



HALL BOULEVARD CORRIDOR VISIONING PROJECT

CONCEPT DESIGN REPORT | January 2024

ACKNOWLEDGEMENTS

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Thanks to Tigard's Transportation Advisory Committee (TTAC) and members of the Tigard community who provided invaluable input during the engagement process.



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EXECUTIVE SUMMARY

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Currently owned and maintained by the Oregon Department of Transportation (ODOT), Hall Boulevard is a key transportation corridor within the City of Tigard. The road provides access and mobility to a broad cross-section of the local and regional population and is adjacent to several different and varied land uses. It is a key roadway for several nearby schools, including Metzger, James Templeton and Durham Elementary, Twality Middle, and Tigard High School.

Today, however, the road no longer meets the needs or expectations of a community that has grown around it. Aligned with Tigard's Strategic Vision priorities focusing on increasing walkability, connectivity, and equity, the Corridor Visioning Project will support the city's goal of improving and ultimately taking over jurisdictional ownership of the road.

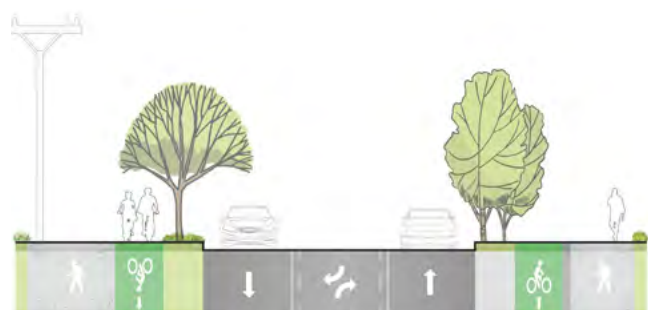
The Hall Boulevard Corridor Visioning Project provides a high-level concept for a future roadway that safely and comfortably accommodates people of all ages and abilities, regardless of how they choose to travel. This corridor plan describes the improvements required to make Hall Boulevard a complete street; such improvements suggest that Tigard will need to take over jurisdictional ownership of the road from the Oregon Department of Transportation (ODOT).

The proposed vision is the culmination of an existing conditions analysis, multiple focus groups, and two rounds of public engagement. This plan recommends a typical cross section along Hall Boulevard to maintain the two general travel lanes with a center turn lane, and expand the total roadway footprint to include consistent, grade separated walking and biking facilities, pedestrian-scale lighting, enhanced bus stops, and tree canopy (right).

The Hall Boulevard Corridor Visioning Project is engaging with the community to create a plan for an improved Hall Boulevard so that people of all ages and abilities can walk, ride transit, roll and drive wherever they need to go. This corridor plan will support the City of Tigard's efforts in securing funding needed to make improvements and ultimately to take over jurisdictional ownership of the road from the Oregon Department of Transportation.

In addition to typical proposed cross sections for each study segment, the following pages detail recommended improvements for specific intersections, including traffic signal changes, curb reconfigurations, and pedestrian crossing enhancements.

The cost to rebuild Hall Boulevard as proposed in this plan is estimated to be approximately \$61.1M, or roughly double that of the cost to bring the roadway up to a State of Good Repair. This does not include the soft costs of engineering or design work, nor does it include the costs of moving utilities and acquiring right-of-way. These additional costs can vary but our initial estimates place the total cost including these expenses at over \$100M.



Proposed typical cross section for Hall Boulevard.



1.

WHY HALL BOULEVARD AND WHY NOW?

WHY HALL BOULEVARD AND WHY NOW?

Purpose

Hall Boulevard, also known as OR-141, is a major north-south arterial corridor running through Tigard and providing connections to the communities of Beaverton, Portland, Durham, Tualatin, and points beyond. The road sees a diversity of users traveling on foot, aided by mobility devices, on two wheels, via public transit, and by personal vehicle to meet their daily transportation needs. After decades of disinvestment, the Hall Boulevard of today impedes safe and efficient travel options for Tigard residents, particularly those most in need of protection from automobile traffic.

The Oregon Department of Transportation (ODOT)-owned and operated Hall Boulevard travels along a range of frontages, through various land use contexts, and provides critical access to opportunity for some of Tigard's most vulnerable neighborhoods. Although the roadway is currently within ODOT's jurisdiction, Tigard is working with the State to fund the transfer in ownership of Hall Boulevard to the City. With the City of Tigard as owner and operator of the roadway, the City would have greater control over the physical conditions and design of Hall Boulevard that affect so many of its residents.

Conditions along the corridor vary considerably and for non-motorized users, their ability to safely travel along the corridor is limited by missing and substandard infrastructure. Drivers can get where they need to go but experience severely degraded pavement and congestion in a few locations during peak hours. People walking and rolling face a patchwork of sidewalks, with existing sections often in poor condition and many sections completely missing. People walking and rolling also have few improved roadway crossing opportunities throughout the corridor. Similarly, people riding a bike

experience disappearing bike lanes, and bike lanes that do exist are not built to a standard that support all ages and abilities riding.

In recent years, potential opportunities (and constraints) along segments of the corridor have been studied extensively as part of planning for the Southwest Corridor and transit-oriented development, the Washington Square Regional Center Plan update, and the current Downtown Reimagined project.

The Hall Boulevard corridor has tremendous potential to connect people to places by linking Tigard's land use goals with its multimodal transportation objectives.

The intent of the Hall Boulevard Corridor Visioning Project is to document existing conditions, needs, and constraints, and develop conceptual design options and planning level cost estimates the City will use to secure funding needed to improve Hall Boulevard and to create a mechanism to transfer the roadway from ODOT to the City. Realizing the community's vision for a future Hall Boulevard will boost safe transportation choices, improve options for healthy and active lifestyles, and increase economic prosperity by expanding access to goods, services, education, and employment.

Jurisdictional Transfer

The City of Tigard is committed to redesigning and rebuilding Hall Blvd to a standard of safety and quality that meets the needs of everyday users of the roadway. Significant funding combined with a transfer in ownership of the roadway are prerequisites to future improvements.

The key to unlocking a transfer of Hall Boulevard is funding. With sufficient funding allocated to Hall Boulevard, Tigard would work with ODOT to develop an Intergovernmental Agreement outlining the terms of a transfer that would be brought to the Oregon Transportation Commission who is ultimately responsible for approving transfers of state highways to local jurisdictions.

The terms of the transfer would ensure that the State invests enough money to bring the roadway into what is called a “State of Good Repair.” This prevents the City of Tigard from being saddled with the costs required to update the roadway to a basic standard of quality when taking it over. However, the City of Tigard wants to upgrade Hall Boulevard beyond simply repaving the status quo. The corridor visioning project identifies what additional improvements are needed to make Hall Boulevard a corridor that functions for users of all ages and abilities, promotes safety, connects neighborhoods, and serves as a catalyst for new development opportunities along the corridor.

For more information on this subject, refer to Metro’s [Regional Framework for Highway Jurisdictional Transfer Study \(2020\)](#).

Tigard and ODOT’s Shared Work Plan and Memorandum of Understanding

Upon completion of its 2019 Condition Assessment study, the City of Tigard initiated discussions with ODOT regarding needed repairs and a desire for future City ownership of the roadway. In late 2020, the two agencies signed a Memorandum of Understanding that 1) demonstrates commitment to pursue a path forward for jurisdictional transfer of Hall Boulevard, and 2) ensures that each party coordinates investments on the roadway. The Memorandum of Understanding provides a shared work plan for each agency to deliver on the two stated objectives.

Between 2020 and the drafting of this report in 2023, City of Tigard staff and ODOT staff held regular meetings and work sessions making significant progress toward stated Memorandum of Understanding objectives. Progress to date includes raising visibility of Hall Boulevard to the community and decision makers, applying for and securing several million dollars in funding for incremental safety improvements, reducing the posted speed limit on a key section of Hall Boulevard from 40mph to 30mph, completing the additional necessary asset condition study, and Tigard’s leading of an effort to secure state funding through a 2023 legislative funding request.



Hall Boulevard looking south toward City Hall. Ownership of Hall Boulevard will transfer from ODOT to the City of Tigard.

Tigard's Transportation System Plan

The 2040 Transportation System Plan (TSP) was initiated in 2020 and responds to a new strategic vision for Tigard's future, which emphasizes developing a multimodal transportation system that is walkable, healthy, sustainable, and accessible for everyone. This TSP serves as an important long-range planning tool for Tigard to ensure its transportation system can meet community needs, realize the City's strategic vision, and conform to state and regional policies.

The TSP discusses Hall Boulevard in the following ways:

- ▶ Hall Boulevard will be a key north-south route between neighborhoods within Tigard, providing a critical function for accessing downtown, the Tigard Transit Center, the Tigard Triangle, and numerous civic uses, including the library. With a potential for jurisdictional transfer of this road, the City has an interest in enhancing this corridor with improved sidewalks and bikeways between SW Omara Street and Pacific Highway (pg 34).
- ▶ There is a need to update the characterization of Hall Boulevard to reflect the jurisdictional transfer from ODOT to the City of Tigard (pg 60).
- ▶ Pacific Highway and Hall Boulevard are the primary access routes to the downtown area (pg 32).
- ▶ The need to reexamine the alignment of Scoffins Street/Hunziker Street at Hall Boulevard (pg 23).
- ▶ Pedestrian and bicycle crossing opportunities at the intersection of Commercial Street and Hall Boulevard should be improved (pg 33).



The Metro Area's Urban Arterial Problem

As an ODOT-owned and operated urban arterial, the problems with Hall Boulevard are not unique within the greater Portland metropolitan area. Originally constructed to function as rural "farm to market" routes, roads like Hall Boulevard have seen very limited investment while the cities surrounding them have steadily grown and urbanized. In its December 2020 Regional Framework for Highway Jurisdictional Transfer Study, Oregon Metro identified eleven 'promising' state-owned transfer candidate corridors across the region.

Portions of Hall Boulevard are included as one of the 11 "promising" state-owned transfer candidate corridors across the region. Unsurprisingly, portions of Hall Boulevard are included among the promising transfer candidates scoring high in both a "technical" and a "readiness for transfer" rubric. In addition to identifying candidate roadways for transfer, ODOT and Metro's study outlines best practices and the legal process required to successfully transfer a roadway from the State to a local jurisdiction.



2.

DESIGN PRINCIPLES & POLICY

Tigard's Complete Street Policy

Adopted in 2019, The Complete Streets Policy for the City of Tigard guides its work to create a safe, efficient, and comfortable transportation system for all users, regardless of age or ability.

6 GUIDING PRINCIPLES:

- 1 Serve All Users:** The City will develop and manage rights-of-way to promote access and mobility for all users, with a particular focus on enhancing the safety of vulnerable road users.
- 2 Provide Interconnected Networks:** The City will strive to provide a connected network of safe, accessible, and convenient travel routes for non-motorized travel, including off-street trails and pathways for bicycling and walking.
- 3 Use Best Practices and Innovative, Context-Sensitive Design:** The City will use current and emerging best practices in transportation network and facility design to serve the multimodal transportation needs of all users. It will also use context-sensitive design to address unique local conditions and constraints.
- 4 Support Land Use Planning Goals:** The City will design and develop a transportation network that supports the land use goals and policies of the Tigard Comprehensive Plan.
- 5 Internal and Jurisdictional Coordination:** The City will foster partnerships with local businesses, developers, community organizations, and regional agencies to develop seamless transportation facilities and accommodations.
- 6 Measure Performance:** The City will track and report on policy implementation performance using indicators that reflect transportation safety, efficiency, mobility, accessibility, and experience for all users.

The policy applies to all transportation facilities within the public rights-of-way, on public property, and/or within a public access easement. It also applies to the routine planning, design, implementation, operation, and maintenance of all transportation infrastructure.

Tigard's Transportation Safety Action Plan (2019)

The City of Tigard Transportation Safety Action Plan (TSAP) documents the findings from a citywide transportation safety analysis that examined crashes involving pedestrians, bicyclists, and drivers. The TSAP describes crash trends and patterns, prioritizes locations for safety improvements, and presents potential safety treatments for locations with the most potential to reduce fatal and severe injury crashes in the city, some of which involve Hall Boulevard. The TSAP identifies potential safety improvements and creates an avenue for the City to pursue ODOT All Roads Transportation Safety (ARTS) and other grant funding to enhance transportation safety.

The following intersections were ranked among the highest priority intersections in Tigard given their history of crashes and severity:

#1

Highway 99 and Hall Boulevard

#14

Hall Boulevard and Durham Road



People waiting for the signal to change while walking across Highway 99 at Hall Boulevard. The City of Tigard Transportation Safety Action Plan places this intersection as the highest priority in the city.

Policy Context: Guiding Principles for Hall Boulevard



CITY OF TIGARD STRATEGIC PLAN VISION

Tigard: an equitable community that is walkable, healthy, and accessible for everyone.

(Source: City of Tigard Strategic Plan 2020-2025)



TIGARD CITY COUNCIL GOALS + ACTIONS

- ▶ 2.1 Prioritize carbon responsibility in the City of Tigard operations, projects, and policies
- ▶ 4.1 Identify + secure funding to complete the Hall Boulevard jurisdictional transfer
- ▶ 4.3 Increase funding to expand connectivity + support an active, healthy, accessible community

(Source: City Council Goals 2023-2025)



TIGARD'S COMPLETE STREETS VISION

Tigard is a vibrant and healthy community where people of all ages and abilities can travel safely, efficiently and comfortably on a well-connected and optimized multi-modal network of roads, trails, and paths.

(Source: Tigard Complete Streets Policy Implementation Plan 2019)

Themes from Tigard's Goals and Policies

A range of plans already adopted by the City of Tigard and its partners set an important foundation for the Hall Boulevard Corridor project. This section provides a policy synthesis of five documents that impact transportation system planning and design in Tigard:

- ▶ Tigard Complete Streets Policy Implementation Plan (2019)
- ▶ City of Tigard Transportation Safety Action Plan (2019)
- ▶ Council Goals (2023-2025)
- ▶ City of Tigard Transportation System Plan (2022)
- ▶ City of Tigard Strategic Plan 2020 – 2025
- ▶ City of Tigard Comprehensive Plan (2007)

Several key policy themes emerged from Tigard's goals and policies, which served as guiding principles for the corridor visioning project:

1. Walkable

- a. Safe and comfortable for all ages and abilities
- b. Multimodal: encouraging pedestrian and bicycle travel

2. Connected

- a. Connecting residents to parks, schools, transit, businesses, and other neighborhoods

3. Equitable

- a. Supporting environmental and community health
- b. Addressing access disparities for low-income communities and communities of color

(See the Appendix for more information)

GUIDING PRINCIPLES FOR THE HALL CORRIDOR VISION:



WALKABILITY

Safety and comfort for people walking or bicycling is an essential component of the Hall Boulevard Corridor Visioning Project. While creating a multimodal system is a goal in all City transportation policies, “walkability” is especially emphasized in Tigard planning goals. A walkable transportation system is one that is safe and comfortable for people of all ages and abilities.



CONNECTEDNESS

Improving connections for all transportation system users is another critical goal for the corridor visioning project. City policies call for providing access to jobs, schools, and essential services with convenient and affordable travel options. The Strategic Plan aims to make parks available to all residents within a 10-minute walk. Increased connectivity supports economic vibrancy, which will be essential for the development of the Tigard Triangle, downtown, and Washington Square Regional Center.



EQUITY

A key goal for the Hall Boulevard Corridor Visioning Project is to ensure that the planning process is inclusive and that the transportation outcomes serve everyone, especially those from historically marginalized and underserved communities. City plans often reference this goal in the context of accessibility and affordable travel options, as well as supporting environmental and community health.

A NOTE ON THE REGION'S APPROACH TO SAFETY

In the greater Portland region, traffic fatalities and severe injuries are on the rise, and the region is not on track to meet its targets. People walking are more likely to die in crashes than people using other modes of transportation.

A majority of traffic deaths occur in a relatively small number of locations, mostly along arterial roads. Making these streets and intersections safer is critical to reducing crashes in the region. While the vast majority of crashes in the region involve only motorists, bicyclists, motorcyclists, and especially pedestrians are vulnerable travelers who face significantly higher risk of death when they are involved in crashes.

In 2018, the Metro Council and Joint Policy Advisory Committee on Transportation adopted a target to reach zero traffic deaths and serious injuries by 2035. The effort to make this goal a reality is called Vision Zero, and it includes implementing proven safety countermeasures such as speed management, medians, crosswalk visibility enhancements, bicycle lanes, sidewalks, and more.

According to Metro's latest safety report,¹ which documented trends on traffic fatalities and serious injuries between 2015-2019, the region is not on track for achieving its Vision Zero goals.

- ▶ The average annual number of fatalities increased from 62 in 2015 to 83 in 2019, an increase of 34 percent. Between 2018 and 2019, the average number of fatalities increased 10 percent from 75 to 83.
- ▶ Pedestrian fatalities are increasing more than other fatal crashes. Forty percent of people killed in 2019 were pedestrians, up from 35 percent in 2015.
- ▶ The average annual number of non-motorized (pedestrians and bicyclists) fatalities and serious injuries increased from 113 in 2015 to 127 in 2019, an increase of 12 percent.
- ▶ Fatality rates per vehicle miles traveled also increased from 0.6 fatalities per 100 million vehicle miles traveled in 2015 to 0.8 in 2019, a 33 percent increase.
- ▶ Not only do the proposed improvements in the Hall Boulevard Corridor Visioning Project follow the established design principles and policies adopted by the City of Tigard, but they align with Metro's approach to traffic safety in the region and aim to reduce traffic deaths of all types.

¹ *Portland metropolitan area 2019 traffic fatalities and serious injuries annual performance report*. Metro. February 2021. <https://www.oregonmetro.gov/sites/default/files/2021/03/04/Metro-safety-annual-performance-report-2015-2019.pdf>



3.

EXISTING CONDITIONS

EXISTING CONDITIONS

Hall Boulevard is an important multimodal north-south route in the city that plays a critical role in connecting downtown with residential neighborhoods and future developments in the Tigard Triangle. It is heavily utilized by many different types of travelers, for different trip purposes, along a range of frontage and land use contexts.¹

MAP 1: Project Extent and Key Areas



¹ See the Appendix for more information

The roadway is classified as an arterial street in the City's TSP. The roadway also intersects with key pieces of Tigard's multiuse path and trail network, such as the Fanno Creek Trail and Cook Park. In addition to serving many walking and biking trips, Hall Boulevard is an important transit corridor. Multiple schools are near the roadway, including Metzger Elementary, West Side Christian High School, Twality Middle School, James Templeton Elementary School, Tigard High School and Durham Elementary School, which makes Hall Boulevard important in serving school-related trips.

AVERAGE DAILY TRAFFIC

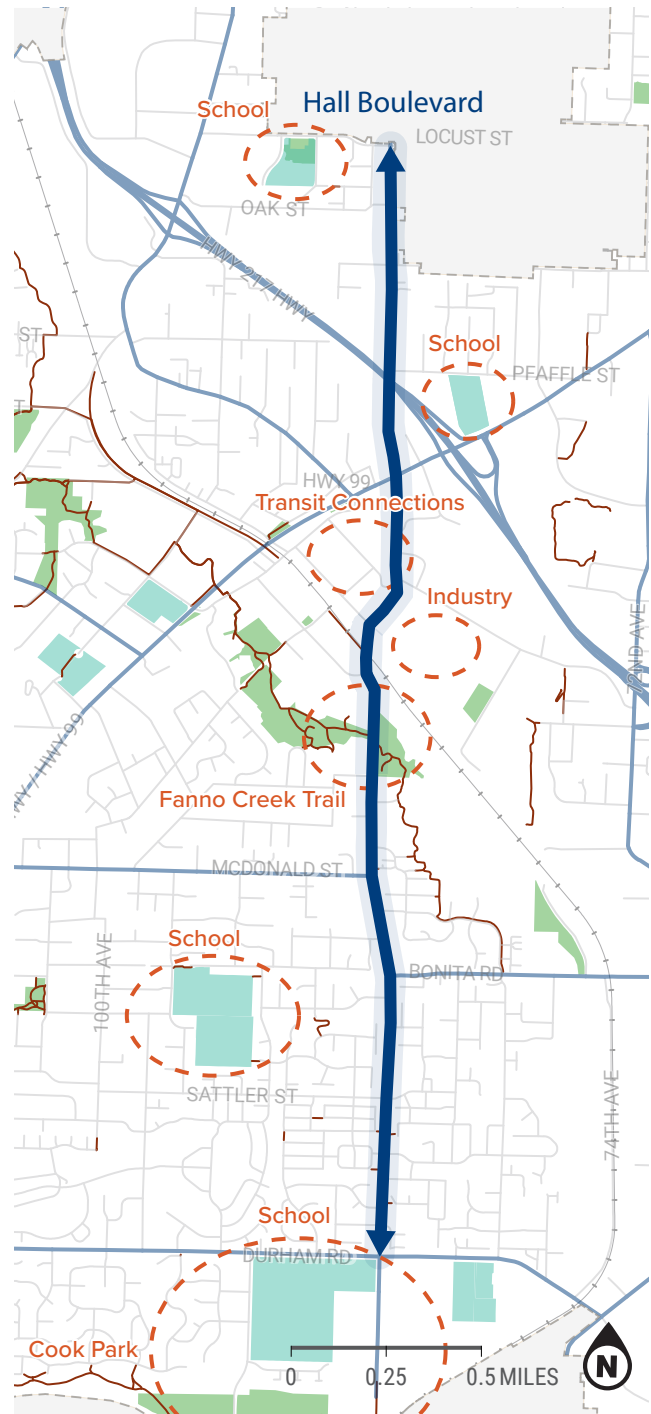
- ▶ Hall Boulevard (north of McDonald St): 13,500
- ▶ Hall Boulevard (between McDonald St and Bonita Rd): 17,000

By comparison:

- ▶ Bonita Rd: 17,500
- ▶ McDonald St: 12,500
- ▶ Greenburg Rd: 17,500

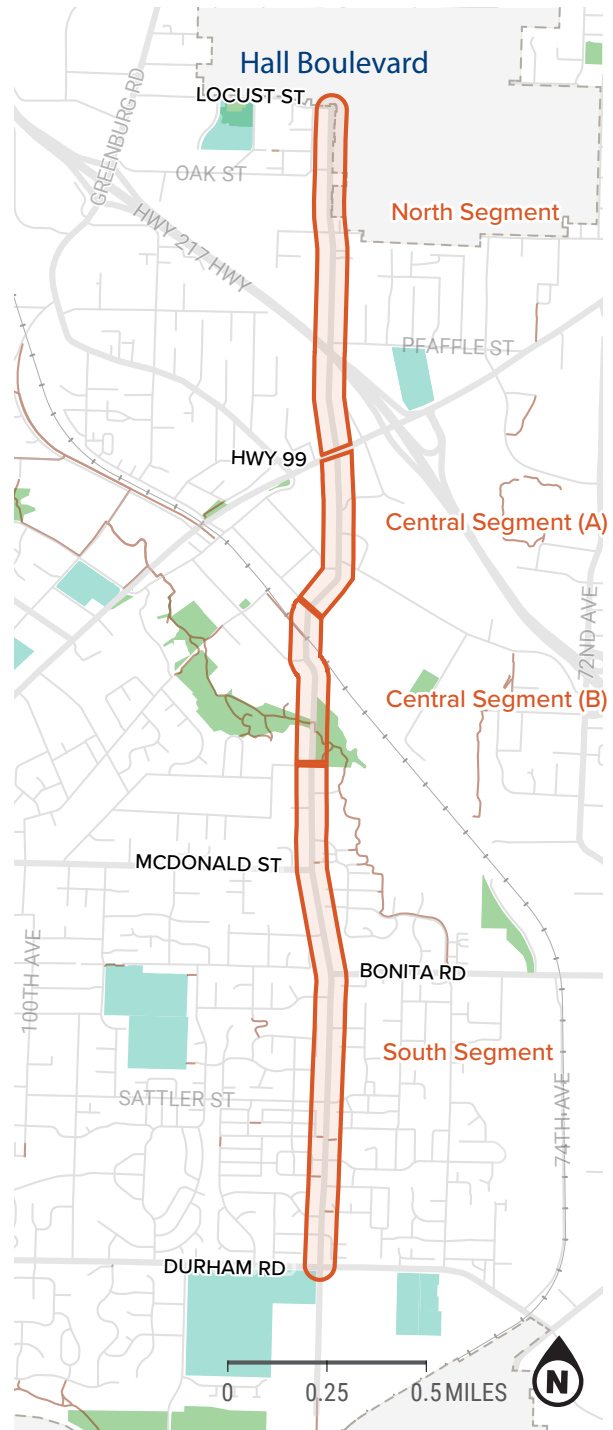
For more traffic count information, see the full existing conditions analysis in the appendix.

MAP 2: Project Extent and Key Destinations



The visioning project extent, which extends from Locust St to Durham Road, contains multiple intersections that play a prominent role in the transportation system, including Locust St, Highway 99, Hunziker Street/Scoffins Street, McDonald Street, Bonita Road, and Durham Road. While each segment of Hall Boulevard has its own opportunities and constraints, the overall roadway can be conceptualized into three segments with somewhat similar land use and transportation contexts: North (Locust St to Highway 99), Central (Hwy 99 to Commercial St plus Commercial St to Omara St), and South (Omara St to Durham Road).

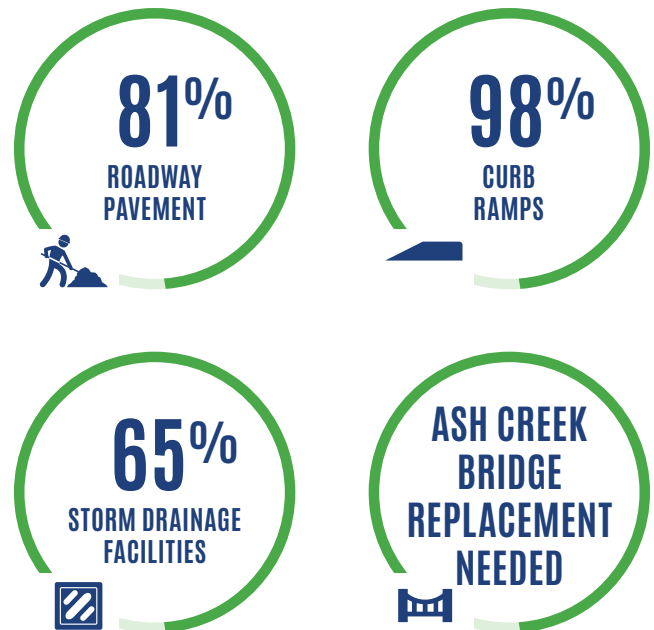
MAP 3: Study Segments Along Project Extent



Condition Summary

The condition assessment found that deferred maintenance and rapidly evolving construction costs have left much of the corridor needing significant work to bring Hall Boulevard to a State of Good Repair. The percentage of assets that need to be brought to a State of Good Repair, that can be quantified, are as follows: 81 percent of roadway pavement, 98 percent of curb ramps, 65 percent of storm drainage facilities, and the Ash Creek Bridge. The cost to address these corridor-wide deficiencies and bring Hall Boulevard to a State of Good Repair was estimated to be approximately \$28.4 million (if constructed in 2020). The assessment contains detailed information for Hall Boulevard on everything from traffic volumes to stormwater facilities. This report serves as an important foundation for the Hall Boulevard visioning project.

According to Tigard's 2019 Condition Assessment study, the percentage of assets that need to be brought to a State of Good Repair, that can be quantified, are as follows:



ODOT recently reached a similar conclusion through its own condition assessment work on Hall Boulevard as documented in a State of Good Repair report. The City of Tigard and ODOT have agreed upon a total State of Good Repair investment need of \$30 million for the 3-mile section of Hall Boulevard between SW Locust and SW Durham Streets.

Following page, top left: Hall Boulevard at Bonita Road. This intersection is missing key infrastructure like ADA accessible curb ramps, sidewalks, and high-visibility crosswalks. This intersection experiences some of the highest peak hour traffic volumes on the corridor.

Middle: Looking south on Hall Boulevard south of McDonald Street.

Bottom: vegetation obscures speed limit sign.

Right: Hall Boulevard north of Oak St. Lack of sidewalks and safe crossings are common in the northern extent of the project area.



Hall Boulevard's Functional Classification and Existing Design

Hall Boulevard is classified as an arterial by the TSP. Arterials are designed for higher volumes, but tend not to be major regional travel ways.

The TSP describes a multimodal transportation system as one that is accessible, walkable, and healthy for everyone. Instead of solely designing for cars, the focus has shifted to strengthening connections, access, and opportunities for all residents with a strong emphasis on equity, safety, and multimodal accommodation, particularly for walking and bicycling modes. These updates, recommended by the TSP, are reflected in the proposed improvements in the next section.

Hall Boulevard is currently built with outdated design standards, with infrastructure that varies from segment to segment (see right). At the time of writing, the City of Tigard is updating its engineering design standards for consistency with the city's development code and TSP.

Existing Roadway Facilities

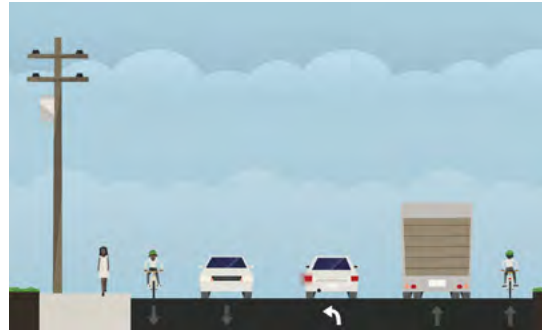
- ▶ Designed for 45 mile per hour speeds
- ▶ 11'-13' wide travel lanes
- ▶ 14' parking lanes

Existing Bikeway Facilities

- ▶ 4-6' wide, intermittent bike lanes

Existing Pedestrian Facilities

- ▶ 5-10' wide, intermittent sidewalks



A typical existing cross section of Hall Boulevard in the northern segment, from Locust Street to Highway 99.



A typical existing cross section of Hall Boulevard in the central segment, from Highway 99 to Commercial Street.



A typical existing cross section of Hall Boulevard in the central segment, from Commercial Street to Omara Street.



A typical existing cross section of Hall Boulevard in the south segment, from Omara Street to Durham Road.

Improvements are needed for Hall Boulevard to meet arterial standards. Hall Boulevard has the potential to be a premier active transportation corridor within the city's existing and planned networks. - Hall Boulevard Corridor Visioning Project Existing Conditions Memorandum



The roadway footprint expands dramatically south of Bonita Road. However, the sidewalks connections end before reaching the intersection (looking south).

CONSTRAINTS

The following constraints were identified in the existing conditions analysis. The memorandum in the Appendix provides maps and more detailed information related to this analysis.

- ▶ Hall Boulevard lacks complete infrastructure for all users. Gaps remain in the sidewalk network, both in terms of missing segments and the provision of ADA accessible curb ramps. Most existing sidewalks are 6ft wide and do not have a landscaping strip separating the walkway from traffic, which reduces the level of comfort for people walking. More recently installed sidewalks, such as those between Langtree Street and Ashford Street, are 8 ft wide and are more comfortable. Sidewalks on the east side of Hall Boulevard between Ross Street and Murdock Street have landscaping strip separation but abruptly end before reaching the bus stop to the north.
- ▶ Improving sidewalk connections (and expanding the roadway footprint generally) may be more costly in areas with significant grade differences, such as the ditch north of Sattler Street on the west side, and the low-lying areas around the Hall Boulevard/Bonita Road intersection.
- ▶ Despite serving the frequent service Route 76, some bus stops along Hall Boulevard remain inaccessible to all users. These stops include the intersections of Murdock Street and McDonald Street (northbound).
- ▶ With the exception of the Fanno Creek Trail Crossing and the rectangular rapid flashing beacon (RRFB) just north of Highway 99, the

only marked crosswalks exist at signalized intersections. The distances between these crosswalks range from roughly 900 ft (Wall Street to the Fanno Creek Trail crossing) to well over a half mile (north of Highway 99). The lack of crossings for people walking and biking limits the east-west connectivity of these networks at Hall Boulevard.

- ▶ A few intersections that already have marked crosswalks with signals have documented concerns regarding safety. These include the Fanno Creek Trail, Highway 99, and Durham Road.
- ▶ Hall Boulevard has complete bike lanes along the project extent, but these lanes are insufficient except for the strongest and most fearless of riders. The bike lanes range from 4-6 ft, buses mix with bike lanes at all stops, and there are three notable floating bike lanes that cross right turn pockets: the northbound approach of Hall Boulevard/Bonita Road, the northbound approach of Hall Boulevard/Knoll Drive, the southbound approach of Hall Boulevard/Burnham Street, and the northbound/southbound approach of Hall Boulevard/Hwy 99. Each of these conditions contribute to a less comfortable environment for people biking.
- ▶ Available right-of-way appears to be most constrained in the Central segment, between Highway 99 and the Fanno Creek Trail. Proposed bikeway facility types may need to be different in this segment than the North and South segments. Tradeoffs will be difficult here without expanding the available right-of-way because the downtown area is a critical area for transportation connections and should have some of the most robust facilities for all users.

- ▶ In addition to the more detailed constraints above, the visioning project will need to account for the following factors that add complexity to Hall Boulevard:

- The combined role that McDonald Street, Hall Boulevard, and Bonita Road have in east/westbound traffic.
- The sensitive environmental context around Fanno Creek.
- The railway crossing between Burnham Street and Commercial Street.
- The offset skew of the Hunziker Street-Scoffins Street-Hall Boulevard intersection.
- The inter-jurisdictional nature of Highway 99/Hall Boulevard and the Highway 217 Crossing. In these locations, the Hall Boulevard Corridor Visioning Project will likely need to focus less on design specifics and more on recommendations for ODOT.



A storm water grate at the base of a curb ramp, located at the intersection of Hall Boulevard and Spruce Street.

OPPORTUNITIES

The following opportunities were identified in the existing conditions analysis. The memorandum in the Appendix provides maps and more detailed information related to this analysis.

- ▶ That Hall Boulevard connects parts of the city with distinct land use contexts is a strength of the corridor. Increasing multimodal connectivity between residential areas and commercial districts would greatly improve the corridor's ability to serve different trip types and users as well as fulfill City goals. Hall Boulevard has the potential to connect people to parks, schools, the Tigard Public Library, City Hall, the WES commuter rail, the future Southwest Corridor light rail, Washington Square, and the Tigard Triangle.
- ▶ The Hall Boulevard Corridor Visioning Project is highly relevant to the interests of downtown Tigard. Collaborating and coordinating with the ongoing Downtown Reimagined project presents an opportunity to improve the community's perception of downtown in terms of accessibility.
- ▶ Completing sidewalks on both sides of Hall Boulevard is a significant opportunity for the city's pedestrian network, which designates Hall Boulevard as a major pedestrian corridor.
- ▶ Inter-neighborhood biking and walking trips: Along Hall Boulevard, there are many neighborhood cut-through paths, which increase the east-west connectivity for people walking and biking. These paths could serve as natural locations for mid-block crossings between signalized intersections. Transit stops could be relocated to align with these paths.
- ▶ Other potential crosswalk improvements that emerged from the existing conditions analysis include the north leg of McDonald Street/Hall Boulevard and the north leg of Omara Street/Hall Boulevard.



The Woodruff Bridge offers a unique connection from Hall Boulevard to the southern portions of the Fanno Creek Trail.

- ▶ Traffic operational improvements including realignment of the Hunziker/Scoffins intersection and operational improvements at major intersections such as Durham Rd, Bonita Rd, and McDonald St.
- ▶ For the Fanno Creek Trail Crossing, there are multiple opportunities to improve the safety for people walking and biking. One or more RRFBs may be more effective than the existing pedestrian hybrid beacon. Depending on the bikeway design, curb extensions may be possible to reduce the crossing distance for pedestrians. There may also be space for a refuge island.
- ▶ The future bikeway along Hall Boulevard has the potential to create safe connections to other major links in the bicycle network. First, the future Fanno Creek Trail extension on the southeast corner of Hall Boulevard/Durham Road will need to be accommodated in the visioning plan. Durham Road, Sattler Street, Bonita Road, McDonald Street, Commercial Street, Hunziker Street, Oak Street, and Locust Street are all designated major street bikeways. Bike turn boxes and advanced queuing facilities should be considered at these intersections to help people riding bikes make turns to and from those corridors.
- ▶ The section of Hall Boulevard between Langtree Street and Ashford Street is particularly wide. If the rest of the corridor isn't widened to match this width, then the extra space here could be repurposed into a more highly protected bikeway, stormwater catchment basin, or both.
- ▶ Several right turn pockets could be reevaluated as part of the Hall Boulevard Corridor Visioning Project. These include the northbound approach of Hall Boulevard/Bonita Road, the northbound approach of Hall Boulevard/Knoll Drive, and the northbound/southbound approach of Hall Boulevard/Hwy 99. The most likely of these to be eliminated would be at Hall Boulevard/Knoll Drive.
- ▶ The most constrained area is the central segment between the Fanno Creek Trail Crossing and Highway 99. Expanding right-of-way between Burnham Street and the railroad may best come from the City's public works property.
- ▶ There is a significant amount of space on the Highway 217 bridge that could be repurposed for more protected biking and walking facilities.
- ▶ The intersection of Highway 99 and Hall Boulevard is a key intersection in Tigard and is currently challenging to navigate while walking and biking, and could benefit from improved facilities.

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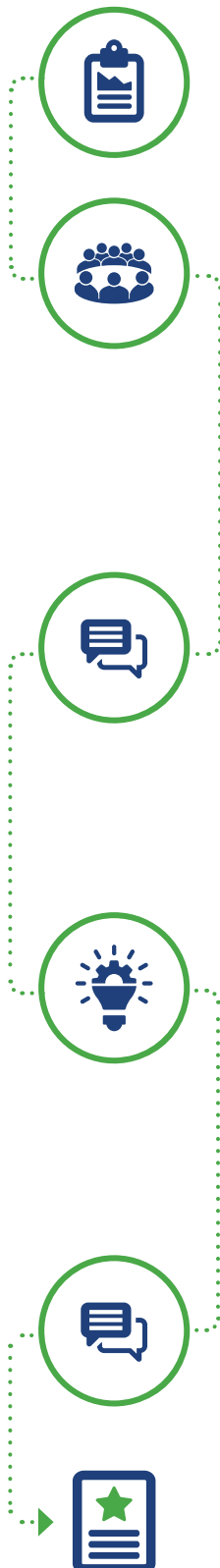


4.

PLANNING PROCESS

PLANNING PROCESS

*Monthly check-ins and project updates with the Tigard Transportation Advisory Committee were held throughout the process.



1. EXISTING CONDITIONS ANALYSIS

In the summer of 2022, the project team began the corridor visioning project with a comprehensive existing conditions analysis.* This involved inspecting the roadway, compiling past plan recommendations, research, and data analysis. The findings are summarized in the next section, and the full report can be found in the appendix of this document.

2. STAKEHOLDER MEETINGS

In the fall of the same year, the project team conducted a series of virtual stakeholder meetings to develop a more robust understanding of the issues and experiences people have while traveling along Hall Boulevard. The first meeting engaged leaders from each of the schools within a quarter mile of the corridor and discussed how Hall either facilitates or hinders school-based travel. The second meeting brought multiple government agencies to the table to identify the ways in which Hall Boulevard impacts the delivery of their services. The third meeting brought together community members who are involved in various advisory committees or non-profit organizations with interests in the corridor. The findings from these meetings were incorporated into the existing conditions report. Finally, the project team additional outreach at the El Tigre Festival in October to alert people of the upcoming open house.

3. OPEN HOUSE 1 AND ONLINE PUBLIC INPUT MAP

The first public open house for the corridor visioning project was held the evening of November 16, 2022. The purpose of the open house was to share findings from the existing conditions analysis and to hear directly from community members about their experiences traveling along Hall Boulevard. The public was also invited to provide comments on an online mapping tool that was open for two weeks after the open house, to allow for input from people who were not able to attend the meeting. The mapping tool allowed users to submit general comments about the project and draw points and lines on the map relating to destinations and the barriers they face. This feedback served as a complement to the more data-driven existing conditions analysis and was used to improve the project team's understanding of the corridor.

4. CONCEPT DEVELOPMENT

During the winter months of 2022-2023, the project team used feedback from the first open house to develop various concepts for Hall Boulevard. The team compiled various roadway configurations that could be implemented at varying degrees of impact to the public right-of-way. The team developed these concepts while also balancing other factors, such as emphasizing bikeway connections to key amenities along the corridor, strategic spacing of pedestrian crossings, and considering where vehicle congestion occurs along the corridor. This process resulted in an aspirational cross section for Hall Boulevard along four key segments of its extent. These cross sections, in addition to single-location improvement recommendations, were referred to as the proposed concepts.

5. OPEN HOUSE 2 AND PUBLIC INPUT MAP

In the spring of 2023, the project team hosted an in-person open house at the Tigard Town Hall to gather feedback on the proposed concepts. Like the fall open house, the spring open house also included an online input map that participants could submit comments on for up to two weeks. This feedback was used to refine the concepts further and modify some of the recommendations.

6. HALL BOULEVARD CORRIDOR VISIONING PROJECT: CONCEPT DESIGN REPORT

Key Takeaways from Public Engagement Efforts

The following themes emerged from the individual stories, ideas, and recommendations we received throughout our stakeholder interviews, open houses, and public outreach:

- ▶ There are limited crossing opportunities, especially near bus stops.
- ▶ Visibility issues – lighting needs improvement, especially for people who ride transit.
- ▶ There are multiple sidewalk gaps, which makes it hard for families to access the library, parks, and schools.
- ▶ People drive too fast, especially a concern for students walking and biking to school.
- ▶ The current bicycle facilities do not provide enough separation from traffic.
- ▶ The Fanno Creek Bridge is too narrow to accommodate all modes.
- ▶ Highway 99 and Hall Boulevard is a challenging intersection to navigate while walking and biking.
- ▶ Much of the congestion on Hall Boulevard between Bonita Road and McDonald Street can be attributed to people traveling east-west along these roads, as there isn't a similar alternative in this direction.

What We Heard

"I drive south on Hall to the library, usually accompanied by small kids. If there were a more protected bike lane, we could bike there." – **Participant comment from Open House #1**

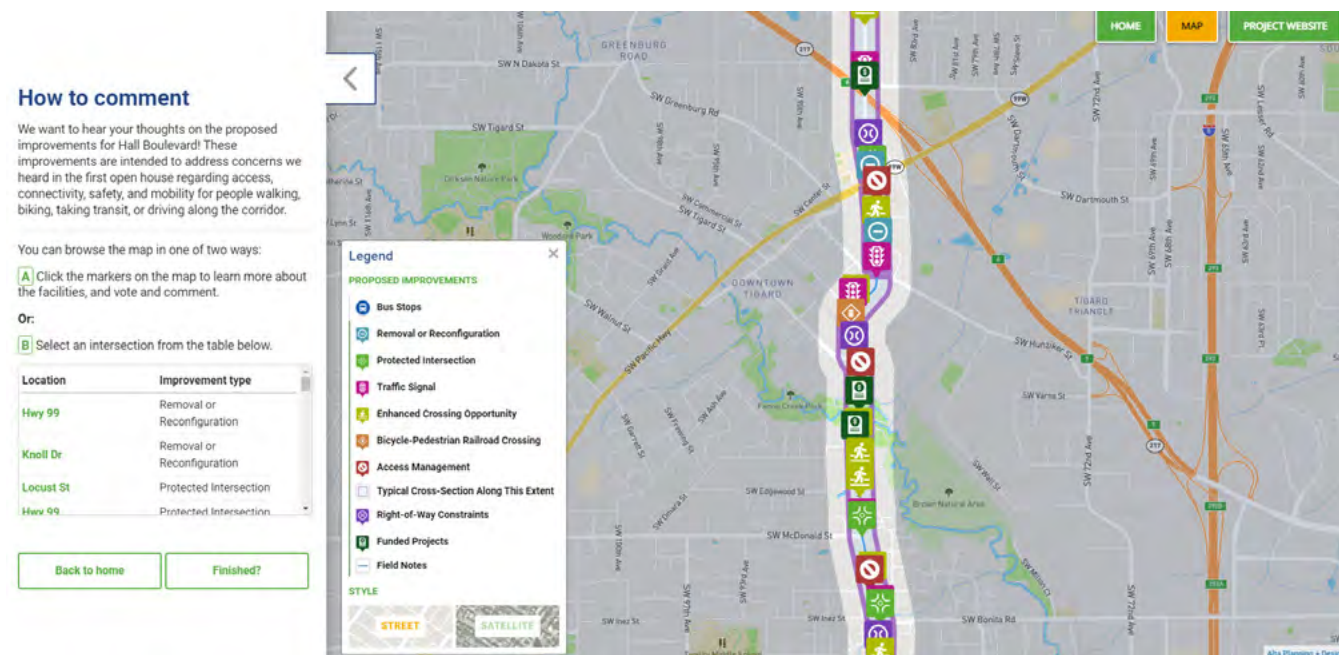
"Contiguous sidewalks from Durham to downtown are crucial. We live in 79th/ Ashford neighborhood with kids and pets and walking up Hall toward the city and library or south toward the parks is difficult and dangerous (Fanno Creek Trail from Bonita is not always reliable or lit and doesn't always feel safe. STRONGLY support sidewalks, more lighting, brush enforcement and perhaps a couple more lit crosswalks on South Hall." – **Participant comment from Open House #2**

"[In regard to the proposed protected intersection at Locust St] This is a route to an elementary school, so a protected intersection here will make children a lot safer." – **Participant comment from Open House #2**

"NB Hall to WB McDonald regularly backs up in the center median to the church, sometimes almost near Bonita. Lengthen the signal please! SB Hall and WB/EB McDonald here never really back up that badly, they can wait an extra 30 seconds to clear the turn pocket." – **Participant comment from Open House #2**



Above: the online mapping tool from the first round of public engagement. The first open house asked participants to provide comments on the destinations they travel to along Hall Boulevard and the barriers they face. This feedback helped support the existing conditions analysis.



Above: the online mapping tool from the second round of public engagement. The second open house asked participants to respond to the proposed improvements and design concepts for the corridor. This feedback helped to refine the proposed improvements and design concepts.



5.

PROPOSED IMPROVEMENTS

PROPOSED IMPROVEMENTS

From Plan to Project: Throughline from the TSP

As noted in the City's TSP, "Transportation planning in Tigard is shaped by both opportunities and constraints. Projected growth over the next 20 years, both in Tigard and throughout the region, will increase travel demand and associated congestion, but increasing roadway capacity is unlikely to solve these problems.

Tigard's Strategic Vision emphasizes developing a multimodal transportation system that is accessible, walkable, and healthy for everyone. To achieve this vision, the focus has shifted to strengthening connections, access, and opportunities for all residents with a strong emphasis on equity, safety, and multimodal accommodation, particularly for walking, transit, and bicycling.

This shift recognizes that our streets play host to more than just cars. We can do this by reviewing speed limits; completing the system for walking and bicycling; and making the most of 2-3 lane cross sections where planned five-lane sections would drastically increase costs while negatively impacting neighborhoods and conditions for active transportation." ¹

A New Vision for Hall Boulevard

The following recommendations integrate the information gathered by the project team through our existing conditions analysis, which were refined through public input. They reflect nationally

recognized best practices² in transportation planning and will advance the City's stated goals and policies.

The recommendations assume that the roadway footprint will need to be expanded in order to accommodate all modes, and in places where right-of-way acquisition is not possible, will deviate from the typical cross section. The recommendations also assume that they will be completed in phases in coordination with ODOT funding per the terms of the Intergovernmental Agreement (IGA).

High-Level Concept Shaped by City Values and Public Input

The proposed vision for a typical cross section along Hall Boulevard is to maintain the two general travel lanes with a center turn lane, and expand the total roadway footprint to include consistent, grade separated walking and biking facilities, pedestrian-scale lighting, enhanced bus stops, and tree canopy (see rendering on following page).

Within each study segment, this cross section will vary slightly, with the north segment being the most constrained spatially, and the central segments building in additional features to connect key destinations in those areas. In addition to typical proposed cross sections for each study segment, the following pages detail recommended improvements for specific intersections, including traffic signal changes, curb reconfigurations, and crossing enhancements. Detailed descriptions of each improvement can be found in the recommendations table at the end of the chapter.

¹ *Tigard On the Move: City of Tigard Transportation System Plan. Chapter 4 Modal Plans. Pg 23. 2022.*

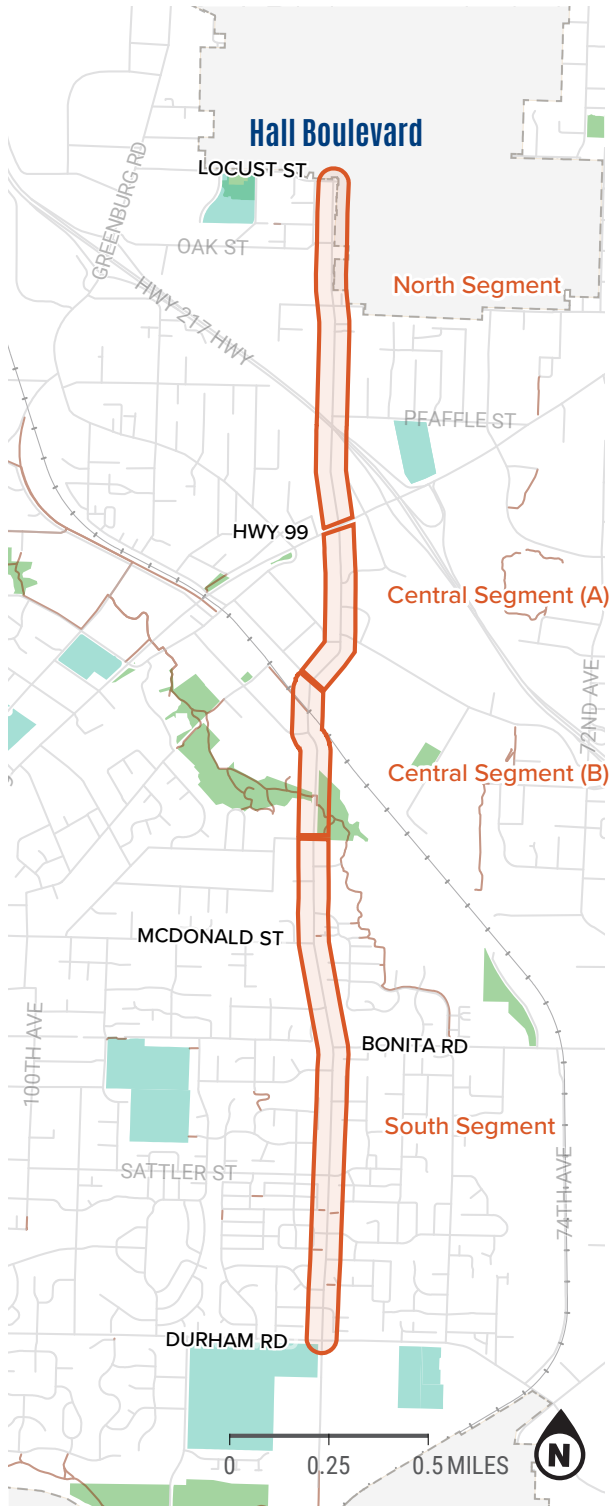
² *Guidelines for Designing Livable Streets and Trails. Metro 2020. <https://www.oregonmetro.gov/tools-partners/guides-and-tools/guidelines-designing-livable-streets-and-trails>*

A NEW VISION FOR HALL BOULEVARD



Above: The proposed vision for a typical cross section along Hall Boulevard is to maintain the two general travel lanes with a center turn lane, and expand the total roadway footprint to include consistent, grade separated walking and biking facilities, pedestrian-scale lighting, enhanced bus stops and tree canopy.

- ▶ Consistent: Each segment will feature two travel lanes with a center turn lane
- ▶ Multimodal: Continuous biking and walking facilities, improved transit stops, enhanced crossings
- ▶ Environmentally sound: Street trees and stormwater infrastructure throughout
- ▶ The vision assumes that the roadway footprint will need to be expanded in order to accommodate all modes, and in places where right-of-way acquisition is not possible, deviate from the typical cross section.
- ▶ The recommendations also assume that they will be completed in phases in coordination with ODOT funding per the terms of the memorandum of understanding.



The recommendations in this chapter are organized into four study segments, due to the need to break the central segment into two parts. The north segment is from Locust Street to Highway 99. The first central segment, Central A, is from Highway 99 to Commercial Street. The second central segment is from Commercial Street to Omara Street. The fourth study segment is the South segment, from Omara Street to Durham Road.

The proposed improvements along these extents have slight variations due to their land use context, available right-of-way, location of utilities, and proximity to key destinations.

General Recommendations

Maximize tree canopy to the extent possible. This includes planting in the center median when the center turn lane is not needed.

Utilize permeable pavements where possible.

Maximize pedestrian-scale lighting along the corridor and prioritize bus stops.

Identify locations for stormwater treatment facilities and allocate sufficient funding to their design.

An enhanced crossing facility would use high-visibility continental crosswalk markings¹ and appropriate signage. Potential improvements could include pedestrian refuge islands, leading pedestrian intervals, curb extensions, advanced stop bars and/or additional lighting.

Implement designs at driveway entrances that minimize conflicts between cars and people walking and biking. (ex: moving access to side streets over time through redevelopment and/or consolidating access to minimize the number of driveways and turning movements.)

¹ High-visibility crosswalks (sometimes called “continental-style” crosswalks) have thick lines parallel to traffic flow that allow drivers to see the crosswalk from further away.

Segment and Perspective Views

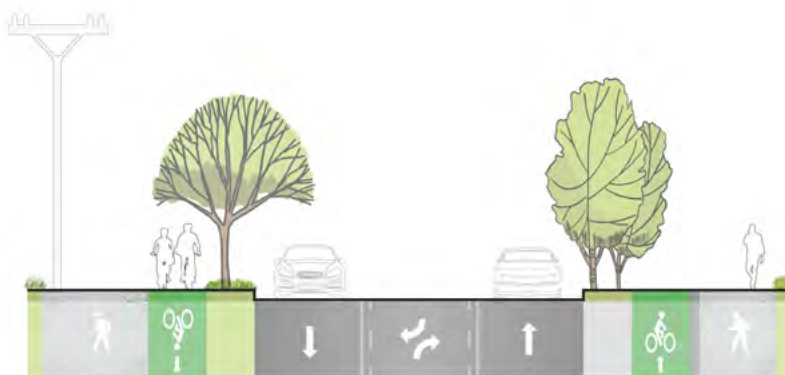
NORTH SEGMENT





NORTH SEGMENT CROSS SECTION

NORTH FACING

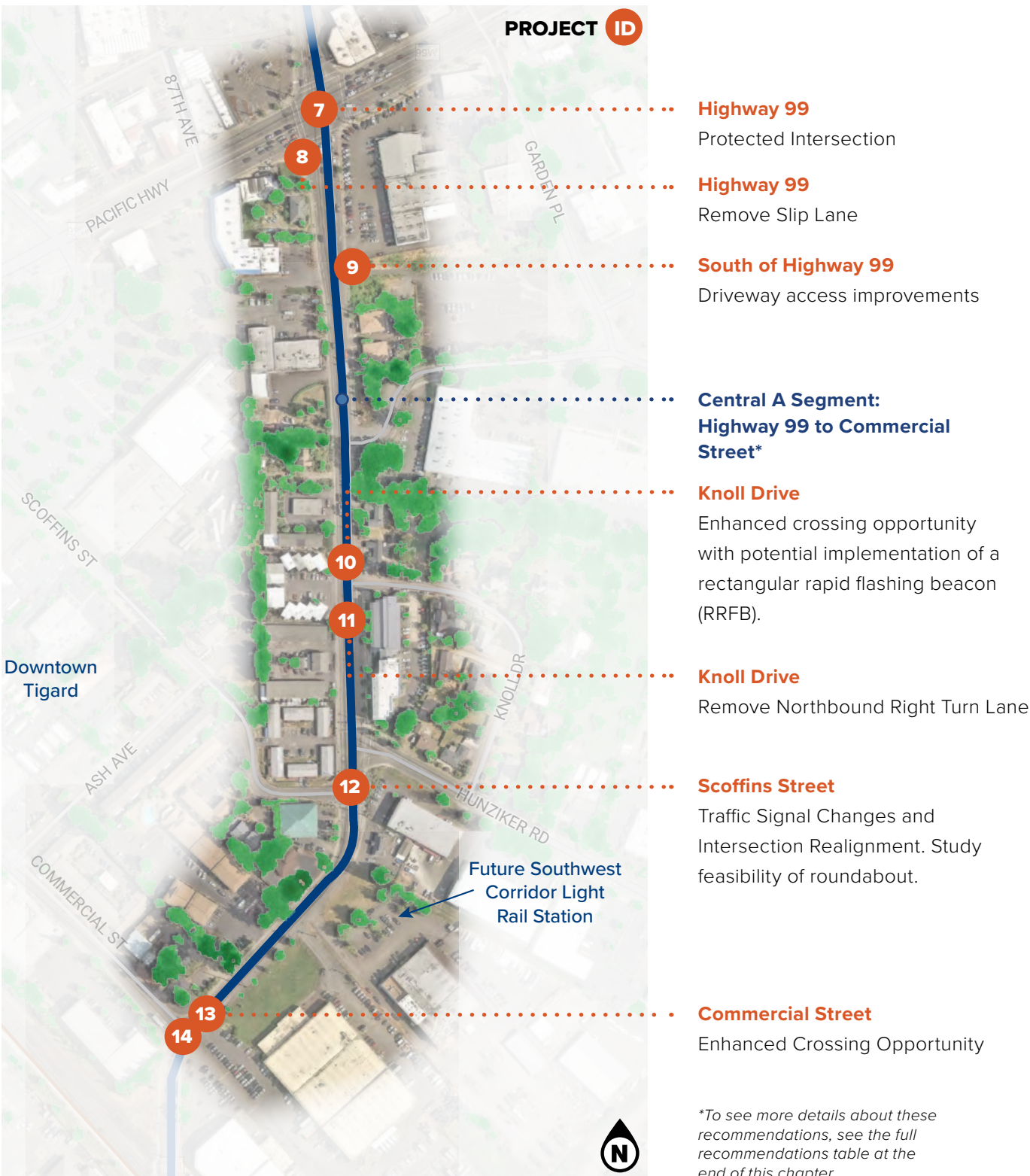


Note that some locations such as the rendering of Spruce St and Hall Blvd shown above, will deviate slightly from the typical cross section as needed.

Locust Street to Highway 99

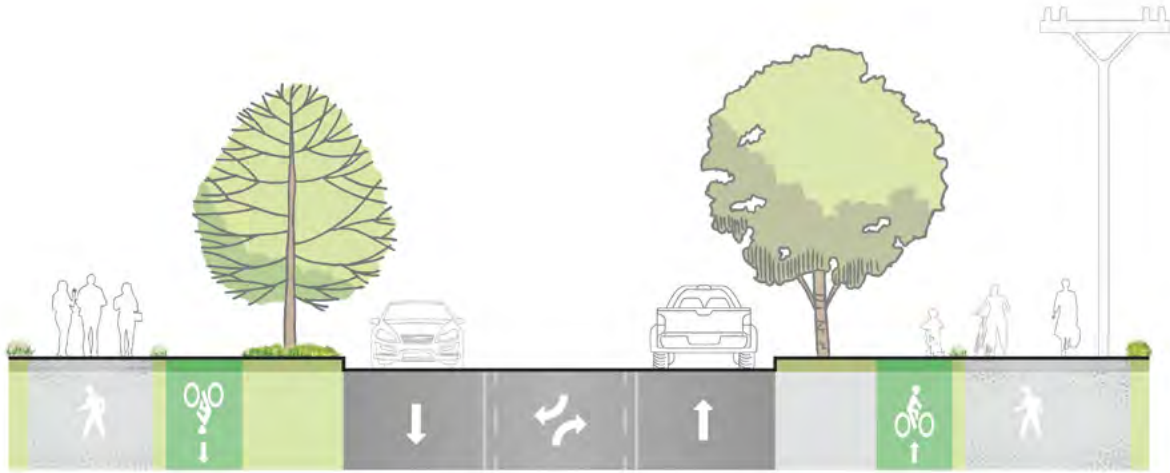
The north segment of the Hall Boulevard corridor visioning project extends from Locust Street to Highway 99. Today, the typical cross section found on Hall Boulevard along this extent includes two general traffic lanes with a center turn lane. There are intermittent sidewalks and substandard (<6ft) striped grade-level bike lanes. The proposed vision for a typical cross section along Hall Boulevard in the north segment is to maintain the two general traffic lanes with a center turn lane, and expand the total roadway footprint to 80ft wide to include consistent, grade separated walking and biking facilities, pedestrian-scale lighting and tree canopy.

CENTRAL SEGMENT (A)



CENTRAL SEGMENT (A) CROSS SECTION

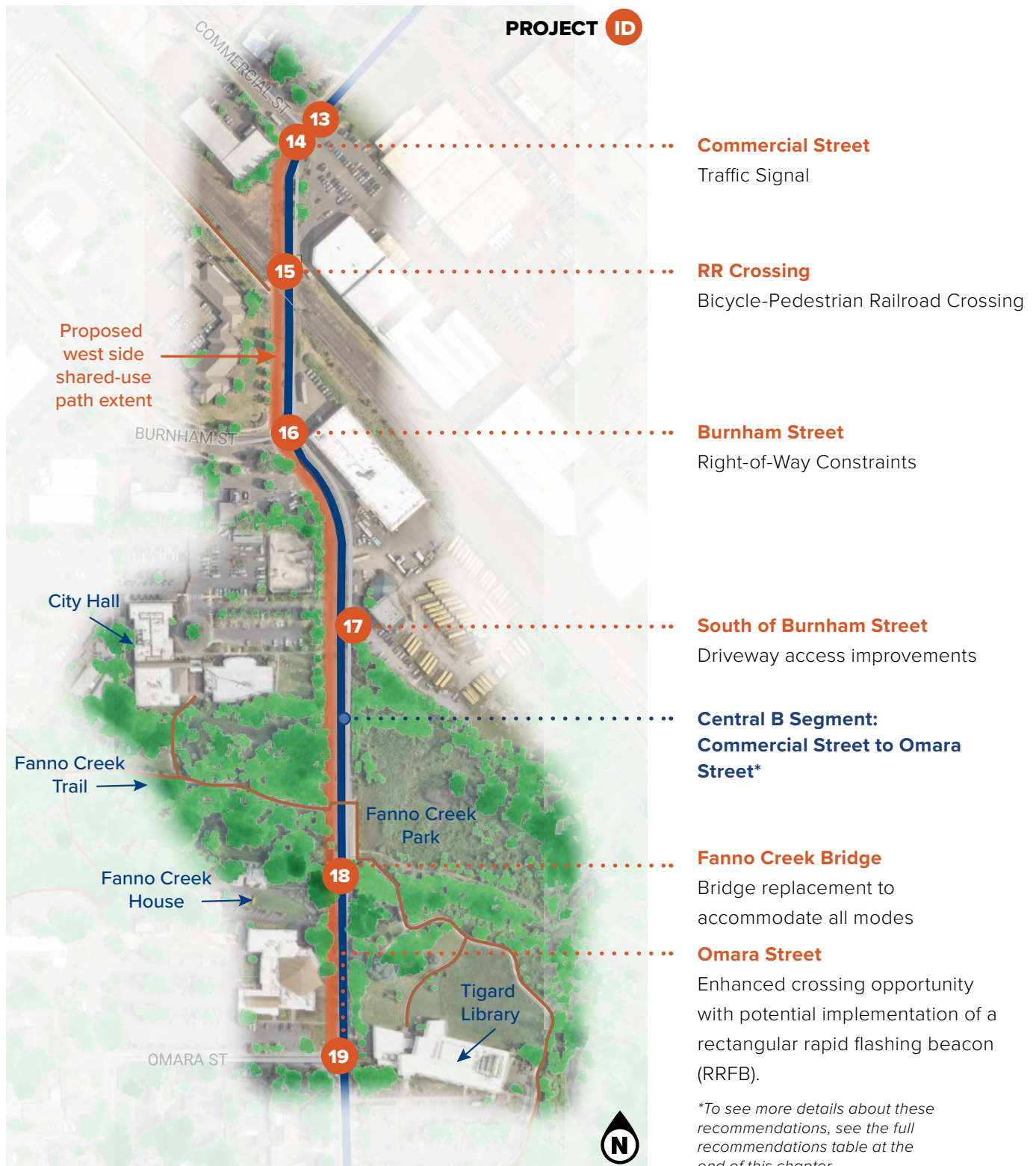
NORTH FACING



Hwy 99 to Commercial Street

The central segment of the Hall Boulevard Corridor Visioning Project extends from Highway 99 to Tigard Public Library. Today, the typical cross section found on Hall Boulevard along this extent includes two general traffic lanes with a center turn lane. There are intermittent sidewalks and substandard (<6ft) striped grade-level bike lanes. The proposed vision for a typical cross section along Hall Boulevard in the central segment is to maintain the two general traffic lanes with a center turn lane where needed, and expand the total roadway footprint to 90ft wide to include consistent, grade separated walking and biking facilities, pedestrian-scale lighting, and tree canopy.

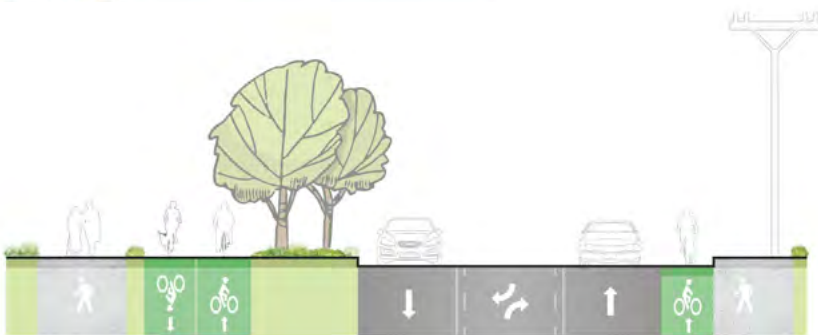
CENTRAL SEGMENT (B)





CENTRAL SEGMENT (B) CROSS SECTION

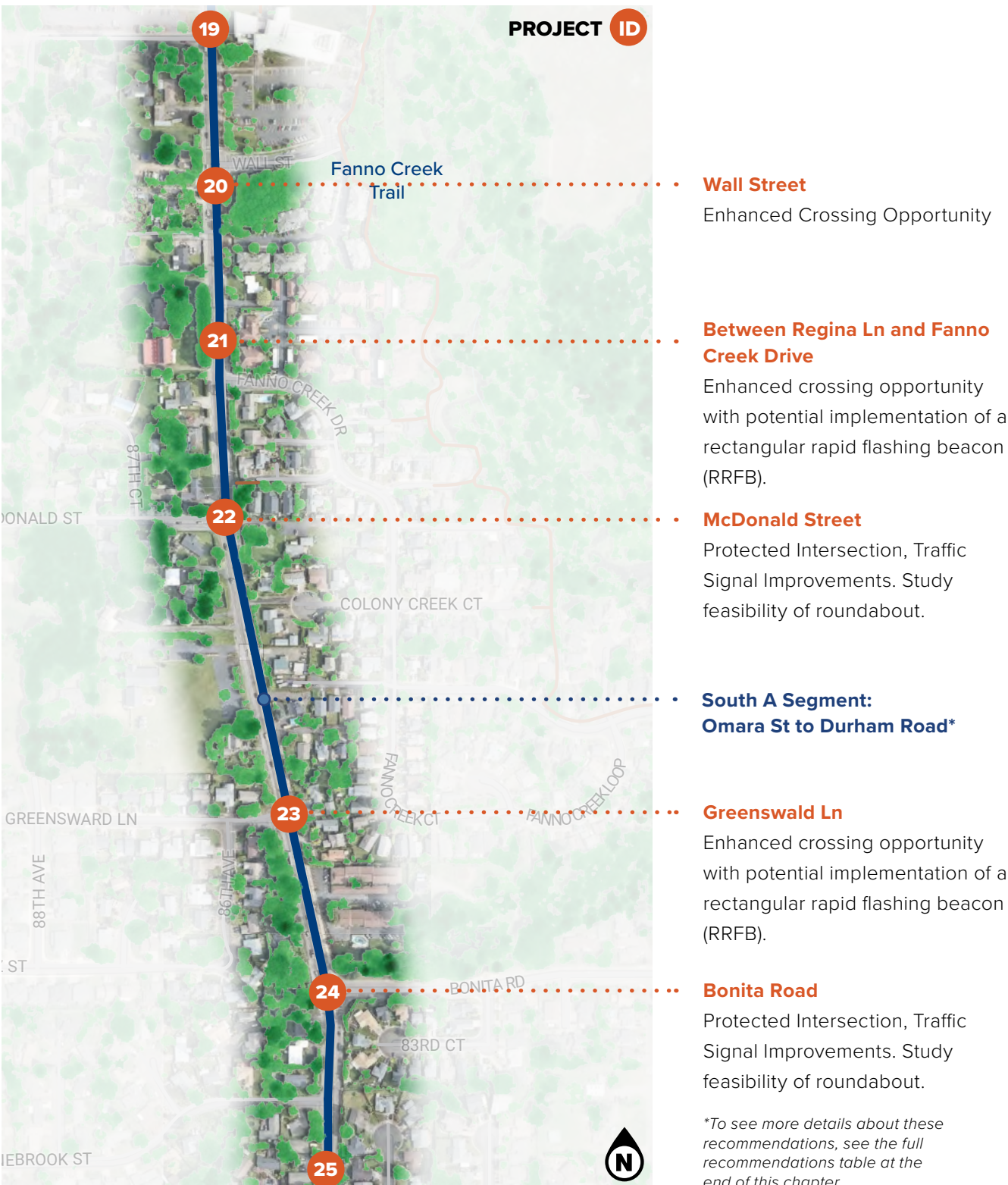
NORTH FACING



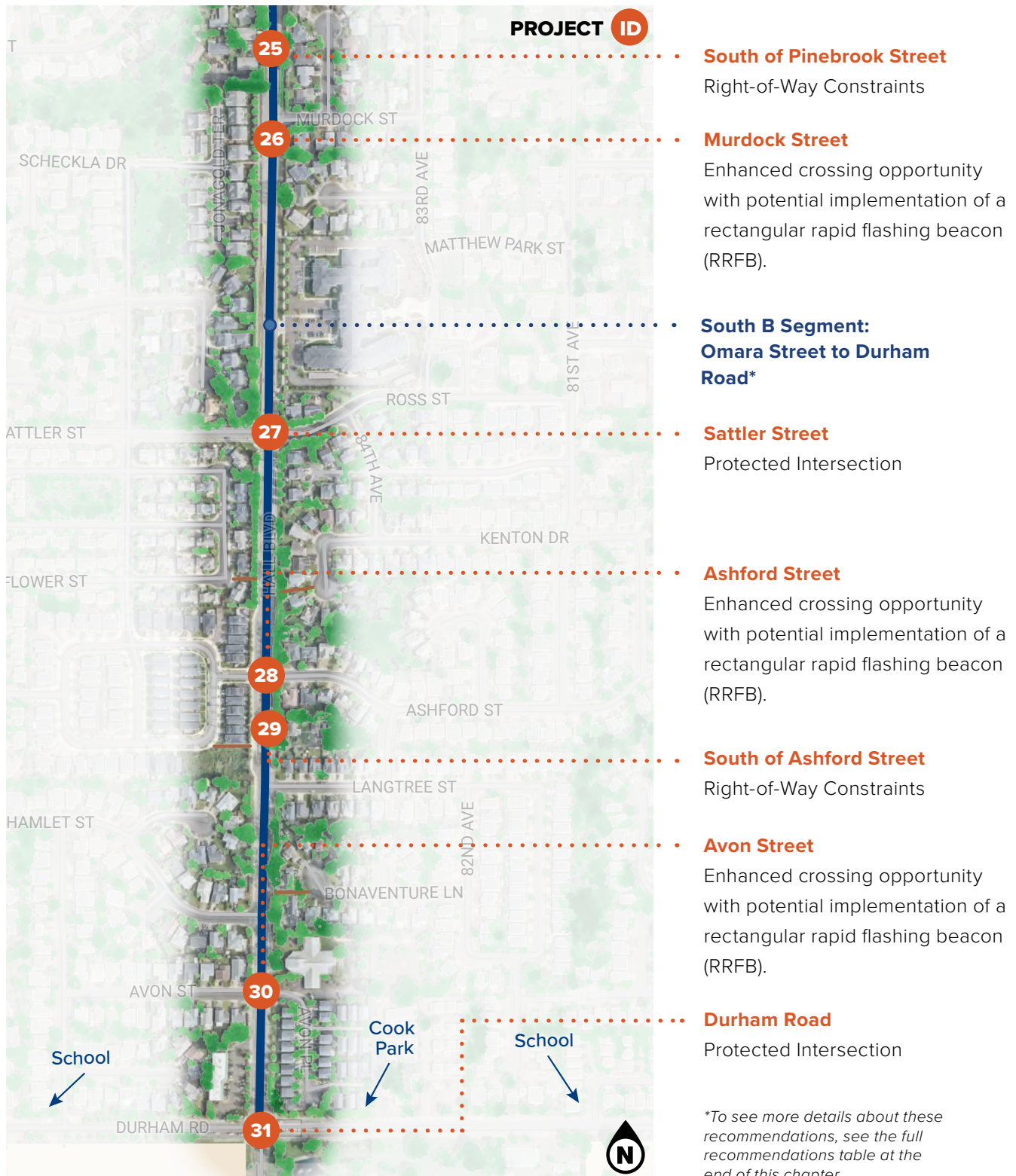
Commercial Street to Omara Street

The central segment of the Hall Boulevard Corridor Visioning Project extends from Highway 99 to Tigard Public Library. Today, the typical cross section found on Hall Boulevard along this extent includes two general traffic lanes with a center turn lane. There are intermittent sidewalks and a substandard (<6ft) striped grade-level bike lanes. The proposed vision for a typical cross section along Hall Boulevard in the central segment south of the future Southwest MAX Light Rail Station is to maintain the two general traffic lanes with a center turn lane, and expand the total roadway footprint to 90ft wide to include a shared-use path on the west side, pedestrian-scale lighting, and tree canopy.

SOUTH SEGMENT

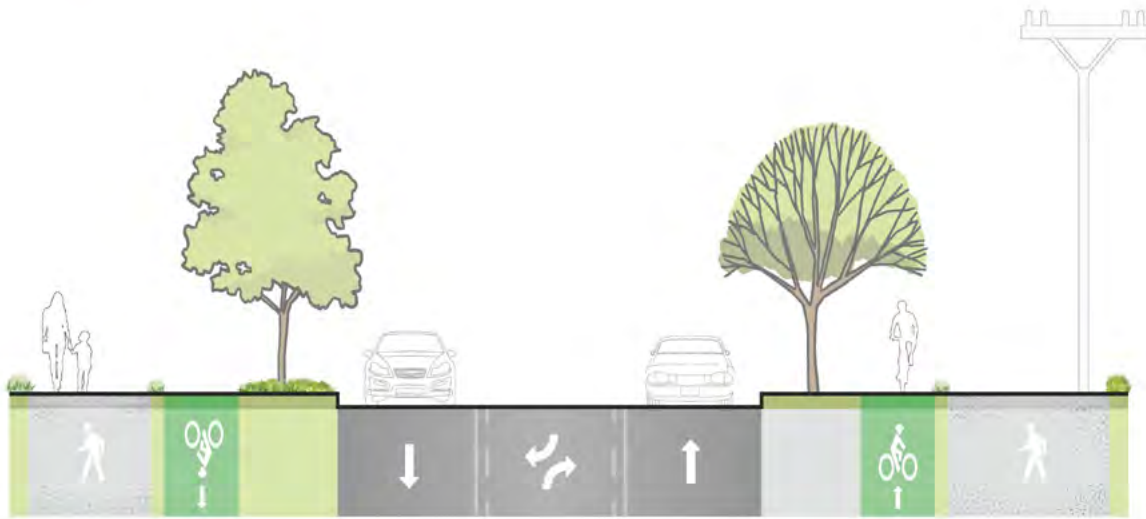


SOUTH SEGMENT (CONTINUED)



SOUTH SEGMENT CROSS SECTION

NORTH FACING



Omara Street to Durham Road

The south segment of the Hall Boulevard Corridor Visioning Project extends from Tigard Public Library to Durham Road. Today, the typical cross section found on Hall Boulevard along this extent includes two general traffic lanes with a center turn lane. There are intermittent sidewalks and substandard (<6ft) striped grade-level bike lanes. The proposed vision for a typical cross section along Hall Boulevard in the south segment is to maintain the two general traffic lanes with a center turn lane, and expand the total roadway footprint to 90ft wide to include consistent, grade separated walking and biking facilities, pedestrian-scale lighting, and tree canopy.

Why Three Lanes? Wouldn't More Lanes Be Better?

In each study segment, the proposed typical cross section for Hall Boulevard offers a three lane cross section (two general traffic lanes and center turn lane). In our outreach, a handful of people expressed concern that the City isn't widening Hall Boulevard in anticipation of future growth. Here's why the concept plan calls for maintaining three lanes:

A THREE LANE STREET...

- ▶ ...is consistent with the 2040 TSP which plans for a future 3-lane section.
- ▶ ...easily accommodates up to between 20-22k Average Daily Traffic and Hall Blvd carries between 13-17k Average Daily Traffic today.
- ▶ ...is unlikely to worsen congestion. Increasing the number of lanes in a roadway induces demand, where travel times temporarily decrease but then increase again as more traffic routes onto the newly built lanes.
- ▶ ...supports more multimodal infrastructure which improves both the safety and overall capacity of the roadway. Providing sidewalks and bike lanes which have smaller footprints but are more efficient at moving people increases capacity without adding travel lanes. As a gateway to downtown, schools, parks, and the library, Hall Boulevard should be designed for people in addition to car throughput.
- ▶ ...is less costly to build and maintain.
- ▶ ...makes accessing businesses along Hall Boulevard by walking and rolling more pleasant.
- ▶ ...has fewer private property impacts.
- ▶ ...allows for pedestrian refuge islands and shorter crossing distances. Crossing a five-lane roadway introduces new safety challenges, especially for people with disabilities, children, and seniors. Specifically, when people cross two or more lanes of traffic, they are especially vulnerable to vehicles in the innermost lanes whose sightlines are blocked by the vehicles stopped in the outermost lane. This is known as the multiple threat issue.
- ▶ ...frees up more space in the public right-of-way for higher quality walking and biking facilities, as well as trees and storm water infrastructure.
- ▶ ...is in line with the City's stated priorities. The City of Tigard is committed to creating a well-connected, attractive, and accessible pedestrian network. Its plans and policies call for improved walkability, safety, accessibility, carbon responsibility, and multimodal transportation on its streets.

Key Intersections

LOCUST STREET

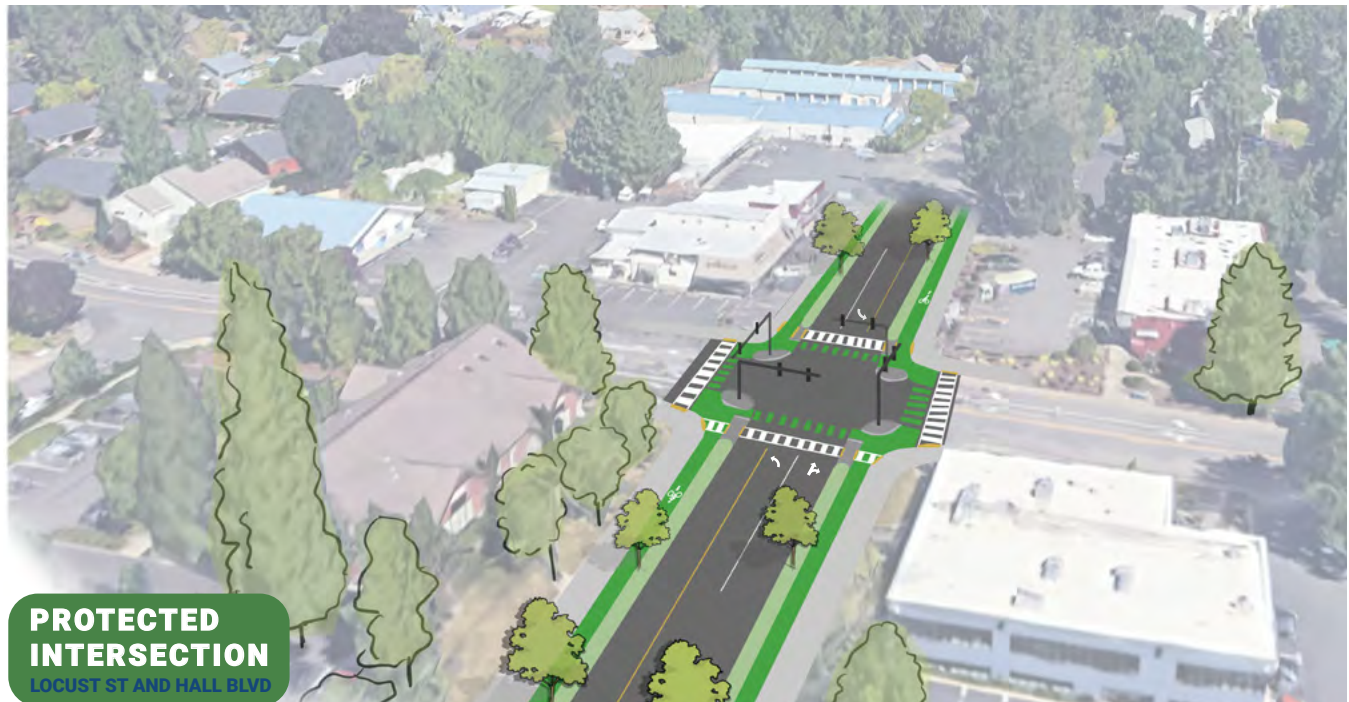


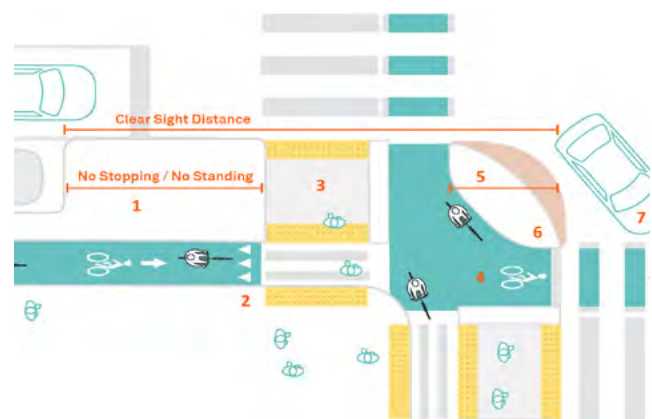
Illustration of a protected intersection design for Hall Boulevard/Locust Street.

Description

As the terminus for the Hall Boulevard corridor in Tigard, Locust St serves as an important intersection for local businesses as well as students accessing Metzger Elementary School. This intersection is one of a handful of intersections along Hall Boulevard recommended to be reconstructed as a protected intersection.

Outcome

Protected intersections create shorter, simpler crossings, more predictable movements, and better visibility between people on bikes and people driving. As a result, the intersection is more comfortable and safer for people using the bikeway and the crosswalk.



*Left: Design guidance for protected intersections.
Source: NACTO 2023*

HUNZIKER-SCOFFINS



The Hunziker-Scoffins intersection is offset, creating mobility challenges for all modes.

Description

Today, the intersection of Scoffins Street and Hunziker Street is offset, creating a complicated intersection that is difficult to navigate for all modes. Long crossing distances, substandard bike lanes, and multiple traffic signals are a few of the reasons why long-range plans call for this intersection to be realigned (see Tigard's TSP: Project ID S-25). Additionally, intersection operations will need to be improved if the Southwest Corridor light rail is built, due to its proximity to the planned alignment.

This plan recommends rebuilding the intersection as a protected intersection, or studying the possibility for a roundabout.

Outcome

Realigning the intersection will offer the City an opportunity to simplify and improve the intersection for people walking, biking, driving, and taking the bus. The realignment would also allow for a more seamless transition for the Southwest Corridor light rail line into downtown Tigard.

Recommendations Table

ID	Location	Category	Recommendation
1	Locust St	Protected Intersection	Reconstruct intersection to protected intersection standards. Protected intersections create shorter, simpler crossings, more predictable movements, and better visibility between people on bikes and people driving.
2	Oak St	Enhanced Crossing Opportunity	Enhanced crossing opportunity. An enhanced crossing facility would use high-visibility continental crosswalk markings and appropriate signage. Potential improvements could include leading pedestrian intervals, curb extensions, advanced stop bars and/or additional lighting.
3	Spruce St	Enhanced Crossing Opportunity	Enhanced crossing opportunity. An enhanced crossing facility would use high-visibility continental crosswalk markings and appropriate signage. Potential improvements could include pedestrian refuge islands, leading pedestrian intervals, curb extensions, advanced stop bars and/or additional lighting. This recommendation aligns with an ODOT project: SW Hall Boulevard Pedestrian Safety Improvements SW Hemlock Street and SW Spruce Street. ¹
4	Steve St	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB).	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB). An enhanced crossing facility would use high-visibility continental crosswalk markings and advanced warning signage.
5	Pfaffle St	Traffic Signal	A new traffic signal at Hall Boulevard and Pfaffle St has been funded. This recommendation is to further enhance the pedestrian crossings, such as high-visibility continental crosswalks on all three legs of the intersection, leading pedestrian intervals, curb extensions, and additional lighting. Funded in the FY23-24 budget. See 95054 Hall Boulevard Pfaffle St New Traffic Signal. (Funding source: Transportation Development Tax, Transportation SDC) page 204. See also: TSP Project S-22, page 90.
6	Route 78 Bus Stop North of Highway 99	Right-of-Way Constraints	This area is too narrow for the typical cross section to fit. Special design considerations will be needed to accommodate all modes until such time that adjacent properties redevelop.

¹ OR 141: SW Hall Boulevard Pedestrian Safety Improvements SW Hemlock Street and SW Spruce Street. More information here: <https://www.oregon.gov/odot/projects/pages/project-details.aspx?project=22647>

ID	Location	Category	Recommendation
7	Hwy 99	Protected Intersection	Reconstruct intersection to protected intersection standards. Protected intersections create shorter, simpler crossings, more predictable movements, and better visibility between people on bikes and people driving.
8	Hwy 99	Remove Slip Lane	Signal timing improvements, improved crosswalks at the intersection of Hall Boulevard and Highway 99. A complete removal is proposed for the right turn slip lane on Highway 99 on the southwest corner of the intersection. This would allow for safer pedestrian crossings to the south side of the intersection and improve the access to downtown.
9	South of Highway 99	Access Management	An access restriction and/or intersection reconfiguration is proposed at this location to reduce conflicts for turning vehicles and improve traffic flow on Hall Boulevard. This could include blocking vehicle access completely, restricting vehicle turning movements to "right-in, right-out", or using signage to partially restrict access to one direction.
10	Knoll Dr	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB).	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB). An enhanced crossing facility would use high-visibility continental crosswalk markings and advanced warning signage.
11	Knoll Dr	Remove Northbound Right Turn Lane	Removal of northbound right turn lane is proposed at the intersection of Hall Boulevard and Knoll Dr to reduce conflicts and increase separation for people walking and biking.
12	Scoffins St	Traffic Signal Changes and Intersection Realignment. Study feasibility of roundabout.	The intersection of Hall Boulevard and Hunziker Rd will be reconfigured to align with Scoffins St. These changes will require traffic signal changes. Consider a protected intersection design. See Tigard's 2040 Transportation System Plan project S-25 on page 91. Additionally, study the potential for implementing a roundabout at this location during the engineering and design phase.
13	Commercial St	Enhanced Crossing Opportunity	Enhanced crossing opportunity. An enhanced crossing facility would use high-visibility continental crosswalk markings and appropriate signage. Potential improvements could include pedestrian refuge islands, leading pedestrian intervals, curb extensions, advanced stop bars and/or additional lighting.
14	Commercial St	Traffic Signal	New traffic signal at Hall Boulevard and Commercial St. Include high-visibility continental crosswalks on all three legs of the intersection.
15	RR Crossing	Bicycle-Pedestrian Railroad Crossing	Construct a pedestrian and bicycle rail road crossing perpendicular to the railway.

ID	Location	Category	Recommendation
16	Burnham St	Right-of-Way Constraints	This recommendation is to further enhance the pedestrian crossings, by including high-visibility continental crosswalks on all three legs of the intersection, leading pedestrian intervals, curb extensions, and additional lighting.
17	South of Burnham St	Access Management	An access restriction and/or intersection reconfiguration for is proposed at this location to reduce conflicts for turning vehicles and improve traffic flow on Hall Boulevard. This could include blocking vehicle access completely, restricting vehicle turning movements to "right-in, right-out", or using signage to partially restrict access to one direction.
18a	Fanno Creek Trail Crossing	Enhanced Crossing Opportunity	This plan recommends installing a Pedestrian Hybrid Signal for the Fanno Creek Trail crossing just north of the bridge. See TSP Project IDs: S-18, S-19, AT-15.
18b	Fanno Creek Bridge	Bridge replacement to accommodate all modes	Reconstruct Fanno Creek Bridge to the typical cross section identified in this plan. RTP ID: 12003. See TSP Project IDs: S-18, S-19, AT-15.
19	Omara St	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB).	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB). An enhanced crossing facility would use high-visibility continental crosswalk markings and advanced warning signage.
20	Wall St	Enhanced Crossing Opportunity	Enhanced crossing opportunity. An enhanced crossing facility would use high-visibility continental crosswalk markings and appropriate signage. Potential improvements could include pedestrian refuge islands, leading pedestrian intervals, curb extensions, advanced stop bars and/or additional lighting.
21	Between Regina Ln and Fanno Creek Dr	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB).	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB). An enhanced crossing facility would use high-visibility continental crosswalk markings and advanced warning signage.
22	McDonald St	Protected Intersection, Traffic Signal Improvements. Study feasibility of roundabout.	Reconstruct intersection to protected intersection standards. Protected intersections create shorter, simpler crossings, more predictable movements, and better visibility between people on bikes and people driving. Include traffic signal timing improvements to improve traffic flow on Hall Boulevard between McDonald St and Bonita Rd. Study feasibility of roundabout during engineering and design phase. See TSP Projects IDs S-19, S-20.

ID	Location	Category	Recommendation
23	Greenswald Ln	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB).	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB). An enhanced crossing facility would use high-visibility continental crosswalk markings and advanced warning signage. Include an access restriction and/or intersection reconfiguration for is proposed at Greenswald Ln to reduce conflicts for turning vehicles and improve traffic flow on Hall Boulevard. This could include blocking vehicle access completely, restricting vehicle turning movements to "right-in, right-out", or using signage to partially restrict access to one direction.
24	Bonita Rd	Protected Intersection, Traffic Signal Improvements. Study feasibility of roundabout.	Reconstruct intersection to protected intersection standards. Protected intersections create shorter, simpler crossings, more predictable movements, and better visibility between people on bikes and people driving. Include traffic signal timing improvements to improve traffic flow on Hall Boulevard between McDonald St and Bonita Rd.
25	South of Pinebrook St	Right-of-Way Constraints	This area is too narrow for the typical cross section to fit. Special design considerations will be needed to accommodate all modes.
26	Murdock St	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB).	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB). An enhanced crossing facility would use high-visibility continental crosswalk markings and advanced warning signage.
27	Sattler St	Protected Intersection	Reconstruct intersection to protected intersection standards. Protected intersections create shorter, simpler crossings, more predictable movements, and better visibility between people on bikes and people driving.
28	Ashford St	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB).	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB). An enhanced crossing facility would use high-visibility continental crosswalk markings and advanced warning signage.
29	South of Ashford St	Right-of-Way Constraints	This area is too narrow for the typical cross section to fit. Special design considerations will be needed to accommodate all modes.
30	Avon St	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB).	Enhanced crossing opportunity with potential implementation of a rectangular rapid flashing beacon (RRFB). An enhanced crossing facility would use high-visibility continental crosswalk markings and advanced warning signage.
31	Durham Rd	Protected Intersection	Reconstruct intersection to protected intersection standards. Protected intersections create shorter, simpler crossings, more predictable movements, and better visibility between people on bikes and people driving. Include traffic signal timing improvements to improve traffic flow on Hall Boulevard between McDonald St and Bonita Rd.



6.

CONSIDERATIONS FOR IMPLEMENTATION

DISCUSSION

Undertaking a project of this magnitude and complexity presents many challenges and uncertainties, especially given the numerous potential funding scenarios and evolving circumstances. In this section, we discuss the various segments of the Hall Boulevard project in greater detail to help the City make informed decisions as funding sources materialize and opportunities emerge.

North Segment (Locust Street to Highway 99)

There are several key implementation notes to consider during future phases of work in the North segment. First, while each of the intersections along Hall Boulevard should feature safe bicycle and pedestrian crossings, the design of the protected Locust Street intersection will be especially critical due to the number of school trips it facilitates (or could facilitate) between Metzger Elementary and neighborhoods to the north and east of the intersection.

Additionally, the City was awarded \$1M in ODOT Safe Routes to School (SRTS) funding to add a sidewalk on the north side of Locust St between Hall Blvd and 92nd Ave. This project should be completed with an understanding that this sidewalk will connect to a future protected intersection at Hall. Similarly, ODOT was awarded a federal earmark of \$4M for improved pedestrian crossings and sidewalk infill on Spruce Street. This work should be coordinated to fulfill the future vision of Hall Boulevard along this segment. Lastly, ODOT will be rebuilding the Highway 217 Bridge. The future bridge will include sidewalks and bike lanes on both sides. The design of the North segment should account for this and attempt to add separation between the bike lane and the travel lane to the extent possible, either as a painted buffer or using flexible delineators.

There are two mid-block crossings proposed for the

North segment. The first is at Steve St, which doesn't connect to Hall Boulevard. A new park is planned in a parcel adjacent to Steve St, but the plans don't include a connection to Hall Boulevard. The project team still recommends a mid-block crossing at this location despite this fact, because the next available crossings are either Spruce Street or Pfaffle Street, nearly a quarter mile apart. The second mid-block crossing is proposed at the first bus stop north of Highway 99. This crossing is already marked, has signage, and employs a pedestrian refuge island. However, it currently does not offer facilities for people biking that would be considered sufficient for riders of all ages and abilities. Special design considerations will need to be taken at this location to accommodate all modes.

In terms of existing right-of-way, the North segment is the most constrained. The proposed cross section design is narrower than the other segments but will still likely deviate from the typical cross section in certain areas. The difference between the proposed vision for the North segment and the available right-of-way is especially pronounced between Oak Street and Spruce Street. Future phases of work should study the option for no center left turn lane at Spruce Street as a way to save space.

In terms of prioritizing implementation, the North segment is adjacent to residential areas with the greatest transportation equity needs along the corridor. The segment also has the most substandard infrastructure and therefore has the greatest potential to leverage State of Good repair funding toward achieving the Hall Boulevard vision. Additionally, the North segment has other incoming projects, such as sidewalks on Locust St. Prioritizing the Hall Boulevard improvements between Spruce and Locust would help to complement these projects and together would have a greater impact on the quality of the bicycle and pedestrian network than if say, the section between Pfaffle St and Hwy 99 were prioritized, because the three projects would not connect.

Central Segment (A) (Highway 99 to Commercial Street)

At the start of the project, the Central segment was considered one segment due to the difference in land uses from the northern and southern extents of the corridor. However, during the alternatives development phase, it became clear that the Central segment should be divided into two subsegments to include the unique design found within Central segment (B).

The most critical intersection of the segment is at Highway 99. The project team recommends a protected intersection design and removal of the eastbound to southbound slip lane among other improvements. The scale of the work needed to make the intersection of Hall Boulevard and Highway 99 is large and would require significant coordination with ODOT even after the jurisdictional transfer, and would likely be completed as a standalone effort separate from the implementation of the Hall Boulevard corridor work. Still, this is the most important intersection in the City of Tigard from a safety perspective, so any changes to the intersection that could be completed with funding for this project should be attempted.

Between Highway 99 and Hunziker Street, there are no marked crossings, which prompted the recommendation for a crossing at Garden Place. After gathering public input however, this recommendation was moved to Knoll Street. The distance between Highway 99 and Scoffins Street is roughly 1,500 feet, enough distance that another marked crossing could be considered.

The proposed cross section for Central segment (A) is similar to that of the North segment, but calls for a wider footprint. This wider footprint manifests in larger sidewalks (10' instead of 8') to accommodate the increased pedestrian traffic in and around downtown Tigard. While it has more right-of-way than the north segment, Central segment (A) has less than Central B and the South segments, and would face greater

challenges in acquiring more due to the position of existing buildings relative to the property lines.

Finally, this segment of Hall Boulevard is adjacent to some of its highest equity need areas, and so additional attention to the transportation needs and impacts of the work on the surrounding community should be factored into the implementation of the proposed improvements in this area.

Central Segment (B) (Commercial Street to Omara Street)

The Central segment (B) has the most unique proposed cross section among the four segments. This segment accounts for the future Southwest Corridor light rail station and has the highest concentration of destinations along the corridor: downtown, the Fanno Creek Trail, and the Tigard Library. These are the factors that prompted the inclusion of the west side shared-use path.

The implementation of this segment will impact the use of these facilities. The northern terminus at Commercial Street is intended to be a gateway into downtown as well as facilitate people traveling between transit stations, and so its design should incorporate wayfinding signage and seating. The crossing on the north leg should be enhanced to facilitate travel between downtown, the light rail, and north bound cyclists looking to transition back to the east side.

Another key implementation consideration is the railroad crossing. The crossing should include pedestrian and bicycle signals and/or gate treatments. These elements should be emphasized on the west side with the shared-use path. The design of the west side pedestrian and bicycle facilities will need to bend away from Hall Boulevard and intersect the railroad perpendicularly. This will require additional right-of-way from the railroad authority. The east side however, won't require as intensive of a treatment as it will only have an on-street northbound bike lane and 6' sidewalk.

Next, the Fanno Creek Bridge will need to be completely replaced to accommodate the proposed cross section for Central segment (A). Within the segment, the available right-of-way is least flexible between the Fanno Creek Bridge and Omara Street. However, a southbound center left turn lane won't be necessary at Omara Street, so a two-lane cross section could be implemented to save space.

Recently, ODOT submitted a federal earmark (\$4M) for a pedestrian crossing at Omara Street. If granted, the timing of this work should be coordinated with the rebuilding of the roadway at this location, because this crossing will function as the southern terminus of the shared-use path. At this end, the path should function as a gateway to the library and help facilitate travel to and from the Fanno Creek Trail, so wayfinding signage and seating in this area may be especially important. Additionally, this crossing would be where people biking northbound would have the option to either continue northbound on and on-street bike lane or transition to the shared-use path, so an RRFB or other user-activated crossing is recommended. Both the Commercial Street and Omara Street crossings should include bike crossing markings.

Improvements in Central B will be easier than those in Central A to complete in the near term because of the uncertainty around the Southwest Corridor light rail and the subsequent realignment of Hunziker St and Scoffins St. Additionally, coordinating the proposed protected intersection at Hall Boulevard and Hwy 99 with ODOT itself would likely be a larger task than implementing the whole vision for segment Central B.

South Segment (Omara Street to Durham Road)

Hall Boulevard's most heavily traveled section is between Bonita Road and McDonald Street. Given that Hall Boulevard, a north-south roadway, facilitates so much east-west travel, the project team proposes studying the potential for roundabouts during the design phase at these two locations. A preliminary

assessment of these two locations suggested that roundabouts would be difficult to implement without significant right-of-way acquisition and earthwork. However, additional study would help the City understand if the extra effort could significantly improve traffic flow. The City will need to acquire right-of-way immediately south of Bonita Road, or else it will be forced to implement a design that deviates significantly from the proposed cross section.

ODOT included Ashford Street in the same federal earmark as Omara Street. Should this funding become available, the Ashford Street crossing should be implemented in a way that fulfills the vision for the South segment. At this location there is also a right-of-way pinchpoint just south of Ashford Street.

Durham Road, like Locust Street, is one of the most important intersections along the whole corridor for students, given its proximity to Tigard High School. Given the way the school is oriented relative to the rest of the network, Hall Boulevard would be the most direct north-south connection for students walking and biking to school.

Finally, the City should consider implementing traffic calming infrastructure along SW 85th Ave to facilitate the connection between Hall Boulevard and Cook Park.

In terms of prioritizing implementation, the south segment's largest challenge will be the section between Bonita Rd and McDonald St. The section between Bonita Rd and Durham could be a good candidate for interim bike infrastructure like separated bike lanes with delineators, and would enhance the connection between bike facilities on Durham Rd and Sattler St. There are also multiple locations in which crossing improvements would support transit stops and connections to neighborhood paths. Focusing on improvements in this section first would have the benefits of connecting more residential areas directly to Tigard High School and Cook Park.

IMPLEMENTATION

Cost Estimate

After the second round of public engagement, in which community members were asked to provide feedback on the proposed concepts, the project team began estimating the costs of the final recommendations in each segment. These estimates are considered “planning level” and are the project team’s current estimate for the price tag associated with implementing the vision using current material and construction costs.

The construction cost to rebuild Hall Boulevard as proposed in this plan is estimated to be approximately \$61.1M, or roughly double that of the cost to bring the roadway up to a State of Good Repair. This does not include the soft costs of engineering or design work, nor does it include the costs of moving utilities and acquiring right-of-way. These additional costs can vary but our initial estimates place the total cost including these expenses at over \$100M.

It is worth noting that these improvements are investments with the potential for long-term cost benefits, not only in terms of safety but also in attracting private sector development. Metro’s report on active transportation return on investment quantifies some of these economic advantages, emphasizing the opportunity costs of delaying these crucial enhancements.¹

Prioritization

Given the scale and complexity of the proposed improvements, it is likely the project will be funded

by multiple sources and over varying timeframes. Prioritization of the improvements will be necessary if the funding and timing realities force the vision to be implemented incrementally. Prioritization should be based on a number of factors, including geography, need, timing, phasing, benefits and cost.

- ▶ **Need:** Projects could be prioritized by infrastructure needs and equity considerations of an area relative to the rest of the corridor. The greatest difference between State of Good Repair costs and the costs associated with the Hall Boulevard vision exists in the North segment. The highest scoring equity areas are in the North Segment and the Central A segment.
- ▶ **Timing/proximity:** Some improvements may be more suitable than others to combine or coincide with other capital improvement projects, land development, or funding opportunities that make their implementation easier and enhance the overall effect. This will be necessary in comparing city-identified Betterments vs. State of Good Repair improvements.
- ▶ **Geography:** this document outlines 4 key study areas which could serve as logical groupings for a larger improvement project, even if other parts of the corridor can’t be implemented until later.
- ▶ **Benefits:** Some improvement projects represent “low-hanging fruit” in that the cost to implement them is small relative to the benefits that they provide. Examples of these could be enhanced crossings near key destinations like

¹ *Active Transportation Return on Investment Study Metro (2022).* <https://www.oregonmetro.gov/active-transportation-return-investment-study>

schools and parks.

- ▶ **Cost:** On a per mile basis, the Central segment (B) would cost the most to implement given the complexity of the cross section and the scale of constraints faced in that segment; however, at just over \$6M, it would be less expensive to construct than the South segment, which would cost over twice as much. The South segment is the next most expensive segment on a per mile basis due to its wider footprint. The segment of greatest overlap between State of Good Repair costs and the costs associated with the Hall Boulevard vision (in other words, the segment with the most opportunity to align State of Good Repair funding with the vision) exists in the North segment, where the existing infrastructure is least sufficient.
- ▶ **Phasing:** some improvements are more suitable than others to be phased in over time, starting with semi-permanent infrastructure. For example, rather than a raised curb protected bike lane, the City could consider buffer striping and delineators in strategic locations.

Project Prioritization by Segment:

- ▶ Prioritizing the implementation of Hall Boulevard improvements in the North segment between Spruce St and Locust St may be beneficial. Prioritizing this section would complement incoming projects such as the sidewalks on Locust St and Spruce St, which would enhance the bicycle and pedestrian network's overall quality more effectively than

starting with another non-connecting section like Pfaffle St to Hwy 99.

- ▶ Prioritizing improvements in Central B may be more feasible in the near term due to the uncertainties surrounding the Southwest Corridor light rail and the subsequent realignment of Hunziker St and Scoffins St. Coordinating the proposed protected intersection at Hall Boulevard and Hwy 99 with ODOT will likely be a larger task, making the completion of Central A improvements more challenging than those in Central B, despite Central B having a slightly higher cost per mile.
- ▶ The main implementation challenge for the South segment lies in the stretch between Bonita Rd and McDonald St. Focusing efforts on the segment from Bonita Rd to Durham Rd with interim bike infrastructure and crossing improvements would better connect existing bike facilities and support transit stops, benefiting residential areas and enhancing access to Tigard High School and Cook Park.



7.

APPENDIX

To: Dave Roth, Joe Wisniewski P.E., City of Tigard

From: Derek Abe, Phil Longenecker Alta Planning + Design

Date: 8/01/2022

Re: *Hall Boulevard Corridor Visioning Project Task 2.2 – Existing Conditions Memo*

Existing Conditions Memorandum

This memo addresses the existing conditions, opportunities, and constraints to multimodal connections near and along Hall Boulevard. This memo will summarize City policies, consider current and future access along the corridor, and review similar assessments conducted for Hall Boulevard. Lastly, this memo will highlight key features of the corridor, summarize the transportation context of the area and provide a foundation for the visioning project. The various sections in this memo are listed below:

1. Plan Review
2. Introduction to Project Area
 - a. Project Extent
 - b. Equity and Demographics
 - c. Existing and Planned Pedestrian and Bicycle Networks
 - d. Transit Context
 - e. Vehicular and Truck Traffic
3. Collisions and Safety
4. Key Development Areas
5. Right of Way
6. Project Opportunities and Constraints

Plan Review

City of Tigard Transportation System Plan (2022)

The 2040 Transportation System Plan (TSP) was initiated in 2020 and responds to a new strategic vision for Tigard’s future, which emphasizes developing a multi-modal transportation system that is walkable, healthy, sustainable, and accessible for everyone. This TSP serves as an important long-range planning tool for Tigard to ensure its transportation system can meet community needs, realize the City’s strategic vision, and conform to state and regional policies.

The TSP discusses Hall Boulevard in the following ways:

- Hall Boulevard will be a key north-south route between neighborhoods within Tigard, providing a critical function for accessing Downtown, the Tigard Transit Center, the Tigard Triangle, numerous civic uses,

including the library. With a potential for jurisdictional transfer of this road, the city has an interest in enhancing this corridor with improved sidewalks and bikeways between SW Omara Street and Pacific Highway.

- The need to update the characterization of Hall Boulevard to reflect the jurisdictional transfer from ODOT to the City of Tigard.
- Pacific Highway and Hall Boulevard are the primary access routes to the downtown area.
- The need to reexamine the alignment of Scoffins St/Hunziker St at Hall Boulevard.
- The percentage of youth under age 18 is fairly evenly distributed across the City, but the senior population is heavily concentrated in the southeast neighborhoods between Pacific Highway and Hall Boulevard.
- Improving pedestrian and bicycle crossing opportunities at the intersection of Commercial Street and Hall Boulevard.

City of Tigard Strategic Plan 2020 – 2025

In 2019, the City embarked on a journey to refresh Tigard’s Strategic Plan, last updated in 2015. The purpose of the strategic plan is to set a focus for how the city’s vision and direction will be achieved. The strategic plan helps an organization allocate resources, set priorities, and states what it will say yes to. The plan outlines a vision, which intends to highlight where we want to go as a city and what we want to be. The new vision emphasizes equity, walkability, health, and accessibility.

The second strategic priority is to create a well-connected, attractive, and accessible pedestrian network. The objectives and actions relating to this priority that are relevant to the Hall Boulevard project are listed below:

- Create a well-connected pedestrian network that links all Tigard residents and businesses.
- Bring parks and trailheads within a 10-minute walk of every Tigard resident.
- Design the trail system to serve both recreational and active transportation purposes.
- Invest in infrastructure that increases public safety such as trail lighting.
- Ensure inclusive and accessible design is included in the design guidelines and implemented through the ADA Transition Plan, Parks Master Plan, and Pedestrian Network Plan.

Tigard Complete Streets Policy Implementation Plan (2019)

At its heart, the Strategic Plan sets forth a vision for Tigard to build its unique identity as the most walkable community in the Pacific Northwest. Achieving this outcome requires a practical, policy-driven “Complete Streets” approach that reconsiders how Tigard plans and invests in its transportation system. The Complete Streets policy is therefore critical to the visioning of Hall Boulevard.

Below are the guiding principles of the Complete Streets policy:

- 2.1 Serve All Users
- 2.2 Provide Interconnected Networks
- 2.3 Use Best Practices and Innovative, Context-Sensitive Design
- 2.4 Support Land Use Planning Goals
- 2.5 Internal and Jurisdictional Coordination
- 2.6 Measure Performance

City of Tigard Transportation Safety Action Plan (2019)

The City of Tigard Transportation Safety Action Plan (TSAP) documents the findings from a citywide transportation safety analysis that examined crashes involving pedestrians, bicyclists, and drivers. The TSAP describes crash trends and patterns, prioritizes locations for safety improvements, and presents potential safety treatments for locations with the most potential to reduce fatal and severe injury crashes in the City, some of which involve Hall Boulevard. The TSAP identifies potential safety improvements and creates an avenue for the city to pursue ODOT All Roads Transportation Safety (ARTS) and other grant funding to enhance transportation safety.

The following intersections were ranked as some of the highest priority intersections in Tigard given their history of crashes and severity:

- Highway 99 and Hall Boulevard (Ranked #1)
- Hall Boulevard and Durham Rd (Ranked #14)

Murraysmith Hall Boulevard Condition Assessment (2020)

The purpose of the Murraysmith report was to provide an assessment of the existing condition of assets within the public right-of-way along SW Hall Boulevard, from SW Durham Road to the City of Tigard (City) limits just north of SW Locust Street. This condition assessment addresses the immediate needs and costs to bring SW Hall Boulevard to a “State of Good Repair”, with the understanding that the Oregon Department of Transportation (ODOT) and the City will work towards reaching a jurisdictional transfer of SW Hall Boulevard within the City limits.

The report states that deferred maintenance and rapidly evolving construction standards have left much of the corridor needing significant work to bring SW Hall Boulevard to a State of Good Repair. The percentage of assets that need to be brought to a State of Good Repair, that can be quantified, are as follows: 81 percent roadway pavement, 98 percent curb ramps, 65 percent storm drainage facilities, and the Ash Creek Bridge. To address corridor wide deficiencies and bring Hall Boulevard to a State of Good Repair, it will cost approximately \$28.4 million if constructed in 2020.

The assessment contains detailed information for Hall Boulevard on the following, all of which serve as an important foundation for the Hall Boulevard visioning project:

- Functional Classification and Traffic Volume
- Cross Sectional Elements
- Future Projects
- Pavement Condition
- Curb and Sidewalk
- Curb Ramps
- Stormwater Facilities
- Traffic Signals and Flashing Beacons
- Illumination
- Permanent Signage
- Bridges
- Right-of-Way
- Railroad Crossing

Washington Square Regional Center Redevelopment Plan (2021)

The Washington Square Regional Center (WSRC) is located at the northern edge of Tigard, the southeastern edge of Beaverton, and the eastern edge of unincorporated Washington County. Recognizing the WSRC's potential for transformative, equitable, and sustainable growth, the City of Tigard led a 2020-2021 project to update existing policies and the original land use and transportation vision. Some recommendations that resulted from this effort relate directly to Hall Boulevard. This project sought to better align future WSRC development with current community needs and aspirations, emerging market trends, and Tigard's goal to be a walkable, healthy, and inclusive community.

Key recommendations from the Washington Square Regional Center Redevelopment Plan include:

- Explore interest in Oregon "Main Street" designation for Hall Boulevard between Oak and Locust.
- Enhance pedestrian and bicycle safety and access along Hall Boulevard, through measures such as enhanced mid-block crossings at key locations.
- Study the feasibility of a pedestrian and bicycle connection between Hall Boulevard and the future Metzger/Ash Creek park.

Fehr & Peers Mobility Solutions Analysis Methodology (Southwest Corridor) (2020)

As part of the Southwest Corridor Light Rail Project, significant planning and analysis were conducted on behalf of TriMet and Metro. The Fehr & Peers Mobility Solutions Analysis and Methodology report outlines their demographic and psychographic analyses on accessing proposed light rail stations, one of which was located on Hall Boulevard. Each proposed transit station along the SWC had a different combination of mobility elements

that suit the unique geographic, land use, and demographic characteristics around the station. The authors then made recommendations on what new mobility elements will best suit each station based on their findings.

The report found that among households within 1 mile of the proposed Hall Boulevard Station (which would be located on Hall Boulevard between Scoffins St and Burnham St) there exists a larger population of low-income families and low-income seniors.

City of Tigard Comprehensive Plan (2007)

The City of Tigard Comprehensive Plan acts as the City’s “land use constitution.” It is the document that provides the broad policy basis for Tigard’s land use planning program and ultimately guides all actions relating to the use of land in the City. The Plan also signals that the City’s land use planning efforts will implement state and regional requirements, including Oregon’s land use planning goals and related laws, state administrative rules, and applicable Metro plans and requirements.

Key findings of the comprehensive plan relating to the transportation system are listed below:

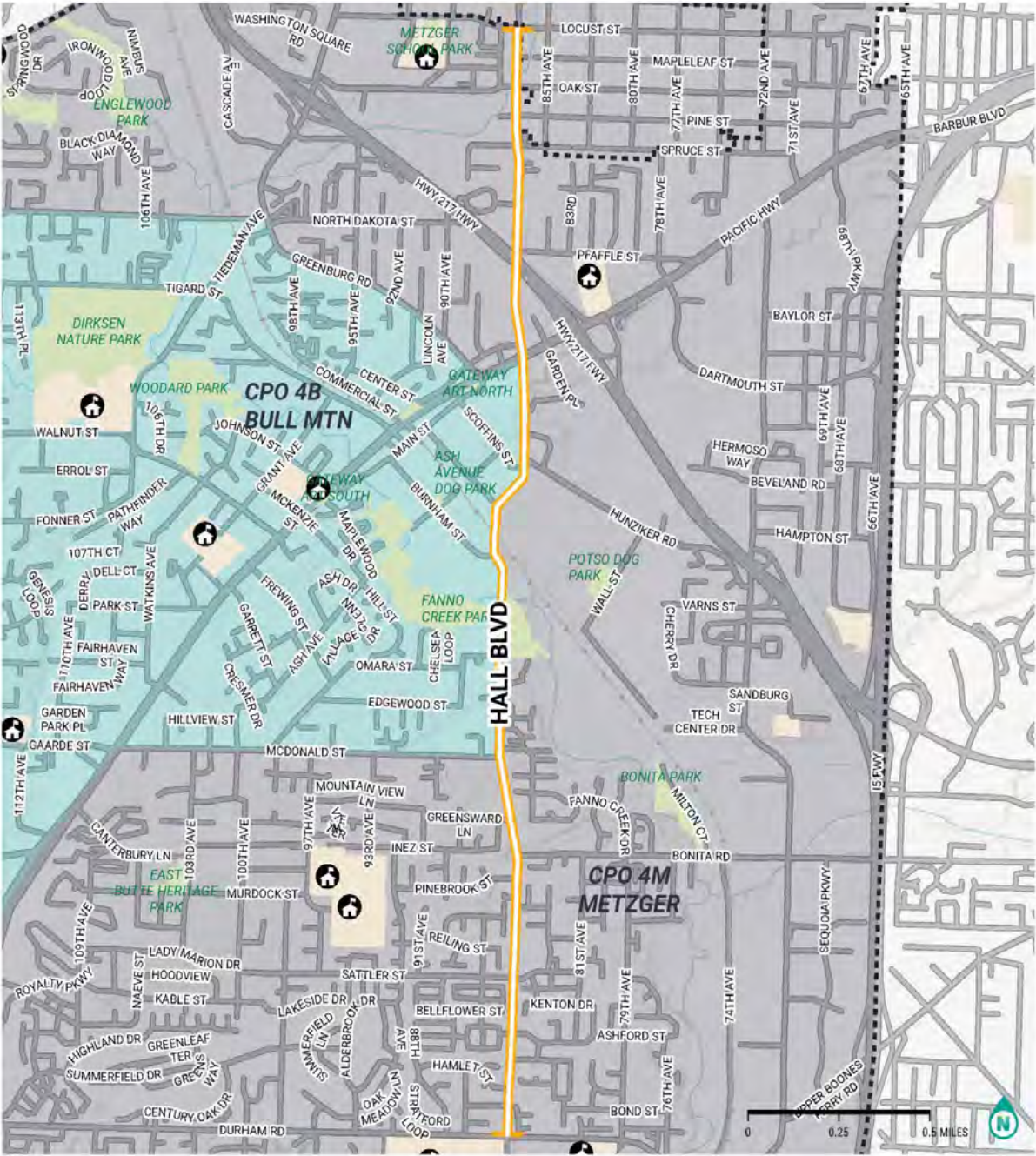
- Improving connectivity will maximize the investment in the existing transportation system.
- Land use patterns that shorten home-to-work trips, support transit, and make walk/bike trips more viable can help reduce congestion.
- High comfort and low stress bicycle and pedestrian facilities are vital to developing a fully functioning network that accommodates people of all ages and abilities plans and requirements.

Introduction to the Hall Boulevard Visioning Project Area

The Hall Boulevard corridor is an important multimodal north-south route in the city that will play a critical role in connecting downtown with residential neighborhoods and future developments in the Tigard Triangle. The roadway is classified as an arterial street in the City’s TSP. The roadway also intersects with key pieces of Tigard’s multiuse path and trail network, such as the Fanno Creek Trail and Cook Park. In addition to serving many walking and biking trips, Hall Boulevard is an important transit corridor and freight corridor. Multiple schools are in close proximity to the roadway, such as Tigard High School and Twality Middle School, which makes Hall Boulevard important in serving school-related trips.

The visioning project extent, which extends from Locust St to Durham Rd, contains multiple intersections that play a prominent role in the transportation system, including Locust St, Hwy 99, Hunziker Rd/Scoffins St, McDonald St, Bonita Rd, and Durham Rd (Map 1). While each segment of Hall Boulevard has its own opportunities and constraints, the overall roadway can be conceptualized into three segments with somewhat similar land use and transportation contexts: North (Locust St to Hwy 99), Central (c, and South (Fanno Creek Trail to Durham Road).

Map 1



PROJECT EXTENT

CITY OF TIGARD
HALL BOULEVARD
CORRIDOR STUDY

Neighborhood Organization

- CPO 4B BULL MTN
- CPO 4M METZGER

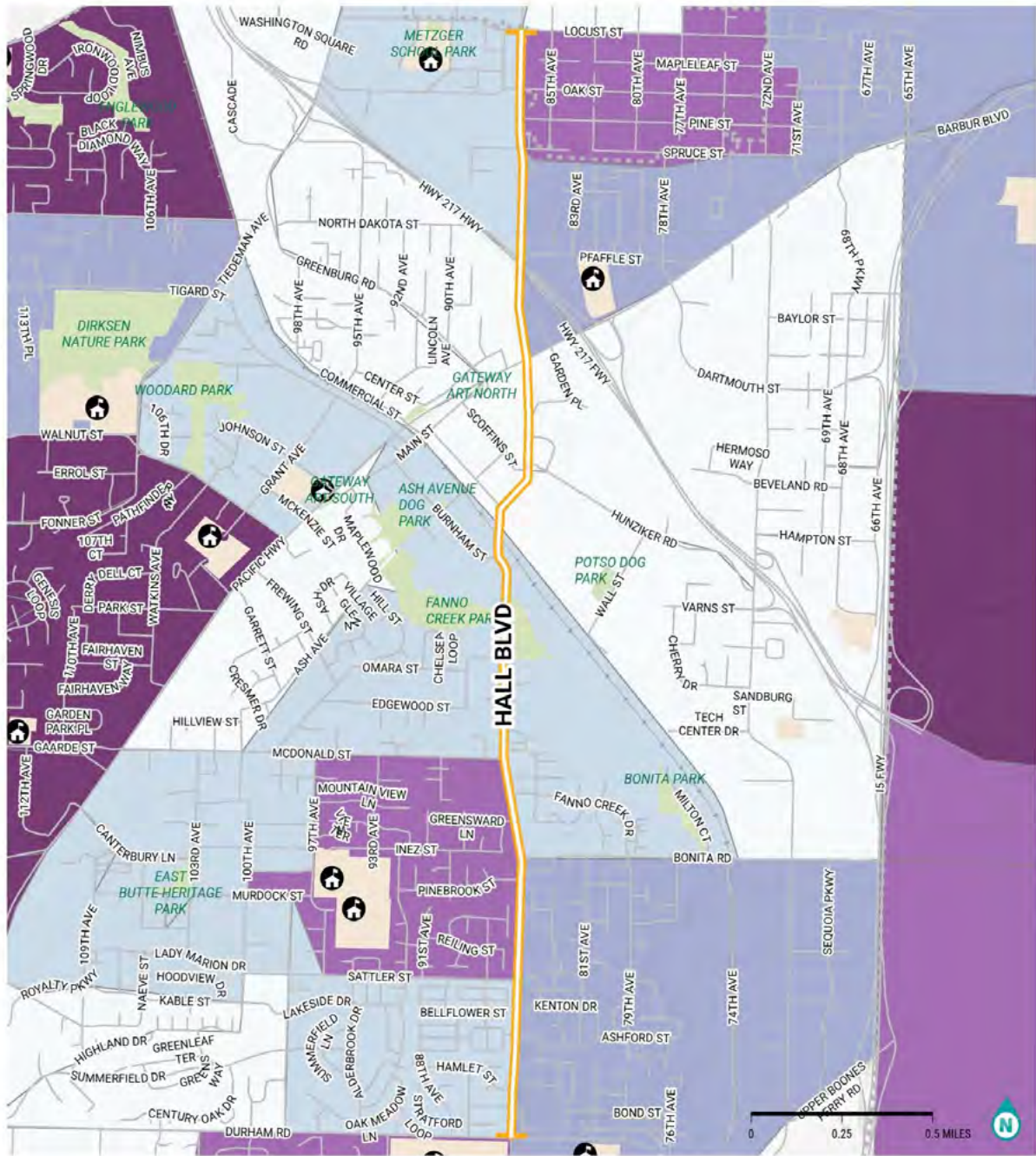
- Hall Boulevard
- School
- School Campus
- Park
- City of Tigard



Equity and Demographic Analysis

One factor that makes Hall Boulevard a significant corridor in the City of Tigard is that it connects a diverse range of people. In the census tracts that comprise the Central section of Hall Boulevard near downtown and the Tigard Triangle, there are higher populations of lower income households relative to the surrounding neighborhoods (Map 2). These neighborhoods are also where there are higher numbers of households who lack access to a motor vehicle, and therefore may be dependent on other modes of transportation (Map 3). The Transportation System Plan calls attention to this geography as well, noting that while “the percentage of youth under age 18 is fairly evenly distributed across the City, the senior population is heavily concentrated in the southeast neighborhoods between Pacific Highway and Hall Boulevard.” Alta’s in-house equity analysis tool, which combines a range of indicators from demographic data to tree canopy coverage to economic mobility, returns a result that is spatially consistent with these findings (Map 4). Incorporating equity within the Hall Boulevard visioning project will likely mean specific and intentional outreach to these Equity Priority communities, providing a range of transportation options, and investing in infrastructure that is accessible for people of all ages and abilities.

Map 2



MEDIAN HOUSEHOLD INCOME

CITY OF TIGARD
HALL BOULEVARD
CORRIDOR STUDY

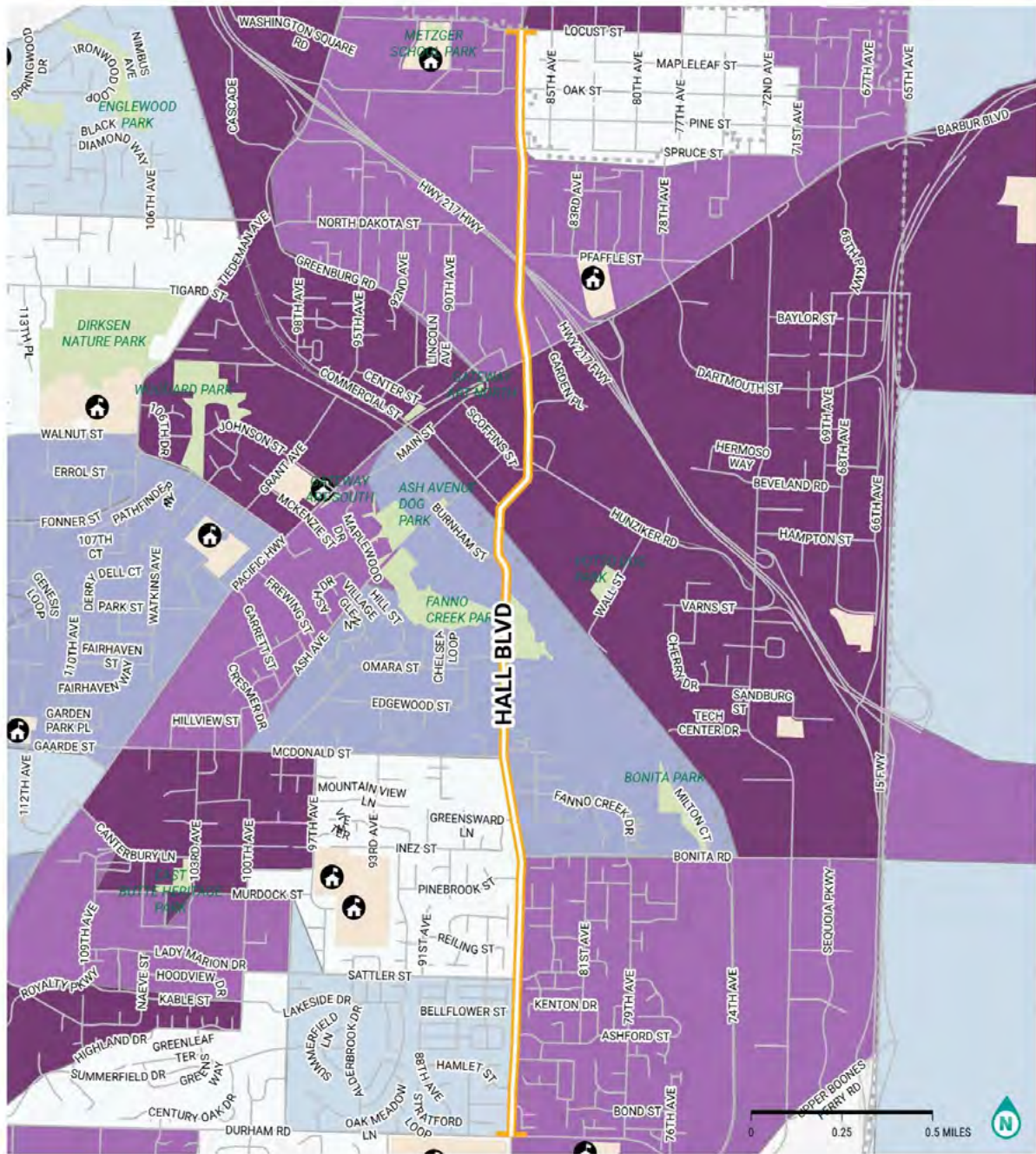
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U.S. Census Bureau, 2019 ACS 5 yr Est.

- > \$106,000
- \$96,000 - \$106,000
- \$78,000 - \$96,000
- \$50,000 - \$78,000
- < \$50,000

- Hall Boulevard
- Railroad
- School
- School Campus
- Park
- City of Tigard

Map 3

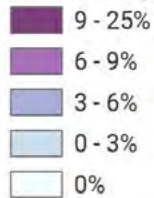


PERCENT HOUSEHOLDS WITH NO VEHICLE ACCESS

CITY OF TIGARD
HALL BOULEVARD
CORRIDOR STUDY

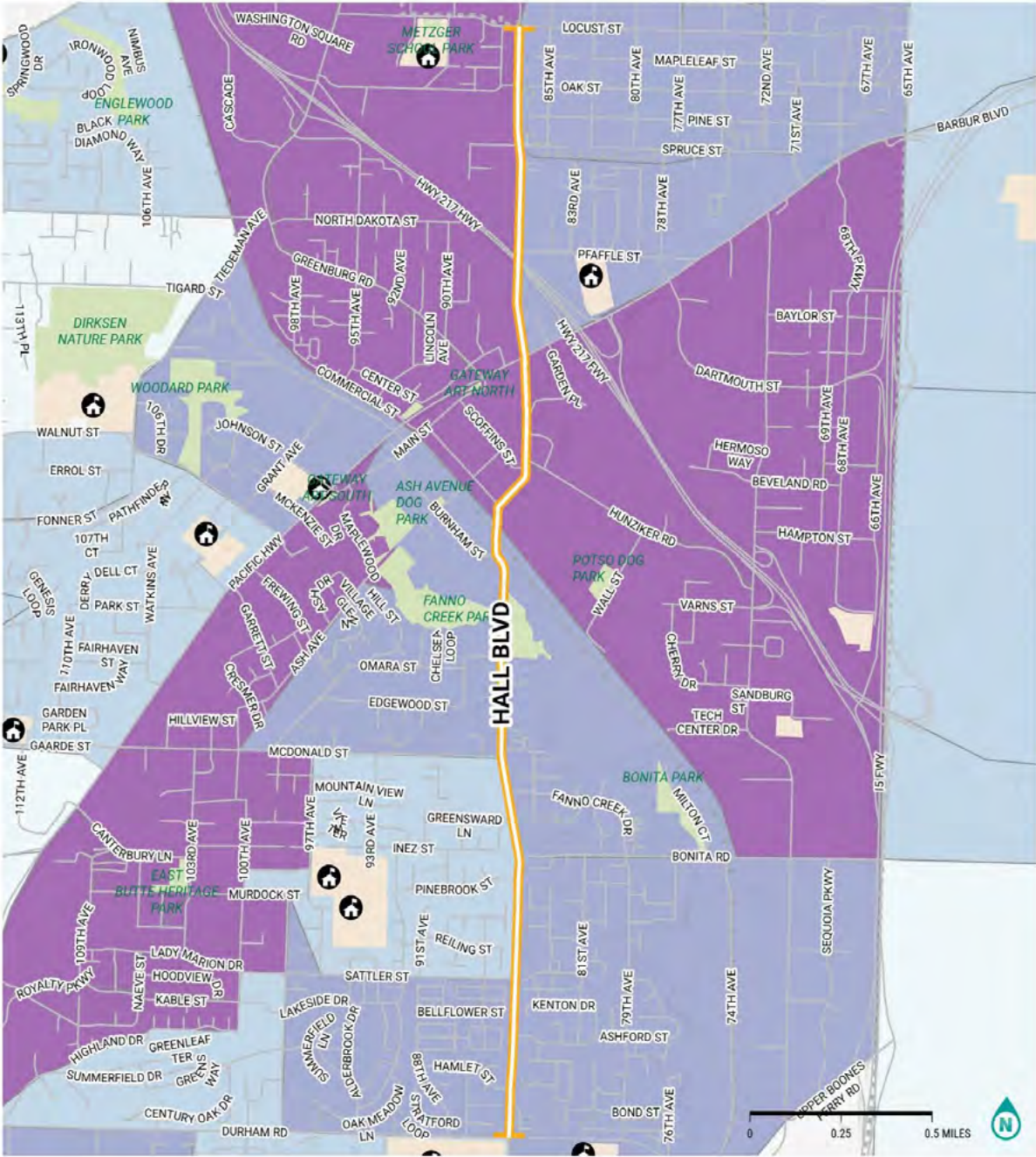
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U.S. Census Bureau,
2019 ACS 5 yr Est.



- Hall Boulevard
- Railroad
- School
- School Campus
- Park
- City of Tigard

Map 4



EQUITY PRIORITY AREAS

CITY OF TIGARD
HALL BOULEVARD
CORRIDOR STUDY

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Equity Priority Areas

- High Equity Priority
- Medium Equity Priority
- Low Equity Priority

- Hall Boulevard
- Railroad
- School
- School Campus
- Park
- City of Tigard

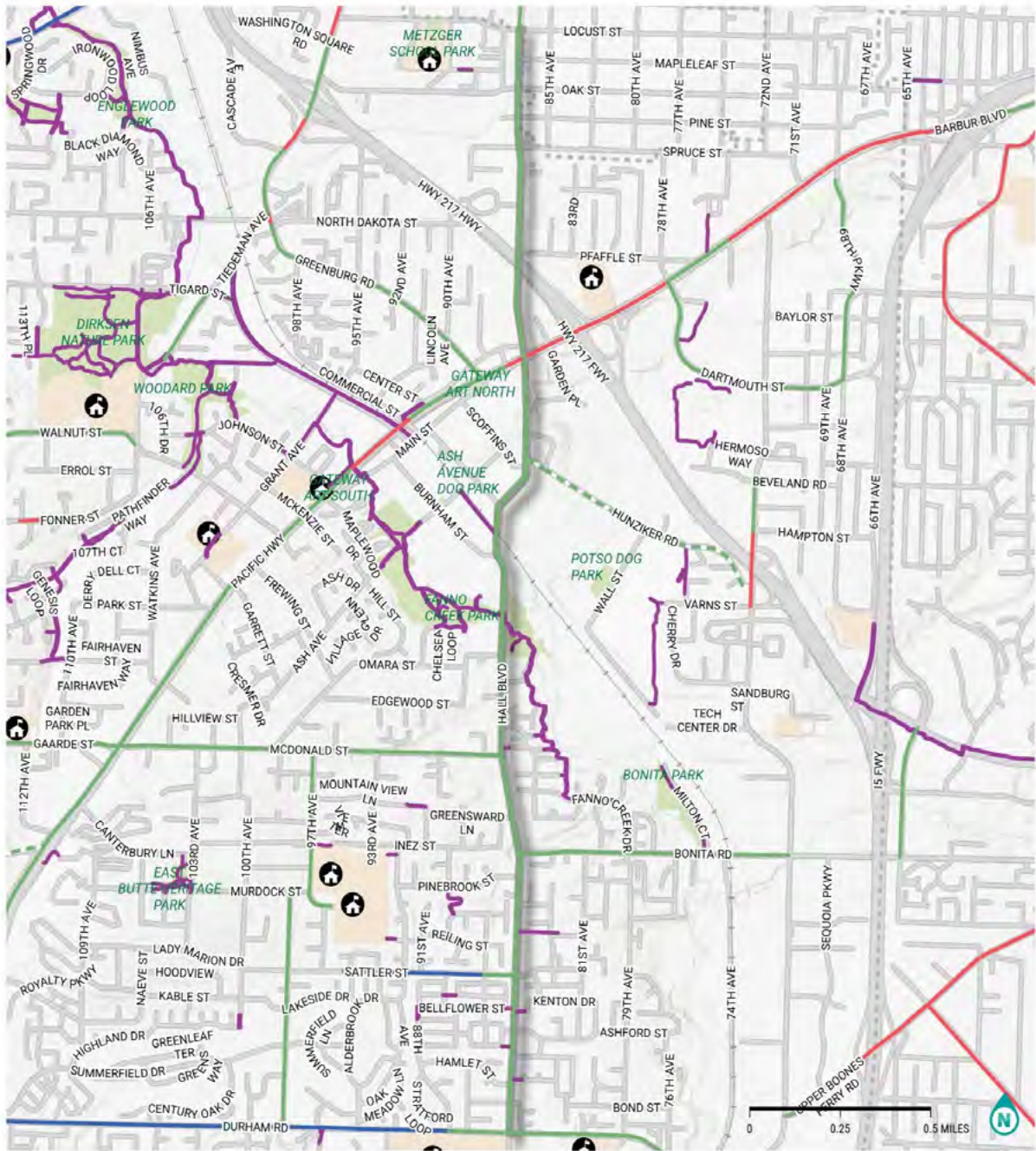
Existing and Planned Pedestrian and Bicycle Networks

Hall Boulevard is a major link in both the planned pedestrian and bicycle networks for the city (Maps 5, 6). The roadway is designated a “pedestrian corridor” and a “major city bikeway” which emphasize the fact that Hall Boulevard currently does, and will continue to, serve a high number of walking and biking trips in the city in addition to connecting residential, recreational, and commercial areas (Maps 5, 7).

Hall Boulevard provides a direct route for people walking to and from residential areas to the downtown core or the Fanno Creek Trail system. Currently, Hall Boulevard has inconsistent sidewalk coverage along its extent. Sidewalk quality varies as well, and the inclusion of ADA accessible curbs and ramps is incomplete. The Murraysmith report notes that 98% of the curb ramps along the corridor will need to be updated to bring Hall Boulevard into a state of good repair. The report also found that of the existing sidewalk infrastructure, only 4% is damaged or inadequate. There are multiple trail and multi-use paths that connect to Hall Boulevard but marked crossings are largely limited to signalized intersections. People walking along Hall Boulevard will need to safely cross to other pedestrian corridors identified in the TSP: Locust St, Oak St, Hwy 99, Hunziker Rd, Commercial St, McDonald St, Bonita Rd, Sattler St, and Durham Rd.

Hall Boulevard currently has bike lanes along the project extent. These bike lanes vary in width and level of separation, particularly in places where Hall Boulevard curves and where there are dedicated right turn lanes for motor vehicles. The corridor currently lacks other supporting infrastructure such as bike specific signals, turn boxes, and any physical separators such as curbs and bollards. Future bikeway designs for the roadway will need to support bicycle turning movements to and from other major city bikeways, such as Locust St, Oak St, Hwy 99, Hunziker Rd, Commercial St, McDonald St, Bonita Rd, Sattler St and Durham Rd.

Map 6



EXISTING BIKE NETWORK

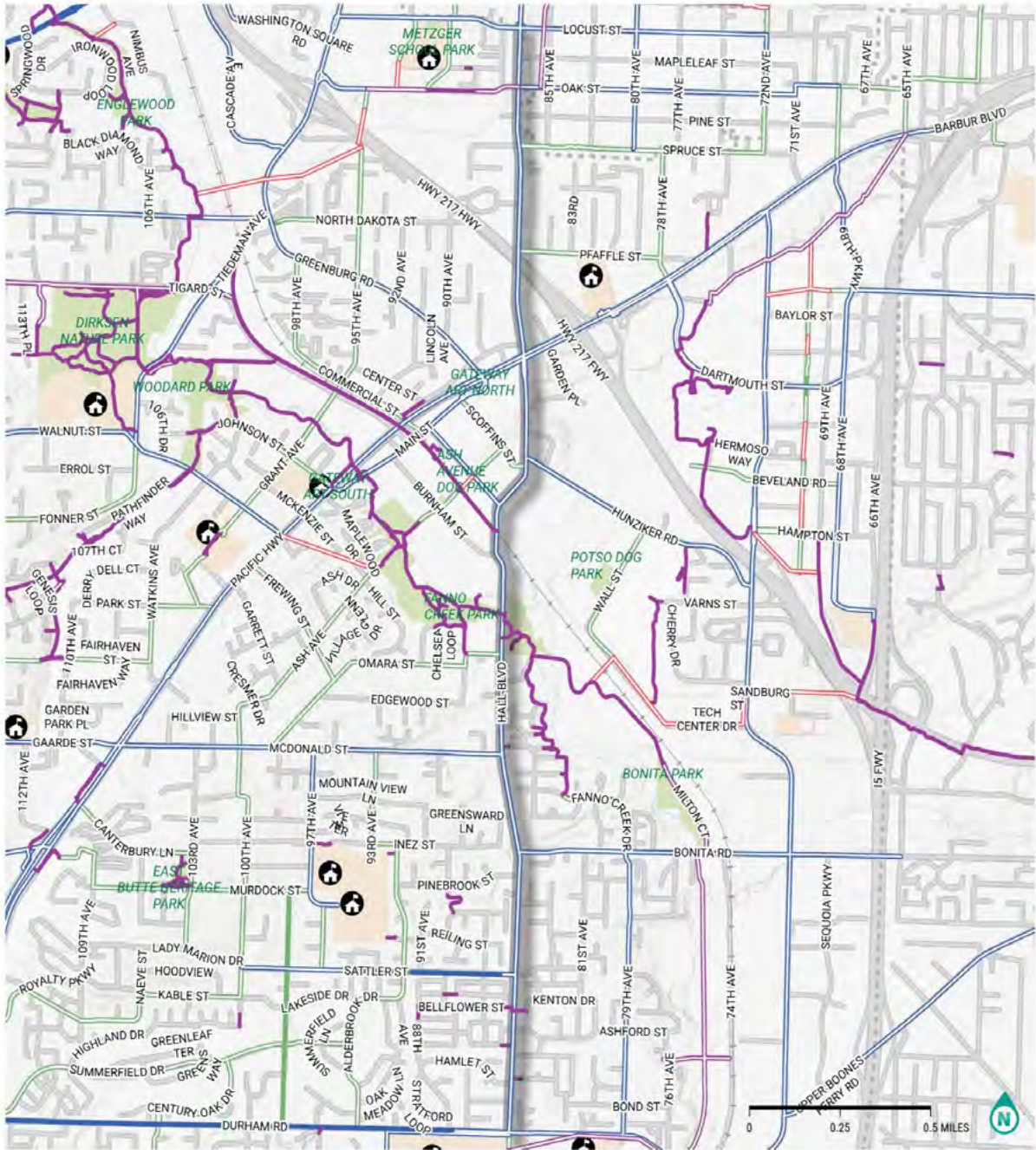
CITY OF TIGARD
HALL BOULEVARD
CORRIDOR STUDY

- Bike Lane
- Buffered Bike Lane
- Caution Area
- Multi-use Path
- - - Intermittent Bike Lane

- Hall Boulevard
- School
- School Campus
- Park
- City of Tigard

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Map 7



2040 TSP PLANNED
BIKE NETWORK
CITY OF TIGARD
HALL BOULEVARD
CORRIDOR STUDY

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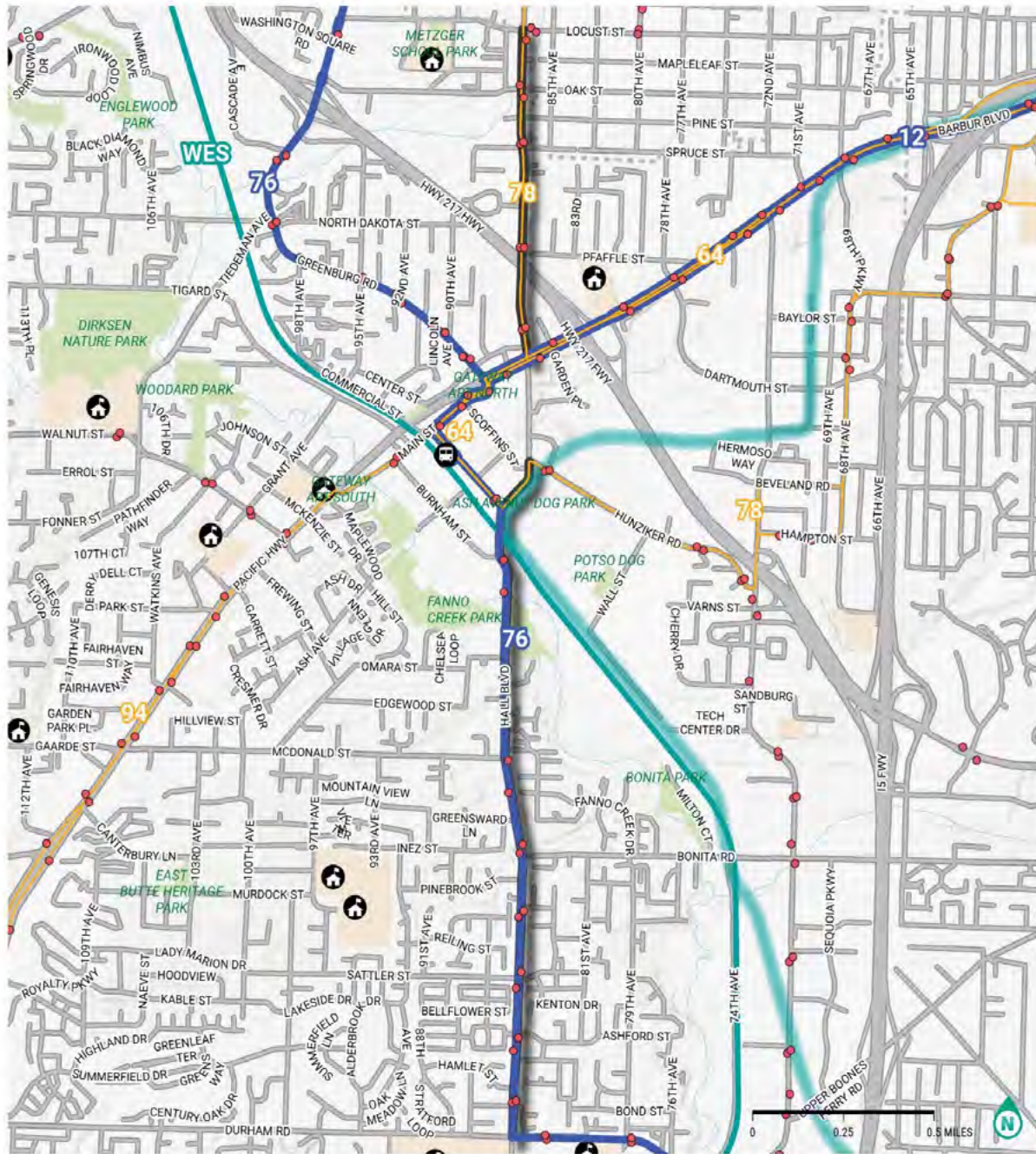
- Major Street Bikeway (Existing Facilities)
- Major Street Bikeway (Planned)
- Neighborhood Greenway (Existing Facilities)
- Neighborhood Greenway (Planned)
- Trail (Existing)
- Trail (Planned)
- Proposed Active Transportation Connection
- Hall Boulevard
- School
- School Campus
- Park
- City of Tigard



Transit Context

Hall Boulevard serves two transit lines, Route 78 north of Hwy 99 and Route 76 between downtown Tigard and Durham Rd (Map 8). Route 76 is a frequent route that intersects another frequent route, Route 12, as well as the WES commuter rail station in downtown. Hall Boulevard would intersect with the proposed Southwest Corridor light rail line, which has a planned station between Commercial St and Hunziker Rd. There are 23 bus stops along Hall Boulevard, but many lack ADA-compliant sidewalk and curb ramp access.

Map 8



TRANSIT CONTEXT

CITY OF TIGARD
HALL BOULEVARD
CORRIDOR STUDY

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RAIL LINE

- Proposed Southwest Corridor Light Rail
- WES Commuter Rail

BUS ROUTE

- Frequent Service
- Infrequent Service

- Transit Center
- Bus Stop
- Hall Boulevard
- School
- School Campus
- Park
- Railroad
- City of Tigard

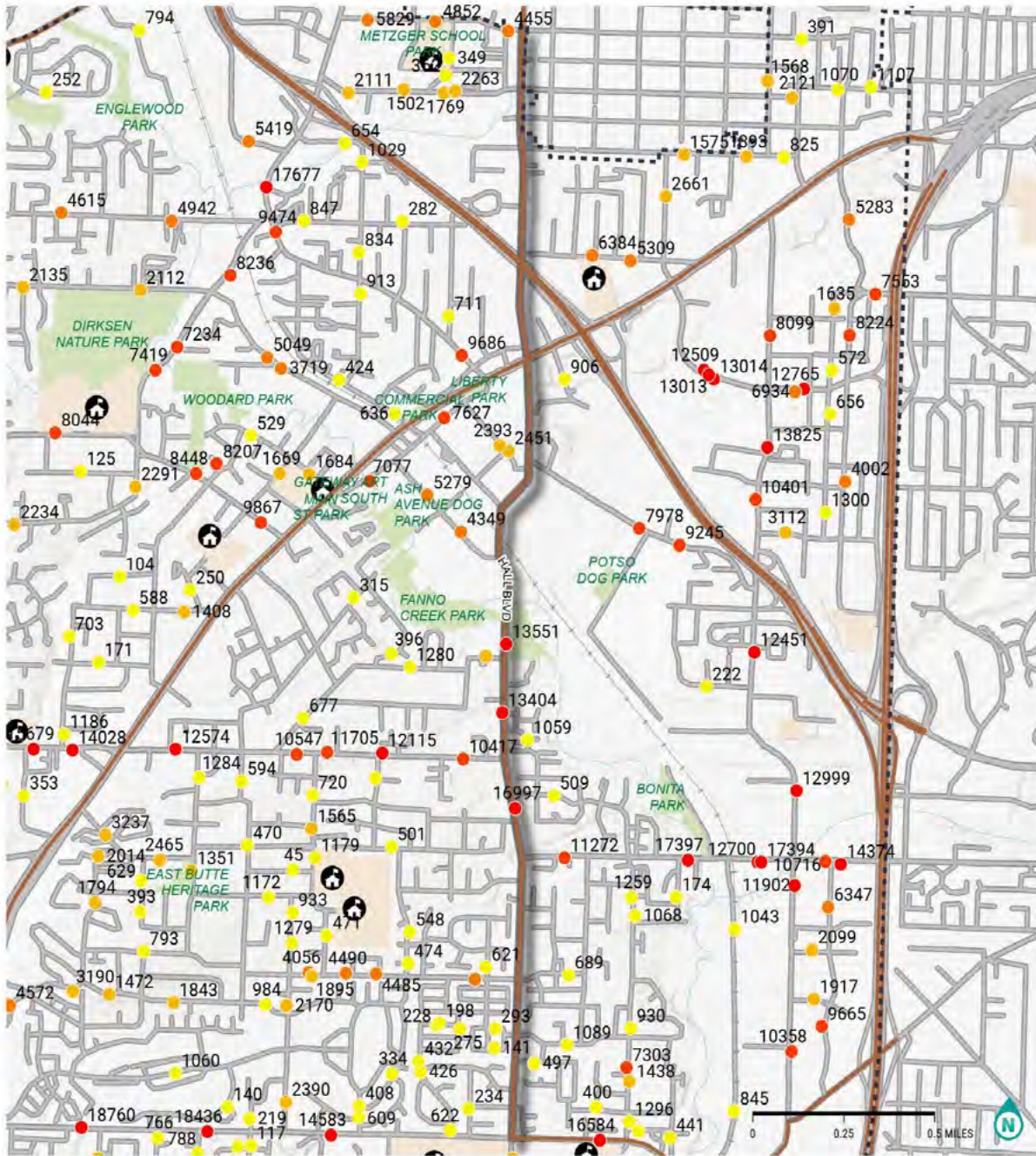


Vehicular and Truck Traffic

As noted previously, Hall Boulevard is designated as an Arterial in the City's TSP. Arterials are designed for higher volumes but tend not to be major regional travel ways. Minor arterial streets provide inter-neighborhood connections. According to the TSP, there are two Hall Boulevard intersections that are consistently delayed due to traffic: Hall Boulevard & McDonald St, and Hall Boulevard & Durham Rd.

Although the corridor is needed for freight traffic, Murray Smith reports that truck traffic accounts for 2.9% of the annual average daily traffic (AADT). The maximum annual average daily traffic (AADT) reported by ODOT for SW Hall Boulevard is 17,000, with truck traffic accounting for 2.9 percent of the AADT. According to City traffic count data, the highest traveled segment is between McDonald St and Bonita Rd, due to east-west travel along McDonald St and Bonita Rd (Map 9).

Map 9



TRUCK ROUTES & TRAFFIC COUNTS

CITY OF TIGARD
HALL BOULEVARD
CORRIDOR STUDY

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Current Average Daily Traffic (ADT)

- 45 - 1300
- 1301 - 3237
- 3238 - 6934
- 6935 - 11712
- 11713 - 18760

- Truck Routes
- Hall Boulevard
- Railroad
- School
- School Campus
- Park
- City of Tigard

Collisions and Safety

While the highest levels of vehicular traffic on Hall Boulevard exists between McDonald St and Bonita Rd, three different areas stand out when it comes to bicycle and pedestrian traffic: Downtown, the Fanno Creek Trail, and Durham Rd (Map 10). The Transportation Safety Action Plan (TSAP) found that these areas also showed some of the highest crash rates in the city (see figure to the right).

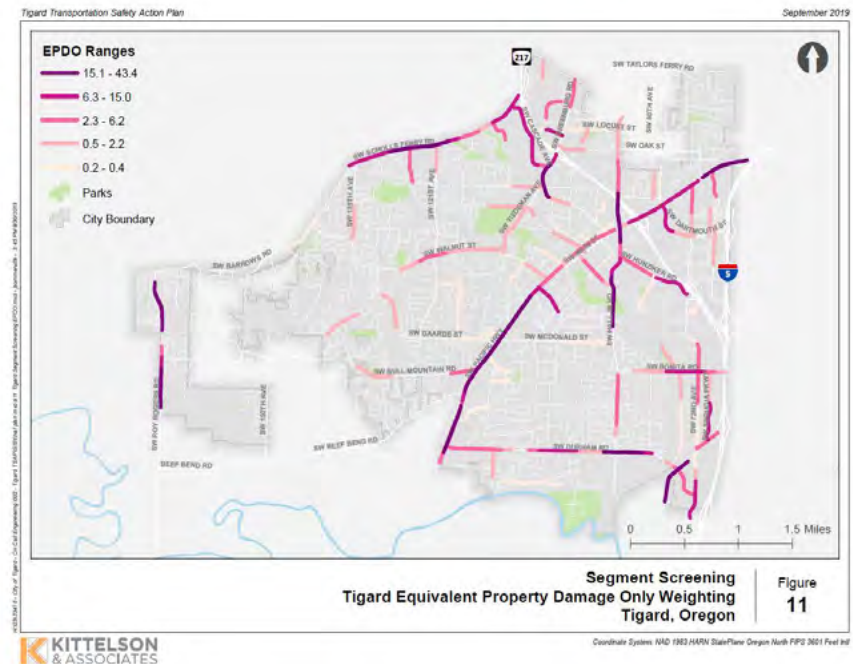
The TSAP found that in Tigard, pedestrian and bicyclist crashes constitute an outsize share of fatal/Injury A crashes relative to their overall share of crashes:

Among the 61 reported pedestrian crashes (throughout the city 2013 - 2017), the following patterns were identified:

- 46 pedestrian crashes (85 percent) occurred at arterial intersections.
- 30 pedestrian crashes (49 percent) occurred in dark, dawn, or dusk conditions (19 in dark conditions with street lights, six in dark conditions without street lights, and five under dusk/dawn conditions).
- 36 pedestrian crashes (59 percent) were coded to indicate as a motorist's failure to yield right-of-way. Of those, 18 crashes (50 percent) were right-turning crashes.

Among the 65 reported bicycle crashes (throughout the city 2013 - 2017), the following patterns were identified:

- 53 crashes were turning movement crashes.
- The most frequent crash types were right-hooks at both signalized and unsignalized intersections.
- Right hooks have occurred on Hall Boulevard at the intersection of Hwy 99.

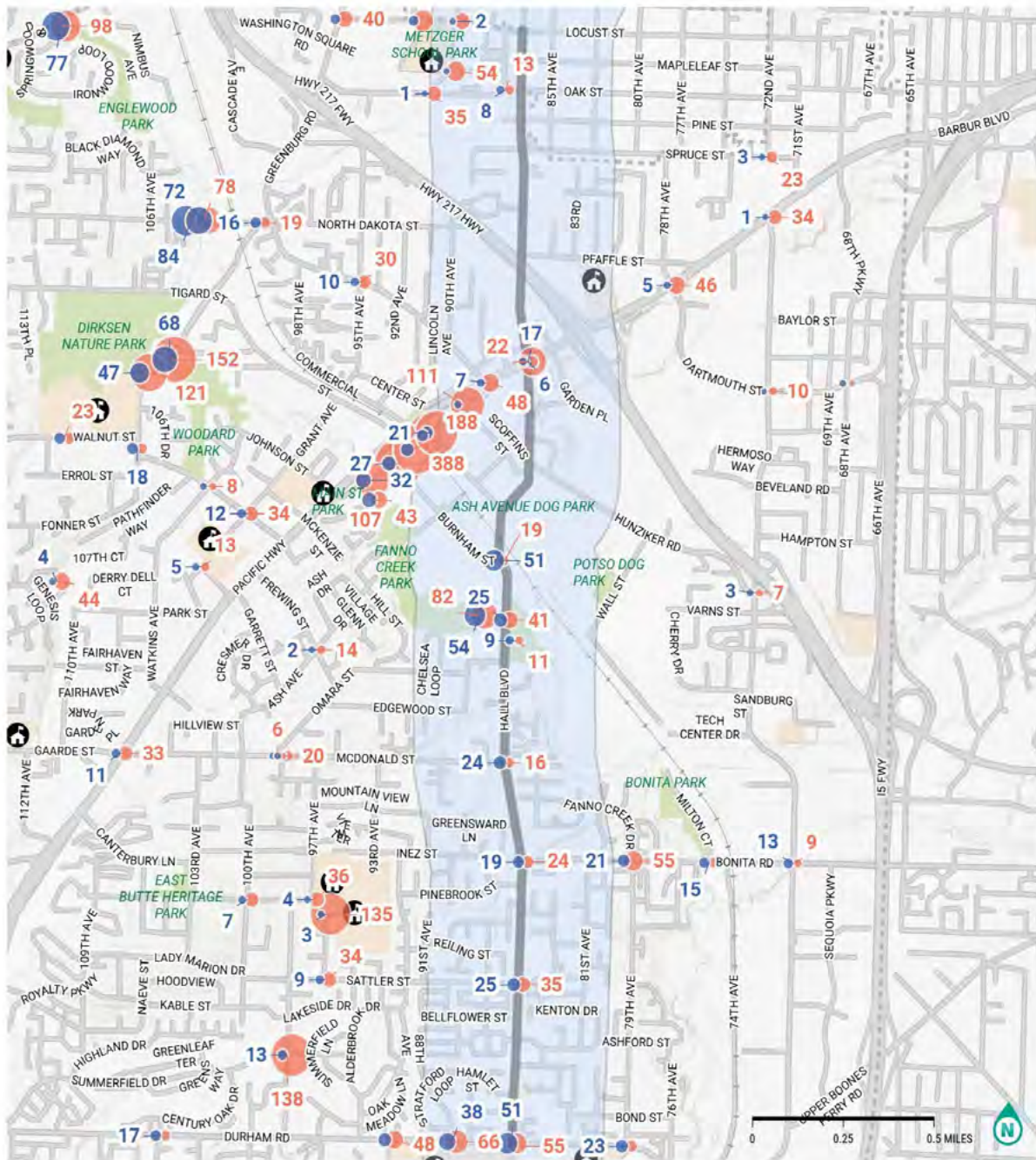


According to the most recent crash data from ODOT, there have been 8 vehicles that have crashed into pedestrians and bicyclists on Hall Boulevard between 2016-2020 (Map 11). These are only reported incidents, however. Contemporary research estimates that about half of bicycle and pedestrian involved crashes are actually reported.¹ Additionally, low bicycle and pedestrian crash rates do not necessarily indicate safer roadways; in some cases, unsafe roadways have low crash rates because people are discouraged from walking and biking along them.

One of the biggest factors in crash severity is speed. The Washington Square Regional Center plan calls for a speed reduction on Hall Boulevard from 40 to 35 between Pfaffle St and Locust St.

¹ A study of bicycle and pedestrian crashes in New York, California, and North Carolina found that only 43% to 67% of bicycle-motor vehicle crashes identified in hospital emergency data were identified in state crash data, while 45% to 68% of pedestrian-motor vehicle crashes were identified (Stutts & Hunter, 1999). A more recent study examining hospital records of traffic crash victims in New York City found similar results: only 50% of pedestrians and 45% of cyclist crash victims could be linked to police crash records, compared to 63% of drivers (Conderino et al., 2017). A study of bicycle-related injuries at San Francisco General Hospital found that, from 2000 to 2009, of 2,504 patients treated for bicycle-related injuries, 54.5% were not associated with a police report (Lopez et al., 2012). AASHTO Council on Active Transportation Research Roadmap (July 2021). <https://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-123-02AASHTOCATResearchReview.pdf>

Map 10

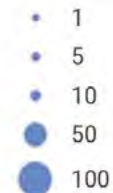


MOST RECENT BICYCLE AND PEDESTRIAN COUNTS

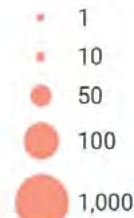
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CORRIDOR STUDY

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Bike Count



Pedestrian Count



Hall Boulevard Study Area



School



School Campus



Park



Railroad

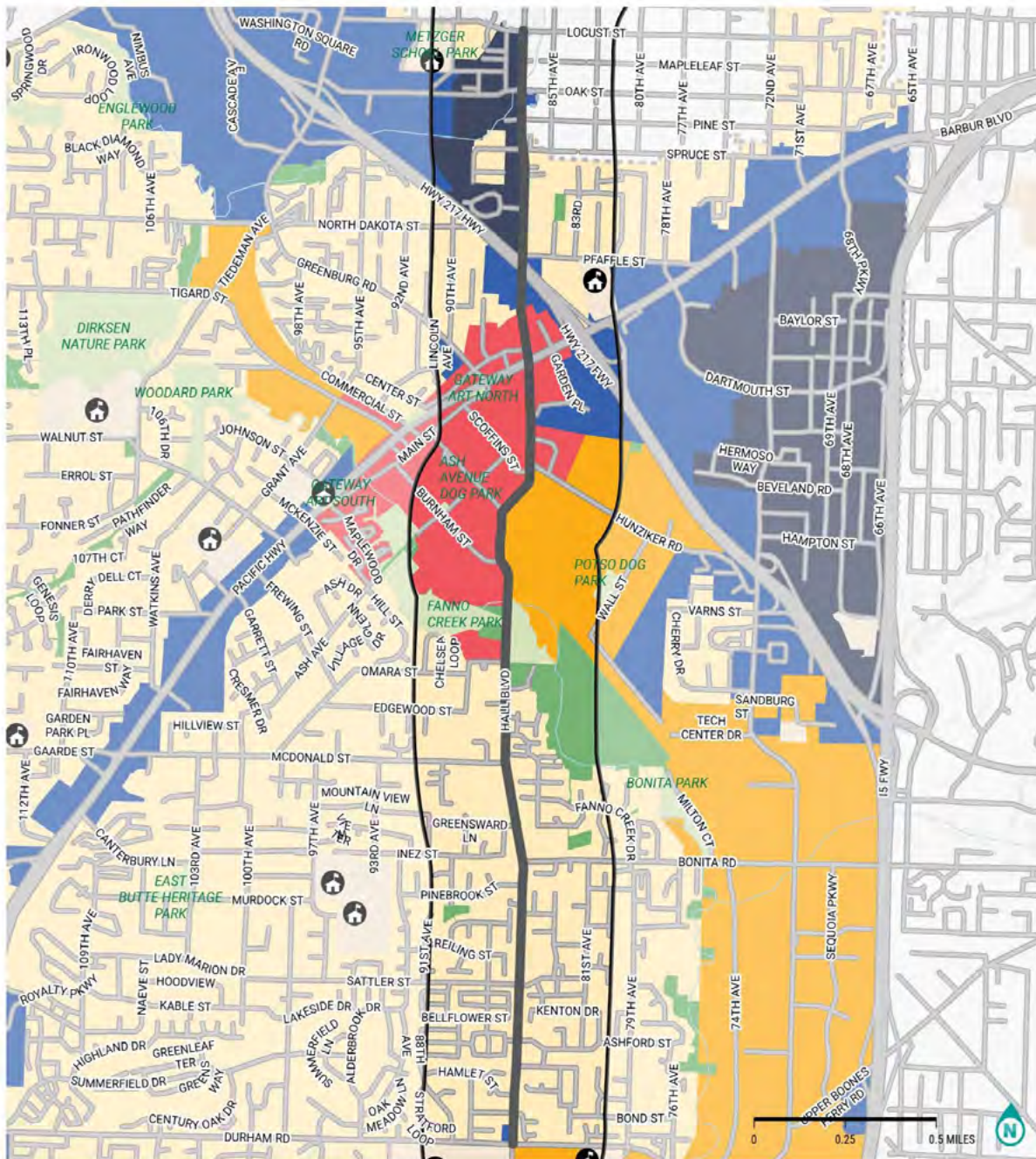


City of Tigard

Key Development Areas

One of Tigard’s strategic priorities is to create a well-connected pedestrian network that links all Tigard residents and businesses. The land use map on the following page demonstrates how Hall Boulevard connects residential areas to commercial areas, particularly those in the downtown core and the Tigard Triangle (Map 12). The changing land use throughout the corridor helps to break the project extent into three conceptual sections: North (Locust St to Hwy 99), Central (Hwy 99 to the Fanno Creek Trail), and South (Fanno Creek Trail to Durham Road). The juxtaposition of the industrial areas to the east of downtown to the downtown commercial district/the Fanno Creek recreational areas to the west and south contributes to mixing large trucks with people walking and biking in those areas. To the north, there is interest in potentially designating the mixed-use areas along Hall Boulevard an Oregon “Main Street” between Oak St and Locust St according to the Washington Square Regional Center Redevelopment Plan (2021).

Map 12



LAND USE CONTEXT

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Zoning Group

- Commercial
- Industrial
- Central Business District
- Parks and Recreation
- Residential
- Mixed Use / Tigard Triangle

Hall Boulevard Study Area

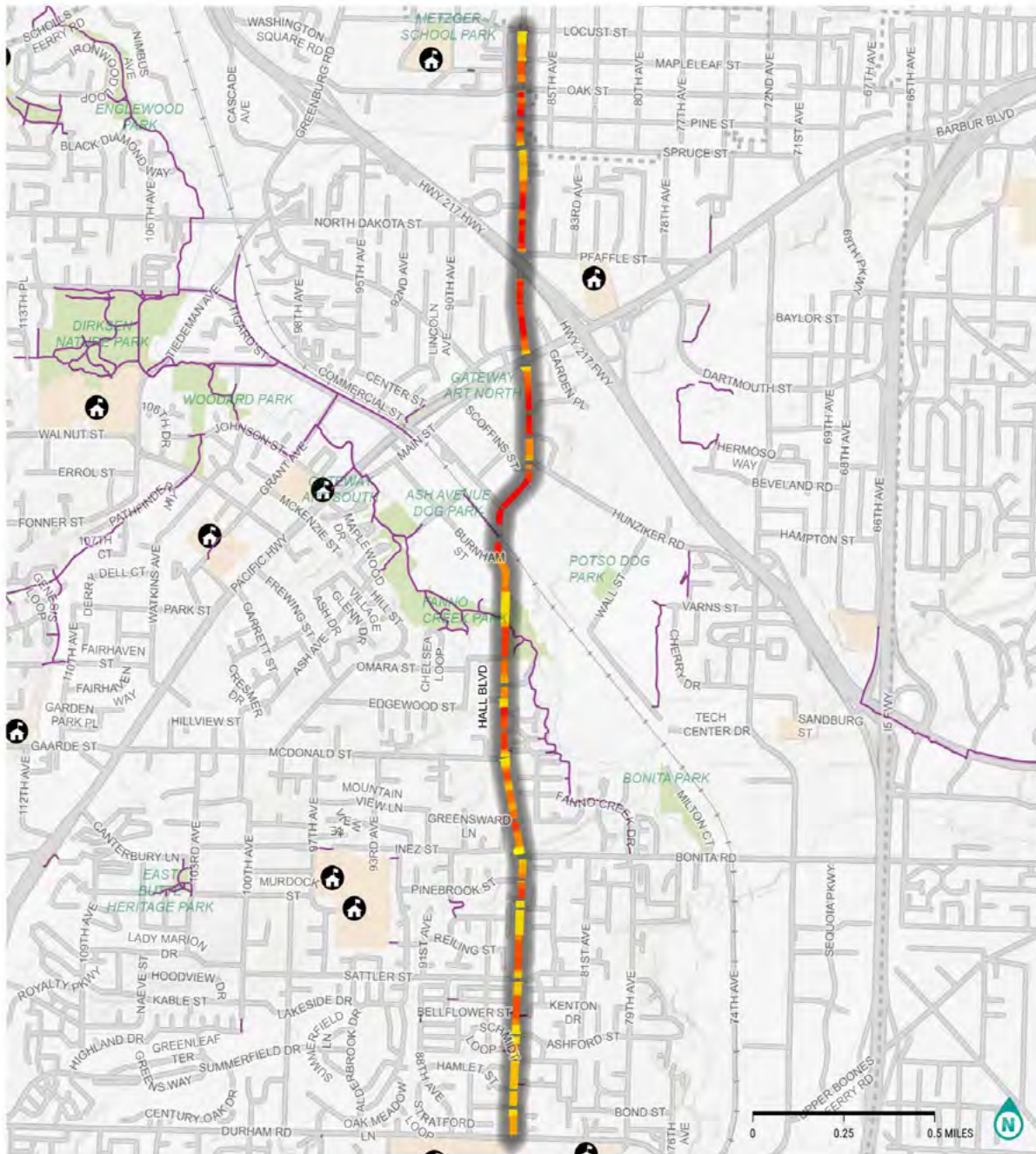
- School
- School Campus
- Park
- City of Tigard

Right-Of-Way

According to Murraysmith, the current right-of-way width along SW Hall Boulevard are a 100-foot width south of Pacific Highway/OR 99W, and a 76-foot width north of Pacific Highway/OR 99W. The vast majority of the street length (91 percent) does not meet current standards for right-of-way width. More than two-thirds of the street length (68 percent) has a right-of-way width that is significantly (more than 10 feet) less than the standard. More than half of the roadway length does not have enough right-of-way space to provide the basic facilities (such as sidewalks) that would be expected in an urban corridor such as this.

Map 13 shows the estimated widths of publicly owned right-of-way based on tax lot data, completed in ArcGIS. Note that these widths are not exact and have not been measured by a surveyor. The map is only intended to provide an approximation of the right-of-way along the Hall Boulevard corridor. (In addition, the gaps in the measurements are the product of the analytical process used to derive the widths, which does not measure at intersections.) The map shows how right-of-way availability varies considerably along the Hall Boulevard corridor. The most constrained areas along the corridor are shown in red. Generally speaking, the widths follow a similar pattern to the North-Central-South conceptual breakdown of the roadway. The central section near downtown is particularly narrow where Hall Boulevard curves and crosses the railroad.

Map 13

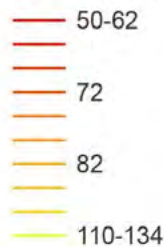


RIGHT-OF-WAY OPPORTUNITIES & CONSTRAINTS

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Right-Of-Way Width (Ft)



- Hall Boulevard
- Trails
- Railroad
- Publicly Owned ROW
- School
- School Campus
- Park
- City of Tigard

Opportunities and Constraints

The Hall Boulevard corridor is a critical connection in the City’s transportation system. It is heavily utilized by many different types of travelers, for different trip purposes, along a range of frontage and land use contexts. In examining the existing conditions of the roadway, it’s apparent that improvements are needed for Hall Boulevard to meet arterial standards. Among the many constraints that emerged in our analysis, many opportunities are also present that offer the potential for Hall Boulevard to be premier active transportation corridor within the city’s existing and planned networks.

Constraints

- Currently, the roadway lacks complete infrastructure for all users. Gaps remain in the sidewalk network, both in terms of missing segments and the provision of ADA accessible curb ramps. Most existing sidewalks are 6ft wide and do not have a landscaping strip separating the walkway from traffic, which reduces the level of comfort for people walking. More recently installed sidewalks, such as those between Langtree St and Ashford St, are 8 ft wide and are more comfortable. Sidewalks on the east side of Hall Boulevard between Ross St and Murdock St have landscaping strip separation but abruptly end before reaching the bus stop to the north.
- Improving sidewalk connections (and expanding the roadway footprint generally) may be more costly in areas with significant grade differences, such as the ditch north of Sattler St on the west side, and the low-lying areas around the Hall Boulevard/Bonita Rd intersection.
- Despite serving the frequent service Route 76, some bus stops along Hall Boulevard remain inaccessible to all users. These stops include the intersections of Murdock St and McDonald St (northbound).
- With the exception of the Fanno Creek Trail Crossing and the RRFB just north of Hwy 99, the only marked crosswalks exist at signalized intersections. The distances between these crosswalks range from roughly 900 ft (Wall St to the Fanno Creek Trail crossing) to well over a half mile (north of Hwy 99). The lack of crossings for people walking and biking limits the east-west connectivity of these networks at Hall Boulevard.
- A few intersections that already have marked crosswalks with signals have documented concerns regarding safety. These include the Fanno Creek Trail, Hwy 99, and Durham Rd.
- Hall Boulevard has complete bike lanes along the project extent, but these lanes are insufficient except for the strongest and most fearless of riders. The bike lanes range from 4-6 ft, buses mix with bike lanes at all stops, and there are three notable floating bike lanes that cross right turn pockets: the northbound approach of Hall Boulevard/Bonita Rd, the northbound approach of Hall Boulevard/Knoll Dr, the southbound approach of Hall Boulevard/Burnham St, and the northbound/southbound approach of Hall Boulevard/Hwy 99. Each of these conditions contribute to a less comfortable environment for people biking.
- Available right-of-way appears to be most constrained in the central section, between Hwy 99 and the Fanno Creek Trail. Proposed bikeway facility types may need to be different in this section than the North and South sections. Tradeoffs will be difficult here without expanding the available ROW because the downtown area is a critical area for transportation connections and should have some of the most robust facilities for all users.
- In addition to the more detailed constraints above, that the visioning project will need to account for the following factors that add complexity to Hall Boulevard:
 - The east-west traffic needs between McDonald St and Bonita Rd.

- The sensitive environmental context around Fanno Creek.
- The railway crossing between Burnham St and Commercial St.
- The offset skew of the Hunziker St-Scoffins St-Hall Boulevard intersection.
- The inter-jurisdictional nature of Hwy 99/Hall Boulevard and the Highway 217 Crossing. In these locations, the Hall Boulevard visioning project will likely need to focus less on design specifics and more on recommendations for ODOT.

Opportunities

- That Hall Boulevard connects parts of the city with distinct land use contexts is a strength of the corridor. Increasing multi-modal connectivity between residential areas and commercial districts would greatly improve the corridor's ability to serve different trip types and users as well as fulfill City goals. Hall Boulevard has the potential to connect people to parks, schools, the Tigard Public Library, City Hall, the WES commuter rail, the future SWC light rail, Washington Square, and the Tigard Triangle.
- The Hall Boulevard visioning project is highly relevant to the interests of downtown Tigard. Collaborating and coordinating with the ongoing Downtown Reimagined project presents an opportunity to improve public engagement.
- Completing sidewalks on both sides of Hall Boulevard is a significant opportunity for the city's pedestrian network, which designates Hall Boulevard as a major pedestrian corridor.
- One opportunity that Hall Boulevard presents is to build on a current strength of the corridor: inter-neighborhood biking and walking trips. Along Hall Boulevard, there are many neighborhood cut-through paths, which increase the east-west connectivity for people walking and biking. These paths could serve as natural locations for mid-block crossings between signalized intersections. Potential crosswalks could include those at: Bonaventure Ln, Ashford St, and Bellflower St.
- Other potential crosswalk improvements that emerged from the existing conditions analysis include the north leg of McDonald St/Hall Boulevard and the north leg of Omara St/Hall Boulevard.
- For the Fanno Creek Crossing, there are multiple opportunities to improve the safety for people walking and biking. One or more RRFs may be more effective than the existing pedestrian hybrid beacon. Depending on the bikeway design, curb extensions may be possible to reduce the crossing distance for pedestrians. There may also be space for a refuge island.
- The future bikeway along Hall Boulevard has the potential to create safe connections to other major links in the bicycle network. First, the future Fanno Creek trail extension on the southeast corner of Hall Boulevard/Durham Rd will need to be accommodated in the visioning plan. Durham Rd, Sattler St, Bonita Rd, McDonald St, Commercial St, Hunziker St, Oak St, and Locust St are all designated major street bikeways. Bike turn boxes and advanced queuing facilities should be considered at these intersections to help people riding bikes make turns to and from those corridors.
- For a high-traffic arterial like Hall Boulevard, bicycle facilities for people of all ages and abilities will need to be as protected and separated from traffic as possible. Some segments, like in the South section of the corridor, may have enough available right-of-way to install protected bike lanes through lane width reduction and elimination or reduction of center turn lanes. In more constrained areas, we may need to look for solutions that raise the bicycle facility's grade, potentially combining with walkways in a shared use path

design. Intersections such as McDonald St, Bonita Rd, Durham Rd, Oak St and Locust St in particular should be examined for their ability to accommodate a fully protected intersection.

- The section of Hall Boulevard between Langtree St and Ashford St is particularly wide. If the rest of the corridor isn't widened to match this width, then the extra space here could be repurposed into a more highly protected bikeway, stormwater catchment basin, or both.
- Several right turn pockets could be reevaluated as part of the Hall Boulevard visioning project. These include the northbound approach of Hall Boulevard/Bonita Rd, the northbound approach of Hall Boulevard/Knoll Dr, and the northbound/southbound approach of Hall Boulevard/Hwy 99. The most likely of these to be eliminated would be at Hall Boulevard/Knoll Dr.
- The most constrained area is the Central section between the Fanno Creek crossing and Hwy 99. Expanding right-of-way between Burnham St and the railroad may best come from the City's public works property.
- There is a significant amount of space on the Hwy 217 bridge that could be repurposed for more protected biking and walking facilities.



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