

City of Duvall

PRELIMINARY DRAFT 2024

Transportation Plan

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Chapter 1: Introduction

The City of Duvall's transportation system is essential to nearly every function of the community, from land use, housing, and employment to recreation and daily activities like shopping and attending school. The Transportation Plan (Plan) serves as a foundational document and companion to the Transportation Element of the City's Comprehensive Plan. This Plan will guide the City in advancing its multimodal transportation goals, addressing current needs, and supporting land use plans while aligning with the broader community vision.

Purpose & Intent

This Plan provides a strategic framework to guide the growth and development of the City's transportation infrastructure. It integrates land use planning with the transportation network to address current needs while ensuring that future developments are adequately served. The Plan also emphasizes creating a balanced, multimodal transportation system for both the City and its surrounding Urban Growth Area (UGA). Recognizing the regional nature of transportation, the plan underscores the importance for ongoing interagency collaboration.

This Plan is based on a 2023 study of Duvall's existing transportation network, combined with a 20-year projection (to 2044) of future growth and transportation needs. This document is organized into the following chapters:

- Goals and Policies
- Existing Transportation Services and Facilities
- Forecast Transportation Conditions
- Transportation Systems Plan
- Transportation Finance and Implementation Program
- Consistency with Other Agencies

As a companion document, the Transportation Plan implements the Transportation Element of the Comprehensive Plan. The Transportation Element sets the goal and policy framework for aligning transportation decisions with the City's long-term vision over the 20-year planning horizon. Building on these goals and policies, the Transportation Plan guides decisions to address both short- and long-term needs. It identifies existing system characteristics, sets level of service (LOS) standards, and highlights existing and future deficiencies based on land use projections to meet Growth Management Act (GMA) requirements. The Plan also addresses roadway mobility, accessibility, and improvements needed to enhance safety, bicycle and pedestrian travel, and public transit.

The purpose of the transportation master plan is to identify infrastructure needs for both motorized and non-motorized transportation to support the land use goals selected for the City; and to compile this information in one document in a comprehensive manner. The goal is to provide a safe, efficient, economical, and environmentally responsible transportation system for future growth and development. This plan and the policies and goals that are developed as a result will work in concert with the City's Comprehensive Plan. The Transportation Plan reflects the policy direction from the Planning Commission and City Council on how to plan for transportation.

Regulatory Setting

In 2023 the City Council commissioned an update of the Transportation Plan to replace the 2017 Transportation Plan (City of Duvall, 2016). This updated Plan addresses transportation needs, improvement projects, and funding sources to support the projected population and employment growth through the year 2044 in accordance with the City's Comprehensive Plan, as adopted on ~~December 7, 2021 (Resolution No. 21-17)~~ as amended.



21-17 adopted amendments to the CP. Are you looking for the resolution for growth targets? That is resolution 21-05

The following summarizes the regulatory setting and regional planning efforts that guided the development of the Transportation Plan.

Growth Management Act

The Transportation Plan satisfies the GMA requirements for long-range planning and to supplement information and implement goals and policies within the Transportation Element of the Comprehensive Plan. Under the GMA (RCW 36.70A.070), the Transportation Element is required to assess the needs of a community and determine how to provide appropriate transportation facilities for current and future residents, workers, and the traveling public. The Transportation Element, and this supplemental Transportation Plan, contain:

- Existing travel conditions and land use assumptions used in estimating future travel conditions
- Estimated travel impacts on state-owned transportation facilities
- Inventory of existing facilities
- Assessment of future facility needs to meet current and future demands
- Multi-year plan for financing proposed transportation improvements
- Forecasts of traffic for at least 10 years based on adopted land use plan
- Level of Service (LOS) standards for arterials, non-motorized facilities, and public transportation, including actions to bring deficient facilities into compliance
- Transportation Demand Management (TDM) strategies
- Identification of intergovernmental coordination efforts
- A pedestrian and bicycle component that includes collaborative efforts to identify and designate planned improvements for pedestrian and bicycle facilities and corridors that address and encourage enhanced community access and promote active transportation

Under the City's concurrency management policy, development may not occur if it will cause the performance of a transportation facility to decline below the City's adopted LOS standard unless existing infrastructure is in place or strategies to accommodate the impacts of the development are made within six years of its completion. Finally, the Plan must include a reassessment strategy to address how the Plan will respond to potential funding shortfalls.

The Washington State GMA requires that transportation improvements or strategies to accommodate development be available when the impacts of development occur. "Concurrency" for transportation facilities is defined in the GMA and the Washington Administrative Code (WAC) to mean that any needed transportation improvements or programs be in place at the time of development or that a financial commitment exists to complete the improvements or strategies within six years.¹

Puget Sound Regional Council

The Puget Sound Regional Council's (PSRC) *VISION 2050* was adopted in 2020 as the central Puget Sound region's long-range strategy for growth management, the environment, economic development, and transportation. *VISION 2050* replaces the previous *VISION 2040* document and includes Regional Growth Strategies to address congestion, ensure mobility, limit or mitigate environmental impacts, and direct funding. While *VISION 2050* builds on previous regional plans for King, Kitsap, Pierce, and Snohomish counties, it also introduces new provisions to guide and coordinate regional and local planning. Successful implementation of *VISION 2050* relies on successful implementation of local comprehensive plans.

¹ <https://www.psrc.org/our-work/adopted-level-service-standards-regionally-significant-state-highways>

KC CPP's were recently updated in 2024.

Countywide Planning Policies

The King County Countywide Planning Policies (CPPs) are a series of policies that address growth management issues in King County. Adopted in 2021 and updated in 2023, the CPPs provide a countywide vision to serve as a framework for local comprehensive plans. The CPPs require that local jurisdictions develop a balanced transportation plan consistent with *VISION 2050*. An essential component of the *Vision 2050* is an efficient transportation system that provides multiple options for moving people and goods into and among various centers. The CPPs promote a multimodal approach to serve existing and new development, with particular emphasis on transit and non-motorized modes to support land use plans. The overarching transportation goal is, “*the region is well served by an integrated, multimodal transportation system that supports the regional vision for growth, efficiently moves people and goods, and is environmentally and functionally sustainable over the long term.*”

Clean Air Act

The Transportation Element is also intended to foster compliance with the Washington State Clean Air Act and specific “conformity” requirements that implement the directives of the Federal Clean Air Act. Because air quality is a region wide issue, the City of Duvall’s Comprehensive Plan must support the efforts of state, regional, and local agencies as guided by WAC 173-420-080.²

Other City Policies and Plans

The projects and programs outlined in the Transportation Plan are guided by other City plans and requirements. Transportation infrastructure planning considers economic vitality, social interaction, and Duvall’s unique character, as highlighted in the Economic Development Element of the City’s Comprehensive Plan. Land Use goals, policies, and assumptions from the Comprehensive Plan, Duvall Municipal Code Unified Development Regulations (DMC Title 14), also play a key role in the planning process.

While aesthetics are sometimes seen as a relatively minor aspect of transportation projects, the City of Duvall emphasizes the importance of the natural and built environment, and the incorporation of arts and culture within its projects. Combined with sound engineering, these elements contribute to livable streets that are functional and accessible to all users. Features such as landscaping, street trees, streetscape materials, parks, trails, wayfinding signage, effective lighting, safety features, parking, and street furniture – all installed in accordance with DMC Title 14, Public Works Development Design Standards (DDS), and other City guidelines – help create complete streets for everyone.

² <https://app.leg.wa.gov/WAC/default.aspx/default.aspx?cite=173-420-080>

Chapter 2: Goals & Policies

The City has identified a range of goals and policies to implement the Transportation Plan efficiently and effectively. Detailed goals and policies are outlined in the Transportation Element of the Comprehensive Plan. The transportation goals and policies are organized around the foundational principles of the Duvall Comprehensive Plan including:

- **Equity:** Enable quality, diverse, and efficient residential growth, with an emphasis on homeownership and affordability.
- **Economic Stability and Vibrancy:** Create opportunities for economic stability, vibrancy, sustainability, and resilience.
- **Climate Adaptation and Resiliency:** Develop achievable plans to address climate adaptation and community resilience.
- **Neighborhoods and Connectivity:** Prioritize place-making and neighborhood connectivity.
- **Healthy Active Lifestyles:** Develop recreational and park opportunities for the protection of the quality of life for our residents.

The Transportation Element emphasizes the importance of pedestrians and bicycles, prioritizing the development of multimodal transportation-related improvements and policies. The goal is to balance vehicle traffic needs with the community's need for a safe and comfortable active transportation environment. To achieve this the City must collaborate with other transportation service providers to plan, design, fund, and implement transportation projects and programs that serve the community. The goals and policies outlined in the Transportation Element provide a framework for decision making, guiding City leaders in securing and allocating funding, evaluating new land use development applications, and aligning transportation efforts with other City planning objectives.

Chapter 3: Existing Transportation Services and Facilities

Assessing existing transportation services and facilities is important to identify transportation issues and needs. An updated inventory of these facilities serves as a reference point for evaluating operations and highlights areas where needs exist. This inventory covers the following topics:

- Roadway System
- Complete Streets
- Active Transportation
- Transit Service
- Freight Mobility
- Air Services

Roadway System

The roadway system provides the backbone for travel in and around the City of Duvall. The roadways serve travelers in automobiles, people moving freight, pedestrians, bicyclists, and transit users. The study area is shown in Figure 3-1.

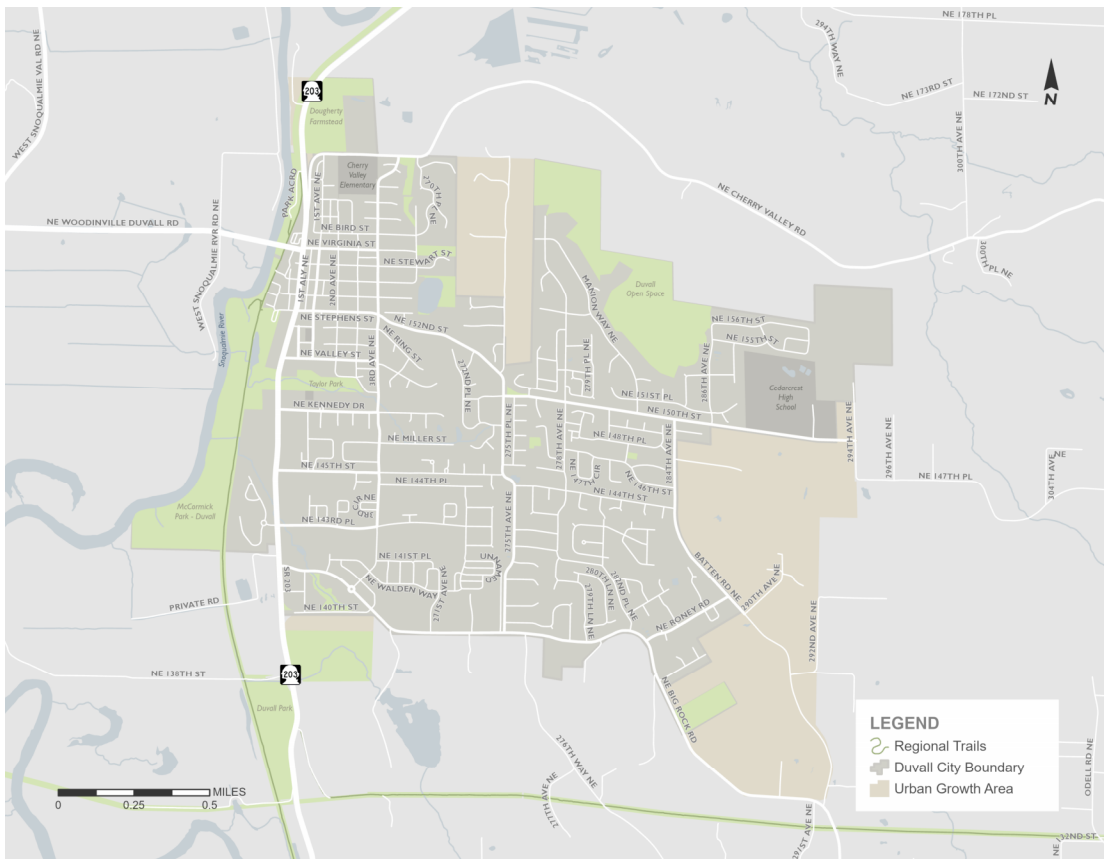


Figure 3-1 Study Area

Maybe this is where we add a jurisdictional map for local context or we can add to the legend of 3-1 (light gray is King County). Open to suggestions/thoughts.

Level of Service Standards

Level of Service (LOS) is a key metric used to evaluate the performance of transportation facilities, particularly intersections. It reflects the quality of traffic flow and user experience, with categories ranging from “A” (optimal conditions) to “F” (severe congestion).

The City of Duvall has established minimum LOS standards for various types of roadways, applying to both signalized and unsignalized intersections. While the City typically assesses LOS during PM peak traffic hours, it may also consider other time periods as needed.

Further details on LOS standards and related criteria can be found in Chapter 5.

Existing Conditions

During this update, November 2023, the performance of 29 key intersections within the City were evaluated to determine existing traffic operations during typical peak hours.

Overall, the findings indicated that all intersections met or exceeded the established LOS standards. Most intersections maintained a similar performance compared to previous evaluations. Notable changes included adjustments to signal timing to enhance pedestrian safety, which affected vehicle delays at certain intersections. Additionally, some intersections experience improved performance due to shifts in traffic patterns.

The performance of twenty-nine (29) key intersections within the City were evaluated in November of 2023 to determine existing traffic operations during typical peak hours.

Table 3-1 Existing Conditions Summary

Intersection	Control Type	LOS	2015 PM Peak Hour		2023 PM Peak Hour	
			LOS ¹	Delay ²	LOS	Delay
3rd Avenue NE & NE Cherry Valley Road	TWSC	C	N/A	N/A	A	10
Main Street (SR 203) & NE Cherry Valley Road	TWSC	D	C	20	C	24
Main Street (SR 203) & NE Woodinville-Duvall Road	Signal	D	C	29	D	52
Main Street (SR 203) & NE Stewart St	TWSC	D	N/A	N/A	C	23
Main Street (SR 203) & NE Stella Street	TWSC	D	C	19	C	20
1st Avenue NE & NE Stella Street	TWSC	C	N/A	N/A	A	10
Main Street (SR 203) & NE Stephens Street	Signal	D	B	10	B	16
1st Avenue NE & NE Stephens Street	TWSC	C	N/A	N/A	B	12
3rd Avenue NE & NE Stephens Street	AWSC	C	B	12	A	9
275th Avenue NE & Bruett Road	TWSC	C	N/A	N/A	B	11
275th Avenue NE & NE 150th Street	TWSC	C	C	18	C	18
278th Avenue NE & NE 150th Street	TWSC	C	B	12	B	13
284th Avenue NE & NE 150th Street	TWSC	C	N/A	N/A	A	8
286th Avenue NE & NE 150th Street	TWSC	C	A	9	A	9
Main Street (SR 203) & NE Kennedy Drive	TWSC	D	C	23	C	16
3rd Avenue NE & NE Kennedy Drive	AWSC	C	A	7	A	8
Main Street (SR 203) & NE 145th Street	TWSC	D	D	33	C	25
3rd Avenue NE & NE 145th Street	TWSC	C	N/A	N/A	B	11
275th Avenue NE & NE 145th Street	TWSC	C	B	12	B	11
278th Avenue NE & NE 144th Street	AWSC	C	A	7	A	7
284th Avenue NE & NE 144th Street	TWSC	C	N/A	N/A	A	9
Main Street (SR 203) & NE 143rd Place	TWSC	D	E	40	D	31
3rd Avenue NE & NE 143rd Place	AWSC	C	A	9	A	8
Main Street (SR 203) & NE Big Rock Road	Signal	D	B	14	B	16
3rd Avenue NE & NE Big Rock Road	RAB	C	N/A	N/A	A	5
271st Avenue NE & NE Big Rock Road	TWSC	C	N/A	N/A	B	10
275th Avenue NE & NE Big Rock Road	TWSC	C	B	11	B	11
282nd Place NE & NE Big Rock Road	TWSC	C	N/A	N/A	B	11
Batten Road NE & NE Roney Road	TWSC	C	N/A	N/A	A	9

Note: Signal = Signalized intersection; AWSC = All-Way Stop Controlled intersection; TWSC = Two-Way Stop Controlled intersection; RAB = roundabout.

1. Level of Service (A – F) as defined by the 7th Edition *Highway Capacity Manual* (HCM), Transportation Research Board.

2. Average delay in seconds per vehicle.

Traffic Volumes

Traffic counts were also collected at several intersections on State Highways, County facilities, and City roadways in November 2023. Midweek daily traffic volumes were collected along Main Street (SR 203), 3rd Avenue NE, NE 150th Street, and NE Big Rock Road in November 2023.



Approximately 11,500 vehicles per day (vpd) travel on Main Street (SR 203) which is a decrease from the previous 2014 volumes of 14,000 vpd and 12,000 vpd collected in 2008. Data collected in 2024 from the WSDOT showed an average weekday daily traffic volume of 13,700 vpd, an increase over 2023 but still lower than the 2014 volumes. Historic daily vehicle volumes are summarized on Figure 3-2.

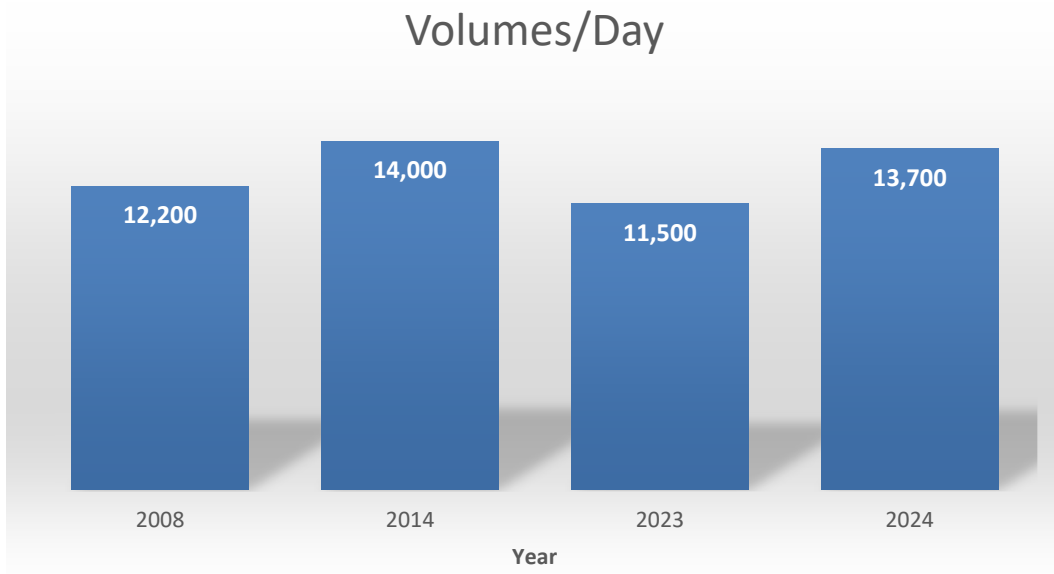


Figure 3-2 Historic Daily Vehicle Volumes

Daily truck classification counts show truck traffic represents approximately 7 percent of daily traffic on Main Street (SR 203), 3rd Avenue NE, NE 150th Street, and NE Big Rock Road. Figure 3-3 depicts existing average daily traffic volumes.



Figure 3-3 Existing Average Daily Traffic Volumes

Traffic Safety

Collision records for the five-year period between 2018 and 2022 as reported throughout the City provide an indicator of traffic safety. Historical safety data were obtained from WSDOT for the period of January 1, 2018, to December 31, 2022. Reviewing collision history provides an opportunity to identify if there are any potential safety issues for vehicles, pedestrians, and cyclists. Figure 3-4 illustrates that the number of collisions remained steady over most of the five-year period with drops in 2020 and 2021. Additionally, the number of fatal or serious collisions has decreased, remaining at zero reported fatal or serious collisions in 2020, 2021, and 2022.

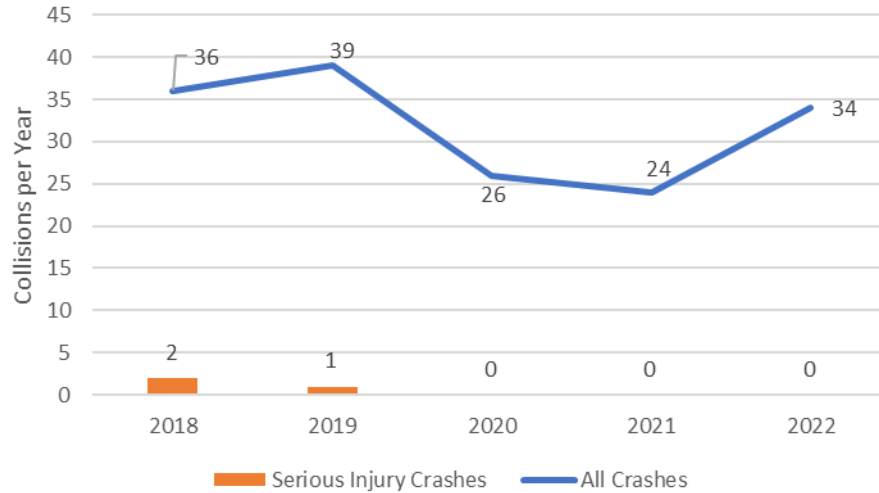


Figure 3-4 Five-Year Summary of Duvall Collisions

Over the five-year period, there were no reported fatalities and three collisions resulting in serious injury. Of these serious injury crashes, one involved a speeding motorcycle, another occurred when a bicyclist collided with a vehicle due to inattention, and the third involved a vehicle making a left-turn at a side-street stop-controlled intersection.

Crash rates were analyzed to identify the average frequency of collisions based on the number of vehicles passing through the study intersections. The standard measure used is the number of crashes per million entering vehicles (MEV). Intersections with fewer than one collision per year or an MEV below 1.0 were excluded from the summary tables due to the limited data available to identify crash patterns. Table 3-2 summarizes the collisions at the five intersections that averaged one or more collisions per year; none of these intersections had an MEV exceeding 1.0.

Table 3-2 Five-Year Collision Summary – 2018 to 2022

Intersection	Existing Traffic Control	Number of Collisions					Total	Annual Average	Collisions per MEV ¹
		2018	2019	2020	2021	2022			
Main Street (SR 203) & NE Cherry Valley Road	TWSC	2	2	2	3	0	9	1.8	0.45
Main Street (SR 203) & NE Woodinville-Duvall Road	Signal	4	2	3	0	2	11	2.2	0.38
Main Street (SR 203) & NE Stephens Street	Signal	2	0	3	1	0	6	1.2	0.26
275th Avenue NE & NE 150th Street	TWSC	0	2	1	2	1	6	1.2	0.53
Main Street (SR 203) & NE Big Rock Road	Signal	2	0	1	1	1	5	1.0	0.19

Source: WSDOT (2023)

Note: TWSC = two-way stop-controlled, AWSC = all-way stop-controlled, RAB = roundabout

1. Observed crash rate per MEV is the average number of crashes in the 5-year period divided by total number of million entering vehicles for the intersection. Crashes per Million Entering Vehicles (MEV).

As shown in Table 3-2, none of the intersections had an MEV over 1.0, though five had an annual average of more than one collision. Most collisions occurred along Main Street, between NE Woodinville-Duvall Road and NE Valley Street, with roughly 40 percent being angle type collisions, which typically occur when one vehicle is turning left while the other continues straight. Notably, three pedestrian or bicyclist collisions were reported during the five-year period, two of which took place at intersections along Main Street.



Considering traffic volume, the collision rate per MEV provides a standardized measure for evaluating accident history. Generally, intersections with a rate greater than 1.0 MEV warrant further evaluation. As shown in Table 3-2, all studied intersections had crash rates within the standards set by the *Highway Safety Manual*. Figure 3-5 provides a summary of citywide collisions over the 2018 to 2022 study period, during which no potential safety issues were identified.

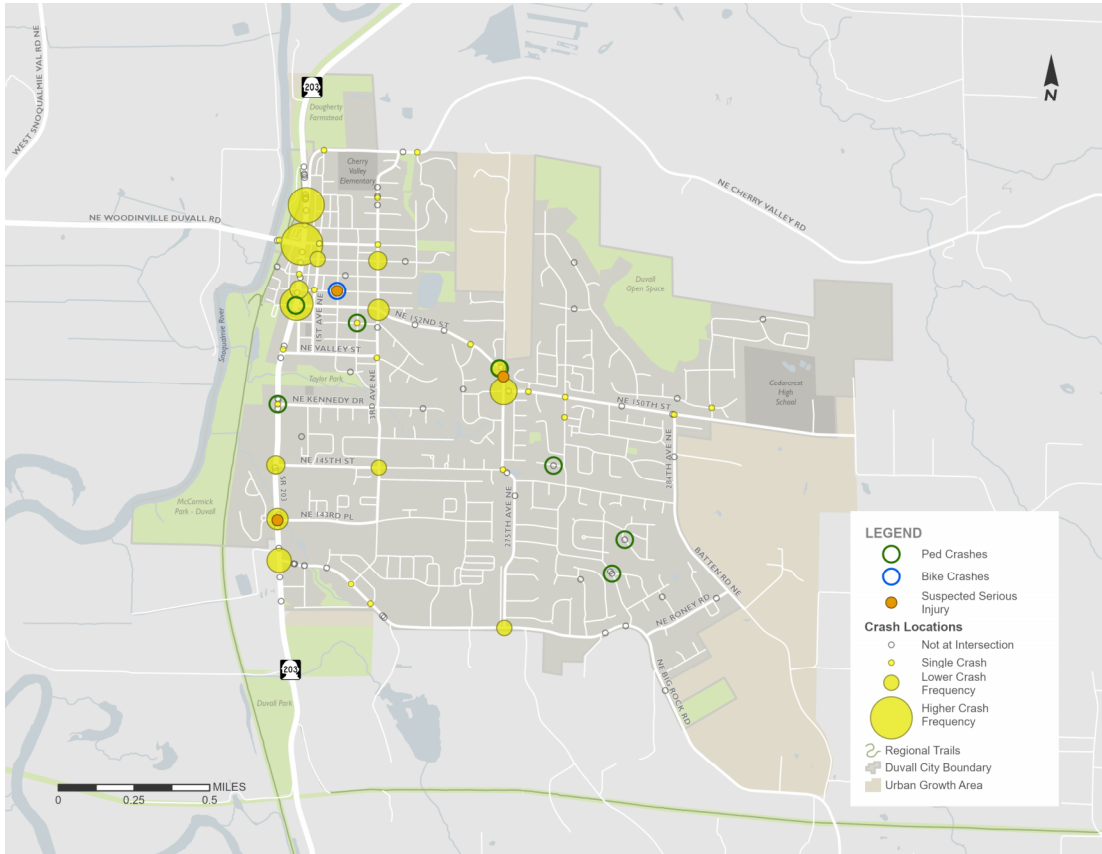


Figure 3-5 Collision Summary 2018-2022

Complete Streets

The City’s Complete Streets Policy (Ordinance 1200, adopted September 20, 2016)³ establishes goals, principles, and practices to create a transportation system that enhances access, mobility, and health for all users. The policy: 1) applies to transportation planning and projects; 2) encourages collaboration between public, private, non-profit organizations; 3) supports various enhancements, including non-motorized improvements and aesthetics features; and 4) must be considered in the development of plans, policies, codes, and standards. Projects may only exclude components of the Complete Streets Policy with approval from the Public Works Director and City Administration.

³ <https://www.duvallwa.gov/DocumentCenter/View/3345/Ord-1200-Complete-Streets>

Active Transportation

The “active,” non-motorized or multimodal, transportation network consists of facilities that enable residents and visitors to engage in active modes of transportation and recreational activities in Duvall. The City’s active transportation facilities include bike lanes, multi-use trails, sidewalks, crosswalks, and equestrian trails, as shown in Figure 3-6. A well-developed active transportation system promotes healthy recreation, can potentially reduce vehicle demand on City roads, enhances safety, and can provide convenient access to and from transit stops via pedestrian and bicycle facilities.

The City’s non-motorized facilities are primarily located along arterials with sidewalks existing on one or both sides of the roadways. Currently, bicycle lanes are primarily provided along Main Street, 275th Avenue NE south of NE 152nd Street, NE Stephens Street between Main Street and 3rd Place NE, and portions of NE Big Rock Road.

The City of Duvall DDS and Unified Development Regulations (UDR) set specific standards for the development of pedestrian and bicycle facilities. These standards specify that concrete sidewalks are required on both sides of most roadways with a minimum width of 5-feet in residential areas, and 8-12 feet in commercial districts. The City also promotes roadway connectivity by limiting cul-de-sacs and encouraging commercial developers to design new facilities that are pedestrian- and bicyclist-friendly.

Duvall’s trail network continues to be developed, providing local and regional connections for recreation, commuting, and general travel. The City’s trail classification is designed around a tiered network comprising four primary trail categories: Regional, Connector, Park/Local, and Water trails.

- Regional trails are designed for high-intensity use and typically feature wider paths, durable surfaces, and incorporate support facilities (restrooms, seating areas, etc.)
- Connector trails are designed for moderate to high usage and typically feature moderate widths, varied surfaces, and incorporate basic facilities (benches, directional signage, etc.)
- Park/Local trails are designed for lower intensity use within parks, neighborhoods, and community areas, featuring narrower widths, soft or natural surfaces, and minimal facilities (benches, waste disposal stations, etc.)
- Water trails are designated routes on navigable water bodies such as rivers, lakes, and coastal areas typically featuring launch sites, safety & navigations, and access to support facilities (picnic spots, campsite access, etc.)

Regional trails include the Snoqualmie Valley Trail and the Tolt Pipeline Trail. Additional information on the City’s trail networks are provided in the parks, trails, and open space plan (PTOS).⁴

The Americans with Disabilities Act (ADA) mandates that all new public, commercial, and institutional facilities meet specific standards for physical accessibility. Accessible routes are designed to accommodate a wide range of users including those who are blind, use wheelchairs, push strollers or carts, or have injuries. The City of Duvall has an ADA Transition Plan that identifies barriers within the right-of-way and outlines a schedule for projects to help the City comply with Title II of the ADA. The City plans to maintain and update the ADA Transition Plan periodically and include evaluation and inventories of facilities and parks.

School safety is a top priority for parents, students, the Riverview School District, and the City. The City will encourage the school district to maintain safe walking routes to Cherry Valley Elementary and Cedarcrest High, considering factors such as the presence of sidewalks or

⁴ https://duvallwa.gov/DocumentCenter/View/11412/DRAFT_ParksTrails-and-Open-Space-Plan



walking paths, safety on neighborhood streets, availability of safe street crossings, and local traffic conditions. These routes should be designated as part of the “Safe Routes to School” program. The City can then prioritize improvements or fills gaps in sidewalks along these routes to enhance accessibility and ensure safe travel for students.

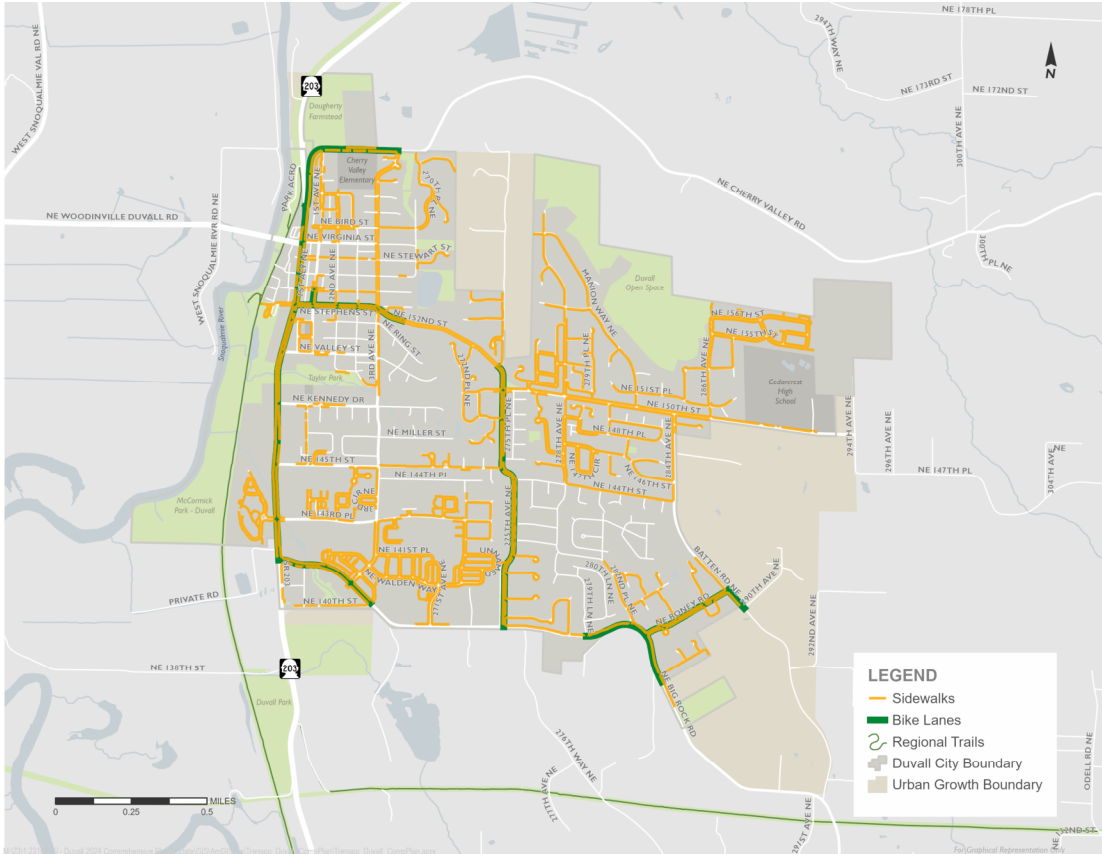


Figure 3-6 Existing Non-Motorized Network

Transit Services

The City does not own or operate transit vehicles or facilities. King County Metro and Snoqualmie Valley Transportation (SVT) provide transit service to the City of Duvall. Transit is currently limited to weekday service and primarily focused on commuter services.

King County Metro Route 224 provides peak period commute service from Duvall to the Redmond Transit Center. The route also provides a connection to Redmond Ridge and serves the Duvall Park and Ride, which has 49 spaces.

SVT is a non-profit project of the Mt. Si Senior Center and the Snoqualmie Tribal Nation. SVT provides three primary types of transit service described as follows:

- **Regular shuttle routes** – Fixed route service provided from North Bend to Duvall (through Snoqualmie, Fall City, and Carnation) every 90 minutes. Service is provided from 5:30 a.m. to 9:15 p.m. Monday through Friday.
- **Door-to-door routes** – On-demand door-to-door transportation services provided Monday through Friday from 6 a.m. to 7 p.m. for anyone age 10 and over within the Snoqualmie Valley. Services must be scheduled at least 24 hours in advance.

- **Senior ride program** – Volunteer program to transport persons aged 60 or older to medical appointments.

Table 3-3 summarizes the routes in Duvall served by King County Metro and SVT and the stop locations and routes are shown on Figure 3-6.

In addition to the services described above, the Microsoft Corporation “Connector” bus service provides private transit services for the large Microsoft employee population within Duvall. Currently, the Connector provides daily service during weekdays at various pick-up and drop-off times along Cherry Valley Road at the Holy Innocents Church.

Table 3-3 Existing Weekday Transit Service

Route No.	Service Area	Service	Number of Buses	Frequency (Peak)	Frequency (Midday)
224	Duvall to Redmond TC	4:54 a.m. – 11:25 a.m. 1:04 p.m. – 7:55 p.m.	5 - AM 5 - PM	90-100 minutes	N/A
Valley Shuttle (SVT)	Duvall to North Bend	6:20 a.m. – 7:55 p.m.	4 - AM 5 - PM	100 minutes	120 minutes
Duvall-Monroe Shuttle (SVT)	Duvall to Monroe	8:00 a.m. – 2:30 p.m.	4 - AM 2 - PM	105 minutes	115 minutes

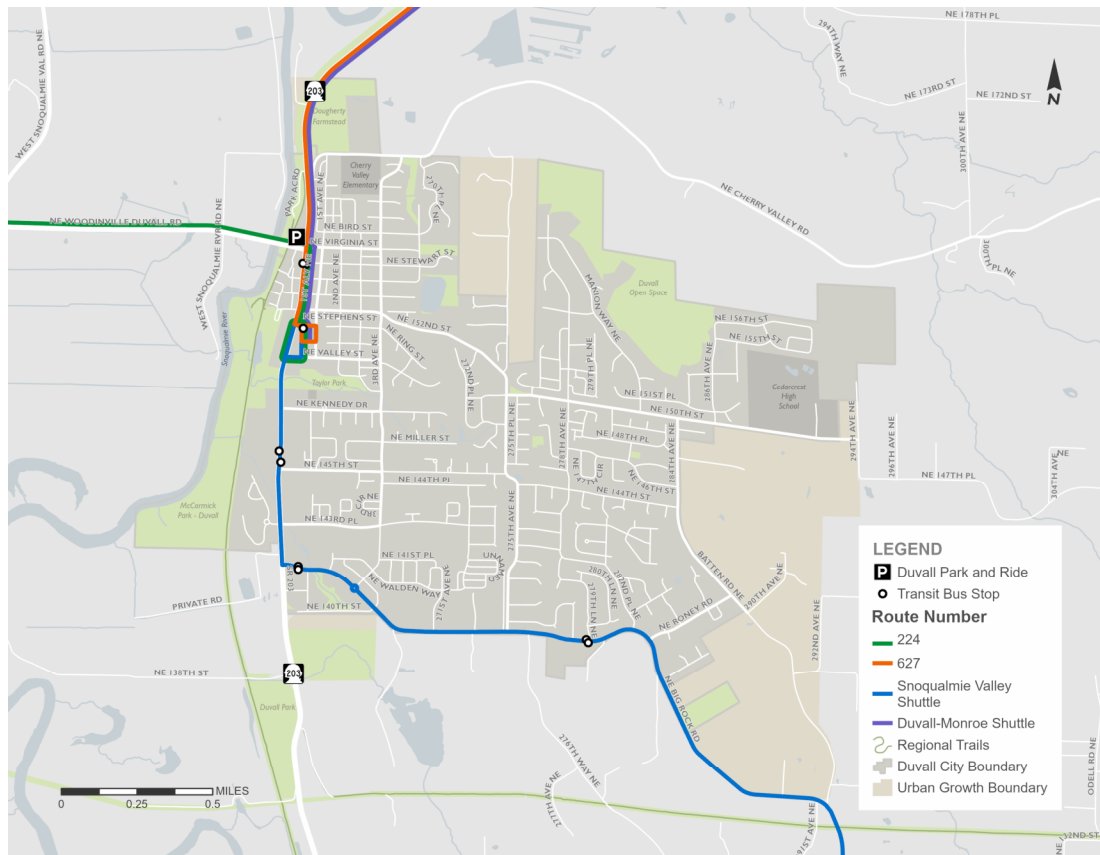


Figure 3-7 Existing Transit Service

Freight Mobility

Freight movement is a major issue for the City of Duvall. Trucks from as far away as British Columbia, Canada and eastern Washington use Main Street (SR 203) to bypass congestion on I-5, I-405, and SR 522. The Washington State Freight and Goods Transportation System (FGTS) classifies state highways, county roads, and city streets according to average annual gross truck tonnage they carry (per RCW 47.05.021). The FGTS is primarily used to establish funding eligibility for the Freight Mobility Strategic Investment Board (FMSIB) grants. In addition, it also supports HSS designations, pavement upgrades, traffic congestion management, and other State investment decisions.

The FGTS classifies roadways using five freight tonnage classifications, T-1 through T-5. Routes classified as T-1 and T-2 are considered strategic freight corridors and are given priority for receiving FMSIB funding. The classifications are as follows:

- **T-1:** Over 10 million annual gross tonnage (over approximately 800 trucks per day)
- **T-2:** 4 million to 10 million annual gross tonnage (approximately 320 to 800 trucks per day)
- **T-3:** 300,000 to 4 million annual gross tonnage (approximately 24 to 320 trucks per day)
- **T-4:** 100,000 to 300,000 annual gross tonnage (approximately 8 to 24 trucks per day)
- **T-5:** Over 20,000 gross tonnage in a 60 day period

Within the City of Duvall vicinity, the following roadways are classified as T-2 and T-3 facilities:

- **T-2**
 - Woodinville-Duvall Road (west of the Snoqualmie River)
- **T-3**
 - Main Street (SR 203)
 - NE Cherry Valley Road
 - NE Woodinville-Duvall Road (east of the Snoqualmie River)
 - NE Big Rock Road

Of these facilities, Main Street (SR 203) carries the most tonnage with an average of approximately 960 trucks per day. Within Duvall, Main Street, NE Big Rock Road, NE Stephens Street, Bruett Road (NE 152nd Street), portions of 3rd Avenue NE, and NE Cherry Valley Road see the highest truck volumes. The existing freight network is shown on Figure 3-8.

Primary issues related to truck traffic include (1) pedestrian safety concerns; (2) noise and vibrations; (3) the configuration of the Woodinville-Duvall Bridge at Main Street; and (4) the alignment of the intersection of NE Cherry Valley Road/Main Street. The geometry of these intersections, along with truck turning characteristics, often result in trucks avoiding Cherry Valley Road and utilizing alternate routes like 3rd Avenue NE, NE Virginia Street, and NE Stephens Street.

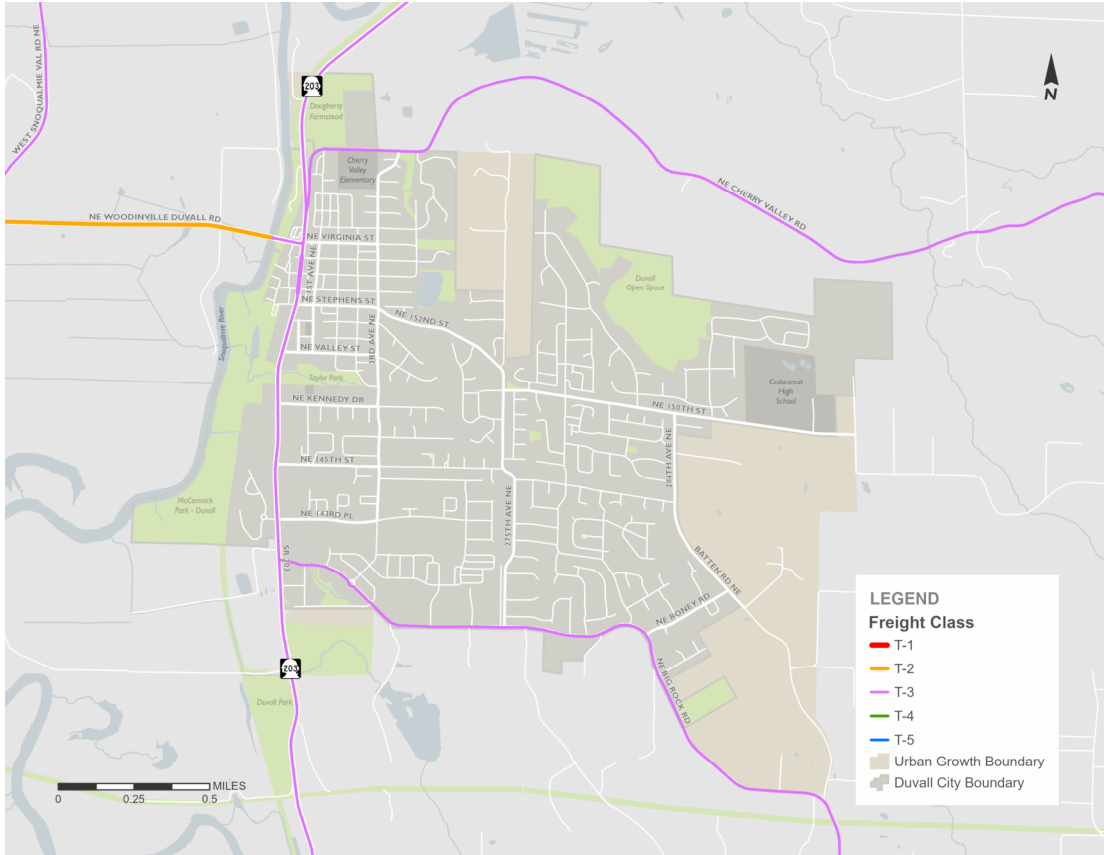


Figure 3-8 Existing Freight Network

Air Services

The City of Duvall does not have freight or passenger airplane facilities within or adjacent to the City limits. The nearest airport facility is a general aviation facility in Monroe, located approximately 15 miles north of Duvall. King County International Airport (Boeing Field) located approximately 25 miles southwest of Duvall and is the closest facility providing national and international airfreight services. Paine Field Airport, located 25 miles to the northwest, is the closest facility providing regional passenger service while Seattle-Tacoma (SeaTac) International Airport (approximately 35 miles to the southwest) is the closest facility with regional, national, and international passenger services.

Chapter 4: Forecast Transportation Conditions

This Plan is developed based on the evaluation of the existing transportation system and future transportation system needs based on planned future growth. Planned future growth uses the horizon year 2044, consistent with the GMA requirement of at least ten years and aligning with growth targets addressed in the City’s Comprehensive Plan. The year 2044 provides a long-range look at the transportation system needed to support anticipated growth in the City. Travel forecasts and analyses have been conducted for average weekday conditions during the PM peak hour, which typically experiences the highest overall traffic volumes in the community. This data serves as a foundation for identifying capacity-related improvement needs.

Travel Forecast Model

Primary analyses of the 2044 traffic forecasts were initially based on the following travel forecasting assumptions:

- Improvement projects identified in Duvall’s current six-year Transportation Improvement Program (TIP)
- Improvement projects in available transportation plans from adjacent jurisdictions
- PSRC’s Transportation VISION 2050 Update Regional Capacity Projects List (as of May 2022)
- WSDOT’s 2024-2027 Statewide Transportation Improvement Program (STIP)
- Duvall’s forecast land use data (employment and housing)
- PSRC 2050 Land Use Targets forecasts and regional trip end data from the 2050 regional travel demand model.

Travel forecasts were developed using Duvall’s travel demand model, which projects future traffic based on land use assumptions and planned improvements. These forecasts form the technical basis for identifying transportation improvement projects.

The Plan evaluates the current transportation system and identifies operational, safety, and alternative transportation mode (active transportation) deficiencies. Future conditions analysis assesses long-term transportation needs based on **projected** in Duvall and the surrounding communities.

The travel demand model, updated to reflect 2023 conditions, was used to prepare forecasts for 2044, incorporating both local and regional traffic growth assumptions.

Land Use

The 2044 household and employment data represent growth forecast for the City. For Duvall, the household and employment growth totals reflect the land-use forecast described in the Comprehensive Plan. The projected growth allocated to Duvall is summarized in Table 4-1.

Table 4-1 City of Duvall Land Use

Land Use Type	2018 ¹	2023 ²	Future 2044	2044 Model	2044 Growth Targets ¹
Housing Units	2,702	3,189	3,592	3,795	+890
Jobs	1,483	1,752	2,743	2,361	+990

¹ King County Urban Growth Capacity Report, June 2018.

² Updated 2018 to account for growth between 2020 and 2023 (model existing conditions).

update tables email sent to nicole with updates 12/12.



Future Baseline Transportation Network

As a part of forecasting 2044 conditions, transportation improvements that are anticipated to be completed before 2044 that could impact capacity and/or travel patterns are included in this analysis. These planned improvements include the widening or re-channelization of several roadways, construction of new roadways, realignment of one intersection and the addition of two traffic signals. In addition to these improvements, it was assumed that agencies perform regular traffic signal maintenance and timing updates. Improvements assumed for the 2044 analysis are summarized below.

- **1st Avenue NE from NE 145th Street to NE 143rd Place** – Construct new collector arterial segment including acquisition of right-of-way, road, parking, curb, gutter, sidewalk, and storm drainage system.
- **2nd Avenue NE from NE 143rd Place to NE Big Rock Road** – Construct new collector arterial segment including acquisition of right-of-way, road, parking, curb, gutter, and sidewalk.
- **1st Avenue NE from Valley Street to Virginia Street** – Reconstruct to collector arterial standards including two travel lanes, on-street parking, sidewalks, and curb bulbs.

Forecast Traffic Volumes

The weekday PM peak hour traffic forecasts and average annual growth rate under forecast 2044 conditions are summarized in Table 4-2.

Table 4-2 Weekday PM Peak Hour Traffic Volumes

Intersection	2023 Existing PM Peak Volumes	Forecast 2044 Baseline	
		PM Peak Volumes	Average Annual Growth
3rd Avenue NE & NE Cherry Valley Road	380	420	0.5%
Main Street (SR 203) & NE Cherry Valley Road	1,105	1,490	1.4%
Main Street (SR 203) & NE Woodinville-Duvall Road	1,585	2,195	1.5%
Main Street (SR 203) & NE Stewart St	1,135	1,490	1.2%
Main Street (SR 203) & NE Stella Street	1,155	1,405	0.9%
1st Avenue NE & NE Stella Street	155	305	3.1%
Main Street (SR 203) & NE Stephens Street	1,260	1,525	0.9%
1st Avenue NE & NE Stephens Street	485	685	1.6%
3rd Avenue NE & NE Stephens Street	605	725	0.8%
275th Avenue NE & Bruett Road	450	565	1.0%
275th Avenue NE & NE 150th Street	625	720	0.6%
278th Avenue NE & NE 150th Street	460	495	0.3%
284th Avenue NE & NE 150th Street	325	395	0.9%
286th Avenue NE & NE 150th Street	295	355	0.8%
Main Street (SR 203) & NE Kennedy Drive	1,100	1,330	0.9%
3rd Avenue NE & NE Kennedy Drive	240	345	1.7%
Main Street (SR 203) & NE 145th Street	1,165	1,320	0.6%
3rd Avenue NE & NE 145th Street	360	485	1.4%
275th Avenue NE & NE 145th Street	400	470	0.7%
278th Avenue NE & NE 144th Street	145	200	1.5%
284th Avenue NE & NE 144th Street	150	230	2.0%
Main Street (SR 203) & NE 143rd Place	1,145	1,355	0.8%
3rd Avenue NE & NE 143rd Place	250	380	1.9%
Main Street (SR 203) & NE Big Rock Road	1,405	1,840	1.2%
3rd Avenue NE & NE Big Rock Road	640	820	1.1%
271st Avenue NE & NE Big Rock Road	600	750	1.0%
275th Avenue NE & NE Big Rock Road	635	730	0.6%
282nd Place NE & NE Big Rock Road	445	570	1.1%
Batten Road NE & NE Roney Road	160	265	2.3%

Source: Transpo Group, 2024

As shown in Table 4-2, average annual growth is anticipated to range between approximately 0.3 percent and 3.1 percent. The growth overall represents an increase over existing traffic volumes at key study intersections of between 35 to 610 weekday PM peak hour volumes.

The growth in traffic volumes will result in additional traffic congestion and the number of hours congestion is experienced along city streets assuming similar driving behaviors as today. A review of the roadway system capacity for the City of Duvall shows that additional roadway connections or widening of streets will be required to handle this increase in traffic volumes and maintain adopted LOS. Additional analysis is completed in the following section to determine if specific intersection improvements are required with the projected growth in vehicle traffic.

Forecast Traffic Operations

Weekday PM peak hour traffic operations were evaluated at 29 intersections to forecast 2044 conditions, consistent with existing conditions. The LOS analysis followed procedures from the *Highway Capacity Manual (HCM)* using Synchro 12 software for signalized and stop controlled intersections, and Sidra 9.1 for the roundabout, in line with WSDOT guidelines. Table 4-3 summarizes the forecast 2044 weekday PM peak hour intersection operations for evaluated intersections.

Table 4-3 Forecast 2044 Weekday PM Peak Hour Level of Service Summary

Intersections	Future Traffic Control	Current LOS Standard	Future 2044 Baseline		
			LOS ¹	Delay ²	WM ³ or V/C ⁴
3rd Avenue NE & NE Cherry Valley Road	TWSC	C	A	10	NB
Main Street (SR 203) & NE Cherry Valley Road	TWSC	D	F	63	WB
Main Street (SR 203) & NE Woodinville-Duvall Road	Signal	D	F	127	-
Main Street (SR 203) & NE Stewart St	TWSC	D	D	32	EB
Main Street (SR 203) & NE Stella Street	TWSC	D	D	27	EB
1st Avenue NE & NE Stella Street	TWSC	C	B	11	NB
Main Street (SR 203) & NE Stephens Street	Signal	D	C	25	-
1st Avenue NE & NE Stephens Street	TWSC	C	C	17	NB
3rd Avenue NE & NE Stephens Street	AWSC	C	B	10	-
275th Avenue NE & Bruett Road	TWSC	C	B	12	SB
275th Avenue NE & NE 150th Street	TWSC	C	C	20	WBTL
278th Avenue NE & NE 150th Street	TWSC	C	B	13	NB
284th Avenue NE & Legacy Ridge & NE 150th Street	TWSC	C	A	9	-
286th Avenue NE & Legacy Ridge & NE 150th Street	TWSC	C	A	10	SB
Main Street (SR 203) & NE Kennedy Drive	TWSC	D	C	19	WB
3rd Avenue NE & NE Kennedy Drive	AWSC	C	A	8	-
Main Street (SR 203) & NE 145th Street	TWSC	D	D	26	WBL
3rd Avenue NE & NE 145th Street	TWSC	C	B	13	EB
275th Avenue NE & NE 145th Street	TWSC	C	B	12	EB
278th Avenue NE & NE 144th Street	AWSC	C	A	8	-
284th Avenue NE & NE 144th Street	TWSC	C	A	9	EB
Main Street (SR 203) & NE 143rd Place	TWSC	D	F	69	WBL
3rd Avenue NE & NE 143rd Place	AWSC	C	A	8	-
Main Street (SR 203) & NE Big Rock Road	Signal	D	B	20	-
3rd Avenue NE & NE Big Rock Road	RAB	C	A	5	0.314
271st Avenue NE & NE Big Rock Road	TWSC	C	B	11	SB
275th Avenue NE & NE Big Rock Road	TWSC	C	B	11	SB
282nd Place NE & NE Big Rock Road	TWSC	C	B	12	SB
Batten Road NE & NE Roney Road	TWSC	C	B	10	EBL

Source: *Highway Capacity Manual (HCM)*, 2022 and Transpo Group, 2024.

Notes: **Bold** indicates LOS standard is not met.

1. Level of service (LOS), based on *Highway Capacity Manual 7th Edition* methodology unless otherwise noted.
2. Average delay in seconds per vehicle.
3. Worst movement reported for unsignalized intersections where NB = northbound, EB = eastbound, WB = westbound, SB = southbound, and EBL = eastbound left.
4. Volume to capacity (V/C) ratio for roundabout controlled intersections.

As shown in Table 4-3, three intersections along Main Street (SR 203) operate at LOS F under future 2044 baseline conditions, failing to meet the current adopted LOS standards during the weekday PM peak hour. The intersections not meeting current LOS standard include:



- Main Street (SR 203) & NE Cherry Valley Road (two-way stop-controlled)
- Main Street (SR 203) & NE Woodinville-Duvall Road (signal)
- Main Street (SR 203) & NE 143rd Place (

All poorly operating intersections will be further reviewed as part of this transportation plan in the next chapter.

Non-Motorized Systems

Bicycle, pedestrian, and trail facilities play a vital role in the City's transportation system. The Duvall non-motorized transportation system is comprised of facilities that promote mobility without the aid of motorized vehicles. A well-established system encourages healthy recreational activities, potentially reduces vehicle demand on roadways, and enhances safety within the community.

Healthy Communities

This Plan promotes facilities for cyclists, pedestrians, and public transit riders to support a physically active population. Street design considerations include connectivity, traffic calming measures, parking, and a grid system to offer multiple options for non-motorized transport. These designs align with DMC, Duvall's Complete Streets Policy, 2024 Comprehensive Plan, and development standards. Parking availability, both in private developments and public rights-of-way, influence the decision to walk, bicycle, or drive.

Additional amenities to foster healthy communities include bike racks, public art, educational signage (interpretive and way finding), and rest areas with benches. The Plan also emphasizes educational efforts on pedestrian and bicycle safety, alongside consistent enforcement of traffic laws for all users, to further support Healthy Communities initiatives.

The key policy areas in the Healthy Communities portion of this Plan are:

- Plan for all users
- Plan complete streets
- Require connectivity
- Create a safe pedestrian network
- Consider multimodal concurrency
- Identify and develop safe routes to school
- Use parking management strategies to enhance bicycling and walking
- Provide facilities to support bicyclists and pedestrians
- Provide encouragement, education, and law enforcement to support bicyclists and pedestrians

Active Transportation System Evaluation

As outlined in Chapter 5, the multimodal LOS standard is based on the presence of facilities along designated routes. Primary corridors extend through the community, while secondary corridors connect neighborhoods, destinations, or form loops. These classifications guide planning but do not imply an implementation strategy. The sidewalk and bicycle networks are detailed in Chapter 5 (see Figure 5-3 and Figure 5-5).

As shown in Figure 4-1, the pedestrian network meets LOS standards in central Duvall, but gaps exist in the northern, southeastern, and downtown areas, including portions of Batten



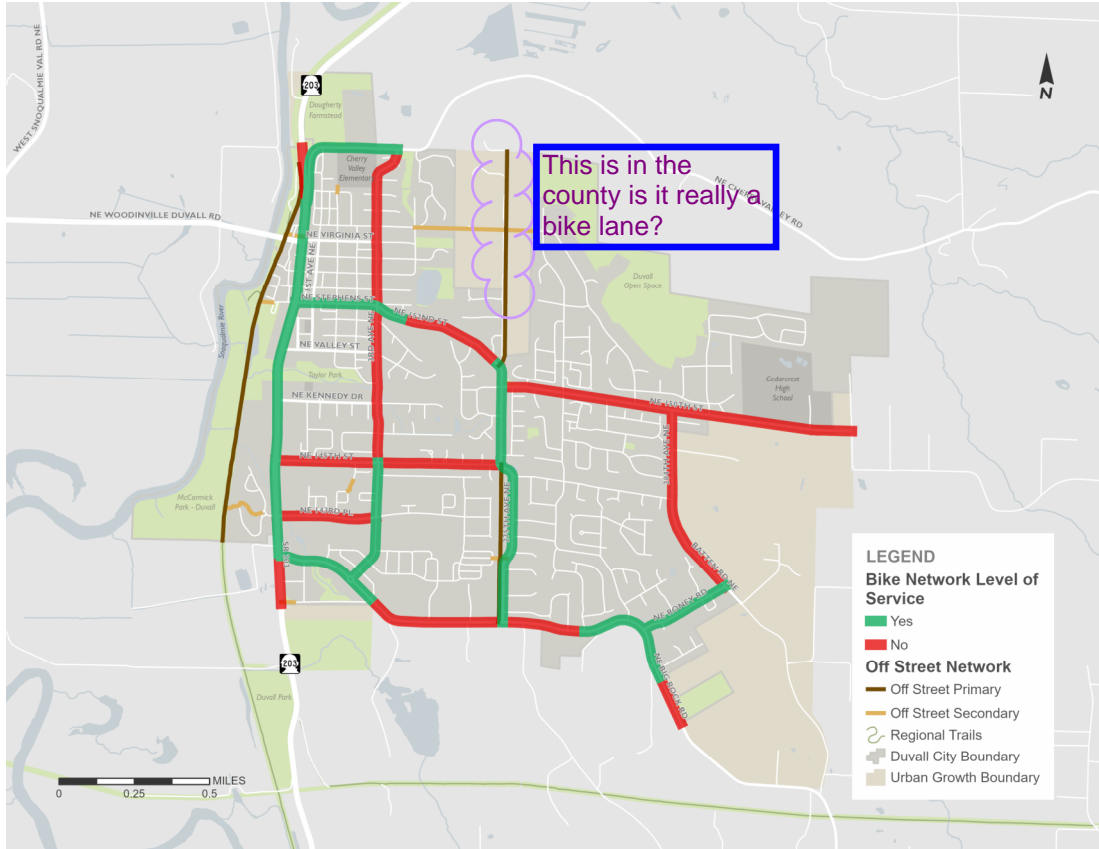


Figure 4-2 Baseline Bike Level of Service

Technology Considerations

Advances in technology impact the short and long-term use of the transportation system and its users. The following sections describe technologies emerging or being considered in Duvall and the surrounding region.

Transportation System Management and Operations (TSMO)

Transportation System Management and Operations (TSMO) is an integrated approach to optimize the performance of existing infrastructure by implementing multimodal, intermodal, and often cross-jurisdictional systems, services, and projects. TSMO seeks to operate the existing transportation system as safely and efficiently as possible, often maintaining or even regaining previous capacity levels and improving safety performance levels. In practice, TSMO is applied on a corridor or in a region as a series of potential intersection improvements instead of just intersection level improvements.

Electric Vehicles

As the use of electric vehicles (EVs) continues to grow within transportation systems, it becomes essential to establish accessible EV charging infrastructure. Currently, there are three City-provided charging stalls in the right-of-way or on City-owned properties (e.g., public parking lots). The stalls are located at the City permit center.

E-Bikes

The sales of electric bicycles, or e-bikes, are on the rise, with more people embracing them for both recreation and transportation. This surge in popularity can largely be attributed to the motorized pedal-assist feature, which reduces the physical effort needed to ride and allows users to travel further with ease.

E-bikes also provide greater accessibility for individuals with mobility challenges. As more riders take to the roads and trails, it's essential for cities to evaluate the capacity of existing paved pathways, identify suitable locations for new trails, and consider the development of closed-loop trail systems to accommodate this growing demand.

Chapter 5: Transportation Systems Plan

The transportation system improvements provide a long-range strategy for the City of Duvall to address current and forecasted transportation network needs. The planned improvements contained in this chapter are recommended to safely and efficiently accommodate the projected growth in population and employment within the City and its UGA. The recommended improvements are based on the analysis of existing conditions, forecasts of future demand, anticipated availability of funding resources, and the desire of the community to create a transportation system that prioritizes community livability.

Duvall's 20-year improvement program includes projects that enhance existing intersections, roadways, and non-motorized facilities such as sidewalks and bike paths. As development proposals arise, the City will evaluate their impacts and determine if additional improvements are necessary.

The improvement list is organized by travel mode, though many projects and programs may overlap between modes (e.g., sidewalks are included as part of a roadway widening project). The Transportation System Plan focuses on recommendations for four components of the transportation system:

- Street and Highway System Plan
- Pedestrian System Plan
- Bicycle System Plan
- Other Transportation Services

Multimodal LOS (MMLOS) standards are required for non-motorized facilities, local arterials, and transit routes that serve the City and urban growth areas, to assess system performance and guide planned improvements. Based on these components, a comprehensive long-range list of transportation projects is recommended to meet Duvall's over the next 20-years.

Street and Highway System Plan

The existing and future transportation needs analysis and the proposed modal plans for the components described above were utilized to develop a list of multimodal transportation improvement projects to support growth in the City of Duvall.

Roadway Classifications

Roadways are classified based on their intended function and traffic volumes to create a hierarchy. Duvall's Functional Classification system defines the characteristics of each roadway to meet the needs of all users. The design of roadways, both existing and planned, is linked to this classification. Table 5-1 outlines the classifications, and Figure 5-1 illustrates the city's Functional Classification Plan.

Table 5-1 Duvall Roadway Functional Classification

Roadway Type	Description/Purpose	Examples	Speed
Principal Arterials	The highway system serves as the primary arterial roadway system within the City. Highways connect major regions with one another, and WSDOT classifies certain State highways.	Main Street (SR 203) NE Woodinville-Duvall Road	30 mph
Minor Arterial	Roads and highways that connect centers and facilities within the community, provide connections to outlying areas of the community, and distribute traffic to/from principal arterials.	Cherry Valley Road Big Rock Road	25 mph
Collector Arterial	Connect two or more neighborhoods, carry traffic within neighborhoods and provide connections to principal and minor arterials.	3rd Avenue NE 152nd Street Batten Road	25 mph
Local Street	Streets that provide direct access to adjoining properties, commercial businesses, and similar traffic destinations. These roadways also provide traffic circulation within or through neighborhoods.		20 to 25 mph

1. Note: WSDOT = Washington State Department of Transportation

The functional classification and characteristics of key roadways within the City are summarized in Table 5-2.

Table 5-2 City of Duvall Key Roadway Functional Classification & Description

Roadway	Arterial Classification	Jurisdiction	Primary Direction	Posted Speed Limit
Main St (SR 203)	Principal	WSDOT	North/South	30 mph
NE Woodinville-Duvall Rd	Principal	Duvall/King County	East/West	40 mph
NE Cherry Valley Rd	Minor ¹	Duvall/King County	East/West	25 mph
NE Big Rock Rd	Minor ¹	Duvall/King County	East/West	25 mph
NE 143rd Pl	Collector	Duvall	East/West	25 mph
NE 145th St	Collector	Duvall	East/West	25 mph
NE Stephens St	Collector	Duvall	East/West	25 mph
NE Bruett Rd (NE 152nd St)	Collector	Duvall	East/West	25 mph
NE 150th St	Collector	Duvall	East/West	25 mph
275th Ave NE	Collector	Duvall	North/South	25 mph
Batten Rd NE (284th Ave NE)	Collector	Duvall	North/South	25 mph
1st Ave NE	Collector	Duvall	North/South	25 mph
3rd Ave NE (268th Ave NE)	Collector	Duvall	North/South	25 mph
NE Kennedy Dr	Collector	Duvall	East/West	25 mph
NE Roney Rd	Collector	Duvall	East/West	25 mph
NE Valley St	Collector	Duvall	East/West	25 mph
NE Virginia St	Collector	Duvall	East/West	25 mph

Note: WSDOT = Washington State Department of Transportation; mph = miles per hour

1. Cherry Valley Road and Big Rock Road are classified as minor arterials within the City limits. East of the City, these two roads are classified as collectors by King County.

In addition to the Functional Classification system adopted by the City of Duvall, there are federal and state roadway designations. Federal and state grant programs provide funding for improvement projects that are on streets that have been classified with the federal or state roadway designations.

The **National Highway System (NHS)** includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility as defined by the Federal Highway Administration (FHWA). There are no NHS facilities within the City.

The **Federal Functional Classification** system provides a hierarchy of roadways as defined by the Federal Highway Administration (FHWA). This classification system defines the role of travel through a network of roadways, rather than focusing on individual roadways. As a result, the Federal Functional Classification differs in several ways from the City's Functional Classification. Changes to the Federal Functional Classification may be submitted through the Washington State Department of Transportation (WSDOT).

Federally Classified (Urban Minor Arterial) Roads in Duvall:

- NE Stephens Street/NE 152nd Street/275th Avenue NE
- NE 150th Street
- 275th Street NE
- 284th Avenue NE/Batten Road NE
- NE Roney Road
- 3rd Avenue NE

is there anything to add other than the bulleted list or can we delete?

Add info about roads that were federally reclassified...

Highways of Statewide Significance WSDOT designates Interstate Highways and other principal arterials that are needed to connect major communities in the state as Highways of Statewide Significance (HSS). This designation assists with the allocation of some state and federal funding. These roadways typically serve corridor movements having travel characteristics indicative of substantial statewide and interstate travel. Concurrency requirements of GMA do not apply to HSS. Main Street (SR 203) is not an HSS, nor are there any HSS designated facilities in the City. In 2005, the Growth Management Hearings Board concluded that the capital facilities element requirements of the GMA do not apply to highways of statewide or regional significance.⁵ LOS standards for state-owned (regionally significant) facilities are jointly set by WSDOT and the Regional Transportation Planning Organization (RTPOs).

The **Region's Metropolitan Planning Organization** (MPO) Puget Sound Regional Council (PSRC) also establishes Highways of Statewide Regional Significance (HSRS). Main Street (SR 203) is classified as a Tier 2 HSRS. Tier 2 routes serve the outer urban area outside of a three-mile buffer around the most heavily traveled freeways.

⁵ The Building Association of Clark County et al. v. Clark County and State of Washington, Office of Financial Management. 04-2-0038c, WWGMHB (November 23, 2005).

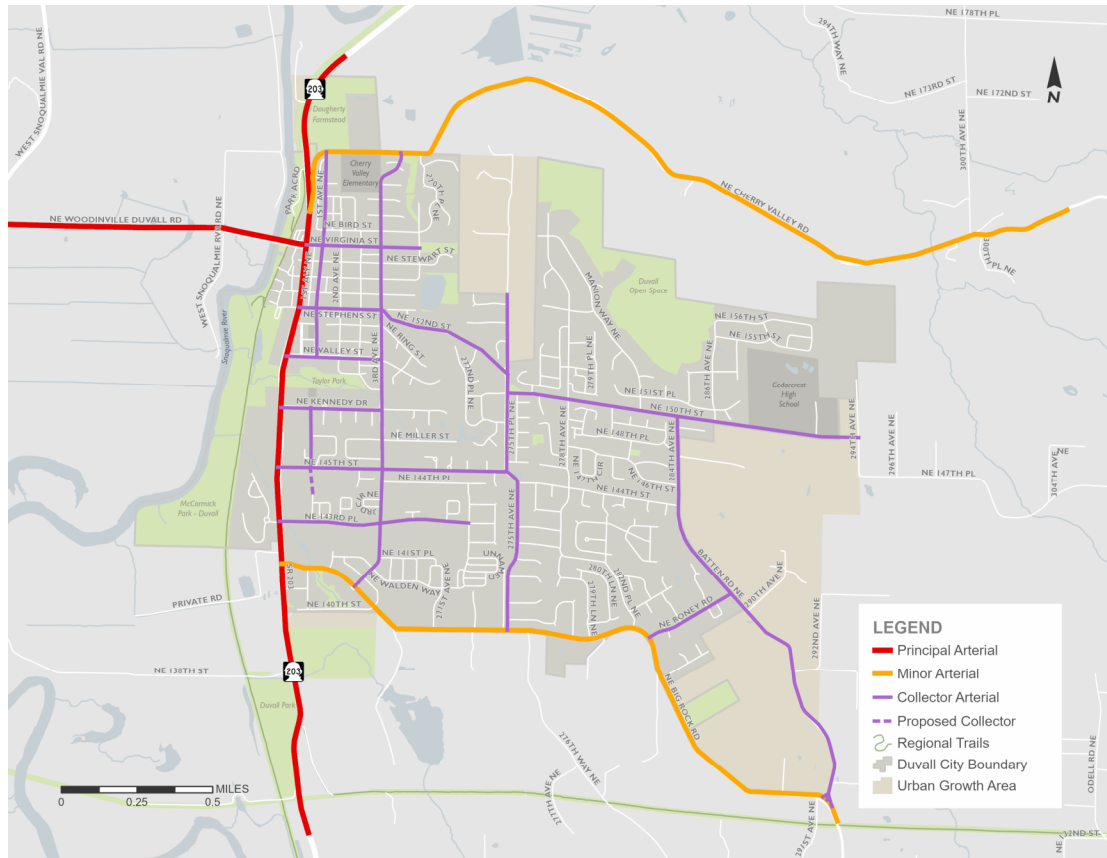


Figure 5-1 Functional Classification Plan

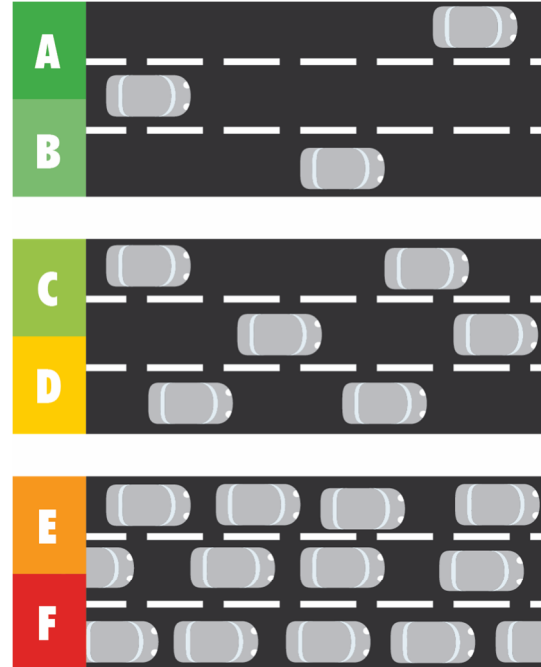
Concurrency and Vehicle Level of Service Standards

One of the 15 goals of the Growth Management Act (GMA) is concurrency when considering land use planning. The purpose of concurrency is to assure that those public facilities and services necessary to support development are adequate to serve that development at the time it is available for occupancy and use, without decreasing service levels below locally established minimum standards (WAC 365-196-840). Therefore, setting a LOS standard is a required component of regulating growth and development while identifying planned improvements (RCW 36.70A.070).

The City also uses the State Environmental Policy Act (SEPA) processes for environmental review and impact evaluation at the project level for consistency with concurrency and LOS standard management. LOS is a measure of the quality of traffic flow and operations. It can be described in terms of speeds, travel times, delays, convenience, interruptions, and comfort. The Highway Capacity Manual (HCM) (Transportation Research Board, 2022) provides methodologies for evaluation of LOS for transportation facilities and services. The HCM criteria range from LOS A indicating free-flow conditions with minimal delays, to LOS F indicating extreme congestion and long vehicle delays.

The City typically applies the intersection LOS standard to the weekday PM peak hour. However, the City may define additional evaluation periods to identify if potential impacts would occur based on land uses other than residential. These could include weekday AM peak hour, weekends, or other time periods depending on the type and location of the proposed development. No changes to the LOS standards are proposed as part of this Plan.

Vehicle level of service is both a qualitative and quantitative measure of roadway and intersection operations. Vehicle level of service uses an “A” to “F” scale to define the operation of roadways and intersections depicted on Figure 5-2 and described as follows:



City of Duvall. The City of Duvall has adopted a LOS C or better for all roadways within jurisdictional control. This applies to signalized, roundabout, and unsignalized intersections. On a case-by-case basis, the City may allow traffic movements from minor streets at two-way stop-controlled intersections to operate below the adopted LOS standard, provided no significant safety or operational issues will result. The flexibility in LOS standards aims to minimize delays on major streets while maintaining safe and efficient operations from the minor streets.

WSDOT. Main Street (SR 203) is classified by PSRC as a Tier 2 HSRs and carries a LOS D or better standard for intersections along that roadway. PSRC definition for Tier 2: These routes serve the "outer" urban area - those outside the 3-mile buffer - and connect the "main" urban growth area (UGA) to the first set of "satellite" UGA's (e.g., SR 410 to Enumclaw). These urban and rural areas are generally farther from transit alternatives, have fewer alternative roadway routes, and locally adopted LOS standards in these areas are generally LOS "D" or better. The standard for Tier 2 routes is LOS "D."⁶

Do we have a more local example?

LOS	CONTROL DELAY (per Vehicle)	DESCRIPTION
A	10	Free flow
B	>10-20	Stable flow (slight delays)
C	>20-25	Stable flow (acceptable delay)
D	>35-55	Approaching unstable flow (tolerable delay, occasional wait through more than one signal)
E	>55-80	Unstable flow (intolerable delay)
F	>80	Forced flow (jammed)

Freight Routes

Trucks have a significant impact on traffic operations, safety, and roadway maintenance. They also impact air quality and noise levels in the City. The freight routes are the same as the 2017 Transportation Plan and would continue to support future transportation needs. Truck routes within the City limits include:

- Main Street (SR 203)
- NE Woodinville-Duvall Road
- NE Cherry Valley Road
- NE Big Rock Road

Active Transportation System Plan

As noted previously in Chapter 3, non-motorized facilities play a vital role in the City's transportation environment. The Duvall active transportation system plan is comprised of facilities that promote mobility without the aid of motorized vehicles. The active transportation

⁶ https://www.psrc.org/sites/default/files/2022-03/los_hss_king.pdf



system plan is comprised of pedestrian and bicycle facilities. A well-established system encourages healthy recreational activities, reduces vehicle demand on roadways, and enhances safety within the community.

Pedestrian System Classifications

The pedestrian system plan contains a series of primary or secondary sidewalk routes. As discussed previously, corridors identified as primary or secondary routes are used to make a distinction between routes that extend completely through the community (primary), and those that connect to destinations, neighborhoods, or complete a loop (secondary). The future pedestrian system plan, shown on Figure 5-3, provides a comprehensive network of sidewalks, pathways, and shared-use trails. This system is designed to facilitate pedestrian travel to key destinations, such as recreational facilities, schools, and places of employment, where higher pedestrian demand is expected.

The City’s ADA Transition Plan, established in September 2018, focuses on enhancing the existing sidewalk system by upgrading curb ramps and improving accessibility. The City collaborates with neighboring property owners on sidewalk construction and maintenance efforts. Additionally, funding programs help maintain and improve existing sidewalks throughout the City.

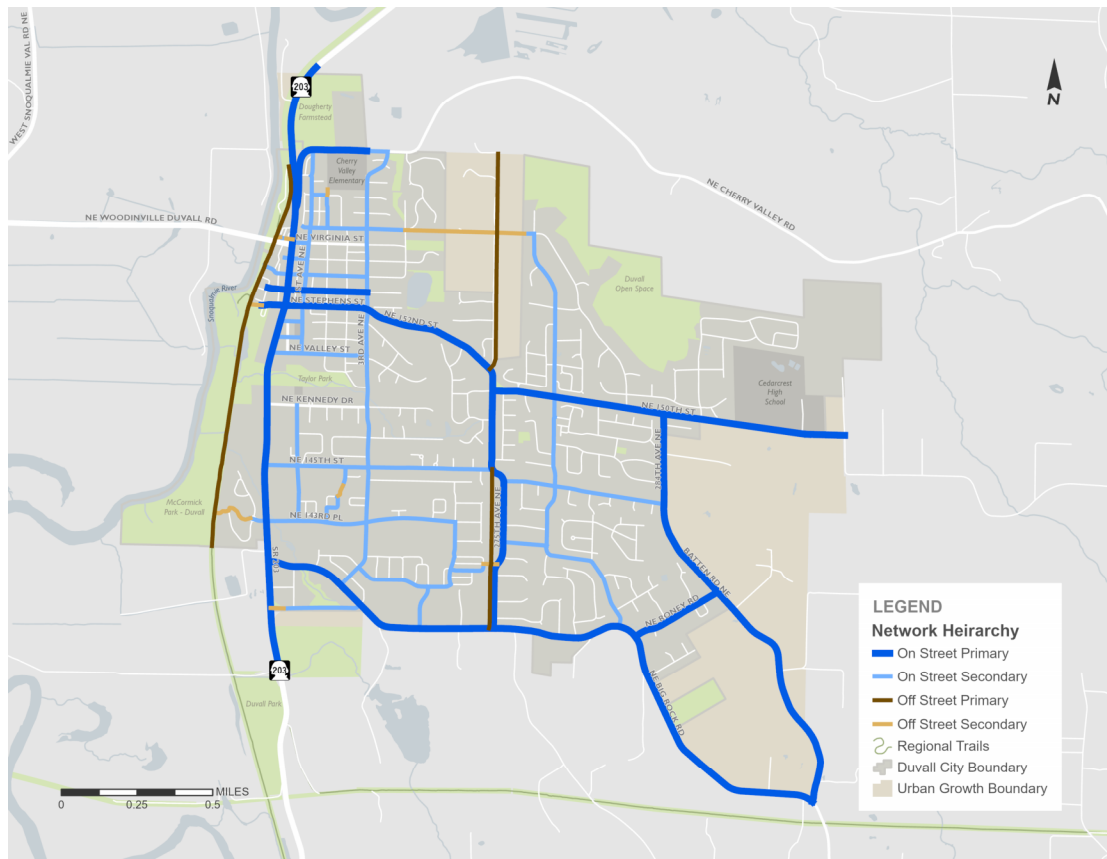


Figure 5-3 Pedestrian System Plan

Pedestrian Level of Service Standard

The City has established LOS standards for its active transportation network, referred to as non-motorized LOS. These standards are based on the future primary and secondary sidewalk, pathway, and trail system shown in Figure 5-3. The non-motorized system was developed in coordination with city staff and aligns with the Complete Streets Program.



The LOS standards are shown in Figure 5-4, focus on completing sidewalks, pathways, or multi-use trails along arterial roadways. These are categorized into three designations: Green, Orange, and Red.




LOS	Primary Route	Secondary Route
	Meets City standards, facilities on both sides	Meets City standards, facilities on one or both sides
	Facilities exist, but only on one side	N/A
	No facilities exist, does not meet standards	No facilities exist, does not meet standards

Figure 5-4 Pedestrian Levels of Service Overview

The pedestrian LOS analysis indicates that most of the existing non-motorized transportation network meets the City’s standard. Many residential neighborhoods have sidewalks on at least one side of the road. The long-term project list outlines improvements to enhance the network, aiming to ensure that the City’s standard of Green or Orange LOS are consistently met throughout the City.

Bicycle System Classifications

The bicycle system plan outlines a network of primary or secondary bicycle facilities. As shown in Figure 5-5, the future bicycle system plan provides a comprehensive, interconnected system of both on-road and off-road facilities, including dedicated bike lanes, shared bike facilities, and multi-use trails. Like the pedestrian system, the bicycle network is designed to support bicycle travel to key destinations within Duvall where higher non-motorized demand is anticipated. Trails are also integrated into the bicycle network to ensure a complete and accessible system for cyclists.

2050, with connects between Bothell/Woodinville and Redmond, and maintaining local service between Duvall and Carnation. The City will continue to coordinate with King County Metro to enhance connectivity to transit facilities. Projects are incorporated to support connectivity and access to transit facilities by supporting projects that improve access, including park and ride facilities and multi-use paths.

SVT is another important transit option for the area, providing regular-line and door-to-door route service residents between Duvall and North Bend. Supported by King County Metro, WSDOT, The Snoqualmie Tribe, and other partners, SVT operates Monday – Friday (except holidays), offering affordable and accessible transportation to help people stay connected, support local businesses, and foster a strong community.

Transportation Demand Management Program

Transportation Demand Management (TDM) consists of strategies that seek to maximize the efficiency of the transportation system by reducing the number, length and need of private automobile trips. Typically, TDM measures include provision of park and ride lots, improvements to pedestrian and bicycle facilities, and promotion of ridesharing activities. This includes the Duvall Community Car Park, on the northeast corner of the intersection of Woodinville-Duvall Road and Main Street.

Within the State of Washington, alternative transportation solutions are necessitated by the objective of the Commute Trip Reduction (CTR) Law, which applies to employers with 100 or more employees. The purpose of CTR is to help maintain air quality in metropolitan areas by reducing congestion and air pollution. Currently, the City does not have any employer with 100 or more employees working during a shift between 6am and 9am. When such an employer does exist, the City would develop a Commute Trip Reduction Ordinance consistent with the Commute Trip Reduction Act. The ordinance should include TDM actions for employers, such as carpool matching, transit pass subsidies, and bicycle parking to discourage employees from commuting alone.

Duvall is a growing community in a rural area. TDM strategies are typically most effective in denser and larger urban areas. However, strategies coordinated with King County, WSDOT and PSRC can provide alternatives for residents and employees in Duvall. Potential TDM strategies the City could promote through policy or investment include, but are not limited to:

- Transit-oriented and pedestrian friendly street design
- Transportation coordinators for large employers
- Telecommuting
- Flexible/Alternative work schedules
- Additional Park & Ride facilities
- Ridesharing/Carpooling

RSD had 319 employees in 22-23. We house two schools and the admin building - maybe it is by location - and not by employer .

Air Transportation & Freight Rail Services

The City of Duvall does not have either freight nor passenger airplane facilities within or adjacent to the City limits.

Transportation Improvement Projects & Programs

The improvements address safety, capacity, network connections, and expanded non-motorized transportation facilities. Improvements also cover upgrades to existing roads and construction of new roadways to support predicted economic development and growth in the City. The roadway and intersection projects incorporate needs for pedestrians, bicyclists, and transit riders that will use the same corridors. With implementation of the proposed projects, it is anticipated that facilities would meet the intersection and active transportation LOS standards. The projects were categorized into three primary types:



- Spot or intersection improvements
- Corridor or roadway improvements
- Non-motorized improvements
- City-Wide Programs

Intersection Improvements

Intersection improvements have been identified where existing or forecast operational deficiencies are anticipated with growth in and around the City of Duvall. The projects are intended to improve operations at the identified intersections to meet the City’s LOS standard. The new intersection improvements are identified to support the Duvall land use plan, and summarized in Table 5-3 below.

Table 5-3 2044 Transportation Improvement Project List: Spot/Intersections

Project ID	Intersection	Project Description
SP1	Main St (SR 203)/Woodinville-Duvall Rd/NE Virginia St	Reconstruct intersection to align Virginia St and Woodinville-Duvall Rd at Main St to accommodate growth. Construct south-to-east left-turn lane, improve turning radius and modify the traffic signal or construct roundabout.
SP2	Main St (SR 203)/NE 143rd Pl	Install traffic signal.
SP3	Main St (SR 203)/NE 145th St	Install traffic signal and channelization improvements when warranted.
SP4	Main St (SR 203)/NE Cherry Valley Road	Construct new traffic signal or new roadway extension.

Corridors/Roadway Improvements

Some of the roadway improvements were previously identified as a need in the 6-year transportation improvement program (TIP) and/or the 2017 Transportation Plan and evaluation of the alternatives indicated continued need for the projects based on operations, safety, and completion of motorized and non-motorized networks. Additionally, new roadway connections were identified to support growth. No new roadway connection projects are proposed beyond what was previously identified. Table 5-4 summarizes the corridor/roadway improvements.

Table 5-4 2044 Transportation Improvement Project List: Corridor/Roadway

Project ID	Roadway	Extents	Project Description
RW1	1st Ave NE Extension	NE 145th St to 400 feet south	Construct new collector arterial segment including acquisition of right-of-way, road, parking, curb, gutter, sidewalk, and storm drainage system.
RW2	NE 145th St	3rd Ave NE to 275th Ave NE	Major travel-lane widening to collector arterial standards, including bike climbing lane.
RW3	NE 160th St	275th Ave to Manion Way	Construct new neighborhood collector including two travel lanes, curbs, gutter, and sidewalk.
RW4	1st Ave NE	Valley St to NE Virginia St	Reconstruct to collector arterial standards including two travel lanes, on-street parking, sidewalks, and curb bulbs.
RW5	NE 145th St	Main St to 3rd Ave NE	Reconstruct roadway to collector arterial standards including two travel lanes, curb, gutter, sidewalks, bike climbing lane.
RW6	3rd Ave NE	Stephens St to NE 143rd Pl	Reconstruct roadway to collector arterial including two travel lanes, curb, gutter, sidewalks, bike lanes.
RW7A	NE 143rd Pl	Main St NE to 3rd Ave NE	Reconstruct roadway to collector arterial standards including two travel lanes, curb, gutter, sidewalks, and bike facilities.
RW7B	NE 143rd Pl	3rd Ave NE to 272nd Pl NE	Reconstruct roadway to collector arterial standards including curbs, gutters, sidewalks, and drainage.
RW8	NE Big Rock Rd	3rd to 275th Ave NE	Reconstruct roadway to minor arterial standards to include curb, gutter, sidewalk, curb-bulbs, bike lanes, and on-street parking/turn lanes/medians within commercial or residential areas as required.
RW9	Batten Rd NE	NE 150th St to NE Roney Rd	Reconstruct roadway to collector arterial standards including curb, gutter, sidewalks, and drainage.
RW10	NE 150th St/NE 152nd Street Intersections	275th Ave NE to E City Limits	Reconstruct to improve channelization and capacity including traffic calming elements (traffic circles, chicanes, median) with bike lanes, dedicated parking, and improved pedestrian crossings.
RW11	275th Ave NE	NE 155th Pl to NE Manion Way	Construct new roadway to collector arterial standards including bike lanes, curb, gutter, sidewalk.
RW12	NE Virginia St	Main St NE to 4th Ave NE	Reconstruct roadway to collector arterial standards including two-travel lanes, curb, gutter, sidewalk, curb-bulbs, bike climbing lane, and on-street parking.
RW13	Riverside Ave NE	NE Stephens St to NE Stewart St	Reconstruct to improve channelization and capacity to accommodate growth including two-travel lanes, on street parking, and sidewalks.
RW14	NE Stella St	1st Ave NE to Railroad Ave NE	Reconstruct to improve channelization and capacity to accommodate growth including two-travel lanes, on street parking, and sidewalks.
RW15	NE Cherry St	1st Ave NE to Railroad Ave	Reconstruct to improve channelization and capacity to accommodate growth including two-travel lanes, on street parking, and sidewalks.
RW16	NE Cherry Valley Rd	Main St NE to 3rd Ave NE	Reconstruct to minor arterial standards including two-travel lanes, on street parking, and sidewalks.
RW17	NE Kennedy Dr	Main St NE to 3rd Ave NE	Reconstruct roadway to collector arterial standards including two travel lanes, curb, gutter, sidewalks, and drainage system improvements.
RW18	NE Park St	2nd Ave NE to 3rd Ave NE	Reconstruct to improve channelization and capacity to accommodate two-travel lanes and sidewalks.
RW19	NE Valley St	Main St NE to 3rd Ave NE	Reconstruct roadway to collector arterial standards including two-travel lanes, curb, gutter, sidewalk, curb-bulbs, and on-street parking.

Non-Motorized Improvements

While non-motorized improvements will be incorporated into both the intersection and roadway improvement projects, separate non-motorized improvements have been identified. Non-motorized projects have been identified to increase accessibility and connectivity by completing



missing links in the current trail, pedestrian, and bike systems and to increase opportunities for alternative modes of transportation such as walking and biking and reducing reliance on Single Occupancy Vehicles (SOVs). The non-motorized improvements include both projects that are already on the TIP as well as new improvements to support the City’s Comprehensive Plan, and are summarized in Table 5-5.

Table 5-5 2044 Transportation Improvement Project List: Non-Motorized

Project ID	Roadway	Extents	Project Description
NM1	275th Ave NE	NE 152nd St to City Limits	Construct sidewalk or pedestrian pathway on east side of roadway.
NM2	NE 144th St	275th Ave NE to 284th Ave NE	Construct sidewalk or pedestrian pathway on both sides of roadway, and bike lane.
NM3	3rd Ave NE	NE Stephens Street to Cherry Valley Road	Extend the 3rd Ave Plan to Cherry Valley Road including traffic calming, add shared use, improve storm by re-channelizing and expanding what is there.
NM4	Main St (SR 203)	NE Big Rock Road to NE 140th St	Widen to construct bike lanes and sidewalks and intersection rechannelization.
NM5	NE Big Rock Road	NE 138th Pl to the south side of Big Rock Sports Field	Widen to construct bike lanes on northeast side of roadway.
NM6	NE Cherry St	1st Ave NE to 3rd Ave NE	Construct sidewalks on north side of roadway.
NM7	NE Bird St	Broadway Ave NE to 3rd Ave NE	Construct missing sidewalks along north side of roadway.
NM8	NE Stella St	NE Ring Alley to 3rd Ave NE	Construct sidewalks on both sides of roadway.
NM9	278th Ave NE	NE 144th St to NE 142nd PL	Construct sidewalks on one side of roadway.
NM10	NE Big Rock Road	279th Lane NE to NE 138th Pl	Construct sidewalks on one side of roadway.
NM11	Batten Rd NE	NE Roney Rd to 290th Ave NE	Construct missing sidewalk on southwest side of roadway.
NM12	Batten Rd NE	290th Ave NE to NM Big Rock Road	Construct sidewalks on both sides of roadway.
NM13	NE Big Rock Road	South side of Big Rock Sports Field to Batton Road NE	Construct sidewalks on both sides of roadway.
NM14	Main St (SR 203)	NE 140th St to 138th St	Construct sidewalks on both sides of roadway.

City Programs

In addition to the previously identified programs and improvement projects, the Transportation Plan includes four citywide programs aimed at creating a well-rounded transportation system for all users: Safe Routes to School, Complete Streets, Traffic Calming, and the ADA Transition Plan.

1. **Safe Routes to School** focuses on high-priority pedestrian, bicycle, and safety improvements to promote accessibility and safety for students traveling to and from school.
2. **Complete Streets** (established in September 2016) ensures that all users of the transportation system – pedestrians, cyclists, motorists, and public transit riders – are considered as development and redevelopment occur. This Program maintains policy documents such as the Bicycle and Pedestrian Plans, which guide citywide direction walking, biking, and connectivity. It also includes project prioritization, plan revisions, stormwater and pavement management, staff coordination, and funding strategies.
3. **Traffic Calming Program** is designed to maintain safe and convenient local streets by ensuring travel speeds remain within posted limits and managing the impact of cut-through traffic. This program includes measures such as reduced road widths, dedicated parking, and pedestrian-friendly intersection designs to reduce traffic



speeds. It also addresses the potential for increased neighborhood traffic due to congestion along Main Street.

4. **ADA Transition Plan** ensures compliance with the Americans with Disabilities Act (ADA) by identifying and addressing accessibility barriers in public rights-of-way. The plan, based on the City of Duvall ADA Self-Assessment and Transition Plan (2017), focuses on improving sidewalks, curb ramps, crosswalks, and pedestrian amenities. The City is committed to upgrading ADA facilities through both City and private development projects. Priority is given to areas with higher pedestrian traffic, such as school zones, hospitals, and retail areas, ensuring mobility improvements for people with disabilities.

These programs collectively support Duvall's vision of a connected, accessible, and safe transportation network for all.

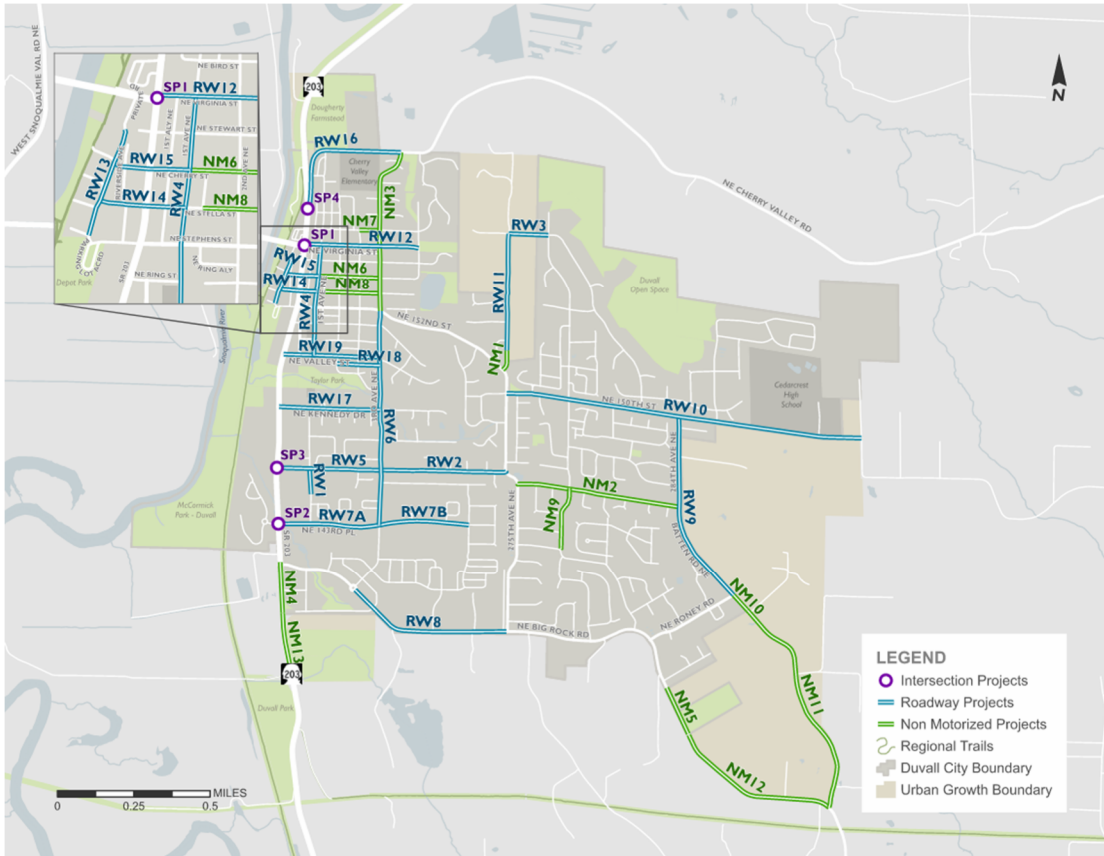
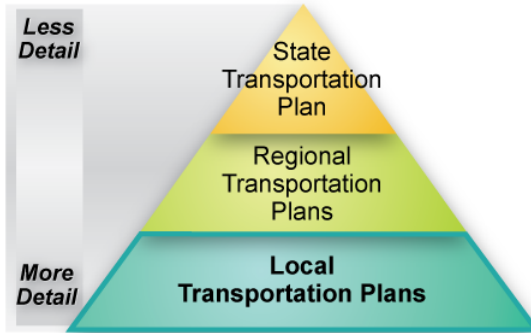


Figure 5-6 20-Year Improvement Projects

Chapter 6: Transportation Finance and Implementation Program

Chapter 7: Consistency with Other Agencies

Duvall's transportation system is part of, and connected to, a broader regional highway and arterial system. The GMA works to increase coordination and compatibility between the various agencies that are responsible for the overall transportation system. Since transportation improvements need to be coordinated across jurisdictional boundaries, the Transportation Plan needs to be consistent with and supportive of the objectives identified in the Washington State Transportation Plan, PSRC's VISION 2050, and King County's Capital Improvement Program. Developing the Transportation Plan is primarily a bottom-up approach to planning, with the City exploring its needs based on the land use plan. Eventually, local projects are incorporated into regional and state plans. A schematic of this approach is shown.



The City of Duvall's Transportation Plan considers the impacts of planned improvements, along with the priorities and policies of WSDOT and King County. The following summarizes how the Plan relates and is consistent to these other state and regional agency plans.

WSDOT

The Washington Transportation Plan (WTP) 2040 and Beyond, and the associated Highway System Plan (HSP), updated in 2024, provide the umbrella for all metropolitan and regional transportation plans. The updated WTP focuses on key policies and strategies for the State, while the HSP maintains the most recent long-term statewide project list.

The Highway System Plan is an element of the WTP. The HSP identifies highway system improvement projects and programs consistent with the WTP priorities. The HSP is constrained by available funding forecast for the next 20 years. Policies and improvement projects listed in the WTP and HSP were reviewed for consistency with the strategies and projects recommended in the Cities Transportation Plan.

As required by the GMA, the Transportation Plan addresses the existing and future conditions of Main Street (SR 203) serving the City. The transportation inventory describes existing traffic volumes, levels of service, and safety along the state route. The Plan also identifies forecast conditions and improvement needs to resolve capacity, operations, safety, complete street, and multimodal transportation needs along the corridor.

The City of Duvall has no authority to alter the level of service on Main Street (SR 203) nor does the City have the responsibility to make ultimate decisions concerning improvements to the State highway system or to raise needed funding. The City of Duvall will not apply concurrency regulations to Main Street (SR 203) in the City.

PSRC

The Puget Sound Regional Council (PSRC) adopted VISION 2050 and Transportation 2040 and Beyond to guide transportation policies, priorities and investments for the Puget Sound region. The update of the Duvall Transportation Plan included a review of the policies and projects that were important to consider and build from to provide regional and local consistency. The appropriate policy and project updates were incorporated into the City's Transportation Plan so that it is consistent and supportive of both VISION 2050 and Transportation 2040 and Beyond (the Region's Metropolitan Transportation Plan). Several

policies were added to the City's Transportation Plan to address important regional priorities such as multimodal connectivity, complete streets, low impact design, equity, sustainability, electric vehicles, alternative fuel, environmental impacts, air quality, and travel demand management.

The City roadway functional classification system is slightly different from the federal functional classification system, particularly for roadways such as Main Street (SR 203), NE Cherry Valley Road, NE Big Rock Road, 275th Avenue NE, and NE Stephens Street/NE 152nd Street/NE 150th Street. **The City will work with PSRC to prepare and submit an application to update the federal functional classification map so that it is consistent with the City street classifications.**

King County

King County's transportation and capital improvement plans were reviewed as part of the City of Duvall's Transportation Plan update. County road classifications were also reviewed and determined to be compatible. The City's functional classification map notes the classification of County roadways. Roadway construction projects were obtained within King County that could impact or influence specific outcomes of the Transportation Plan including providing complete non-motorized facilities. Duvall Road from the Duvall City limits, west to Avondale Road NE. Over the years, the Element is consistent with and accounts for travel forecasts from the unincorporated areas of King County.

i think we did this? didn't we? or do we still need to? i think it is safe to delete or update to be more general for future applications. ??

King County Metro

King County Metro Transit provides transit service for the City of Duvall. The Duvall Transportation Plan acknowledges the need for coordination between the City and King County Metro to work together to identify service improvements and strategies to serve Duvall. The City has also developed policies and road standards to provide adequate streets and active mode facilities to support transit service. King County Metro's six-year development plan and long-range Metro Connects Plan were reviewed as part of the Plan, although no service changes are currently planned within the City of Duvall.