

## 4 CUMULATIVE EFFECTS ANALYSIS

This chapter considers the cumulative effects of OMF South and other past, present, and reasonably foreseeable future actions, regardless of what agency or party undertakes such other actions. A cumulative effects assessment can reveal unintended consequences that might not be apparent when a proposed action is evaluated in isolation. (Note: while NEPA uses the term “effects,” SEPA uses “impacts.” For the purposes of this discussion, the words have the same meaning.)

Cumulative effects are defined as “the effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time” (40 Code of Federal Regulations 1508.1(g)(3)). Public agencies must analyze cumulative impacts to fully understand how a proposed action and its alternatives interact with past actions, present-day activities, and actions that are planned and reasonably certain to occur in the future. Studying the proposed project in conjunction with other actions can reveal unintended impacts that may not be clear when the proposed project is analyzed by itself.

Sound Transit has considered its planned projects and gathered information from agencies and the public to identify impacts of past and present developments and reasonably foreseeable future actions that could interact with the impacts of OMF South alternatives, including:

- Adopted transportation plans, land use plans, and neighborhood plans from King County, Federal Way, and Kent.
- Lists of known major public and private land use proposals in King County, Federal Way, and Kent.
- Information provided by WSDOT and King County Metro on planned transportation projects and developments.
- PSRC data on population and employment growth projections, travel forecasts, and land use projections.
- Information provided by other organizations and the public on planned private projects, community values, and concerns.

This information was used to identify past and ongoing development trends, characterize reasonably foreseeable future actions, and identify and evaluate expected cumulative impacts to which OMF South could contribute.

### 4.1 Temporal and Geographic Boundaries of the Cumulative Effects Analysis

Consistent with regulatory guidance for cumulative impact analyses, the development actions that were considered included those that are past, present, and reasonably foreseeable.

- Past actions include non-native settlements dating back to the 1800s through developments up to the present.
- Present actions are those projects just completed or under construction by local, state, or federal agencies.

- Reasonably foreseeable future actions are those that have obtained some local, state, or federal government approval and thus could be under construction at any time between the present and 2042 (OMF South's design year).

The study area for this cumulative impact analysis is generally a combination of the study areas defined in Chapter 3 for the various environmental resources and construction impacts or a broader area for certain elements of the environment, as described below:

- Avian species and other migratory animals or animals with large foraging areas are studied at the wildlife corridor level.
- Fish habitats are considered at the watershed level for impacts on stream quality.
- Transportation, air quality, energy, and, to some degree, economics are studied at the Puget Sound regional level, including Pierce, King, Snohomish, and Kitsap counties.
- Greenhouse gases are studied at the Puget Sound regional level, while it is acknowledged that the effects are felt on a global level.
- Socioeconomic resources that may experience a range of cumulative impacts from new infrastructure projects, such as land use, economics, neighborhoods, public services, visual resources, and parks, were generally analyzed within 0.25 to 1 mile of the project alternatives.

## 4.2 Past and Present Actions

Ongoing impacts from past actions have shaped the project vicinity since the mid-19th century. The area between Seattle and Tacoma has become increasingly urban, with suburban population growth spreading to surrounding areas, including Federal Way and Kent in the OMF South study areas. Development that has occurred next to I-5 and SR 99 has been predominantly commercial and residential, with some industrial, office, mixed-use, and agricultural uses as well.

Past and present regional and local planning efforts have emphasized an integrated, long-range growth-management, economic, and transportation strategy based on a vision of high-density, urbanized centers linked by a high-quality, multimodal transportation system that includes light rail. The environmental effects of past and ongoing actions are considered in relation to the natural and built environments.

### 4.2.1 Natural Environment

Much of the OMF South study area is now urbanized but originally contained forest land, wetland, streams, and riparian environments. The topography was substantially modified through urban development as well as through the construction of I-5 and SR 99, where hills were cut or regraded and valleys and lowlands filled to create the highways.

Urbanization has resulted in hydrologic changes, such as decreased baseflow and aquifer recharge during summer months and increased seasonal flow fluctuations and flooding during periods of heavy rain, as compared with predevelopment conditions. The development has also affected water quality by introducing runoff contamination from pollution-generating surfaces and by increasing water temperatures due to the removal of vegetation that previously provided shade along stream banks.

Past actions affecting the natural environment included timber harvesting, natural resource extraction, farming, ranching, and residential development. The wetlands present in the OMF South study area represent fragments of larger historical wetland systems, and some are more recently formed wetlands that have developed because of transportation, land use, and surface water drainage improvements that have altered the landscape. The Hylebos Creek basin contains the largest wetlands in the study area.

Due to the heavily developed nature of the OMF South study area, most of the vegetation present reflects landscaping practices for urban and suburban areas, with remnant tree canopy retained for shade or aesthetics. However, mature forest is within the study area along the riparian corridor of the Hylebos Creek tributaries to the west of I-5.

**4.2.2 Built Environment**

In the six decades since the completion of I-5 in Washington, industrial and commercial development has grown steadily in the study area. Employment encompasses a variety of industries and business sectors, including retail, food service, and light industrial. The land uses adjacent to the SR 99 and I-5 corridors are primarily commercial and residential, with some industrial, office, mixed-use, and limited amounts of open space.

**4.3 Reasonably Foreseeable Future Actions**

Reasonably foreseeable future actions are future projects that would produce environmental impacts that could add to or interact with the impacts associated with OMF South alternatives and other past and present actions. Reasonably foreseeable future actions are not speculative and are considered regardless of the agency, organization, or person serving as their proponent (CEQ 1997). They must be likely to occur in the reasonably foreseeable future by virtue of being funded, approved, or under consideration for regulatory permitting; being the subject of an environmental review process under NEPA or SEPA; or being part of an officially adopted planning document or publicly available development plan.

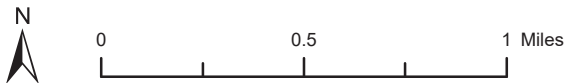
Changes to transportation infrastructure are one of the biggest influences on transportation conditions and other environmental topics, such as noise and air quality. Past, present, and reasonably foreseeable future actions are listed in Table 4.3-1 and shown on Figures 4.3-1 and 4.3-2.

**Table 4.3-1 Past, Present, and Reasonably Foreseeable Future Actions**

Map ID	Proponent	Actions and Projects in the Vicinity	Project Description	Planned Completion Date
1	WSDOT	SR 509 Completion Project	A new four-lane expressway between S 188th Street and I-5/ S 272nd Street and SR 509, also includes new I-5 ramps, improvements to I-5 interchanges in south King County and constructs new bridges. (WSDOT 2023a)	2028
2	Sound Transit	Federal Way Link Extension (FWLE)	Extends Sound Transit’s Link Light Rail from the Angle Lake Station in Sea-Tac south to the Federal Way Downtown Station. This includes three stations in Kent/Des Moines near Highline College, S 272nd Street, and the Federal Way Downtown Station. A total of 3,200 parking spaces will be added along the route. (Sound Transit 2023a)	2024
3	Private	Pape – Kenworth Development	Two buildings that will include areas for truck maintenance, showroom, office, and warehouse space (City of Federal Way 2020a).	TBD

**Table 4.3-1 Past, Present, and Reasonably Foreseeable Future Actions (continued)**

Map ID	Proponent	Actions and Projects in the Vicinity	Project Description	Planned Completion Date
4	Sound Transit	Tacoma Dome Link Extension (TDLE)	Extends Sound Transit’s Link light rail from the Federal Way Downtown Station to the Tacoma Dome Transit Station. Will also include new light rail stations in South Federal Way, Fife, and additional Tacoma locations. (Sound Transit 2023b)	2035
5	Federal Way	Federal Way City Center Access Project	Intended to ease congestion in Federal Way’s City Center through a number of projects which will improve access to I-5 and local street projects. This will include but not be limited to road widening and additional roundabouts, HOV lanes, and overcrossings in the City Center area. (City of Federal Way 2022)	Construction scheduled to begin as early as 2027
6	Private	FUSION Family Center Project	An Econo Lodge hotel in the Federal Way area was converted to a 29-room emergency shelter for families experiencing homelessness. (FUSION Federal Way 2023)	Completed December 2020
7	Private	Creekside Commons Townhomes	Approximately 10 acres will be converted to 94 townhome units. (City of Federal Way 2019a)	TBD
8	Private	Woodbridge Corporate Park (Weyerhaeuser Campus) Redevelopment	The former Weyerhaeuser Campus will be restored to a fully operational corporate park, with a focus on learning, workforce training, and economic development. Historic and natural features will be preserved during restoration. Once complete, an estimated 3,100 jobs will be created. (Industrial Realty Group 2022; Nieto 2022)	2025
9	Federal Way	Asphalt Overlay Project – S 336th Street – 10th Place S to 18th Avenue S	Various streets in Federal Way are being repaved within the 2022 Asphalt Overlay Project, including S 336th Street – 10th Place S to 18th Avenue S. Sidewalks will be improved to meet ADA requirements. (City of Federal Way 2021)	2023
10	Federal Way	Widen S 336th Street between SR 99 (Pacific Highway S) and 20th Avenue S	S 336th Street will be widened to five lanes, and second left-turn lanes will be added for eastbound and westbound SR 99. In addition, sidewalks will be added on the north side of S 336th Street. (City of Federal Way 2015)	TBD
11	Federal Way	Asphalt Overlay Project – 16th Avenue S – SR 99 to SR 18	Various streets in Federal Way are being repaved within the 2022 Asphalt Overlay Project, including 16th Avenue S – SR 99 to SR 18. In addition to repaving these streets, sidewalks will be improved in accordance with the ADA, including improvements to wheelchair ramps. (City of Federal Way 2021)	TBD
12	Federal Way	16th Avenue S: S 344th Street – S 348th Street Auxiliary Lane	A third southbound through-lane will be added at the intersection of S 348th Street and 16th Avenue S. (City of Federal Way 2020b)	2026
13	WSDOT	SR 161 – Milton Road S Vicinity to SR 18 – Paving and ADA Compliance	SR 161 was resurfaced in both directions, and ADA ramps were replaced. (WSDOT 2022)	Completed 2022
14	Federal Way	SR 99 HOV Lane Widening, S 340th Street to S 359th Street	SR 99 was widened from a five-lane section to a six-lane section, with two general-purpose lanes, and one HOV lane added in each direction. A landscaped median was added, with left-turn lanes and U-turn accessibility at intersections. (City of Federal Way 2019b)	Completed 2018
15	WSDOT	I-5/SR 16/SR 18 Triangle Interchange Vicinity Improvements	A new southbound exit will be added to S 356th Street, the existing exit for SR 18 will be replaced, and the intersection at SR 161 will be realigned with Milton Road South/20th Avenue South. (WSDOT 2023b)	TBD

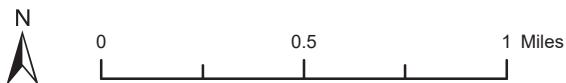


**FIGURE 4.3-1**  
Past, Present, and Reasonably  
Forseeable Future Actions



**FIGURE 4.3-2**  
Past, Present, and Reasonably  
Foreseeable Future Actions

OMF South



The four reasonably foreseeable future projects that would have the greatest potential for cumulative impacts with OMF South are Sound Transit's TDLE, WSDOT's SR 509 Completion Project and I-5/SR 16/SR 18 Triangle Interchange Vicinity Improvements, and the Federal Way City Center Access Project.

TDLE would extend light rail service nearly 10 miles via mostly elevated tracks between Federal Way and Tacoma. The project includes four new light rail stations in areas near south Federal Way, Fife, Portland Avenue, and the Tacoma Dome. The stations will provide connections to other transit services in the region, such as Sounder, Tacoma Link, Sound Transit Express, King County Metro, Pierce Transit, Intercity Transit, and Amtrak. Additional information is available at Sound Transit's web page focused on system expansion: <https://www.soundtransit.org/system-expansion>.

As described in Section 2.4, Project Alternatives, TDLE would be constructed and open after OMF South. Impacts associated with constructing the mainline tracks connecting the FWLE terminus to the OMF South for the Preferred or South 344th Street alternatives are addressed in the discussion of the build alternatives in Chapter 3 of this Draft EIS. TDLE impacts beyond those associated with the mainline tracks are addressed in this cumulative impacts analysis chapter and will be further detailed in the separate TDLE Draft EIS, expected to be published in mid-2024. If the Midway Landfill Alternative were selected to be built, impacts associated with the mainline tracks of the Preferred and South 344th Street alternative would still occur, but later in time as part of TDLE construction and operations.

Federal Way's City Center Access Project is intended to ease traffic congestion caused by sustained growth. In November 2019, the Federal Way City Council approved moving forward on designing a modified interchange with an overcrossing at S 324th Street and extended I-5 access ramps serving S 320th Street and S 324th Street. The City Center Access Project overlaps with the northern portion of the mainline for the OMF South Preferred and South 344th Street alternatives near S 324th Street. The project is currently in preliminary design and is undergoing environmental review under NEPA; however, the project is not currently fully funded and final design and construction dates are not known.

WSDOT's SR 509 Completion Project is part of the Puget Sound Gateway Program, which also includes the SR 167 Completion Project in Pierce County. Together, these projects help complete critical freight corridors in the Puget Sound region. The SR 509 Completion Project will build a new four-lane expressway between I-5 and SR 509's current terminus near SeaTac Airport. The project will also build new freeway ramps, improve existing freeway interchanges, and build new bridges. Construction began in 2020 and is expected to be completed in 2028.

WSDOT's Triangle Interchange Vicinity Improvements will add a new southbound exit to South 356th Street, rebuild the existing exit to SR 18, and realign the SR 161 intersection with Milton Road South/20th Avenue S. The project is in the pre-construction phase. Construction is tentatively scheduled to start in 2025 and be complete by 2027.

### 4.4 Analysis of Cumulative Effects

Adverse and/or beneficial cumulative impacts could occur over an extended period during project operation, when impacts of OMF South would add to or interact with long-term impacts of other past actions, present actions, and reasonably foreseeable future actions. Adverse cumulative impacts could occur over the short-term during construction when activities necessary to build OMF South would accumulate with impacts from other projects under construction at the same time. The following sections discuss expected cumulative impacts of project construction and operations on elements of the environment. The direct and indirect long-term and construction impacts of the project that could contribute to future cumulative impacts are discussed in Chapter 3.

Operation of OMF South would facilitate operation of regional light rail and contribute to a shift of some vehicle trips to light rail transit, thereby reducing demand on traffic and bus transit movement. This in turn would contribute to a reduction in impacts on air quality, noise levels, water quality, and energy consumption compared with future conditions projected under the No-Build Alternative, as described in the corresponding sections below. Therefore, a contribution of OMF South would be to reduce the adverse cumulative impacts on these resources to levels below what they would be without the project.

#### 4.4.1 Transportation

The transportation access analysis presented in Section 3.2 reflects conditions with assumed growth between existing conditions and the design year (2042). The traffic growth assumptions also reflect changes in traffic volumes that are projected in the traffic forecasts prepared for FWLE and TDLE. As a result, the traffic analyses reflect the cumulative impacts of these Link light rail extensions as well as other planned and foreseen developments and associated increases in traffic within the study areas.

FWLE is under construction and is planned to open for service in 2025/2026. Design and construction for OMF South is planned from 2024 to 2029. Should OMF South be located at the Midway Landfill Alternative, the FWLE construction period may overlap the planned construction period for OMF South; however, this is unlikely as the section of FWLE adjacent to the landfill should be completed before OMF South construction is scheduled to begin. There is also the potential that the construction period for OMF South would overlap with TDLE.

Federal Way's City Center Access project would construct a new I-5 interchange at S 324th Street and improvements to the existing I-5/S 320th Street interchange. This project is planned to start construction as soon as 2027, but at this point in time, it is unfunded. In conjunction with this project, WSDOT is proposing to make fish passage improvements that would remove a portion of parking spaces in the Federal Way/S 320th Street Park & Ride. This work could start as early as 2024. This potential impact to parking availability may be in addition to the 50 parking spaces that would be removed as part of the OMF South Preferred Alternative. Because the project is not currently funded, the change in traffic patterns due to the City Center Access project were not reflected in the 2042 traffic analyses for OMF South.

The permanent loss of parking spaces at The Commons at Federal Way shopping mall and Walmart are not expected to affect access to those properties due to the amount of remaining parking within and adjacent to those properties. Any future development in those areas would need to comply with Federal Way parking requirements.



### 4.4.2 Acquisitions, Displacements, and Relocations

Several other public projects planned in the vicinity of the OMF South alternatives could acquire property, most notably TDLE would acquire properties to the south of the Preferred or South 344th Street alternatives. In addition, there could also be other smaller public or private projects in the project vicinity that would acquire new properties and displace existing uses.

As part of the City Center Access project in Federal Way, transportation improvements and stream culvert work would displace Belmor residents in the vicinity of the OMF South mainline tracks for the Preferred and South 344th Street alternatives. Some of these mobile home displacements may overlap with OMF South displacements, or there may be additional displacements. Because the City Center Access project is currently unfunded, it is likely that OMF South would begin the acquisition and relocation process before Federal Way begins project construction. Therefore, the two projects would not have overlapping construction impacts, but may have adverse long-term cumulative impacts within Belmor, depending on the OMF South mainline track option and the final design for the City Center Access project.

Federal Way also has an initiative to recruit a 4-year university for a branch campus within the city's core. There is no specific proposal at this point, but a future project could add to the property acquisitions and displacements in the vicinity.

There are no anticipated projects from other public agencies or private development that are anticipated to contribute to adverse impacts within the Midway Landfill Alternative study area.

### 4.4.3 Land Use

OMF South, in conjunction with other land use actions by local governments and other property owners, could result in cumulative impacts to land uses in the vicinity of the project alternatives. The cumulative impacts of these land use actions are contemplated in the analysis in Section 3.4, Land Use, as it includes a review of anticipated changes based on local and regional plans to accommodate future population and employment growth forecasts.

The purpose of OMF South is to support the expansion of the Link light rail system under Sound Transit 3, including the FWLE and TDLE projects. Cumulatively, the Sound Transit light rail projects and planned development projects could help achieve goals that encourage and support high-density, mixed-use, transit-oriented development. Although there are reasonably foreseeable future land developments in the study area that would increase density without light rail, the FWLE and TDLE projects, supported by OMF South, would support a greater density of development than would likely occur without light rail, particularly near planned light rail stations in Federal Way. Land use changes are expected to be greatest near stations due to increased transit accessibility and pedestrian activities, which are generally attractive to businesses and residents. Any necessary changes to development regulations to allow higher density and more intense land use would be within the discretion of local governments.

The OMF would be a consistent with land uses in the Commercial Enterprise (CE) zone in Federal Way and would add to the demand for industrial lands in the immediate context as displaced businesses would have to relocate to other lands that accommodate a light industrial use. However, the growth management process in Washington State anticipates this phenomenon as projects like OMF and other light industrial development occur on vacant and underdeveloped land. Through their regionally coordinated land capacity analyses, cities must plan for adequate future land in accordance with population and employment targets to ensure they have the land capacity available to accommodate future growth.

Aside from FWLE, there are no current or future development projects within 0.5 mile of the Midway Landfill Alternative that are anticipated to affect adjacent land uses. However, Federal Way has several reasonably foreseeable projects occurring within or near the study area of the Preferred and South 344th Street alternatives. The elevated mainline tracks for the Preferred or South 344th Street alternatives would cross Federal Way's proposed City Center project. Possible changes in land use and zoning to support transportation uses and improved access may coincide with similar changes as a result of the Link light rail expansion projects supported by OMF South.

Future projects likely to produce cumulative land use impacts in the study area include TDLE, FWLE, and the WSDOT SR 509 Completion Project, all of which would convert existing land uses to transportation land uses (Sound Transit 2016; WSDOT 2003; FHWA/WSDOT 2018). The cumulative land use impacts of these projects with OMF South would be the advancement of the Washington State's Growth Management Act, PSRC's Vision 2050, and local comprehensive plans to reduce traffic congestion and support the expansion of the light rail and high-capacity transit system as a whole.

### 4.4.4 Economics

The analysis in Section 3.5, Economics, used PSRC data to account for future regional and local activity changes in regional population, employment, and housing. County assessor's data and subarea plans were used to examine existing and future land uses in the local area.

When combined with other foreseeable projects, the OMF South project is anticipated to have a small impact on the regional economy. There are potential additional impacts associated with OMF South when considered with FWLE and TDLE. It is possible that multiple construction projects taking place at the same time may exacerbate the economic effects described in Section 3.5 (including changes related to the potential displacement of employees and businesses), which may result in greater impacts. Sound Transit would minimize this through coordination of construction activities to limit potential disruption, such as through the development of transportation management plans. Construction of TDLE and the WSDOT SR 509 Completion Project could potentially occur at the same time as OMF South but are not currently expected to have substantial adverse impacts on the region when considered in the context of OMF South. Additionally, the combined job-creation impacts would be positive.

In Federal Way, the Woodbridge Corporate Park (Weyerhaeuser Campus) Redevelopment project started construction of two industrial buildings in 2022; once redevelopment is completed the campus is estimated to generate 3,100 new jobs (Industrial Realty Group 2022). Table 4.3-1 lists other reasonably foreseeable projects in Federal Way, some of which do not have an established schedule for completion. Without knowledge of when these projects will be completed or what their business impacts will be, this assessment cannot determine the potential cumulative economic impact in the context of the OMF South project.

Some of the potential cumulative effects from multiple projects may be offset by applying the same mitigation measures identified in Section 3.5, Economics, including coordination with businesses and districts during construction, signage to help patrons find businesses, and other measures.

### 4.4.5 Social Resources, Community Facilities, and Neighborhoods

Actions that occurred in the past, such as the development of the roadway and transit network within the study area, as well as implementation of prior land use plans, have resulted in the development patterns that shape the neighborhoods in the study areas. As a result of OMF South

and other reasonably foreseeable future transportation projects, commercial and residential development projects, and land use changes, these neighborhoods could experience benefits. For example, the South Federal Way alternatives being evaluated for TDLE include a new light rail station within the study areas for the Preferred and South 344th Street alternatives. The neighborhoods surrounding a new light rail station would likely experience the greatest changes, including added transportation infrastructure and associated development. Additional benefits could include residential infill, growth in employment base, and greater support of local businesses.

Future private development, particularly around station areas, could increase property values and taxes and may affect the availability of affordable housing opportunities or affordable properties for small businesses. Affordable housing goals and policies of local jurisdictions and Sound Transit could encourage affordable housing options.

If OMF South were constructed at similar times as other large infrastructure projects, such as TDLE, residents and businesses could experience increased short-term construction impacts due to cumulative increases in congestion, noise, access limitations, and construction durations. Mitigation measures identified in Section 3.6, Social Resources, Community Facilities, and Neighborhoods would be implemented to reduce cumulative construction impacts on neighborhoods or community facilities.

### 4.4.6 Visual and Aesthetic Resources

Construction of I-5 in the 1960s, along with the associated commercial and residential development, was a major change to the visual environment in the project corridor. The freeway and corresponding development along SR 99 in recent decades also changed other more natural or rural landscapes. The addition of OMF South between SR 99 and I-5, along with several other planned road widenings and interchange improvements, would further increase the visual prominence of the transportation infrastructure.

If constructed at the same time as other reasonably foreseeable future actions, viewers could experience more visual impacts during construction. Cumulative visual impacts in the area could occur with increased private development near station areas associated with FWLE and TDLE. In addition, FWLE and TDLE, combined with OMF South, could have cumulative impacts due to additional elevated track and large structures. There would also be a cumulatively substantial clearing of trees and vegetation, particularly on the track alignments adjacent to I-5. Although most cumulative impacts would occur in previously developed areas or adjacent to other existing large infrastructure, thus making the cumulative nature of these impacts minimal, OMF South and other reasonably foreseeable projects could increase the overall impacts on the surrounding visual environment.

### 4.4.7 Air Quality and Greenhouse Gas Emissions

The operational air emissions from the build alternatives are inherently cumulative. The analysis found in Section 3.8, Air Quality and Greenhouse Gas Emissions, finds that the build alternatives would not result in an exceedance of the National Ambient Air Quality Standards or the Washington Ambient Air Quality Standards. While there is a potential for construction schedules to overlap with other projects in the area, the temporary nature of air quality construction impacts and the use of standard construction BMPs makes it unlikely that air quality standards would be exceeded. Therefore, the proposed project, combined with past, present, and reasonably foreseeable future actions, would not contribute to a cumulative

adverse impact on air quality or GHG emissions. Additionally, because OMF South is necessary for the efficient operation of the Sound Transit 3 light rail system expansion, its construction and operation would support a cumulative regional reduction in vehicle miles traveled that would result in a cumulative decrease in regional auto-related emissions that contribute to GHGs.

### 4.4.8 Noise and Vibration

Cumulative impacts for the OMF South project would be associated with TDLE and the proposed City Center Access Project funded by WSDOT. If TDLE is constructed, approximately 144 LRVs would be needed and stored at OMF South. With the additional vehicles, there would be additional operations within the facility, including additional LRV movements into and out of the facility in the morning and evening, respectively. Additionally, for the Preferred and South 344th Street alternatives, the LRVs leaving and entering would be split between the northern and southern tracks leading to the mainline tracks. Finally, the mainline tracks connecting the Preferred and South 344th Street alternatives would become the operational track, with higher speeds and LRV operations throughout the day.

The additional LRVs from TDLE operating within the OMF South alternative sites would increase some noise levels, but they would not be loud enough to cause FTA noise impacts or WAC exceedances. However, the operation of TDLE along the mainline tracks is anticipated to cause noise impacts for the 40 mph Alignment and an increase in the number and magnitude of noise impacts for the 55 mph Design Option to residences near the mainline tracks for the Preferred and South 344th Street alternatives. The additional impacts are due to the number of trains that would be in revenue service along the mainline tracks, as compared with only trains moving to and from the OMF site with the OMF South project only. FTA and Sound Transit are currently conducting environmental review for TDLE which will include an analysis of noise impacts and recommended mitigation. There would be no cumulative impacts from TDLE for the Midway Landfill Alternative.

There would be no vibration impacts associated with OMF South. With the inclusion of the TDLE project, there would be an increase in vibration levels due to the higher speed of the trains, but there would be no vibration impacts. With the Midway Landfill Alternative, there would be no cumulative vibration impacts from the TDLE project.

Further details regarding TDLE noise and vibration impacts and mitigation are included in the TDLE Draft EIS, which is expected to be published in mid-2024. Noise mitigation could include noise barriers for the cumulative effects of TDLE and the Preferred or South 344th Street alternatives on sensitive receptors near the mainline tracks. Appendix G2, Noise and Vibration Technical Report describes this in further detail.

### 4.4.9 Ecosystem Resources

Past actions and urban development have changed the ecological landscape in the study area and vicinity, and ongoing and reasonably foreseeable future actions could contribute to additional cumulative impacts. To address the effects of past development, restoration programs and projects (e.g., aquatic and terrestrial habitat improvement projects as well as culvert replacement projects to eliminate barriers to fish passage) are being planned and implemented throughout the region. The potential for any of the build alternatives to result in adverse cumulative impacts would be related to the direct impacts of that alternative. In other words, a build alternative with a greater extent and/or intensity of adverse impacts on ecosystem resources would have a greater risk of adverse cumulative impacts.

Sound Transit’s FWLE project is currently in construction. The mitigation report for FWLE identified impacts on 0.9 acre of wetlands, 4.5 acres of wetland buffer, and 0.2 acre of riparian forest buffers. In addition, the Federal Way Link Extension Final Environmental Impact Statement identified impacts on 35 acres of forested habitat (Sound Transit 2016). That Final EIS also analyzed impacts associated with the relocation of approximately 1,000 linear feet of stream channel. These impacts will be mitigated through the permitting process with regulatory agencies and local jurisdictions. The project was designed to allow WSDOT to implement fish passage improvements on Bingaman Creek in the future, if necessary (FTA 2017). In addition, by complying with WSDOT and local jurisdictional rules concerning tree replacement, FWLE is expected to increase the amount of vegetated area over the long term.

Table 4.4-1 lists other reasonably foreseeable future projects that could affect ecosystem resources in the study area.

Most of these projects are on developed or partially developed parcels. Nevertheless, possible short-term and long-term impacts of these projects include loss or degradation of vegetation, wildlife habitat, streams, wetlands, and associated buffer areas. Between OMF South, FWLE, and TDLE, there would be substantial clearing of trees and vegetation with adverse cumulative effects on forested habitat, particularly on the alignment routes adjacent to I-5.

Coupled with the impacts of the past, present, and future projects described above, the impacts of the build alternatives could contribute cumulatively to reductions in the area and function of ecosystem resources in the study area. Sound Transit commits to meeting or exceeding requirements for mitigation and compensating for project impacts to ecosystem resources during design and permitting. The potential for future projects to adversely affect ecosystem resources in the study area would be limited by meeting regulatory requirements under federal, state, and local regulations. These reviews and permitting processes would ensure the implementation of measures to avoid or minimize both short-term and long-term impacts on ecosystem resources as well as compensatory mitigation for unavoidable impacts on wetlands, streams, and their buffers. It may take several years for the forested vegetation communities or decades for mature forested communities to return to their preconstruction habitat function.

**Table 4.4-1 Ecosystem Resource Impacts from Reasonably Foreseeable Future Projects in the Study Area**

Project	OMF South Alternatives Potentially Affected	Potential Ecosystem Impacts
Sound Transit TDLE	Preferred South 344th Street	TDLE is proposed along the west side of I-5 and would impact East Fork Hylebos Tributary, associated wetlands, and riparian buffers.
Federal Way City Center Access Project	Preferred South 344th Street	Project would include the correction of fish passage barriers where East Fork Hylebos Tributary crosses I-5, as well as the daylighting of some segments of the stream near Winged Foot Way.
The Creekside Commons Townhome Development	Preferred	Proposed on about 10 acres of forested land north of the Preferred Alternative, clearing and site development will reduce the width of the forested buffer on West Fork Hylebos Tributary in that area.

**Table 4.4-1 Ecosystem Resource Impacts from Reasonably Foreseeable Future Projects in the Study Area (continued)**

Project	OMF South Alternatives Potentially Affected	Potential Ecosystem Impacts
WSDOT I-5/SR 161/SR 18 Triangle Interchange Vicinity Improvements	Preferred South 344th Street	Vegetation clearing and ground-disturbing work for this project could affect East Fork Hylebos Tributary south of the OMF South alternatives in Federal Way. WSDOT plans to replace an approximately 370-foot-long culvert with approximately 560 linear feet of open channel, removing an existing, partial barrier to fish passage and increasing the amount of functioning aquatic and riparian habitat available in the stream system. This project will also remove several other partial or complete barriers to fish passage on this stream downstream of the study area
WSDOT SR 509 Completion Project	Midway Landfill	The only proposed project element near the site is an auxiliary lane on southbound I-5. Construction of an auxiliary lane in that area would be unlikely to adversely affect ecosystem resources at or near the Midway Landfill Alternative.

**4.4.10 Water Resources**

Development throughout the Puget Sound region has substantially altered the hydrology of drainage basins, including substantial changes in water quality and flow in the Hylebos Creek basin. Population growth and the accompanying substantial urbanization and associated increase in pollution-generating impervious surfaces have increased runoff volumes and contaminant loading to surface water bodies and have decreased groundwater infiltration and recharge, which plays a critical role in dry-season baseflow contributions.

The proposed project would be required to manage runoff in compliance with federal, state, and local regulations, which would avoid and minimize impacts on surface and groundwater. The mitigation would include providing flow control and water quality treatment for runoff from some existing impervious and pollution-generating surfaces that may either be currently uncontrolled or not manage to current standards. Updating infrastructure to comply with current regulations can prevent further harm to water resources and could lead to gradual improvements to water quality over time. Advances in flow control methods aim to simulate predevelopment conditions but are typically not able to completely reproduce them.

Over time, other regional new development and redevelopment are expected to bring many existing impervious and pollution-generating surfaces up to current standards of flow control and water quality treatment for stormwater runoff. Improvements in stormwater runoff control and water quality would occur over time, with or without this project, meaning the changes could be expected to be smaller and more gradual. This retrofit through redevelopment would avoid additional impacts to water resources in the area and could result in modest improvements in the hydrology and water quality of the streams within the OMF South study area.

Additionally, the expanded Link light rail system, which the OMF South project would support would slow the increase in vehicle miles traveled as population in the area increases. This slowing of the increased vehicle use would mean slower increase in polluted runoff and future impacts to water quality.

### 4.4.11 Geology and Soils

OMF South would be entirely within a highly urbanized area. In general, surface geology and soil conditions have already been substantially altered, particularly for the Midway Landfill Alternative. The proposed earthwork for the Preferred and South 344th Street alternatives would have little or no meaningful impact on existing, long-term geologic, hydrogeologic, or soil conditions in the study area. Similarly, even though the Midway Landfill Alternative could result in a substantial amount of earthwork, depending on the subsurface construction design option, it is not expected to contribute to substantial cumulative impacts when added to potential impacts for other reasonably foreseeable actions expected within the study area.

### 4.4.12 Hazardous Materials

Similar to other projects in the vicinity, Sound Transit would adhere to applicable regulations regarding the handling and treatment of contaminated materials during construction and long-term operation of the projects. While construction and operation of OMF South at the Midway Landfill Alternative site would have the potential to result in the release of hazardous materials or contamination of air or groundwater, plans for the mitigation, handling, and disposal of contaminated media and hazardous construction debris would be developed in conjunction with the appropriate regulatory agencies. As a result, the proposed project is not anticipated to have an adverse effect and could have a net beneficial impact on the environment. Similarly, all other related projects' development would require the remediation of any contaminated sites encountered in compliance with state and federal environmental regulations, consequently improving overall environmental quality. Therefore, there would be no cumulative impacts of the related projects when combined with the proposed projects, on hazardous materials in the build alternative sites.

### 4.4.13 Public Services

The OMF South project would not increase demand for public services; however, planned growth in population, employment, and general urban activity in the study area would affect public service demand, including emergency and public safety services. The FWLE and TDLE projects, supported by OMF South, would support a greater density of development, particularly near planned light rail stations which are generally attractive to businesses and residents. The FWLE Kent/Des Moines Station is within the Midway Landfill Alternative study area, and a new light rail station proposed in South Federal Way for TDLE is within the study area for the Preferred and South 344th Street alternatives. Therefore, the cumulative impacts associated with increased development could lead to additional demand for public services, such as emergency services, within the OMF South study area. These incremental increases are anticipated to be minor.

### 4.4.14 Utilities, Energy, and Electromagnetic Fields

#### Utilities

Development near the project would be consistent with what is allowed in the adopted land use plans and current local development regulations. Therefore, the cumulative impacts on utilities would be negligible and in accordance with planned growth.

### Energy

The proposed OMF South project would result in net increases in electricity and natural gas consumption and demand under all build alternatives. It is anticipated that PSE would have sufficient capacity and energy resources to accommodate any increase in energy consumption. When considered together with the reasonably foreseeable future projects, as well as ongoing local, regional, and statewide efforts to increase energy efficiency and conservation, the proposed OMF South project would not contribute to a cumulative adverse energy impact. Additionally, the expanded Link light rail system, which the OMF South project would support, would lead to a regional reduction in vehicle miles traveled, which would lead to a reduction in the use of oil, gasoline, and diesel fuels.

### Electromagnetic Fields

The FWLE Final EIS notes that there are no potentially EMF-sensitive receptors close to the FWLE alignment (Sound Transit 2016). Similarly, there are also no potentially EMF-sensitive receptors close to the proposed TDLE alignment or OMF South alternatives. No areas were identified where EMFs would combine with past, present, or future actions to result in human health effects or effects on facilities with EMF-sensitive equipment. Therefore, no EMF cumulative impacts would result from the proposed project.

#### 4.4.15 Historic and Archaeological Resources

OMF South is not expected to result in significant impacts to cultural resources. All build alternatives have the potential to affect unidentified archaeological resources within the study area, but the only known historic properties are the Tacoma-Covington No. 2, 3, and 4 and Tacoma-Raver No. 1 transmission lines, which OMF South would not adversely effect. The project has an Inadvertent Discovery Plan to address the potential discovery of archaeological resources during construction. Appendix G4, Historic and Archaeological Resources Technical Report includes the plan.

The reasonably foreseeable future actions in the project vicinity, including the Link system expansion projects that OMF South would support, may have direct impacts on historic or archaeological resources in the study areas. The settings surrounding these resources have been altered by past and present redevelopment and general changes in uses surrounding them. If OMF South encounters unidentified archaeological resources during construction, it could contribute to a cumulative impact on historic and archaeological resources.

#### 4.4.16 Parks and Recreational Resources

No major changes to parks or recreational resources by OMF South or other reasonably foreseeable future projects or actions are anticipated. Population and employment growth are expected to occur under both the No-Build and the build alternatives and would likely increase the use of parks and recreational facilities throughout the project area.