

4 CUMULATIVE IMPACT ANALYSIS

This chapter considers the cumulative impacts of OMF South and other past, present, and reasonably foreseeable future actions, regardless of what agency or party undertakes such other actions. A cumulative impact assessment can reveal unintended consequences that might not be apparent when a proposed action is evaluated in isolation.

During the scoping process and Draft Environmental Impact Statement preparation, Sound Transit 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 and the cities of Kent and Federal Way.
- Lists of known major public and private land use proposals in King County and the cities of Kent and Federal Way.
- 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 Impact 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 the cities of Kent and Federal Way in the OMF South study areas. Development that has occurred adjacent to both 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.

4.3 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 impacted water quality by introducing runoff contamination from pollution-generating surfaces and by increasing water temperatures resulting from the removal of vegetation that previously provided shade along stream banks.

Past actions affecting the natural environment were varied and included timber harvesting, natural resource extraction, farming, ranching, and residential development. The wetlands now present in the OMF South study area represent fragments of larger historical wetland systems, and some are more recently formed wetlands that have developed as a result of transportation, land use, and surface water drainage improvements that have altered the landscape. The Hylebos Creek basin contains the largest wetland 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. The largest remnant of native forest in the study area is in the Hylebos Creek riparian corridor to the west of I-5. Some portions of this native forest are considered mature forest.

4.4 Built Environment

In the five 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.

4.5 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 shown on Figure 4.5-1 and listed in Table 4.5-1.

The three projects that would have the most potential for cumulative impacts with OMF South are:

- **Federal Way Link Extension (FWLE) Project.** This Sound Transit project extends light rail 7.8 miles from Angle Lake Station in SeaTac to the Federal Way Transit Center and includes three stations, including Kent/Des Moines near Highline College, S 272nd Street, and the Federal Way Transit Center, each with added parking.
- **Tacoma Dome Link Extension (TDLE) Project.** This Sound Transit project would extend light rail 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.

Please note: As described in Section 2.4.1, No-Build Alternative, environmental impacts associated with FWLE are considered part of the No-Build Alternative. However, because TDLE would open after OMF South, impacts associated with TDLE that would overlap with OMF South, such as the mainline tracks that would connect to the South 336th Street and South 344th Street alternatives, are addressed in the discussion of the build alternatives. TDLE impacts beyond those associated with the connecting mainline tracks are addressed in this cumulative impacts analysis and will be further detailed in the separate Tacoma Dome Link Extension Environmental Impact Statement.

- **Federal Way City Center Project.** This project, sponsored by Federal Way, 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 342nd Street and extended I-5 access ramps serving S 320th Street and S 324th Street.

Table 4.5-1 Past, Present, and Reasonably Foreseeable Future Actions

Map ID	Proponent	Actions and Projects in the Vicinity
1	WSDOT	SR 509 Completion Project
2	Sound Transit	FWLE
3	Private	Pape – Kenworth Development
4	Sound Transit	TDLE
5	Federal Way	Widen S 324th Street between SR 99 (Pacific Highway S) and 23rd Avenue S
6	Federal Way	Federal Way City Center Access Project
7	Private	FUSION Family Center Project
8	Private	Belmor Mobile Home Park Land Use Amendment
9	Private	Creekside Commons Townhomes
10	Private	Woodbridge Corporate Park (Weyerhaeuser Campus) Redevelopment
11	Federal Way	Asphalt Overlay Project – S 336th Street – 10th Place S to 18th Avenue S
12	Federal Way	South 336th Street Water Quality Facility at SR 99
13	Federal Way	Widen S 336th Street between SR 99 (Pacific Highway S) and 20th Avenue S
14	Federal Way	Asphalt Overlay Project – 16th Avenue S – SR 99 to SR 18
15	Federal Way	16th Avenue S: S 344th Street – S 348th Street
16	WSDOT	SR 161 – Milton Road S Vicinity to SR 18 – Paving and ADA Compliance
17	Federal Way	SR 99 (Pacific Highway S) High-Occupancy Vehicle (HOV) Lane Widening, S 340th Street to S 359th Street
18	WSDOT	I-5 – Southbound Collector-Distributor Lane and 356th Street Intersection Improvements
19	Federal Way	S 352nd Street from SR 99 to SR 161



Data Sources: USGS, King and Pierce County, Cities of Federal Way, Fife, Milton, Tacoma (2019).
Service Layer Credits:

FIGURE 4.5-1
Past, Present, and Reasonably
Forseeable Future Actions

OMF South

4.6 Analysis of Cumulative Impacts

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. 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.

Please note that the COVID-19 pandemic is reducing the tax revenue Sound Transit relies on to expand the regional transit system. Through a process called realignment, the Board of Directors is working to determine which project plans and timelines will need to change. The Board decisions on realignment, influenced by COVID-19 and increased project cost estimates, may have an impact on the future project schedule. However, the general nature and extent of the cumulative impacts should be similar.

4.6.1 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. In addition, future trips that would otherwise be generated by the existing uses at the project sites were not subtracted from the future traffic forecasts; therefore, the analysis represents a worst-case condition in terms of cumulative effects on transportation.

Design and construction for FWLE is planned to occur from 2019 to 2023, and design and construction for OMF South is planned from 2022 to about 2029 or later, depending on which alternative is selected. Should OMF South be located at the Midway Landfill Alternative, the FWLE construction period may overlap the planned construction period for OMF South. Based on information from the Federal Way Link Extension Final Environmental Impact Statement (Sound Transit 2016), both projects could use the same construction staging areas and truck haul routes, including an area just to the north of the landfill and the future FWLE mainline area adjacent to I-5. There is also a potential for construction period overlap with TDLE, which is currently planned to start construction in the mid to late 2020s.

4.6.2 Acquisitions, Displacements, and Relocations

Several other public projects planned in the vicinity of the OMF South alternatives could result in additional property acquisition, most notably TDLE. If TDLE and OMF South are developed at about the same time and the locations overlap, there would be more properties that would be impacted during construction than if each project was developed at different times. 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.

Federal Way has an initiative to recruit a four-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.

Should OMF South be located at the Midway Landfill Alternative, the FWLE construction period may overlap the planned construction period for OMF South. However, FWLE is anticipated to be constructed within the existing I-5 right-of-way and would not contribute any adverse impacts related to acquisition, displacements, or relocation in the project 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.

4.6.3 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 high-density, mixed-use, transit oriented development in a timelier manner. Although there are reasonably foreseeable future land developments in the study area that would increase density without light rail, the planned 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.

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.

Currently, Federal Way is working on a City Center Access Project within 0.5 mile of OMF South, which proposes a series of interchange and roadway projects to improve access between I-5 and downtown Federal Way. Federal Way has not yet released any reports that evaluate the land use impact of the City Center Access Project. However, it is important to note that possible changes in land use and zoning to support transportation uses may coincide with similar changes as a result of the Link light rail expansion projects supported by OMF South.

Future Federal Way projects likely to produce cumulative impacts in the study area include TDLE, FWLE (expected completion in 2023, and WSDOT SR 509 Completion (expected completion in 2029), 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 Growth Management Act, 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.

4.6.4 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), such that the result is more than a minor impact. Sound Transit can minimize this risk 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 are expected to 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.

There are other reasonably foreseeable projects in Federal Way that have not established a timeline or completed an environmental review. These projects include the Woodbridge Corporate Park (Weyerhaeuser Campus) Redevelopment, two road-widening projects, a proposal to rezone 10 acres of the Creekside Commons Townhomes, a proposal to rezone and potentially redevelop the Belmor property, and construction of an auxiliary southbound lane along 16th Avenue S between S 344th Street and S 348th Street. 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.

4.6.5 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 station alternatives being evaluated for TDLE are within the study areas for the South 336th Street and South 344th Street alternatives. The neighborhoods surrounding these new light rail stations 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, would be implemented to reduce cumulative construction impacts on neighborhoods or community facilities.

4.6.6 Visual and Aesthetic Resources

Construction of I-5 in the 1960s 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.

4.6.7 Air Quality and Greenhouse Gas Emissions

The operational air emissions from the build alternatives is 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. 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.

4.6.8 Noise and Vibration

Cumulative noise impacts for the OMF South project would be associated with TDLE. If TDLE is constructed, there would be a need for additional LRVs, which would be 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 evening and morning, respectively. Additionally, for the South 336th and South 344th Street alternatives, the LRVs leaving and entering would be split between the northern and southern tracks leading to the mainline. Finally,

the mainline track connecting the South 336th Street 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 there would still be no FTA noise impacts or WAC exceedances. However, the operation of TDLE along the same mainline tracks that serve either the South 336th Street or South 344th Street alternative would cause an increase in the number and magnitude of noise impacts (including severe noise impacts) to Belmor residents near the mainline tracks. The additional impacts are due to the number of trains that would be in revenue service along the mainline as compared with only trains moving to and from the OMF site with the OMF South project only. Mitigation could include noise barriers or a combination of barriers with some other method. This will be further detailed in the Tacoma Dome Link Extension Draft Environmental Impact Statement, which is expected to be published in 2022. There would be no cumulative noise impacts from TDLE for the Midway Landfill Alternative.

There would be no vibration impacts associated with OMF South. However, the operation of TDLE along the mainline serving either the South 336th Street or South 344th Street alternative would cause vibration impacts to Belmor residents. These impacts would be due to revenue service operations of TDLE, including higher speeds on the track. The vibration impacts could be eliminated with the use of highly resilient fasteners on the elevated structures. With the Midway Landfill Alternative, there would be no cumulative vibration impacts from the TDLE project.

Additionally, the expanded Link light rail system, which the OMF South project would support, would lead to a regional reduction in vehicle miles traveled and the number of private cars on the regional street system. This reduction would mean fewer noise impacts from automobile traffic.

4.6.9 Ecosystem Resources

Past actions have greatly 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 barriers) are being planned and implemented throughout the region. The potential for any of the project alternatives to result in adverse cumulative impacts would be related to the direct impacts of that alternative. In other words, a project alternative with a greater extent and/or intensity of adverse impacts on ecosystem resources would have a greater risk of adverse cumulative impacts.

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 Environmental Impact Statement 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 and the maintenance of visual quality, FWLE is expected to increase the amount of vegetated area over the long term.

Other reasonably foreseeable future projects that could adversely affect ecosystem resources in the study area include Sound Transit's TDLE, Federal Way's City Center Access project, and WSDOT's SR 509 Completion project. All these projects are largely 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 cumulative effects on forested habitat, particularly on the alignment routes adjacent to I-5.

Impacts of TDLE would contribute to those of the South 336th Street Alternative or the South 344th Street Alternative. TDLE is proposed along the west side of I-5 and would also impact the East Fork Hylebos Creek tributary, associated wetlands, and riparian buffers. Similarly, impacts of the Federal Way City Center Access project would contribute to those associated with construction of the mainline north of the South 336th Street Alternative or the South 344th Street Alternative. The SR 509 Completion project area extends along I-5 as far south as the Midway Landfill Alternative, but the only proposed project element near the site is an auxiliary lane on southbound I-5. Construction of an auxiliary lane would be unlikely to adversely affect ecosystem resources at or near the Midway Landfill Alternative.

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 impacts on ecosystem resources as well as compensatory mitigation for unavoidable impacts on wetlands, streams, and their buffers.

4.6.10 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 recharge infiltration, which plays a critical role in dry-season baseflow contributions.

The proposed project would be required to mitigate impacts on surface and groundwater in compliance with federal, state, and local regulations. The mitigation would include providing flow control and water quality treatment for impervious surfaces that currently employ little or no measures to these effects. Updating infrastructure to comply with current regulations will lead to gradual improvements to water quality over time. Advances in flow control methods aim to simulate predevelopment conditions.

Over time, new development and redevelopment are expected to bring many existing 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 should 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 lead to a regional reduction in vehicle miles traveled. This reduction would mean less polluted runoff and reduced impacts to water quality.

4.6.11 Geology and Soils

OMF South would be located 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 relatively small changes for the South 336th Street and South 344th Street alternatives, including the reworking of soil, minor earthworks and grade changes, and minor changes to slope stability, 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.

4.6.12 Hazardous Materials

Similar to other projects in the project 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 the Midway Landfill Alternative 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.

4.6.13 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 the South Federal Way station alternatives for TDLE are within the study area for the South 336th Street and South 344th Street alternatives. Therefore, the cumulative impacts associated with increased development could lead to additional demand for public services within the OMF South study area.

4.6.14 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 Federal Way Link Extension Final Environmental Impact Statement 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.

4.6.15 Historic and Archaeological Resources

All build alternatives would have the potential to affect historic or archaeological resources within the study area. The settings surrounding these resources have been altered by past and present redevelopment and general changes in uses surrounding them. The reasonably foreseeable future actions in the project vicinity may have direct impacts on historic or archaeological resources in the study area. Incrementally, OMF South could contribute to a cumulative impact on historic and archaeological resources. No eligible historic or archaeological resources have been found within the project areas; however, the project would have an Inadvertent Discovery Plan to address the potential discovery of archaeological resources during construction.

4.6.16 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.