users. Other users include non-motorized forms of transportation as well as motorized power chairs and scooters.

Methodology

PLTS incorporates assumed pedestrian facility and overall street profile features to estimate the pedestrian's view of comfort and perceived safety. The four PLTS levels are defined in **Figure 13.**

Figure 13. Future Pedestrian Level of Traffic Stress





PLTS Targets

PLTS 2 is generally a reasonable minimum target for pedestrian routes. This level of accommodation will generally be acceptable to the majority of users.

PLTS Scores

Consistent with the APM, **Figure 13** illustrates the future PLTS scores for OR 18 and McMinnville's collector street network (existing and planned) within the 3MLAP study area. Key PLTS findings are:

- The re-purposing and reconstruction of bicycle and pedestrian facilities along Cumulus Avenue and Stratus Avenue will significantly enhance pedestrian mobility and comfort. These factors contribute toward the PLTS 2 score. Extensions of these routes include similar pedestrian environmental features, resulting in PLTS 2 scores.
- The extension of collector street routes in the study area along OR 18 and central to new land developments will each include sufficiently wide sidewalks and planting or buffer strips that provide pedestrian comfort, mobility and access. A PLTS 2 score is expected on these facilities.
- The Study does not estimate the need for sidewalks along OR 18. The absence of sidewalks results in future PLTS 4 scores.
- The current reconstruction of the Three Mile Lane bridge across the Yamhill River will include wider sidewalks, and new bike lanes that will help buffer pedestrians from adjacent vehicular traffic. Vehicular traffic will likely travel at about 30-35 mph, however. These factors contribute towards the PLTS 3 score.

The combination of pedestrian facility improvements along existing and planned collector streets, and planned pathway improvements in the study area will significantly improve overall pedestrian access, mobility and comfort for all users.

3.3.3 Future Bicycle System Performance

The Preferred Alternative includes recommended bicycle system improvements on existing streets and new connectors to help form a more complete bicycle network within the 3MLAP study area.

Bicycle facilities provide improved mobility for users riding to the city center and seeking active transportation options that support a healthy lifestyle. Bicycle facilities considered in the study include bike lanes, buffered bike lanes, bike boulevards (shared lane), cycle tracks and shared-use paths as summarized here:

Bike Lane

Raised Cycle Track

Buffered Bike Lane

Two-Way Cycle Track

Shared Lane

Shared-Use Path

Source: NACTO

Bicycle Level of Traffic Stress (BLTS)

BLTS serves as a high-level inventory and bikeability/connectivity performance rating, classifying street segments according to the level of pressure or strain experienced by cyclists.

Methodology

BLTS uses data on the characteristics of bike facilities and streets to estimate cyclists' likely view of comfort and perceived safety. The data used to calculate BLTS may differ based on the type of bike facility being evaluated. For separated bike facilities, most – if not all – of the characteristics used to calculate BLTS may not be applicable, in which case a BLTS of 1 would be assigned. For future on-street facilities, the following factors are considered in the BLTS estimates:

- The number of vehicle travel lanes
- Posted speed
- Total buffer width

BLTS uses four levels of traffic stress as shown in **Figure 14**.

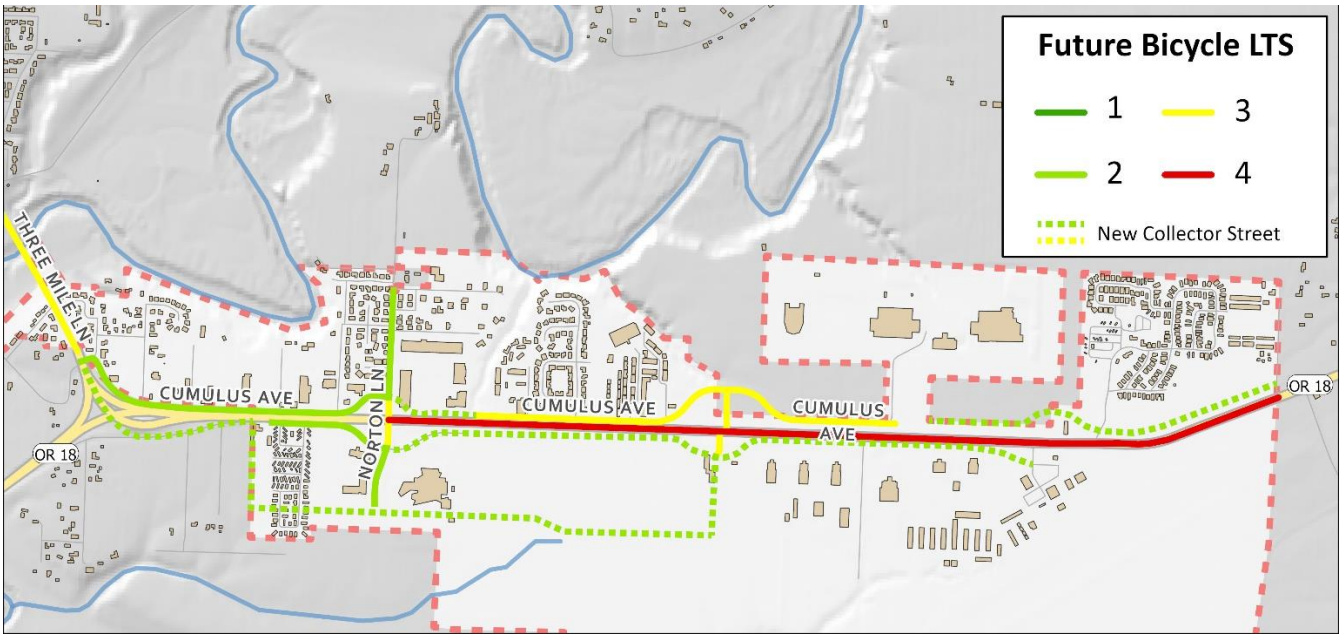
BLTS Targets

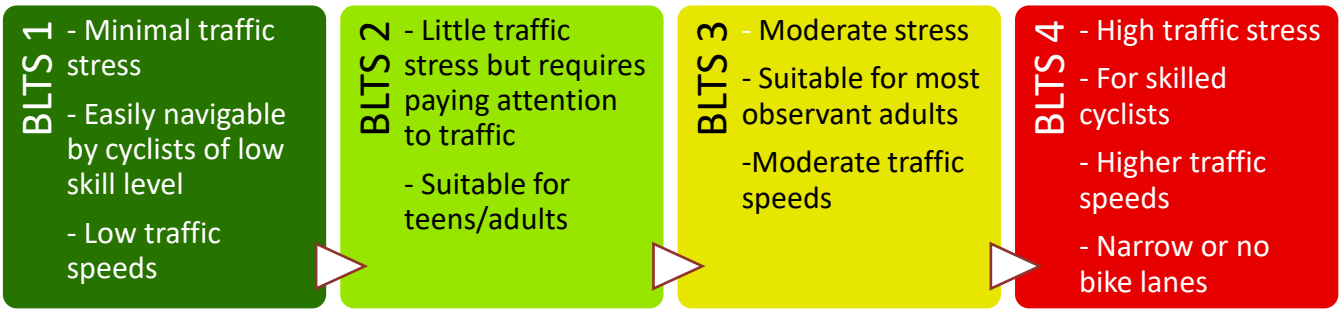
Similar to PLTS, BLTS 2 is generally a reasonable minimum target for bicycle routes and will provide reasonable accommodation for most cyclists. Higher stress level bicycle routes may still see significant use among confident and skilled cyclists but will not be attractive to other users.

BLTS Scores

Figure 14 illustrates the future BLTS rating of the collector and arterial streets, and state highways in the 3MLAP study area.

Figure 14. Future Bicycle Level of Traffic Stress





Key BLTS findings are:

- The re-purposing and reconstruction Cumulus Avenue and Stratus Avenue west of Norton Lane includes new, two-way cycle tracks that will significantly enhance bicycle mobility and comfort. These factors contribute toward the BLTS 2 score.

- The extension of collector street routes in the study area (south of OR 18) central to new land developments will each include either buffered bicycle lanes or two-way cycle tracks, either of which provide bicycling comfort, mobility and access. A BLTS 2 score is expected on these facilities.
- The new connection of Cumulus Avenue to Norton Lane will likely include buffered bike lanes on both sides of the street to match the existing Cumulus Avenue street profile. A BLTS score of 2 is expected on this facility.
- East of Cumulus Avenue, NE Cumulus Avenue (Evergreen Aviation and Space Museum connector) will be reconstructed with buffered bike lanes. The extension of NE Cumulus Avenue east to the new Cirrus Avenue connection with OR 18, and the re-alignment of Loop Road to the Cirrus Avenue connection will both include buffered bike lanes. A BLTS score of 2 is expected on these facilities.
- The current reconstruction of the Three Mile Lane bridge across the Yamhill River will include wider sidewalks, and new bike lanes that will help buffer pedestrians from adjacent vehicular traffic. However, vehicular traffic will likely travel at about 30-35 mph. These factors contribute towards the BLTS 3 score.
- The OR 18 facility design west of Norton Lane and existing OR 18 route east of Norton Lane include sufficiently wide shoulder lanes that can be re-purposed to buffered bike lanes if and when bicycle travel demand warrants the modification.

The combination of bicycle facility improvements along existing and planned collector streets, and planned pathway improvements in the study area will significantly improve bicycle access, mobility and comfort for users of all ages and confidence levels.

3.4 SAFETY ANALYSIS

The analysis of historic vehicle crashes in the study area is detailed in the Existing Conditions Memorandum (January 24, 2019). This section restates the major safety analysis findings by crash category and summarizes safety countermeasures identified in the study.

3.4.1 Critical Crash Rate and Statewide 90th Percentile

The intersection of OR 18 and Cruickshank Road is the only intersection near the study area that has a Critical Crash Rate that exceeds either the crash rate for similar intersections in the study area, or the Statewide 90th Percentile rate.

Safety Countermeasures

The study recommends implementing the McMinnville Airport Master Plan, which recommends disconnecting Cruickshank Road from OR 18. Cruickshank Road traffic would be re-directed to OR 18 at the Lafayette Highway junction. The Yamhill County Transportation Pan recommends a new roundabout at the OR 18/Lafayette Highway junction. These county road and state highway junction improvements are appropriate safety counter measures for OR 18 at the current junction of Cruickshank Road.

3.4.2 Excess Proportion of Specific Crash Types

The Excess Proportion of Specific Crash Types method quantifies the extent to which a specific crash type (the target crash type) is overrepresented at an analysis site, compared to the average representation among similar intersections in the same study population. Analysis of excess proportion of specific crash types does not consider the overall frequency or rate of crashes; instead it considers only the types of observed crashes.

A greater than expected proportion of rear-end collisions is observed at the intersection of Norton Lane and Cumulus Avenue, although only two rear-end crashes occurred in the five-year period.

Safety Countermeasures

The Preferred Alternative, including the OR 18/Three Mile Interchange reconstruction, extension of Stratus Avenue, and extension of Cumulus Avenue east of Norton Lane will provide traffic routing alternative that relieves future traffic congestion at the Norton Lane/Cumulus Avenue intersection.

3.4.3 Safety Priority Index System (SPIS)

SPIS is a method used in Oregon to identify safety problems along state highways. Highways are evaluated in approximately one-tenth mile increments. The only segment of OR 18 within the study area that ranks in the state's top 10% includes the junction of Loop Road.

Safety Countermeasures

The Preferred Alternative includes recommendations to disconnect Loop Road at OR 18 and realign Loop Road west to Cirrus Avenue and the proposed OR 18/Cirrus Avenue roundabout. These local road and state highway junction improvements are appropriate safety countermeasures for OR 18 at the current junction of Loop Road.

3.5 RECOMMENDED ACCESS MODIFICATIONS

Recommended access modifications under the Preferred Facility Design include:

- Replace existing unsignalized intersection of OR 18 at Cirrus Avenue with a new roundabout (see Figure 8).
- Removal of at-grade street and driveway accesses to OR 18 in the section between Cumulus Avenue and the eastern edge of the study area (see Figure 8), including the re-alignment of Loop Road to the new Cirrus Avenue connection and roundabout at OR 18.
- Re-alignment of Lawson Lane and its new connection to Martin Lane (see Figure 9). Both Lawson lane and Martin Lane are outside of the McMinnville Urban Growth Boundary (UGB). The re-alignment of Lawson Lane will likely not require a UGB amendment (see ORS 215.283).

3.6 PLANNING-LEVEL COST ESTIMATES AND A PHASING APPROACH

Table 7 summarizes the planning-level costs associated with the OR 18 Preferred Facility Design. Cost estimates are in 2021 dollars and include preliminary estimates of capital improvements and new rights-of-way where likely needed. A preliminary approach to the phasing of key transportation projects in the study area is also noted.

Table 7. Planning Level Cost Estimates and Phasing - OR 18 Preferred Facility Design

Phase	Description	Notes	Cost - 2021 Dollars (millions) Low	High
1	**Independent State and/or City Projects**			
	New Multi-Lane Roundabout at OR 18 and Cirrus Avenue		$8.0	$10.0
	Construct Bicycle Lanes and Sidewalks on NE Cumulus Avenue from Cumulus Avenue to Evergreen Air and Space Museum Entrance		$0.4	$0.6
	Extend Cumulus Avenue East from Norton Lane and Modify Intersection Traffic Control at Existing Norton Lane/Cumulus Avenue Intersection	[1]	To be determined	
2	**City/State Projects Reliant on Completion of New OR 18/Cirrus Roundabout**			
	Disconnect Loop Road from OR 18 and Re-align to Cirrus Avenue		$2.5	$3.0
	New OR 18 Frontage Roads Between Cumulus Avenue and Cirrus Avenue (both north and south of OR 18)	[2]	To be determined	
3	**City/State Projects Commensurate with/Reliant on New Extension of Cumulus Avenue South of OR 18**			
	Construct Cumulus Avenue south of OR 18	[2]	To be determined	
	Revise Traffic Signal at OR 18/Cumulus Avenue Intersection		$1.1	$1.2
	Construct Bicycle Lanes and Sidewalks on Cumulus Avenue from OR 18 to NE Cumulus Avenue		$0.5	$0.7
4	**State and City Projects Commensurate with/Reliant on New OR 18/Three Mile Lane Interchange**			
	Reconstruct OR 18/Three Mile Lane Interchange	[3]	$65.0	$95.0
	Re-align Cumulus Avenue and Nehemiah Lane at Three Mile Lane		$2.4	$2.6
	New Traffic Signal on Three-Mile Lane at Cumulus Avenue		$0.5	$0.6
	Re-align Lawson Lane		$1.5	$1.7
	Total		**$81.9**	**$115.4**

Notes

[1] Subject to coordination and approval between City of McMinnville and Chemeketa Community College.

[2] Subject to private development access needs.

[3] Including general cost items of demolition, pavement, curb, sidewalk, signing and striping, drainage and landscaping, and new traffic signal or roundabout at junction of OR 18 eastbound ramps and Stratus Avenue.

These cost estimates are for planning purposes only and are subject to refinement during concept development and preliminary engineering. Neither ODOT, City of McMinnville or private development roles and responsibilities in funding these projects have been identified.

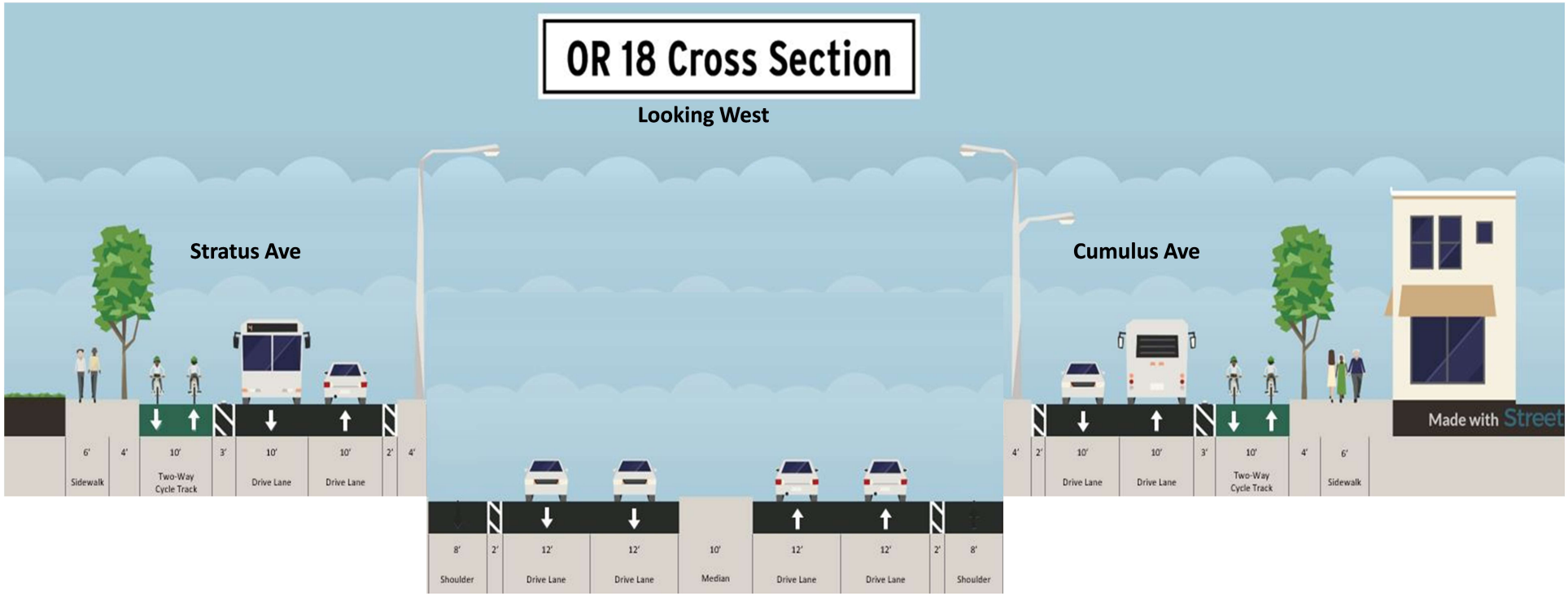
3.7 DESIGN STANDARD EXCEPTIONS

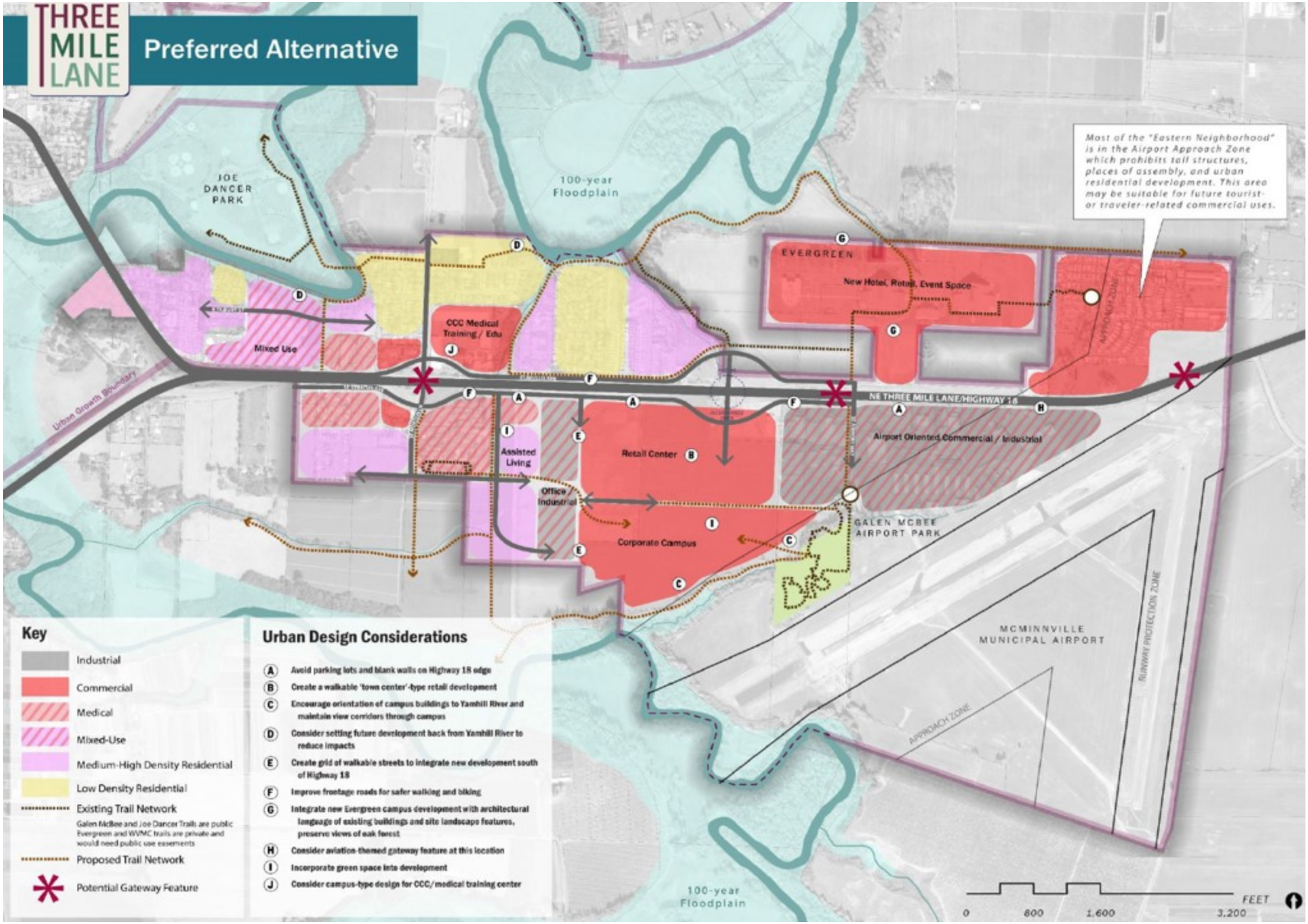
Repurposing streets, highways and land use with new, multimodal transportation infrastructure sometimes requires taking exception to design standard so that new projects fit within existing rights-of-way, natural and built environmental constraints. As the concepts identified in the Plan are taken forward into preliminary engineering and final design, there will likely be the need to examine exceptions to roadway and junction design standards. **Table 8** summarizes those projects identified in the Plan that may require design exceptions.

Table 8. Plan Projects That May Require Design Exceptions

Recommended Plan Project	Constraints	Design Standard Issues or Possible Exceptions
Reconstruct OR 18/Three Mile Lane Interchange (see **Figure 9**)	Proximity of Yamhill River Bridge, Cumulus Avenue/Nehemiah Lane intersection, OR 18 eastbound off-ramp junction, and UGB boundary (current alignment of Stratus Avenue).	Junction spacing and traffic control at: a. Three Mile Lane / Cumulus Avenue b. OR 18 Westbound Off-Ramp at Three Mile Lane c. OR 18 Eastbound Off-ramp at Three Mile Lane/Stratus Avenue
New Roundabout at OR 18 and Cirrus Avenue	Standard two-lane roundabout likely requires additional rights-of-way. OR 18 posted and design speeds entering McMinnville UGB.	Roundabout geometric design treatments to: a. Reduce approaching vehicle speeds and accommodate multi-axle trucks on OR 18 b. Accommodate bicycle and pedestrian traffic
Re-purposing Cumulus and Stratus Avenues with two-way cycle tracks (see **Figure 4**)	Limited street rights-of-way and need to accommodate future bus stops amenities.	Two-way cycle tracks are not currently incorporated in the City's design standards. Reference ODOT Blueprint for Urban Design, AASHTO and NACTO for design guidance.

APPENDIX A Large Scale Maps


OR 18 Cross Section
Looking West
Stratus Ave
Cumulus Ave
6'
Sidewalk
4'
10'
Two-Way
Cycle Track
3'
10'
Drive Lane
10'
Drive Lane
2'
4'
8'
Shoulder
2'
12'
Drive Lane
12'
Drive Lane
10'
Median
12'
Drive Lane
12'
Drive Lane
2'
8'
Shoulder
4'
2'
10'
Drive Lane
10'
Drive Lane
3'
10'
Two-Way
Cycle Track
4'
6'
Sidewalk
Made with Street


THREE MILE LANE
Preferred Alternative
JOE DANCER PARK
100-year Floodplain
Most of the "Eastern Neighborhood" is in the Airport Approach Zone which prohibits tall structures, places of assembly, and urban residential development. This area may be suitable for future tourist- or traveler-related commercial uses.
EVERGREEN
New Hotel, Retail, Event Space
CCC Medical Training / Edu
Mixed Use
Urban Growth Boundary
NE THREE MILE LANE/HIGHWAY 18
Airport Oriented Commercial / Industrial
Assisted Living
Retail Center
Office / Industrial
Corporate Campus
GALEN MCBEE AIRPORT PARK
MCMINNVILLE MUNICIPAL AIRPORT
APPROACH ZONE
RUNWAY PROTECTION ZONE
100-year Floodplain
FEET
0
800
1,600
3,200
Key
Industrial
Commercial
Medical
Mixed-Use
Medium-High Density Residential
Low Density Residential
Existing Trail Network
Galen McBee and Joe Dancer Trails are public. Evergreen and WVMC trails are private and would need public use easements
Proposed Trail Network
Potential Gateway Feature
Urban Design Considerations
A Avoid parking lots and blank walls on Highway 18 edge
B Create a walkable 'town center'-type retail development
C Encourage orientation of campus buildings to Yamhill River and maintain view corridors through campus
D Consider setting future development back from Yamhill River to reduce impacts
E Create grid of walkable streets to integrate new development south of Highway 18
F Improve frontage roads for safer walking and biking
G Integrate new Evergreen campus development with architectural language of existing buildings and site landscape features, preserve views of oak forest
H Consider aviation-themed gateway feature at this location
I Incorporate green space into development
J Consider campus-type design for CCC/medical training center

APPENDIX B Traffic Analysis Summary Report (separate for TAC only)