

2.0 Key Findings and Needs Assessments

2.1 Transportation

The Growth Coordination Plan identifies and analyzes community “gaps” that exist in the region to support the mission at JBLM. Transportation is one component of the overall planning effort. The following summarizes the existing transportation conditions within the plan study area. The assessment identifies those transportation facilities and services currently being provided, while also evaluating current travel characteristics of JBLM. It includes a discussion of travel changes resulting from the COVID-19 pandemic. The assessment will be considered when evaluating future needs and identifying future strategies and high priority improvements for the study area that benefit mobility around JBLM. The assessment includes a review of the following items:

- Roadway Facilities
- Freight
- Rail
- Transit Facilities & Service
- JBLM Travel Patterns & Trends (including COVID-19 related changes)

The assessment of existing conditions builds off prior studies and data collected by each of the participating agencies. The *2010 JBLM Growth Coordination Plan* serves as the foundation of the 2021 update and includes updated data and information collected as part of the *South Sound Military and Communities Partnership (SSMCP) 2020 Local Transportation Impacts Study*.

The transportation component will evaluate improvements needed to support increased travel demand in the entire study area resulting from both JBLM as well as regional and local community growth. This effort will also identify regional transportation opportunities and include an assessment of the long-term viability of implementing such opportunities, with associated funding options. An updated list of strategies and transportation needs that will support mobility around JBLM and the surrounding communities will be a product of this effort.

Finally, recommendations will be made on how JBLM can best work with adjoining agencies and service providers to promote regional solutions to address the high-priority transportation needs in the study area.

The following summarizes the key findings of the Transportation existing conditions assessment and lists the preliminary transportation needs:

Key Findings:

- **Travel Characteristics of JBLM** – JBLM generates approximately 106,000 off-site vehicle trips per day (53,000 inbound trips and 53,000 outbound trips), with most of the trips occurring by single-occupancy vehicle. More than 30 percent of the trips come from Thurston County with the remainder mostly from Pierce County.
 - 2020 daily vehicle traffic to and from JBLM has decreased approximately 39 percent compared to 2010 levels.
 - 2020 daily vehicle traffic to and from JBLM increased 1 percent from 2019 levels. This is contrary to general travel patterns within the study area where traffic volumes decreased

approximately 14 percent from 2019 to 2020, indicating that JBLM traffic was not as impacted by COVID-19 travel changes as other general-purpose traffic.

- **Alternative Modes** – There are currently limited transit routes that serve JBLM directly. While Go Lewis-McChord is now providing transit service on base again after the 2020 suspension, it remains difficult to commute to JBLM through this service, primarily due to transit-related shutdowns resulting from the COVID-19 pandemic.
- **Existing Subsidies for Carpools and Transit** – The Department of the Army has a program called the “Mass Transportation Benefit Program” (MTBP) that provides reimbursement for using mass transit (either vanpool or carpool). The MTBP is available to all personnel on base and is a non-taxable program that subsidizes the use of transit up to \$270 per month.
- **Lack of Alternative Choices and Routes** – The only two main routes between Pierce and Thurston Counties are I-5 and SR 507 and are congested throughout the day. These routes also happen to provide direct access to the installation, making traveling to and from JBLM very difficult during commuter hours. JBLM is on the boundary of the two transit service areas for Pierce and InterCity Transit that do not connect
- **Uncertainty due to COVID-19**– The COVID-19 pandemic has had a significant impact on the way people travel since shutdowns and closures occurred since [?] March 2020. While transportation services are beginning to re-open and commuter traffic has begun to return, many people have adapted to remote work and some forecasts expect a higher percentage of employees to continue to work from home. Transit ridership has suffered greatly as riders have abandoned public transit primarily due to safety concerns around social-distancing requirements. Uncertainty remains about what the “new normal” looks like in terms of transportation behavior.
- **Increased Flood Risk on I-5 due to Climate Change** – The 2020 USGS report showed that climate change will increase the frequency of flooding events in the Nisqually Delta that will submerge I-5. This event has occurred twice within the last 25 years but may become nearly an annual event once sea levels rise approximately 0.45 meters.

Transportation Needs:

- **Support I-5 Corridor Improvements** – As the primary corridor of travel through the study area, I-5 is the most important transportation facility for JBLM personnel and for residents of Pierce and Thurston Counties. SSMCP should work to ensure that I-5 can support increased growth in the region through the following recommendations:
 - Pursue Funding for I-5 Nisqually Improvements south of Mounts Road
 - Support Expansion of I-5 HOV System between Tacoma and Olympia
 - Continue Legislative Advocacy at State & Federal Level
- **Enhance Resiliency Planning and Environmental Impacts** – As the primary north-south corridor through the study area, I-5 is a critical transportation corridor for the movement of people, goods and for emergency services. There is a need for improved resiliency as events that cause disruptions to I-5 (flooding, large numbers of collisions, etc.) have widespread impacts. Climate change will likely increase the number of risk factors for disruptions to I-5, further supporting the need for improved resiliency. Additionally, further environmental impacts caused by transportation sources are being studied and SSMCP should be aware of these impacts and work with other agencies to mitigate them. Specific recommendations include:

- Continue Regional Emergency Access Planning
- Enhance Connections between Thurston and Pierce Counties
- Monitor Environmental Impacts caused by Tire-related Chemicals
- **Support Local Arterial / Highway Access Improvements** – The 2020 SSMCP Local Transportation Impact Study highlighted the need to make improvements to local and regional roadways surrounding the installation. These improvements are critical to enhancing travel options, improving access to the base, providing multimodal alternatives, and improving transportation system resiliency. They would also compliment and support the improvements planned for the I-5 corridor by allowing some trips to bypass I-5 altogether on alternative routes or using alternative modes. The following items should be considered by the SSMCP to address improvements for arterial and highway access:
 - Pursue Funding for Roundabout Improvements on the SR 507 Corridor
 - Investigate Access Improvements to JBLM at the Muck Creek Bridge
 - Support DuPont-Steilacoom Road Improvements
 - Advocate to Complete the Yelm Bypass
- **Support Transit and Transportation Demand Management Program Expansion** – Expand the number and scale of transportation demand management programs available at JBLM and in the region to reduce the need for service personnel to rely on single-occupant vehicles when traveling to and from base. The SSMCP should investigate the following strategies:
 - Advocate for Improved Transit Service to and around JBLM
 - Support Expansion of Vanpool Programs
 - Support Enhancements to the On-base Shuttle System
 - Encourage More Services Off-base
- **Pursue Funding for Further Transportation Studies** – As the transportation needs of JBLM and the surrounding area continue to evolve, SSMCP should pursue funding to further study several high-priority corridors and connections to improve travel to and from the base. The following are a set of studies that should be completed to better understand the future travel needs around JBLM:
 - Pursue Funding for a I-5 Exit 120 Flyover Feasibility Study
 - Complete a Perimeter Road Corridor Study

TECHNICAL MEMO

TO:	SSMCP Steering Committee	DATE:	November 12, 2021
FROM:	Jon Pascal, PE Paul Sharman, PE Transpo Group	PROJECT NAME:	JBLM Growth Coordination Plan
SUBJECT:	Transportation Existing Conditions Assessment		

The Growth Coordination Plan identifies and analyzes community “gaps” that exist in the region to support the mission at Joint Base Lewis-McChord (JBLM). Transportation is one component of the overall planning effort. This memorandum summarizes the existing transportation conditions within the study area. The assessment identifies those transportation facilities and services currently being provided, while also evaluating current travel characteristics of JBLM. It includes a discussion of travel changes resulting from the COVID-19 pandemic. The assessment will be considered in evaluating future needs and identifying future strategies and high priority improvements for the study area that benefit mobility around JBLM. The assessment includes a review of the following items:

- Roadway Facilities
- Freight
- Rail
- Transit Facilities & Service
- JBLM Travel Patterns & Trends (including COVID-19 related changes)

The assessment of existing conditions builds off prior studies and data collected by each of the participating agencies. The *2010 JBLM Growth Coordination Plan (GCP)* serves as the foundation of the 2021 update and includes updated data and information collected as part of the *South Sound Military and Communities Partnership (SSMCP) 2020 Local Transportation Impacts Study*.

The transportation component will evaluate improvements needed to support increased travel demand in the entire study area resulting from both JBLM as well as regional and local community growth. This effort will also identify regional transportation opportunities and include an assessment of the long-term viability of implementing such opportunities, with associated funding options. An updated list of strategies and transportation needs that will support mobility around JBLM and the surrounding communities will be a product of this effort.

Finally, recommendations will be made on how JBLM can best work with adjoining agencies and service providers to promote regional solutions to address the high priority transportation needs in the study area.

Summary of Key Findings and Needs Assessment

The following summarizes the key findings of the existing conditions assessment and lists the preliminary transportation needs:

Key Findings:

- **Travel Characteristics of JBLM** – JBLM generates approximately 106,000 off-site vehicle trips per day (53,000 inbound trips and 53,000 outbound trips), with most of the trips occurring by single-

occupancy vehicle. More than 30 percent of the trips come from Thurston County, with the remainder mostly from Pierce County.

- 2020 daily vehicle traffic to and from JBLM has decreased approximately 39 percent compared to 2010 levels.
- 2020 daily vehicle traffic to and from JBLM increased 1 percent from 2019 levels. This is contrary to general travel patterns within the study area where traffic volumes decreased approximately 14 percent from 2019 to 2020, indicating that JBLM traffic was not as impacted by COVID-19 travel changes as other general-purpose traffic.
- **Alternative Modes** – There are currently limited transit routes that serve JBLM directly. While Go Lewis-McChord is now providing transit service on base again after the 2020 suspension, it remains difficult for transit to serve as a primary means of commuting to JBLM. This has become especially difficult due to transit related shutdowns resulting from the COVID-19 pandemic.
- **Existing Subsidies for Carpools and Transit** – The Department of the Army has a program called the “Mass Transportation Benefit Program” (MTBP) that provides reimbursement for using mass transit (either vanpool or carpool). The MTBP is available to all personnel on base and is a non-taxable program that subsidizes the use of transit up to \$270 per month.
- **Lack of Alternative Choices and Routes** – There are few routes between Pierce and Thurston Counties. The only two main routes are I-5 and SR 507, which are congested throughout the day. These routes also happen to provide direct access to the installation, making traveling to and from JBLM very difficult during times of heavy congestion. Complicating this is the fact there are few other travel choices to the installation because it is also on the boundary of the two transit service areas for Pierce and InterCity Transit.
- **Uncertainty due to COVID-19** – The COVID-19 pandemic has had a significant impact on the way people travel since shutdowns and closures occurred in March 2020. While transportation services are beginning to re-open and people are travelling more, many people have adapted to remote work; some forecasts expect the percentage of employees who work from home to remain higher than pre-pandemic levels. Transit ridership has suffered greatly as choice riders have abandoned transit primarily due to safety concerns around social distancing requirements. Uncertainty remains about what the “new normal” looks like in terms of transportation behavior.
- **Increased Risk to I-5** – The 2020 USGS report showed that climate change will increase the frequency of flooding events for I-5 in the Nisqually Delta. This event has occurred twice within the last 25 years due to heavy rainfall, but may become nearly an annual event once sea levels rise approximately 0.45 meters. Additionally, the USGS report found that the effects of climate change combined with the constriction of the Nisqually River under I-5 (the river was artificially reduced in width to accommodate I-5 construction) is increasingly backing up the river. Given current rates of erosion, the Nisqually River will undercut I-5 between 2040 and 2055.

Transportation Needs:

1. **Support I-5 Corridor Improvements** – As the primary corridor of travel through the study area, I-5 is the most important transportation facility for JBLM personnel and for residents of Pierce and Thurston Counties. SSMCP should work to ensure that I-5 can support increased growth in the region through the following recommendations:
 - a. Pursue Funding for I-5 Nisqually Improvements south of Mounts Road
 - b. Support Expansion of I-5 HOV System between Tacoma and Olympia
 - c. Continue Legislative Advocacy at State & Federal Level

2. **Enhance Resiliency Planning and Environmental Impacts** – As the primary north-south corridor through the study area, I-5 is a critical transportation corridor for the movement of people, goods and for emergency services. There is a need for improved resiliency as events that cause disruptions to I-5 (flooding, large numbers of collisions, etc.) have widespread impacts. Climate change will likely increase the number of risk factors for disruptions to I-5, further supporting the need for improved resiliency. Additionally, further environmental impacts caused by transportation sources are being studied and SSMCP should be aware of these impacts and work with other agencies to mitigate them. Specific recommendations include:
 - a. Continue Regional Emergency Access Planning
 - b. Enhance Connections between Thurston and Pierce Counties
 - c. Monitor Environmental Impacts caused by Tire-related Chemicals
3. **Support Local Arterial / Highway Access Improvements** – The 2020 SSMCP Local Transportation Impact Study highlighted the need to make improvements to local and regional roadways surrounding the installation. These improvements are critical to enhancing travel options, improving access to the base, providing multimodal alternatives, and improving transportation system resiliency. They would also compliment and support the improvements planned for the I-5 corridor by allowing some trips to bypass I-5 altogether on alternative routes or using alternative modes. The following items should be considered by the SSMCP to address improvements for arterial and highway access:
 - a. Pursue Funding for Roundabout Improvements on the SR 507 Corridor
 - b. Investigate Access Improvements to JBLM at the Muck Creek Bridge
 - c. Support DuPont-Steilacoom Road Improvements
 - d. Advocate to Complete the Yelm Bypass
4. **Support Transit and Transportation Demand Management Program Expansion** – Expand the number and scale of transportation demand management programs available at JBLM and in the region to reduce the need for service personnel to rely on single-occupant vehicles when traveling to and from base. The SSMCP should investigate the following strategies:
 - a. Advocate for Improved Transit Service to and around JBLM
 - b. Support Expansion of Vanpool Programs
 - c. Support Enhancements to the On-base Shuttle System
 - d. Encourage More Services Off-base
5. **Pursue Funding for Further Transportation Studies** – As the transportation needs of JBLM and the surrounding area continue to evolve, SSMCP should pursue funding to further study several high-priority corridors and connections to improve travel to and from the base. The following are a set of studies that should be completed to better understand the future travel needs around JBLM:
 - a. Pursue Funding for a I-5 Exit 120 Flyover Feasibility Study
 - b. Complete a Perimeter Road Corridor Study

Outcomes of 2010 GCP

This Growth Coordination Plan serves as a major update from the previous 2010 GCP. As part of the 2010 GCP, five primary transportation recommendations were identified. These recommendations, as well as the status of each, is summarized below:

Strategy 1 –Improve Regional Mobility Through Interstate 5 Improvements

Need in 2010:	High	Need Given Conditions Today:	High: While significant changes to Interstate 5 have been made since 2010, the south end of Interstate 5 from Mounts Road through the Nisqually Delta is in need of improvements.
Status of Actions Taken Since 2010			
The expansion of I-5 through the study area is currently under construction and includes an HOV lane throughout the study area and rebuilding the Berkeley Street and Thorne Lane interchanges. Those improvements were completed in late 2021. Additional reconstruction of the Steilacoom-DuPont Road interchange is expected to begin in 2023. The I-5 expansion projects were funded by the State Legislature in July 2015 as part of the Connecting Washington transportation package.			
The SSMCP has prioritized advocating for allocation of significant funding to transportation projects. Since 2010, I-5 expansion was funded through the State Legislature, which SSMCP helped realize. Transportation funding advocacy continues to be a priority for SSCMP, especially for funding I-5 improvements south of Mounts Road through the Nisqually Delta.			

Strategy 2 – Improve Regional Mobility Through HOV and Transit Improvements

Need in 2010:	High	Need Given Conditions Today:	Med: Since the 2010 Growth Coordination Plan, HOV lanes have been added along I-5 through JBLM. Additionally, the Sound Transit 3 Package passed in 2016 and included additional transit improvements for South Pierce County. Further HOV and transit improvements are likely necessary to keep people moving efficiently in and around JBLM.
Status of Actions Taken Since 2010			
The I-5 expansion discussed in Strategy 1 above included an HOV lane in both the north and southbound directions through JBLM. Additionally, Sound Transit 3 was passed by voters in 2016 and includes extension of the Sounder to DuPont and a new station in Tillicum, connecting area residents to JBLM as well as Lakewood, Tacoma and as far north as Seattle ¹ . This extension also provides a connection point to the Link Light Rail at the Tacoma Dome Station.			

¹ <http://soundtransit3.org/map#nearme&location=DuPont>

Strategy 3 – Reduce Traffic Congestion through Transportation Demand Management Policies and Strategies

Need in 2010:	Med	Need Given Conditions Today:	Med: JBLM has continued supporting Traffic Demand Management policies since 2010 and has increased the monthly benefit for service members.
Status of Actions Taken Since 2010			
Since 2010, JBLM has continued to support alternative modes of transportation both to/from and on base. JBLM offers \$270 a month for reimbursement to service members for vanpools or carpools through the “Mass Transportation Benefit Program.” The vanpool program is one of the largest in the nation.			

Strategy 4 – Reduce Military-Related Impacts on I-5 Flow through JBLM Gate and On-Post Improvements

Need in 2010:	Med	Need Given Conditions Today:	Med: JBLM has made improvements to inter-base flow by building a new north-south connector across Perimeter Road and opening the Mounts Road Gate since 2010. Further improvements are likely needed to keep JBLM personnel from making short trips on I-5.
Status of Actions Taken Since 2010			
Since 2010, the Integrity Gate was constructed and opened, the Mounts Road Gate was opened, and an inter-base connector north-south roadway across Perimeter Road was completed (connecting McChord to Lewis Main). JBLM has also constructed numerous on-base transportation improvements to improve mobility and provide better circulation within the installation.			
A study of inter-base travel was completed in 2020 by SSMPC which highlighted the need for a secure connection from North Lewis to Lewis Main gates across I-5.			

Strategy 5 – Increase Access to and on JBLM; Complete the Cross-Base Highway

Need in 2010:	Med	Need Given Conditions Today:	Low: The cross-base highway has been removed from both the State Highway Systems Plan and PSRC’s Regional Metropolitan Transportation Plan.
Status of Actions Taken Since 2010			
The primary endpoint of this goal was to complete the Cross-Base Highway. However, this roadway has been removed from the State Highway Systems Plan and PSRC’s Regional Metropolitan Transportation Plan as it was deemed environmentally impactful and ultimately unnecessary. The 2020 SSMCP Local Transportation Impact Study highlighted the need to complete a corridor study for Perimeter Road from Spanaway to I-5 to identify long-term multimodal needs since this is the only east-west connection south of SR 512.			

This 2021 GCP seeks to build on the goals and successes of the 2010 GCP to continue delivering transportation solutions to service members and civilian employees of JBLM and the residents of the surrounding communities.

Methodology

The transportation assessment focused on the identified study area for the Growth Coordination Plan, that included all of Thurston and Pierce Counties. The assessment of the transportation system largely built off information assembled from each of the participating agencies and from prior planning efforts. The inventory primarily summarizes the major transportation facilities in the study area. Information contained in the summary is based on local and regional transportation plans, other data provided by the surrounding agencies, and data collected as part of previous planning work.

Additionally, traffic count information (where available) from 2020 was used to help illustrate the changes to transportation behavior within the study area due to the COVID-19 pandemic and related shutdowns. JBLM Gate Counts and any publicly available traffic count datasets were primarily be used for the effort.

Background Documents

As part of this effort, various transportation planning efforts conducted by both JBLM and neighboring agencies were reviewed to better understand both existing and future transportation issues within the study area. Documents from the following agencies were reviewed:

- City of DuPont (Comprehensive Plan, 2015)
- City of Lacey (Comprehensive Plan, 2012)
- City of Lakewood (Comprehensive Plan, 2020)
- City of Yelm (Comprehensive Plan, 2017)
- JBLM (2010 GCP)
- PSRC (Regional Transportation Plan, 2018)
- SSMCP (2020 Local Transportation Impacts Study)
- Thurston Regional Planning Council (TRPC - Regional Transportation Plan, 2020)
- WSDOT
 - I-5 JBLM Vicinity Congestion Relief Study, 2010
 - I-5 Tumwater to Mounts Road Corridor Study, 2020
- USGS (Vulnerability of the Lower Nisqually River and delta to Compound Flooding from Rising Sea Level and Stream Flooding to Inform Regional Planning, 2020)

These documents helped the team understand the existing conditions of transportation infrastructure and traveler behavior as well as to catalogue investments currently being made to improve transportation options within the study area.

Roadway Facilities

Access to JBLM is provided by a series of regional roadways that include state highways, county arterials, and city streets. Due to the size of JBLM, the roadway facilities are maintained and operated by over 10 different transportation departments of the various agencies. This section identifies the major roadway facilities in the project study area and their functional classification. The roadways included in this inventory are based on the original 2010 GCP and then further refined by results from the 2020 Local Transportation Impacts Study and more robust data collected as part of that effort.

Study area roadways were identified in the 2020 Local Transportation Impacts Study through a process of reviewing origin-destination patterns and functional classifications. The roadways are shown in Figure 1.1 as “corridors of interest.” The existing conditions assessment and future needs analysis will focus on these identified corridors.

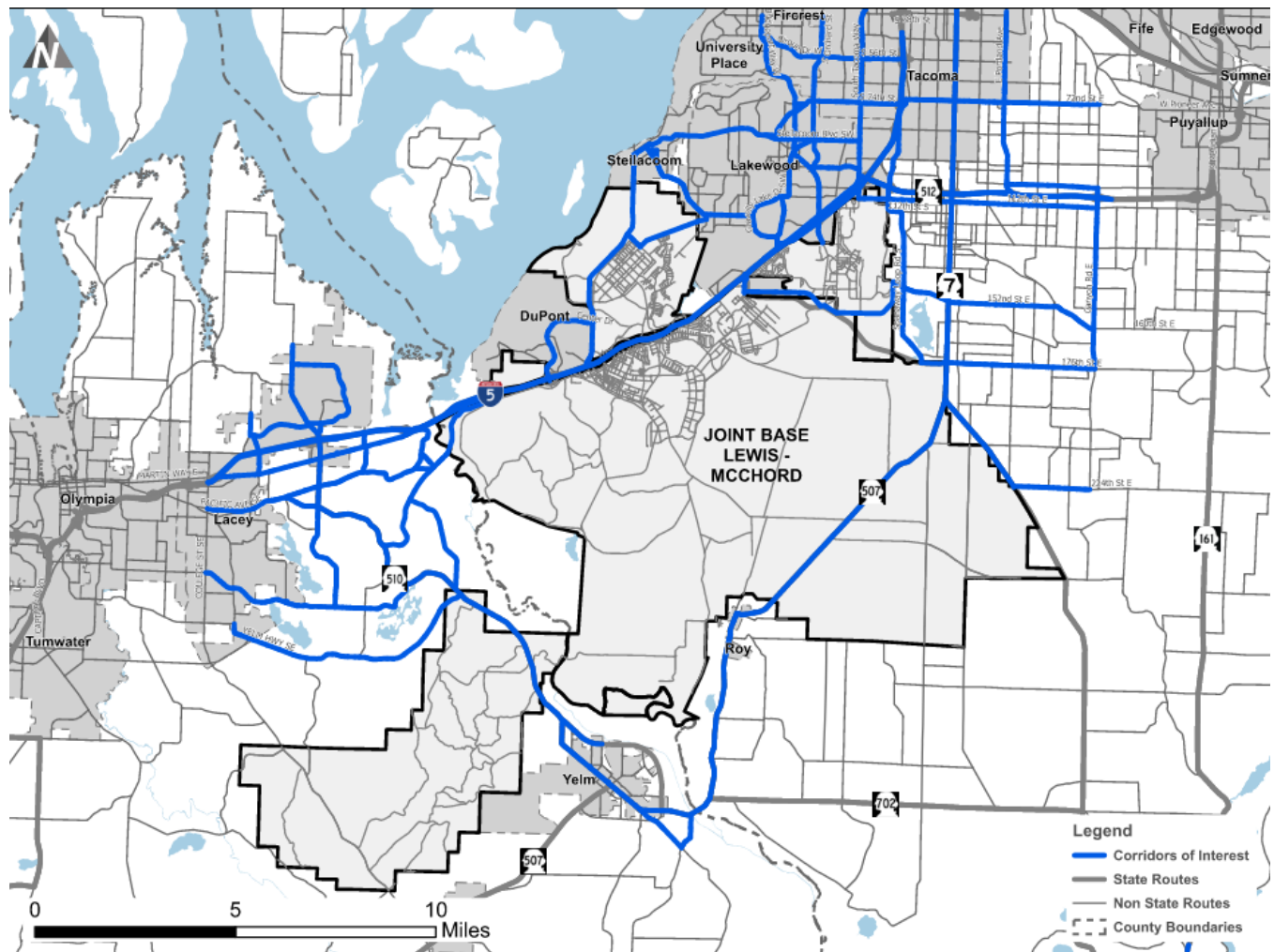


Figure 1- Corridors of Interest

Functional Classification

Functional classification is the grouping of highways, roads, and streets that serve similar functions into distinct systems or classes within the total existing or future roadway network. The objective of functional classification is to define the appropriate role — mobility versus access — of various roadways in providing service and influencing development. Higher functional classification routes provide high-volume capacity mobility, accommodate higher travel speed, serve long-distance travel, and place less emphasis on local access.

In general, the functional classifications used by most of the surrounding agencies include: state highway, principal arterial, minor arterial, collector, and local street. Figure 2 shows the functional classification of the major roadways within study area and is based on the most current version of the Federal Classification Map. The following is a summary of the roadway classifications.

Interstate Highway

Interstates provide the highest level of mobility and the highest speeds over the longest uninterrupted distance. The major Interstate facility within close proximity to JBLM is Interstate 5 (I-5). I-5 is one of the major interstates running in a generally north-south direction from Canada to Mexico. I-5 borders JBLM for approximately 11 miles with a total of nine interchanges that provide access to/from JBLM. I-5 has three travel lanes in each direction between Martin Way and Nisqually Road SW, and between Steilacoom-DuPont Road and Berkeley Street. The remaining segments of I-5 bordering JBLM have four travel lanes in each direction. I-5 is designated as a National Highway System (NHS) route and supports the United States strategic defense policy by connecting JBLM and Camp Murray with major population centers, international border crossings, ports, airports, public transportation facilities, and other intermodal transportation facilities. Designation as an NHS route influences the level of design standards applied to a route and establishes greater opportunities for federal funding of transportation improvements.

The 2020 Nisqually USGS report shows that sea level rise resulting from climate change is expected to increase the flood risk within the Nisqually Delta. This suggests that water levels will rise onto the I-5 roadway (similar to what happened in 1996 and 2020) with increased regularity. Some modeling scenarios indicate that with only 0.45 meters of sea level rise, this could be an annual occurrence, causing increased levels of disruption to travel on I-5. Additionally, the USGS report found that the effects of climate change combined with constriction of the Nisqually River under I-5 (the river was artificially reduced in width to accommodate I-5 construction) is increasingly backing up the river. Given current rates of erosion, the Nisqually River will undercut I-5 between 2040 and 2055.

Freeway Expressway

Located north of McChord Air Force Base, State Route (SR) 512 is classified as “other freeway expressway.” Similar to an Interstate highway, these roadways maximize mobility with a limited number of at-grade intersections. SR 512 provides an east-west connection between JBLM and the communities to the east including Puyallup, Parkland, Allison and Sumner. SR 512 has three to four travel lanes in each direction between I-5 and SR 7. From SR 7 east, SR 512 narrows to two travel lanes in each direction.

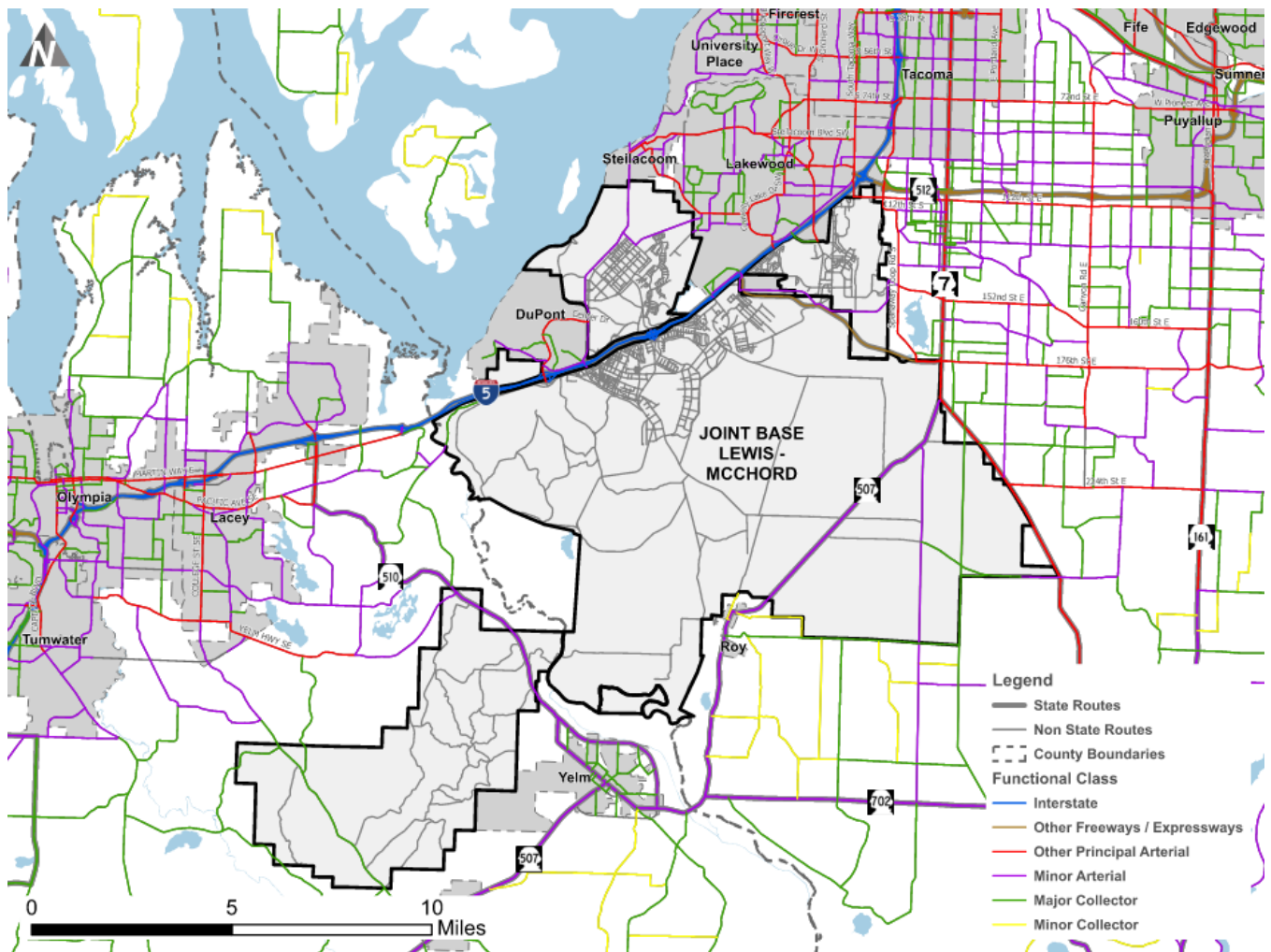


Figure 2 – Functional Classification

Principal Arterials

Several county and city principal arterials also provide direct access to JBLM. Principal Arterials provide a high degree of mobility to connect JBLM with major metropolitan centers like Tacoma, Lakewood, and DuPont, as well as some rural areas.

Minor Arterials

Several Minor Arterials provide direct or primary access to and from JBLM and include Steilacoom- DuPont Road SW, Perimeter Road, and SR 507.

Usually, Minor Arterials provide connections to smaller geographic areas than roads with higher classifications. For instance, Steilacoom-DuPont Road SW is a minor arterial connecting the city of DuPont with the town of Steilacoom and provides access to JBLM's DuPont and Integrity gates.

Collectors and Local Streets

Several collector and local streets also serve as primary access points to JBLM. The collector streets in Thurston County that fit into this category are Nisqually Cut-off Road and Reservation Road, and at times, can serve similar amounts of traffic as urban arterials. These roadways provide a back-door entrance into the Cities of Lacey and Yelm by way of the I-5 Mounts Road interchange (Exit #116).

Freight

A principal function of the regional transportation system is to promote efficient movement of freight and goods. WSDOT has adopted a Freight and Goods Transportation System (FGTS) including state highways, county roads and city streets. The FGTS is a classification system used to classify roadways according to the average annual gross truck tonnage they carry. The FGTS is maintained by WSDOT and was last updated in 2019.

The FGTS classifies roadways using five freight tonnage classifications, T-1 through T-5, as follows:

- T-1: more than 10 million tons per year
- T-2: 4 million to 10 million tons per year
- T-3: 300,000 to 4 million tons per year
- T-4: 100,000 to 300,000 tons per year
- T-5: at least 20,000 tons in 60 days

All FGTS classifications are shown Figure 3.1. Interstate 5 is classified as a T-1 freight route, meaning that it carries more than 10 million tons of freight per year. Data from WSDOT's Permanent Traffic Recorder (PTR)² on I-5 just north of Steilacoom DuPont Road show an average weekday truck volume of approximately 18,000 trucks per day. State Route 512 is also classified as T-1 route. Segments of SR 7 and SR 507 are classified as T-2, and the remaining state highways are classified as T-3.

² <https://www.wsdot.wa.gov/data/tools/geoportal/?config=traffic>

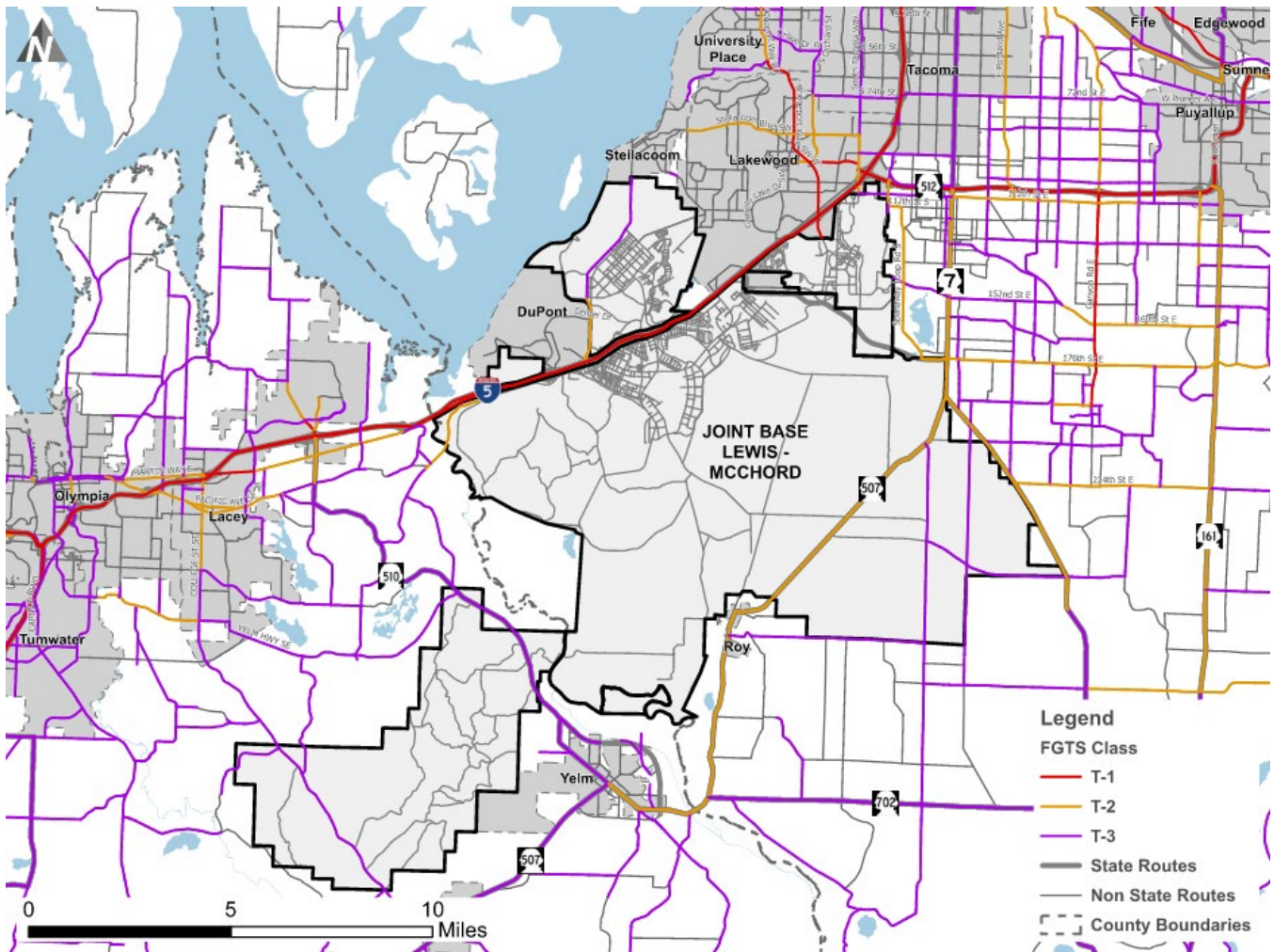


Figure 3 – Freight and Goods Transportation System (FGTS) Map

Recent data from WSDOT shows that freight activity across the state is growing each year. Table 1 shows the growth in annual truck miles traveled on state highways from 2015 to 2019.

Table 1 – Truck Vehicle Miles Traveled (in Millions) on State Highways

Truck Category	2015	2016	2017	2018	2019	Growth (2015-2019)
Double-unit Trucks	1,693	1,740	1,766	1,813	1,836	8.4%
Single-unit Trucks	1,252	1,314	1,321	1,342	1,370	9.4%
Triple-unit Trucks	254	270	277	274	271	6.7%
Total	3,199	3,324	3,364	3,429	3,477	8.7%

Source: <https://wsdot.wa.gov/about/data/multimodal-mobility-dashboard/dashboard/freight/LANDfreight.htm#dashboard-trend>

Truck volume growth is likely a result of the increased level of e-commerce seen both in Washington and across the US in recent years. According to WSDOT data on I-5, in 2010 there were approximately 15,000 trucks travelling on an average weekday (about 12 percent of total traffic). By 2019, there were

approximately 17,500 trucks travelling on an average weekday (about 13 percent of total traffic). In 2020, while general purpose volumes dropped due to COVID-19 shutdowns, the number of trucks continued to increase to approximately 18,000 on an average weekday.

Rail

There are four rail operators who use rail lines located within the study area: Burlington Northern Santa Fe (BNSF), Tacoma Rail, Amtrak, and Sound Transit. Within the study area these rail operators use three sets of rail tracks. One rail line travels along the coast of Puget Sound (mainline) and merges at Nisqually with a second line that runs parallel to I-5 (Lakeview). The third rail line runs through east JBLM (between I-5 and SR 7) between Roy to South Tacoma. A map of the existing rail lines within the study area is shown in Figure 4.

Currently BNSF and Amtrak regularly use the mainline tracks along Puget Sound. Amtrak currently operates ten trains per day along the mainline tracks while Tacoma Rail operates two to three trains per week on the Lakeview track adjacent to I-5. In addition, Sound Transit operates the Sounder South Line between Lakewood Station and Seattle. This line has approximately 14 round trips per day.

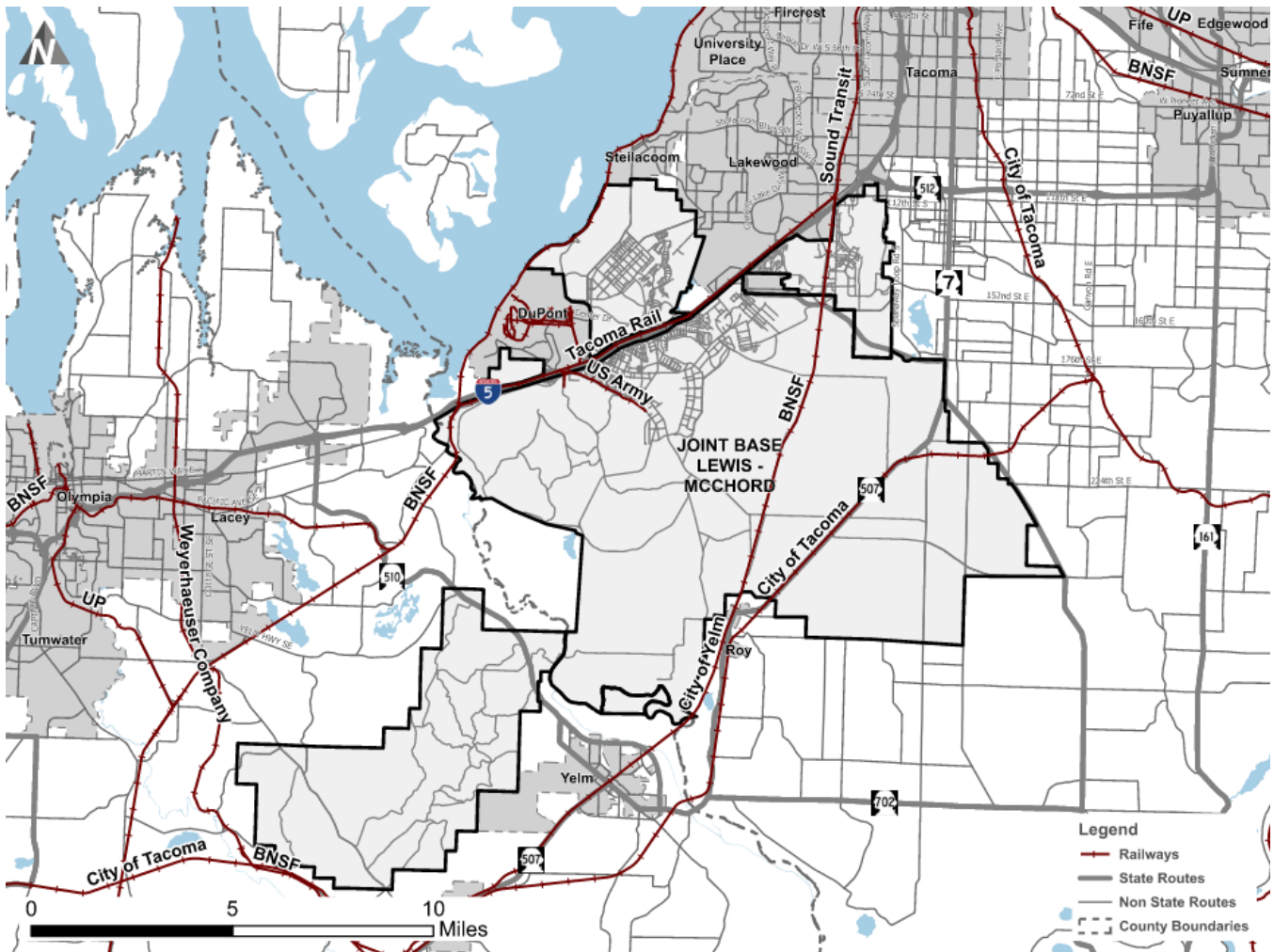


Figure 4 – Rail Network

Amtrak

Amtrak, the national passenger rail service, operates trains between Seattle and Vancouver, B.C. and between Seattle, Portland, and Los Angeles. There is also a route from Seattle to Spokane, St. Paul/Minneapolis, and Chicago. There are several stops along each route. The service between Seattle, Portland, and Los Angeles operates on BNSF railway near Point Defiance. The service was rerouted from the section of track along the coast between Nisqually and Tacoma onto the Sound Transit-owned tracks that parallel the I-5 corridor and bisect JBLM, however, due to a derailling on December 18th, 2017, the bypass is not currently in use but will be open by the end of 2021.

Currently, there are three Cascades (commuter-style trains) and one Starlight (sleeper-train) trip(s) between Seattle and Portland, and six multi-service trains along with one Starlight trip(s) between Seattle and Los Angeles. There is one Empire (trip to/from Chicago) and one Thruway (Amtrak-provided bus) trip from Seattle to Spokane, as well as an Empire and two multi-train trip(s) from Seattle to Chicago.

Sound Transit

Sounder commuter rail provides service between Seattle and the Lakewood Transit Station near the interchange of I-5 with Bridgeport Way. Service operates during traditional peak commute periods on weekdays with a majority of the trains running inbound to Seattle in the morning and outbound in the

afternoon. There are eight trains running from Lakewood to Seattle between 4:30 a.m. and 10:16 a.m., and eight trains running from Seattle to Lakewood between 9:11 a.m. and 7:46 p.m.

Sound Transit 3 was approved with a 54 percent majority on November 8, 2016. With Sound Transit 3, the light rail system is planned to double from just over 50 miles to just over 110 miles. This will include expansions to Everett, Federal Way, Tacoma, Redmond, Kirkland, Issaquah, Ballard, and West Seattle. It will also expand the Sounder commuter rail to DuPont with a new station in Tillicum, which will provide improved service to JBLM and DuPont. The Sounder commuter rail improvements are funded from 2024 to 2045, with the extension planned for completion in 2045.

Transit Facilities and Service

This section provides an overview of transit service and facilities available in the vicinity of JBLM. This section also provides a description of park-and-ride facilities within the study area. There are currently four transit providers in the JBLM area: Sound Transit, Pierce Transit, InterCity Transit, and the on-base transit service, Go Transit. The existing transit routes and operators are shown in Figure 5.

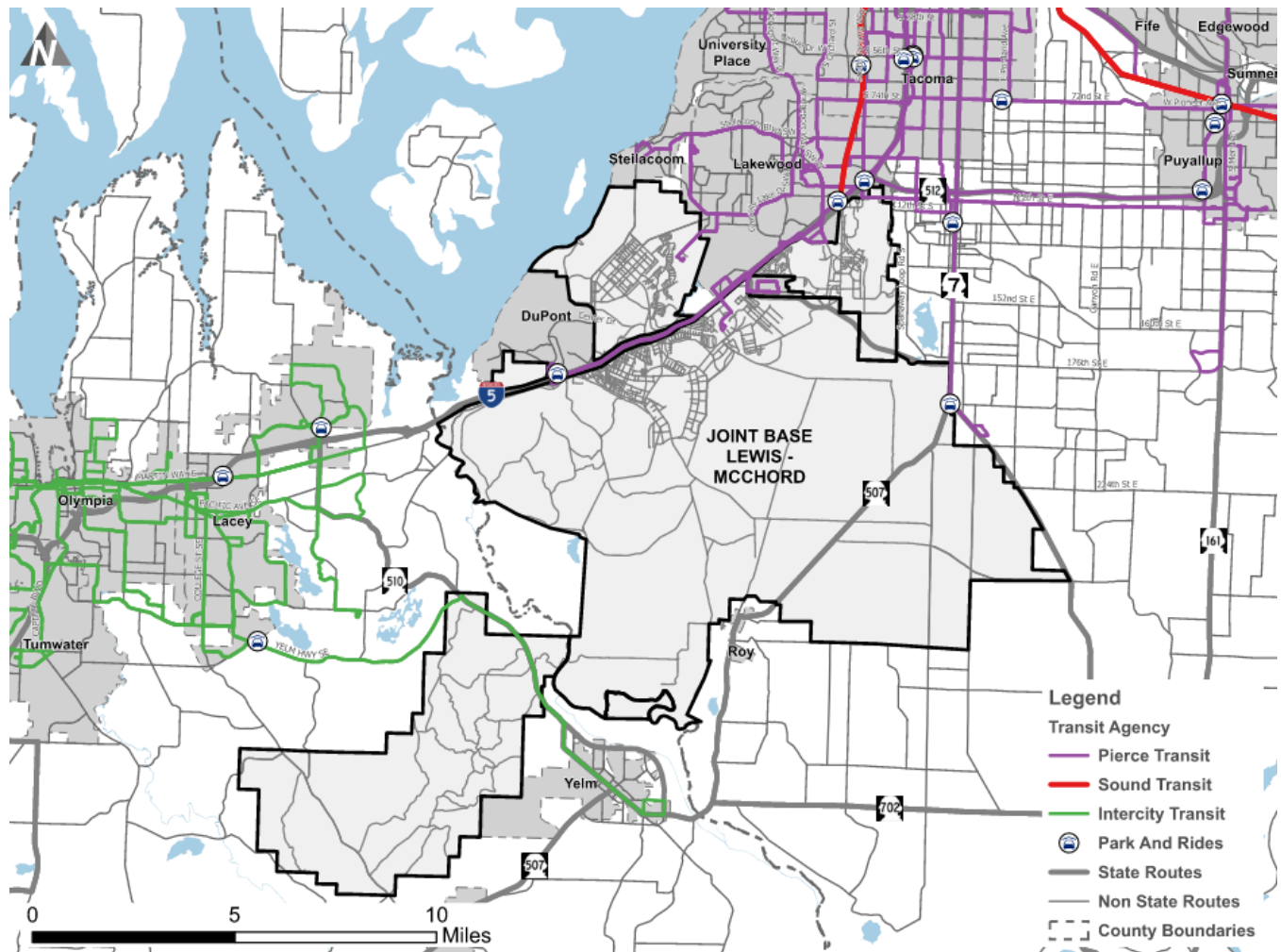


Figure 5 – Transit Network

Sound Transit

Sound Transit is a public transit agency that operates the following transit services: the Link Light Rail system, Sounder commuter rail, and the Sound Express bus system.

Sound Transit Express provides a regional bus service in Seattle Metropolitan Area. There are three routes that connect park and rides within the study area (SR 512 park and ride) to Seattle, Tacoma, and Puyallup.

A summary of the span of service, headways, average daily boardings, and total boardings from 2018 for each route is shown in Table 2. Data from 2018 was the most recently available data that did not include route closures and passenger decreases seen during the COVID-19 pandemic.

Table 2 – Existing Sound Transit Routes

Route	Area Served	Approximate Operating Hour	Weekday PM Peak Headways (min)	Average Weekday Boardings (2018)	Total 2018 Boardings
580	Puyallup – SR 512 P&R - Lakewood	Weekdays Eastbound: 6:53 am, 7:23 am Weekdays Westbound: 3:17 pm, 3:57 pm, 4:37 pm	40	777	198,152
592	DuPont – SR 512 P&R - Seattle	Weekdays Northbound: 4:05 – 7:50 am Weekdays Southbound: 2:28pm – 6:22 pm	14, 16, 20	804	205,043
594	Lakewood - SR 512 P&R - Tacoma - Seattle	Weekdays Northbound: 8:30 am – 10:00 pm Weekdays Southbound: 5:30 am – 2:20 pm Weekends: 5:00 am – 10:00 pm	30	2,131	771,962

Source: Sound Transit (December 2019), 2020 Service Implementation Plan

Since the 2010 GCP, the number of bus routes provided by Sound Transit has decreased within the community surrounding JBLM. However, since Sound Transit's 2010 introduction of service to Lakewood, many of the old routes have redundancy and provide better long-range service to the community. Route 580 between Lakewood and Puyallup Park and Ride is also a new route since 2010 providing service between Lakewood and Puyallup that did not exist at the time of the 2010 GCP.

Pierce Transit

Pierce Transit is a public transit operator in Pierce County. There are five routes that provide access to JBLM facilities, with two of them providing direct service to the Base. The service areas, operating hours, and headways between bus arrivals are summarized in Table 3.

In addition to providing regular bus service, Pierce Transit runs on-demand service between JBLM McChord and the Lakewood Transit Center, called JBLM Runner. The service operates Monday through Friday from 7:00 a.m. to 9:30 a.m. and from 3:00 p.m. to 6:30 p.m. There are eight pick-up and drop-off locations for JBLM Runner, including the following stops:

- Lakewood Transit Center
- Lakewood Sounder Station (Bay 6)
- Bridgeport Way & Pacific Highway SW
- Bridgeport Way & San Francisco Avenue SW
- Barnes Boulevard & D Street SW
- McChord Base Exchange
- Air Museum
- JBLM Commissary

JBLM Runner service is provided for the military personnel only and costs \$2 for adults and \$1 for youth or those with a Regional Reduced Fare Permit.

Table 3 - Existing Pierce Transit Routes

Route	Area Served	Approximate Operating Hour	Weekday PM Peak Headways (min)	Average Weekday Boardings (2018)	Total 2018 Boardings
1	University Place – Tacoma – Parkland – Spanaway	Weekdays: 4:05 am – 10:20 pm Saturday: 5:55 am – 10:30 pm Sunday: 6:25 am – 8:55 pm	15	5,290	1,655,699
3	Lakewood – Tacoma	Weekdays: 5:15 am – 9:15 pm Saturday: 6:15 am – 9:15 pm Sunday: 7:15 am – 10:15 pm	30	1,641	517,255
4	Lakewood – South Hill Mall	Weekdays: 5:45 am – 9:15 pm Saturday: 7:45 am – 8:45 pm Sunday: 8:15 am – 6:15 pm	30	1,335	400,402
206	Lakewood – Tillicum – Madigan Army Hospital Bldg	Weekdays: 5:45 am – 9:55 pm Saturday: 7:45 am – 8:45 pm Sunday: 8:00 am – 6:20 pm	30	950	288,819
214	Lakewood – JBLM North (VA Hospital) – Steilacoom (Pierce College)	Weekdays: 5:45 am – 9:45 pm Saturday: 8:45 am – 7:45 pm Sunday: 9:45 am – 5:45 pm	30	571	162,795

Source: Pierce Transit (December 2019)

Since the 2010 GCP, Pierce Transit has updated its service with new routes in the JBLM area while some routes have not changed. Route 206 was operating in 2010, and had an average weekday ridership of 1,100, approximately 150 trips more than were being made on an average weekday in 2018.

Pierce Transit is also planning to add a Bus Rapid Transit (BRT) route along the 14.4-mile portion of Pacific Avenue/SR-7 between downtown Tacoma and Spanaway and would replace the existing Route 1. The project is currently at 60 percent design and will include bus arrivals every 10-15 minutes, installation of transit signal priority, construction of raised platforms for easier boardings, and real-time information included at stops. This BRT project is anticipated to be completed in 2024.

InterCity Transit

InterCity Transit is a public transportation agency that provides service within Thurston County and connects to destinations outside the county. There are two routes that link Olympia and Tacoma with stops in the study area, however both were temporarily suspended during 2020 due to the COVID-19 pandemic. Route 620 resumed operations on July 19, 2021. There are no routes that serve JBLM directly, but these bus routes serve park-and-ride lots within the study area (i.e., the Lakewood Station and the SR 512 park-and-ride lot). The service areas, operating hours, and headways between bus arrivals for Intercity Transit are summarized in Table 4.

Table 4 – Existing InterCity Transit Routes

Route	Area Served	Approximate Operating Hour	Weekday PM Peak Headways (min)	2019 Average Weekday Boardings	Estimated Annualized Total Boardings	Status
612	Olympia – Lacey – Lakewood - SR 512 P&R - Tacoma	Weekdays: 5:50 am – 7:30 pm	20	761	193,967	Currently unavailable after COVID-19 related closure
620	Olympia via Lacey to Lakewood (SR 512 P&R)	Weekends: 9:00 am – 7:00 pm	_60	249	26,679	Suspended during 2020, resumed operations on July 19, 2021

Source: InterCity Transit (December 2019), Ridership data based on September 2019-December 2019 daily average boardings and assuming 362 days of service per year. Pre-COVID data was utilized given the significant impacts to transit ridership seen as part of the COVID-19 pandemic.

Since the 2010 GCP, InterCity Transit is providing fewer bus trips in the vicinity of JBLM. Some of the reduced bus trips are due to COVID-19, while other routes (such as service between Gig Harbor, Lakewood and Olympia) were eliminated before 2020. InterCity Route 620 was averaging approximately 230 riders per day in 2009, and serving approximately 250 riders in 2018, showing relatively consistent ridership for the past 10 years.

Go Lewis-McChord

Go Lewis-McChord provides alternative transportation options to get around JBLM and the Puget Sound region. Go Lewis-McChord Service shut down on March 24, 2020 due to COVID-19, but was restored on June 28, 2021³. The following services are offered:

Go Transit

Go Transit is a free shuttle service that connects various destinations on JBLM and links to destinations off the base. The shuttle service runs every 20 minutes during duty hours between 7:30 am and 5:30 pm Monday through Friday, and during the same hours but by dispatch only on weekends. The service connects JBLM North, JBLM Main, Madigan and McChord Field on the base, and serves the off-base DuPont Transit Center and the SR 512 park-and-ride lot. Bus occupancy is currently limited to eight passengers per bus due to COVID-19 social distancing requirements.

Go Bike

Go Bike is a bike-share program that provides short- and long-term bike and gear rentals to all Department of Defense employees and family members for free.

Go Rideshare

Go Rideshare is a vanpool program for JBLM personnel as well as civilians.

³ https://www.army.mil/article/247813/jblm_shuttle_service_to_begin_operating_june_28

Vanpools

JBLM continues to promote carpool and vanpool as an alternative to drive-alone commuting to the various worksites on the base. A vanpool typically includes a group of five to 15 people who commute together in a van provided by a transit agency. One person in the vanpool is the designated driver and is responsible for the vehicle. Vanpool service within the study area is available under contract with Pierce Transit and InterCity Transit. Table 5 summarizes vanpool ridership and identifies the number of vanpools serving the area.

All Department of Defense personnel are eligible for the “Mass Transportation Benefit Program” (MTBP) that subsidizes the use of transit (including carpool and vanpool) up to \$270 per month.

Table 5 – Vanpools

Transit Agency	Number of Vanpools	Number of People / Vanpool
Pierce Transit	24	7
InterCity Transit	25	information not available

Source: Pierce Transit and InterCity Transit (December 2019). Pre-COVID data was utilized given the significant impacts to transit ridership seen as part of the COVID-19 pandemic.

Park-and-Ride Lots

There are six primary park-and-ride lots within the study area. All data shown below is summarized for pre-COVID conditions. The park-and-ride lots are shown on Figure 5 and include the following:

SR 512 P&R

This lot is located one half block east of the intersection of South Tacoma Way and Pacific Highway South, adjoining I-5 at Exit 127 (SR 512). This park-and-ride lot is operated and maintained by Pierce Transit. And is served by Pierce Transit Routes 3 and 4; Sound Transit routes 574, 592, 594; and InterCity Transit routes 612 and 620. The lot has 493 stalls and is typically at or over capacity.

Lakewood Sounder Station

This lot is located at the intersection of Pacific Highway South and 47th Avenue SW, approximately 0.4 miles north of the I-5/Bridgeport Way interchange (Exit 125) at the Lakewood Transit Station. This park-and-ride lot is operated and maintained by Sound Transit and provides 600 parking stalls, bicycle racks and lockers, shelters, and kiosk ticket machines. The station is served by regional and local bus routes and the Sounder Lakewood to Seattle commuter rail line. Specifically, the park-and -ride lot is served by Sound Transit routes 580, 592, and 594 and InterCity Transit routes 612 and 620 and has a utilization rate of approximately 89 percent. The Lakewood Station was open at the time of the 2010 GCP but served only Sound Transit and InterCity bus routes. Sounder train service to Lakewood began in October 2012.

DuPont P&R

This lot is located at the intersection of Wilmington Drive and Palisade Boulevard in the City of DuPont. This park-and-ride lot is operated and maintained by Sound Transit and has 126 parking spaces and bicycle lockers and racks. The park-and-ride lot is served by Sound Transit routes 592 and 594 and has a utilization rate of approximately 80 percent.

Roy “Y” Park and Ride

This lot is located at the intersection of SR 507 and Pacific Avenue S in Spanaway. It has 100 parking spaces and is served by Pierce Transit route 1. The lot has a utilization rate of approximately 26 percent.

Martin Way P&R (Lacey)

This park-and-ride lot is located off I-5 at Martin Way and has 318 parking spaces. It serves many travelers who are driving from Thurston County to Pierce and King Counties. The lot is served by InterCity Transit route 612 and 620. Utilization rates are not available.

Hawks Prairie Park and Ride

This lot is located at 2548 Hogum Bay Road NE in the City of Lacey. This facility has 332 parking spaces, 10 ADA parking spaces, and five electric vehicle charging stations. Utilization rates are not available.

A summary of the park-and-ride inventory data, including number of parking stalls and utilization is shown in Table 6.

Table 6 – Park-and-Ride Summary

Facility	City	Location	Approximate Number of Parking Stalls	Average Daily Utilization (%)
SR 512	Lakewood ¹	I-5 & SR 512	493	95%
Lakewood Sounder Station	Lakewood ²	Pacific Hwy & 47th Ave SW	600	89%
DuPont	DuPont ²	Wilmington Dr & Palisade Blvd	126	80%
Roy “Y”	Spanaway ³	SR 507 & Pacific Ave S	100	26%
Martin Way	Lacey ⁴	I-5 & Martin Way	318	-
Hawks Prairie	Lacey ⁴	Hogum Bay Road	347	-

1. Information not available

2. Pierce Transit Agency

3. Sound Transit Agency

4. InterCity Transit Agency (no occupancy data available from InterCity Transit)

5. Pre-COVID data was utilized given the significant impacts to transit ridership seen as part of the COVID-19 pandemic.

Commute Trip Reduction (CTR) Program

Washington State’s Commute Trip Reduction (CTR) law requires employers with more than 100 employees to implement programs that encourage alternatives to drive-alone commuting to their worksites. Each year employers are required to submit an annual report that describes the program used.

The Department of the Army has a program called the “Mass Transportation Benefit Program” (MTBP) that provides reimbursement for using mass transit (including vanpool/carpool, bus and train). The MTBP is available to all personnel on base (civilian and military) and is a non-taxable program that subsidizes the use of transit up to \$270 per month.

JBLM promotes vanpool, carpool, and transit through use of bulletin boards, email, and newsletters and has the Logistics Department coordinate the CTR program.

Regional Active Transportation Facilities

Within the JBLM area there are a limited number of dedicated regional active transportation facilities. The Chehalis Western Trail (connecting Lacey and Rainier) and the Yelm-Tenino trail (connecting Yelm to the Chehalis Western trail in Rainier) are the primary multimodal trails in the study area. While other pedestrian and bicycle facilities do exist throughout the study area (each city has varying levels of multimodal infrastructure), there are limited facilities for multimodal users looking to traverse the area. As part of the WSDOT I-5 Mounts Road to Thorne Interchange Corridor Improvements, a shared use pathway will be built in the fourth project stage⁴. This multiuse path will provide a bicycle and pedestrian path between Lakewood and DuPont.

Access Control Points

Multiple access control point (ACP) locations, also known as gates, are provided to access JBLM. The ACP locations are categorized into three areas: Lewis Main, Lewis North, and McChord Field. The current active gates are listed below with their respective exits off I-5:

Lewis Main

- Visitor Control Center (Exit 120)
- DuPont Gate (Exit 119)
- Liberty Gate (Exit 120)
- Madigan Gate (MAMC) (Exit 122)
- Logistic Center Gate (Exit 122B)
- RCF Gate (No exit from I-5)
- Transmission Line Gate (No exit from I-5)

Lewis North

- Lewis North Gate (Exit 120)
- Integrity Gate (Exit 119)

McChord Field

- Woodbrook Gate (Exit 124)
- McChord Main Gate (Exit 124)
- Barnes Gate (No exit from I-5)

Since 2010, multiple gates have been closed, and a few have been moved or opened. Some gates were closed as a result of infrastructure upgrades (such as the new flyover roadway connecting Lewis Main and McChord, resulting in the closure of the Rainier Gate) while other have been closed to minimize entry points to JBLM. At the time of the 2010 GCP there were 17 active gates. In 2021, there are 12 gates with regular operational hours, as shown in Figure 6.

⁴ <https://wsdot.wa.gov/Projects/I5/MountsRdThorneLn/thorne-connector>

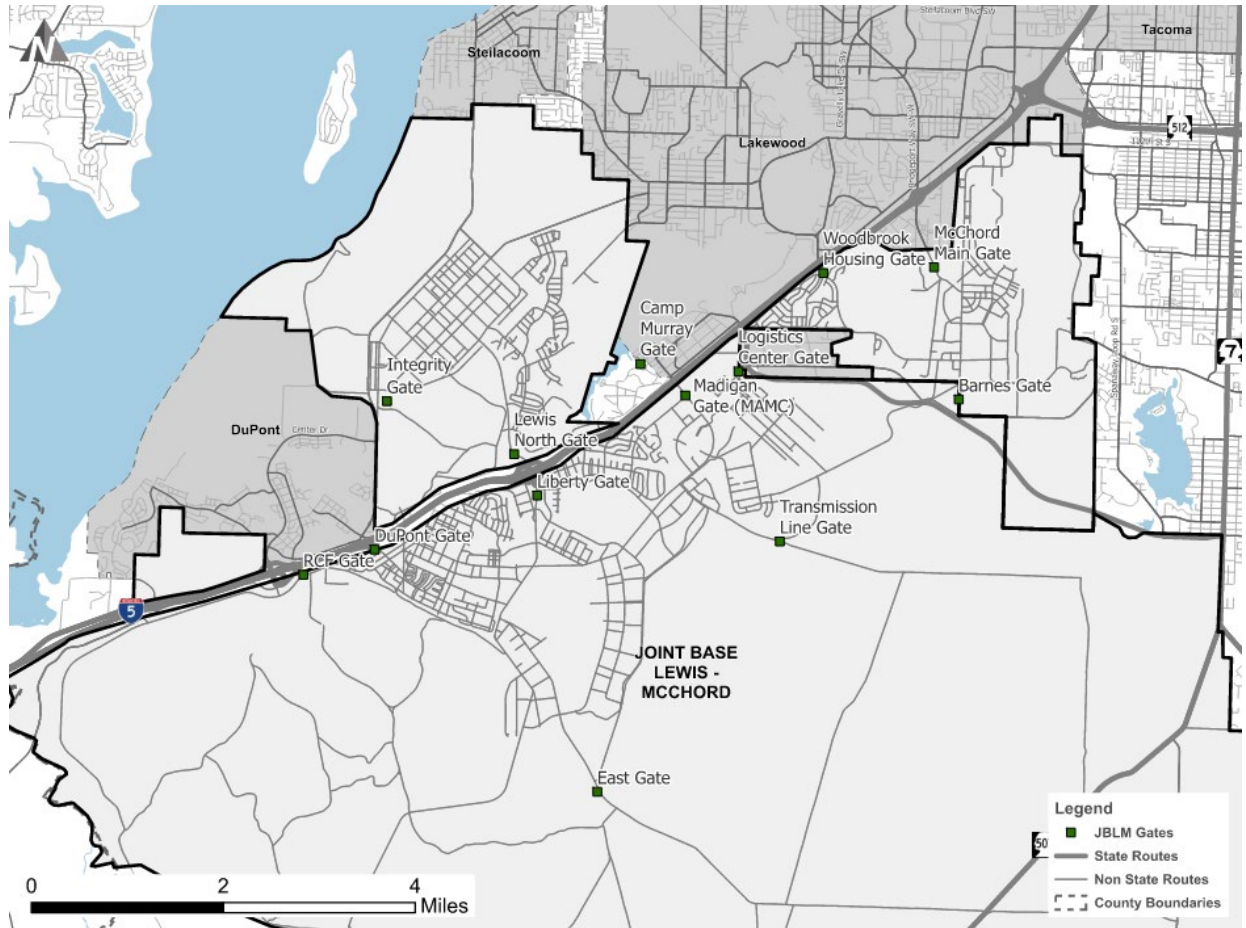


Figure 6 – JBLM Access Control Points (Gates) with Regular Operational Hours

The estimated average weekday daily traffic volume at each gate is shown in Table 7. The volumes are calculated based upon data recorded from January 1, 2019 to April 13, 2021. In the end of March 2020, the D Street Gate ceased operations. As a result, the yearly D Street volume is only composed of the 2019 volume.

Table 7 – Average Weekday Daily Traffic Volume (Inbound Only)

Gate	2019	2020	2021	% Change 2019-2020	% Change 2020-2021
Woodbrook Housing	753	627	745	-17%	+19%
Barnes	2,922	2,441	2,769	-16%	+13%
McChord Main	5,870	5,022	5,663	-14%	+13%
Integrity	1,603	2,217	3,208	+38%	+44%
D St ¹	2,335	N/A	N/A	N/A	N/A
RCF ²	1,986	1,227	1,305	-38%	+6%
Transmission Line	835	538	628	-36%	+17%
East	2,526	2,808	3,080	+11%	+10%
DuPont	4,727	5,093	5,699	+8%	+12%

Gate	2019	2020	2021	% Change 2019-2020	% Change 2020-2021
Logistics Center	2,475	2,252	2,538	-15%	+20%
Madigan (MAMC)	6,861	8,138	8,655	+19%	+6%
Lewis North	6,065	7,029	8,368	+16%	+19%
Liberty	7,399	9,291	10,471	+26%	+13%
Total	46,357	46,683	53,129	+1%	+14%

1. D Street Gate was permanently closed in late 2019
2. Includes both Mounts Road Gate and Center Drive Gate.

As shown in Table 7, average weekday daily traffic volumes both increased and decreased at different gates from 2019-2020. Generally, the larger gates such as MAMC, Lewis North, and Liberty saw large increases in traffic while many of the smaller gates saw decreases in traffic (except for Integrity Gate). While traffic volumes fluctuated across JBLM gates during this time, the total change in traffic remained relatively unchanged between 2019 and 2020. However, in the first quarter of 2021 there was a 14 percent increase from 2020 in vehicle traffic accessing JBLM on an average weekday.

Data from the 2010 GCP showed an average of approximately 76,000 total vehicle trips accessing JBLM each day across all gates (inbound trips only). In the first quarter of 2021, this number was down to approximately 53,000 vehicles, a 30 percent decrease over the past decade.

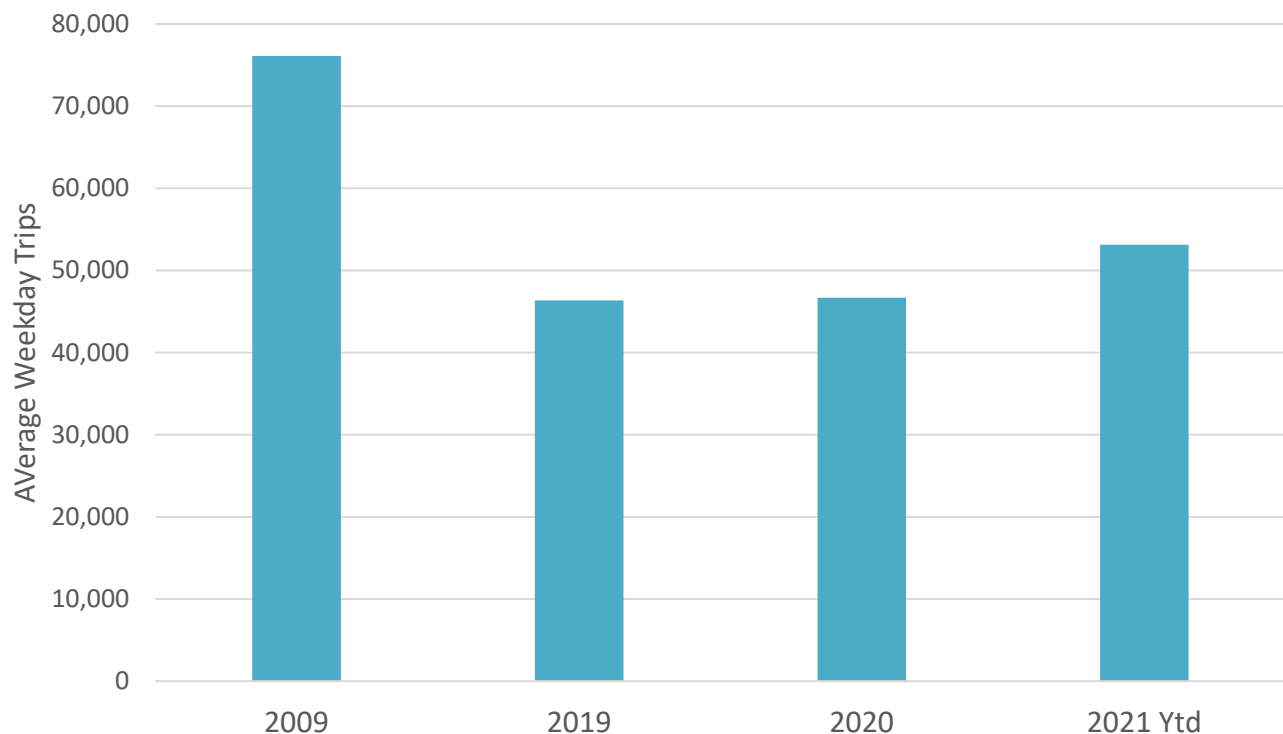


Figure 7 – Average Weekday Inbound Trips to JBLM (all gates and bases) by Year

I-5 Traffic Volumes

Interstate I-5 bisects JBLM and accommodates regional traffic volumes in both the northbound and southbound directions. Ten of the 12 access gates discussed are located near exits off I-5. Military and non-military personnel use I-5 as part of the commute to and from JBLM. Figure 8 summarizes the Average Weekday Daily Traffic (AWDT) on I-5 just north of the DuPont Interchange with data provided by WSDOT Permanent Traffic Recorder (PTR) counts.

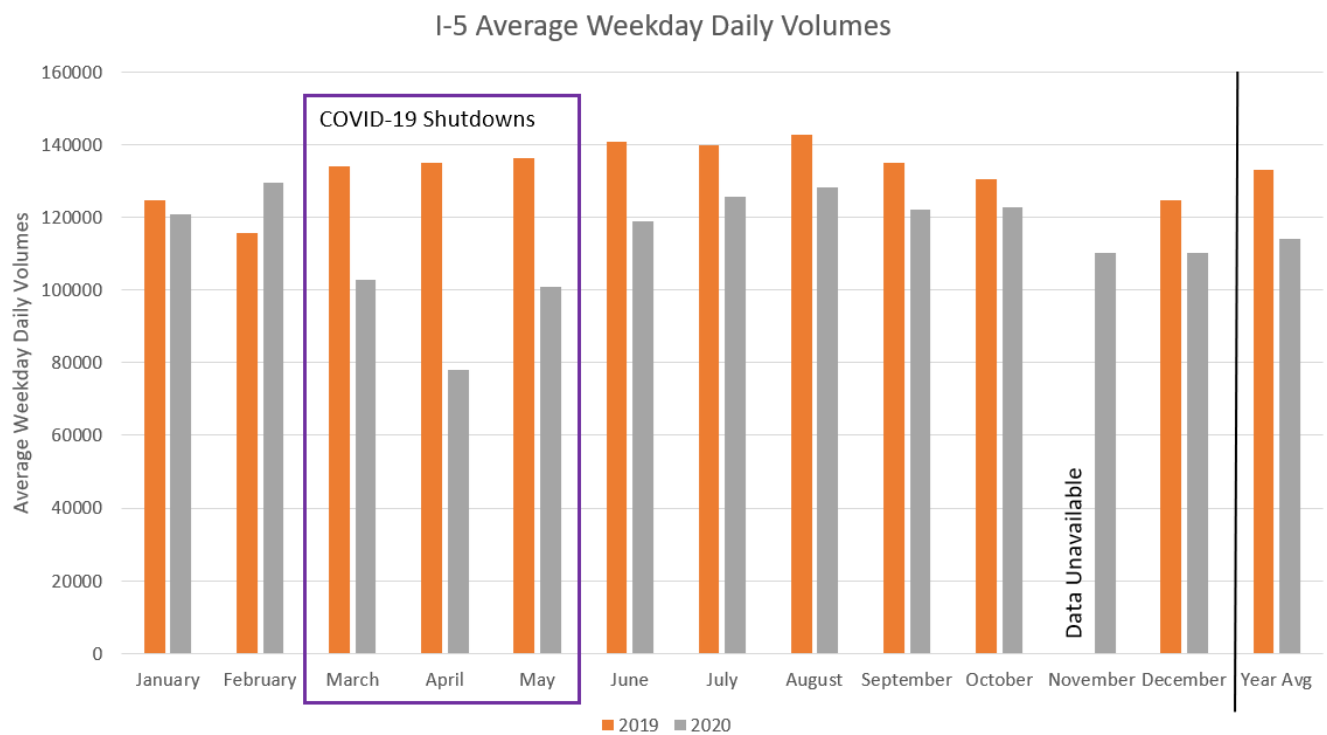


Figure 8 – I-5 Average Weekday Daily Volumes During COVID-19

In March of 2020, the traffic volumes began decreasing sharply because of the COVID-19 pandemic and the ensuing stay-at-home order. As 2020 progressed, the volumes slowly returned to near-2019 values but were still consistently lower. Aside from the decline in March and April, the 2020 volumes generally followed the same trend as 2019. Figure 9 summarizes the AWDT on I-5 comparing data from 2010 (during the last GCP update), 2019, 2020 and 2021 year to date (includes January - April).

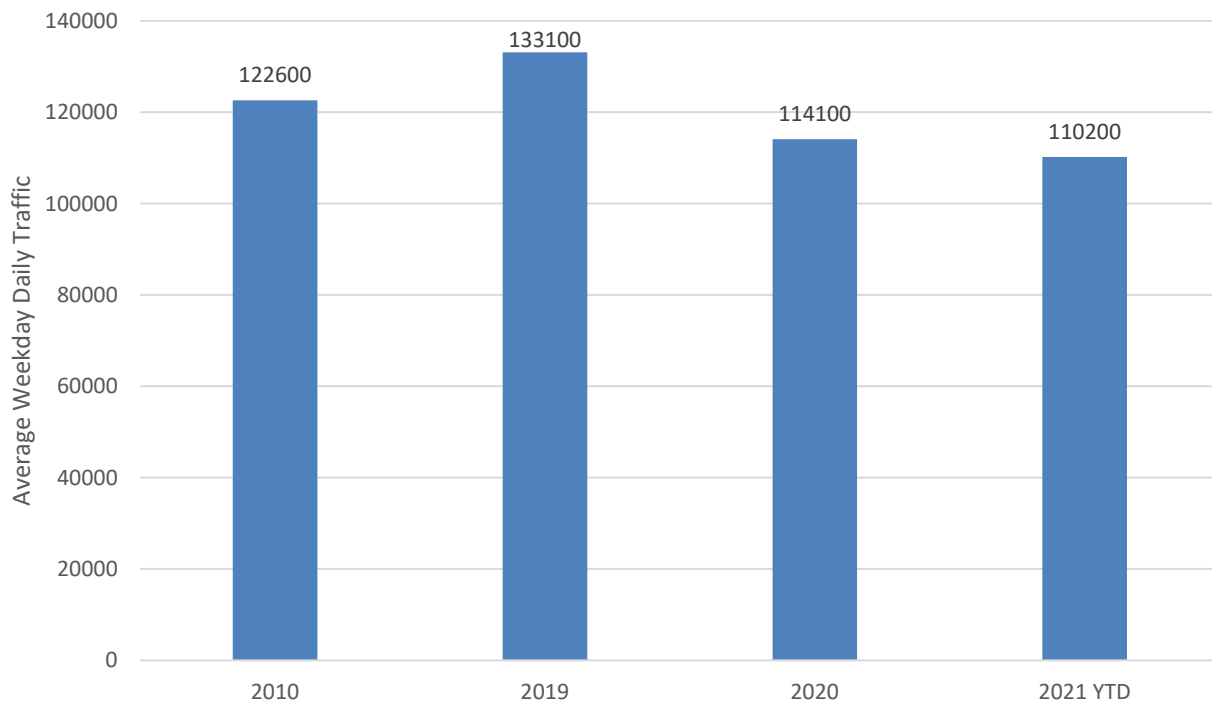


Figure 9 – I-5 Average Weekday Daily Volumes

The WSDOT PTR data shows that volumes on I-5 grew approximately 8.6 percent from 2010 to 2019, but then decreased by 14.3 percent in 2020. 2021 year to date volumes are approximately 17 percent lower than 2019 AWDT, suggesting that the ongoing COVID-19 pandemic is still affecting traffic patterns within the study area.

While the COVID-19 pandemic has changed commute habits in the short term, there is likely to be a long-term change in travel patterns even after the pandemic has ended. Many employers are adopting long-term telework options that will likely persist long after the pandemic.

Travel Patterns

It is important to understand the travel distribution patterns of military personnel who access JBLM when assessing the transportation system within the study area. This study uses several data sources to provide input and guidance in understanding these travel patterns, including the 2018 JBLM-Camp Murray Region Survey and StreetLight Data gathered as part of the 2020 SSMCP Local Transportation Impacts Study.

The SSMCP conducted a survey to gather the information about military personnel, including a question about home location. The survey was conducted in Spring/Summer of 2018 and garnered 2,482 responses through an online survey platform, SurveyMonkey. The sample of respondents included DOD civilians, active-duty service members, and military retirees. The survey indicated approximately 86 percent of respondents live off the base, with the highest concentration of military personnel living south of JBLM in the Lacey/Olympia area (22 percent), DuPont/Lakewood/Steilacoom area (16 percent), Parkland/Puyallup area (14 percent), Tacoma area (9 percent), and Yelm/Roy area (7 percent).

It is important to note that the civilian and retired military personnel included in the survey do not commute regularly to JBLM area and most likely do not have travel impact on the study area during peak travel periods.

As part of the 2020 SSMCP Local Transportation Impacts Study, an additional data resource from StreetLight was used to understand peak period travel patterns to and from JBLM. StreetLight is a transportation analytics platform that uses navigation-GPS and location-based services data and covers about 23 percent of the adult population in the US and Canada. Specifically, trip origin and destination-related data was obtained, reviewed and used to enhance our understanding of travel patterns to and from JBLM study area. The analysis shows the following travel patterns illustrated in Figure 10. Trip distribution patterns from the 2010 GCP are also included in Figure 10 to highlight the changes in trip patterns over the last 10 years.

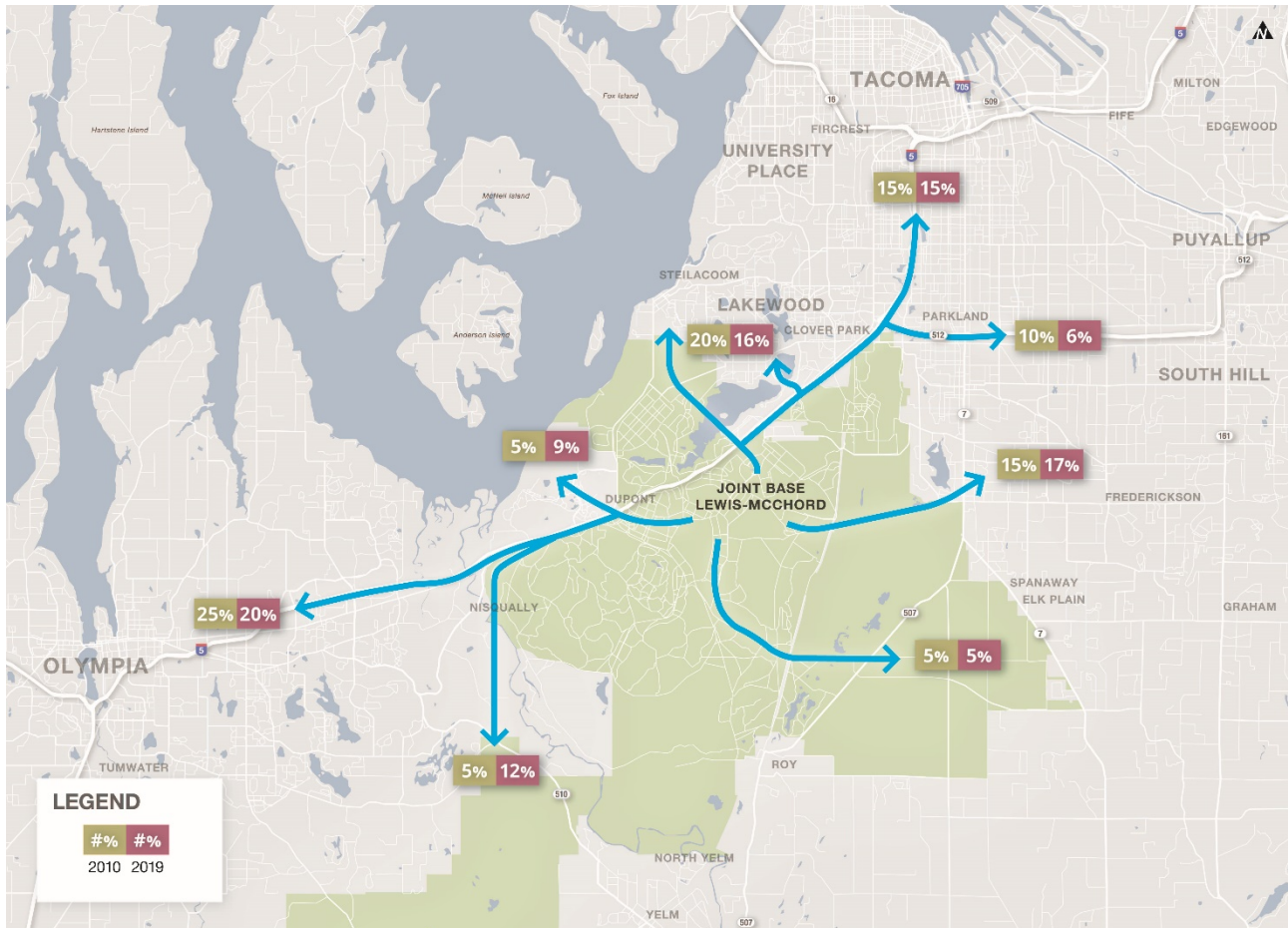


Figure 10 – JBLM Trip Distribution 2010 vs 2019

Generally, travel patterns are similar between the 2019 origin-destination data and the trends identified in 2010, with the largest change increase occurring in travel to and from south of JBLM. This trend is likely to continue, with more JBLM personnel expected to live in Thurston County as housing costs continue to rise more quickly in Pierce and King County.

Resiliency

On December 18, 2017, an Amtrak train travelling southbound derailed at Nisqually Road SW, crashing onto I-5 southbound lanes, completely blocking southbound I-5. Southbound I-5 only fully reopened two and half days later. This incident, along with flooding of I-5 in the Nisqually Delta in 2020, have shown how dependent residents and workers in the JBLM area are on I-5. These events have further emphasized the need for improved resiliency on I-5 and for additional ways to travel north-south through the study area.

The SSMCP has continued advocating for additional funding to be dedicated to I-5 improvements, specifically from Mounts Road south through the Nisqually Delta. These improvements are intended to both reduce congestion but also elevate the roadway of I-5 and reduce the likelihood of future flooding events leading to I-5 shutdowns and the forecast undercutting of I-5 due to erosion.

Additionally, a number of roundabout improvements on SR 507 have been identified as a high priority and will also provide improved north-south throughput between Thurston and Pierce Counties. Both I-5 and SR 507 improvements will help facilitate daily travel while ensuring better emergency access at times of unforeseen events that impact connections between the two counties.

Planned Improvements

Several key transportation improvements are currently planned within the study area that are expected to improve transportation for the JBLM community. They include:

- Following the completion of the I-5 corridor improvement project from Steilacoom-DuPont Road to Thorne Lane, plans are underway for further study and improvements to the **I-5 corridor through the Nisqually Delta**⁵.
- WSDOT is currently working with the Federal Highway Administration on the Environmental Assessment for phase 2 of the **SR 510 Yelm Loop**⁶. This project will include a new highway with roundabouts to improvement travel times through Yelm as drivers divert off I-5 during times of congestion.
- The city of DuPont is currently working to **expand DuPont-Steilacoom Road**⁷ from one to two lanes in each direction between Wharf Road and Pendleton Avenue. This corridor project will also include a future connection to I-5 as part of WSDOT's improvements along the I-5/JBLM corridor.
- Pierce Transit is currently working on upgraded transit service along the Pacific Avenue/SR 7 corridor by converting the existing Route 1 to a **Bus Rapid Transit** line⁸. This service will operate between the Tacoma Dome Station and the Spanaway Transit Station, with service every 15 minutes. Service is expected to open in 2024.
- As part of the Sound Transit 3 measure that passed in 2016, Sound Transit is planning to extend the **Sounder train to DuPont**, including adding a new station in the Tillicum neighborhood. The Sounder extension is expected to begin planning in 2025 with service beginning in 2045.

COVID-19 Transportation Impacts

The impacts of COVID-19-related shutdowns have had far reaching impacts across all aspects of life. Social distancing requirements led many non-essential employees to transition to remote work from home. While many employees have begun returning to offices, some have made the transition to full or part time remote work for the foreseeable future. While the full impacts of these changes are not yet fully understood, it is expected that a greater number of employees will work remotely in the future. This will have an undefined level of impact on commuting trips through the area of JBLM and the surrounding communities.

Interestingly, traffic to JBLM changed very little between 2019 and 2020. Average daily weekday gate volumes increased by approximately one percent from 2019 to 2020, while volumes on I-5 decreased approximately 14.3 percent. This suggests that JBLM travel was relatively unimpacted by COVID-19

⁵ <https://storymaps.arcgis.com/stories/83988afb1ef04ece85035b9b6155811e>

⁶ <https://wsdot.wa.gov/Projects/SR510/YelmLoopNewAlignPh2/map>

⁷ <https://www.dupontwa.gov/535/2-Overview-Scope>

⁸ <https://piercetransitbrrt.participate.online/>

changes. This may be due to the nature of work on JBLM — that it is not well suited to being performed remotely.

While daily traffic volumes decreased approximately 14 percent on I-5 from 2019 to 2020, truck volumes on I-5 increased by approximately 500 trucks per day (17,500 to 18,000) on an average weekday. This increase is not likely due to the COVID-19 pandemic itself but shows that overall truck activity in the study area (likely driven by e-commerce) was largely unaffected by COVID-19 shutdowns. Overall truck volumes continue to show growth each year since the last GCP in 2010.

One of the largest changes to transportation that came from the COVID-19 pandemic was the impact it had on public transit. Transit agencies across the county saw ridership numbers plummet, similar to the impacts locally where transit ridership is down 50 to 70 percent across the three transit agencies operating around JBLM. Go Lewis-McChord had to cease operations altogether for most of 2020, and has only restored service midway through 2021. InterCity Transit has only just restored fixed route service to Lakewood that travels through the study area along I-5, having closed both Route 612 and 620 due to the pandemic.