3 AFFECTED ENVIRONMENT, ENVIRONMENTAL IMPACTS, AND MITIGATION MEASURES

3.1 Introduction

This chapter discusses the affected environment, impacts, and mitigation measures for each element of the environment. Each section contains a brief introductory description of the subject matter along with a description of the study area for that element of the environment, followed by three sections: affected environment, environmental impacts, and mitigation measures.

The affected environment section includes a description of the potentially impacted resources within the study area. The environmental impacts section discusses impacts to the environment in the following order: No-Build Alternative, long-term impacts (for all build alternatives), construction impacts (for all build alternatives), avoidance and minimization of impacts, and indirect impacts. The mitigation measures section describes proposed steps to address the identified environmental impacts.

The extent of the study area for the OMF South project depends on the environmental resource being evaluated and is described for each resource. Typically, the study area consists of the construction limits for the Preferred, South 344th Street, and Midway Landfill alternatives and the surrounding area, though for some resources (for example, Air Quality and Greenhouse Gas Emissions) impacts are evaluated at a regional level. For many resources, the Preferred and South 344th Street alternative study areas, including proposed mainline tracks, overlap and discussions are combined. For other resources, the Preferred and South 344th Street alternative study areas are discussed separately in order to better differentiate potential impacts between the two alternatives.

3.2 Transportation

This section describes the existing transportation environment and potential impacts associated with the OMF South project alternatives. It evaluates the potential operational and construction impacts of OMF South, including the traffic activity from employees coming to and departing from the site and truck trips and haul routes needed during construction. For the transportation analysis, two study areas were defined. Due to their close proximity and anticipated impacts to similar intersections, a single study area was identified for the Preferred and South 344th Street alternatives. The study area for the Preferred and South 344th Street alternatives includes the proposed mainline in addition to the OMF and lead tracks connecting to the mainline. The elevated mainline track for the Preferred and South 344th Street alternatives would cross several roadways within the study area. Because all of these crossings would be grade separated from the mainline, there would not be impacts to traffic operations. A second study area, which includes the OMF site and lead tracks connecting to existing mainline, was identified for the Midway Landfill Alternative.

A more detailed discussion of the affected environment and impacts to transportation resources is provided in Appendix G1, Transportation Technical Report.

3.2.1 Affected Environment

3.2.1.1 Transportation Network

Preferred and South 344th Street Alternatives Study Area

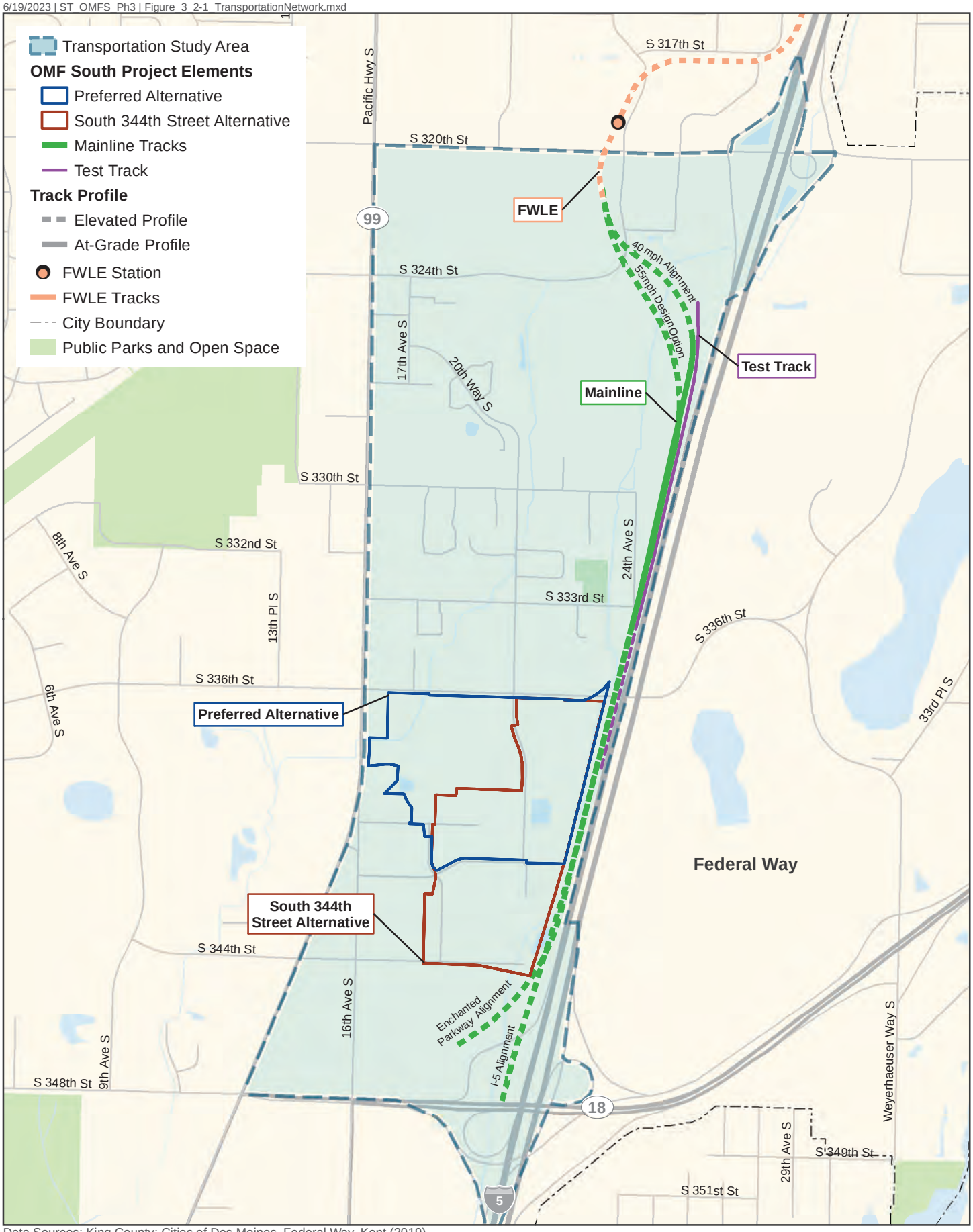
All streets in the Preferred and South 344th Street alternatives study area are in Federal Way. The street network and classifications in the study area include arterial, collector, and local streets. Speed limits range from 25 to 40 miles per hour (mph), with the exception of I-5, which has a speed limit of 60 mph through the study area.

Nine intersections were analyzed in the Preferred and South 344th Street alternatives study area. They include uncontrolled intersections and those controlled by a traffic signal or stop signs. Figure 3.2-1 shows the Preferred and South 344th Street alternatives study area and street network. Figure 3.2-2 shows the nine intersections studied for the Preferred and South 344th Street alternatives.

Midway Landfill Alternative Study Area

The street network and classifications in the Midway Landfill Alternative study area include arterial, collector, and local streets, all of which are in Kent. Speed limits range from 25 to 45 mph, except for I-5, which has a speed limit of 60 mph through the study area. Figure 3.2-3 shows the Midway Landfill Alternative study area and street network. Figure 3.2-4 shows the intersections studied for the Midway Landfill Alternative.

Nine intersections in the Midway Landfill Alternative study area were originally analyzed in the 2021 SEPA Draft EIS. They include uncontrolled intersections and those controlled by a traffic signal or stop signs. However, Kent does not require analysis of commercial driveways on the east side of SR 99 unless there is a direct impact on a public right-of-way on the west side of SR 99. Therefore, the analysis of intersections 2 through 4 is not described here but is included in Appendix G1, Transportation Technical Report. All other intersections are summarized below.



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

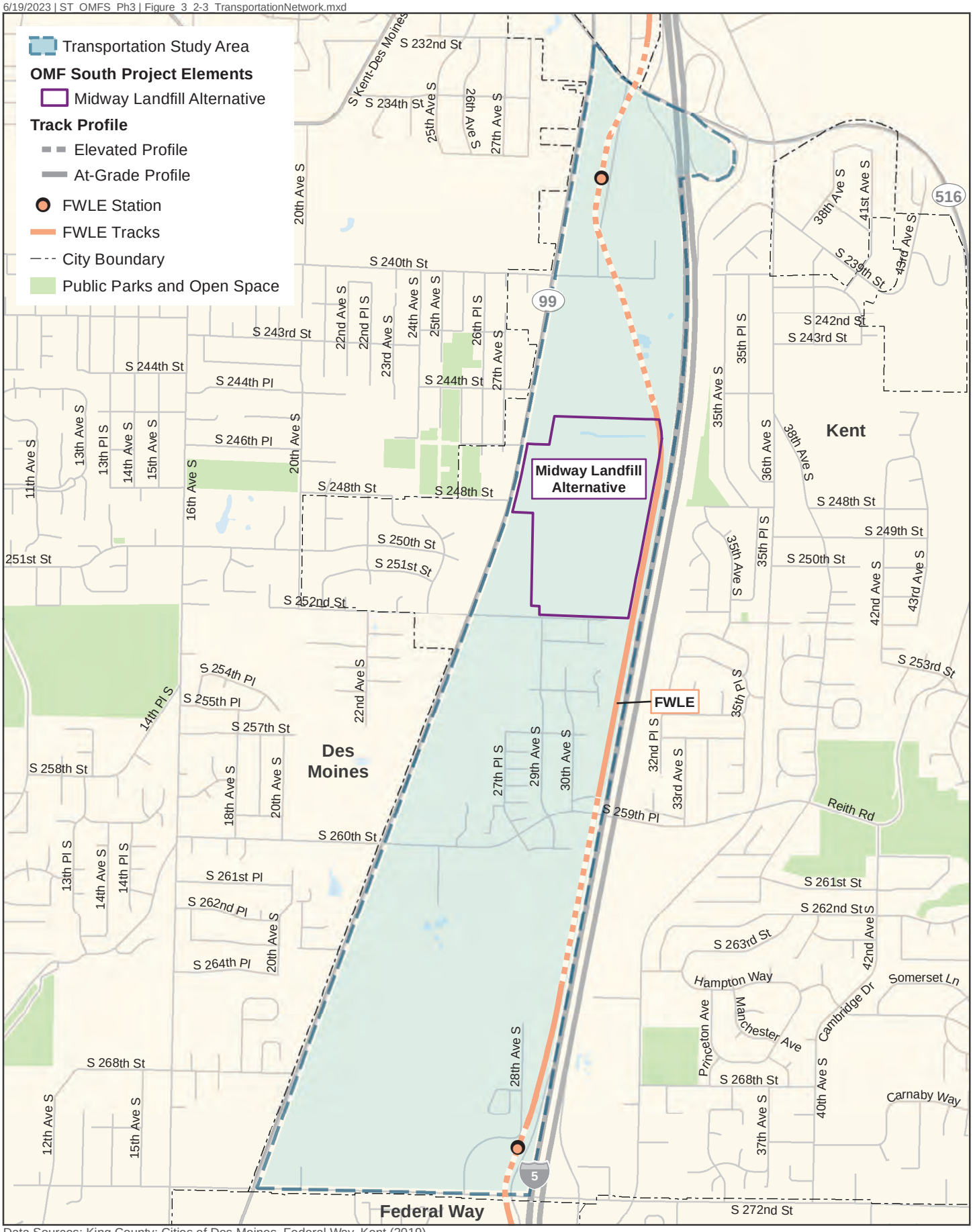
FIGURE 3.2-1
Transportation Study Area
Preferred and
South 344th Street Alternatives
OMF South

Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

FIGURE 3.2-2
Study Area Analysis Intersections
Preferred and
South 344th Street Alternatives
OMF South



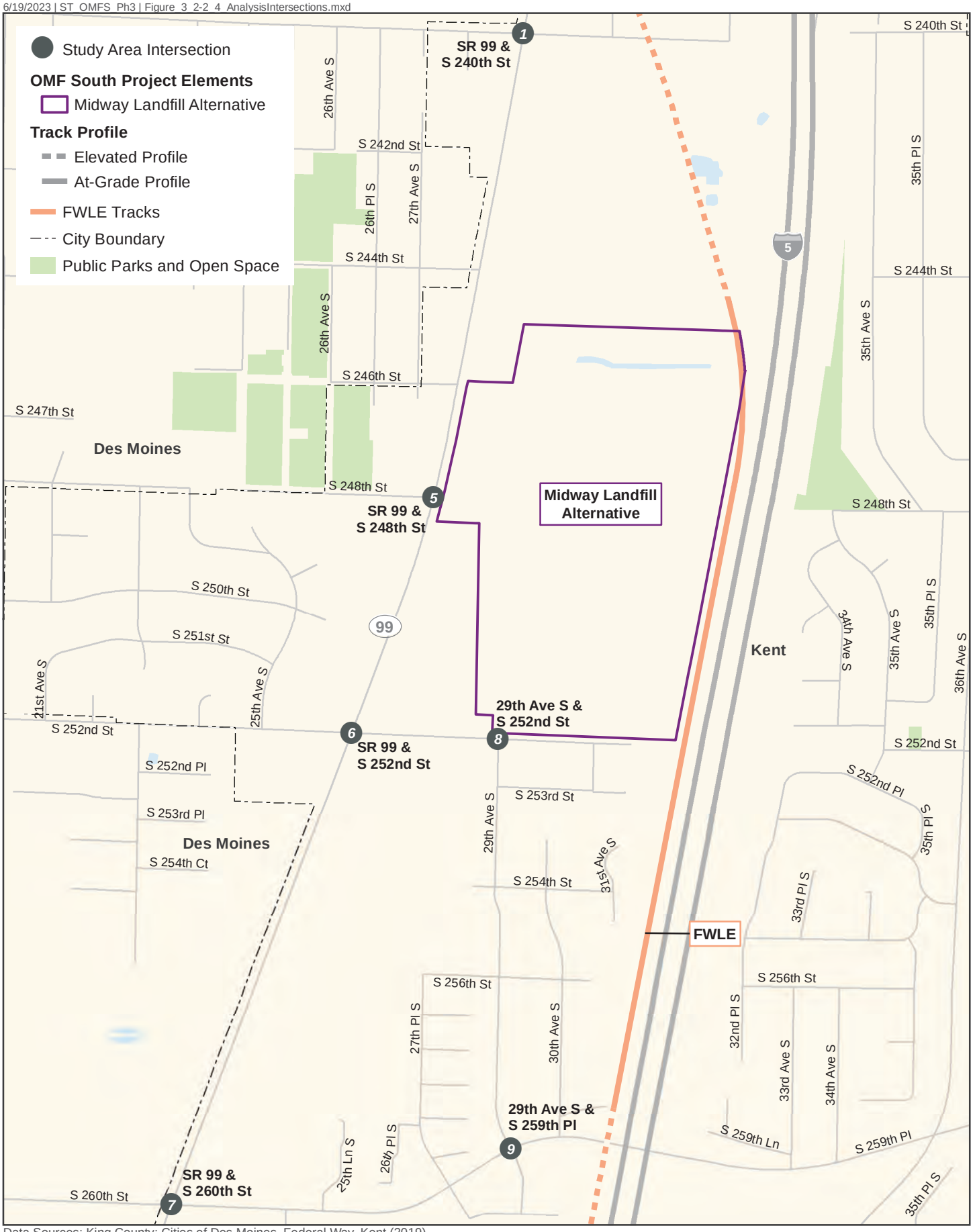
Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

FIGURE 3.2-3
Transportation Study Area
Midway Landfill Alternative

OMF South



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

FIGURE 3.2-4
Study Area Analysis Intersections
Midway Landfill Alternative

OMF South

3.2.1.2 Arterial and Street Operations

Within the study areas, intersections were chosen for analysis based on their potential to be directly affected, such as by a change in channelization, signal control, or station trips, as well as their potential to be indirectly affected by changes in volume due to trips accessing the system. Intersections were classified as signalized, stop controlled, or uncontrolled. All intersection operations were analyzed in the AM and PM peak periods. The AM peak period is between 6 and 9 a.m. and the PM peak period is between 3 and 6 p.m.

Traffic operations were measured using the LOS method, which is defined in terms of average intersection delay on a scale ranging from A to F, depending on the delay conditions at the intersection. LOS A represents the best conditions with minimal delay, and LOS F represents the worst conditions with severe congestion. Table 3.2-1 summarizes the criteria used to define LOS.

Table 3.2-1 Average Control Delay Used in Level of Service

LOS[1]	Signalized Intersections (seconds per vehicle)	Unsignalized Intersections (seconds per vehicle)	Traffic Flow Characteristics (seconds per vehicle)
A	< 10	< 10	Virtually free flow; completely unimpeded
B	> 10 and < 20	> 10 and < 15	Stable flow with slight delays; less freedom to maneuver
C	> 20 and < 35	> 15 and < 25	Stable flow with delays; less freedom to maneuver
D	> 35 and < 55	> 25 and < 35	High density but stable flow
E	> 55 and < 80	> 35 and < 50	Operating conditions at or near capacity; unstable flow
F	> 80	> 50	Forced flow; breakdown conditions

Source: Highway Capacity Manual 2010 (Transportation Research Board 2010)

Note:

(1) The LOS criteria are based on control delay, which includes initial deceleration delay, final deceleration delay, stopped delay, and queue move-up time.

Traffic operations were also measured by volume-to-capacity (v/c) ratio, defined as a fraction representing the ratio of traffic volume to the capacity of a given roadway. The v/c ratio is measured on a decimal scale, with 0.0 representing excessive capacity and anything greater than 1.0 representing congestion where volume has exceeded roadway capacity. A v/c ratio can be calculated for either the intersection as a whole or by approach. Table 3.2-2 shows the relationship between v/c ratio and the aforementioned LOS analysis procedure by average vehicle delay.

Table 3.2-2 Planning and Operational Level of Service

Analysis Procedure	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Planning (v/c ratio)	0.00–0.60	0.61–0.70	0.71–0.80	0.81–0.90	0.91–1.00	>1.00
Operational delay(s) (seconds per vehicle)	0–10	10–20	20–40	40–60	60–80	>80

Sources: Interim Materials on Highway Capacity (Transportation Research Board 1980) and Highway Capacity Manual 2000 (Transportation Research Board 2000)

Impact Thresholds

WSDOT, Federal Way, and Kent have established LOS or v/c standards, shown in Table 3.2-3. These standards are used to determine whether mitigation is warranted for projects that impact arterial and street operations by comparing the overall intersection LOS and v/c ratios for the No-Build Alternative and the build alternatives. Impacts would occur if the build alternatives would result in traffic operations performing below the acceptable LOS or v/c ratio when the intersection or roadway segment would operate at or above the acceptable LOS or v/c ratio under the No-Build Alternative. Impacts may also occur if traffic operations under the build alternative reduce the LOS from E to F or if the delay in an LOS F condition is worsened by more than 10 seconds.

Table 3.2-3 Level of Service Standards

Agency	AM LOS Standard or V/C Ratio	PM LOS Standard or V/C Ratio
WSDOT	• LOS D for Highways of Statewide Significance (e.g., SR 99)	• LOS D for Highways of Statewide Significance
Federal Way	Not applicable	• 1.2 v/c ratio for signalized intersections outside of City Center • 1.0 v/c ratio for unsignalized intersections outside of City Center
Kent	Not applicable	• LOS E for non-SR 99 corridors • WSDOT LOS standard for SR 99

Note:
(1) Federal Way and Kent do not have LOS or v/c standards for AM peak period operations.

Current Levels of Service

In the Preferred and South 344th Street alternatives study area, all intersections operate at or better than WSDOT LOS standards for the roadway in the AM peak hour. The intersection at SR 99/S 336th Street (intersection #2) currently operates at LOS E in the PM peak hour, which is below WSDOT standards. All intersections in the Midway Landfill Alternative study area operate at or better than WSDOT and Kent standards for the roadway in the AM peak hour. The intersection at SR 99/S 248th Street (intersection #5) currently operates at LOS E in the PM peak hour, which is below WSDOT standards.

3.2.1.3 Freight

WSDOT has designated roadways as freight routes and has classified them based on the annual tonnage that is transported along a road in a particular year. This classification system is called the Freight Goods Transportation System. The classifications range from roadways that carry more than 20,000 tons in 60 days to more than 10 million tons annually, as summarized in Table 3.2-4. Existing freight routes within the study areas are shown in figures provided in Appendix G1, Transportation Technical Report.

Table 3.2-4 Freight Goods Transportation System Classification System

FGTS Classification	Annual Gross Tonnage
T-1	Over 10,000,000
T-2	4,000,000 to 10,000,000
T-3	300,000 to 4,000,000
T-4	100,000 to 300,000
T-5	Over 20,000 in 60 days

Source: WSDOT 2020

Preferred and South 344th Street Alternatives Study Area

There are three designated freight routes in the Preferred and South 344th Street alternatives study area: I-5 is designated as a T-1 route, SR 99 is designated as a T-3 route, and 23rd Avenue S from S 322nd Street to S 324th Street is designated as a T-3 route. Federal Way also designates SR 99 and 16th Avenue S as freight routes.

Midway Landfill Alternative Study Area

There are four designated freight routes in the Midway Landfill Alternative study area: I-5 is designated as a T-1 route, and SR 99, S 259th Place, and S 260th Place are designated as T-3 routes. Kent also designates SR 99 as a freight route.

3.2.1.4 Transit

King County Metro Transit (Metro), Sound Transit, and Pierce Transit provide service in and through the study areas, with regional and local bus fixed-route service to transit centers, park-and-rides, and bus stops. Bus stops are primarily on SR 99, but also include some stops on 20th Avenue S, S 336th Street, and 16th Avenue S. Neither light rail nor commuter rail service is currently provided. Existing transit routes are shown in figures provided in Appendix G1, Transportation Technical Report.

Preferred and South 344th Street Alternatives Study Area

Metro Routes 177, 182, 193, and 903 and Pierce Transit Routes 402, 500, and 501 provide bus service in the Preferred and South 344th Street alternatives study area. These routes provide both peak-only and all-day bus service. The Federal Way/S 320th Street Park & Ride is within the Preferred and South 344th Street alternatives study area. It is served by Metro routes 177, 182, 193, and 903 and Pierce Transit routes 402, 500, and 501. Parking is available and free for transit customers. It has 877 spaces and had a utilization rate of 1.3 percent in the first quarter of 2023 (King County Metro 2023).

Midway Landfill Alternative Study Area

Metro Route 165 and the RapidRide A Line provide all-day bus service in the Midway Landfill Alternative study area.

3.2.1.5 Nonmotorized Network

In general, the opportunities for nonmotorized (bicycle and pedestrian) circulation in the study areas are limited. Sidewalks are provided on most arterial streets, and marked crosswalks are provided at signalized intersections. I-5 restricts most opportunities for pedestrian and bicycle connections east of the study areas, and most east-west streets are dead ends. Each study area has only one crossing of I-5: S 336th Street in the Preferred and South 344th Street alternatives study area and S 259th Street in the Midway Landfill Alternative study area.

Preferred and South 344th Street Alternatives Study Area

In the Preferred and South 344th Street alternatives study area, north-south pedestrian circulation is provided via SR 99, 16th Avenue S, 18th Place S, 20th Avenue S, and 23rd Avenue S. East-west pedestrian travel is facilitated by S 324th Street, S 336th Street, S 340th Street, S 341st Place, and S 344th Street. Bicycle facilities in the Preferred and South 344th Street alternatives study area include eastbound and westbound bicycle lanes on S 336th Street, east of 20th Avenue S, and a greenway[1] on 20th Avenue S, S 341st Place, 18th Place S, and S 344th Street. Federal Way recently installed shared lane markings for bicycles on 25th Avenue S, north of the South 320th Park & Ride. Figure 3.2-5 shows the existing pedestrian and bicycle facilities within the Preferred and South 344th Street alternatives study area and its vicinity.

Midway Landfill Alternative Study Area

The Midway Landfill and other large developments restrict north-south nonmotorized circulation in the Midway Landfill Alternative study area north of S 252nd Street, and SR 99 provides the only north-south pedestrian connection between S 240th Street and S 252nd Street. The street network south of S 252nd Street has a more developed grid and offers better opportunities for nonmotorized circulation. East-west circulation is similarly restricted. While SR 99 is considered a shared bicycle facility, there are no designated bicycle facilities that travel within or through the Midway Landfill Alternative study area. Figure 3.2-6 shows the existing pedestrian and bicycle facilities within the Midway Landfill study area and its vicinity.

3.2.1.6 Parking

All private parking is associated with businesses in the study areas, and there are no pay-for-parking facilities. Several off-street private business parking lots are available for use by employees and patrons within the study areas.

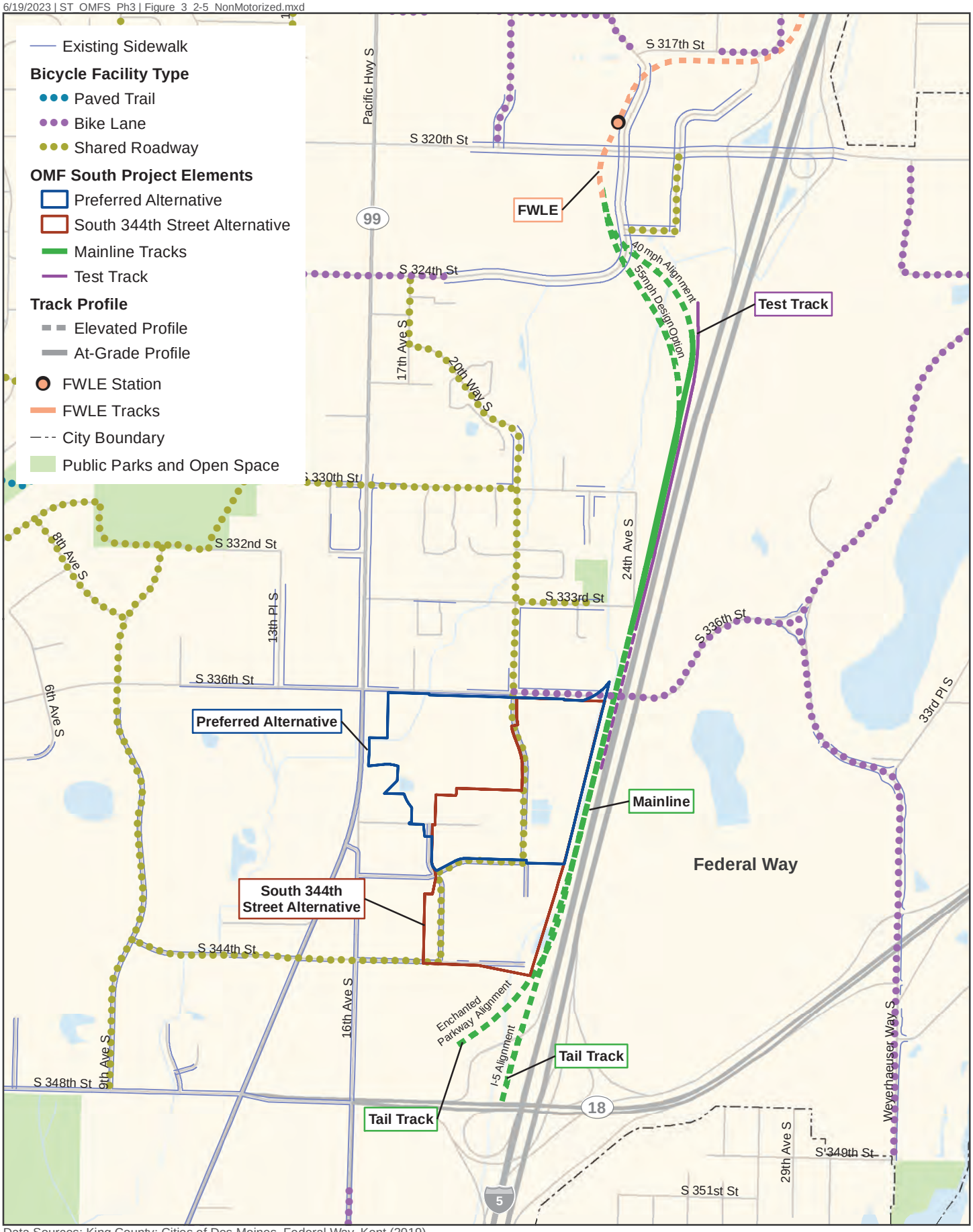
Preferred and South 344th Street Alternatives Study Area

On-street parking is limited in the Preferred and South 344th Street alternatives study area. It is permitted between 8 a.m. and 6 p.m. on the west side of 18th Place S, north of S 341st Place; on the north side of S 341st Place; and on the south side of S 344th Street, east of 18th Place S. It is also permitted along 21st Avenue S, subject to weight restrictions.

Midway Landfill Alternative Study Area

Unrestricted (free, with no time restrictions) on-street parking is permitted on most residential streets south of the landfill property in the Midway Landfill Alternative study area. On-street parking is not permitted on SR 99, S 240th Street, S 259th Street, or S 260th Street.

[1] A greenway is a bicycle facility that consists of shared lane markings and guide signs along mostly residential or other low-speed or low-volume roads.



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

FIGURE 3.2-5
Existing Bicycle and Pedestrian Facilities
Preferred and
South 344th Street Alternatives
OMF South

Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

FIGURE 3.2-6
Existing Bicycle and Pedestrian Facilities
Midway Landfill Alternative

OMF South

3.2.1.7 Safety

Historical collision data was collected from WSDOT for the 3-year period from January 2016 to December 2018. Over 60 percent of collisions in both study areas resulted in property damage only. Approximately 30 percent of collisions in each study area resulted in minor or possible injuries.[2] In both study areas, no notable mitigating factors were provided for the fatal and serious injury crashes other than two: one due to driver inattention and one due to driver disregard for a traffic signal. The top two common types of collisions in the study areas were rear end and angle (T-bone), respectively.

Preferred and South 344th Street Alternatives Study Area

During the 3-year period a total of 224 collisions occurred at intersections and roadway segments in the study area, with no fatal crashes and two serious injury crashes. The intersection at SR 99/S 336th Street had the highest number of collisions (64), followed by the SR 99/16th Avenue S intersection (45 collisions). Nineteen collisions occurred in the SR 99 business access transit lane, representing 30 percent of all roadway segment collisions.

Federal Way has established a collision threshold for intersections of 1 crash per million entering vehicles and a collision threshold for segments of 10 crashes per million vehicle miles traveled (City of Federal Way 2019). Locations exceeding the thresholds may indicate safety inadequacies as well as prioritized locations for safety.

Four intersections and no roadway segments in the Preferred and South 344th Street Alternatives study area exceed the collision rate thresholds for Federal Way:

- SR 99/S 336th Street
- SR 99/16th Avenue S
- SR 99/S 344th Street
- S 344th Street/18th Place S

Midway Landfill Alternative Study Area

During the 3-year period a total of 261 collisions occurred at intersections and roadway segments in the study area, including four fatal crashes and six serious injury crashes. Of these, two fatal crashes and two serious injury crashes occurred at the intersection of SR 99 and S 240th Street. The intersections at SR 99/S 240th Street, SR 99/S 260th Street, and SR 99/S252nd Street had the most collisions, with 56, 57, and 47 collisions, respectively. Collisions at these three intersections comprised 61 percent of the total collisions in the study area.

SR 99 between S 240th Street and S 260th Street had the most roadway segment collisions (63). Eleven collisions occurred in the SR 99 business access transit lane, representing 17 percent of total collisions along roadway segments.

[2] WSDOT defines minor injury as “One or more persons in a crash had a non-life threatening injury such as: lump on the head, abrasion, bruise, or minor laceration” and possible injury as “One or more persons in a crash had: momentary unconsciousness, claim of injury, limping, complaint of pain, or nausea. These injuries are those reported by the person or indicated by their behavior, but where no wounds or injuries are readily evident.”

3.2.2 Environmental Impacts

3.2.2.1 No-Build Alternative

Under the No-Build Alternative, impacts from construction and operation of OMF South would not occur. However, other planned projects would have impacts in the OMF South study areas. This includes TDLE, for which mainline track construction overlaps with the OMF South Preferred and South 344th Street alternatives. If TDLE is constructed as proposed, the mainline track associated with these OMF alternatives would be built later in time. Impacts associated with construction of the mainline track are addressed within the build alternatives impacts discussion below. All other TDLE-related impacts are addressed in Chapter 4, Cumulative Effects Analysis.

Arterial and Street Operations

Few improvements are planned by Federal Way and Kent that would alter the roadway network and intersections in the study areas under the No-Build Alternative. The following projects are planned by Federal Way in the Preferred and South 344th Street alternatives study area. Only the first project listed has secured funding.

- Add a southbound auxiliary lane on 16th Avenue S from S 344th Street to S 348th Street (the auxiliary lane from S 347th Street to S 348th Street is complete).
- Extend 20th Avenue S to S 344th Street.

In the Midway Landfill Alternative study area, the following projects are planned by Kent. Only the first project listed has secured funding.

- Construct two new streets, 32nd Avenue S from S 240th Street to S 244th Street and S 244th Street from SR 99 to 32nd Avenue S, including sidewalks and bike lanes.
- Change the signal phasing at the S 260th Street/SR 99 intersection to include flashing yellow arrows on the eastbound and westbound approaches as part of FWLE.
- Change the signal phasing at the S 240th Street/SR 99 intersection.
- Add westbound dual left-turn lanes and an eastbound right-turn pocket at the S 260th Street/SR 99 intersection.

Traffic volumes are forecast to increase throughout both study areas between existing conditions and the 2042 AM and PM peak hours. Future volumes under the No-Build Alternative were forecast for the Preferred and South 344th Street alternatives study area using a growth rate of 0.8 percent per year. Future volumes for the Midway Landfill Alternative study area used growth rates of 1.11 and 1.12 percent per year for AM and PM peak hour volumes, respectively.

The traffic operations analysis compared future traffic volumes under the No-Build Alternative at the same study intersections analyzed under existing conditions. Figures showing the forecast 2042 AM and PM peak hour operations and turning movements for the No-Build Alternative are provided in Appendix G1, Transportation Technical Report.

No intersections in the Preferred and South 344th Street alternatives study area are forecast to operate below the LOS or v/c ratio standards for the roadway during the 2042 AM or PM peak hours for the No-Build Alternative. LOS at the SR 99/S 336th Street intersection is forecast to slightly improve from LOS E to LOS D. This improvement is due to signal timing optimization.

In the Midway Landfill Alternative study area, the SR 99/S 248th Street intersection is forecast to operate at LOS F during the 2042 AM peak hour for the No-Build Alternative, which is below the WSDOT LOS standards for SR 99. This intersection currently operates at LOS D during the AM peak hour, which meets WSDOT LOS standards. During the 2042 PM peak hour, the SR 99/S 248th Street intersection is forecast to continue operating below the LOS standards, as it does under existing conditions, dropping to LOS F from its current operation at LOS E.

Freight

Under the No-Build Alternative, freight would experience the same levels of delay as general-purpose traffic on roadways and at intersections with increased congestion.

Transit

Under the No-Build Alternative, FWLE and TDLE would expand light rail service to Tacoma through the study areas, and other projects would expand service to Redmond, West Seattle, Ballard, Northgate, Lynnwood, Everett, south Kirkland, and Issaquah. Bus service on the northern and southern boundaries of the Midway Landfill Alternative study area is expected to increase with the opening of the Kent/Des Moines station near Highline College as part of FWLE. No additional service is planned on SR 99. Some additional bus service is planned along 16th Avenue S in the Preferred and South 344th Street alternatives study area. Metro plans to provide less peak-oriented bus service on I-5 through the study areas in 2042.

It is assumed that Sound Transit would reduce bus service levels on I-5 through the study areas in 2042 because Link light rail will replace much of the current north-south service from south Puget Sound cities toward downtown Seattle and the University District. Existing Sound Transit bus routes that currently provide service to cities north of Tacoma will generally be truncated at the Tacoma Dome and Fife Link stations, where riders will transfer to or from Link. It is also assumed that Pierce Transit would truncate bus service via Routes 402 and 500 in the Preferred and South 344th Street alternatives study area at frequencies comparable to those under existing conditions. Route 501 would be discontinued and would no longer provide service in the Preferred and South 344th Street alternatives study area.

Under the No-Build Alternative, Sound Transit would not have the capacity to receive, test, commission, store, maintain, and deploy the expanded fleet of LRVs needed to support existing and planned future expansions of the light rail system at planned service levels. As a result, light rail operations would be less efficient than they would otherwise be with the facility and Sound Transit would not be able to meet expected ridership demand.

Nonmotorized Network

Under the No-Build Alternative, pedestrian and bicycle facilities would be improved in accordance with adopted local plans. The Transportation Element of the Federal Way Comprehensive Plan calls for installation of bicycle lanes on S 336th Street between SR 99 and 20th Ave S and planned trails through the Federal Way/S 320th Street Park & Ride.

Nonmotorized volumes are expected to increase in the Midway Landfill Alternative study area as a result of land use regulations that encourage mixed uses and higher residential densities in Kent's Midway Subarea. The Midway Subarea is located in the western portion of Kent and is bound to the north by SR-516 (Kent-Des Moines Road), to the south by South 272nd Street, and by the city of Des Moines along the entire western border. The Midway Subarea Plan envisions a conceptual, expanded pedestrian and bike path framework in the study area, including north-south improvements connecting S 244th Street to S 252nd Street through the conceptual layout of the Midway Landfill Alternative project site.

Parking

Under the No-Build Alternative, the quantity of on-street parking along streets within the study areas is not assumed to change. On-street parking utilization is expected to stay the same because the land uses within the study areas are not expected to change, as shown by the comprehensive plans for Federal Way and Kent. Any new developments within the study areas would be expected to provide adequate off-street parking for their use.

Safety

The expected increase in traffic volumes in the study area could increase collision frequencies for both motor vehicle and nonmotorized users in the study area. Planned roadway and intersection projects could improve safety through rechannelization, improved sight lines, or the addition of turn lanes. The construction of new bicycle and pedestrian facilities would improve safety and predictability for both motor vehicle and nonmotorized users in the study area by clearly identifying conflict points.

3.2.2.2 Long-Term Impacts

Impacts Common to All Build Alternatives

Arterial and Street Operations

For all build alternatives, all track crossings of existing or planned roadways would be elevated and would therefore not impact traffic operations. For the Preferred and South 344th Street alternatives, this applies to all mainline and tail track design options.

All access points to the OMF South sites would be controlled by fenced rolling gates, one of which would be at a guard house, with access to the site granted via guard house staff or by an automated system, such as electronic key cards. Two scenarios were evaluated to help understand how different gate operations could impact the local transportation system during the peak hour:

- Free-flow movement into each OMF South site without consideration of the effect of opening and closing the rolling gate.
- Vehicle movement into the site with consideration of estimated timing for each gate opening and closing. (This evaluation was completed without the use of the Synchro software because staffed guard houses and gate operations cannot be evaluated with the software.)

Approximately 610 people would be employed at the facility, arriving and departing over the course of three shifts. Employees would arrive at staggered times throughout each shift. A portion of the day and graveyard shift staffing estimates was assumed to enter/exit the OMF South site in the AM and PM peak hours, as shown in Table 3.2-5. All employees were assumed to arrive in single-occupancy vehicles to evaluate a worst-case scenario. The amount of freight traffic to and from the OMF South site is anticipated to be minimal, particularly during the AM and PM peak hours, because deliveries would primarily occur during off-peak hours. Therefore, freight traffic was not factored into the analysis.

The peak hour vehicle trips generated at the facility were assigned to study area roadways and intersections based on existing travel patterns. Existing trips from properties that would be acquired for the project under all alternatives were removed. Existing trips that would be affected by changes in the roadway network under the Preferred and South 344th Street alternatives were rerouted to other intersections or intersection movements. This resulted in a decrease in volume for some intersection movements in both study areas.

Table 3.2-5 Forecast Auto Volumes for the Build Alternatives 2042 AM and PM Peak Hours

Alternative	Inbound AM	Inbound PM	Outbound AM	Outbound PM
Preferred and South 344th Street Alternatives	69	0	11	57
Midway Landfill Alternative	69	0	11	57

Gate operations were assessed to determine whether intersections would be affected. The first gate operation scenario (without the gate opening and closing between vehicles) assumed free-flow movement into each site. Therefore, no additional queueing and delays would result at the gates, and no spillback would occur that could impact intersection operations.

The second scenario assumed the gates would open and close between vehicles. Assuming that 75 percent of inbound and outbound vehicles arrive at gate-managed driveways during a peak 15-minute period either before shift change (AM peak hour) or after shift change (PM peak hour), the access gates should have sufficient capacity to accommodate the inbound and outbound vehicles trips without additional queueing and delays that would impact intersection operations.

Because neither scenario resulted in queuing and delays associated with gate operations, the traffic operations presented in the following sections did not incorporate any impacts associated with access into each OMF South site.

Freight

The build alternatives are not anticipated to negatively affect truck circulation or truck routes on the local street network in the study area. There are no at-grade light rail track roadway crossings that would cause delays for trucks. Freight would experience the same levels of delay as general-purpose traffic on roadways and at intersections throughout the study area.

Transit

Bus service network under the build alternatives would be the same as the No-Build Alternative, which includes the transit service modifications planned in conjunction with FWLE and TDLE. Additional bus service levels or rerouting to the facility are not anticipated for any alternatives.

Development of OMF South would provide Sound Transit with additional capacity to receive, test, commission, store, maintain, and deploy an expanded fleet of LRVs for planned Link service. This capacity would provide for more efficient operation of the existing system and allow Sound Transit to accommodate the planned future expansions of the light rail system to meet the expected ridership demand.

Parking

Under the build alternatives, some existing off-street parking would be removed. Construction of any of the build alternatives and improvements to the surrounding roadways would reduce on-street parking in the study areas as well. However, the loss of on-street parking is anticipated to be minimal.

Up to approximately 480 spaces would be needed for on-site parking for employees, visitors, and nonrevenue vehicles. See Chapter 2 for conceptual layouts, including parking, for each build alternative.

Safety

As with the No-Build Alternative, traffic volumes in the study area are forecast to increase by 2042, which could increase collision frequencies for both motor vehicle and nonmotorized users in the study area. However, the roadway, intersection, and nonmotorized improvements identified under the No-Build Alternative and applicable for the build alternatives would improve safety for motor vehicle and nonmotorized users in the study areas under the build alternatives. OMF South would not result in any adverse safety impacts to intersections, including those with over one crash per million entering vehicles.

With the exception of site driveways, OMF South, including the mainline tracks from the Federal Way Downtown Station to the Preferred and South 344th Street alternatives sites, would not intersect with existing roadways, highways, sidewalks, bicycle lanes, or nonmotorized trails. All tracks would be elevated over these transportation facilities and would not present conflicts for drivers, buses, freight, pedestrians, or cyclists. All vertical support elements would be sited to comply with transportation safety requirements. Site driveways would be designed to meet or exceed all local and state safety standards; thus, no new safety issues are expected to be introduced, and existing safety issues would not be exacerbated.

The mainline tracks would be constructed immediately adjacent to the southbound I-5 clear zone (the area beyond the edge of the traveled roadway) within the I-5 right-of-way. While the mainline track would generally maintain clear zone standards, there may be locations where the minimum widths cannot be met. In such instances, deviations from clear zone distances would require approval from WSDOT or FHWA. Failure to meet the standard width of the clear zone could result in impacts to safety conditions and an increase in collision frequencies. In areas where minimum clear zone conditions cannot be maintained, guardrails, barriers, or impact attenuators, such as water-filled jersey barriers or sand filled barrels, would be provided to shield vehicles from roadside hazards. As a result, the mainline tracks along I-5 are not anticipated to have any quantifiable impact to safety along I-5.

Preferred Alternative

Arterial and Street Operations

The Preferred Alternative would have three access points along S 341st Place. The first would be a visitor/employee entrance with a guard house east of 18th Place S. All employees would enter the site at this location. Access would allow for left-in, left-out, right-in, and right-out at S 341st Place. The second and third access points would be west of 21st Avenue S; however, these entrances would not be used for daily employee access to the site. There would be no turn restrictions at the second or third driveway location.

The Preferred Alternative would close 20th Avenue S from S 336th Street to S 341st Place. A new roadway would be constructed on the west side of the OMF site, extending 18th Place S to S 336th Street. This extension of 18th Place S would add a new three-legged intersection to the south side of S 336th Street. The new S 336th Street/18th Place S Extension intersection would be a two-way stop-controlled (TWSC) intersection with access for left-in, left-out, right-in, and right-out.

In addition, 21st Avenue S would be extended south from S 341st Place to S 344th Street in order to satisfy city code requirements. Development of the Preferred Alternative would not interfere with plans to add a southbound auxiliary lane on 16th Avenue S, as described under the No-Build Alternative.

Tables 3.2-6 and 3.2-7 show AM and PM peak hour LOS and v/c ratios (where applicable) for the Preferred Alternative intersections compared to the No-Build Alternative. Note that Federal Way does not evaluate impacts based on AM peak period operations. Under the Preferred Alternative, no intersections are forecast to operate below the LOS or v/c ratio standards during the AM or PM peak hours. Figure 3.2-7 shows the 2042 AM and PM peak hour operations at intersections within the study area.

Freight

The Preferred Alternative is not anticipated to negatively affect truck circulation or truck routes on the local street network. The mainline tracks would not have any at-grade roadway crossings; therefore, there would not be delays for trucks. Freight would experience the same levels of delay as general-purpose traffic on roadways and at intersections throughout the study area.

Transit

Depending on the mainline alignment, up to 50 parking spaces in the Federal Way/S 320th Street Park & Ride would be removed as part of the Preferred Alternative to accommodate the elevated mainline tracks and a relocated BPA transmission line tower. Given the size of the Federal Way/S 320th Street Park & Ride and its low utilization, sufficient parking would still be available to accommodate demand. WSDOT has indicated that the loss of these stalls would not require replacement.

Nonmotorized Network

Under the Preferred Alternative, nonmotorized volumes would increase as described for the No-Build Alternative. The conceptual layout of the Preferred Alternative would eliminate the existing 20th Avenue S greenway between S 336th Street and S 344th Street; however, it would maintain the existing bicycle network by including bicycle lanes along the extended segment of 18th Place S and extending the eastbound bicycle lanes on S 336th Street from 20th Avenue S to SR 99. It could also impact the future alignment of the planned trails through the Federal Way/S 320th Street Park & Ride but would not necessarily preclude them.

Parking

Development of the mainline for the Preferred Alternative would require the permanent removal of approximately 10 parking stalls from the east side of The Commons at Federal Way shopping mall. There would be an abundance of parking stalls remaining at The Commons at Federal Way. Nearby developments along 18th Place S, S 341st Place, and S 344th Street currently use street parking that would be removed; however, several of these properties would be acquired as part of the project. Impacts associated with acquisitions are discussed in Section 3.3, Acquisitions, Displacements, and Relocations. No adverse impacts to parking are expected.

Impacts to the Federal Way/S 320th Street Park & Ride are described above under Transit.

Table 3.2-6 Preferred Alternative 2042 AM Peak Hour Traffic Operations

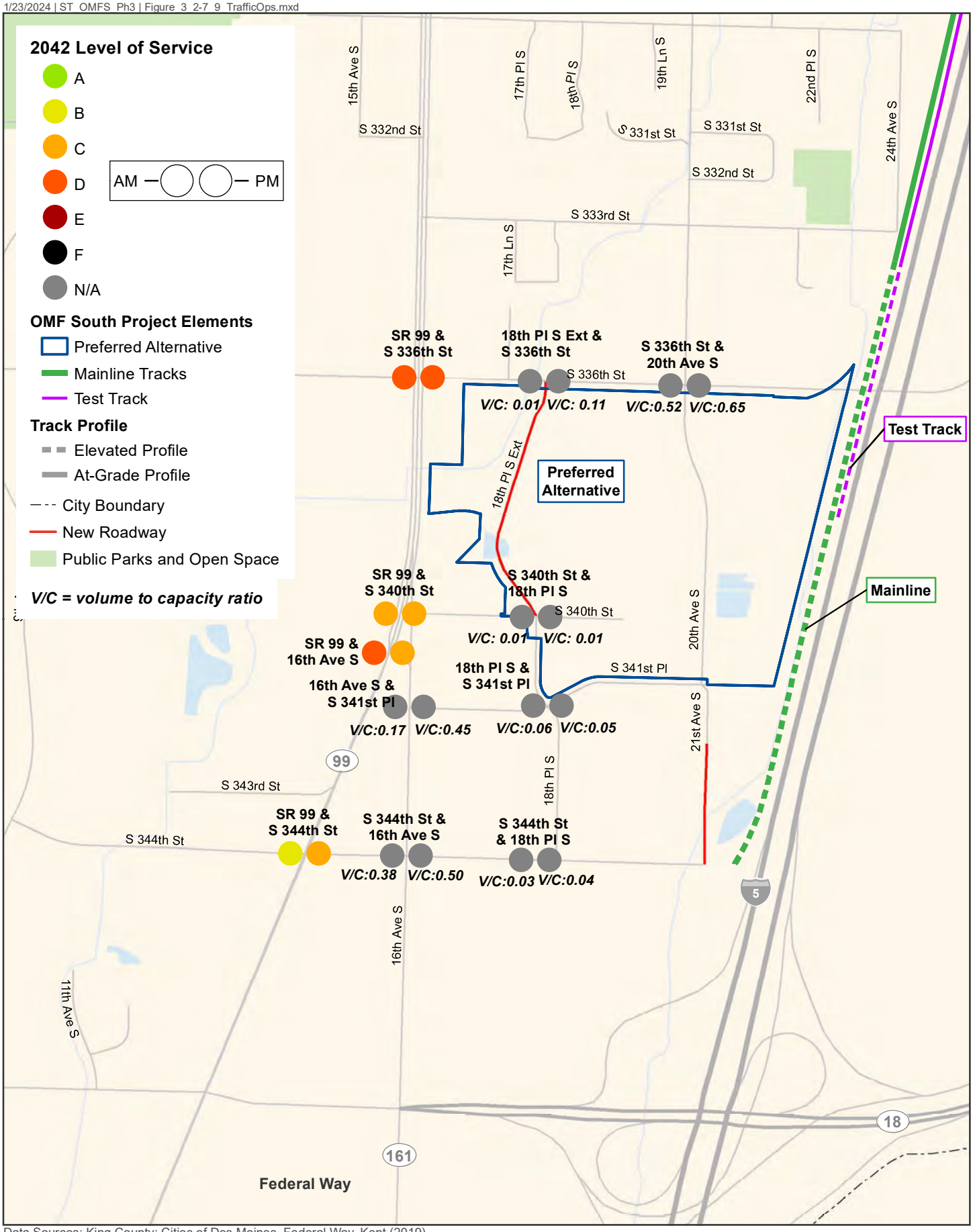
ID	Intersection[1]	Control Type	Agency Standard	No-Build Alternative LOS [2, 3]	No-Build Alternative Delay (seconds) [2, 3]	No-Build Alternative V/C Ratio [2, 3]	Preferred Alternative LOS [2, 3]	Preferred Alternative Delay (seconds) [2, 3]	Preferred Alternative V/C Ratio [2, 3]
1	S 336th Street/ 20th Avenue S	Signal	N/A	N/A	N/A	0.52	N/A	N/A	0.52
2	SR 99/ S 336th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	D	44	N/A	D	46	N/A
3	SR 99/ S 340th Street	TWSC	WSDOT Highways of Statewide Significance (LOS D)	C	19	N/A	C	20	N/A
4	SR 99/ 16th Avenue S	Signal	WSDOT Highways of Statewide Significance (LOS D)	C	28	N/A	D	36	N/A
5	16th Avenue S/ S 341st Place	TWSC	N/A	N/A	N/A	0.15	N/A	N/A	0.17
6	18th Place S/ S 341st Place	Uncontrolled	N/A	N/A	N/A	0.03	N/A	N/A	0.06
7	SR 99/ S 344th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	B	18	N/A	B	19	N/A
8	S 344th Street/ 16th Avenue S	Signal	N/A	N/A	N/A	0.39	N/A	N/A	0.38
9	S 344th Street/ 18th Place S	Uncontrolled	N/A	N/A	N/A	0.04	N/A	N/A	0.03
11	18th Place S Extension/S 336th Street	TWSC	N/A	-	-	-	N/A	N/A	0.01
12	18th Place S/S 340th Street	TWSC	City of Federal Way (v/c 1.0)	-	-	-	N/A	N/A	0.01

Notes:
(1) Intersection 10 (SR99/Driveway), as discussed in the 2021 SEPA Draft EIS and 2023 NEPA Draft/SEPA Supplemental Draft EIS, is no longer included because the site entrance has moved to S 341st Place, east of Intersection 6 (18th Place S/S 341st Place). Intersections 11 and 12 are new intersections formed with the extension of 18th Place S.
(2) Synchro analyzes intersections in isolation and does not take into account downstream congestion. Actual intersection operations may have more delay based on intersection interactions and queuing propagation upstream and downstream between intersections.
(3) Intersections were analyzed using HCM 6th Edition (Transportation Research Board 2016) for signalized and unsignalized intersections, except where HCM 6th Edition limitations necessitated use of HCM 2000 methodology (Transportation Research Board 2000).

Table 3.2-7 Preferred Alternative 2042 PM Peak Hour Traffic Operations

ID	Intersection[1]	Control Type	Agency Standard	No-Build Alternative LOS [2, 3]	No-Build Alternative Delay (seconds) [2, 3]	No-Build Alternative V/C Ratio [2, 3]	Preferred Alternative LOS [2, 3]	Preferred Alternative Delay (seconds) [2, 3]	Preferred Alternative V/C Ratio [2, 3]
1	S 336th Street/ 20th Avenue S	Signal	City of Federal Way (v/c 1.2)	N/A	N/A	0.66	N/A	N/A	0.65
2	SR 99/ S 336th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	D	54	N/A	D	49	N/A
3	SR 99/ S 340th Street	TWSC	WSDOT Highways of Statewide Significance (LOS D)	C	16	N/A	C	16	N/A
4	SR 99/ 16th Avenue S	Signal	WSDOT Highways of Statewide Significance (LOS D)	D	37	N/A	C	35	N/A
5	16th Avenue S/ S 341st Place	TWSC	City of Federal Way (v/c 1.0)	N/A	N/A	0.38	N/A	N/A	0.45
6	18th Place S/ S 341st Place	Uncontrolled	City of Federal Way (v/c 1.0)	N/A	N/A	0.05	N/A	N/A	0.05
7	SR 99/ S 344th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	B	16	N/A	C	34	N/A
8	S 344th Street/ 16th Avenue S	Signal	City of Federal Way (v/c 1.2)	N/A	N/A	0.51	N/A	N/A	0.50
9	S 344th Street/ 18th Place S	Uncontrolled	City of Federal Way (v/c 1.0)	N/A	N/A	0.05	N/A	N/A	0.04
11	18th Place S Extension/S 336th Street	TWSC	City of Federal Way (v/c 1.0)	-	-	-	N/A	N/A	0.11
12	18th Place S/S 340th Street	TWSC	City of Federal Way (v/c 1.0)	-	-	-	N/A	N/A	0.01

Notes:
(1) Intersection 10 (SR99/Driveway), as discussed in the 2021 SEPA Draft EIS and 2023 NEPA Draft/SEPA Supplemental Draft EIS, is no longer included because the site entrance has moved to S 341st Place, east of Intersection 6 (18th Place S/S 341st Place). Intersections 11 and 12 are new intersections formed with the extension of 18th Place S.
(2) Synchro analyzes intersections in isolation and does not take into account downstream congestion. Actual intersection operations may have more delay based on intersection interactions and queuing propagation upstream and downstream between intersections.
(3) Intersections were analyzed using HCM 6th Edition (Transportation Research Board 2016) for signalized and unsignalized intersections, except where HCM 6th Edition limitations necessitated use of HCM 2000 methodology (Transportation Research Board 2000).



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

FIGURE 3.2-7

2042 Build Alternative AM and PM Peak Hour Traffic Operations
Preferred Alternative

OMF South

South 344th Street Alternative

Arterial and Street Operations

The South 344th Street Alternative would have two access points. The first would be a visitor/employee access with a guard house at the intersection of S 344th Street/18th Place S, allowing for access to SR 99 via 16th Avenue S or S 344th Street. All employees would enter the site at this location. A second access would be provided at 20th Avenue S, south of S 336th Street, with direct access to the signalized intersection at S 336th Street; however, it would not be for daily employee access to the site. At the intersection at 18th Place S/S 341st Place, the south and east legs would be removed, as they would be occupied by the OMF site.

This alternative would close 20th Avenue S approximately 300 feet south of S 336th Street and preclude the planned extension of 20th Avenue S from S 341st Place to S 344th Street described under the No-Build Alternative. Drivers would still have access to the Christian Faith Center via 20th Avenue S, and nonmotorized travelers wishing to access the remaining streets in the southern part of the study area would be required to do so via 16th Avenue S or SR 99. The project would not interfere with plans to add a southbound auxiliary lane on 16th Avenue S, as described under the No-Build Alternative.

Tables 3.2-8 and 3.2-9 show AM and PM peak hour LOS and v/c ratios (where applicable) for the South 344th Street Alternative intersections compared to the No-Build Alternative. Note that Federal Way does not evaluate impacts based on AM peak period operations. Under the South 344th Street Alternative, no intersections are forecast to operate below the LOS or v/c ratio standards for the roadway or highway during the AM or PM peak hours. Nearby uses, such as the Christian Faith Center, generate large traffic volumes outside of the weekday AM or PM peak hours. Given the planned arrival and departure times for staff at the facility, traffic generated by OMF South is not anticipated to interfere with events at the Christian Faith Center. Figure 3.2-8 shows the 2042 AM and PM peak hour operations at the intersections within the study area.

Freight

The South 344th Street Alternative is not anticipated to negatively affect truck circulation or truck routes on the local street network. The mainline would not have any at-grade roadway crossings; therefore, there would not be delays for trucks. Freight would experience the same levels of delay as general-purpose traffic on roadways and at intersections throughout the study area.

Transit

Depending on the mainline alignment, up to 50 parking spaces in the Federal Way/S 320th Street Park & Ride would be removed as part of the South 344th Street Alternative to accommodate the elevated mainline and a relocated BPA transmission line tower. Given the size of the Federal Way/S 320th Street Park & Ride and its low utilization, it is estimated that sufficient parking would still be available to accommodate demand if 50 parking spaces were removed.

Table 3.2-8 South 344th Street Alternative 2042 AM Peak Hour Traffic Operations

ID	Intersection	Control Type	Agency Standard	No Build Alternative LOS [1, 2]	No Build Alternative Delay (seconds) [1, 2]	No Build Alternative V/C Ratio [1, 2]	South 344th Street Alternative LOS [1, 2]	South 344th Street Alternative Delay (seconds) [1, 2]	South 344th Street Alternative V/C Ratio [1, 2]
1	S 336th Street/ 20th Avenue S	Signal	N/A	N/A	N/A	0.52	N/A	N/A	0.52
2	SR 99/ S 336th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	D	44	N/A	D	52	N/A
3	SR 99/ S 340th Street	TWSC	WSDOT Highways of Statewide Significance (LOS D)	C	19	N/A	A	0	N/A
4	SR 99/ 16th Avenue S	Signal	WSDOT Highways of Statewide Significance (LOS D)	C	28	N/A	D	36	N/A
5	16th Avenue S/ S 341st Place	TWSC	N/A	N/A	N/A	0.15	N/A	N/A	0.02
6	18th Place S/ S 341st Place	Uncontrolled	N/A	N/A	N/A	0.03	N/A	N/A	0.00
7	SR 99/ S 344th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	B	18	N/A	B	18	N/A
8	S 344th Street/ 16th Avenue S	Signal	N/A	N/A	N/A	0.39	N/A	N/A	0.40
9	S 344th Street/ 18th Place S	Uncontrolled	N/A	N/A	N/A	0.04	N/A	N/A	0.05

Notes:

(1) Synchro analyzes intersections in isolation and does not take into account downstream congestion. Actual intersection operations may have more delay based on intersection interactions and queuing propagation upstream and downstream between intersections.

(2) Intersections were analyzed using HCM 6th Edition (Transportation Research Board 2016) for signalized and unsignalized intersections, except where HCM 6th Edition limitations necessitated use of HCM 2000 methodology (Transportation Research Board 2000).

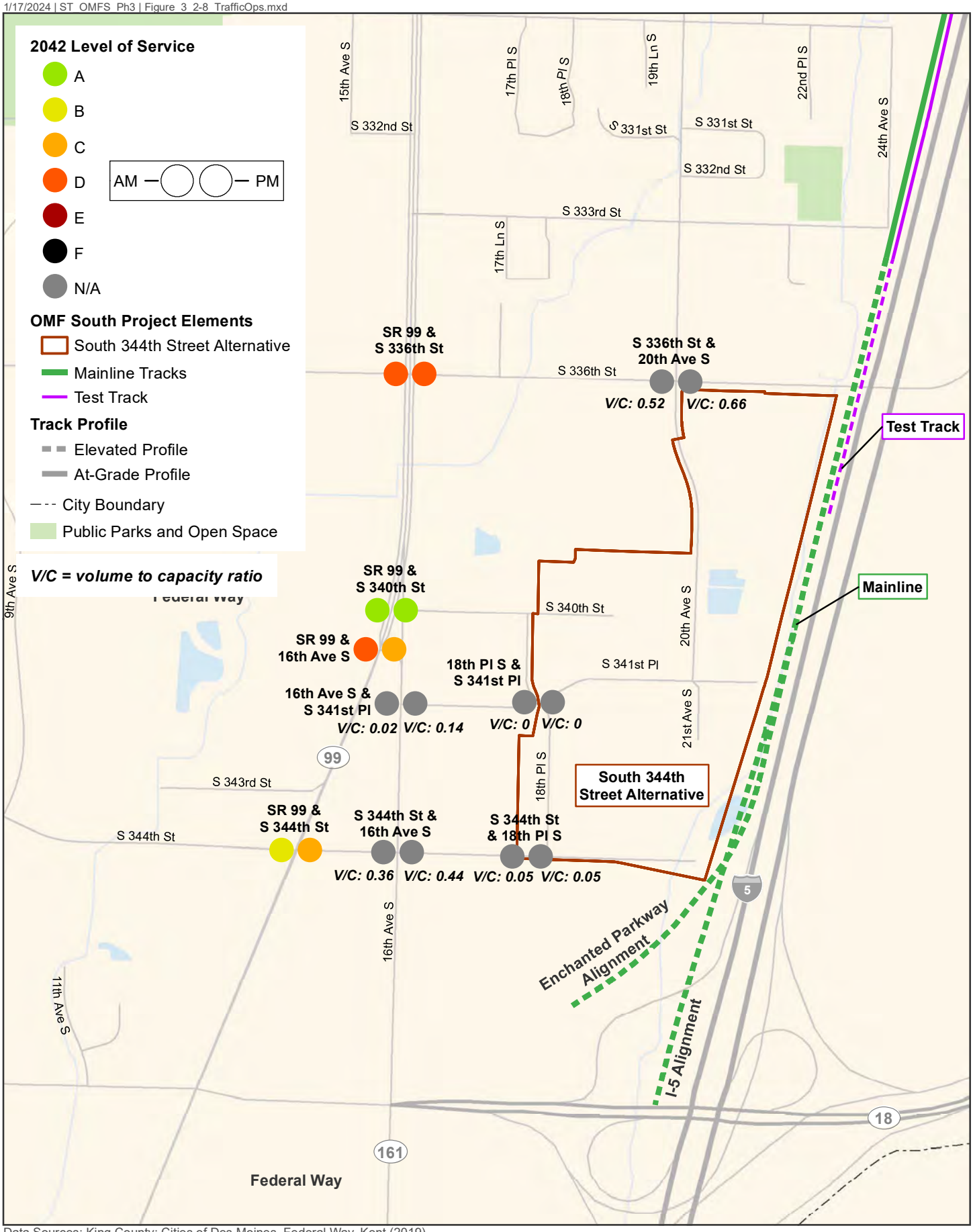
Table 3.2-9 South 344th Street Alternative 2042 PM Peak Hour Traffic Operations

ID	Intersection	Control Type	Agency Standard	No Build Alternative LOS [1, 2]	No Build Alternative Delay (seconds) [1, 2]	No Build Alternative V/C Ratio [1, 2]	South 344th Street Alternative LOS [1, 2]	South 344th Street Alternative Delay (seconds) [1, 2]	South 344th Street Alternative V/C Ratio [1, 2]
1	S 336th Street/ 20th Avenue S	Signal	City of Federal Way (v/c 1.2)	N/A	N/A	0.66	N/A	N/A	0.66
2	SR 99/ S 336th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	D	54	N/A	D	51	N/A
3	SR 99/ S 340th Street	TWSC	WSDOT Highways of Statewide Significance (LOS D)	C	16	N/A	A	0	N/A
4	SR 99/ 16th Avenue S	Signal	WSDOT Highways of Statewide Significance (LOS D)	D	37	N/A	C	33	N/A
5	16th Avenue S/ S 341st Place	TWSC	City of Federal Way (v/c 1.0)	N/A	N/A	0.38	N/A	N/A	0.14
6	18th Place S/ S 341st Place	Uncontrolled	City of Federal Way (v/c 1.0)	N/A	N/A	0.05	N/A	N/A	0.00
7	SR 99/ S 344th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	B	16	N/A	C	34	N/A
8	S 344th Street/ 16th Avenue S	Signal	City of Federal Way (v/c 1.2)	N/A	N/A	0.51	N/A	N/A	0.44
9	S 344th Street/ 18th Place S	Uncontrolled	City of Federal Way (v/c 1.0)	N/A	N/A	0.05	N/A	N/A	0.05

Notes:

(1) Synchro analyzes intersections in isolation and does not take into account downstream congestion. Actual intersection operations may have more delay based on intersection interactions and queuing propagation upstream and downstream between intersections.

(2) Intersections were analyzed using HCM 6th Edition (Transportation Research Board 2016) for signalized and unsignalized intersections, except where HCM 6th Edition limitations necessitated use of HCM 2000 methodology (Transportation Research Board 2000).



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

FIGURE 3.2-8

2042 Build Alternative AM and PM Peak Hour Traffic Operations
South 344th Street Alternative

OMF South

Nonmotorized Network

Under the South 344th Street Alternative, nonmotorized volumes would increase similarly to the No-Build Alternative. As shown in Figure 3.2-5, there are limited existing nonmotorized facilities in the study area. Pedestrian and bicycle facilities would generally be developed in a manner comparable to the No-Build Alternative outside the project footprint. However, this alternative would eliminate the greenway on 20th Avenue S, S 341st Place, 18th Place S, and S 344th Street. Pedestrians and cyclists would continue to be able to travel on the existing sidewalks on SR 99 between S 336th Street and S 344th Street, and Sound Transit would evaluate options for replacing the function of the greenway between S 336th Street and S 344th Street for nonmotorized users. The South 344th Street Alternative could also impact the future alignment of the planned trails through the Federal Way/S 320th Street Park & Ride but would not necessarily preclude them.

Parking

Development of the mainline for the South 344th Street Alternative would require the permanent removal of approximately 10 stalls from the east side of The Commons at Federal Way shopping mall and approximately 20 from the southeast portion of the Walmart property south of S 344th Street. The South 344th Street Alternative would also displace on-street parking adjacent to developments along 21st Avenue S, S 341st Place east of 18th Place S, and S 344th Street east of 18th Place S. There would be an abundance of parking stalls remaining at The Commons at Federal Way and at Walmart. Most developments that may currently use on-street parking along 18th Place S, S 341st Place, and S 344th Street would be acquired as part of the project. Impacts associated with acquisitions are discussed in Section 3.3, Acquisitions, Displacements, and Relocations.

The South 344th Street Alternative may displace up to five on-street parking spaces on the south side of S 344th Street, east of 18th Place S, that may currently be used to access developments that would not be acquired. However, there would be ample space remaining for on-street parking along the south side of S 344th Street, and no adverse parking impacts are expected.

Impacts to the Federal Way/S 320th Street Park & Ride are described above under Transit.

Midway Landfill Alternative

Arterial and Street Operations

Development of the Midway Landfill Alternative would not change the existing roadway network or interfere with the potential for development of planned improvements within the study area as described under the No-Build Alternative. Three access points to the site would be provided: a visitor/employee access with a guard house at SR 99/S 246th Street, a gated employee-only access at SR 99/S 248th Street, and a gated access at S 252nd Street/30th Avenue S. Neither the S 246th Street nor S 248th Street entrance would be signalized.

The project would modify the existing S 246th Street driveway to allow left turns into the site by southbound drivers. Due to the presence of existing medians, left turns out of the site would not be permitted at S 246th Street or S 248th Street. It is assumed that most employees would enter and exit through the SR 99/S 246th Street entrance, while the remaining employees using the parking area closest to the MOW and Link System-Wide Storage facilities would use the southernmost driveway at SR 99/S 248th Street.

Tables 3.2-10 and 3.2-11 show AM and PM peak hour LOS for the Midway Landfill Alternative study area intersections compared to the No-Build Alternative. Note that Kent does not evaluate impacts based on AM peak period operations. One intersection (intersection #5) is forecast to operate below the LOS standards during the AM peak period under the No-Build Alternative. The Midway Landfill Alternative would reduce the delay at this intersection in the AM peak because trips currently using the driveway would no longer do so. Southbound queueing at the SR 99 intersections is not anticipated to extend beyond the current and constructed storage lengths of the left-turn lanes. There are no impacts on LOS from the Midway Landfill Alternative.

Table 3.2-10 Midway Landfill Alternative 2042 AM Peak Hour Traffic Operations

ID	Intersection[5]	Control Type	Agency Standard	No Build Alternative LOS [1, 2, 3, 4]	No Build Alternative Delay (seconds) [1, 2, 3, 4]	Midway Landfill Alternative LOS [1, 2, 3, 4]	Midway Landfill Alternative Delay (seconds) [1, 2, 3, 4]
1	SR 99/S 240th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	C	23	C	22
5	SR 99/S 248th Street (New Driveway)	TWSC	WSDOT Highways of Statewide Significance (LOS D)	***F***	***53***	***E***	***36***
6	SR 99/S 252nd Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	A	7	A	7
7	SR 99/S 260th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	D	47	D	47
8	29th Avenue S/ S 252nd Street	TWSC	City of Kent (LOS E)	A	9	A	9
9	29th Avenue S/ S 259th Street	TWSC	City of Kent (LOS E)	C	22	C	22

Notes:

(1) Synchro analyzes intersections in isolation and does not take into account downstream congestion. Actual intersection operations may have more delay based on intersection interactions and queuing propagation upstream and downstream between intersections.

(2) Intersections were analyzed using the Synchro outputs for signalized intersections and Highway Capacity Manual 2010 outputs for unsignalized intersections (Transportation Research Board 2010).

(3) At signalized intersections utilizing HCM 6th Edition methodology (Transportation Research Board 2016), U-turn movements were added to left-turn movements to allow for analysis.

(4) Cells highlighted in ***gray bold and italicized*** identify intersections that operate below the LOS standard for the roadway/highway.

(5) Kent does not require analysis of commercial driveways on the east side of SR 99 unless there is a direct impact on a public right-of-way on the west side of SR 99. Therefore, the analysis of intersections 2 through 4 are not described below but are included in Appendix G1, Transportation Technical Report.

Table 3.2-11 Midway Landfill Alternative 2042 PM Peak Hour Traffic Operations

ID	Intersection[5]	Control Type	Agency Standard	No Build Alternative LOS [1, 2, 3, 4]	No Build Alternative Delay (seconds) [1, 2, 3, 4]	Midway Landfill Alternative LOS [1, 2, 3, 4]	Midway Landfill Alternative Delay (seconds) [1, 2, 3, 4]
1	SR 99/S 240th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	D	37	D	39
5	SR 99/S 248th Street	TWSC	WSDOT Highways of Statewide Significance (LOS D)	***F***	***97***	***F***	***102***
6	SR 99/S 252nd Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	D	36	D	36
7	SR 99/S 260th Street	Signal	WSDOT Highways of Statewide Significance (LOS D)	D	41	D	41
8	29th Avenue S/ S 252nd Street	TWSC	City of Kent (LOS E)	A	9	A	9
9	29th Avenue S/ S 259th Street	TWSC	City of Kent (LOS E)	E	38	E	38

Notes:

(1) Synchro analyzes intersections in isolation and does not take into account downstream congestion. Actual intersection operations may have more delay based on intersection interactions and queuing propagation upstream and downstream between intersections.

(2) Intersections were analyzed using the Synchro outputs for signalized intersections and Highway Capacity Manual 2010 outputs for unsignalized intersections (Transportation Research Board 2010).

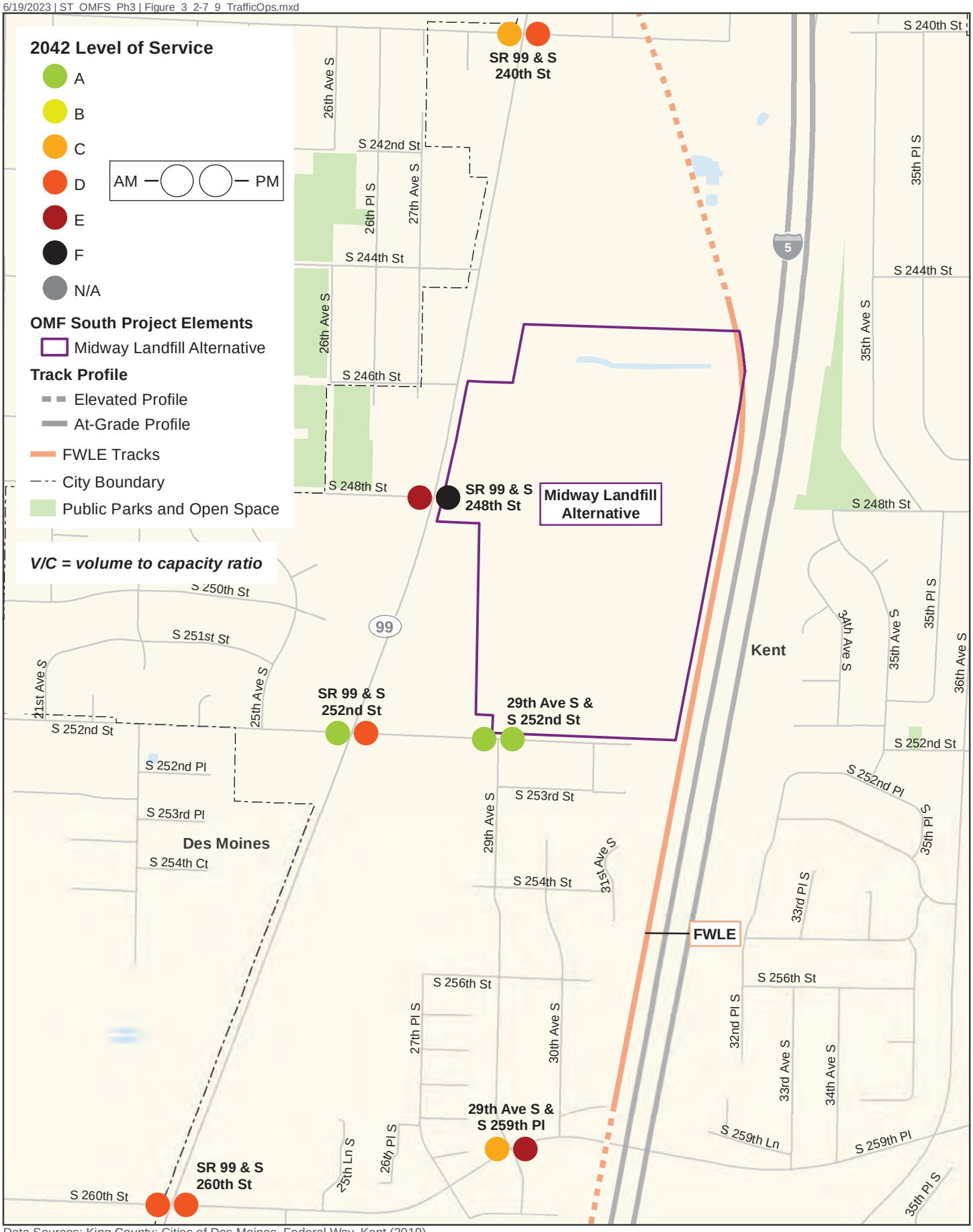
(3) At signalized intersections utilizing HCM 6th Edition methodology (Transportation Research Board 2016), U-turn movements were added to left-turn movements to allow for analysis.

(4) Cells highlighted in ***gray bold and italicized*** identify intersections that operate below the LOS standard for the roadway/highway.

(5) Kent does not require analysis of commercial driveways on the east side of SR 99 unless there is a direct impact on a public right-of-way on the west side of SR 99. Therefore, the analysis of intersections 2 through 4 are not described below but are included in Appendix G1, Transportation Technical Report.

During the PM peak hour, the intersection at SR 99/S 248th Street is forecast to operate at LOS F, which is below the standard for SR 99. While this intersection is forecast to operate below standard under the No-Build Alternative, the Midway Landfill Alternative would increase delay by 5 seconds beyond no-build conditions. Since the increased delay is less than 10 seconds, it would not be considered an impact. No other intersections within the Midway Landfill Alternative study area are forecast to operate below the LOS standards.

Figure 3.2-9 shows the 2042 AM and PM peak hour operations at the Midway Landfill Alternative study intersections.



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

FIGURE 3.2-9

2042 Build Alternative AM and PM Peak Hour Traffic Operations
Midway Landfill Alternative

OMF South

Transit

The existing pair of Metro RapidRide stops at SR 99/S 246th Street would need to be permanently relocated to accommodate development of the Midway Landfill Alternative.

The Midway Landfill Alternative does not include a dedicated test track. Sound Transit would continue testing LRVs on existing mainline tracks during off-peak periods and at night during non-revenue hours when the rail system is closed to passenger service. This would limit the daily time available to test and commission vehicles because those same tracks are used for passenger service and movement of rail vehicles during maintenance and inspection periods. This could result in insufficient vehicle quantities available to meet system expansion requirements under Sound Transit 3. In addition, the lack of a dedicated test track would slow the rehabilitation and replacement of the existing fleet of LRVs. As a result, light rail operations would be less efficient than they would otherwise be, and Sound Transit may not be able to meet expected ridership demand.

Nonmotorized Network

Under the Midway Landfill Alternative, nonmotorized volumes would increase similarly to the No-Build Alternative. As shown in Figure 3.2-6, there are limited existing nonmotorized facilities in the study area, none of which would be eliminated by the project. Pedestrian and bicycle facilities would generally be developed in a manner comparable to the No-Build Alternative. However, facilities that were planned to cross through the site area would not be developed, such as the unfunded north-south improvements that would connect S 244th Street to S 252nd Street through the Midway Landfill Alternative study area. Should future nonmotorized facilities be developed north of the Midway Landfill Alternative, a north-south shared-use path, parallel to I-5, could be developed by others east of OMF South (between I-5 and OMF South) to provide a connection to the area south of the project site.

Parking

The Midway Landfill Alternative would not remove formal on-street parking areas. Depending on the extent of roadway improvements, there could be a loss of intermittent gravel shoulder areas on the north side of S 252nd Street, which may currently be used for parking by local residents. However, this would have a minimal impact as the residences have private driveways, and there are informal parking areas that would remain on the south side of the street.

3.2.2.3 Construction Impacts

Impacts Common to All Build Alternatives

Each build alternative would require some preparatory demolition and earthwork that would generate truck trips in addition to material delivery and general construction vehicle activity throughout the duration of construction. Because most construction-period traffic would occur while hauling material to and from the site during site preparation, the estimated volumes of truck traffic presented for each alternative focus on that period of peak construction traffic to present the worst-case scenario. Similarly, because the construction staging areas, origin of the import material, and destination for export material are unknown at this time, the volumes forecast on each roadway segment represent the highest possible volumes for all daily construction activity. A single potential roadway identified as a haul route could be used for all daily truck trips, or the total daily volumes could be distributed among multiple roadways.

Impacts associated with construction truck activities were calculated by assigning a passenger car equivalent (PCE) for each truck trip, which converts the number of trucks to an estimated number of passenger cars. The Highway Capacity Manual recommends a range of PCE factors for trucks from 1.1 to 2.5 (Transportation Research Board 2010).

For the purposes of this analysis, it was assumed that material would be transported to and from the site in dump trucks with trailers that have a capacity of 20 cubic yards. Given their size and slower operating speeds, these trucks were assigned a PCE value of 2.5, meaning one construction truck is equivalent to two-and-a-half passenger cars. Table 3.2-12 summarizes the peak daily and hourly truck trips and PCE values anticipated for the three build alternatives during site preparation, including the three Midway Landfill Alternative subsurface construction design options. More detail is discussed for each build alternative below.

Table 3.2-12 Estimated Truck Activity and Passenger Car Equivalency Values Associated with Site Preparation for the Build Alternatives

Alternative	Peak Daily Truck Trips	Peak Daily PCE[1] Value	Peak Hourly Truck Trips	Peak Hourly PCE[1] Value
Preferred Alternative				
Mainline[2]	120	300	10	25
OMF Site	45	113	4	10
Total	**165**	**413**	**14**	**35**
South 344th Street Alternative				
Mainline[2]	120	300	10	25
OMF Site	77	193	7	18
Total	**197**	**493**	**17**	43
Midway Landfill Alternative				
Platform	71	178	7	18
Hybrid	564	1,410	48	120
Full Excavation	554	1,385	48	120

Notes:

(1) PCE = passenger car equivalency. Given their size and slower operating speeds, trucks were assigned a PCE value of 2.5, meaning one construction truck is equivalent to two-and-a-half passenger cars.

(2) If neither the Preferred nor the South 344th Street alternative is selected, the mainline could be built later in time if TDLE is constructed as proposed. TDLE is currently under environmental review.

On-street parking on roadways where frontage improvements will be installed would be impacted during construction.

Preferred Alternative

Site preparation work for the OMF is expected to take approximately 1 year and 5 months, assuming 12-hour workdays, 6 days per week. The development scenario for the Preferred Alternative assumes reuse of 80 percent of on-site material. There would be about 45 round trip truck trips during the daily 12-hour construction period (24 export truck trips and 21 import truck trips).

Construction access would be provided at three locations: S 336th Street at 20th Avenue S, SR 99 at the existing driveway to the Christian Faith Center, and S 341st Place at 20th Avenue S. Construction access for mainline track construction from the Federal Way Downtown

Station to the site would occur at S 324th Street, S 330th Street, and S 336th Street. Trucks would access northbound and southbound I-5 at the S 320th Street and S 348th Street interchanges via SR 99. To minimize impacts to traffic circulation during construction and meet Federal Way requirements, Sound Transit would extend 18th Place S or construct a temporary public roadway through the construction site prior to closure of 20th Avenue S.

Table 3.2-13 summarizes average annual daily trips (AADT) on streets that are part of the haul routes as well as the estimated truck trips as a percentage of AADT. The haul routes include state facilities, including SR 99, SR 18 (S 348th Street), and I-5, as well as several collector and arterial streets. The estimated daily truck PCE trips associated with site preparation could represent up to 22.6 percent of existing single direction traffic on collector and arterial roadways and up to 1.9 percent of the existing single direction AADT for all state facilities, with the highest percentages at on- and off-ramps. Figure 3.2-10 displays the location of AADT counts for the Preferred Alternative.

Table 3.2-13 Estimated Hourly Truck Activity at the Preferred and South 344th Street Alternatives Compared with Existing AADT

Intersection/Roadway Segment	Existing AADT (Both Directions)[1]	Existing AADT (Single Direction)[1]	Preferred Alternative Daily Truck Trips as a Percentage of Single Direction AADT	South 344th Street Alternative Daily Truck Trips as a Percentage of Single Direction AADT
S 320th Street: SR 99 to I-5	> 35,000	> 17,500	< 0.6%	< 1.1%
S 324th Street: SR 99 to 23rd Avenue S	5,000–15,000	2,500–7,500	1.5–4.5%	2.6–7.7%
S 330th Street: SR 99 to 24th Avenue S	1,000–5,000	500–2,500	4.5–22.6%	7.7–38.6%
S 336th Street: SR 99 to I-5	5,000-15,000	2,500-7,500	1.5-4.5%	2.6–7.7%
S 344th Street: SR 99 to I-5	< 1,000	< 500	> 22.6%	> 38.6%
I-5 Off-Ramp: I-5 SB to SW 320th Street	N/A	15,000	0.8%	1.3%
I-5 On-Ramp: EB SW 320th to NB I-5	N/A	9,900	1.1%	1.9%
I-5 On-Ramp: EB SW 320th to SB I-5	N/A	9,400	1.2%	2.1%
I-5 Off-Ramp: NB I-5 to SW 320th	N/A	9,100	1.2%	2.1%
I-5: S 330th Street	191,000	95,500	0.1%	0.2%
I-5: S 336th Street	191,000	95,500	0.1%	0.2%
I-5 On-Ramp: S 348th Street and SR 18 to NB I-5	N/A	24,000	0.5%	0.8%
I-5 Off-Ramp: NB I-5 to S 348th Street	N/A	6,100	1.9%	3.2%
I-5 On-Ramp: S 348th Street to I-5 NB	N/A	14,000	0.8%	1.4%
I-5 On-Ramp: S 348th Street to I-5 SB	N/A	5,900	1.9%	3.3%
I-5 On-Ramp: S 348th Street to I-5 SB	N/A	20,000	0.6%	1.0%

Table 3.2-13 Estimated Hourly Truck Activity at the Preferred and South 344th Street Alternatives Compared with Existing AADT (continued)

Intersection/Roadway Segment	Existing AADT (Both Directions)[1]	Existing AADT (Single Direction)[1]	Preferred Alternative Daily Truck Trips as a Percentage of Single Direction AADT	South 344th Street Alternative Daily Truck Trips as a Percentage of Single Direction AADT
S 348th Street: East of 16th Avenue S	70,000	35,000	0.3%	0.6%
SR 99: North of S 348th Street	19,000	9,500	1.2%	2.0%
SR 99: North of 18th Place S	32,000	16,000	0.7%	1.2%
SR 99: North of S 333rd Street	32,000	16,000	0.7%	1.2%
SR 99: North of S 324th Street	26,000	13,000	0.9%	1.5%
23rd Avenue S: S 320th Street to S 322nd Street	5,000-15,000	2,500-7,500	1.5-4.5%	N/A
20th Avenue S: S 336th Street to S 341st Place	1,500	750	15.1%	N/A
16th Avenue S: SR 99 to S 348th Street	27,000	13,500	0.8%	N/A

Sources: WSDOT Traffic GeoPortal, 2018. City of Federal Way 2010 Estimated Weekday Average Daily Traffic, 2011.

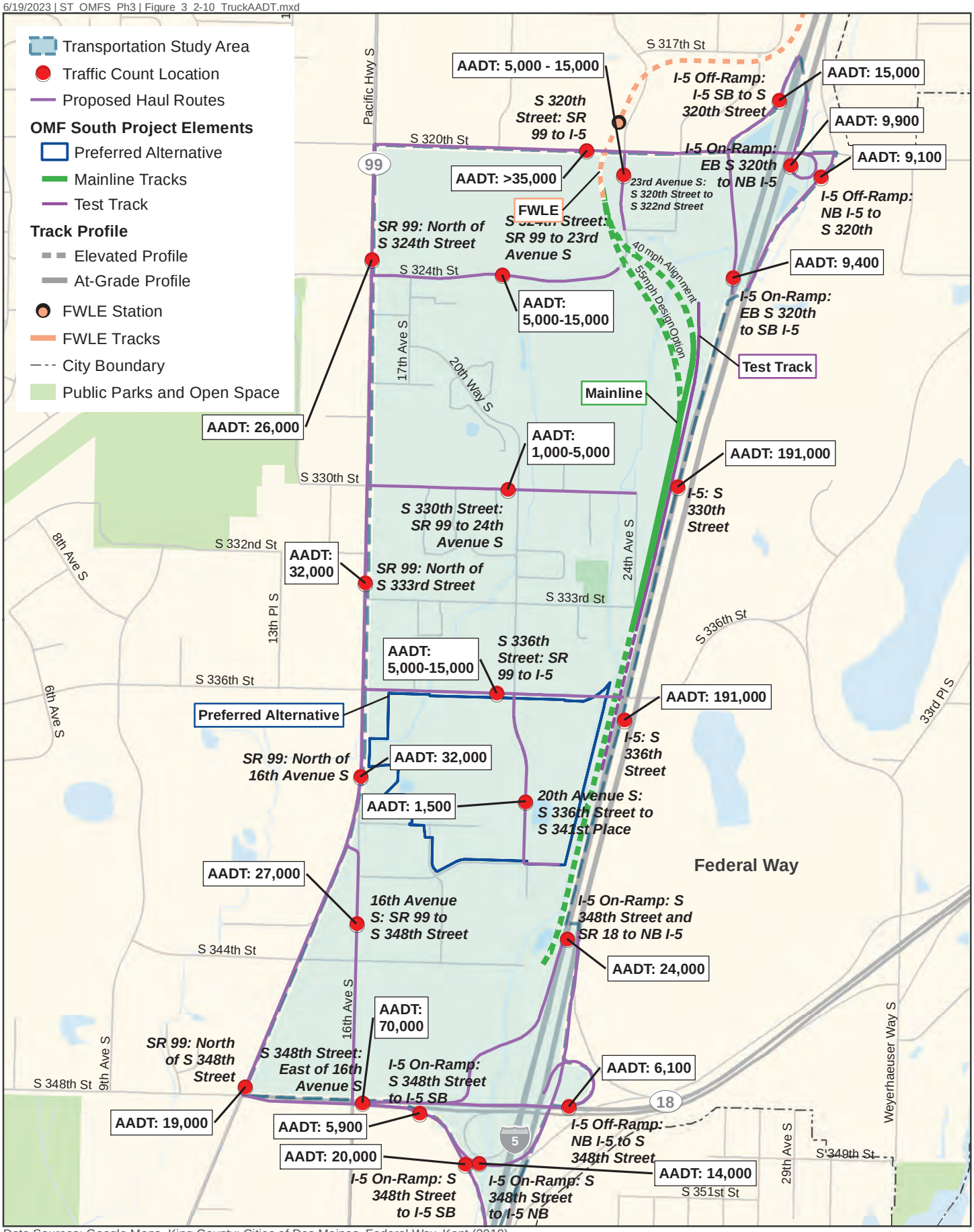
Note:

(1) WSDOT and Federal Way report annual average daily trips (AADT) for roadways. Where roadways are bidirectional, the AADT reported reflects both directions. Single direction volumes were determined by dividing bidirectional volumes in two.

Mainline construction, including the mainline tail tracks, is expected to take 15 months for both mainline alignments (40 mph Alignment and 55 mph Design Option). Construction of the mainline tracks would require temporary full and/or partial closures to streets that travel beneath them. Peak truck trips during mainline track construction are estimated to be up to 10 trucks per hour for concrete delivery, or up to 120 trips per day (300 PCE), assuming 12 hours per day of active construction, some of which may occur at night. A similar level of truck activity is expected for earthwork activities, but this would be focused on trucks hauling material during excavation and would not overlap with concrete delivery trucks. Haul routes for mainline track construction are anticipated to be the same as described above for OMF site construction.

If mainline track and site construction occur concurrently, truck trips on roadways would be expected to increase proportionately as compared with site construction only. Streets with the lowest existing AADT, such as S 336th Street and S 344th Street, would experience the highest relative growth in traffic compared to existing volumes. If driveway closures are required, access to these properties would be maintained to the extent practical. If access to a business could not be maintained during construction, the specific construction activity would be reviewed to determine whether it could occur during non-business hours.

During construction of the Preferred Alternative, transit service on S 324th Street, S 336th Street, and 23rd Avenue S would likely be impacted. Buses may need to be rerouted and bus stops may need to be temporarily relocated in response to construction related road closures. Bus service may also be slower and less reliable in construction areas. Bus service into the Federal Way/S 320th Park & Ride may need to be rerouted to avoid construction areas.



Data Sources: Google Maps, King County; Cities of Des Moines, Federal Way, Kent (2019).

FIGURE 3.2-10

Existing Annual Average Daily Traffic Along Truck Haul Routes
Preferred Alternative

OMF South

Of the 877 parking spaces at the Federal Way/S 320th Street Park & Ride, about 650 spaces would be temporarily closed during mainline construction for both mainline alignments. In the first quarter of 2023, utilization of the Park & Ride was at 1.3 percent. While this facility has not been used at capacity in recent years, utilization could change with the opening of FWLE, which has a forecasted in-service date of 2026.

Because the construction area includes all of the S 336th Street programmed site area, the impacts to pedestrian and bicycle facilities during construction and upon completion of the facility would be similar. The current north-south greenway would be closed, and bicycle lanes would be reopened with construction of the extended 18th Place S roadway. Pedestrian and bicycle facilities on S 324th Street, S 330th Street, S 336th Street, S 340th Street, 341st Place, 18th Place S, 21st Avenue S, and 23rd Avenue S would be impacted during construction of right-of-way improvements in these areas.

Construction of the mainline would require the temporary closure of parking stalls on the east side of The Commons at Federal Way shopping mall.

South 344th Street Alternative

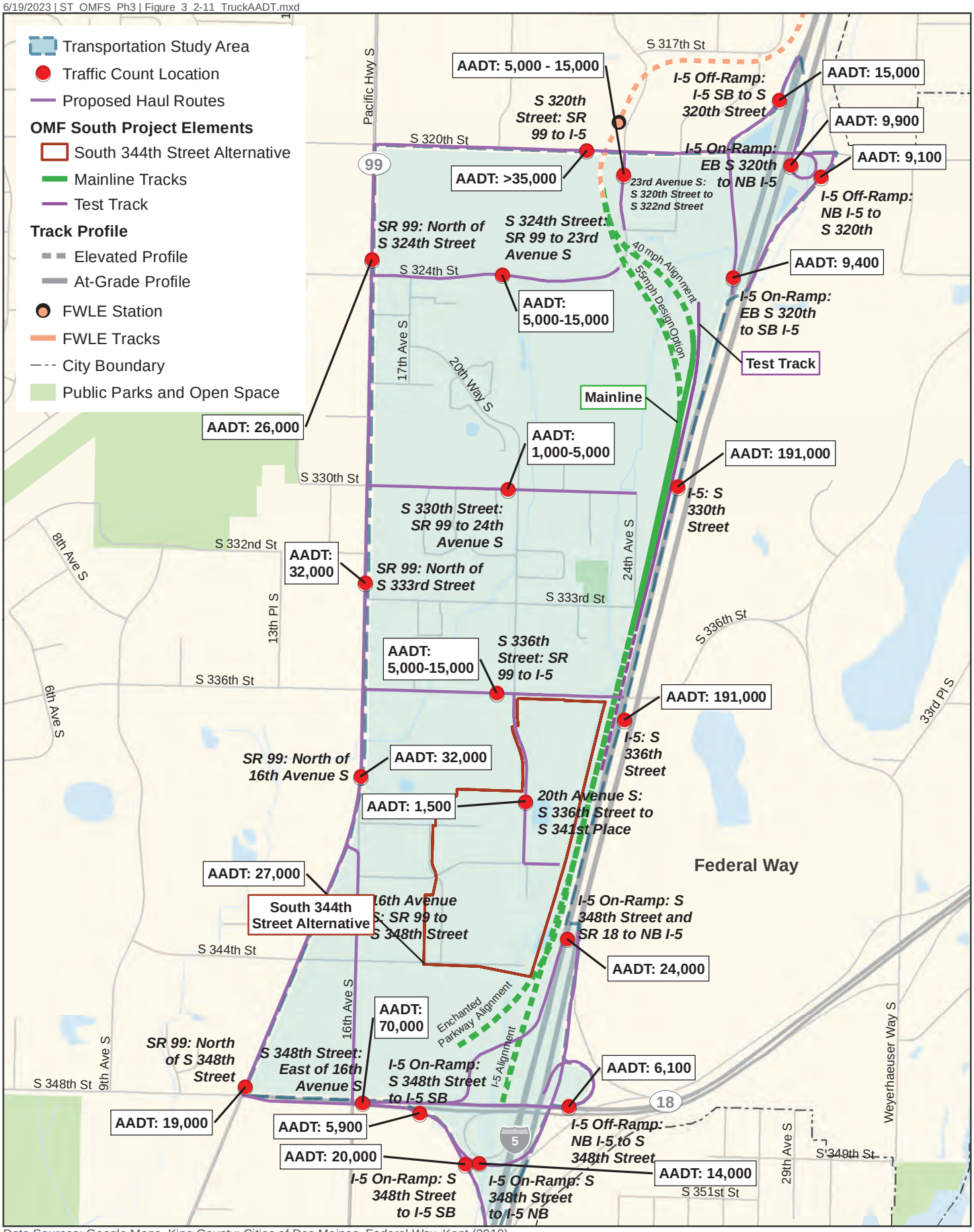
Site preparation work is expected to take approximately 1 year and 6 months, assuming 12-hour workdays, 6 days per week. The development scenario for the South 344th Street Alternative assumes reuse of 80 percent of on-site material. There would be about 77 truck trips during the daily 12-hour construction period (67 export truck trips and 10 import truck trips).

Construction access at the South 344th Street Alternative would be provided at two locations: S 336th Street at 20th Avenue S and via direct access from S 344th Street. Construction access for mainline track construction from the Federal Way Downtown Station to S 344th Street would occur at S 324th Street, S 330th Street, and S 336th Street. Trucks would access northbound and southbound I-5 at the S 320th Street and S 348th Street interchanges via SR 99.

Table 3.2-13 summarizes AADT on streets that are part of the haul routes as well as the estimated truck trips as a percentage of AADT. The haul routes include state facilities, including SR 99, SR 18 (S 348th Street), and I-5, as well as several collector and arterial streets. The estimated daily truck PCE trips associated with site preparation for the South 344th Street Alternative could represent up to 38.6 percent of existing traffic on collector and arterial roadways. Daily truck PCE trips could represent as much as 3.2 percent of the existing single-day AADT for all state facilities, with the highest percentages at on- and off-ramps. Figure 3.2-11 displays the location of AADT counts.

Impacts from construction of the mainline tracks would be the same as described above for the Preferred Alternative.

During construction of the S 344th Street Alternative, transit service on S 324th Street, S 336th Street, and 23rd Avenue S would likely be impacted. Buses may need to be rerouted and bus stops may need to be temporarily relocated in response to construction-related road closures. Bus service may also be slower and less reliable in construction areas. Bus service into the Federal Way/S 320th Park & Ride may need to be rerouted to avoid construction areas. Impacts to the Federal Way/S 320th Street Park & Ride would be the same as described for the Preferred Alternative.



Data Sources: Google Maps, King County; Cities of Des Moines, Federal Way, Kent (2019).

FIGURE 3.2-11

Existing Annual Average Daily Traffic Along Truck Haul Routes
South 344th Street Alternative

OMF South

The impacts to pedestrian and bicycle facilities during construction would be similar, as described under long-term impacts. The 20th Avenue S greenway between S 336th Street and S 344th Street would be closed, as would portions of 18th Place S and S 341st Place, effectively eliminating much of the existing street grid network in the southern part of the study area. Pedestrian facilities on S 324th Street, S 330th Street, S 341st Place, S 344th Street, 18th Place S, and 23rd Avenue S would be impacted during construction of right-of-way improvements in these areas.

Construction of the mainline would require the temporary closure of parking stalls on the east side of The Commons at Federal Way shopping mall and the Walmart property south of S 344th Street.

Midway Landfill Alternative

The three subsurface construction design options for the Midway Landfill Alternative would each have different construction and transportation impacts. In addition to earthwork, the Platform and Hybrid subsurface construction design options would include drilled shaft and concrete slab elements, which would occur concurrently and in coordination with the earthwork process. Depending on the subsurface construction design option, site preparation could take up to approximately 5 years and 7 months, assuming 12-hour workdays, 6 days per week. Estimated round-trip truck trips per day for export and import activities during construction are shown in Table 3.2-14.

Table 3.2-14 Estimated Truck Activity Associated with Site Preparation for Midway Landfill Alternative Subsurface Construction Design Options

Subsurface Construction Design Option	Export Material (tons)	Total Export Truck Trips per Day	Soil Import (cubic yards)	Concrete Import	Total Import Truck Trips per Day	Total Truck Trips per Day	Site Preparation Duration (years, months)
Platform	678,000	20	0	531,000	51	71	4 y, 1 m
Hybrid	2,592,000	280	1,240,000	165,000	284	564	5 y, 7 m
Full Excavation	2,956,500	280	1,610,000	0	274	554	4 y, 4 m

Excavated material from the Midway Landfill would require disposal at a Subtitle D landfill due to the anticipated extent of contaminated material. Within the Pacific Northwest, there are three possible landfill facilities in Washington and Oregon with between approximately 120 and 329 million tons of remaining capacity. Excavated material would first be hauled by truck to a regional transfer facility in the region before traveling to one of the landfills by rail.

Soil and concrete import activity would vary among the subsurface construction design options as well, with as few as 51 import truck trips per day for the Platform subsurface construction design option and up to 284 per day for the Hybrid subsurface construction design option. The estimates of truck traffic are conservative because at this time it is unknown how much excavated material could be reused as fill material elsewhere on the site.

The traffic analysis assumes all excavated material would be transported off site and all fill material would be imported to the site. Table 3.2-15 summarizes forecast daily and hourly truck activity associated with export and import for the Midway Landfill Alternative.

Table 3.2-15 Estimated Hourly Truck Activity Associated with Midway Landfill Alternative Subsurface Construction Design Options

Subsurface Construction Design Option	Hourly Trucks Export	Hourly Trucks Import	Hourly Trucks Total	Hourly PCE	Total Truck Trips per Day	Daily PCE
Platform	2	5	7	18	71	178
Hybrid	24	24	48	120	564	1,410
Full Excavation	24	24	48	120	564	1,410

Construction access to the site would be limited to a single driveway at SR 99 and S 246th Street. Outbound trucks exiting the site to transport excavated materials would travel north on SR 99 and access I-5 via SR 516 (Kent-Des Moines Road) to reach the intermodal terminal. Inbound trucks would travel south on I-5, exiting at S 272nd Street. They would travel westbound on S 272nd Street to SR 99, where they would turn north and travel to the site. Access to the site for outbound and inbound trucks would be via right turns into and out of the site. Trucks importing material would follow the same routes.

Due to their weight, large trucks would require additional time to accelerate to general-purpose traffic speeds on SR 99 when leaving the site and additional time to decelerate when entering the site. The substantial number of truck trips required for the Hybrid and Full Excavation subsurface construction design options would result in a greater potential to increase traffic congestion along SR 99 than the Platform subsurface construction design option or the Preferred or South 344th Street alternatives.

Table 3.2-16 summarizes AADT on streets that comprise the haul routes as well as the estimated truck trips as a percentage of existing single direction AADT. The haul routes include SR 99, SR 516, I-5, and S 272nd Street. Because the location of the intermodal facility and the origin of the import material are unknown at this time, the volumes forecast on the I-5 on- and off-ramps represent the maximum forecast for a given direction and would not be present on all ramps. For example, if the intermodal facility and the origin of the import material are to the north of the Midway Landfill Alternative, there would be no truck activity on the southbound I-5 on-ramp from SR 516 or the S 272nd Street off-ramp from northbound I-5.

The estimated daily PCE truck trips associated with the Platform subsurface construction design option would represent less than the Hybrid and Full Excavation subsurface construction design options, with no more than 2.9 percent of the existing single direction AADT compared to 7.7 to 22.7 percent for the Hybrid and Full Excavation subsurface construction design options. Daily PCE truck trips for all options would range from 0.2 to 1.3 percent on I-5. Figure 3.2-12 displays the location of AADT counts.

During construction of the Midway Landfill Alternative, buses may need to be rerouted off SR 99 and bus stops at S 246th Street and 252nd Street served by the King County Metro A Line may need to be temporarily relocated. Bus service may also be slower and less reliable through construction areas. Because FWLE would be operational by the time construction would begin, there would be some limited disruption of light rail service in order to connect the lead tracks of the OMF.

Table 3.2-16 Estimated Daily Truck Activity for the Midway Landfill Alternative Compared with Existing AADT

Intersection/Roadway Segment	AADT (Both Directions)[1]	AADT (Single Direction)[1]	Daily Truck Trips as a Percentage of Single Direction AADT Platform Option	Daily Truck Trips as a Percentage of Single Direction AADT Hybrid Option	Daily Truck Trips as a Percentage of Single Direction AADT Full Excavation Option
SR 99: South of SR 516	35,000	17,500	1.0%	8.1%	7.9%
SR 516: East of SR 99	35,000	17,500	1.0%	8.1%	7.9%
SR 516: East of 30th Avenue S	36,000	18,000	1.0%	7.8%	7.7%
I-5 On-Ramp: Eastbound SR 516 to I-5 Southbound	N/A	10,000	1.8%	14.1%	13.9%
I-5 On-Ramp: Eastbound SR 516 to I-5 Northbound	N/A	6,800	2.6%	20.7%	20.4%
I-5: S 240th Street	215,000	107,500	0.2%	1.3%	1.3%
I-5: S 224th Street	225,000	112,500	0.2%	1.3%	1.2%
I-5: S 252nd Street	215,000	107,500	0.2%	1.3%	1.3%
I-5: S 265th Street	215,000	107,500	0.2%	1.3%	1.3%
I-5 Off-Ramp: I-5 SB to S 272nd Street	N/A	12,000	1.5%	11.8%	11.5%
I-5 Off-Ramp: I-5 NB to S 272nd Street	N/A	6,200	2.9%	22.7%	22.3%
S 272nd Street: I-5 to SR 99	22,100	11,050	1.6%	12.8%	12.5%
SR 99: North of S 272nd Street	32,000	16,000	1.1%	8.8%	8.7%
SR 99: South of 252nd Street	29,000	14,500	1.2%	9.7%	9.6%

Sources: WSDOT Traffic GeoPortal, 2018. City of Kent Average Daily Traffic Volume, 2009

Note:

(1) WSDOT and Kent report annual average daily trips (AADT) for roadways. Where roadways are bidirectional, the AADT reported reflects both directions. Single direction volumes were determined by dividing bidirectional volumes in two.

Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

FIGURE 3.2-12

Existing Annual Average Daily Traffic Along Truck Haul Routes
Midway Landfill Alternative

OMF South

3.2.2.4 Avoidance and Minimization of Impacts

For all build alternatives, a construction transportation management plan addressing site access, traffic control, hauling routes, impacts to transit, construction employee parking, impacts to local businesses, and pedestrian and bicycle control in the area would be prepared per city of Kent or city of Federal Way requirements and in coordination with WSDOT, as applicable. If driveway closures are required, access to these properties would be maintained to the extent practical. If access to a business could not be maintained during construction, the specific construction activity would be reviewed to determine whether it could occur during non-business hours or whether the parking and users of this access could be accommodated at an alternative location.

Other avoidance and minimization measures that would be determined during the final design and permitting process could include:

- Install advance warning signs and highly visible construction barriers and use flaggers where needed.
- Clearly sign and provide reasonable detour routes when cross streets are closed.
- Use lighted or reflective signage to direct drivers to truck-haul routes to ensure visibility during nighttime work hours. Use special lighting for work zones and travel lanes, where required.
- Use tools such as print, radio, posted signs, websites, and email to communicate information regarding street closures, hours of construction, business access, and parking impacts.
- Coordinate with transit providers to post advance notice signs prior to construction when bus stops need to be temporarily relocated or closed.
- Post advance notice signs prior to construction in areas where construction activities would affect access to surrounding businesses.
- Schedule traffic lane closures and high volumes of construction truck traffic during off-peak hours to minimize delays, where practical.
- Cover potholes and open trenches, where possible, and use barriers to protect drivers from open trenches.

Any properties temporarily impacted during construction would be restored as closely as possible to their previous condition.

For the Preferred or South 344th Street alternatives, in locations where the mainline tracks do not meet clear zone standards and the tracks cannot be relocated, Sound Transit would work with WSDOT and FHWA to meet roadway standards by taking certain measures, such as regrading to reestablish a clear zone or installing guardrails, barriers, or impact attenuators. These measures would not adversely affect transportation safety in the study area.

3.2.2.5 Indirect Impacts

Indirect impacts are reasonably foreseeable impacts that could occur as a result of an action at some future time and in areas beyond the action's direct impacts. As an example, indirect impacts often relate to additional changes in land use that could occur beyond those changes immediately caused by a development's construction and operation, which could result in a change to overall traffic patterns. The OMF South build alternatives are not expected to induce future land use changes beyond their respective sites, which could otherwise result in indirect impacts to transportation.

Development of OMF South would provide Sound Transit with capacity to receive, test, commission, store, maintain, and deploy the fleet of light rail vehicles to support the Sound Transit 3 expanded light rail system. This capacity would provide for more efficient operation of the existing system and allow Sound Transit to accommodate the planned future expansions of the light rail system to meet the expected ridership demand. Expansion of the light rail system would have positive indirect impacts to transportation by providing an alternative to privately owned vehicles, which could reduce the amount of vehicle miles travelled (Sound Transit 2016).

3.2.3 Mitigation Measures

3.2.3.1 Long-Term Measures

OMF South is not anticipated to result in long-term operational impacts to freight, transit, nonmotorized transportation, parking, or safety. Therefore, no mitigation is proposed for those transportation elements. Construction impact mitigation measures are discussed below.

Depending on the subsurface construction design option, construction of the Midway Landfill Alternative could require ingress and egress by a substantially greater number of large trucks than for the Preferred or South 344th Street alternatives. To avoid potential traffic impacts on SR 99 from the number of additional trucks, short acceleration and deceleration lanes could be added to the construction entrance to the landfill site to allow outbound trucks to get up to speed and allow inbound trucks to slow down outside of the general-purpose lanes. Additional strategies to reduce impacts to local traffic during construction could include limiting truck activity during the peak traffic hours, which could extend the construction duration, or providing a direct connection to the I-5 corridor from the construction site. Such a connection would require approval by WSDOT and FHWA. If the Midway Landfill Alternative is selected, these mitigation measures would be confirmed during final design and permitting in coordination with Federal Way, WSDOT, and, if needed, FHWA.

Prior to closing a portion of the Federal Way/S 320th Street Park & Ride for construction, Sound Transit would work with King County Metro and WSDOT to determine its utilization rates and that of the nearby Federal Way Downtown Station. If the lots are at or near capacity, Sound Transit would implement alternative measures, such as routing transit riders that use these locations to available spaces at nearby park-and-ride lots, such as the Star Lake Park & Ride, or leasing parking lots or new parking areas within the vicinity of the temporarily closed lot.

3.3 Acquisitions, Displacements, and Relocations

This section discusses the potential impacts of acquisitions, displacements, and relocations associated with the OMF South project alternatives. The study area includes parcels that are anticipated to be permanently acquired for OMF South based on its current level of design. The study area for the relocation analysis includes Federal Way and Kent.

The acquisitions analysis considers two types of potentially affected parcels — partial and full acquisitions:

- **Partial acquisition** – A portion of a parcel would be acquired, but the current use and occupants would usually not be displaced. In some instances, such as with larger parcels that hold multiple uses, a business or residence on a parcel could be displaced while other uses and occupants might remain.
- **Full acquisition** – The entire parcel would be acquired, and all current occupants would be displaced. In some instances, full acquisitions include parcels that may not be entirely needed for the project but would be affected to the extent that current occupants would be substantially impacted.

For the purposes of this analysis, full and partial acquisitions are analyzed together as "potentially affected parcels." Potentially affected parcels in the study area and their existing land uses are identified in the sections below and are shown in figures located in Appendix H1, Potentially Affected Parcels. These impacts are an estimate based on conceptual designs (Appendix C, Conceptual Design Drawings and Engineering Information) to provide for a comparison of alternatives. The number and type of displacements may vary between what is included in the Final EIS and what is ultimately required during the design-build process. Final determinations of the property needs for the project, including acquisitions and displacements, will be based on the project's final design after Sound Transit completes the EIS process and selects the alternative to be built.

The acquisition and displacement data presented in this section are estimates based on 2022 King County assessor's data. Occupant types described in this report are based on available information at the time of this analysis and could change as the project is developed and constructed.

In addition to the permanently affected parcels, the project would require temporary construction easements (TCEs), permanent easements, and the permanent use of right-of-way owned by WSDOT and local jurisdictions. Permanent guideway and maintenance easements are included as potentially affected parcels in tables below and figures located in Appendix H1, Potentially Affected Parcels, but TCEs are not included in the analysis.

3.3.1 Affected Environment

3.3.1.1 Preferred Alternative

The Preferred Alternative site includes parcels with existing commercial, institutional, and vacant land uses. Several parcels within this alternative are owned by the Christian Faith Center and include a large church facility, a school and daycare center, parking lots, vacant fields designated as a future development site for athletic fields, and an academic center. The Preferred Alternative mainline, test, and tail tracks include WSDOT right-of-way and single- and multi-family residential, commercial, and institutional land uses.

3.3.1.2 South 344th Street Alternative

The South 344th Street Alternative site partially overlaps with the Preferred Alternative, which is directly to the north and includes many of the same land uses. The South 344th Street Alternative differs from the Preferred Alternative south of S 341st Place, where it includes additional residential, commercial, and institutional land uses. The South 344th Street Alternative mainline, test, and tail tracks include WSDOT right-of-way and single- and multi-family residential, commercial, and institutional land uses.

3.3.1.3 Midway Landfill Alternative

The Midway Landfill Alternative is along the western edge of the Midway Subarea Plan. This alternative includes existing landfill, commercial, and industrial uses.

3.3.2 Environmental Impacts

Sound Transit would acquire public and private property for the construction and operation of OMF South and its associated tracks, including the mainline, test, lead, and tail tracks. Acquisition estimates are based on the conceptual plans Sound Transit developed for the build alternatives. The level of acquisitions discussed in this section provides information useful for comparing alternatives. Estimates of displaced properties reflect the conditions at the time the analysis was conducted. Because property uses change over time, the number and/or type of displacements could vary between what is disclosed in this Final EIS and what would finally be required.

3.3.2.1 No-Build Alternative

Under the No-Build Alternative, impacts from construction and operation of the OMF South would not occur. However, other planned projects would have impacts in the OMF South study areas. This includes TDLE, which overlaps with the OMF South Preferred and South 344th Street alternatives. If TDLE is constructed as proposed, the mainline track associated with these OMF alternatives would be built later in time. Impacts associated with construction of the mainline track are addressed within the build alternatives impacts discussion below. All other TDLE-related impacts are addressed in Chapter 4, Cumulative Effects Analysis.

3.3.2.2 Long-Term Impacts

Impacts Common to All Build Alternatives

To determine potential acquisitions and displacements for each build alternative, Sound Transit laid its proposed OMF South footprints over King County parcel data and high-resolution aerial imagery. The acquisitions analysis produced results for each build alternative separated by mainline track impacts and OMF site impacts. For the Preferred and South 344th Street alternatives, the mainline tracks include the test and tail tracks. For all build alternatives, the OMF site includes lead tracks connecting to the mainline tracks.

Table 3.3-1 below summarizes the number of potentially affected parcels and displacements by alternative.

Table 3.3-1 Potentially Affected Parcels and Displacements

Alternative	Affected Parcels	Displaced Businesses	Displaced Residences[1]	Displaced Religious Facilities	Other Displacements[2]
Preferred Alternative with 40 mph Alignment[3]	37	11	86	1	0
Preferred Alternative with 55 mph Design Option[3]	37	11	92	1	0
South 344th Street Alternative with 40 mph Alignment[3,4]	60	17	91	4	67
South 344th Street Alternative with 55 mph Design Option[3,4]	60	17	97	4	67
Midway Landfill Alternative	47	4	0	0	0

Notes:

(1) Residential displacements include individual apartment/condo units and mobile homes. For Belmor, displacements are based on the current configuration of mobile home pads, including both vacant and occupied pads.

(2) Includes individual GarageTown units. GarageTown is also counted as one business displacement under "Displaced Businesses."

(3) If neither the Preferred nor the South 344th Street alternative is selected, the mainline could be built later in time if TDLE is constructed as proposed. TDLE is currently under environmental review.

(4) The number of affected parcels and displacements would be the same for the Enchanted Parkway and I-5 mainline tail track options.

Table 3.3-2 presents the potentially affected parcels by land use for each build alternative and impact type (e.g., mainline tracks, OMF site). For all the build alternatives, most of the affected parcels would be associated with the OMF site.

Table 3.3-2 Affected Parcels by Land Use

Alternative	Single Family Residential	Multi Family Residential[1]	Commercial/ Industrial	Public/ Institutional[2]	Vacant	Total
Preferred Alternative						
Mainline[3,4]	0	1	2	1	3	7
OMF Site	10	1	12	3	4	30
Total	**10**	**2**	**14**	**4**	**7**	**37**
South 344th Street Alternative						
Mainline[3,4,5]	0	1	3	1	4	9
OMF Site	21	0	22	4	4	51
Total	**21**	**1**	**25**	**5**	**8**	**60**
Midway Landfill Alternative						
OMF Site	14	0	11	13	9	47

Source: King County Assessor (2022)

Notes:

(1) Belmor is categorized as one "Multi-Family Residential" parcel but contains over 300 individual mobile home units (reflected in residential displacements).

(2) "Public/Institutional" land uses include religious facilities, park-and-rides, and utility properties.

(3) The number of affected parcels would be the same for the mainline 40 mph Alignment or 55 mph Design Option, but the 55 mph Design Option would displace a greater number of units within Belmor, as discussed below.

(4) If neither the Preferred nor the South 344th Street alternative is selected, the mainline could be built later in time if TDLE is constructed as proposed. TDLE is currently under environmental review.

(5) The number of affected parcels would be the same for the Enchanted Parkway or I-5 mainline tail track options.

The following sections detail property impacts to existing land uses for each of the build alternatives. Appendix H1, Potentially Affected Parcels, includes figures and tables with parcel reference information.

Preferred Alternative

The mainline tracks would be primarily in the WSDOT I-5 right-of-way, except at the northern end where the proposed alignment transitions from the Downtown Federal Way Station to the WSDOT right-of-way. In this area, the Preferred Alternative would impact Belmor, a 63-acre mobile home park for adults 55 years and older that contains over 300 mobile home units and a nine-hole golf course. The 40 mph Alignment would displace slightly fewer units at Belmor than the 55 mph Design Option. Other parcels that would be affected by the mainline tracks include part of The Commons at Federal Way shopping center, the Federal Way/S 320th Street Park & Ride, as well as several vacant parcels.

Of the build alternatives, the Preferred Alternative OMF site would affect the fewest parcels. Additionally, it would have fewer business and residential displacements than the South 344th Street Alternative, but more than the Midway Landfill Alternative. Most of the affected parcels are single-family residential or commercial/industrial existing uses. The OMF site would displace one multi-family and 10 single-family residences. Most of these residences are adjacent to the I-5 right-of-way between S 333rd Street and S 336th Street, where the lead tracks would connect to the mainline tracks. As noted in Table 3.3-1, the OMF site would also displace 11 businesses and one religious facility, the Christian Faith Center.

Additionally, this alternative would require conversion of one WSDOT Resource Conservation Area (RCA; originally acquired under the Highway Beautification Act of 1965) to a transportation use within the I-5 right-of-way. Impacts are discussed in more detail in Section 3.7, Visual and Aesthetic Resources.

South 344th Street Alternative

The South 344th Street Alternative would have the most affected parcels, business displacements, and residential displacements of the OMF site build alternatives. The property impacts associated with the South 344th Street Alternative mainline north of the OMF site are the same as described for the Preferred Alternative. The mainline alignments would affect the same number of parcels, but the 55 mph Design Option would have more displacements than the 40 mph Alignment. The South 344th Street Alternative mainline tail tracks would affect two additional parcels south of the OMF South site. Both mainline tail track options, the Enchanted Parkway alignment and the I-5 alignment, would have the same number of affected parcels and displacements.

The South 344th Street Alternative OMF site would impact primarily single-family residential and commercial/industrial parcels. The OMF site would displace residences along S 340th Street and 18th Place S. It would also displace 17 businesses, including Ellenos Yogurt and GarageTown, which includes 67 individual units. Additional displacements include the Trinity Broadcasting tower and four religious facilities: Voice of Hope Church, Family Life Community Church, Redwood Church of God, and Tabernacle Temple of Praise. Unlike the Preferred Alternative, the South 344th Street Alternative would not displace the daycare center or Christian Faith Center church and school.

This alternative would also require conversion of two WSDOT RCAs to a transportation use within the I-5 right-of-way. Impacts are discussed in more detail in Section 3.7, Visual and Aesthetic Resources.

Midway Landfill Alternative

For the Midway Landfill Alternative, all affected parcels and displacements are associated with the OMF site because it would use the FWLE mainline tracks currently under construction. The Midway Landfill Alternative would have the fewest business displacements (4) and no residential displacements. The businesses include an insurance business, an optometry clinic, and two warehouse businesses. A majority of the affected public/institutional parcels are associated with the Midway Landfill, which is owned by the city of Seattle and managed by SPU.

3.3.2.3 Construction Impacts

During construction, additional properties would be needed for roadway improvements, culvert replacements, staging areas, construction access, and other temporary construction activities. Most construction activities would be accommodated within areas of permanent acquisition, although some activities would require TCEs on adjacent properties surrounding each alternative. A TCE allows for temporary use of a property during construction. When construction is complete, the property is restored as closely as possible to its previous condition or better, and the easement is terminated. These parcels are not included in the tables above or Appendix H1, Potentially Affected Parcels, because they would not permanently displace existing uses, and they are not anticipated to substantially disrupt existing uses. Additionally, the location and extent of TCEs are subject to change as the design for OMF South progresses.

3.3.2.4 Avoidance and Minimization of Impacts

The build alternatives identified for study in the EIS were carried forward, in part, to avoid or minimize impacts to residents and businesses. During design, the OMF South sites were configured to meet programming requirements while minimizing, to the extent feasible, acquisitions, displacements, and relocations. Where available, the mainline tracks would be located near or within public rights-of-way to reduce the number of private property impacts.

Any properties temporarily impacted during construction would be restored as closely as possible to their previous condition.

3.3.2.5 Indirect Impacts

The project could contribute to indirect impacts where existing land uses on acquired properties are converted to transportation uses following construction, thereby potentially impacting the future land uses of adjacent properties. These potential indirect impacts are discussed in Section 3.4, Land Use.

3.3.3 Relocation Opportunities

To determine the relocation opportunities in the project vicinity, Sound Transit researched market conditions for available residential and commercial real estate in Federal Way and Kent. Available property information is summarized in Tables 3.3-3 and 3.3-4. Although property uses may change before construction of OMF South, research indicates that there would be opportunities for displaced businesses, residents, and other property owners to relocate within the same general area. Some properties with unique characteristics, such as religious and industrial facilities, could be more challenging to relocate.

Table 3.3-3 Property Available for Relocation in the Study Area

Type of Property	Total Buildings/ Units	Total Square Feet[1]	Vacancy Rate[1]	Buildings Listed for Sale[2]	Estimated Units Available[3]
Office	441	7,015,982	10.13%	7	38
Industrial	816	50,588,093	4.74%	7	38
Retail	948	12,183,475	2.20%	8	23
Religious Facility	21	-	-	0	0

Source: CoStar (December 2022)

Notes: The study area or market is defined as the city limits of Federal Way and Kent.

(1) CoStar does not collect data for area of available properties ("Total Square Feet") for religious facilities. Similarly, vacancy data is calculated using rentable building area which is not applicable to religious facilities.

(2) Includes properties listed as "for sale" in CoStar for apartment, office, industrial, and retail properties in Federal Way and Kent and religious facilities in Federal Way.

(3) Estimates the number of units available for rent on the market using the vacancy rate and total number of units.

Table 3.3-4 Residential Property Available for Relocation in the Study Area

Type of Property	Occupied Units	Available Units	Vacancy Rate
Owner-Occupied	44,931	428	0.94%
Renter-Occupied	35,087	1,564	4.27%

Source: 2017-2021 ACS 5-year Estimates (U.S. Census Bureau 2022)

Note: The study area or market is defined as the city limits of Federal Way and Kent.

3.3.3.1 Commercial and Industrial

Adequate commercial and industrial spaces are available in the market to relocate building owners and tenants displaced as part of the project. Industrial users requiring specific lot sizes and utilities may be more difficult to relocate, including properties such as GarageTown and Ellenos Yogurt that have specific needs, like storage facilities or specialized machinery.

3.3.3.2 Residential

There is a sufficient supply of comparable homes available to accommodate the residents displaced by the project. While comparable homes are available in the general area, displaced residents may have to choose a location in a different neighborhood. For all relocations, Sound Transit would work with those affected to try to keep them in the same general area. This includes identifying replacement housing that considers such factors as proximity to commercial and community facilities, schools (if applicable), an individual's place of employment, and accessibility to transit if the residents are transit dependent. Although property uses may change before construction of OMF South, research indicates that there would be available locations for displaced residents to be relocated within the same general area.

There are several different types of relocation options potentially available for displaced Belmor residents:

- Relocate within Belmor.
- Relocate to another 55-plus park, renting or purchasing a mobile home within that park, or potentially moving their current mobile home.
- Relocate to a family park, renting or purchasing a mobile home within that park, or moving their existing mobile home.

- Rent or purchase a vacant lot and relocate the existing mobile home to the site.
- Relocate to a purchased or rented single-family residence, condominium, or apartment.
- Consider other options, such as senior living or retirement community housing.

Relocation of mobile home residents could be challenging because there is little availability in mobile home communities within Pierce and King counties.

3.3.3.3 Religious Facilities

Generally, there is adequate space available in the study area to relocate religious facilities that would be displaced by the OMF South build alternatives. Most of the religious facilities that would be displaced are currently located in commercial or industrial buildings and could be relocated to comparable properties. The exception is the Christian Faith Center, which is a large-capacity church on S 336th Street between SR 99 and I-5. There are four parcels associated with the Christian Faith Center, which total approximately 25 acres, including over 200,000 square feet of building space and numerous parking lots. This church would be uniquely difficult to relocate because of its size.

3.3.4 Sound Transit Acquisition and Relocation Policy Summary

Sound Transit would compensate affected property owners according to the provisions specified in Sound Transit's Real Property Acquisitions and Relocation Policy, Procedures, and Guidelines (Sound Transit 2017); the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the "Uniform Act"); and the State of Washington's relocation and property acquisition laws and regulations, including Revised Code of Washington (RCW) 8.26 and Washington Administrative Code (WAC) 468-100. Compensation and entitlements would vary by property, depending on the project effects, the economy, number of available relocation opportunities, and factors outlined in the policies, laws, and regulations. Relocation resources would be available to all qualified individuals in compliance with Sound Transit's Language Assistance Plan (Sound Transit 2022).

As a public agency, Sound Transit must pay "just compensation" to property owners for land and improvements acquired for public purposes. Determination of just compensation is based on an independent appraisal and appraisal review and must not be less than the fair market value of the property acquired. This value includes any measurable loss in value to the remaining property as a result of a partial acquisition. For TCEs, the affected property owner would be compensated for the temporary use of the property, and the property would be restored as close as possible to its previous condition.

Sound Transit would pay normal expenses of sale, including escrow fees, title insurance, prepayment penalties, mortgage release fees, recording fees, and typical costs incurred as part of conveying title. In addition to compensating owners for property rights, occupants of properties are eligible for relocation benefits. Forms of compensation for displaced persons may include moving expenses, replacement housing payments, nonresidential reestablishment, and other eligible expenses. Sound Transit also provides advisory services that consider the unique needs of those being displaced in order to minimize the inconvenience and hardship of displacement. Sound Transit's property acquisition and relocation handbooks for residential and nonresidential properties detail the agency's compensation and acquisition procedures and are described in more detail in Appendix E, Environmental Justice (Sound Transit 2014a, 2014b).

Sound Transit has notified property owners whose property would be directly affected by any of the alternatives. In most cases property acquisitions would begin after the Sound Transit Board selects the project to be built and FTA issues a ROD. However, in select cases property acquisitions may advance sooner, in which case an independent NEPA evaluation and decision would occur.

With FTA's approval, Sound Transit is acquiring the four parcels associated with the Christian Faith Center as a hardship acquisition and a portion of the parcel associated with Belmor as a protective acquisition prior to the OMF South ROD. The purpose of a hardship acquisition is to alleviate a particular hardship to the owner when the property owner can document on the basis of health, safety, or financial reasons that remaining in the property poses an undue hardship compared to others. The purpose of a protective acquisition is to prevent imminent development of a parcel that may be needed for a proposed transportation corridor or site.

Hardship and protective acquisitions do not limit the evaluation of alternatives required under the NEPA process. No development on these parcels would occur until after FTA issues a ROD, and only if the Sound Transit Board selects to build the Preferred or South 344th Street alternatives. The hardship acquisition would allow Christian Faith Center to begin early coordination on potential future sites. No Belmor residents would be displaced until the OMF South environmental review process is complete.

Sound Transit staff will be available to answer questions and provide additional information regarding just compensation, advisory services, and relocation payments and expenses, as well as the timing of the processes. Sound Transit would also provide information on the current availability, purchase price, or rental rates of comparable replacement properties. Sound Transit uses interpreters to help those with limited English proficiency understand their choices and options.

Affected residents and businesses owners would make the final decision on their relocation sites. Generally, owners would not have to relocate until they have been paid the agreed-upon purchase price or an amount equal to Sound Transit's estimate of just compensation has been deposited with the court. Displaced persons would not be required to move or relocate without receiving at least 90 days' notice via written communication.

3.3.5 Mitigation Measures

Sound Transit's policies and procedures comply with federal, state, and local property acquisition and relocation policies and, in some cases, provide advisory services above the minimum requirements of federal and state law. No additional mitigation is anticipated.

For the Preferred and South 344th Street alternatives, Sound Transit would mitigate the conversion of RCAs by providing replacement property, as described in Section 3.7, Visual and Aesthetic Resources.

3.4 Land Use

This section assesses the land use impacts of the proposed OMF South project alternatives by discussing the surrounding zoning compatibility, consistency with regional and local jurisdictional plans and policies, and conversions of land use to a public transportation use that would occur from property acquisition for the proposed project.

The study area includes the properties and local jurisdictions within 0.5 mile of the potential construction limits of each OMF South alternative. This includes portions of Federal Way and unincorporated King County for the Preferred and South 344th Street alternatives and portions of Kent, Des Moines, and unincorporated King County for the Midway Landfill Alternative. The portions of unincorporated King County within the study area have been identified by Federal Way and Kent as part of the cities' Potential Annexation Areas. The most common land uses in the vicinity of the alternatives include commercial, institutional, and single- and multi-family residential.

The methods, resources, and regulations guiding this analysis are described in Appendix H2, Land Use Technical Appendix, along with a complete list of all the zones within the study area by jurisdiction.

3.4.1 Affected Environment

3.4.1.1 Preferred Alternative

Existing Land Uses

Existing land uses within the Preferred Alternative study area include vacant land, public/institutional, and single- and multi-family residential land uses. The public/institutional land uses primarily include parcels associated with the Christian Faith Center and the Pacific Christian Academy.

The mainline tracks parallel I-5 from a large retail store that is just south of S 320th Street to just north of S 344th Street. The existing land uses underlying and abutting the mainline tracks and mainline tail tracks include mostly multi-family residential land uses to the west, vacant land to the south, and commercial land uses to the north, southwest, and southeast. Underlying multi-family residential uses are mostly associated with Belmor, a 63-acre mobile home park for adults 55 and older that contains over 300 mobile homes and a nine-hole golf course that extends west from the mainline tracks.

Land uses that are adjacent to or abut the OMF site boundaries (excluding the mainline tracks) consist primarily of commercial land use and vacant land mostly located to the south and west of the alternative boundaries, with some to the north and northwest. Single- and multi-family residential existing uses are located primarily across S 336th Street. Prominent uses within the study area include churches, cafes, restaurants, a park, school facilities, and single- and multi-family residential buildings to the north; a church, an automobile repair shop, and a bank to the west; and I-5 to the east, with the Pacific Bonsai Museum and the Woodbridge Corporate Park (the former Weyerhaeuser campus) beyond. Located to the south are additional churches; another automobile repair shop; a mini-storage facility, GarageTown, which offers custom storage condominiums; and Ellenos, a yogurt manufacturing facility.

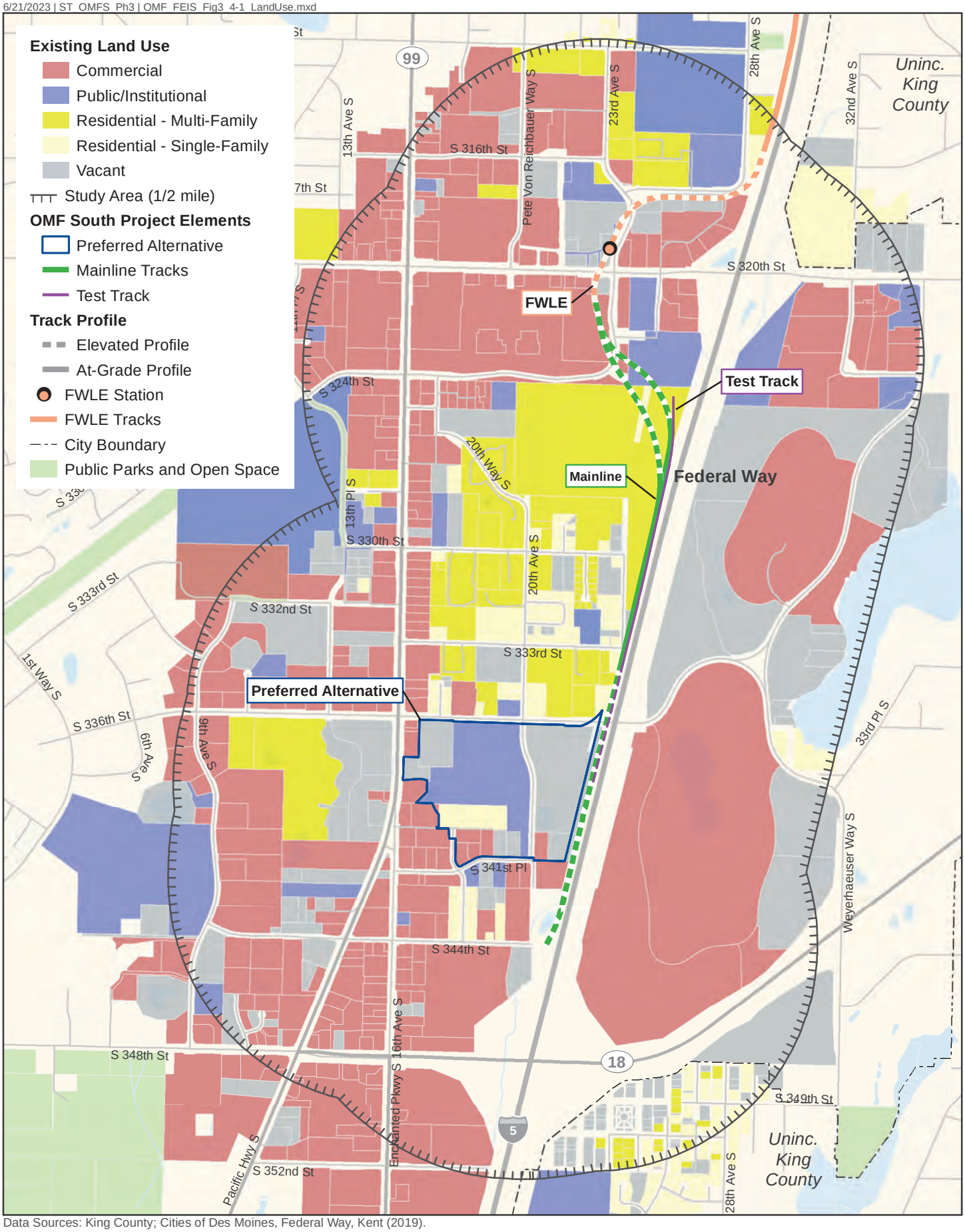
Figure 3.4-1 shows existing land use patterns within the Preferred Alternative study area, which consists primarily of commercial uses (nearly 47 percent of the area), and, to a lesser extent, vacant land (20 percent) scattered throughout the entire area, barring most of the land between the borders of S 324th Street, S 336th Street, SR 99, and I-5, where the public/institutional and residential land uses are primarily clustered. The public/institutional uses are mostly associated with religious facilities, and multi-family residential uses are mostly associated with Belmor.

Zoning

Figure 3.4-2 shows the general zoning patterns designated by Federal Way and King County within the Preferred Alternative study area. Commercial and office are the predominate zones, followed by multi-family residential and mixed-use zones in the northern section of the study area. In total, approximately 59 percent of the study area (excluding the project footprint) is commercial or office, 14 percent is multi-family residential, 17 percent is mixed-use, and 9 percent is single-family residential.

The Preferred Alternative is in the following Federal Way zones: City Center Core (CC-C), Community Business (BC), Commercial Enterprise (CE), and Multi-Family Residential (RM-2400 and RM-3600). The OMF site is primarily in the RM-3600 Multi-Family Residential zone, with the southeastern yard area mostly in the Commercial Enterprise zone and the gate/guard house area in the Community Business zone. The mainline tracks are in the City Center Core, Commercial Enterprise, and RM-3600 Multi-Family Residential zones.

The intent of the City Center Core zone is to create a higher density, mixed-use designation where office, retail, government, and residential uses are concentrated. The Community Business zone is designed to allow a broad mix of uses, encouraging mid-rise, high-quality developments containing a vibrant and compatible mix of well-integrated and designed pedestrian- and auto-oriented uses. The purpose of the Commercial Enterprise zone is to capture the demand for a diverse mix of industrial, office, and retail sales and services, arrayed in well-integrated, high-quality developments. Both multi-family residential zones are intended to provide opportunities for a range of housing types to accommodate anticipated residential growth. For additional details on the purpose of each zone for the Preferred Alternative, see Table H2-2 of Appendix H2, Land Use Technical Appendix.



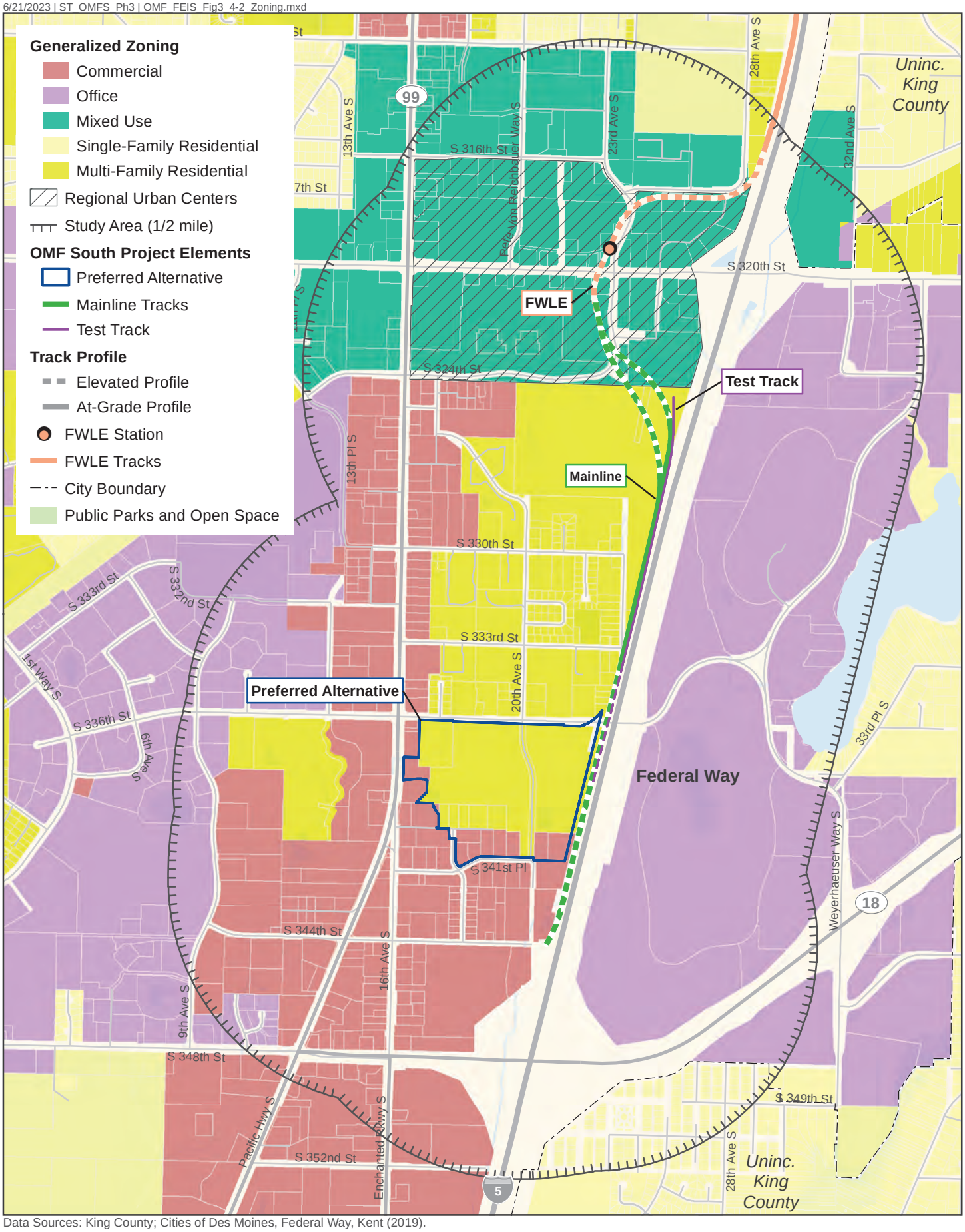
Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 1,000 2,000 Feet

FIGURE 3.4-1
Existing Land Uses
Preferred Alternative

OMF South



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 1,000 2,000 Feet

FIGURE 3.4-2
Generalized Zoning
Preferred Alternative

OMF South

3.4.1.2 South 344th Street Alternative

Existing Land Uses

The South 344th Street Alternative is in much of the same area as the Preferred Alternative. Existing land uses include vacant land and commercial, single-family residential, and public/institutional land uses. This alternative slightly differs from the Preferred Alternative in that existing uses include three smaller church properties and more commercial uses, such as the GarageTown and Ellenos Yogurt properties.

The South 344th Street Alternative would connect to the same mainline tracks as the Preferred Alternative, and the existing land uses underlying and adjacent to the mainline tracks are the same as those described above for the Preferred Alternative. However, the mainline tail tracks would extend farther south for the South 344th Street Alternative. The I-5 alignment would continue south in WSDOT right-of-way, while the Enchanted Parkway alignment would intersect with commercial land uses between S 344th Street and S 348th Street.

Land uses that are adjacent to or abut the OMF site boundaries (excluding the mainline tracks) consist mostly of commercial land uses surrounding the south and west of the alternative boundaries, with smaller areas of public/institutional existing uses to the west and single- and multi-family residential to the north of the site boundaries, across S 336th Street. Prominent uses within the study area include churches, cafes, restaurants, a park, school facilities, and single- and multi-family residential buildings to the north; a church, an automobile repair shop, a bank, and the Federal Way Public Academy to the west; and I-5 to the east, with the Pacific Bonsai Museum and the Woodbridge Corporate Park (the former Weyerhaeuser campus) beyond. The I-5/SR 18 interchange is south of the site, along with additional churches, department stores, an automobile repair shop, and a mini-storage facility.

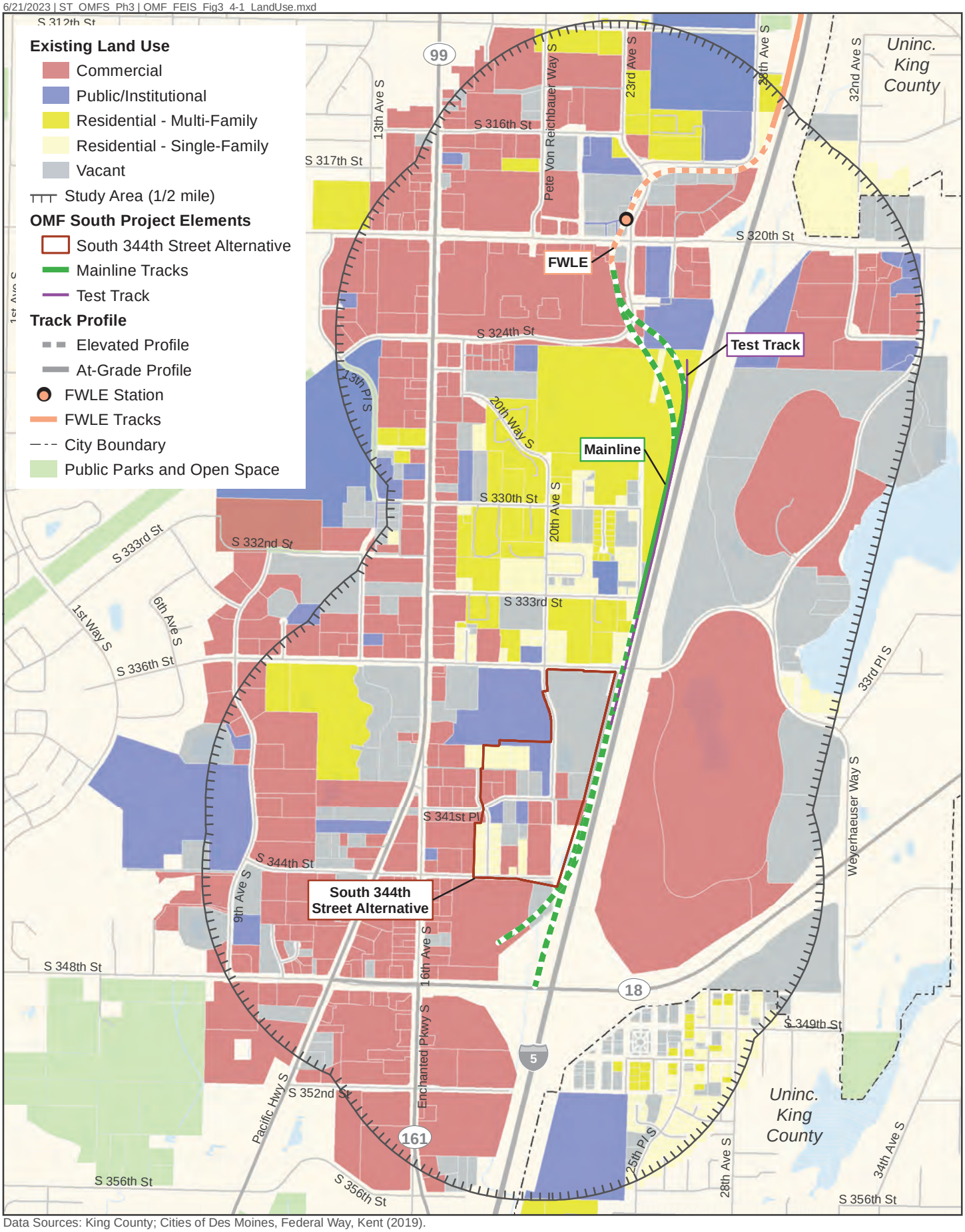
Figure 3.4-3 shows existing land use patterns within the South 344th Street Alternative study area. Existing land uses are nearly the same as those in the Preferred Alternative study area, with the addition of more commercial land uses existing south of S 352nd Street.

Zoning

Figure 3.4-4 shows the general zoning patterns in the South 344th Street Alternative study area. Like the Preferred Alternative, commercial and office zones are the largest, followed by mixed-use zones to the north and multi-family residential zones situated in the central and west sections of the 0.5-mile study area. In total, approximately 59 percent of the study area (excluding the project footprint) is commercial or office, 14 percent is multi-family residential, 17 percent is mixed-use, and 9 percent is single-family residential.

The South 344th Street Alternative is within the following Federal Way zones: Commercial Enterprise, City Center Core, and RM-3600 and RM-2400 Multi-Family Residential zones. The OMF site spreads across Commercial Enterprise and RM-3600 zones. The northeastern yard area is primarily within the RM 3600 zone, and the southern yard areas and gate/guard house areas are within the Commercial Enterprise zone.

The mainline tracks, including both tail track options, are primarily within the City Center Core, Commercial Enterprise, and RM-3600 Multi-Family Residential zones (very small portions of less than 0.5-acre are within the RM-2400 Multi-Family Residential zone). The purpose of each of these zones are described in the Zoning subsection for the Preferred Alternative, above, and in Table H2-2 of Appendix H2, Land Use Technical Appendix.



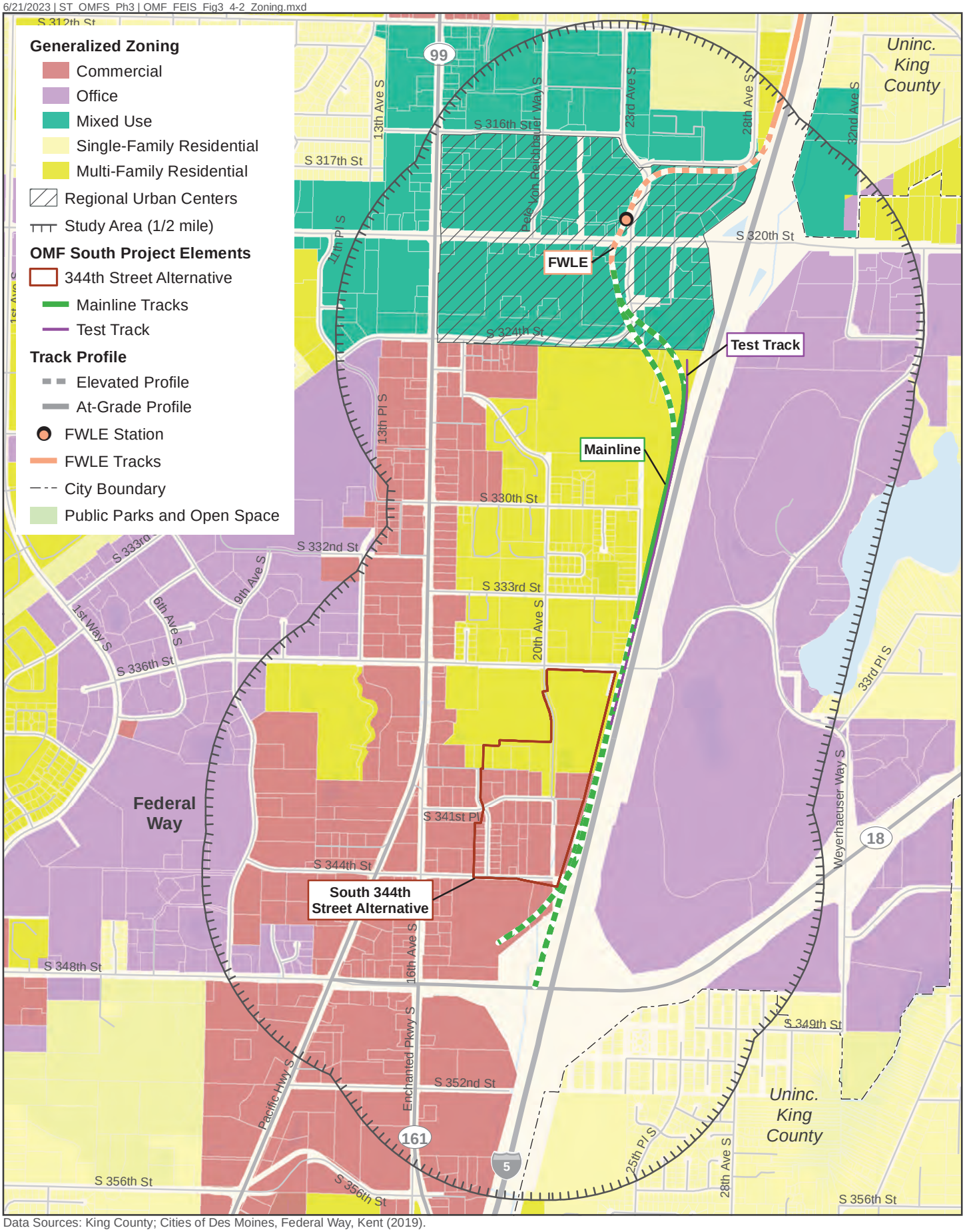
Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 1,000 2,000 Feet

FIGURE 3.4-3
Existing Land Uses
South 344th Street Alternative

OMF South



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 1,000 2,000 Feet

FIGURE 3.4-4
Generalized Zoning
South 344th Street Alternative

OMF South

3.4.1.3 Midway Landfill Alternative

Existing Land Uses

The Midway Landfill is a former gravel quarry and municipal solid waste landfill that accepted demolition materials, wood, and industrial wastes from approximately 1966 to 1983. The landfill is designated as an EPA Superfund site and is currently capped; an EPA Superfund Record of Decision (EPA 2000) as well as a Midway Landfill Consent Decree (King County Superior Court 1990) have allowed for ongoing operation and maintenance of a landfill gas extraction system and groundwater monitoring. The site includes public/institutional land uses, such as landfill facilities; commercial land uses, such as retail stores and auto repair shops; and vacant land.

Land uses that are adjacent to or abut the Midway Landfill Alternative site boundaries consist of vacant land (located to the north and west), residential (located north and south across S 252nd Street), and commercial (located to the west). OMF South would abut FWLE and the I-5 corridor to the east. Prominent uses within the study area include an elementary school to the west, military facilities and an elementary school beyond I-5 to the east, and automobile retail shops and a shopping center anchored by a large grocery store to the south. To the north of the site are a mobile home park (abutting the site), a community health center, and a college.

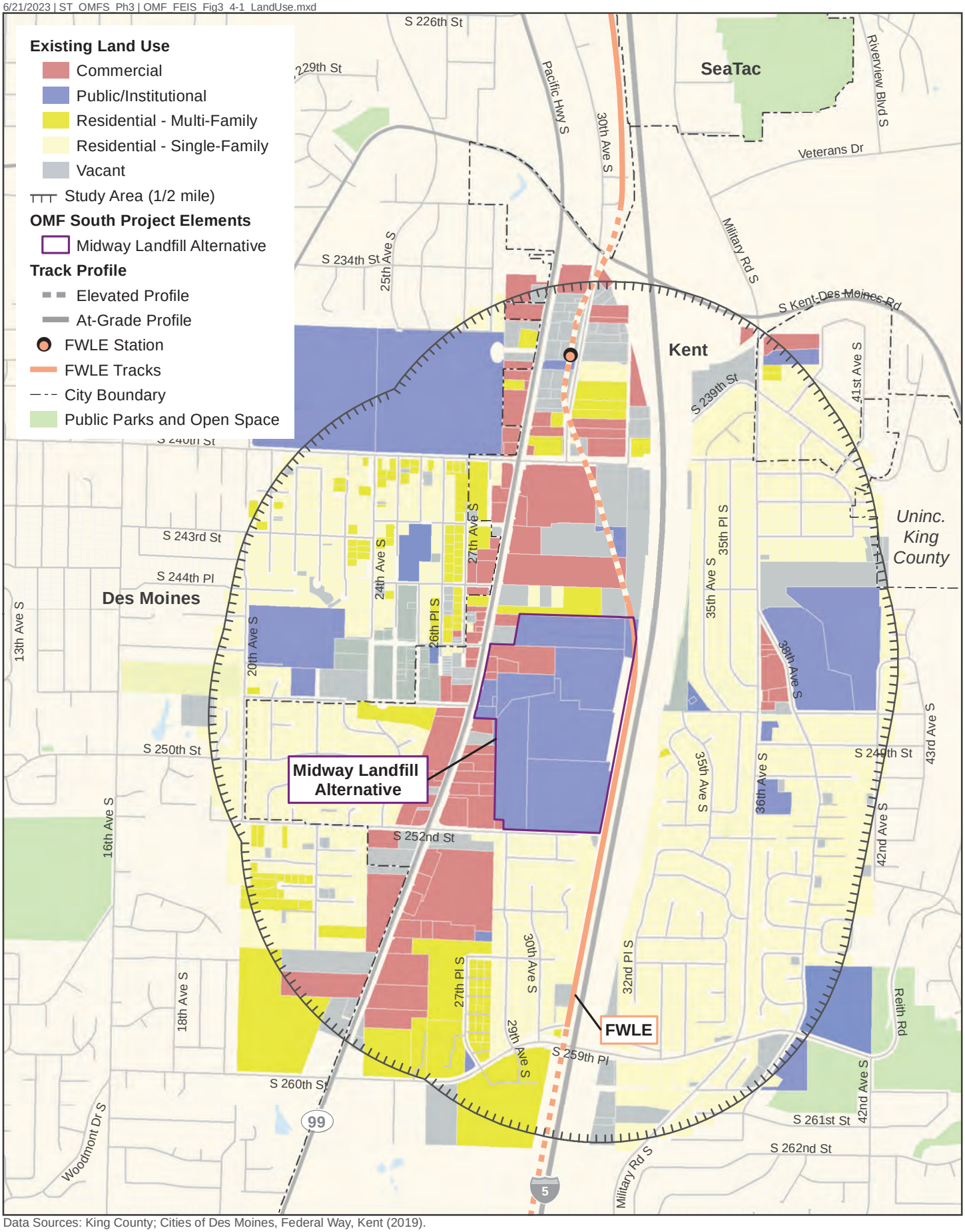
Zoning

Figure 3.4-6 shows the general zoning patterns in the Midway Landfill Alternative study area, designated by Kent, Des Moines, and King County. The zones within the Midway Landfill Alternative study area include primarily commercial, mixed uses, and multi-family residential in the central areas near SR 99 and I-5 and single-family residential zones beyond. In total, approximately 57 percent of the 0.5-mile study area (excluding the project footprint) is single-family residential, 17 percent is commercial/office, 10 percent is mixed-use, and 7 percent is multi-family residential.

The Midway Landfill Alternative OMF site is primarily within Kent's Commercial Manufacturing (CM) zone that runs north and south along SR 99 between S 260th Street and S 244th Street. The purpose of the Commercial Manufacturing zone is to provide locations for developments that combine characteristics of retail establishments, small-scale light industrial operations, heavy commercial and wholesale uses, and specialty manufacturing.

The lead tracks of the Midway Landfill Alternative are located in a small portion of the Midway Commercial Residential (MCR) zone. The purpose of this zone is to encourage the location of dense and varied retail, office, or residential activities in support of light rail and mass transit options; enhance a pedestrian-oriented character; and implement the goals and policies of the Midway Subarea Plan.

For additional details on the purpose of each zone for the Midway Landfill Alternative, see Table H2-1 of Appendix H2, Land Use Technical Appendix.



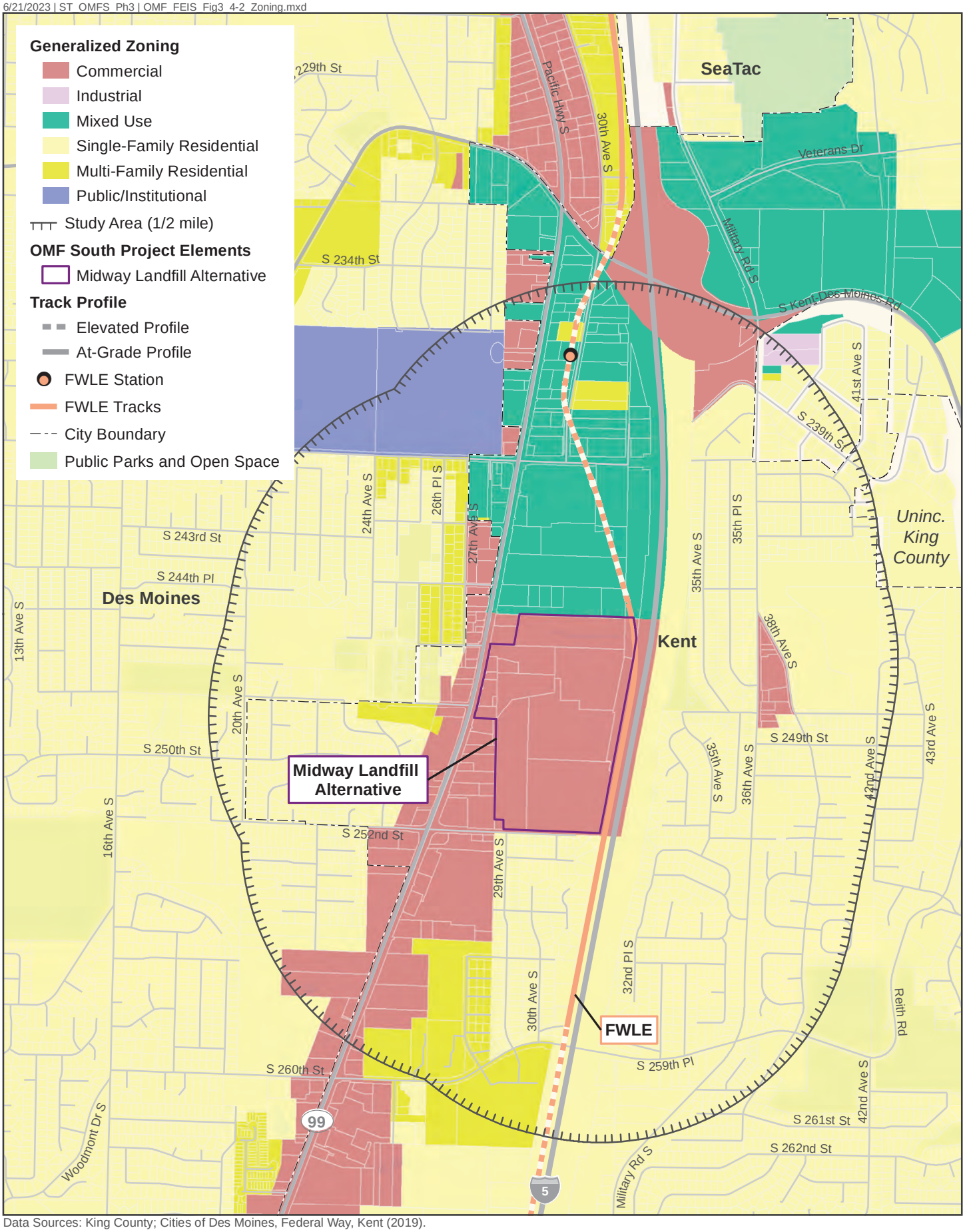
Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 1,000 2,000 Feet

FIGURE 3.4-5
Existing Land Uses
Midway Landfill Alternative

OMF South



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 1,000 2,000 Feet

FIGURE 3.4-6
Generalized Zoning
Midway Landfill Alternative

OMF South

3.4.2 Consistency with Regional and Local Comprehensive Plans and Zoning

This subsection evaluates the proposed project's general consistency with applicable comprehensive plan goals and policies and land use regulations, and it specifies potential planning considerations for each build alternative.

The regional and local land use plans for the study areas all encourage increased transit options, reduced vehicle transportation dependency, and expansion of regional growth centers. Regional plans and comprehensive plans for Federal Way and Kent identify the need to use transit to connect urban activity centers to facilitate efficient development patterns, as transit and other multimodal system improvements offer a sustainable approach to growing transportation demand. The Puget Sound Regional Council (PSRC) Vision 2050 (PSRC 2020c) includes several goals within its Growing Transit Communities Strategy that would be served by developing an OMF to support the expansion of the light rail system and service.

OMF South is necessary to enable the delivery of mobility improvements associated with the expansion of the Sound Transit regional light rail system, which will serve Federal Way and Kent. The project would ensure that there is enough storage capacity for, and a location from which to efficiently deploy, the number of vehicles needed to meet Sound Transit's service goals. As a maintenance system for high-capacity transit serving Federal Way and Kent, OMF South could help advance each city's comprehensive plan and land use goals and policies meant to improve high-capacity transit infrastructure and service.

Tables H2-5 and H2-6 in Appendix H2, Land Use Technical Appendix, provide a detailed outline of Federal Way and Kent's comprehensive plan land use goals and policies and OMF South's project consistency. While the tables show various specific goals and policies, policies that are not applicable or relevant to OMF South are not listed.

The Washington State Growth Management Act requires that zoning be consistent with comprehensive plans. It also prohibits local governments from precluding the siting of essential public facilities through their comprehensive plans or zoning. OMF South is a "regional transit authority facility" and is, therefore, explicitly recognized as an essential public facility in the Growth Management Act (RCW 36.70A.200). Once an OMF South alternative is selected, jurisdictions have a "duty to accommodate" the project in their land use plans and development regulations. Recognizing the duty to accommodate essential public facilities, the sections below discuss whether OMF South is a permitted use in the underlying zoning and compare OMF South to similar uses, general dimensional development standards, and the purpose and intent of the zones.

3.4.2.1 Preferred and South 344th Street Alternatives

Table H2-1 in Appendix H2, Land Use Technical Appendix, describes the consistency of the OMF site and mainline tracks in relation to the purpose and intent of relevant zones in Federal Way. The Preferred and South 344th Street alternatives would be located within Federal Way's City Center Core, Commercial Enterprise, Community Business, and Multifamily Residential zones.

As a light rail transit facility, the OMF site and the mainline tracks would be permitted within the Federal Way City Center Core and Commercial Enterprise zones, which specifically permit light rail or commuter rail transit facilities, including support facilities.

For both City Center Core and Commercial Enterprise zones, development standards require no minimum lot size, except for yards along Single-Family Residential zones. The height standard

is 75 feet for the City Center Core zone and 50 feet for the Commercial Enterprise zone. Unless located within 100 feet of a Single-Family Residential zone, the structure height may exceed those limitations for both zones if the increased height is necessary to accommodate the structural, equipment, or operational needs of the use.

The greatest height proposed for the OMF lead tracks — which would be in the Multi-Family Residential zones, City Center Core zone, and Commercial Enterprise zone — is estimated at 36 feet, which is within the height standard of 75 feet for the City Center Core and Commercial Enterprise zones.

Light rail transit facility uses are not specifically contemplated in the Community Business and Multifamily Residential zones, but OMF South would be allowed within these zones as an essential public facility. There are no specific development standards for essential public facilities, however, and consequently the bulk, scale, and nature of the light rail transit facility use may not be consistent with the typical uses allowed in the Community Business and Multifamily Residential zones.

To ensure consistency with the Federal Way Comprehensive Plan, OMF South would be required to obtain a city of Federal Way Process IV land use approval from the hearing examiner for any zone in which the project is located, whether it would be a permitted use (as within the Commercial Enterprise zone) or allowed as an essential public facility (as in the Multi-Family Residential zone). Alternatively, an approved Development Agreement with the Federal Way City Council would serve as the project land use approval.

It is acknowledged that Multi-Family Residential zones are intended to provide a range of housing types to accommodate anticipated residential growth. In addition to the potential impacts and minimization measures related to the conversion of lands to a light rail transit facility use analyzed here, Section 3.7, Visual and Aesthetic Resources, and Section 3.9, Noise and Vibration, describe how Sound Transit would minimize aesthetic and noise impacts related to the bulk, scale, and nature of OMF South that could otherwise affect adjacent residents. Further discussion of the project's potential effects to adjacent residential areas is included in Section 3.2, Transportation; Section 3.5, Economics; Section 3.8, Air Quality and Greenhouse Gas Emissions; and Section 3.17, Parks and Recreational Resources.

Federal Way Revised Code Section 19.135.251, Block Perimeters, requires block perimeters to be no greater than 2,640 feet. While the Preferred Alternative would remove 20th Avenue South, it would extend 18th Place South between S 340th Street and S 336th Street, which would replace the functionality of 20th Avenue S for vehicles, pedestrians, and bicycles. The extended 18th Place S would reduce one block to 4,100 feet and expand one block to 8,700 feet. Both of these blocks are currently nonconforming and are greater than the standard. The South 344th Street Alternative would also not meet the city's block perimeter requirements because it would not replace 20th Avenue S. Sound Transit would work with Federal Way through the street vacation process to address the standards.

3.4.2.2 Midway Landfill Alternative

Table H2-2 in Appendix H2, Land Use Technical Appendix, describes the consistency of the OMF site in relation to the purpose and intent of relevant zones in Kent. In addition, specific dimensional development standards for all facility uses that fit within commercial and industrial zones, such as Midway Commercial Residential and Commercial Manufacturing, are listed in Table H2-2, as well as dimensional development standards for Single-Family Residential zoning.

Within the Commercial Manufacturing zone, there is a height limitation of two stories, or 35 feet, and maximum site coverage of 50 percent. The economic and community development director may grant one additional story in height if, during development plan review, it is found that the additional story would not detract from the continuity of the area. More than one additional story may be granted by the land use planning board. The highest proposed building height is the OMF office building, at an estimated 36 feet. This proposed building height could require a variance from the code standard due to the 35 foot-height limitation for the Commercial Manufacturing zone. In addition, the proposed development could result in approximately 11 percent of the site being covered with buildings and structures in the Commercial Manufacturing zone, which is below the 50 percent maximum site coverage standard for this zone.

The Midway Commercial Residential zone has an 80 percent maximum site coverage standard. The proposed development would be consistent with the 80 percent maximum site coverage standard because the design would result in less than 3 percent of the site being covered by buildings and structures in this zone.

The design of the tracks would be subject to high-capacity transit design requirements under Chapter 15.15 of Kent City Code. The design requirements are intended to ensure, in part, that high-capacity transit facilities are well designed, support transportation system connections, and adequately buffer different land uses.

Once built, OMF South would be similar in bulk and scale to a light commercial or office development, covering an area similar in size to a shopping center or suburban office complex. The OMF South site use, on the other hand, might be more similar to light industrial use, light rail transit facility, or government facility and public utility use.

Transit operations and maintenance facilities are listed as a conditional use within the Commercial Manufacturing zone. Those portions of the facility planned for the Commercial Manufacturing zone would be subject to a Conditional Use Permit, unless a Development Agreement is pursued because land use approval would be included as a part of the Development Agreement requirements.

The northern lead tracks for the Midway Landfill Alternative would be in the Midway Commercial Residential zone. The Midway Commercial Residential zone lists transportation and transit facilities, including high-capacity transit, as conditional uses. While not listed as a permitted or conditional use, lead tracks are a part of a transportation facility that supports high-capacity transit. The lead tracks are consistent with the intent of the zone and are consistent with the scale and intensity of the mainline tracks associated with transportation and transit facilities. Mainline tracks are a conditional use within the Midway Commercial Residential zone.

A small portion of the Midway Landfill Alternative would be located within the Single-Family Residential-6 zone at the southern edge of the potential construction limits. However, this area would not include elements of the facility itself; rather, it would be used primarily for landscaping and possibly for lead track and roadway improvements. Thus, it is not expected that the OMF site would conflict with the purpose of the Single-Family Residential-6 zone, which is to stabilize and preserve single-family residential neighborhoods. Impacts from the OMF South project could be minimized through building setbacks and landscaped buffers.

For further discussion of the potential effects to adjacent residential land uses see Section 3.2, Transportation; Section 3.5, Economics; Section 3.7, Visual and Aesthetic Resources; Section 3.8, Air Quality and Greenhouse Gas Emissions; Section 3.9, Noise and Vibration; and Section 3.17, Parks and Recreational Resources.

3.4.3 Environmental Impacts

3.4.3.1 No-Build Alternative

Under the No-Build Alternative, land use impacts from construction or operation of OMF South would not occur. However, other planned projects could convert existing land uses, since many of the areas are within commercial, multi-family residential, and mixed-use zones planned for development to accommodate future growth. This includes TDLE, which overlaps with the OMF South Preferred and South 344th Street alternatives. If TDLE is constructed as proposed, the mainline track associated with these OMF alternatives would be built later in time. Impacts associated with construction of the mainline track are addressed within the build alternatives impacts discussion below. All other TDLE-related impacts are addressed in Chapter 4, Cumulative Effects Analysis.

Future population and employment growth are projected to increase by the respective cities' comprehensive plans. Both the Midway Subarea and Federal Way City Center plans have developed goals and strategies meant to support the development of high-capacity transit in their areas. Without the proposed OMF South project, the resulting level of service across the entire light rail system would potentially be lower than planned under Sound Transit 3. This could limit one of the driving factors behind land use conversion from existing lower-density, auto-oriented uses to transit-oriented development or higher-density uses near future stations.

3.4.3.2 Long-Term Impacts

Impacts Common to All Build Alternatives

All the build alternatives would have direct land use impacts through the acquisition of property for OMF facilities, tracks, and associated structures. The discussion below describes the approximate share of each jurisdiction's zoning that would be acquired by each alternative as well as the acreage of land subject to possible land use conversions. The potentially affected properties are detailed in Section 3.3, Acquisitions, Relocations, and Displacements, and in Appendix H1, Potentially Affected Parcels.

For each build alternative, the existing land uses of acquired properties would be converted to a transportation-related use, making them unavailable for potential future uses. Section 3.4.2, Consistency with Regional and Local Comprehensive Plans and Zoning, demonstrates that the OMF South project alternatives are largely consistent with relevant plans and policies, meaning surrounding properties generally would not face direct changes in their land use.

While surrounding properties may experience visual impacts from operation of OMF South, it is not expected that those impacts would be severe enough to result in alteration of existing or potential future land uses. A study by an Urban Land Institute Advisory Services Panel addressed common concerns related to the effects of light rail transit maintenance facilities on air quality, pollutants, nighttime activity, noise, light, and aesthetics. The study conclusion noted that these concerns are likely unfounded for modern light rail maintenance facilities (ULI 2014).

As shown in Table 3.4-1, all build alternatives would acquire a share of their associated city's commercial, mixed-use, and residential zones. If not replaced, conversions of land within commercial and mixed-use zones can result in decreased commercially zoned property, which could possibly spur reductions in sales tax revenue. Land use conversions that reduce residentially zoned areas could decrease the amount of land available for housing growth. Specific acreage of zoning acquired by each alternative is referenced in Table H2-10 of Appendix H2, Land Use Technical Appendix.

Table 3.4-1 Estimated Share of Total Commercial, Mixed-Use, and Residential Zoned Land to Be Acquired

Alternative	Commercial	Mixed Use	Residential
Preferred Alternative			
Mainline[1,2]	0.3%	6.4%	0.7%
OMF Site	1.1%	0.0%	0.6%
Total	**1.4%**	**6.4%**	**1.3%**
South 344th Street Alternative			
Mainline[1,2]	1.3%	6.4%	0.7%
OMF Site	1.8%	0.0%	0.5%
Total	**3.1%**	**6.4%**	**1.2%**
Midway Landfill Alternative			
OMF Site	4.1%	2.8%	< 0.02%

Sources: KCC Title 15; FWRC Title 19

Notes: This table shows the share of the project acreage within each city's commercial, mixed-use, and residential zones. See Table H2-10 in Appendix H2, Land Use Technical Appendix, for zoning acreages used to calculate percentages. These areas are approximate and were calculated using GIS tools based on conceptual designs and generalized zoning categories.

(1) For the Preferred and South 344th Street alternatives, the number of acquired parcels would be the same for the mainline track and tail track design options.

(2) If neither the Preferred nor the South 344th Street alternative is selected, the mainline could be built later in time if TDLE is constructed as proposed. TDLE is currently under environmental review.

Table 3.4-2 summarizes the existing land uses and the approximate acreage of affected properties for each alternative that would be converted to a transportation use. The Preferred Alternative would convert the most land (just over 102 acres), the South 344th Street Alternative would convert less land (almost 97 acres), and the Midway Landfill Alternative would convert the least amount of land (approximately 71 acres). Overall, these conversions would make small changes in the local land use development patterns within the affected jurisdictions, but they could alter land use patterns in smaller localized areas.

Table 3.4-2 Amount of Converted Land by Land Uses

Alternative	Commercial	Public/ Institutional	Multi-Family Residential	Single-Family Residential	Vacant Land	Total
Preferred Alternative						
Mainline[1]	8.9	8.1	15.3	1.3	2.3	35.9
OMF Site	6.5	24.5	0.5	6.6	28.5	66.7
Total	**15.4**	**32.6**	**15.8**	**7.9**	**30.9**	**102.6**
South 344th Street Alternative						
Mainline[1]	11.7	8.1	15.3	1.3	3.6	40
OMF Site	15.8	5.6	0.0	9.1	26.3	56.8
Total	**27.5**	**13.7**	**15.3**	**10.4**	**29.9**	**96.8**
Midway Landfill Alternative						
OMF Site	6.5	60.6	0.6	0.2	3.3	71.2

Source: King County Assessor (2022)

Notes: All areas in acres. The estimated total includes the areas within the project's potential construction limits. The acreage is approximate, calculated using graphic information system (GIS) tools; totals may not be exact due to rounding. These are estimates based on conceptual designs. The Preferred and South 344th Street alternatives mainline track and tail track design options include similar existing land uses.

(1) If neither the Preferred nor the South 344th Street alternative is selected, the mainline could be built later in time if TDLE is constructed as proposed. TDLE is currently under environmental review.

Preferred Alternative

As shown in Table 3.4-1, the Preferred Alternative mainline would require the conversion of 0.3 percent of the city's commercially zoned land, 6.4 percent of mixed-use zoned land, and 0.7 percent of residentially zoned land. As shown in Table 3.4-2, the mainline would primarily convert residential land uses (approximately 17 acres), including portions of Belmor, and about 19 acres of commercial land use, public/institutional land use, and vacant land.

The Preferred Alternative OMF site would require conversion of 1.1 percent of the city's commercial zoned land, 0.6 percent residential zoned land, and no conversion of mixed-use land (Table 3.4-1). It would primarily convert existing vacant land (approximately 29 acres) and public/institutional land uses (approximately 25 acres), including the Christian Faith Center (Table 3.4-2).

The OMF site would convert approximately 56 acres of the city's multi-family residentially zoned property, an area intended to be used to accommodate housing growth (Tables H2-2 and H2-10, Appendix H2, Land Use Technical Appendix). Additional detail is provided in Section 3.3, Acquisitions, Displacements, and Relocations.

The Preferred Alternative would include removal of 20th Avenue S between S 336th Street and S 341st Place, to be replaced by 18th Street S, which would be extended from S 340th Street to S 336th Street. Because 20th Avenue S is public right-of-way, Sound Transit would need to petition the Federal Way City Council to vacate 20th Avenue S under Federal Way Revised Code Chapter 4.20, Vacation of Streets, which specifies the requirements, process, and mitigation for removing public rights-of-way. Alternatively, the City Council may initiate procedures by resolution.

South 344th Street Alternative

As shown in Table 3.4-1, the South 344th Street Alternative mainline (including either tail track option) would require the conversion of 6.4 percent of Federal Way's mixed-use zoned land, 1.3 percent of commercial zoned land, and 0.7 percent of residential zoned land. Table 3.4-2 shows that the mainline would mostly convert existing residential, commercial, and public, institutional uses, as well as 3.6 acres of vacant land. The South 344th Street Alternative would have the same impacts through Belmor as described for the Preferred Alternative.

The South 344th Street Alternative OMF site would not require any conversion of mixed-use zoned land but would require conversion of almost 1.8 percent of the city's commercial zoned land (or approximately 36 acres of commercial enterprise zoning). The OMF site would primarily convert existing vacant (26 acres), commercial (approximately 16 acres), and public/institutional land uses (almost 6 acres). Major existing commercial uses include GarageTown and Ellenos Yogurt. Three small church properties are located within areas designated as public/institutional.

The multi-family residential-zoned area affected by the South 344th Street Alternative (0.5 percent) is similar to that of the Preferred Alternative (0.6 percent). Approximately 9 acres of residential land uses would be converted as a result of the OMF site. Additional detail is provided in Section 3.3, Acquisitions, Displacements, and Relocations.

The South 344th Street Alternative would include removal of 20th Avenue S from 300 feet south of S 336th Street and S 341st Place. Because 20th Avenue S is public right-of-way, Sound Transit would need to petition the Federal Way City Council to vacate 20th Avenue S as described for the Preferred Alternative.

Midway Landfill Alternative

As shown in Table 3.4-1, the OMF site would convert about 4.1 percent of Kent's commercial zoning and around 2.8 percent of the mixed-use zoning to a transportation use. While the Midway Landfill Alternative would convert the largest share of a city's commercially zoned land compared to other build alternatives, the existing land use in these areas is mostly public/institutional (primarily the capped landfill) and vacant land. In contrast to all the other alternatives, the Midway Landfill Alternative would not convert any discernible amount of residentially zoned areas. Table 3.4-2 shows the existing land uses that would be converted to transportation uses for the Midway Landfill Alternative. Most land use conversions would be public/institutional land uses (approximately 61 acres) with smaller areas of commercial (under 7 acres) and vacant land (approximately 3 acres).

The residential uses along the north and south boundaries of the site would be near the Midway Landfill Alternative's landscaped yards and stormwater detention pond, which would provide a buffer between the residences and the site.

3.4.3.3 Construction Impacts

Impacts Common to All Build Alternatives

For all build alternatives, there would be temporary noise and vibration impacts from construction activities. The Preferred and South 344th Street alternatives are expected to take approximately 3.5 years to construct, while the Midway Landfill Alternative could take over 8 years, depending on the subsurface construction design option chosen. Construction activities would be carried out in compliance with Sound Transit specifications and all applicable local jurisdiction noise regulations. In addition, the visual impact of construction is expected to be noticeable but temporary and no more impactful than other large construction projects. Changes in visual character are expected to be visible to surrounding viewers but would occur only within the project site boundaries. Sections 3.7, Visual and Aesthetic Resources, and 3.9, Noise and Vibration, discuss these construction impacts in more detail.

Because all construction activities, including staging, are expected to occur within the potential construction limits of the build alternatives and measures to minimize construction impacts and best management practices (BMPs) would be incorporated into the project, overall construction impacts on adjacent land uses are expected to be minimal. All build alternatives are anticipated to have minor impacts to property access and existing pedestrian and bicycle facilities. However, traffic volumes are estimated to increase throughout the study areas during peak hours. Increased traffic from construction could temporarily affect businesses in the project area but would not lead to long-term changes in land use because the construction haul routes would primarily use SR 99, I-5, and arterials that already experience large volumes of traffic. See Section 3.2, Transportation, for an analysis of construction impacts.

Given that most construction impacts are expected to be minimal and temporary, there would not be direct alteration of land use due to impairment or prevention of the primary function of such land.

3.4.3.4 Avoidance and Minimization of Impacts

The facility design process for OMF South would be developed according to Sound Transit's systemwide design goals and criteria as well as the design goals, criteria, and development patterns of the local municipality. The project would incorporate context-sensitive design considerations, which would likely vary based on local comprehensive plans, zones, and

development standards related to building setbacks, landscaping, heights and massing, façade treatment, and urban design character. Site-specific design measures intended to increase compatibility with surrounding properties, such as landscaping for screening, would be developed during final design, in consultation with Federal Way or Kent, through the land use approval process.

Sound Transit would minimize construction and operation impacts that could otherwise affect adjacent land uses, as described in Sections 3.2, Transportation; 3.5, Economics; 3.7, Visual and Aesthetic Resources; 3.8, Air Quality and Greenhouse Gas Emissions; 3.9, Noise and Vibration; and 3.17, Parks and Recreational Resources.

The proposed project would result in direct long-term changes to existing land use. Any land use conversions would comply with local government planning and permitting procedures before the project is built. Section 3.3, Acquisitions, Displacements, and Relocations, includes more information on how Sound Transit would minimize property impacts and relocations.

3.4.3.5 Indirect Impacts

Indirect impacts are changes that may occur as a result of the proposed project in the future and in areas beyond the project's direct and short-term impacts. Indirect proximity impacts may include traffic, noise, visual impacts, and changes in adjacent land uses.

OMF South would provide Sound Transit with additional capacity to receive, test, commission, store, maintain, and deploy an expanded fleet of light rail vehicles, which would allow for more efficient operations of existing and future expansions of the light rail system than would occur without the facility. Improved light rail transportation service serving Federal Way and Kent could result in increased convenience and desirability of surrounding residential, commercial, and office properties. This may help advance parts of the cities' subarea and comprehensive plans, which include goals of increasing high-capacity transit and creating walkable, vibrant street life around transit facilities. Other benefits related to successful transit-oriented development include improved mobility, increased transit ridership in a more efficient urban form, and opportunities for urban redevelopment. As noise and visual impacts are likely to be minimal in the long term, no indirect impacts on land use are expected.

3.4.4 Mitigation Measures

In general, OMF South would be consistent with adopted comprehensive plans and land use policies, and no specific mitigation related to land use or zoning is anticipated.

3.5 Economics

This section describes the potential economic effects associated with the OMF South project alternatives. This economic analysis addresses the ways that land acquisition, construction, and operation of OMF South would impact economic conditions at and in the vicinity of the project sites and in the broader area. The alternatives were evaluated across several levels of geography. Site-specific effects were evaluated at each proposed OMF site and up to 0.5 mile from the potential construction limits of the build alternatives. Potential displacement of business activity and tax revenues were evaluated at the city level for Federal Way and Kent. Regional economic activity, such as jobs and labor income, were evaluated for the Puget Sound region, which includes King, Kitsap, Pierce, and Snohomish counties.

3.5.1 Affected Environment

3.5.1.1 Regional Demographic and Economic Trends

Employment in the Puget Sound region increased from 1.9 million in 2000 to 2.3 million jobs in 2018 (PSRC 2020a). During the same time period, median household income increased from approximately $45,000 to over $75,000 in Pierce County and from $55,000 to $95,000 in King County (PSRC 2020b).

Table 3.5-1 provides the population, household, and employment forecasts for the Puget Sound region and associated counties. The PSRC forecast for the region shows that the population will grow by over 1.6 million people between 2020 and 2050, reaching over 5.8 million by 2050. This amounts to an average 1.06 percent increase in population per year (PSRC 2022). PSRC data from 2022 shows that both King County and Pierce County will grow at a slower pace of 1.03 percent.

The number of households in the Puget Sound region is predicted to grow by approximately 765,102 between 2020 and 2050 — or by 1.27 percent per year — which would be faster than the overall population growth of 1.06 percent per year; this essentially reflects faster growth in smaller households. Travel demand typically tracks more closely to growth in the number of households than to population, suggesting a possible increase in travel demand.

Median household income in the Puget Sound region is higher than the state average. In 2018, King County had the highest median household income in the region, at about $95,000, while Pierce County ranked fourth at about $75,400 (PSRC 2019). From 2013 to 2018, incomes in King County grew by about 33 percent, while Pierce County incomes increased by about 31 percent. The U.S. Census Bureau reports that, in 2018, the median household income was $68,880 for Kent and $66,011 for Federal Way (PSRC 2020b).

Employment in the region is expected to grow at an approximate average rate of 1.18 percent through 2050. King County is expected to have faster job growth than Pierce County, at 1.87 percent per year versus Pierce County at 0.70 percent per year. These trends support the predictions of increased travel demand in the region and along the project corridor.

Table 3.5-1 Population, Household, and Employment Forecasts by Region and County

	2020 Actual	2050 Forecast	Average Annual Growth Rate, 2020 to 2050
Puget Sound			
Population	4,240,910	5,827,203	1.06%
Household	1,657,501	2,422,603	1.27%
Jobs	2,356,277	3,346,915	1.18%
King County			
Population	2,225,064	3,029,767	1.03%
Households	900,061	1,310,283	1.26%
Jobs	1,225,004	2,138,202	1.87%
Pierce County			
Population	891,862	1,213,634	1.03%
Households	330,999	487,287	1.30%
Jobs	422,410	521,106	0.70%

Source: 2020 Actual (U.S. Census Bureau, 2020 ACS 5-Year Estimates); 2050 Forecast (PSRC 2022).

3.5.1.2 Study Area Demographic and Economic Trends

Table 3.5-2 shows the growth of population, households, and jobs from 2020 to 2050 based on the PSRC Forecast Analysis Zone (FAZ) for the build alternatives. FAZs are geographic units used by PSRC to model and report its population, households, and employment forecasts. PSRC's Vision 2050 anticipates population and employment in the Puget Sound region will continue to grow over the next 30 years. PSRC acknowledges that the COVID-19 pandemic may have had effects on the economy that could alter long-range forecasts. For purposes of this Final EIS, the Vision 2050 forecasts were used for analysis.

Table 3.5-2 Population, Household, Employment Forecast by FAZ

	2020 Actual	2050 Forecast	Average Annual Growth Rate, 2020 to 2050
Central Federal Way (FAZ 3020)[1, 2]			
Population	26,950	54,507	2.38%
Households	10,371	22,255	2.58%
Jobs	13,035	37,555	3.59%
Des Moines (FAZ 3046)[3]			
Population	25,015	42,485	1.78%
Households	9,661	17,710	2.04%
Jobs	12,208	16,668	1.04%

Source: 2020 Actual (U.S. Census Bureau, 2020 ACS 5-Year Estimates); 2050 Forecast (PSRC 2022).

Notes:

(1) Preferred and South 344th Street alternatives.

(2) The U.S. Census Bureau does not provide actual population statistics for a single geographical boundary that directly matches the PSRC Central Federal Way FAZ 3020. Therefore, the 2020 Actual population numbers represent the sum the 2020 actual population for Census Tracts 300.05, 300.06, 302.03, 302.04, 303.13, and 303.14, all of which are encompassed within and align with the geographical boundaries of the PSRC Central Federal Way FAZ 3020.

(3) Midway Landfill Alternative.

The Preferred and South 344th Street alternatives are in the Central Federal Way FAZ 3020, which is bordered by I-5 and SR 99, shown in Figure 3.5-1. Between 2020 and 2050, household growth in FAZ 3020 is expected to continue at about 2.58 percent annually. Population and jobs are expected to grow as well, at 2.38 and 3.59 percent annually, respectively.

The Midway Landfill Alternative is in PSRC FAZ 3046, called the Des Moines area, although it includes a portion of Kent, shown in Figure 3.5-1. FAZ 3046 is forecast to experience a 1.78 percent growth rate in population, a 2.04 percent growth rate in households, and a job growth rate of 1.04 percent between 2020 and 2050.

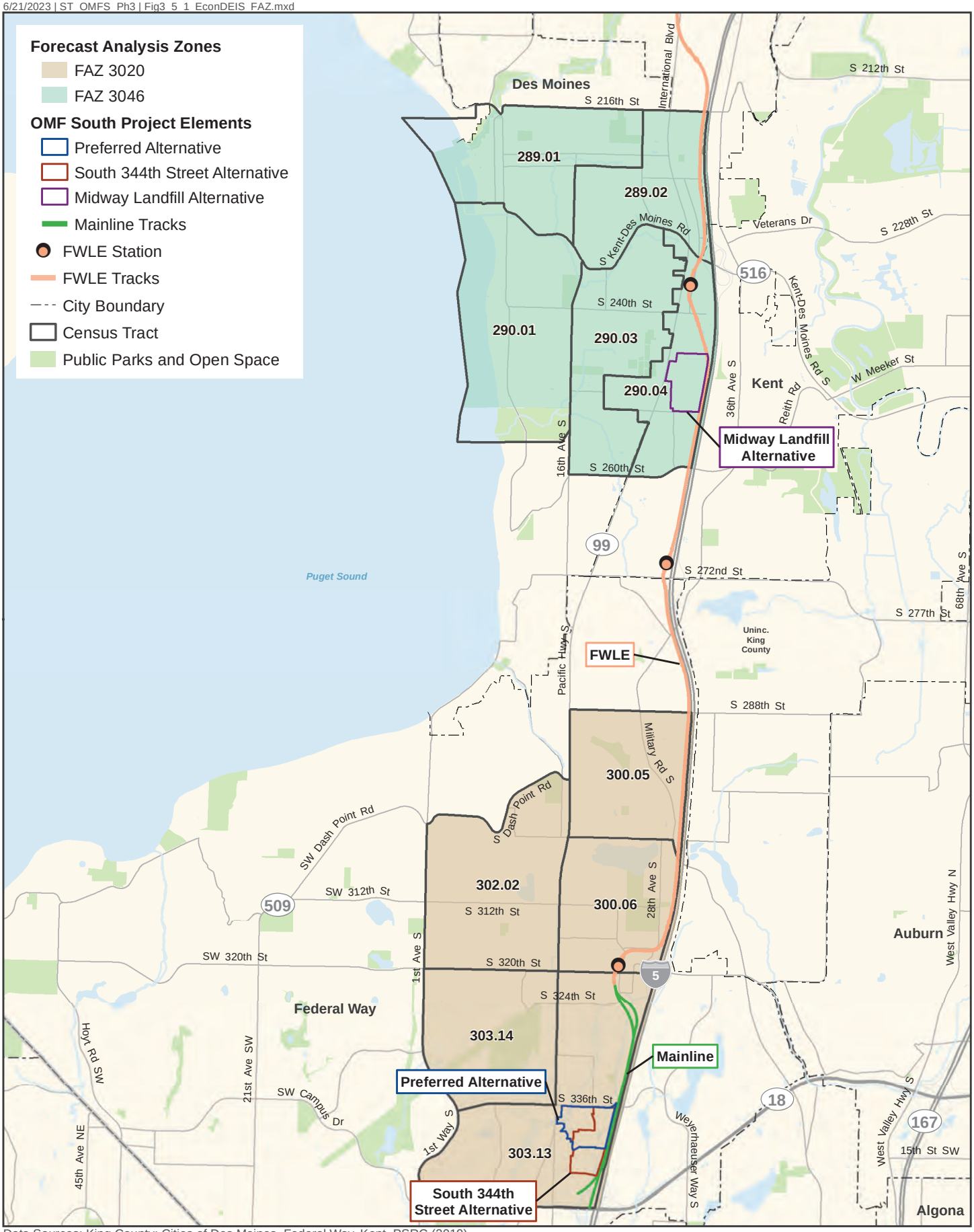
Table 3.5-3 shows the forecasted number of jobs by sector from 2018 to 2050 for the build alternatives. Employment in census tract 303.13, which contains both the Preferred and South 344th Street alternatives, has a high concentration of finance, insurance, real estate, and services employment sector jobs, with over 50 percent falling into this category in 2018. By 2050, this share is expected to decrease slightly, to about 49 percent.

Employment in census tract 290.04, which surrounds the Midway Landfill Alternative, was primarily concentrated in the retail/food services and finance, insurance, real estate, and services employment sectors in 2018, each with substantial employment. Retail was the largest concentration in 2018, with approximately 48 percent of jobs. By 2050, the education employment sector, construction employment sector, and finance, insurance, real estate, and services employment sectors are expected to grow at a faster rate.

Table 3.5-3 Employment Forecasts by Census Tract

	2018 Estimated Jobs	2018 Share	2050 Forecast Jobs	2050 Share	Compound Annual Growth Rate, 2018 to 2050
Preferred and South 344th Street Alternative: Census Tract 303.13					
Construction/Resources	417	4.4%	499	3.6%	0.6%
Manufacturing/WTU[1]	979	10.3%	1,024	7.3%	0.1%
Retail/Food Services	2,324	24.5%	4,837	34.6%	2.3%
Finance, Insurance, Real Estate, and Services	5,057	53.3%	6,810	48.7%	0.9%
Government	544	5.7%	467	3.3%	-0.5%
Education	170	1.8%	346	2.5%	2.2%
Total	**9,491**	**100.0%**	**13,983**	**100.0%**	**1.2%**
Midway Landfill Alternative: Census Tract 290.04					
Construction/Resources	76	3.9%	426	5.9%	5.5%
Manufacturing/WTU[1]	203	10.5%	673	9.4%	3.8%
Retail/Food Services	929	48.3%	3,129	43.7%	3.9%
Finance, Insurance, Real Estate, and Services	665	34.5%	2,771	38.7%	4.6%
Government	49	2.5%	43	0.6.0%	-0.4%
Education	3	0.2%	119	1.7%	12.2%
Total	**1,925**	**100.0%**	**7,161**	**100.0%**	**4.2%**

Source: PSRC 2050 Land Use Vision (PSRC 2022).
Notes: (1) WTU = wholesale, transportation, and utilities.



Data Sources: King County; Cities of Des Moines, Federal Way, Kent, PSRC (2019).

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FIGURE 3.5-1
Forecast Analysis Zones
OMF South Alternatives

OMF South

3.5.1.3 Local Revenue Sources

Table 3.5-4 shows the revenue sources for both Federal Way and Kent. The revenue sources are listed both by total dollar amounts and by percentage of total budget, based on the 2021 to 2022 adopted budget for each city. It is unknown at this time what effect, if any, the COVID-19 pandemic may have on future revenues.

Table 3.5-4 General Fund Revenues for Federal Way and Kent

Revenue Source	Federal Way Total	Federal Way Share	Kent Total	Kent Share
Property Tax	$10,252,674	19.5%	$32,151,450	28.9%
Sales Tax	$18,977,116	36.0%	$19,943,030	17.9%
Utility Tax	--	--	$17,757,970	16.0%
Business and Occupation Tax	--	--	$19,100,000	17.2%
Other	$23,481,773	44.5%	$22,219,600	20.0%
Total	**$52,711,563**	**100%**	**$111,172,050**	**100%**

Sources: City of Federal Way 2021-2022 Adopted Budget (City of Federal Way 2020); City of Kent 2021-2022 Adopted Budget (City of Kent 2021)
Note: Utility and business and occupation taxes are not included in Federal Way's General Fund.

Federal Way primarily collects its general fund revenue from "other" taxes, which include licenses and permits, intergovernmental taxes, charges for services, fines and penalties, etc. Sales tax brings in more revenue than property taxes, generating 36 percent of the general fund at nearly $19 million. Federal Way's general fund supports 10 primary departments: city council, mayor's office, municipal court, law, finance, human resources, city clerk, community development, police department, and parks, recreation, and cultural services.

Property taxes are the largest revenue source for Kent. For the 2021 adopted budget, property taxes represented 28.9 percent of the general fund revenue at more than $30 million. Sales, utility, and business and occupation taxes are also important sources of revenue that collectively account for just over 50 percent of the city's general fund revenue. Kent's general fund finances the majority of the traditional services associated with local government.

3.5.1.4 Regional Transportation of Goods and Services

I-5 is the primary corridor for regional and interstate commerce in the study region, while SR 99 is a designated freight route through Federal Way and Kent. I-5 is heavily congested during peak periods, which results in longer travel times, decreased reliability, and increased operating costs. While some businesses may choose to shift deliveries to non-peak hours, other companies may choose alternate routes to maintain reliable pickup and delivery times. Heavy congestion can also constrain access to labor as workers seek to minimize commute times. As a result, businesses may respond by expanding to other areas in the metropolitan region or by relocating outside of the region. A more detailed discussion about the existing freight use and throughput along the I-5 corridor is described in Section 3.2, Transportation.

3.5.2 Environmental Impacts

3.5.2.1 No-Build Alternative

Under the No-Build Alternative, economic impacts from construction or operation of OMF South would not occur. However, other planned projects would have impacts in the OMF South study

areas. Once operational, FWLE would likely encourage private, transit-oriented development in the Midway Landfill Alternative study area, increasing property tax and sales tax revenues for local jurisdictions. Other planned projects may also have economic impacts, depending on the extent of business displacements and land use changes. This includes TDLE, which overlaps with the OMF South Preferred and South 344th Street alternatives. If TDLE is constructed as proposed, the mainline track associated with these OMF alternatives would be built later in time. Impacts associated with construction of the mainline track are addressed within the build alternatives impacts discussion below. All other TDLE-related impacts are addressed in Chapter 4, Cumulative Effects Analysis.

Under the No-Build Alternative, future economic development at the proposed sites would continue on its current course for the foreseeable future and in accordance with current planning goals. Sound Transit would be constrained due to the lack of enough LRVs to meet the projected service needs of Sound Transit 3, which would result in increasing passenger loads as the population of transit users grows. These loads may continually meet or exceed capacity. Fleet constraints may also cause operational disruptions and inefficiencies, which could lead to economic effects resulting from reduced ridership and, as a result, could substantially affect each passenger's ability to travel throughout the Sound Transit service area. Increasing constraints on the transportation network could affect labor productivity as the costs (in time and expense) to commute to and from work increase.

3.5.2.2 Long-Term Impacts

Impacts Common to All Build Alternatives

For all build alternatives, the construction of OMF South may cause changes in the local area due to the acquisition of land that is currently used for other purposes, and impacts would primarily arise from displacement of employees and businesses on properties that are acquired and converted to public transit uses. Displacing those businesses would also initially change the amount of property tax burden and sales taxes collected in the local jurisdictions. If businesses are displaced outside of the region, business and occupation taxes and retail sales taxes could also be affected.

Once the project is constructed, approximately 610 staff would be employed to support the operation of OMF South, making it one of the larger employers in the area. These estimates are based on interviews, past experiences at other Sound Transit OMFs, and Sound Transit's projections on needed staff. This additional source of employment would help benefit the regional economy and reduce the impact from jobs displaced by the project alternatives (see Table 3.5-5).

Regional Transportation of Goods and Services

SR 99 is a designated freight route through Federal Way and Kent. The potential impacts associated with the OMF South build alternatives are not anticipated to negatively impact regional freight mobility in the study area. Freight traffic would experience similar travel times as the No-Build Alternative, and the cost of moving goods and services through the study region is not anticipated to increase as a result of the build alternatives. Similarly, it is not likely that the proposed alternatives for OMF South would result in increased congestion along the I-5 corridor. Section 3.2, Transportation, and Appendix G1, Transportation Technical Report, discuss potential transportation impacts in more detail.

Potential Business Displacement

Table 3.5-5 lists the number of businesses and employees that may be disrupted or displaced due to property acquisition. These estimates represent a likely upper bound of the potential direct displacement of employees across the proposed build alternatives. If businesses can relocate within the existing community or the broader affected area, the economic effect of displacement may be smaller.

Table 3.5-5 Property Acquisition Impacts on Businesses and Employees

Alternative	Total Affected Businesses[1]	Business Displacements[2]	Employee Displacements[3]
Preferred Alternative			
Mainline[4,5]	3	0	0
OMF Site	36	12	126
Total	**39**	**12**	**126**
South 344th Street Alternative			
Mainline[4,5,6]	4	0	0
OMF Site	70	21(7)	212
Total	**74**	**21**	**212**
Midway Landfill Alternative			
OMF Site	12	4	43

Source: King County Assessor (2024)

Notes:

(1) Total affected businesses include full and partial property acquisitions. Religious facilities (e.g., churches) are also included in affected business totals.

(2) Business displacements include both businesses and religious facilities for fully acquired parcels only.

(3) The number of displaced employees is based on the business building size (King County Department of Assessment data) and the type of business activity using square-foot-per-employee factors from the U.S. Department of Energy and the Institute for Transportation Engineers and not on an actual survey of businesses. The analysis for estimating employees assumes that the businesses are not abandoned or vacant.

(4) With either the 40 mph Alignment or 55 mph Design Option.

(5) If neither the Preferred nor the South 344th Street alternative is selected, the mainline could still be built later in time if TDLE is constructed as proposed. TDLE is currently under environmental review.

(6) With either the Enchanted Parkway or I-5 mainline tail track options.

(7) Includes GarageTown, comprising 67 individual units.

The effects of potential business displacements are complex. Substantial displacement of local businesses can affect residents and businesses alike. Often the direct impacts for displaced businesses are financial, but there can be other consequences as well.

Businesses are affected differently based on their characteristics. Firm size and community importance may determine the level of impact on employment and to the community. For example, small and minority-owned businesses that rely on a localized customer base may have more difficulty finding suitable locations. Many of these businesses support local economic growth and innovation in the communities they serve. Businesses that use machinery or hazardous substances may require large parcels or have additional challenges that may make relocation difficult. Further, a business may have a suitable place to relocate, but the new location could limit access to its existing labor pool.

Relative to the employment base in the study region, the estimated number of employees displaced from the proposed build alternatives is small. Sound Transit would provide relocation

assistance to businesses that are displaced, as described in Section 3.3, Acquisitions, Displacements, and Relocations. Depending on the extent to which displaced businesses are able to be relocated within the existing community or the broader affected area, these estimates do not necessarily reflect potential job losses in the study region.

This analysis cannot assess other characteristics of business vulnerability from displacement. Information about profitability or economic competitiveness of individual businesses is not publicly available. While these characteristics may be considered along with the broader social impacts of business disruption from the project alternatives, they are outside the scope of this Final EIS (WAC 197-11-448). Other anticipated socioeconomic impacts related to business and employee displacement are discussed in Section 3.6, Environmental Justice, Social Resources, Community Facilities, and Neighborhoods.

Impact of Displacement on Tax Base

All the build alternatives would acquire parcels that have existing commercial or industrial activity. Businesses located within these parcels pay a sales tax. Businesses in Kent also pay a business and occupation tax, as shown in Table 3.5-4. The acquisitions for OMF South could result in initial reductions of sales and business and occupation taxes by displacing those existing businesses. If some businesses were to relocate to another area within the city, they would resume paying sales and business and occupation taxes, reducing the effect on taxes. Retaining those displaced businesses could reduce the effect on local sales taxes. However, calculating the specific reductions for such taxes is not possible, given the inability to know exactly how many businesses would relocate and remain within each city.

Similarly, it is not possible to calculate specific property tax impacts due to complex property tax policies in the state of Washington. The acquisitions would initially reduce property taxes in Federal Way and Kent; however, the impact is expected to be small. The reduction of developable properties may affect the property tax base in the region by lowering the potential for new construction on acquired properties. This may require changes in local government budgets or an increase in rates to taxpayers to recover budgeted funds. Local governments would be constrained to the annual 1 percent levy rate increases to cover existing costs unless certain exemptions apply. However, some of the initial tax revenue displacement would be offset through sales taxes for construction-related purchases that occur within the local jurisdiction.

If the project were to promote future development and investment in the local vicinity, property tax assessments could increase. However, the project could also result in shifting demand across the region, so that while assessments adjacent to new development may increase, property tax assessments in other areas of the city might stagnate. Overall, the impact is expected to be small given the reduction in taxable assessed valuation of acquired properties in relation to the area's overall tax base (see Table 3.5-6). For example, the total taxable assessed valuation of real property for full and partial acquisitions for the South 344th Street Alternative accounts for 0.72 percent of Federal Way's overall assessed valuation in 2022; none of the alternatives exceed 1 percent.

Table 3.5-6 Total Taxable Assessed Valuation by Alternative

Alternative	Total Parcels	Total Taxable Value	Jurisdiction Total Taxable Value[1]	Acquired Jurisdiction Taxable Share
Preferred Alternative				
Mainline[2,3]	7	$31.4 M	$13.9 B	0.23%
OMF Site	30	$57.1 M	$13.9 B	0.41%
Total	**37**	**$88.5 M**	**$13.9 B**	**0.64%**
South 344th Street Alternative				
Mainline[2,3,4]	13	$41.4 M	$13.9 B	0.30%
OMF Site	51	$58.2 M	$13.9 B	0.42%
Total	**64**	**$99.7 M**	**$13.9 B**	**0.72%**
Midway Landfill Alternative				
OMF Site	47	$26.5 M	$25.1 B	0.11%

Source: King County Assessor (2022)

Notes:

(1) Jurisdiction is Kent for the Midway Landfill Alternative and Federal Way for the Preferred and South 344th Street alternatives.

(2) With either the 40 mph Alignment or 55 mph Design Option.

(3) If neither the Preferred nor the South 344th Street alternative is selected, the mainline could be built later in time if TDLE is constructed as proposed. TDLE is currently under environmental review.

(4) With either the Enchanted Parkway or I-5 mainline tail track options.

Preferred Alternative

The Preferred Alternative OMF site would displace the Christian Faith Center, a religious facility with an associated private school, resulting in the disruption of approximately 92 jobs. Although neither entity is taxable, they represent the two largest sources of employment that would be disrupted. Other displaced businesses include warehouse and storage buildings and a garage service repair shop that would have much smaller employee displacements.

South 344th Street Alternative

The South 344th Street Alternative OMF site would disrupt some light manufacturing in the area. Ellenos Yogurt recently made investments to its facility and has stated that many of the improvements could not be moved. Additionally, GarageTown houses 67 individually rented or owned storage facilities. Both businesses would be difficult to relocate. For Ellenos Yogurt, it is unlikely that there is an existing facility with the same manufacturing equipment required for producing yogurt. GarageTown is less likely to have large, specialized capital requirements, but does have a large footprint; it may be difficult to find a site within the same area that also provides ease of access for its existing customer base. The South 344th Street Alternative would displace other warehouse and storage businesses, office buildings, and three churches, but these properties would result in a small number of employee displacements.

Based on the existing vacancy rates for retail and industrial sites in the region, there is potential capacity for the other displaced businesses to relocate. If any of the firms relocate outside of Federal Way, however, the city may lose some benefits from local consumption and contributions to the tax base. Although the total value added from the firms is unknown, the potential job displacement as a total share of employment in the region is small (see Table 3.5-5) and dependent on whether affected businesses relocate in the area or not. None of the identified businesses appear to be heavy industry or to use large amounts of toxic substances, which could otherwise make relocation difficult.

Midway Landfill Alternative

The Midway Landfill Alternative would have the smallest impact on employment displacements (see Table 3.5-5), and the identified businesses would likely be able to relocate to nearby properties. The affected businesses are an insurance business, an optometry clinic, and two warehouse businesses; the other affected parcels around the closed Midway Landfill are mostly vacant.

3.5.2.3 Construction Impacts

Construction supports economic activity through the purchase of goods and services and labor income in the study area. The economic contributions arising from construction projects are often temporary in nature and occur as construction spending unfolds. While the infusion of new money on capital projects can be beneficial to a region, residential and commercial sites that are adjacent to the proposed sites may experience some disruption and other adverse effects from construction. However, investments in capital projects that can reduce future congestion and pollution may have broader long-run benefits than what is typically measured in short-run economic impact analyses.

Construction activity may disrupt current economic activity by increasing traffic delays and may result in other negative externalities, such as increased noise adjacent to the construction site. However, those effects are anticipated to last only through the duration of the construction phase. The project is not expected to result in large changes in access to nearby businesses or lead to changes in existing transportation networks. Please see Sections 3.2, Transportation, and 3.9, Noise and Vibration, for more discussion on potential impacts during construction.

Table 3.5-7 displays the gross economic contributions from each build alternative. As shown, employment and spending would increase during construction for all the alternatives. The Preferred and South 344th Street alternatives have similar expenditure and employment estimates, while the Midway Landfill Alternative estimates are greater due to its longer construction period. Construction would bring revenue into the economy with the jobs that it produces, and the money spent by construction employees in the surrounding community. The extent of these impacts would depend on the source of project funding and the types of work crews performed.

These results do not differentiate between new economic activity in the region and activity that is repurposed as a result of this project, nor do they account for the opportunity cost of using those public dollars for an alternative use. The preferred approach for these analyses is to account only for new capital that would flow into the region for each alternative; however, that information was not available for this analysis. Instead, the values above represent the gross contributions, or “economic footprint,” associated with each alternative. As such, it represents an upper-bound estimate of economic activity associated with the project.

The direct expenditures and employment shown in Table 3.5-7 represent spending and jobs directly related to the project alternatives. Total economic output and total employment account for both the direct, supply chain, and consumption effects associated with each alternative, known collectively as secondary effects. These secondary effects are represented by economic multipliers, which trace how spending is distributed across other industries to support economic activities in a study region.

Table 3.5-7 Direct Expenditures and Direct Employment During Construction

Alternative	Direct Expenditures[1]	Total Economic Output[2]	Direct Employment (Job Years[3])	Total Employment (Job Years[3])
Preferred Alternative				
Mainline[4]	$.338 – .427 B[5]	$.661 – .835 B	1,157 – 1,462	2,550 – 3,221
OMF Site	$1.3 – 1.7 B	$2.5 – 3.3 B	4,450 – 5,820	9,806 -12,824
Total	**$1.6 – 2.1 B**	**$3.2 – 4.2 B**	**5,607 - 7282**	**12,356 – 16,045**
South 344th Street Alternative				
Mainline[4]	$.503 – .636 B	$.984 – 1.2 B	1,722 - 2,177	3,794 – 4,798
OMF Site	$1.3 – 1.7 B	$2.5 – 3.3 B	4,450 – 5,820	9,806 – 12,824
Total	**$1.8 – 2.3 B**	**$3.5 – 4.6 B**	**6172 – 7997**	**13,600 – 17,622**
Midway Landfill Alternative				
Platform	$2.8 – 3.5 B	$5.5 – 6.8 B	9,586 – 11,982	21,122 – 26,402
Hybrid	$2.2 – 2.8 B	$4.3 – 5.5 B	7,731 – 9,586	16,596 – 21,122
Full Excavation	$2.1 – 2.6 B	$4.1 – 5.1 B	7,189 – 8,901	15,841 – 19,613

Sources: Sound Transit and Washington Office of Financial Management Input-Output Model 2015.

Notes:

(1) Direct expenditures exclude construction contingency allowance and the purchase of land.

(2) The multipliers from the Washington Office of Financial Management Input-Output model are representative of the State of Washington and differ from economic multipliers created for the four-county PSRC region.

(3) A job year is defined as full-time employment for one person over the course of a year (assuming 2,080 hours of employment per year).

(4) If neither the Preferred nor the South 344th Street alternative is selected, the mainline could be built later in time if TDLE is constructed as proposed. TDLE is currently under environmental review.

(5) Values expressed in a range consistent with Table 2.5-1 to reflect conceptual nature and preliminary level of design.

Construction spending (excluding land and equipment) tends to have a high multiplier, as many of the labor and capital inputs are supplied locally. Based on the multipliers in the 2012 Washington Office of Financial Management Input-Output model (revised in 2015), every $1 million spent on construction activity supports an additional $956,000 in economic output. As mentioned previously, expansionary projects can result in increased economic capacity but result in only a short-run increase in output and jobs. Often the impacts calculated from construction spending dissipates as project spending declines.

3.5.2.4 Avoidance and Minimization of Impacts

Construction might cause adverse temporary impacts on businesses due to reduced access or nuisances associated with general construction activity such as noise, vibration, or dust. Avoidance and minimization measures as described in the following sections would reduce these impacts: Section 3.2, Transportation; Section 3.3, Acquisitions, Displacements, and Relocations; Section 3.7, Visual and Aesthetic Resources; Section 3.8, Air Quality and Greenhouse Gas Emissions, and Section 3.9, Noise and Vibration.

During final design and permitting, construction plans would be developed to address the needs of businesses and could include, but are not limited to, the following elements:

- Provide a 24-hour construction telephone hotline.
- Establish effective communications with the public through measures such as meetings and construction updates, alerts, and published schedules.

- Provide an ombudsman consistent with Sound Transit policy. If complaints arise about construction impacts that cannot be resolved by community outreach staff or the relevant department director, the ombudsman policy provides a process for addressing those complaints in an impartial, fair, and timely manner that ensures effective stewardship of public resources and minimizes construction impacts.
- Provide detour, open-for-business, and other signage as appropriate.
- Maintain access as much as possible to each business and coordinate in advance with businesses during times of limited access.

3.5.2.5 Indirect Impacts

OMF South could have indirect economic impacts on properties adjacent to the construction site from temporary changes in traffic flow, noise levels, and visuals that could result in changes to business sales or property values. Impacts to local businesses are anticipated to be minor and last only through the duration of the construction phase. No substantial changes in existing transportation networks or access to nearby businesses are expected because of construction for any of the OMF South build alternatives.

For the Midway Landfill Alternative, residential properties adjacent to the project site may gain some marginal benefits from increased property values, depending on the extent of landfill remediation associated with the OMF South project. For example, the Full Excavation subsurface design option would completely remove the contaminated landfill material and would likely have the greatest positive effect on neighboring property values of the three options. Many economic analyses have found that clean-up of designated Superfund sites can have a positive effect on adjacent property values, but information about the timing and magnitude of that effect varies greatly across sites (Kiel and Williams 2007).

Other amenities that affect property values, such as proximity to green space, are not anticipated to be impacted by any of the build alternatives.

3.5.3 Mitigation Measures

No specific mitigation related to economic impacts is anticipated.

3.6 Environmental Justice, Social Resources, Community Facilities, and Neighborhoods

This section evaluates how the OMF South project alternatives could affect environmental justice, social resources, including community facilities, neighborhood character, community cohesion, and safety and security within the study area. For the purposes of this analysis, social resources include community amenities, government and Tribal entities, affordable and senior housing, medical facilities, recreation facilities, religious centers, schools, social service providers, and transportation facilities. Community cohesion refers to a community member's sense of belonging to a neighborhood and the degree to which community members interact with other community members and social resources in the neighborhood. The study area includes all social resources within 0.5 mile of the potential construction limits of each OMF South build alternative. Due to their close proximity, a single study area was identified for the Preferred and South 344th Street alternatives.

Consistent with FTA Title VI Circular and the FHWA Community Impact Assessment: A Quick Reference for Transportation, four key neighborhood and community issues were used to evaluate the project's potential impact on the study area (FTA 2012; FHWA 2018):

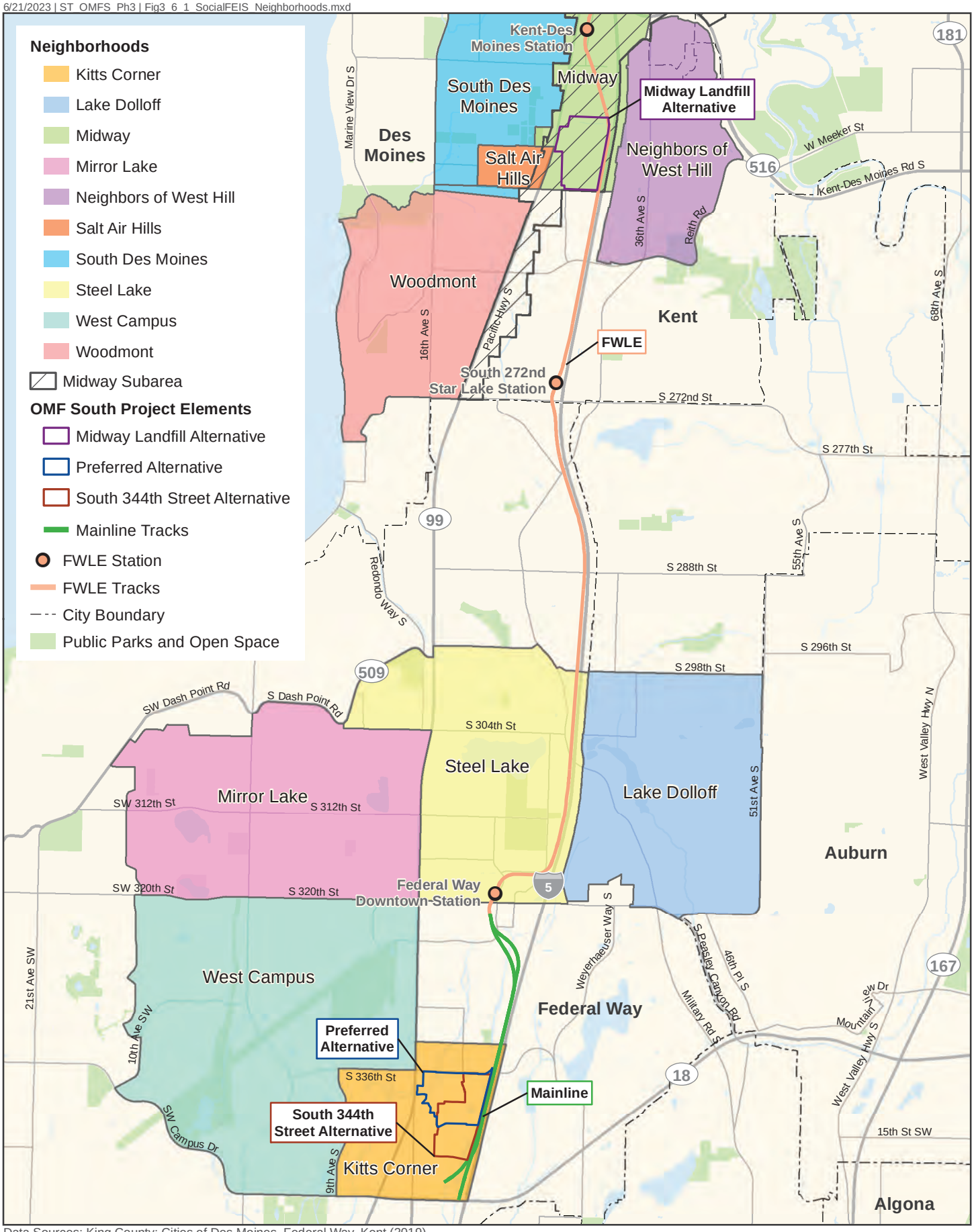
- Changes in neighborhood quality
- Barriers to social interaction
- Impacts on community resources
- Impacts on safety and security

Potential impacts to environmental justice populations are summarized in Section 3.6.3, Environmental Justice Summary below and are discussed in more detail in Appendix E, Environmental Justice Assessment.

3.6.1 Affected Environment

Figure 3.6-1 shows the neighborhoods within the OMF South study areas, and Figure 3.6-2 and Figure 3.6-3 show all social resources within the study areas, including both subsidized (affordable) and nonsubsidized housing below market rate within the study area. Affordable housing was identified in the study area by reviewing information from the U.S. Department of Housing and Urban Development and King County Housing Authority to identify properties and housing developments that provide subsidized housing or housing assistance for low-income and cost-burdened families. Additional nonsubsidized below-market-rate housing within the study area is available through private developments, such as apartment complexes, manufactured or mobile home developments, and RV parks.

A low-income person is identified as a person whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines (FTA 2012). The 2022 poverty guideline is an annual income of $13,590 for a household of one and $27,750 for a household of four (HHS 2022). Sound Transit's low-income threshold is two times the federal poverty level, which the agency has determined is appropriate for use in determining eligibility for a reduced fare program and reflects the increasingly high cost of living in the region.



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

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FIGURE 3.6-1
Neighborhoods
OMF South Alternatives

OMF South

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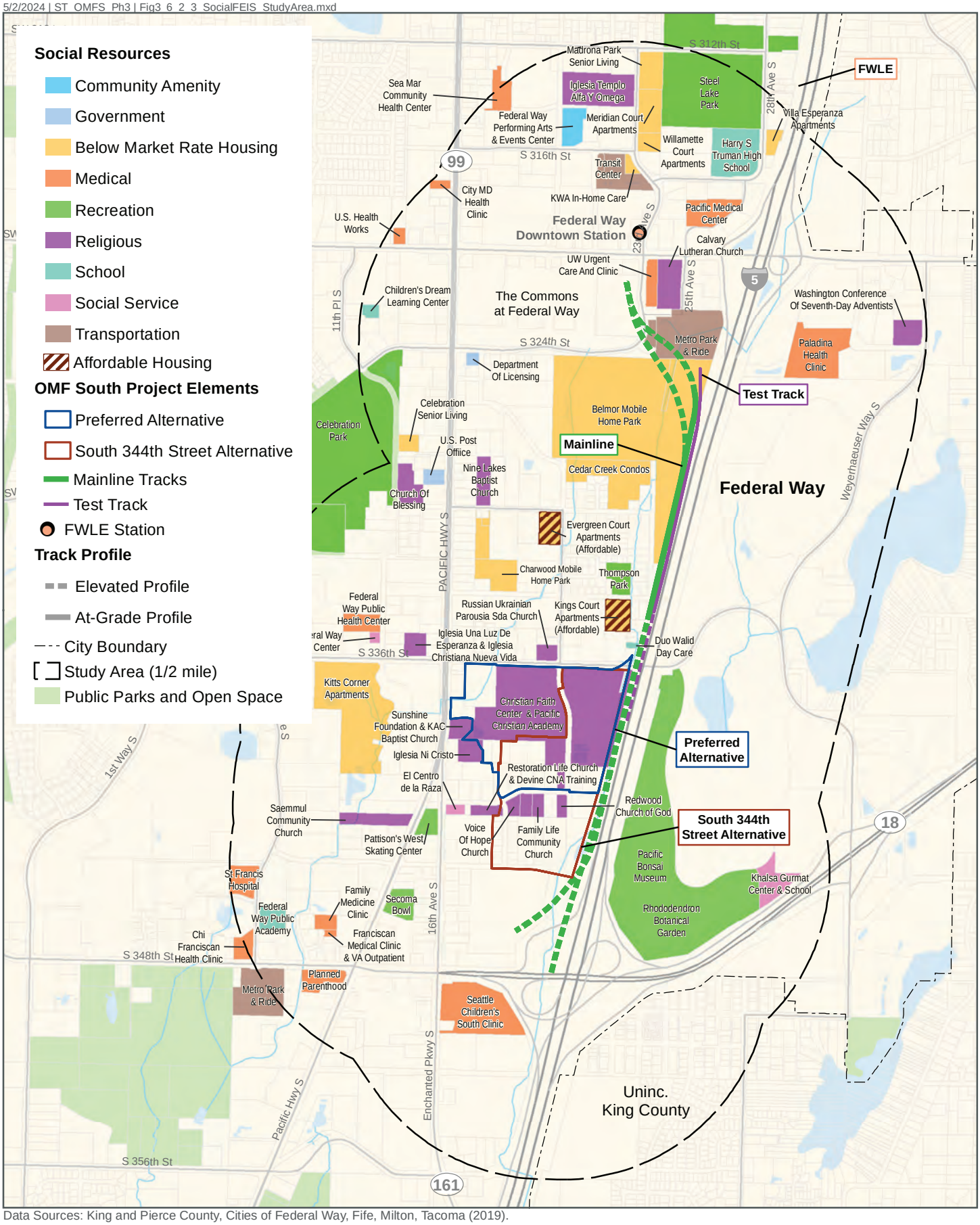

Data Sources: King and Pierce County, Cities of Federal Way, Fife, Milton, Tacoma (2019).

N

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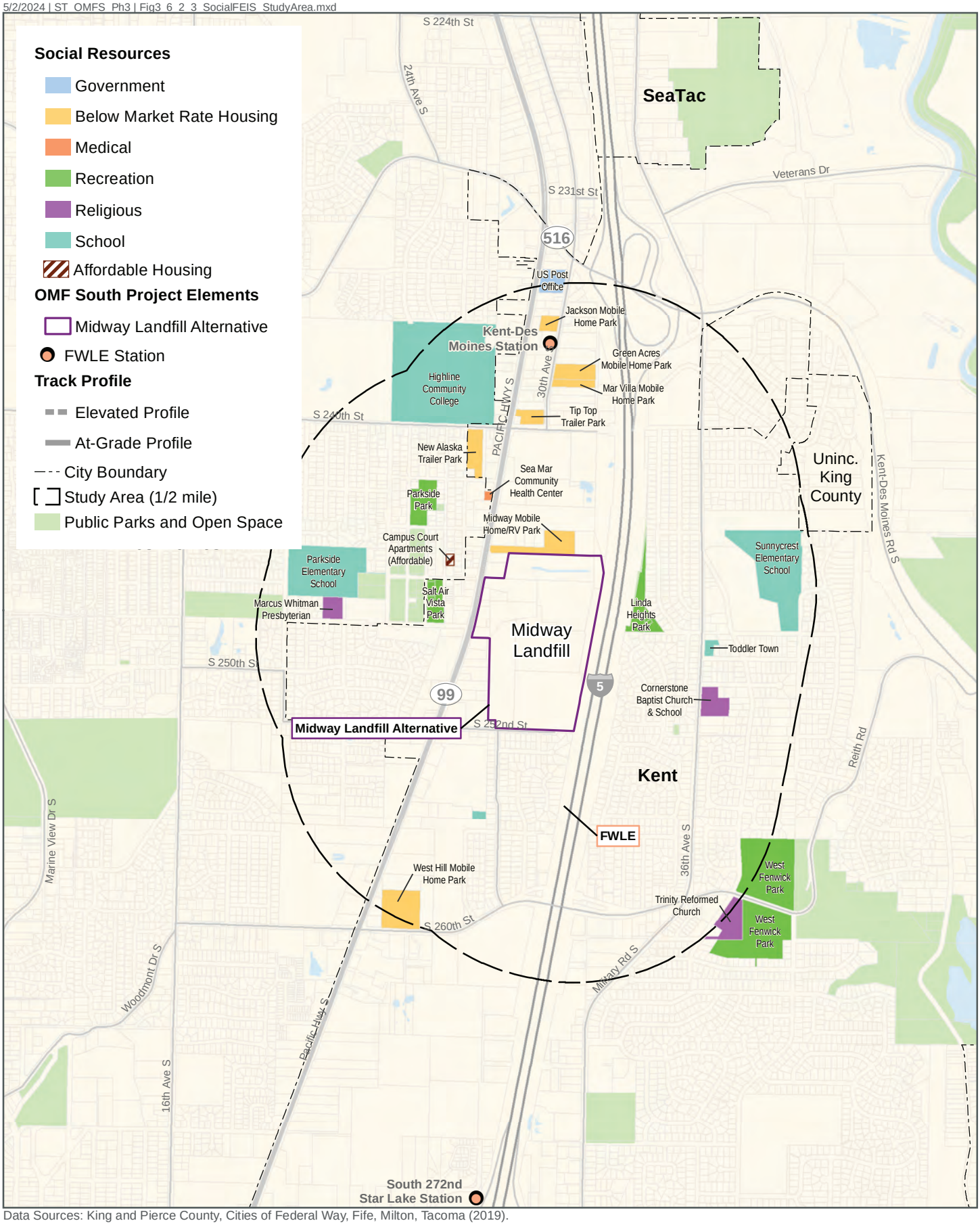
FIGURE 3.6-2
Social Resources Affected Environment
Preferred and South 344th Street Alternatives
OMF South

5/2/2024 | ST_OMFS_Ph3 | Fig3_6_2_3_SocialFEIS_StudyArea.mxd



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

N

0 0.25 0.5 Miles

FIGURE 3.6-3
Social Resources Affected Environment
Midway Landfill Alternative
OMF South

3.6.1.1 Study Area Characteristics

Preferred and South 344th Street Alternatives

The combined study area for the Preferred and South 344th Street alternatives is primarily within Federal Way and includes portions of unincorporated King County, which are part of Federal Way's Potential Annexation Area. The mainline track for these alternatives begins at Federal Way Downtown Station, which is in the Federal Way City Center core.

The Preferred and South 344th Street alternatives are both in the Kitts Corner neighborhood, and the study area intersects the following neighborhoods: Mirror Lake, Steel Lake, Lake Dolloff, and Federal Way West Campus (Figure 3.6-1). The study area consists primarily of commercial land uses in addition to residential, institutional, and vacant parcels. Commercial uses are concentrated around The Commons at Federal Way shopping center and are also mixed with industrial uses along SR 99.

Residential uses within the study area are concentrated in the area along the mainline tracks between The Commons shopping center at S 324th Street and the northern boundary of the Preferred Alternative at S 336th Street. This primarily residential area includes numerous apartment and condominium complexes in addition to two mobile home parks: Charwood Mobile Home Park and Belmor Mobile Home Park. Charwood Mobile Home Park has space for 74 mobile home units. Belmor is a 63-acre mobile home park for adults 55 years and older that contains over 300 mobile home units and a nine-hole golf course. The property includes other amenities, including a pool, craft room, exercise room, and clubhouse. There are also several single-family homes along S 340th Street and 18th Place S. Community cohesion within apartment, condominium, and mobile home complexes is likely relatively high given the shared spaces and close proximity of housing units. However, most of the residential developments are separate and distinct, potentially discouraging interactions between neighborhoods and subdivisions.

Figure 3.6-2 depicts social resources in the study area for the Preferred and South 344th Street alternatives. Numerous religious facilities are in the study area, including the Christian Faith Center, Voice of Hope Church, Family Life Community Church, and the Redwood Church of God and Tabernacle Temple of Praise, which share a building. The Christian Faith Center has an affiliated school called the Pacific Christian Academy. There are also several healthcare centers and government services, including a post office, a Department of Licensing location, and the Greater Federal Way Chamber of Commerce. Additional social resources include parks, transit facilities, education facilities, and nonprofit organizations. Affordable housing in the study area is provided by King County Housing Authority at Kings Court Apartments and Evergreen Court Apartments. Properties offering nonsubsidized below-market-rate housing in the study area include Madrona Park Senior Living, Meridian Court Apartments, Villa Esperanza Apartments, Belmor, Charwood Mobile Home Park, Celebration Senior Living, and Kitts Corner Apartments.

Midway Landfill Alternative

The Midway Landfill Alternative study area is primarily in Kent and also includes parts of Des Moines and unincorporated King County, which are part of the city's Potential Annexation Area. The study area includes a substantial portion of the Midway Subarea, which was identified in the Midway Subarea Plan as an area with development potential associated with future light rail transit (City of Kent 2011). The Midway Subarea is along the western border of Kent between I-5 and SR 99 and between SR 516 (Kent-Des Moines Road) and S 272nd Street (Figure 3.6-1). It includes primarily commercial land uses along SR 99, including restaurants, retail shops, automotive services, and large "big box" stores, such as Lowe's and Fred Meyer.

There are also some vacant and industrial land uses and a limited number of residential parcels within the Midway Subarea.

Outside of the Midway Subarea, the Midway Landfill Alternative study area contains mostly residential areas east of I-5, west of SR 99, and south of S 252nd Street. Most residential parcels in the study area are single-family homes, in addition to some multi-family dwellings and mobile homes. The Midway RV and Mobile Home Park is directly north of the Midway Landfill and contains approximately 35 mobile home units.

The following neighborhoods intersect with the Midway Landfill Alternative study area: Pacific Ridge, Saltair Hills, Woodmont Beach, and West Hill (Figure 3.6-1). Community cohesion within dense, single-family neighborhoods is likely high; however, several barriers likely prevent interaction between neighborhoods. On the east side of the Midway Landfill Alternative, I-5 acts as a barrier between the West Hill neighborhood and the site; on the west side of the Midway Landfill Alternative, SR 99 acts as a barrier between the Saltair Hills and Woodmont Beach neighborhoods and the site.

Social resources in the Midway Landfill Alternative study area are depicted in Figure 3.6-3. The study area includes education facilities, such as Highline College and two Highline School District elementary schools. Highline College is a community college with over 17,000 total students and provides community resources for the surrounding area. There is a WorkSource Connection Site located at Highline College, which provides employment and training services to the community. The study area also includes community facilities, such as parks and religious facilities. Affordable housing in the study area is provided by King County Housing Authority at Campus Court Apartments. Properties offering nonsubsidized below-market-rate housing in the study area include Green Acres Mobile Home Park, Jackson Mobile Home Park, Mar Villa Mobile Home Park, Tip Top Trailer Park, New Alaska Trailer Park, Midway RV and Mobile Home Park, and West Hill Mobile Home Park.

3.6.1.2 Population Characteristics

Table 3.6-1 provides a summary of demographics in the study areas and compares the population characteristics to those of the three cities within the study areas (Federal Way, Kent, and Des Moines), the Sound Transit district, and King County as a whole. The Sound Transit district is composed of 53 cities in King, Pierce, and Snohomish counties and includes a population of approximately 3.2 million people.

Federal Way, Kent, and Des Moines have higher proportions of both low-income and minority residents when compared to all of King County and the Sound Transit district, and both study areas have higher proportions of low-income and minority persons than the three cities. The Midway Landfill Alternative study area has the highest percentages of both low-income and minority persons, at 44 percent and 68 percent, respectively.

Table 3.6-1 Study Area Demographics

	Preferred and South 344th Street Alternatives Study Area	Midway Landfill Alternative Study Area	Federal Way	Kent	Des Moines	King County	Sound Transit District
Total population	9,531	10,712	96,812	130,038	31,983	2,225,064	3,189,953
Population under 5 years old	7%	10%	7%	7%	6%	6%	6%
Population over 64 years old	15%	7%	14%	11%	18%	13%	13%
Minority[1]	66%	68%	57%	58%	48%	42%	42%
Low-income[2]	39%	44%	28%	30%	33%	18%	21%

Source: U.S. Census Bureau, American Community Survey (ACS) 2016-2020 5-Year Estimates

Notes: Percentages represent estimates based on survey data. Survey data are not available at the census-block level; the data represents an estimate of minority and low-income persons in block groups within 0.5 mile of each build alternative.

(1) Minority is defined as all race/ethnicity groups except for "Non-Hispanic White Alone."

(2) Low-income is defined the number or percent of a block group's population in households where the household income is less than or equal to twice the federal poverty level.

3.6.2 Environmental Impacts

3.6.2.1 No-Build Alternative

Under the No-Build Alternative, there would be no property acquisitions or other related changes associated with the OMF South project. However, other planned projects in the area could have social impacts, depending on the extent of the associated disruption. This includes TDLE, which overlaps with the OMF South Preferred and South 344th Street alternatives. If TDLE is constructed as proposed, the mainline track associated with these OMF alternatives would be built later in time. Impacts associated with construction of the mainline track are addressed within the build alternatives impacts discussion below. All other TDLE-related impacts are addressed in Chapter 4, Cumulative Effects Analysis.

As part of FWLE, Sound Transit is constructing the Kent/Des Moines Station, which would be in the OMF South study area for the Midway Landfill Alternative, and the Federal Way Downtown Station, which would be in the study area for the Preferred and South 344th Street alternatives. The neighborhoods surrounding these new light rail stations would likely experience changes from FWLE once it is operational, such as added transportation infrastructure, transit access, and associated development.

3.6.2.2 Long-Term Impacts

Impacts Common to All Build Alternatives

Permanent impacts associated with all OMF South build alternatives include residential and commercial property acquisitions and land use conversions. Sound Transit would provide relocation assistance to displaced property owners and renters, according to the federal Uniform Relocation Act. More information about relocations and relocation assistance can be found in Section 3.3, Acquisitions, Displacements, and Relocations. Parcels acquired for OMF South would be converted from their existing land uses, such as commercial and residential, to transportation-related land use and would have to be rezoned accordingly. These land use changes are detailed in Section 3.4, Land Use.

There would also be long-term impacts to visual character for residents and businesses near the OMF South sites and mainline tracks. All the build alternatives would add new buildings, at-grade and elevated light rail track, overhead catenary wires, at-grade parking lots and access roads, as well as tree and shrub landscape plantings and fences around the perimeter with limited-access gates. Elevated sections of mainline tracks and other elements of the site would be prominent and impact visual quality in neighborhoods in proximity to OMF South. These impacts are detailed in Section 3.7, Visual and Aesthetic Resources.

None of the build alternatives are anticipated to have adverse impacts on safety and security. OMF South security measures would be like other Sound Transit OMFs, including on-site security personnel, perimeter fencing, electronically controlled gates, and security patrol in the evenings. Additionally, the roadway, intersection, and nonmotorized improvements for all build alternatives would improve safety for motor vehicle and nonmotorized users in the study areas. Except for site driveways, OMF South would not intersect with existing roadways, highways, sidewalks, bicycle lanes, or nonmotorized trails. All tracks would be elevated over these transportation facilities, and site driveways would be designed to meet or exceed all local and state safety standards. See Section 3.2, Transportation, for more detailed safety information.

Preferred Alternative

The mainline tracks for the Preferred Alternative would affect Belmor, a manufactured home community on a parcel zoned multi-family residential, displacing approximately 71 to 77 mobile home lots. The 55 mph Design Option would displace more individual mobile homes than the 40 mph Alignment. Displacement of these mobile homes would likely adversely affect community cohesion within Belmor but would be unlikely to affect social cohesion in the surrounding neighborhoods of Steel Lake and Kitts Corner. Section 3.7, Visual and Aesthetic Resources, describes potential visual impacts to Belmor and the neighborhood to the south. Noise impacts from the 55 mph Design Option mainline tracks are expected at four residential properties under this alternative, although those impacts can be mitigated. See Section 3.9, Noise and Vibration, for more details.

Both the 40 mph Alignment and the 55 mph Design Option would permanently impact the private Belmor golf course. The 40 mph Alignment would modify the northeast corner of the course by relocating one golf hole and shortening its associated fairway. The golf course path in that area would also be altered but would serve the same function. The 55 mph Design Option would permanently affect a second hole and its associated fairway and further alter the cart path. However, its function would be maintained. The clubhouse would be unaffected.

The Preferred Alternative OMF site would permanently impact several social resources, including one religious facility. It would displace the Christian Faith Center church and its day care center (CF Kidz), along with the Pacific Christian Academy, which is a tenant on their property. The Christian Faith Center is a large-capacity church; therefore, it could be challenging to relocate a religious facility of this size and displacing it would impact the members of the service population from within and beyond the 0.5-mile study area. See Section 3.3, Acquisitions, Displacements, and Relocations, for further discussion.

The OMF site would also displace 15 residences, composed of one four-unit multi-family residential property and 10 single-family residential properties, one of which has two separate houses. Nine of these residences are adjacent to the I-5 right-of-way, between S 333rd Street and S 336th Street, where the lead tracks would connect to the mainline tracks. Residential displacements associated with the OMF site would not affect neighborhood quality because the properties are located on private drives and are relatively isolated. Additionally, the OMF site

would displace 11 businesses, including a childcare center and commercial and light industrial businesses, such as an auto-repair shop, an aviation repair shop, home and business cleaning services, a gate design and fabrication company, a chiropractic center, and an equipment rental business. These businesses could likely be relocated without causing long-term impacts to community cohesion. Additionally, several of these businesses serve a broader area than the relatively narrow study area; therefore, their potential relocation out of the study area may not substantially affect their customer base.

South 344th Street Alternative

The South 344th Street Alternative would impact the most social resources and would have the most business and residential displacements as compared with the other build alternatives.

The mainline tracks for the South 344th Street Alternative would have identical impacts with respect to community cohesion and neighborhoods, including the potential impacts to the private Belmor golf course, as the Preferred Alternative mainline tracks.

The South 344th Street Alternative OMF site would displace approximately 20 residences and 17 businesses, including GarageTown and Ellenos Yogurt, which serve local populations and contain specialized facilities. GarageTown houses 67 individually rented or owned storage facilities and provides a community resource for tenants; however, impacts to community cohesion in the larger study area would be limited. Due to the unique site characteristics and large footprint, GarageTown may be challenging to relocate within the same area to continue to provide ease of access for its existing customer base.

The OMF site would also displace four religious facilities: Family Life Community Church, Voice of Hope Church, Redwood Church of God, and Tabernacle Temple of Praise. It is anticipated that these religious facilities could be relocated within the study area, if they cannot, the displacement of these religious facilities could affect community cohesion.

Midway Landfill Alternative

There would be no long-term impacts to social resources or community facilities within the Midway Landfill Alternative study area. The Midway Landfill Alternative would have the fewest impacts to social resources and community cohesion compared to other build alternatives.

For the Midway Landfill Alternative, all affected parcels and displacements are associated with the OMF site. The Midway Landfill Alternative OMF site would require relatively few property acquisitions that would affect social resources because it is primarily located on an existing landfill owned by the city of Seattle and managed by SPU. The OMF site would displace four businesses that, due to their size and type of business, are anticipated to be able to relocate within the study area without having long-term impacts to community cohesion. There are no residential displacements associated with the Midway Landfill Alternative.

3.6.2.3 Construction Impacts

Impacts Common to All Build Alternatives

Construction of a major project such as OMF South involves intensive activities that last several years. If the project is constructed near community resources and neighborhoods, community activities and cohesion could be affected. Construction associated with OMF South would include staging areas; reserves of building materials; temporary fencing; lighting; large vehicles such as cranes, dump trucks, bulldozers, and excavators; and temporary roads and/or detours

of traffic lanes and sidewalks. Community resources and neighborhoods in proximity to these construction materials and activities would be impacted by temporary access and mobility restrictions and increased truck traffic; localized adverse impacts to air and visual quality; and increased noise and vibration. When construction is complete, properties and access would be restored as closely as possible to their previous conditions.

Preferred and South 344th Street Alternatives

In addition to those impacts described for all build alternatives, the Preferred and South 344th Street alternatives would have temporary construction impacts associated with the mainline tracks. Mainline track construction would temporarily affect the Belmor mobile home community and golf course. Increased traffic and proximity to construction activities would result in short-term effects on community cohesion within Belmor. In addition, a portion of the Federal Way/S 320th Street Park & Ride would serve as a construction staging area.

Midway Landfill Alternative

Construction of OMF South at the Midway Landfill Alternative would impact the Midway RV and Mobile Home Park, located along the landfill's northern boundary. While construction would not displace any mobile home units, it would require easement access through the mobile home park, resulting in increased traffic. This alternative would also have varying construction impacts associated with transportation, air quality, and noise, depending on which construction approach is considered.

The three subsurface construction design options — Platform, Hybrid, and Full Excavation — vary in the amount of excavation to prepare the site and the number of truck trips necessary to haul the material, as discussed in Section 3.2, Transportation. The daily truck trip volume for the Hybrid and Full Excavation subsurface construction design options would have greater impacts than the Platform subsurface construction design option on neighborhoods and social resources in proximity to the Midway Landfill Alternative from increased truck traffic, noise and vibration, and air quality impacts.

3.6.2.4 Avoidance and Minimization of Impacts

As part of the OMF South project, specific design features, BMPs, and mitigation measures would eliminate or minimize impacts to social resources, community facilities, and neighborhoods. These measures are described in detail in other sections of this Final EIS and are summarized below.

- Transportation (Section 3.2): There would be avoidance and minimization measures to address potential traffic congestion during construction, such as developing a traffic management plan and avoiding traffic disruptions during peak travel times.
- Acquisitions, Displacements, and Relocations (Section 3.3): Sound Transit's policies and procedures comply with federal, state, and local property acquisition and relocation policies and, in some cases, provide advisory services to property owners above the minimum requirements of federal and state law.
- Visual and Aesthetic Resources (Section 3.7): In areas adjacent to residents, where there is adequate space, Sound Transit would add on-site landscaping to help screen views of project components while ensuring safety and security. In areas adjacent to residences where not enough room exists for landscaping to screen views of retaining or noise walls, Sound Transit would treat the walls with visually interesting elements, such as design treatments that incorporate textures, patterns, color, or trellises with climbing vines.

- Noise and Vibration (Section 3.9): For the Preferred and South 344th Street alternatives, noise barriers are proposed for mitigation along the 55 mph Design Option elevated mainline tracks.

3.6.2.5 Indirect Impacts

Indirect impacts on social resources, community facilities, and neighborhood resources often relate to changes in land use or other changes that result in effects on the rate or pattern of development in an area. Because the proposed project would change land use by converting residential, vacant, and/or commercial/industrial land to a transportation use, there is the potential for indirect effects on neighborhood character from changes in development patterns.

3.6.3 Environmental Justice Summary

This Final EIS also includes an Environmental Justice Assessment (Appendix E), as required by Executive Orders 12898 and 14096, and Department of Transportation Order 5610.2C, the purpose of which is to seek to avoid disproportionate and adverse effects on minority and low-income populations, defined below:

- Minority populations include people who are Black, Hispanic, Asian American, American Indian or Alaskan Native, or Native Hawaiian and Other Pacific Islander (DOT Order 5610.2C, Appendix § 1(c)).
- Low-income populations include people whose median household income is less than or equal to two times the Federal Poverty Level — a local threshold that Sound Transit and other regional transit agencies have determined is appropriate for use in determining eligibility for reduced fare programs and reflects the increasingly high cost of living in the region.

Demographic information, including environmental populations, for the OMF South study area, surrounding jurisdictions, and Sound Transit district are included in Table 3.6-1 above.

The Environmental Justice Assessment follows guidance in FTA Circular C-4703.1 and addresses whether the OMF South alternatives would result in disproportionately adverse effects on minority and/or low-income populations and summarizes the public outreach to minority and low-income populations within the project area. The analysis also discusses the potential benefits of the project to minority and/or low-income populations, as well as the specific outreach efforts made during project development to involve these populations.

3.6.3.1 Project Impacts and Benefits

Project impacts with the most potential to affect environmental justice populations include displacement of residents, businesses, and community facilities, including religious facilities and childcare centers; visual impacts; and construction-related transportation impacts. These impacts are summarized below for each build alternative. Other long-term and construction-related project impacts would be avoided or would consist of minor impacts that could be mitigated. See Appendix E, Environmental Justice Assessment, for a more detailed discussion of impacts to environmental justice populations and proposed avoidance, minimization, and mitigation measures.

- Preferred Alternative: The Preferred Alternative would displace fewer residences, business, and social resources than the South 344th Street Alternative but more than the Midway Landfill Alternative. Most residential displacements would occur in Belmor, which is home to

many retired and fixed-income residents, though they are not necessarily considered low-income. The Preferred Alternative would also displace the Christian Faith Center church and an associated daycare (CF Kidz) and the Pacific Christian Academy, each of which serves low-income and minority populations, and an in-home childcare center that offers programs in English and Somali and accepts subsidized payments. The mainline for the Preferred Alternative would cause adverse visual impacts for residents within Belmor and along 24th Avenue S.

- South 344th Street Alternative: The South 344th Street Alternative would displace the most residences, businesses, employees, and social resources. Similar to the Preferred Alternative, most residential displacements would occur in Belmor. The South 344th Street Alternative would also displace four religious facilities that offer services in multiple languages and serve minority populations. The mainline for the South 344th Street Alternative would cause adverse visual impacts for residents within Belmor and along 24th Avenue S.
- Midway Landfill Alternative: The Midway Landfill Alternative would have the fewest displacements, including no residential or social resource displacements. The extensive site preparation work required for the Midway Landfill Alternative would result in higher volumes of construction traffic for a longer duration, as compared with the other build alternatives, which would affect the adjacent residential community.

OMF South would support the system-wide expansion of Link light rail as called for in Sound Transit 3, including expansion into the south corridor from Federal Way to Tacoma. This would, in turn, improve regional connectivity and mobility and provide a reliable means of transportation for populations reliant on public transit, including low-income and minority populations. While all populations within the project's service area would realize these benefits to the same extent, they could accrue to a higher degree for minority and low-income residents as a primary and affordable means of transportation (American Public Transportation Association 2008; Center for Housing Policy 2006).

Other benefits include enhanced community connectivity for the Preferred Alternative through public space and a multi-use trail integrated into the site design, construction jobs with project labor agreements and a disadvantaged business enterprise program to support hiring minority populations, and the creation of new high-skilled, living-wage jobs to operate the facility. In addition, the increased purchase and sale of goods and services within the community to facilitate construction and the positive economic effects of construction workers' purchases in food and retail within the community could temporarily benefit businesses that are owned by environmental justice populations.

3.6.3.2 Community Engagement

As part of its public engagement efforts during the OMF South scoping period and 2021 SEPA Draft EIS process, Sound Transit conducted a preliminary demographic analysis to identify low-income, minority, and limited-English-proficiency populations. Based on this analysis, Sound Transit used specific strategies to reach those communities during public outreach. As the project moves forward, Sound Transit will continue to engage community leaders, jurisdictions, and social service providers to seek input, assess outreach methods, and identify additional ways to reach low-income, minority, and limited-English-proficiency populations.

3.6.3.3 Environmental Justice Determination

After consideration of the totality of the circumstances, including mitigation, offsetting direct and indirect benefits, and impacts, the net results of the project would not have disproportionate and adverse effects on minority and low-income populations as described under EO 12898, EO 14096, and DOT Order 5610.2C.

3.6.4 Mitigation Measures

In addition to the discipline-specific avoidance and minimization measures described above, no mitigation measures are anticipated.

3.7 Visual and Aesthetic Resources

This section documents the visual environment surrounding the OMF South project alternatives and assesses the extent to which the viewer experience of visual and aesthetic resources may be affected by the project. The analysis assesses the existing visual quality and character of the landscape and then considers how typical viewers may respond to what they see around them. Assessment methods include defining viewsheds from where a build alternative can potentially be seen, characterizing the visual quality in landscape units within the viewshed, and selecting key observation points of the affected areas.

Visual and aesthetic impacts are defined by the extent to which the proposed project would change the environment in terms of visual quality and viewer sensitivity. Sound Transit adapted FHWA and WSDOT guidelines for visual quality analysis, which refers to the evaluation of the visual experience of the public described in terms of vividness (distinctive and memorable views), intactness (consistent or contrasting elements within view), and unity (overall compositional harmony) and is ranked as high, medium, or low. Viewer sensitivity refers to how viewers perceive the environment and what they find important, and is also rated as high, medium, or low.

Landscape units are geographic units in which visual quality impacts to viewers are assessed, are defined both by viewshed area and landscape type, and are generally visually homogenous (i.e., one viewshed and one landscape type). Key observation points were selected within each landscape unit to illustrate views that are typical of the build alternatives, locations from where project features are particularly prominent, or views from sensitive viewpoints that would have views of the operating build alternative. At each key observation point, views of existing conditions are compared with simulated views of the build alternatives.

Please see Appendix H3, Visual and Aesthetic Resources Technical Appendix, for more detail about the methodology and terms used in this analysis.

3.7.1 Affected Environment

This section describes the affected environment for visual and aesthetic resources by landscape unit and by build alternative. There are three landscape units. The first landscape unit is the section of the I-5 corridor and adjacent areas where the mainline and test tracks serving the Preferred and South 344th Street alternatives would be built. The second landscape unit encompasses the OMF sites of the Preferred and South 344th Street alternatives. The third landscape unit encompasses the Midway Landfill Alternative. Table 3.7-1 below lists the landscape units and describes the visual quality rating and viewer groups for each.

Most views of the build alternatives are foreground views from vantages immediately adjacent to the sites and are typically within 400 to 500 feet. Views of the sites from beyond 500 feet and background vantages are mostly blocked by either vegetation, terrain, buildings, or infrastructure. Figures 3.7-1 through 3.7-4 show each build alternative, the associated landscape unit, and the location of the key observation points.

Table 3.7-1 Existing Visual Quality for the OMF South Alternatives

Alternative	Landscape Unit	Vividness	Intactness	Unity	Existing Visual Quality	Predominant Viewer Groups (Sensitivity)
Preferred	Mainline: Landscape Unit 1	Medium	Low to Medium	Medium	Medium	Residential (High) Woodbridge Corporate Park visitors (Medium-high) I-5 Commuting Drivers (Low) I-5 Sightseeing Drivers (High)
Preferred	Site: Landscape Unit 2	Low to Medium	Medium	Medium	Medium	Residential (High) I-5 and SR 99 Commuting Drivers (Low) I-5 and SR 99 Sightseeing Drivers (High) Business Patrons and Workers (Medium) Pedestrians and Cyclists (Medium)
South 344th Street	Mainline: Landscape Unit 1	Medium	Low to Medium	Medium	Medium	Residential (High) Woodbridge Corporate Park visitors (Medium-high) I-5 Drivers (Low) Sightseeing Drivers (High)
South 344th Street	Site: Landscape Unit 2	Low to Medium	Low to Medium	Low to Medium	Low to Medium	Residential (High) I-5 and SR 99 Commuting Drivers (Low) I-5 and SR 99 Sightseeing Drivers (High) Business Patrons and Workers (Medium) Pedestrians and Cyclists (Medium)
Midway Landfill	Site: Landscape Unit 3	Medium	Low to Medium	Low to Medium	Medium	Residential (High) I-5 and SR 99 Commuting Drivers (Low) I-5 and SR 99 Sightseeing Drivers (High) Business Patrons and Workers (Low to Medium) Pedestrians and Cyclists (Medium)

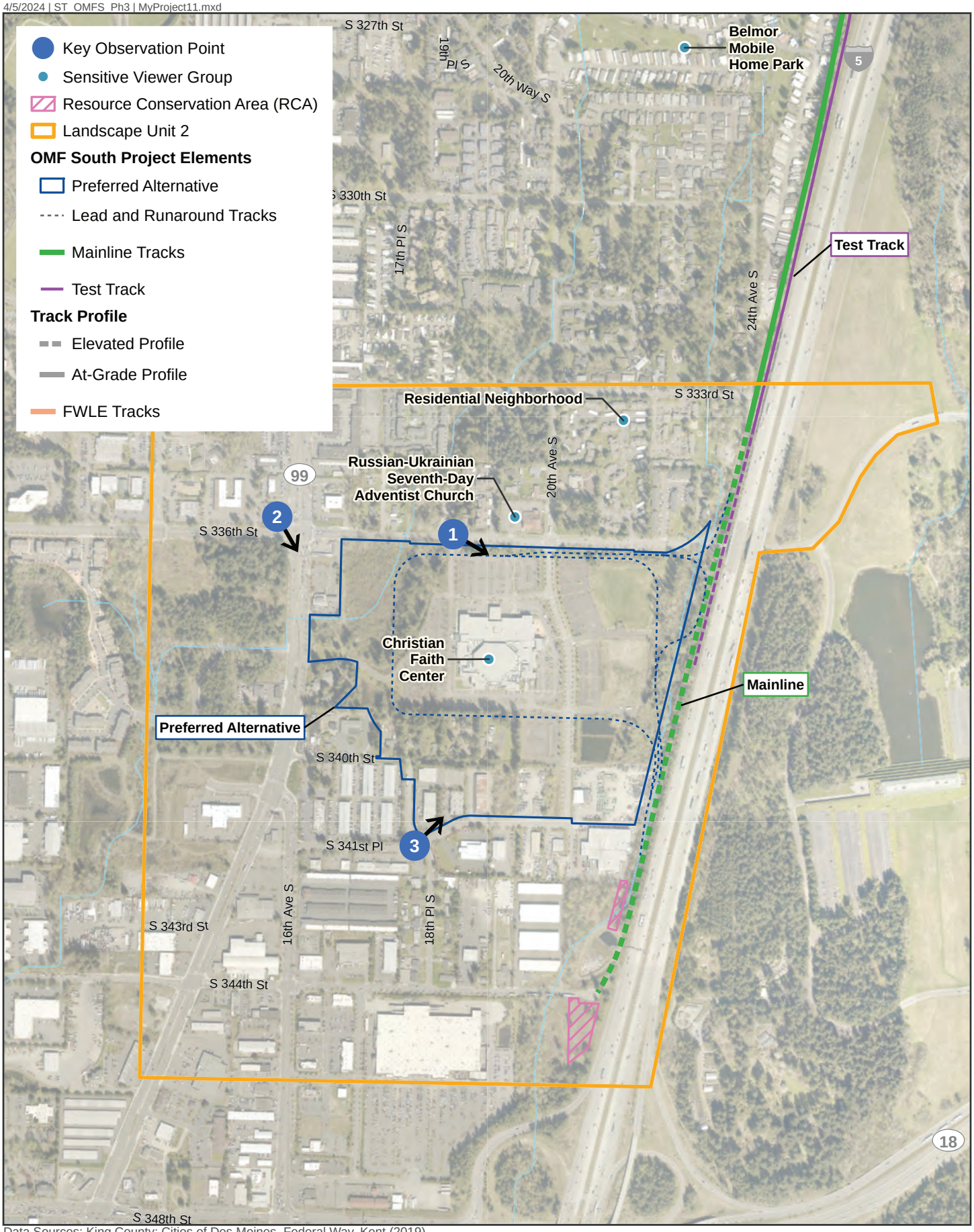
Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

FIGURE 3.7-1
Visual Conditions and Key Observation Points
Mainline Track Options

OMF South



Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

FIGURE 3.7-2
Visual Conditions and Key Observation Points
Preferred Alternative

OMF South

Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

FIGURE 3.7-3
Visual Conditions and Key Observation Points
South 344th Street Alternative

OMF South

Data Sources: King County; Cities of Des Moines, Federal Way, Kent (2019).

N

0 500 1,000 Feet

FIGURE 3.7-4
Visual Conditions and Key Observation Points
Midway Landfill Alternative

OMF South

3.7.1.1 Mainline Tracks

Landscape Unit 1 encompasses the mainline alignments that would connect the Preferred and South 344th Street alternatives to the terminus of FWLE, including the tail tracks and test track (Figure 3.7-1). This area is well south of and separate from the Midway Landfill Alternative and shares adjacency with the Preferred and the South 344th Street alternatives. However, the visual character of the mainline study area is unique and distinct from that of the OMF sites.

The northern portion of Landscape Unit 1 is near the future Federal Way Downtown Station and includes the Federal Way downtown area, the Federal Way Performing Arts Center, The Commons at Federal Way shopping center, and the Federal Way/S 320th Street Park & Ride. The central portion includes residential areas, including Belmor, a 63-acre mobile home park for adults 55 years and older that contains over 300 mobile home units and a nine-hole golf course located south of S 324th Street, and the visually prominent BPA transmission line towers. The southern portion of this area extends south of S 348th Street and includes the I-5/SR 18 interchange and a shopping center with big-box and medium-scale retail shops.

Belmor residents are high-sensitivity viewers. Relatively unobstructed views of Mount Rainier can be seen from locations in Belmor. The residents between Belmor and S 336th Street would have high visual sensitivity as well, with views of mature trees within and surrounding the neighborhood. The vividness and unity ratings of Landscape Unit 1 are medium, and intactness is rated low to medium.

I-5 runs adjacent to the proposed mainline. The mature vegetation along the edge of I-5 serves as a backdrop for many adjacent neighborhoods that, along with noise walls in some locations, provides a visual barrier to the freeway and provides natural beauty along the highway for the traveling public. Where I-5 can be seen from adjacent areas, its presence influences the character of adjacent land uses and the visual quality of surrounding areas.

The southern tail track alignments extend to S 348th Street at the I-5/SR 18 interchange. This area includes two WSDOT-designated RCAs and is bordered by the I-5/SR 18 interchange on the east and south and a retail store parking lot on the west (Figure 3.7-4). The northernmost of the two RCAs is approximately 0.3 acre and is covered in mature native trees. The second area, 500 feet to the south, is approximately 1 acre and is primarily covered in Himalayan blackberry, with just a few trees. Both are seen as a green background for travelers on I-5 and for visitors to the stores to the west.

Lighting within the landscape unit varies from the higher levels of commercial and streetscape lighting in the Federal Way Downtown area to more the subdued neighborhood lighting in Belmor to the I-5 corridor, which is continuously illuminated from high-mast overhead lighting.

3.7.1.2 Preferred Alternative

The Preferred Alternative is located within Landscape Unit 2, which encompasses the combined areas of the Preferred and South 344th Street alternative OMF sites and their surroundings. Landscape Unit 2 is defined by residential uses to the north, a commercial business district to the south, retail businesses and residential and light industrial land uses to the west, and I-5 to the east (Figure 3.7-2). The OMF site itself is bounded on the north by S 336th Street, with residential areas beyond, and to the east by the I-5 corridor, which is lined with mature conifer trees. The site is bounded on the west by SR 99 and commercial properties. To the south, the site borders S 340th Street and S 341st Place and a mix of warehouses, light industrial land uses, and residential properties.

The site is primarily occupied by the approximately 55-foot-tall building for the Christian Faith Center church, with surrounding surface-level parking west of 20th Avenue S, and overflow parking lots, a soccer field, and open areas east of 20th Avenue S. Given the mix of visual character elements of parking areas, landscaping, and more natural perimeter vegetation along with the building scale, the Christian Faith Center campus has medium visual intactness and unity. The southern portion of the site, with a mix of building forms, scales, and uses, has a lower level of unity and intactness. Overall views in the area lack vividness, and the overall visual quality is medium.

Lighting visible within the study area consists of exterior lighting for the Christian Faith Center parking areas; limited interior lighting and street lighting associated with residential areas to the north and commercial areas to the south of the site; and high-mast lighting on I-5 to the east of the site that is somewhat obscured by mature vegetation next to the interstate.

Viewers of the OMF site include nearby residents in surrounding neighborhoods; patrons and workers at nearby commercial and industrial establishments; motorists, pedestrians, and cyclists using nearby streets; and motorists driving on I-5.

3.7.1.3 South 344th Street Alternative

The South 344th Street Alternative partially overlaps with the Preferred Alternative within Landscape Unit 2 (Figure 3.7-3). A portion of the OMF site extends north to S 336th Street, with residential areas beyond, and to 20th Avenue S on the west, with the Christian Faith Center building and parking areas beyond. The entire site is bordered on the east by the I-5 corridor, which is lined on both sides with mature conifer trees, and the southern boundary of the site is defined by S 344th Street and commercial uses beyond. The majority of the proposed OMF site is south of the Christian Faith Center and includes two residential streets with approximately 20 residences. The remainder of the southern area is occupied with various office and warehouse light industrial buildings and associated surface-level parking, bounded on the west by warehouse and light industrial properties.

The northern portion of the site, which covers the Christian Faith Center campus property east of 20th Avenue S, is visually open and uncluttered and therefore has a medium level of intactness and unity. The main southern portion of the site contains a mix of building forms and uses and has a lower level of unity and intactness. Overall views in the area lack vividness, and the overall visual quality is medium to low.

As with the Preferred Alternative, lighting visible within the study area consists of exterior lighting for the Christian Faith Center parking areas and high-mast lighting on I-5 to the east. Due to its proximity to the commercial areas to the south, the South 344th Street Alternative is subject to higher lighting levels as compared to the Preferred Alternative.

Viewers of the OMF South alternative site include nearby residents in surrounding neighborhoods; patrons and workers at nearby commercial and industrial establishments; motorists, pedestrians, and cyclists using nearby streets; and motorists driving on I-5.

3.7.1.4 Midway Landfill Alternative

Within Landscape Unit 3, the Midway Landfill Alternative OMF site is bordered to the north by S 244th Street and the Midway RV and Mobile Home Park. I-5 borders the site on the east, with a continuous vegetative buffer east of the interstate screening views of the project site from residential neighborhoods to the east of I-5. To the south, the site is bordered by S 252nd Street, a residential neighborhood, and a large superstore to the southwest. SR 99 and

automobile-dependent businesses with parking areas, including hotels, restaurants, auto mechanics, and other small commercial uses in strip mall developments, border the site to the west. Residential neighborhoods lie further west beyond the SR 99 commercial zone.

The site itself is a closed landfill and stands out as distinct from surrounding areas with an open, gently rolling landscape covered in tall grass. Gravel access roads and landfill gas collection piping crisscross the site, and a stormwater detention pond is located on the northern part of the property. Observed on its own, the site would be rated a higher visual quality, with uniform fields providing higher vividness, intactness, and unity and a different visual character from its surroundings, which are mainly developed. But as seen by most viewers, including the more sensitive residential viewers to the north and south, views include a mix of on-site and off-site built and natural elements that give the broader landscape unit medium vividness and low to medium visual intactness and unity.

Lighting within the study area consists of limited exterior lighting for the landfill operations area in the northwest corner of the site, lighting for businesses adjacent to and roadway lighting on SR 99, interior and exterior lighting and street lighting associated with residential areas to the north and south of the site, and high-mast lighting on I-5 to the east.

The view on both sides of I-5 within Landscape Unit 3 is of mature, mainly native mixed forest dominated by conifer trees with some open, tall grass areas, including the Midway Landfill. The view on the west side includes the FWLE mainline in places. For motorists and passengers traveling through the corridor, the vegetation and open grass areas provide for a pleasant backdrop with higher visual intactness and unity. The mature vegetation along the edge of I-5 serves as a backdrop for many adjacent neighborhoods that, along with noise walls in some locations, provides a visual barrier to the freeway. Where I-5 can be seen from adjacent areas, its presence influences the character of adjacent land uses and the visual quality of surrounding areas.

3.7.2 Environmental Impacts

3.7.2.1 No-Build Alternative

Under the No-Build Alternative, impacts to visual and aesthetic resources from construction or operation of OMF South would not occur. However, other planned projects would have impacts in the OMF South study areas. For example, the construction of the elevated mainline tracks associated with FWLE has affected visual resources in the Midway Landfill Alternative study area to the east of the landfill, next to I-5, and through removal of some mature vegetation that screens views of I-5 south of the landfill. In addition, the proposed build alignments for TDLE overlap with the OMF South Preferred and South 344th Street alternatives. If TDLE is constructed as proposed, the mainline track associated with these OMF alternatives would be built later in time. Impacts associated with construction of the mainline track are addressed within the build alternatives impacts discussion below. All other TDLE-related impacts are addressed in Chapter 4, Cumulative Effects Analysis.

3.7.2.2 Long-Term Impacts

This section qualitatively assesses the level of visual change and visual quality for each landscape unit that could occur as a result of OMF South, based on simulations that were prepared for this assessment. The simulations use photographs of existing views from key locations from around each build alternative and show proposed conceptual designs. Building, wall, and landscaping details would be determined in the final design phase.

Visual impacts are defined as a change from a higher visual quality to a lower visual quality where sensitive viewers have exposure to the view. The following criteria are used to characterize the degree of visual quality change from existing conditions in terms of changes in the elements of vividness, intactness, and unity.

- **High change and impact to visual quality** would remove existing features and/or introduce visually prominent features that alter the visual character of the area for sensitive viewers with exposure to the change. High visual change could have high, medium, or low visual impact, depending on the level of sensitivity and exposure of viewers effected.
- **Medium change and impact to visual quality** would alter visual features but not in a way that would be perceived as intrusive or incompatible by most viewers, and it would not substantially change intactness and visual unity. Medium visual change would have medium or low visual impact, depending on the level of sensitivity and exposure of viewers effected.
- **Low change and impact to visual quality** generally includes relatively minor new features or relatively minor alteration of existing features, such as vegetation cover. Low visual change would generally have low visual impact, depending on affected viewers.

Impacts Common to All Build Alternatives

All the build alternatives would add new at-grade buildings, elevated light rail track, overhead catenary wires, at-grade parking lots and access roads, as well as tree and shrub landscape plantings and fences around the perimeter with limited-access gates. On-site lighting would be as prominent or more prominent than existing lighting at the alternative sites; however, light sources would be shielded to control glare and light escaping from the site.

Mainline Tracks

Viewers of the mainline and test tracks include residents at Belmor and residential neighborhoods to the south of Belmor (high-sensitivity viewers), sightseeing drivers on I-5 (high-sensitivity viewers), commuting drivers on I-5 (low-sensitivity viewers), and patrons and employees of businesses (low-sensitivity viewers). The test track would be at the same level as the mainline tracks and generally follow the same alignment. Figures 3.7-5 through 3.7-8 show visual simulations of the proposed facility from three key observation points along the mainline tracks.

Figure 3.7-5 represents the view Belmor residents would have of the 40 mph Alignment and 55 mph Design Option for the mainline tracks. The mainline and test tracks would connect to the Preferred and South 344th Street alternative OMF sites roughly 0.75 mile south of this location. The elevated mainline and test tracks would have a high impact on the visual intactness, unity, and vividness of this view for the high-sensitivity viewers at Belmor. Residents would have views of the elevated mainline and test tracks due to their height, with views of the test track facility east of the track. Plantings to screen views of the mainline would not be possible due to the clear zones required around the tracks.

Existing Condition

Simulation of Mainline with 40 mph Alignment

Existing Condition

Simulation of Mainline with 55 mph Design Option

Figure 3.7-5 Mainline Tracks Key Observation Point 1

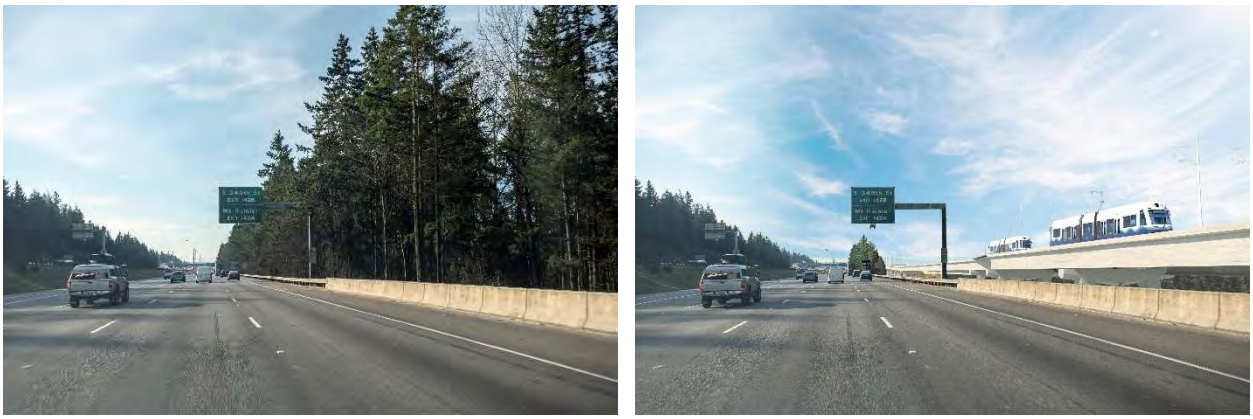
Figure 3.7-6 shows the retaining wall supporting the mainline tracks looking north from the intersection of S 333rd Street and 24th Ave S. The existing mix of mature conifer and deciduous trees provide a naturalistic visual screen combined with an existing noise wall to block views of I-5. The clearing of vegetation and construction of walls for the elevated mainline and test tracks would have a high impact on the visual intactness of this view for high-sensitivity viewers west of 24th Ave S. Vegetation would be added to provide visual screening of the mainline in this area but would not fully obscure the mainline.

Existing Condition

Simulation of Proposed Conditions approximately 10 years after planting

Figure 3.7-6 Mainline Tracks Key Observation Point 2

Figure 3.7-7 presents the driver viewpoint looking southwest on southbound I-5. The Preferred and South 344th Street Alternative OMF sites would be just out of sight to the right of this view, where the grade drops down west of the interstate. The mainline tracks would have a high impact on the visual intactness, unity, and vividness of this view for lower-sensitivity commuting viewers and high-sensitivity sightseeing viewers traveling I-5. The potential exists to retain vegetation west of the elevated mainline tracks in this view and to plant new trees along portions of the alignment; however, retained and new vegetation would not be very visible in this view because it would be on the opposite side and downslope from the mainline tracks.



Existing Condition *Simulation of Proposed Conditions*

Figure 3.7-7 Mainline Tracks Key Observation Point 3

Figure 3.7-8 captures the driver viewpoint looking northwest at the rendering of the mainline tracks and facility from the entrance ramp where westbound SR 18 merges onto northbound I-5. The South 344th Street Alternative OMF site is behind the trees on the other side of I-5. Building detail will be determined during the final design phase. This view looks directly toward two RCAs, some trees visible in this view would be impacted by the project. The project would have a low to medium impact on the visual intactness, unity, and vividness of this view for low-sensitivity commuting viewers and high-sensitivity viewers traveling I-5.

Existing Condition *Simulation of Proposed Conditions*

Figure 3.7-8 Mainline Tracks Key Observation Point 4

Summary of Mainline Track Impacts

Overall the mainline would result in a high impact to visual quality. Construction of the mainline would displace a number of mobile homes along the eastern portion of Belmor and require the removal of trees and vegetation within the clear zone of the tracks. The elevated mainline and test tracks would have a high impact for the high-sensitivity viewers at Belmor from their homes and when using the private golf course. Depending on final design clearing requirements, the mainline would also have a high impact for the high-sensitivity residential viewers living on the west side of 24th Avenue S and the residential communities between Belmor and the existing Christian Faith Center.

The removal of vegetation along I-5 for the mainline would have a lesser impact to high-sensitivity sightseeing travelers and lower-sensitivity commuters along I-5.

Preferred Alternative

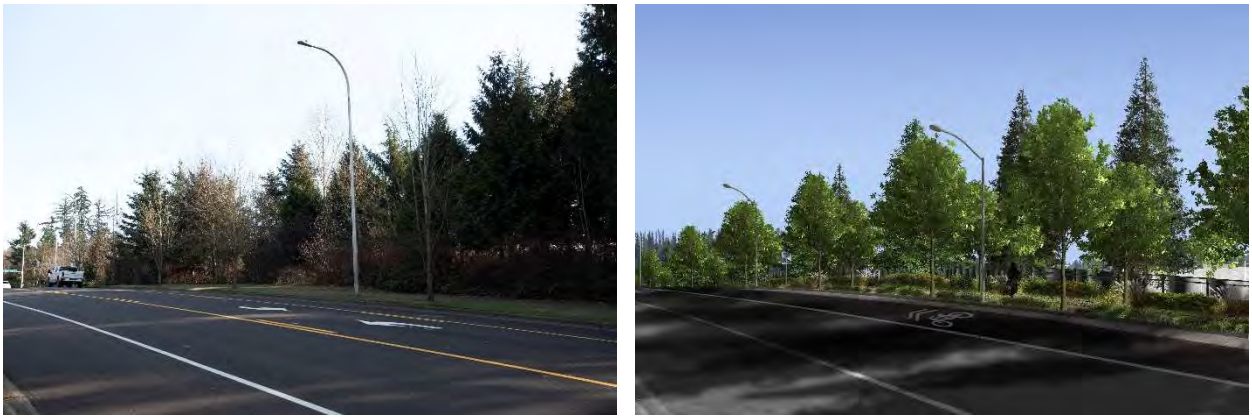
Viewers of the Preferred Alternative site include residents to the north of the site (high-sensitivity viewers), visitors to and employees of the Russian-Ukrainian Seventh-Day Adventist Church (medium-sensitivity viewers), sightseeing drivers on I-5 (high-sensitivity viewers), commuters on I-5 (low-sensitivity viewers), and patrons and employees of nearby businesses to the south and southwest of the site (low-sensitivity viewers).

The project would remove the landscaping in the parking areas for the Christian Faith Center and street trees and all landscaping along 20th Avenue S, as well as mature trees and much of the vegetation around the perimeter of the site. The north side of the site would have two existing driveways removed and replaced with a pathway and landscaped vegetation, trees, and other improvements along the roadway frontage. The current drive entry on SR 99 would be removed and replaced with landscaping. Mature trees and vegetation would be cleared in order to extend 18th Place S northward to connect to S 336th Street and extend 21st Avenue S southward to connect to S 344th Street. Residences, mature trees, and landscaping on the properties south of the Christian Faith Center would be removed to support future site improvements. Open space and fields east of 20th Avenue S would also be removed.

Lead tracks would be contained within the Preferred Alternative OMF site boundary, except for a small segment of track that would pass over S 336th Street to connect with mainline tracks near I-5. Lead tracks on the southern end of the site would also be mostly contained within the site boundary, with a small segment passing over vacant and industrial parcels. These changes would not lead to additional visual impacts beyond those listed above under Impacts Common to All Build Alternatives and Mainline Tracks. Additionally, one RCA in the study area would be impacted by the alignments for the mainline tail tracks in the area northwest of the I-5/SR 18 interchange (see Figure 3.7-1). The tail tracks would be built adjacent to the eastern boundary of the RCA, which could impact some vegetation.

Figures 3.7-9 through 3.7-11 show visual simulations of the proposed facility from three key observation points around the site. In general, visual impacts would be highest immediately following construction and, in areas where there is landscaping, would lessen over time as vegetation grows.

Figure 3.7-9 captures the view of the facility along S 336th Street, looking southeast from across the street. This represents the site as it would be seen by viewers in residences north of the site who would have a high sensitivity to change to this view. While existing trees and shrubs would be removed, new street trees and frontage improvements along the perimeter of the site and vegetation planted within the proposed site would grow over time and reduce impacts. Views of the storage tracks on the north end of the site would be screened by landscaping and frontage improvements along S 336th Street and the differing grades of roadway and site. OMF buildings would be in the center of the site and would not be prominent in views from S 336th Street. The result would be a medium impact to visual intactness and unity for views from this location.



Existing Condition

Simulation of Proposed Conditions approximately 10 years after planting

Figure 3.7-9 Preferred Alternative Key Observation Point 1

Figure 3.7-10 shows a shared pedestrian and driver viewpoint looking southwest toward the site from the corner of SR 99 and S 336th Street. The removal of tall conifer trees will be apparent from this location; however, site development features, including the extension of 18th Place S, retaining walls, and buildings, will be partially obscured by existing vegetation. New street trees and site landscaping as seen from this view would, over time, grow and further screen views of the site development resulting in a low to medium visual change from this location for low to medium sensitivity viewers, who are mainly drivers and nonmotorized users along SR 99.

Existing Condition

Simulation of Proposed Conditions approximately 10 years after planting

Figure 3.7-10 Preferred Alternative Key Observation Point 2

Figure 3.7-11 represents the driver and pedestrian viewpoint looking northeast toward the entrance of the site from S 341st Street near the intersection with 18th Place S. Buildings and site development visible in this view would be similar in scale and character to existing commercial buildings. Streetscape and site landscaping would, over time, grow and screen site development to a similar degree as the existing trees and landscaping. Visual change would be minimal from this observation point for medium and higher sensitivity viewers.

Existing Condition

Simulation of Proposed Conditions approximately 10 years after planting

Figure 3.7-11 Preferred Alternative Key Observation Point 3

Summary of Preferred Alternative Impacts

Overall, the Preferred Alternative would result in a medium impact to visual quality. Visual features would be altered in a way that could be perceived as intrusive or incompatible for a medium change to visual quality and impact for higher-sensitivity residential viewers to the north. However, alterations to visual features to the south and west would not substantially change intactness and visual unity with surroundings and would largely maintain consistency with existing conditions.

The Preferred Alternative would also result in visual impacts associated with the mainline, as described above.

South 344th Street Alternative

Viewers of the South 344th Street Alternative include residents to the north (high-sensitivity viewers), visitors and employees of the Christian Faith Center and the Russian-Ukrainian Seventh-Day Adventist Church (medium-sensitivity viewers), sightseeing drivers on I-5 (high-sensitivity viewers), and commuters on I-5 (low-sensitivity viewers). Other viewers include residents of two properties directly west of the site (high-sensitivity viewers) and patrons and employees of businesses to the south and west of the proposed alternative site (low-sensitivity viewers).

The visual impacts from the mainline and test tracks would be the same as those of the Preferred Alternative at the north end of the site. Additionally, the two RCAs in the study area would be impacted by either of the alignments for the mainline tail tracks in the area northwest of the I-5/SR 18 interchange (see Figure 3.7-1). The tail tracks would be built adjacent to the eastern boundary of the northernmost RCA, which could impact some vegetation, and pass directly through and partially impact the southernmost RCA.

Site development would result in a low degree of visual quality change compared with the existing commercial area, which has built elements and buildings of similar scale to those that surround the site to the south and southwest. Site development in the northern portion of the site would replace parking and open areas with new structures in proximity to residential viewers north of S 336th Street and to visitors and employees of the Christian Faith Center and the Russian-Ukrainian Seventh-Day Adventist Church. The increased scale of development in this area would result in a medium degree of change.

Lead tracks would be contained within the South 344th Street Alternative OMF site and would require clearing of some mature vegetation along I-5. Therefore, the OMF site would have visual impacts for low-sensitivity viewers from I-5 beyond those listed above under Impacts Common to All Build Alternatives.

Figures 3.7-12 through 3.7-15 show visual simulations of the proposed facility from three key observation points around the OMF site.

Figure 3.7-12 represents the driver viewpoint looking southeast from S 336th Street and 20th Avenue S from the opposite side of the street from the facility. This view represents the site as it would be seen by viewers in residences north of the site who would have a high sensitivity to change to this view. Architectural design and façade treatments on the buildings would reduce visual massing of those structures, and retention of existing or new vegetation planted around the site perimeter and nearer to the proposed on-site structures would screen and mitigate impacts to these views. Together this would result in a low impact to visual intactness and unity for views from this location.

Existing Condition

Simulation of Proposed Conditions

Figure 3.7-12 South 344th Street Alternative Key Observation Point 1

Figure 3.7-13 shows the pedestrian viewpoint of OMF South looking east from the east entrance to the Christian Faith Center. Views for congregants and employees of the Christian Faith Center would include new buildings and fencing. The presence of the proposed OMF buildings and fencing would result in a high degree of change in visual intactness, vividness, and unity for this view. However, new vegetation planted around the site perimeter and nearer to the proposed on-site structures would over time grow to screen and reduce impacts resulting in a medium to high visual impact for the medium sensitivity viewers at this location.

Existing Condition

Simulation of Proposed Conditions

Figure 3.7-13 South 344th Street Alternative Key Observation Point 2

Figure 3.7-14 presents a rendering of OMF South looking east on S 341st Place from the driver viewpoint. Changes to the site entrance would result in low visual changes as seen by low- to medium-sensitivity viewers, who are mainly drivers and nonmotorized users along on S 341st Place.

Existing Condition

Simulation of Proposed Conditions

Figure 3.7-14 South 344th Street Alternative Key Observation Point 3

Summary of South 344th Street Alternative Impacts

Overall, the South 344th Street Alternative would result in a medium impact to visual quality because of the increased scale of constructed features. The customers and employees (medium-sensitivity viewers) and residents (high-sensitivity viewers) next to the southern portion of the site would experience a low degree of change. The residents and church visitors to the north of the site would have views similar to what they have now, given that existing vegetation would be retained, and new trees and shrubs would be planted to provide a vegetative screen along S 336th Street. Views from the Christian Faith Center would include new buildings and fencing. Impacts to these views would be reduced over time with vegetative screening, such as the planting of trees and shrubs. Like the Preferred Alternative, views from I-5 under the South 344th Street Alternative would be affected by vegetation removal.

The South 344th Street Alternative would also result in visual impacts associated with the mainline, as described above.

Midway Landfill Alternative

The primary viewers of the Midway Landfill Alternative OMF site include the residents in the neighborhood south of the site and residents of the Midway RV and Mobile Home Park north of the site (high-sensitivity viewers), sightseeing drivers (high-sensitivity viewers), and commuting drivers on I-5 and SR 99 (lower-sensitivity viewers). Other viewers include patrons and employees of businesses along SR 99, pedestrians, and cyclists — all of whom are considered to have medium or low viewer sensitivity.

The proposed facility would introduce prominent buildings and retaining wall structures. Retaining walls are needed to create the level areas required for operations on this sloping site. This would constitute a high degree of change when compared with existing conditions; however, the resulting development would not be drastically out of character with the visual character of the broader landscape unit east and west of the site.

Lead tracks would be seen by residential neighbors in the mobile home park to the north as well as by nearby residents in the neighborhood to the south. The lead tracks would appear somewhat closer to viewers than the mainline tracks. However, they would be at essentially the same elevations and, therefore, should not appear distinct or prominent separate from the mainline tracks.

Figures 3.7-15 through 3.7-18 show visual simulations of the proposed facility from four key observation points around the site.

Figure 3.7-15 provides an approximation of the residential view looking south from the Midway RV and Mobile Home Park across the stormwater detention pond to the OMF site. The photographer was unable to access the mobile home park, so this picture was taken from the northern edge of the landfill property. An existing fence and tree line that separate the landfill and the mobile home park are not visible because they are located directly behind the photographer in this view.

Existing Condition *Simulation of Proposed Conditions*

Figure 3.7-15 Midway Landfill Alternative Key Observation Point 1

The residential viewers to the north of the site would have a high sensitivity to changes, and the proposed retaining walls for the site development would result in a medium to high degree of change to visual intactness, vividness, and unity in this view. However, the retention of the existing fence and vegetation along the property boundary would provide foreground visual screening. New landscaping around the site perimeter and near the proposed on-site structures would further screen and mitigate impacts to these views. Viewers would be over 300 feet from

the wall, which would lower the wall's visual prominence. Together this would result in a low to medium visual impact for views from this location.

Figure 3.7-16 presents the pedestrian and driver views of the facility and wall from the corner of S 248th Street and SR 99, looking east. Views of the site from SR 99 by low- to medium-sensitivity viewers are the most prominent due to the lack of vegetation. The proposed retaining walls and visible elements beyond would result in a medium to high degree of change to visual intactness and unity in this view. Views of the wall seen in the simulation would be enhanced with aesthetic treatments to the wall surface as well as with tree and shrub plantings to screen the view of the wall. This would result in a low to medium level of impact.

Existing Condition *Simulation of Proposed Conditions*

Figure 3.7-16 Midway Landfill Alternative Key Observation Point 2

Figure 3.7-17 represents the facility building and wall that a driver would see looking northwest as they drive northbound on I-5. Travelers on I-5, which include both lower-sensitivity commuting viewers and high-sensitivity sightseeing viewers, would experience a medium to high degree of change to visual intactness and unity in this view. Visual change may be tempered somewhat by the presence of the FWLE mainline tracks in the foreground.

Existing Condition *Simulation of Proposed Conditions*

Figure 3.7-17 Midway Landfill Alternative Key Observation Point 3

Figure 3.7-18 shows the view from the closest houses in the residential neighborhood just south of the Midway Landfill. This photo was taken in the middle of S 252nd Street, at the intersection of 30th Avenue S, looking north. Residential viewers to the south of the site would have a high sensitivity to changes. But retention of some existing screening vegetation and planting of new screening vegetation would mitigate visual impacts from changes to the site perimeter adjacent to the residents as well as from the OMF buildings that would be over 500 feet in the distance. This would result in a low to medium visual impact to visual intactness and unity for these areas. Shielding of light sources would be used to control glare and light escaping from the site.

Existing Condition *Simulation of Proposed Conditions*

Figure 3.7-18 Midway Landfill Alternative Key Observation Point 4

Summary of Midway Landfill Alternative Impacts

Overall, the Midway Landfill Alternative would result in a medium impact to visual quality. Visual features would be altered in a way that could be perceived as intrusive or incompatible by higher-sensitivity residential viewers to the north and south, but they would not substantially change intactness and visual unity with surroundings as seen by the lower-sensitivity viewers to the west along SR 99. The preservation of existing vegetative screening in combination with the planting of new trees and shrubs would cause the residents to the north and south of the site (as sensitive viewers) to have similar views of the Midway Landfill Alternative as before the project. The views from I-5 of the Midway Landfill Alternative would affect both lower-sensitivity commuting viewers and high-sensitivity sightseeing viewers but would be somewhat obscured by the FWLE mainline tracks in the foreground.

3.7.2.3 Construction Impacts

There would be temporary visual impacts due to construction for the viewer groups identified for each build alternative. Construction would last approximately 3.5 years for the Preferred and South 344th Street alternatives and up to approximately 8.5 years for the Midway Landfill Alternative. While visual impacts from construction of the Midway Landfill Alternative would potentially be longer in duration, the nature of the impacts would be the same as for the other sites. The existing visual character and form of the site would be altered due to the removal of existing structures; vegetation, including trees and shrubs; and roads.

The construction site would include staging areas; reserves of building materials; fencing; lighting; large vehicles or pieces of equipment, such as cranes, dump trucks, scaffolding, bulldozers, or excavators; and detours or temporary roads. Other large vehicles could move to and from the site. The visual impact of construction would be a temporary decrease in visual quality, typical for a large construction project. Where practical, Sound Transit would place

construction screens or barriers to limit the visibility of work areas from sensitive viewers, such as nearby residents. If necessary, Sound Transit would reduce the glare during nighttime construction by shielding light sources.

3.7.2.4 Avoidance and Minimization of Impacts

When developing the OMF South build alternatives during conceptual design, Sound Transit worked to minimize the elevation or height of structures to avoid and minimize potential visual impacts, including incorporating at-grade track profiles where practicable. Early conceptual design also considered where mainline track alignments could avoid or reduce acquisitions and clearing of right-of-way where the project would be near or in existing arterial and highway rights-of-way or utility corridors.

Each alternative site's context varies with the surrounding community, with the influence of comprehensive plans and zoning, and with development standards that govern building setbacks, heights and massing, landscaping, facade treatment, and urban design character. The project designers would consider site context and adhere to the landscape guidelines in Sound Transit's Design Criteria Manual. Context-sensitive design measures would be developed and refined during final design with input from the affected communities and cities and could include the following items:

- Preservation of existing vegetation and addition of new vegetation and street frontage improvements, where possible.
- Adherence to required design standards, guidelines, and design review processes for Federal Way, Kent, and WSDOT, as applicable, to promote visual unity in treatments at the site and along corridors. Landscaping treatments would be used to enhance the visual character of the build alternative at the perimeter of the site. Streetscape elements, such as sidewalks, street trees, and other aesthetic features, would be added along adjacent frontage streets. These measures would help maintain the local character, improve aesthetics, and reduce the visual scale of the proposed project.
- Architectural treatment of buildings, including varying materials and articulation of the building façade to minimize visual massing, provide visual interest, and reduce scale, in accordance with the Federal Way Revised Code.
- Design treatment of retaining walls, such as texture, pattern, color, and screening vegetation, where practical.
- Preparation of a Roadside Master Plan in accordance with WSDOT guidelines for the portion of the route within I-5 right-of-way and RCAs.
- Design of exterior lighting at the OMF site to minimize height and use of source shielding to avoid direct visibility of luminaires (bulbs) from residential areas, streets, and highways. Shielding would also limit spillover light and glare in residential areas.
- Replacement of trees removed for the project in accordance with tree-replacement requirements for Federal Way, Kent, and WSDOT to meet minimum replacement ratios. Some of these requirements encourage native species for the ecosystem benefit and the planting of younger trees because of the higher likelihood for survival as compared with transplanting more mature, larger trees.

It is important to note that, even when using larger or faster-growing trees or plants, it can take 15 to 20 years for the plants to grow large enough to screen large facilities such as elevated

structures, buildings, or retaining walls. As a result, some visual impacts may not be able to be immediately avoided or minimized.

3.7.2.5 Indirect Impacts

No indirect impacts related to visual and aesthetic resources would result from construction and operation of the proposed project.

3.7.3 Mitigation Measures

In addition to the avoidance and minimization measures considered during the development of the design and in place during construction, mitigation measures would be implemented in areas near residences and other areas with sensitive viewers, where appropriate, to reduce impacts. Where possible, Sound Transit would place construction screens and/or barriers to limit the visibility of work areas where they are adjacent to visually sensitive receivers.

Sound Transit would refine the mitigation measures as the project design is further developed and feedback from reviewing agencies and the public is received. Most of the potential mitigation measures for visual impacts are related to the use of landscaping, berms, and aesthetic treatments to help screen views of the mainline and test tracks, OMF site, or other project components. Mitigation measures would be compatible with Sound Transit's maintenance and operations requirements, which include long-term maintenance, safety, and security considerations.

Depending on the alternative selected, mitigation measures would include the following:

1. In areas adjacent to residents, where there is adequate space, add on-site landscaping adjacent to residential areas to help screen views of project components while ensuring safety and security.
2. In areas adjacent to residences where not enough room exists for landscaping to screen views of retaining or noise walls, or in addition to landscaping under Mitigation Measure 1, Sound Transit would treat the walls with visually interesting elements, such as design treatments that incorporate textures, patterns, color, or climbing vines.
3. Within the WSDOT right-of-way, Sound Transit would consult with WSDOT to develop appropriate site-specific measures for roadside vegetated areas and mitigate the conversion of these areas to right-of-way with replacement property or with other measures agreed to by WSDOT and FHWA, consistent with the WSDOT Roadside Policy Manual (WSDOT 2022). The manual describes the extent of mitigation required for lost vegetation, vegetation types, and tree replacement ratios, including irrigation requirements and plant establishment criteria. Replacement parcels would meet the intended function of the original RCA.

Table 3.7-2 shows the primary locations where impacts would be mitigated for higher sensitivity viewers, depending on the alternative selected:

Table 3.7-2 Mitigation for Impacts to Visual and Aesthetic Resources

Landscape Unit and Alternative	Location	Mitigation Measure(s)	Notes
Landscape Unit 1, Mainline, Preferred and South 344th Street Alternatives	West side of the mainline through Belmor	Mitigation Measure 1 Mitigation Measure 2	Mitigation Measure 1 would add, where possible, trees and vegetation adjacent to the mainline and between columns to help screen views of the tracks for sensitive viewers within the Belmor residential area. In addition to Mitigation Measure 1, Mitigation Measure 2 would incorporate architectural treatments to project components such as walls and fencing to help soften views and add visual interest. Landscaping and architectural treatment would be designed to add human scale elements.
Landscape Unit 1, Mainline, Preferred and South 344th Street Alternatives	West side of the mainline along 24th Avenue S	Mitigation Measure 1 Mitigation Measure 2	These measures would add new vegetation to provide screening, where possible, or architectural treatments to walls to soften views and add visual interest. Both measures address the loss of vegetation and the introduction of guideway retaining walls for sensitive viewers living along 24th Avenue S. Landscaping an architectural treatment would be designed to add human scale elements.
Landscape Unit 1, Mainline, Preferred and South 344th Street Alternatives	Within WSDOT right-of-way adjacent to I-5	Mitigation Measure 3	This measure would mitigate the loss of vegetation in WSDOT right-of-way.
Landscape Unit 1, Mainline, Preferred and South 344th Street Alternative	RCAs adjacent to I-5	Mitigation Measure 3	Sound Transit would consult with WSDOT staff to develop appropriate site-specific and off-site mitigation measures to address impacts to RCA areas.
Landscape Unit 2, Preferred Alternative	Along South 336th Street adjacent to OMF South site	Mitigation Measure 1	This measure would add trees and other vegetation to provide screening to address the loss of mature trees and the introduction of OMF site buildings and structures for sensitive residential viewers on the north side of S 336th Street.
Landscape Unit 2, South 344th Street Alternative	OMF site frontage west of Christian Faith Center	Mitigation Measure 1	This measure would add new trees and other vegetation to address vegetation loss and introduction of OMF site buildings and fencing for sensitive viewers at the church.
Landscape Unit 3, Midway Landfill Alternative	Within northern portion of the site, surrounding buildings	Mitigation Measure 1	This measure would enhance the screening of OMF buildings for sensitive residential viewers to the north of the site.
Landscape Unit 3, Midway Landfill Alternative	Along southern border of OMF site	Mitigation Measure 1	This measure would enhance screening of OMF buildings for sensitive residential viewers to the south of the site.