SOUNDTRANSIT

Federal Way Link Extension

Transit Oriented Development Study

Table of Contents

Executive Summary ..... ES – 1

Chapter 1: Introduction ..... 1 -1

Chapter 2: Methodology 2-1

Chapter 3: Project Overview 3-1

Chapter 4: S. 216th Station Area 4-1

Chapter 5: Kent/Des Moines Station Area 5-1

Chapter 6: S. 260th Station Area 6-1

Chapter 7: S. 272nd Station Area 7-1

Chapter 8: Federal Way Station Area 8-1

Chapter 9: Conclusions 9-1

Chapter 10: Sensitivity Testing 10-1

Appendix A: Evaluation Scores

Appendix B: Conceptual Station Layouts

Executive Summary

The Sound Transit Board adopted a Transit Oriented Development (TOD) policy in 2012 (Resolution R2012-24). It defines TOD goals and provides guidance to Sound Transit for the evaluation, facilitation, and implementation of TOD as it builds the regional transit system. The purpose of the policy is to support land-use change and economic development that would improve quality of life, support achievement of comprehensive and regional plans, and maximize ridership. Sound Transit's TOD policy contains goals to support economic development, TOD, non-motorized access, housing options, and sustainability.

Key Questions Addressed

- Within each of the station areas, which station locations would be more supportive of TOD?
- What combination of alignment and station locations would be more supportive of TOD?
- Would potential additional stations at S. 216th and S. 260th enhance support for TOD?

The TOD policy directs Sound Transit to consider TOD potential in the development of its transit projects. This includes identifying agency and community TOD opportunities and strategies, opportunities for partnerships with public and private interests, and consideration of TOD in decisions about acquisition, use, and disposition of land.

Experience in the United States indicates that new transit facility investments can have a major influence on land use. Supportive policies, plans, land-use regulations, and incentives can be effective in facilitating TOD near transit stations.

To assess which station locations would be most supportive of TOD, each station location was evaluated against four general categories of criteria:

1. **Access** to each station option - How accessible is the station for pedestrians, bicycles, other forms of transit, and automobiles?
2. **Land Use, Plans & Policies, and Utilities** around each station option - How do existing land use policies, plans, regulations, and infrastructure support new development?
3. **Market support** at each station option - Is the location competitive for multi-family housing, retail, office, and/or lodging?
4. **Land availability** around each station option - How much land has the potential to support new TOD?

TOD Conditions

TOD generally takes place under three conditions:

- When stations are located in prime regional and community centers attractive to typical market forces.
- When regional and local real estate markets are active, including willing property owners and investors.
- When public policies and regulations permit or encourage intensive development in station areas.

The four categories were considered together to provide an overall assessment of the degree to which each station option would be supportive of TOD.

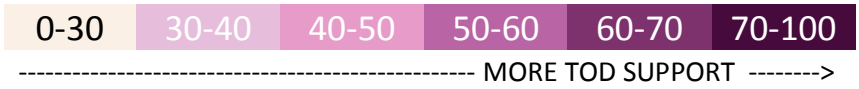
Each station area was rated using a combination of quantitative and qualitative assessments, and these ratings were based on the information available at the time of the analysis. Station locations that are more supportive of TOD would be more likely to experience changes in land use and development patterns when the project is built.

The assessment was designed to help identify the best station location within each of the five station areas in the corridor. For the purposes of this report, a station area is defined as the general geographic area incorporating one or more station options. The station options are different locations within the station area where the platform and associated station facilities could be located. The station options are associated with different alignment alternatives. The Access measures were evaluated using the station footprint and quarter mile radius around the station area. The Land Availability measures considered the impacts of the guideway coming in and out of the station within the context of the quarter mile station area. Guideway impacts to parcels outside of the quarter mile station areas were not included in this evaluation, but are covered in the Draft Environmental Impact Statement.

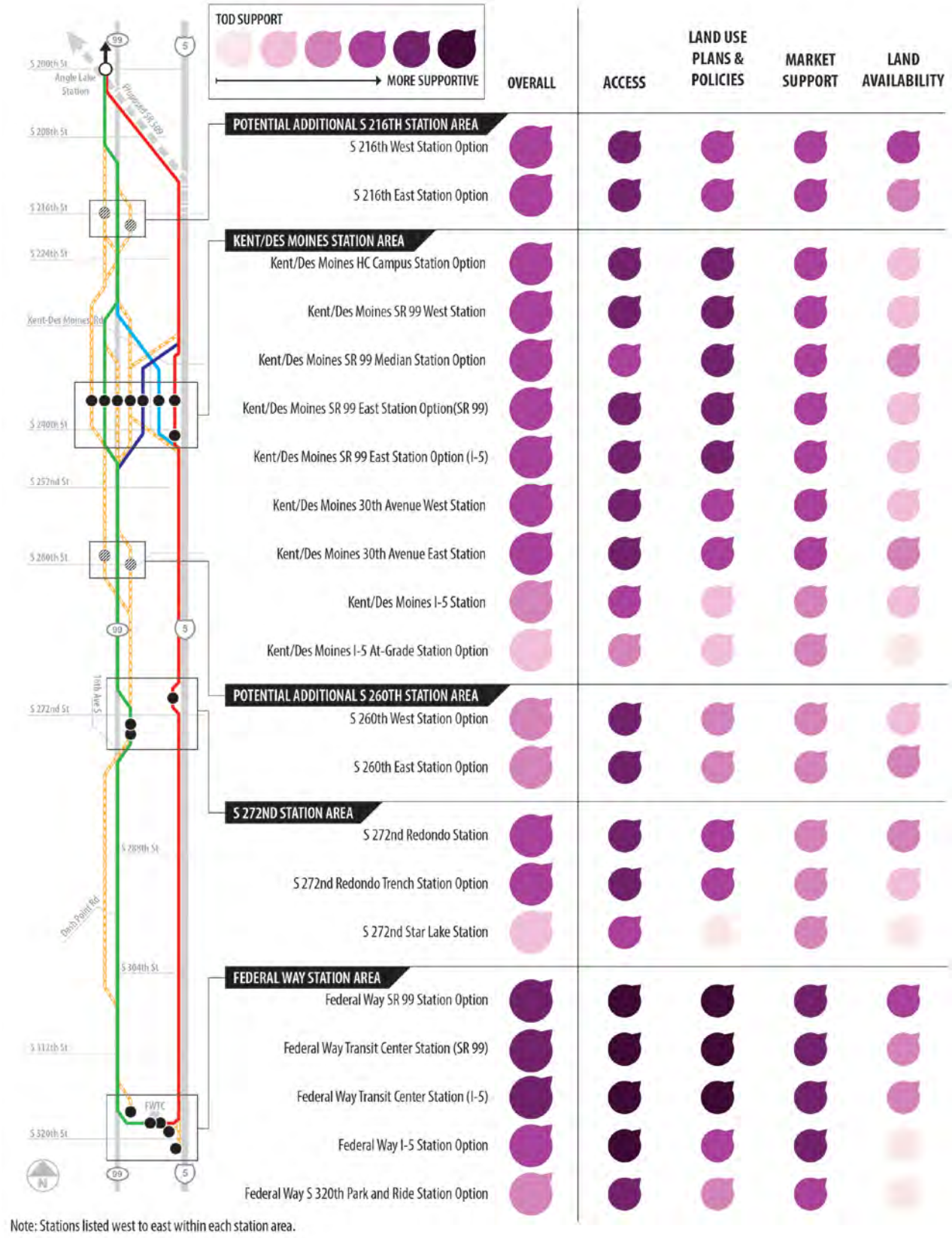
The TOD potential of a station location is one component of many that will help to inform a complex decision making process to identify the preferred FWLE alternative that will be advanced in the corridor. The Sound Transit Board will consider TOD alongside project benefits, environmental impacts, engineering feasibility, cost, and stakeholder interests. TOD support will continue to be assessed as the project evolves.

Overall, TOD support in the FWLE corridor is moderate. The market demand is not robust and most of the development predicted for the corridor would likely occur well after the station is constructed.

The figures below display the summary ratings for each station location. The shading colors correlate to how the stations were rated in terms of how well they could support TOD, with darker shading indicating more TOD support. Figure 1-1 shows how each station location performed in the four component categories, while Figure 1-2 shows overall ratings of each station option with TOD-supportiveness shading with more geographic context for comparison.



Details of the evaluation criteria used to create these scores are included in the subsequent chapters of the full TOD report. Additional detail regarding the ratings by individual component criteria that resulted in each category's score is provided in Appendix A, *Evaluation Scores.*



Note: Stations listed west to east within each station area.

Figure 1-1
Summary of TOD Support by Station Option

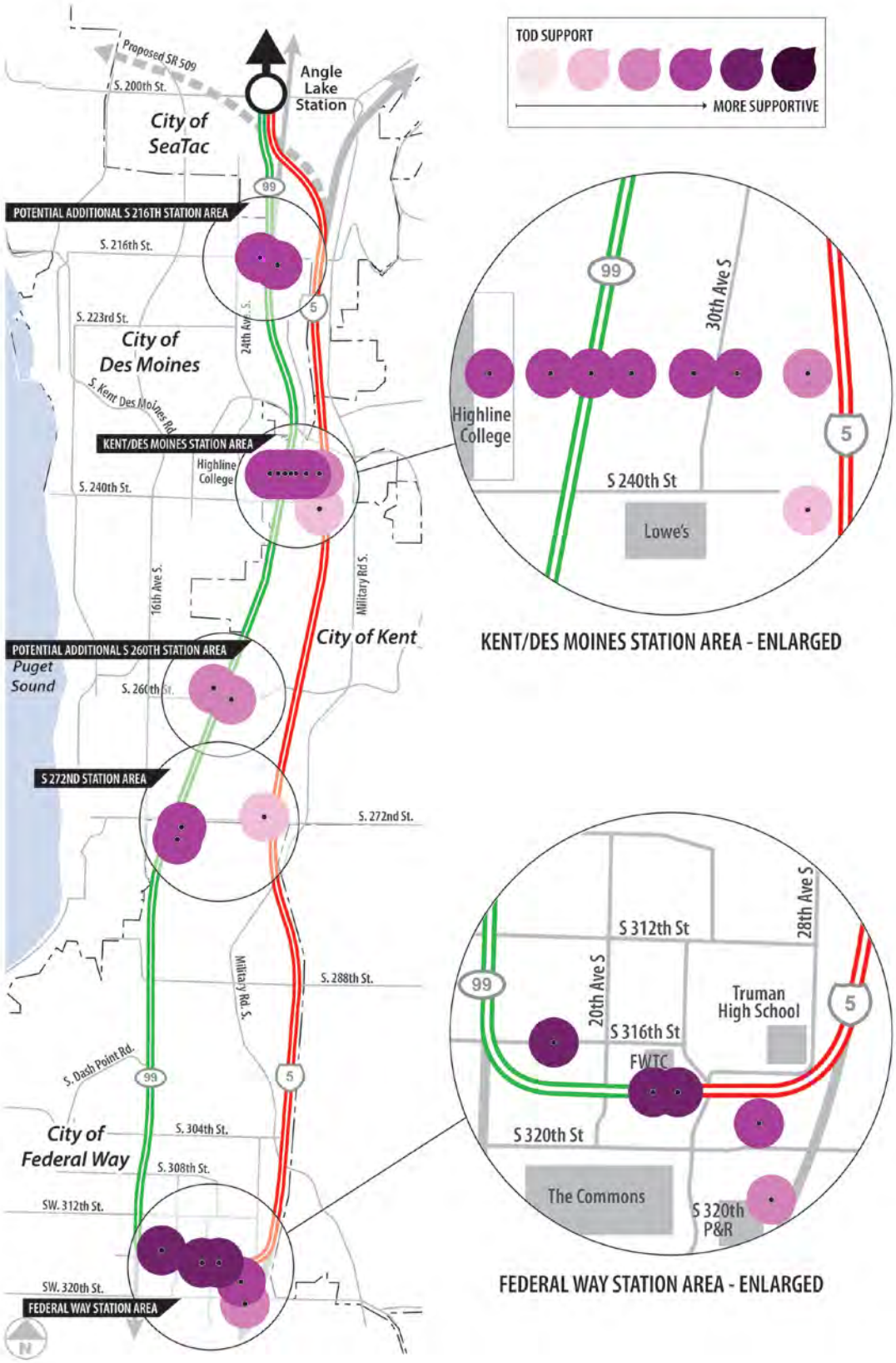


Figure 1-2
Summary of TOD Support by Geographic Location

Station options were evaluated against the four categories listed on page ES-1; criteria such as grid density, proximity to pedestrian/bicycle barriers, proximity to existing transit service, adopted transit supportive plans and policies, utility infrastructure capacity, market conditions, and acreage of land that could support future TOD. It is important to note that this assessment does not attempt to quantify or forecast the timing of market demand, but is instead focused on determining which station options are best suited to accommodate certain types of market demand when it occurs.

Although this assessment does not consider supply and demand fundamentals, an analysis of the corridor concluded that demand for conventional TOD at most of the proposed station areas is limited, at least within the project's planning horizon (25 years). There may however, be exceptions for particular types of TOD at specific locations along the corridor. Further consideration is needed to identify such exceptions.

General Overview

"What combination of alignment and station locations would be more supportive of TOD?"

In general, alignments with stations along SR 99 are more supportive of TOD than alignments with stations along I-5, primarily due to three key differentiating factors: *Access* (transit connections, access to the station area), *Land Use* (transit supportive land use and zoning), and *Land with TOD Potential* (acres of land).

Stations along I-5 had the lowest performance because of the following considerations:

- I-5 is a major barrier to station access.
- There is limited land with TOD potential.
- Any I-5 alignment must connect to the S. 272nd Star Lake station, which is the lowest performing station overall in terms of TOD support. This station lowers the TOD support score for the entire alignment, regardless of what station it connects to at Kent/Des Moines or Federal Way.
- There is no direct connection to RapidRide for stations along I-5 at Kent/Des Moines or S. 272nd Street.

Overall, the Federal Way Transit Center Station and Federal Way SR 99 Station Option would have the greatest potential for TOD, followed by the Kent/Des Moines SR 99 West Station, Kent/Des Moines SR 99 Median Station Option, and the KDM SR 99 East Station Option (for both the SR 99 Alternative and the I-5 Alternative). Station locations closer to I-5 generally have lower TOD potential than those near SR 99 due to the barrier that I-5 creates for access and development within the station area.

Station Area Summaries

"Within each of the station areas, which station locations would be more supportive of TOD?"

S. 216th Station Area

Within the S. 216th station area, the two potential station options (West and East) are similar and would be relatively supportive of TOD. The S. 216th East Station Option would have a slight advantage in bus

access and existing land use. The two options would be identical in terms of *Market Support*. The S. 216th West Station Option would have slightly more land with TOD potential.

Kent/Des Moines Station Area

Within the Kent/Des Moines station area, the nine station locations have varying degrees of support for TOD. The analysis shows that all of the SR 99 Alternative stations, the SR 99 East Station for the I-5 Alternative, and the 30th Avenue West and East stations are all moderately supportive of TOD. The other two I-5 station options (I-5 At-Grade and I-5 Elevated) would be the least supportive of TOD in this station area.

For the Kent/Des Moines station area, the options on SR 99 all received higher combined *Access* ratings than those on I-5. The SR 99 East and SR 99 West station options performed the best in terms of *Access*, driven by station designs and locations that favor strong bus access in particular.

Land Use, Plans, and Policies ratings for the nine options at Kent/Des Moines correlated with proximity to Highline College, with the Highline Campus option performing the best and the I-5 options the worst. *Market Support* ratings indicated very little differentiation between station options, with the two I-5 options performing only slightly worse than the others.

The 30th Avenue East Station would have the greatest amount of land with TOD potential, followed by the SR 99 Median Station. The I-5 At-Grade Station would have the least land with TOD potential.

S. 260th Station Area

Within the S. 260th station area, both potential additional station options (West and East) are relatively similar with respect to their support for TOD. The only notable difference is that the 260th East Station Option would have slightly more land with TOD potential. Ratings for *Access; Land Use, Plans, and Polices*; and *Market Support* are similar for the two stations.

The overall degree to which the S. 260th stations are supportive of TOD is relatively low compared to most of the other station areas along the corridor, in large part due to the relatively low ratings in the Land Use category.

S. 272nd Station Area

Within the S. 272nd station area, the S. 272nd Redondo Station and the S. 272nd Redondo Trench Station Option are similarly supportive of TOD. The only notable difference is that the S. 272nd Redondo Station has 5 more acres of land with TOD potential than the S. 272nd Redondo Trench Station Option.

The S. 272nd Star Lake Station is less supportive of TOD than the two Redondo station options in all four categories. Although the S. 272nd Star Lake Station is closer to I-5 and therefore has better auto access, the other three modal access criteria favor the Redondo options by a substantial margin. Star Lake also has much less transit-supportive land use and utility capacity. In terms of *Market Support*, the three options received similar overall scores, with the Redondo options faring slightly better. The 272nd Star Lake Station has only 5 acres of land with TOD potential compared to 39 and 44 acres at the Redondo station options. This is primarily because I-5 bisects the Star Lake station area and a significant portion of the area is wetlands.

Federal Way Station Area

The two Federal Way Transit Center stations (SR 99 and I-5) and the Federal Way SR 99 Station Option are the most supportive of TOD in this station area. The close proximity to the existing transit center provides excellent bus access for both Federal Way Transit Center stations.

Comparatively, the Federal Way I-5 Station Option, while it has the highest possible bus access rating, has much less transit-supportive land use. With only 18 acres of TOD land with TOD potential, it has the least of the five Federal Way station options; this compares to 40 or more acres at the Federal Way Transit Center and the Federal Way SR 99 station.

The Federal Way S. 320th Park-and-Ride Station Option is the least supportive of TOD in the Federal Way station area, with the lowest individual ratings for *Access, Land Use*, and *Market Support* categories. This station option also offers the second lowest amount of land with TOD potential.

Potential Additional Stations Considerations

"Would potential additional stations at S. 216th and S. 260th enhance support for TOD?"

Stations at S. 216th and S. 260th are only possible with an SR 99 alignment. Given that the SR 99 corridor is generally more supportive of TOD than I-5, adding stations to an SR 99 alignment would enhance the overall TOD potential along the corridor. Stations at S. 216th and S. 260th performed well in terms of transit access due to RapidRide stops nearby.

The S. 216th station area would have similar transit-supportive land uses and acres of land with TOD potential as compared to the Kent/Des Moines station area. There is good potential for parcel assemblage to enhance TOD support at this station. The station area would have good transit connections.

The S. 260th station area would have some constraints that could limit its TOD potential. The predominant existing land use nearby is single family residential, the McSorley Creek Wetlands limit development potential in the area. The acreage of land with TOD potential is less than at S. 216th and the higher performing stations at Kent/Des Moines. Despite these limitations at S. 260th, this station area would perform well above the S. 272nd Star Lake Station Option with the I-5 alignment.

Next Steps for Evaluating TOD

After reviewing the Draft EIS, the Sound Transit Board will identify a Preferred Alternative, which will include the preferred alignment and stations. This will be evaluated in the Final EIS.

Sound Transit will continue to consider TOD as the project design advances into Preliminary Engineering. Station locations will be refined to optimize engineering, environmental, TOD, and stakeholder considerations. Sound Transit will work with the local jurisdictions on these refinements going forward.

1.0 Introduction

This study examined the potential for each station location to support Transit Oriented Development (TOD) in the Federal Way Link Extension (FWLE) project corridor.

The Sound Transit Board adopted a TOD policy in 2012 (Resolution R2012-24). It defines TOD goals and provides guidance for Sound Transit to in the evaluation, facilitation, and implementation of TOD as it builds the regional transit system. The purpose of the policy is to support land-use change and economic development that would improve quality of life, support achievement of comprehensive and regional plans, and maximize ridership. Sound Transit's TOD policy contains goals to support economic development, TOD, encourage non-motorized access, housing options, and sustainability.

The TOD Program scope and purpose are further defined by a hierarchy of federal, state and regional regulations, resolutions, motions and plans. Specific work program activities carried out by Sound Transit result from voter-adopted plans tailored to market-supported light rail alignments and station opportunities. Sound Transit's TOD Program implementation methods include: TOD Negotiations & Agreements, Market Assessment and Site Evaluation, Station Area Planning, Surplus Property Disposition Planning, Adjacent Development Plan Review, Community Forums and TOD Outreach, and Livable Transit Communities.

The TOD policy directs Sound Transit to consider TOD potential in the development of its transit projects. This includes identifying agency and community TOD opportunities and strategies, opportunities for partnerships with public and private interests, and consideration of TOD in decisions about acquisition, use, and disposition of land.

TOD Conditions

TOD generally takes place under three conditions:

1. When stations are located in prime regional and community centers attractive to typical market forces.
2. When regional and local real estate markets are active, including willing property owners and investors.
3. When public policies & regulations permit or encourage intensive development in station areas.

The work occurs in two primary ways: TOD is planned and incorporated into new transit projects or through subsequent in-fill projects on surplus properties at or adjacent to stations and facilities. Development partnerships can be incorporated into agency transit projects, resulting in TOD. In some cases, by including TOD and development partnership concepts in initial planning, cost advantages and other benefits may be achieved because integrated projects can provide the opportunity to achieve multiple objectives.

In other cases, TOD efforts surrounding a station fall within the jurisdiction of local cities, private property owners, and private developers. Local jurisdictions are financially responsible for developing station area plans and for regulatory changes needed to support high capacity transit (HCT), transit facilities and TOD. It is in Sound Transit's interest that adoption of local public policies explicitly benefits transit, funding mechanisms, and incentive programs to facilitate future station development and TOD, but ultimately the local jurisdictions have responsibility for this planning effort. Regional policies encourage cities and Sound Transit to work together to connect transit with housing, jobs and

educational institutions. To be effective, new station area plans must be supported by local financial capacity to ensure implementation takes advantage of the transit investment.

1.1 Purpose of the TOD Assessment

TOD is a land development pattern that integrates transit and land use by promoting transit ridership while supporting community land use and development visions. TOD typically consists of public and private development projects near transit facilities that create dense, pedestrian-oriented environments with a mix of land uses and activities.

Improvements in transportation systems can influence changes to nearby land uses. Land use policies, plans, and regulations created by local jurisdictions to support TOD can spur new development. Investments in infrastructure and incentives can make a station area more competitive.

Increased development around the stations can provide public benefits such as increased transit ridership, traffic congestion relief, improved air quality, infill development and job opportunities, natural resource preservation, affordable housing, less energy consumption and better use of infrastructure. Revitalized station areas could attract residents and employers who would use light rail as well as those who may want to live and work in a vibrant area.

Sound Transit evaluated each station location under consideration in the Draft Environmental Impact Statement (EIS) and will help inform the identification of the preferred alternative. It considers the "development readiness" of each station area along with the access improvements needed to support ridership and redevelopment at each station.

The FWLE project is currently in the planning process with limited design completed at the time of this study. The level of design will continue to develop as the project advances through the Draft EIS, Final EIS, and into Final Design. For this TOD study, conceptual site plans were developed to capture the range of options for station locations and alignments to complete a Draft EIS. Additional work to optimize station areas will be conducted once the Sound Transit Board identifies a preferred alternative.

Study Goals

- Help meet the goals in Sound Transit's Transit Oriented Development Strategic Plan.
- In combination with the FWLE Draft EIS analysis, help inform the Sound Transit Board's identification of the preferred alignment and station locations.
- *Future Goal:* In collaboration with stakeholders, help identify potential additional actions that could support station area redevelopment.

Key Questions

- Within each station area, which station locations would be more supportive of TOD?
- What combination of alignment and station locations would be more supportive of TOD?
- Would potential additional stations at S. 216th and S. 260th enhance support for TOD?

The TOD potential of a station option is one component of many that will help to inform a complex decision making process to identify the preferred FWLE alternative, including station options that will be advanced in the corridor. The Sound Transit Board will consider TOD alongside project benefits, environmental impacts, engineering feasibility, cost, and stakeholder interests.

2.0 Methodology

The categories used to assess Transit Oriented Development (TOD) are generally defined as follows:

1. **Access**: How easy would it be to get to the station via walk, bike, transit, and auto?
2. **Land Use, Plans & Policies, and Utilities**: How much of the existing land use, planned land use and polices, and utility infrastructure is transit supportive or supportive of additional development?
3. **Market Support**: Is the location competitive for housing, retail, office, and/or lodging?
4. **Land Availability**: How many acres of TOD supportive, redevelopable land surround the station area?

The next four sections of this chapter provide details on the category-specific methodologies applied in this study.

2.1 Station Access

How easy would it be to get to the light rail station?

2.1.1 Purpose of Evaluating Station Access

Access is a key consideration in evaluating the TOD potential of a light rail station location. Access is a key consideration in the TOD study. Access has also been evaluated in the FWLE Draft Environmental Impact Statement (DEIS) and will continue to be examined in future access studies as the project design advances.

The goals of the Sound Transit System Access Policy (Resolution R2013-03) are to increase ridership and encourage convenient and safe connections to Sound Transit services through all access modes. Sound Transit facilitates access to its transit services on its properties and works cooperatively with local jurisdictions to improve access from surrounding communities.

Sound Transit assessed how existing development patterns support or hinder access to and from station locations for pedestrians, bicyclists, transit riders, and vehicles. It provides insight into how access, mobility, employment, and population could affect the station area and future potential redevelopment.

The goal is to better understand the strengths and weaknesses of the station locations in terms of multimodal access. The following access modes were evaluated: walk, bicycle, transit, and auto. In the context of this study, access is about how transit patrons travel to and from a transit station. In the same way, the terms *origin* and *destination* are used interchangeably under the assumption that most transit users would reverse their morning route at some point later in the day.

Auto access, while not typically considered key for transit oriented development, is included in this study for several reasons. Auto access will be important during the interim phases of development while the FWLE corridor transitions to higher-density land uses. In suburban communities, parking is essential

to making even the most pedestrian friendly location function effectively for businesses and residences. Auto access also includes pick-up and drop-off riders, which can be a high proportion of overall trips at stations where parking is limited.

As the project design moves forward, station facility concepts will continue to be refined. Changes to the station design could affect station access. For example, the location for passenger pick-up and drop-off or the parking facilities may be relocated to a different location than was evaluated in this TOD study. The location of transit facilities could also shift. As these changes occur, Sound Transit will work to optimize access for pedestrians, bicyclists, transit, and auto.

2.1.2 Walk Access

Walk access is often considered an important indicator of TOD potential for a transit station area. Transit riders are pedestrians when they walk between the bus or train and their eventual destination in the station area. Good walk access can be a key driver of the compact development form that makes TOD successful. The method used to evaluate walk access involved comparing the proposed station location to a model pedestrian-friendly environment served by high capacity transit. The Sound Transit Capitol Hill Link Light Rail Station, scheduled to open for service in early 2016, was used as the model for comparison purposes. The Capitol Hill station was selected as the "control" for walk access because it would receive the highest ratings when scored against the evaluation criteria used for walk access. Each station received a score for each criterion listed in the table below and was rated on a scale of one (worst performing) to five (best performing) for its relative performance to the Capitol Hill comparison station. Table 2-1 describes the criteria used to evaluate walk access at each station location.

Table 2-1
Walk Access Evaluation Criteria

Criterion	Definition
Grid density	Density of the public walking network, which is presumed to consist primarily of streets and sidewalks
Continuity and directness	Lack of broken links in walk routes, and directness of the route between the station platform and walk trip destinations
Barriers	Lack of barriers and impediments between walk destinations and the station area, such as I-5, major streets, or fences
Destinations	Presence and variety of major walk access destinations in the station area
Topography	Level topography surrounding the station area

A key element for transit ridership is walking distance between transit and key destinations. Research shows that most transit riders are willing to walk up to one half mile to access transit services (some more, some less). Half-mile circles around the station area are often used to assess the station walkshed, which is the area that can be accessed within a 10 to 15 minute walk. Due to the close proximity of the station options to each other, half-mile radius circles did not provide meaningful

differentiation among the alternatives to help identify the TOD support of a particular station option. To account for this, assessments were conducted using a quarter-mile radius circle from the station platform. This corresponds to the distance over which someone leaving from the station platform can reach in approximately five minutes walking at a three mile-per-hour pace.

Transit related pedestrian behavior is linked to the quality of the walking environment surrounding the station. Willingness to walk to transit correlates with topography, sense of safety and security, density, urban design features, and frontage activity along the walk route. Direct routes with minimum delays, such as long waits at intersections or barriers, promote walkability.

Topography ratings for walk access were considered in the same way they were for bicycle access (section below) using the assumption that flatter terrain makes access easier. Ratings were made on a qualitative, 'general station vicinity' basis relative to the control location, rather than on specific quantitative measurements of grade.

Presence of sidewalks, signalized crosswalks, adequate lighting, and distance from major arterials contribute to pedestrian safety. Urban design at a human scale, such as building setbacks, sidewalk connections, and park features near the station area, encourage transit patrons to walk to their destinations. Development, density, active retail centers, and greater pedestrian traffic contribute to an increased sense of security around transit stations.

Considerations for Assessing Walk Access to Transit Stations

- Are pedestrians required to walk on roads without sidewalks?
- Where sidewalks exist, is there adequate width? Are they buffered by trees, planting strips, or on street parking?
- Is there a mix of activities in the station area? (parks, libraries, retail, housing, etc.)
- Is the street network in a grid system with small blocks, or does it primarily feature long winding streets or dead ends?
- Are there limited opportunities for pedestrians to cross streets due to long blocks or lack of signals?
- Are buildings oriented toward the street and designed for pedestrian access?
- Is parking limited and managed, or is it abundant and free?

2.1.3 Bicycle Access

Bicycling is a healthy, low cost alternative to commuting via personal automobile. Providing improved bicycle access increases the transit catchment area of a station considerably, as commuters can travel a greater distance in a comparable amount of time spent walking to the station. Transit riders traveling to and from the station by bicycle desire direct and safe routes to their destinations. Integrating safe, convenient, and affordable bicycle parking into light rail station design promotes bicycling as a mode to connect to transit.

The method used to assess bicycle access involves comparing the proposed station location to a model bicycle-friendly environment served by high capacity transit. The Sound Transit University of Washington Link Light Rail Station, which is scheduled to open in early 2016, was used as the model for comparison purposes. The University of Washington station was selected as the "control" for bicycle access because it is the closest station to the busiest and most significant regional bicycle facility in the Sound Transit service area (the Burke Gilman Trail), it serves major institutional land uses that generate high bicycle ridership demand, and it does not have steep slop constraints in most directions. Each station was scored for each criterion and was rated on a scale of one (lowest performing) to five (best performing) for its relative performance to the University of Washington station. Table 2-2 describes more specifically how bicycle access to the proposed station locations was evaluated.

Table 2-2
Bicycle Access Evaluation Criteria

Criterion	Definition
Facilities	The type or significance of the bicycle route or facility in the station area, scored as follows: (1) none, (2) shoulder, (3) designated route, (4) on-street bicycle lane, (5) separated path
Proximity	The proximity of the bicycle route or facility to the station area
Topography	Topography of the station area for biking

A typical bikeshed radius for a transit station is three miles. Due to the close proximity of the station options, the three mile bikeshed did not provide significant differentiation among stations in terms of access potential. Instead, this study examined the presence and quality of connections to bicycle routes and facilities nearby to evaluate bicycle access to and from the station locations. This provided information on how easy or difficult it would be for a bicyclist to connect to the station from the bicycle lanes or routes on nearby streets that take riders to their eventual destinations.

Topography ratings for bicycle access were considered in the same way they were for walk access (section above) using the assumption that flatter terrain makes access easier. Ratings were made on a qualitative general station-vicinity basis relative to the control location, rather than on specific quantitative numerical measurements of grade.

2.1.4 Transit Access

Connecting bus service to light rail stations expands the transit catchment area by providing an alternative to driving for people living beyond the immediate station area, especially for riders without a car, the elderly, and persons with disabilities. In the FWLE project corridor, connecting bus service is provided by Sound Transit, King County Metro, and Pierce Transit. In addition, paratransit service provides access for passengers who are unable to use the bus system due to disability.

Conditions that support integrated transit service include minimal wait times between modes, short walk distances to stops, safe and direct routes, coordinated fares, and a secure station environment.

The method used to assess transit access involves comparing the proposed station option to a model transit-friendly environment served by high capacity transit. The future Sound Transit Northgate Link Light Rail Station, which is scheduled to open for service in 2021, was used as the model for comparison purposes. Northgate was selected as the "control" for transit access because it has a high volume and variety of connecting transit and paratransit services. The "RapidRide proximity" criterion was not compared to the Northgate station because that station is not currently served by RapidRide. Each station was scored for each criterion and was rated on a scale of one (worst performing) to five (best performing) for its relative performance to the Northgate comparison station. Table 2-3 describes how transit connections to the proposed light rail station locations were evaluated.

Table 2-3
Transit Access Evaluation Criteria

Criterion	Definition
Proximity to RapidRide	The proximity of the proposed light rail station location to RapidRide bus stops to collect riders along the corridor
Density of Connecting Service	Density of other connecting local or regional bus service in the station area
Paratransit	Quality of paratransit transfers, including proximity, directness, and freedom from barriers

Sound Transit coordinated with King County Metro on the conceptual station layout plans in the early design phase to ensure future bus needs could be accounted for in each station design. The agencies also discussed future service revisions and other ways to improve connectivity between modes, promoting ridership and multimodal accessibility. This coordination will continue throughout the project planning process and future design efforts.

2.1.5 Auto Access

The FWLE project is located in a suburban corridor. Currently, Sound Transit regional express bus service in the corridor attracts riders from a large area, primarily via auto access at park-and-rides, but also from local connecting bus service from the surrounding communities. While Sound Transit aims to promote the use of non-motorized modes and integrated transit service, personal vehicles will remain a significant mode of transit access for riders in the near and mid-term future in this corridor. Additionally, due to funding constraints, the FWLE project will likely be built in phases. A station at Kent/Des Moines or S. 272nd Street may be an interim terminus. The pattern of auto commuting to access regional transit will most likely continue during interim phases. Additionally, the current mix of land uses, the market forces, and the likely timeline for redevelopment to achieve the cities' future visions (as described later in this report) will keep the personal automobile as a primary mode of access. For these reasons, auto access is included in this assessment of transit oriented development potential.

The method used to assess transit access involves comparing the proposed station option to a model environment with good auto access served by high capacity transit. The future Northgate Link Light Rail Station, which is scheduled to open for service in 2021, was used as the model for comparison purposes. The Northgate station was selected as the "control" for auto access because it has good quantity and quality of streets around the shopping center and transit center area and because parking and drop-off areas will be reasonably close to the proposed station platform location. Each station was scored against each criterion and was rated on a scale of one (worst performing) to five (best performing) for its relative performance to the Northgate comparison station. Table 2-4 below describes the specific criteria used to evaluate auto access in this study.

Table 2-4
Auto Access Evaluation Criteria

Criterion	Definition
Access Options – Quantity	Quantity of streets connecting the station to the surrounding area (the number of access options)
Access Options – Quality	Quality of streets connecting to the station in terms of congestion, complexity, and directness
Parking Stall to Platform Connection	Qualitative assessment of distance and directness from parking area to station platform
Pick-up and Drop-off	Qualitative assessment of proximity and access for short-term parking, as well as orientation and line of sight with respect to the platform

2.2 Land Use, Plans & Policies, and Utilities

How transit-supportive are land uses, land use plans, and utility infrastructure?

2.2.1 Purpose of Evaluating Land Use, Plans & Policies, and Utilities

Understanding neighborhoods and communities during light rail planning is a critical first step in understanding how development could change the area. This study evaluated existing land use, zoning, plans and policies, CIPs and TIPs, urban form, and the existing infrastructure.

2.2.2 Existing Land Use

This study evaluated how well existing land use supports TOD in the proposed station areas. Existing land use was analyzed and grouped into two major categories – uses that are transit-supportive and those that are not. For the purpose of this study, the following existing land use types were considered transit-supportive:

- Multi-family residential (apartment, condominium, multiplex, retirement facility, residence hall, and group home)
- Commercial (shopping center – neighborhood, community, major retail)
- Institutional
- Office building
- Mixed use

The "station area" studied in this evaluation was measured as a quarter-mile radius from the center of the proposed station platform. It assessed a percentage of total acres in the station area that would be transit-supportive, based on the definition above. The higher the percentage, the more transit-supportive the station area is determined to be. The results for this measure are presented in terms of relative performance against other station options under consideration in the station area. The land use scores are not compared to a control station, as was done for the access criteria described above.

The approximate total acreage in a quarter mile radius is 126 acres; however, this study subtracted public-owned acreage that could not be redeveloped, such as city streets and parks. To account for this, the total used for comparison of redevelopable land in the station area was assumed to be 100 acres.

Looking at existing conditions in concert with future land use planning helps inform the possible "ease of transition" from the existing uses of the station area towards achieving the goals and visions established by comprehensive plans, private development plans, or community interests. For example, a station situated on and near other commercial or mixed-use parcels is far more likely to attract development than a station surrounded by single family residential properties. Taking into account these considerations during the alignment and station identification process will help Sound Transit and the local cities move towards achieving TOD goals. Future land use plans are described in the next section.

2.2.3 Plans & Policies

Regional, state, and local land use plans in the project area share the goal of improving transit accessibility and encouraging transit usage by concentrating mixed land uses within the project corridor in the areas that the jurisdictions have identified for transit supportive uses. Local plans and policies frame the jurisdictional and community perspectives, which are important to consider when planning a project to connect employment and activity centers and provide for uninterrupted transit access among the four cities in the corridor.

The examination of future land uses, through published information indicating local agency plans and policies, demonstrates the vision for transit oriented development in the future. Sound Transit used the mixed-use TOD plans from the Pacific Ridge Plan, Midway Subarea Plan, and Federal Way City Center Plan in this study.

Local jurisdictions address High Capacity Transit (HCT) in comprehensive plans and other planning documents and in some locations the potential for HCT is reflected in future land use designations. Specifically, Des Moines' *Comprehensive Transportation Plan* (City of Des Moines, 2012), Kent's *Midway Subarea Plan* (City of Kent, 2011a), and the *Federal Way Comprehensive Plan* (City of Federal Way, 2012) anticipate development of HCT in the project corridor. In addition, regional plans such as Puget Sound Regional Council's (PSRC) *Vision 2040* (PSRC, 2009) and *King County Metro Transit Strategic Plan for Public Transportation 2011 to 2021* (King County Metro, 2011) have identified future HCT in the FWLE corridor. Sound Transit's Regional Transit Long Range Plan (Sound Transit, 2005) identifies HCT between S. 200th Street in SeaTac and the Federal Way City Center, and the voter-approved Sound Transit 2 Plan (ST2; Sound Transit, 2008) included funding to plan and construct the extension from the S. 200th Street Angle Lake light rail station to S. 272nd Street in the city of Federal Way. These local and regional plans

identify the need to connect the urban centers with HCT and to PSRC Regional Growth Centers to allow for more efficient use of land and as a sustainable alternative to increasing traffic congestion problems.

Most of the potential station options are surrounded by areas planned for commercial and mixed use development. The comprehensive plans of all four cities in the study area support HCT in the corridor and recognize it as a way to promote economic growth. Table 2-5 below lists the adopted plans and policies applicable in the FWLE study area.

Table 2-5
Adopted Plans and Policies

Owner	Plans
Washington State	Growth Management Act (GMA; Revised Code of Washington [RCW] 36.70A.200, adopted 1990, as amended)
Puget Sound Regional Council	*VISION 2040* (2009)
	Transportation 2040: Toward a Sustainable Transportation System (2010)
Sound Transit	*Regional Transit Long-Range Plan* (2005)
	Sound Transit 2 Plan (2008)
King County	*King County Metro Transit Strategic Plan for Public Transportation 2001-2021* (2011)
	King County Comprehensive Plan (adopted 2012)
City of SeaTac	*City of SeaTac Comprehensive Plan* (adopted December 1994, updated 2012)
City of Des Moines	*City of Des Moines Comprehensive Plan* (adopted 2009, amended 2012)
	Pacific Ridge Subarea Plan (adopted 2000)
City of Kent	*City of Kent Comprehensive Plan* (adopted 2004, amended 2011)
	Midway Subarea Plan (adopted December 2011)
City of Federal Way	*City of Federal Way Comprehensive Plan* (adopted 1995, revised 2012)

CIPs and TIPs

This study includes an assessment of existing local Capital Improvement Programs (CIPs) *(sometimes referred to as Capital Investment Programs)* and Transportation Improvement Programs (TIPs).

This information is included to capture near term improvements or programs that could affect the proposed station areas, including infrastructure upgrades or expansions such roadways, pedestrian facilities, or utilities, and therefore would support TOD as they would make the area more attractive to redevelopment.

CIP is a tool used by local governments for short range planning of capital projects. A CIP typically includes a list of all capital projects programmed for the next four to ten years, a plan for financing, ranked preferences, and a timeline for completion. CIPs are often linked to objectives and goals defined by local comprehensive plans.

TIP is required by the Federal Transportation Act and typically lists all federally funded and regionally significant transportation projects that are programmed and planned for the next four years. These projects could include pavement overlays, roadway widening, bridge replacement or repair, signal systems, safety enhancements, bicycle and pedestrian facilities, and transit improvements.

2.2.4 Utility Infrastructure Assessment

Understanding the existing utility infrastructure and its capacity to support redevelopment can help in determining the TOD potential of a station option. Without appropriate utility capacity, development in a given area cannot move forward without significant investment. This study includes a review of water, sanitary sewer, electrical, natural gas, telecommunications, solid waste, and stormwater infrastructure.

Existing utility location information was obtained from publicly available Geographic Information System (GIS) data for the Cities of SeaTac, Kent, Des Moines, and Federal Way and from as-built information or system maps provided by utility owners. This information was used to perform a high-level evaluation of existing utilities in the project corridor around the potential station locations.

These utilities were analyzed qualitatively, with respect to the general proximity of the station to major existing utility corridors that could have additional capacity to accommodate future redevelopment. Table 2-6 describes the scale along which the utility capacity was scored.

Table 2-6
Utilities Evaluation Criteria

Rating	Percentage	Definition
More supportive	60-100%	Existing utilities with extra capacity
Moderately supportive	40-60%	Existing utilities with limited additional capacity
Less supportive	0-40%	Limited utilities and no additional capacity

2.3 Market Support

Is the station competitively located to capture demand?

A station area market support assessment evaluates the station area's TOD potential in the context of market location characteristics. The objective of this assessment is to determine which stations are best suited to attract development from a locational perspective. This assessment does not however, quantity or forecast demand.

Real estate can be broken down into several different categories based on a building's structure and use. In this report, the categories are referred to as product types. Those evaluated include housing, retail, hospitality/lodging, and office. These four product types were selected for evaluation because they are the most common types to support transit oriented development. Each selection criterion was rated from 1 to 5, and was then totaled to arrive at a score for each station option, by product type.

The market location analysis uses a number of site selection criteria to determine how well located the station area is to attract TOD, relative to another transit-oriented location in the market. A station option's overall rating is based on the average of the four individual product type ratings.

The site selection criteria used are specific to each product type, as described in Table 2-7.

Table 2-7
Station Area Location Analysis Evaluation Criteria

Product Type	Measures	Comparison Locations
Office (Low to Mid-Rise)	• Proximity to activity nodes • Proximity of housing market • Proximity to thoroughfares • Proximity to major transportation linkages (freeway, airport) • Proximity to clusters of office space • Direction of office growth • Support facilities (restaurants, hotels) • New office buildings (last 10 years) • Reputation of the area	• International District (Seattle) • South Lake Union • Overlake
Community Retail	• Proximity to housing market • Traffic volume by site • Proximity to other community retail • Density of area housing • Direction of community retail growth	• Queen Anne • Ballard • Broadway/Pike-Pine • Downtown Kirkland • Orenco Station in Hillsboro, OR
Multi-Family Residential	• Proximity to employment • Proximity to cultural activities • Proximity to services (shopping and dining) • View and amenities • Proximity to other multi-family communities • Direction of multi-family growth • Proximity of schools	• Capitol Hill • Ballard • University District • Roosevelt • Kirkland

Product Type	Measures	Comparison Locations
Hospitality	• Proximity to freeways • Proximity to activity centers (office, industrial, retail, and hospitals) • Proximity to services (shopping and dining) • Proximity to colleges or major institutions • Transportation connectivity (airports, roads, taxi, bus, train) • Proximity to other hotels	• Downtown Seattle • Downtown Bellevue

2.4 Land Availability

How many acres of redevelopable land are in the station area?

This category considers how many acres of land are available in the station area for redevelopment. Land availability was evaluated by comparing the amount of redevelopable land in each quarter mile station option to the total acreage of land overall in that quarter mile area. The objective of this assessment is to determine which stations are best suited to accommodate demand when it occurs.

The criteria used to determine redevelopment potential differed depending on a parcel's property ownership type. For the purposes of this report redevelopment land includes both properties with existing improvements and vacant land. This study categorized land into three ownership categories: agency, public, and private.

Agency TOD refers to land within the Draft EIS station area footprint that Sound Transit would acquire for transit purposes, but that could also have future potential to redevelop as TOD. For this ownership category, only acreage dedicated to surface parking and construction staging was considered to have redevelopment potential, because the remaining acreage is otherwise dedicated to other transit uses with more substantial improvements.

Public TOD refers to the redevelopable land within the station area that is controlled by the public sector (excludes Agency TOD) and that is supportive of TOD. Sound Transit may either take a lead or a support role in identifying and implementing TOD strategies with the local agencies on this land type.

Private TOD refers to redevelopable land within the station area that is controlled by the private sector and is supportive of TOD. Sound Transit would not take a lead role in implementing TOD strategies on private property, though collaboration with developers, the communities, and Sound Transit could occur.

The redevelopment potential of both publicly and privately controlled acreage was based on the criteria in Table 2-8. For the Public and Private TOD acreage, each parcel was rated from 1 to 5, with a higher score representing greater redevelopment potential. Due to the long-term nature of this project and the large number of parcels rated, it was decided that parcels rated with a score of three or higher would be counted as "supportive of TOD" with redevelopment potential. This decision was made to avoid missing parcels that might not have obvious TOD potential today, but could in the longer-term as the stations

are constructed, light rail transit comes on-line, and some of the existing improvement value on those parcels has depreciated.

Although this assessment does not consider supply and demand fundamentals, it should be noted that an analysis of the corridor concluded that demand for conventional TOD at most of the proposed station areas, within the project planning horizon, is limited. There could, however, be exceptions for particular types of TOD at specific locations along the corridor. Further consideration is needed to solidify this conclusion.

Table 2-8
Land Availability Evaluation Criteria

Criterion	Description
Improvement-to-land value ratio	The improvement-to-land value ratio provides perspective about the utility of the existing property improvements and can help determine redevelopment potential. It is calculated by dividing the assessed value of improvements into the assessed value of the land. For this analysis, parcels with an improvement-to-land value ratio of 33% or less were considered to have redevelopment potential. This factor was the base for this evaluation; however, as evidenced by the rest of the criteria listed in this table, a number of other factors were considered to arrive at the final parcel ratings.
Present land use filter	This filter removed a number of uses including public parks, rights-of-way, and open space from the analysis, as these uses were deemed unlikely to redevelop as TOD.
Walkshed filter	Parcels were not considered to offer TOD potential if they were beyond a ten minute walkshed. It's worth noting I-5 significantly influences this criterion and results in up to half of the total land area being removed from redevelopment consideration at some of the station options.
Proximity and access impediments to the station	This criterion considered a parcel's proximity to the station after accounting for significant impediments such as major arterials or large wetlands that are difficult to cross.
Assemblage potential	This criterion considered the likelihood of multiple parcels assembled into larger development opportunities. Larger parcels with consolidated property ownership are typically less complex to redevelop than smaller parcel areas with multiple owners. This criterion is one of the reasons that remnant slivers of property that can be assembled with other properties are rated to have development potential.
Compatibility of existing land use	This criterion considered the compatibility of TOD with a parcel's surrounding land uses. For example, parcels within proximity of existing transit-supportive uses such as multifamily housing, office building, pedestrian-oriented retail, and mixed-use development were considered to be more likely to become TOD.
Physical feasibility, known environmental conditions, and other considerations	This criterion considered how a parcel's physical characteristics such as topography, physical barriers, and site shape influence development potential. For example, steep slopes and barriers, such as freeways, can limit or prohibit development.
Micro-market conditions	This criterion considered a parcel's competitive location within the station area, and includes a number of sub-factors including, but not limited it, a parcel's visibility to the street, site access, and potential views.

2.5 Frequently Asked Questions

1. What is the role of the "partner agency" in implementing TOD?

Partner agencies (such as local jurisdictions) have a role to play in implementing future TOD throughout the planning, construction, and operation of the facility. During early planning phases in anticipation of light rail, partner agencies could assess infrastructure needs near proposed transit

corridors and station areas and begin the process of implementing improvements to support future TOD. Comprehensive Plans could be updated to reflect transit corridor plans and partner agencies could implement regulatory changes to accommodate future transit corridor(s).

As station locations are selected, partner agencies could enter into appropriate right-of-way protection agreements with Sound Transit; develop station area plans or subarea plans around stations on a schedule that provides information to inform station and alignment design; adopt station area projects or plans into jurisdiction's Capital Improvement Plan (CIP) or Transportation Improvement Program (TIP); and implement zoning and municipal (building) code changes to support TOD within a station area. Partner agencies could also identify regional and local access and infrastructure improvements near proposed alignments and stations and implement these improvements so they will be completed or near completion when transit service begins.

Finally, partner agencies could participate in Joint Development or Public-Public Partnership discussions including determination of appropriate partner contribution (land, financial, permitting expedition, etc.) and coordinate known public facility needs with Sound Transit to determine if there are Joint Development opportunities.

2. Why is existing land use included in this assessment? Why not only evaluate future planned land use when determining future TOD compatibility?

Looking at existing conditions in concert with future land use planning helps inform the possible "ease of transition" from the existing use(s) of the area towards achieving the goals and visions established by the comprehensive plans, private development plans, or community interests. For example, a station situated on and near other commercial or mixed-use parcels is far more likely to attract development than a station surrounded by single family or multi-family residential properties. Taking into account these considerations during the station identification process will help Sound Transit and the local cities achieve TOD goals.

3. Why did the study assess a quarter-mile station area instead of a half-mile station area?

Due to the close proximity of the station locations to each other, half-mile radius circles did not provide meaningful differentiation among the alternatives to help identify the TOD support of a particular station option. To account for this, quarter-mile radius circles were used to provide better differentiation among the station options.

4. Why is bike access evaluated at the quarter-mile station area level instead of a larger bikeshed?
A typical bikeshed radius for a transit station is three miles. Because many of the station locations are situated so close to one another, the three mile bikeshed did not provide significant differentiation among stations in terms of access potential; therefore, instead of using the bikeshed measure, this study examined the presence and quality of connections to bicycle routes and facilities nearby.

5. **Why did this study evaluate bicycle, transit, and auto in the access assessment? Why not only consider walk access**?

   Due to the current suburban nature of the FWLE corridor, all forms of access to the station area will likely be important for TOD as the stations areas redevelop over the next ten to twenty years. Additionally, successful TOD relies on a variety of travel modes, particularly walk, bike, and transit.

6. **Why were scores for the different measures not weighted or ranked in developing the total overall TOD score?**

   Scores for individual measures and categories were not weighted in developing the overall score for three reasons. First, such weights tend to be very subjective—different individuals with different priorities will assign weights that result in their desired outcomes, and the Sound Transit did not conduct this process with a specific result in mind. Second, the scores for the Access and Market Support categories were developed on a relative basis, with an "ideal" location used for comparison, rather than as the computation of a specific numerical quantity. Weighting normalized qualitative scores differently from more quantitative measures could have introduced potential "comparing apples and oranges" problems to this analysis. Finally, unless the weights are very strong, the overall picture of the results would not be likely to change.

7. **Why does this study use a five-point scale for assigning scores to the various measures in each criteria sub-category?**

   This study used a five-point scale for qualitative measures to balance the need to differentiate between the "good" and the "great" with the amount of information required to make such differentiations. A three-point scale was considered too coarse to differentiate station options, but a ten-point scale was considered too broad for the types of assessments made in this analysis. In addition, the five-point scale was considered consistent with a "Harvey Ball" or "Consumer Reports" format that would be familiar to most readers.

8. **Why does this study use a 100 point scale to assign overall station rankings?**

   The overall 100 point scale reflects both the 'percent of ideal qualities' nature of the Access and Market Support categories and the 'percent of land in the quarter-mile area' nature of the Land Use and Land Availability categories. Because such percentile-style reporting is also used in analyzing other things, such as academic performance, it was seen as an intuitive way to convey overall scores to the reader.

9. **How will the TOD score for each station affect the identification of the preferred alternative to be studied in the Final EIS?**

   The TOD potential of a station location is one component of many that will help to inform a complex decision making process to identify the preferred FWLE alternative (including station locations) that will be advanced in the corridor. The Sound Transit Board will consider TOD alongside project benefits, environmental impacts, engineering feasibility, cost, and community concerns.

10. How did the local jurisdictions and other agencies participate in the TOD assessment?

Sound Transit met with the Interagency Working Group (IWG) on a monthly basis. Members of this group include representatives from the cities of SeaTac, Kent, Des Moines, and Federal Way; King County Metro; Highline College; Puget Sound Regional Council; WSDOT; Sound Transit; and the consultant team.

11. Did this study account for potential changes in ridership due to TOD?

Ridership projections are based on many factors, including land use, transit service and the connections, modal accessibility, and regional congestion. With regard to land use, the population and employment projections used in Sound Transit's ridership forecasting model were based on the Puget Sound Regional Council's (PSRC) Land Use Targets (LUT) dataset. These projections, which were developed with input from local agencies, forecast a substantial amount of population and employment growth in and around the FWLE study area by the year 2035. Some of this growth could occur as a result of TOD. The land use data was held constant among all DEIS alternatives to provide a consistent comparison. This approach also reflects the geography of the LUT, which represents future land use for larger areas (zones) that encompass multiple alternative station locations.

Inherent in the land use assumptions, the forecast potential ridership does account for some growth due to TOD at the alternative station locations. TOD can influence and support ridership, which is one of the reasons the TOD analysis is included in the FWLE process. Locating housing and employment within a walking distance of a station can shape ridership in several ways. It could increase the likelihood that residents and workers will travel by transit rather than by other modes. TOD investments can also stimulate additional growth in years beyond the planning horizon (assumed to be 2035 for the FWLE project) as station areas become more attractive to demand from households and businesses. Finally, TOD can influence the mode of travel used to access the high-capacity transit station, with a greater share of transit riders accessing the station via walk and bicycle modes.

3.0 Project Overview

There are four build alternatives under consideration in the Draft Environmental Impact Statement (EIS) for the Federal Way Link Extension Project (FWLE). Table 3-1 describes the alternatives, stations, station options, potential additional stations, and alignment options under consideration.

Figures 3-1 through 3-4 illustrate and describe the four alternatives.

Table 3-1
Summary of Alternatives Evaluated in the Draft EIS

Alternative	Stations	Station Options	Potential Additional Stations	Alignment Options
SR 99	• K/DM SR 99 West • S. 272nd Redondo • Federal Way Transit Center	• K/DM Highline Campus Station • K/DM SR 99 Median • K/DM SR 99 East • Federal Way SR 99	• S. 216th West • S. 216th East • S. 260th West • S. 260th East	None
I-5	• K/DM I-5 • S. 272nd Star Lake • Federal Way Transit Center	• K/DM At-Grade • K/DM SR 99 East • Federal Way I-5 • Federal Way S. 320th Park and Ride	• None	Landfill Median
SR 99 to I-5	• K/DM 30th Ave East • S. 272nd Star Lake • Federal Way Transit Center	• Federal Way I-5 • Federal Way S. 320th Park and Ride	• S. 216th West • S. 216th East	Landfill Median
I-5 to SR 99	• K/DM 30th Ave West • S. 272nd Redondo • Federal Way Transit Center	• S. 272nd Redondo Trench • Federal Way SR 99	• S. 260th West • S. 260th East	None

SR 99 Alternative

The SR 99 Alternative would generally follow SR 99, with stations at Kent/Des Moines, S. 272nd Redondo, and the Federal Way Transit Center. It would remain in the median of SR 99 except at station areas and at crossings of Kent-Des Moines Road and S. 272nd Street. The entire alignment and all stations would be elevated.

The SR 99 Alternative has the following station options:

- Kent/Des Moines Highline Campus Station
- Kent/Des Moines SR 99 Median
- Kent/Des Moines SR 99 East
- Federal Way SR 99

Figure 3-1
SR 99 Alternative

This alternative also features potential additional stations options:

- S. 216th West
- S. 216th East
- S. 260th West
- S. 260th East

I-5 Alternative

The I-5 Alternative would head south from the Angle Lake Station and cross to the east side of SR 99 in the vicinity of the proposed SR 509 extension. It would be located in or adjacent to the future SR 509 Washington State Department of Transportation (WSDOT) right-of-way until S. 231st Street, and would allow for the planned future build-out of I-5 in this area. Between S. 231st Street and S. 317th Street, the alignment would be mostly within the WSDOT right-of-way for I-5 except to access stations. Some areas of this alternative would be at-grade where existing topography allows and road crossings are not present.

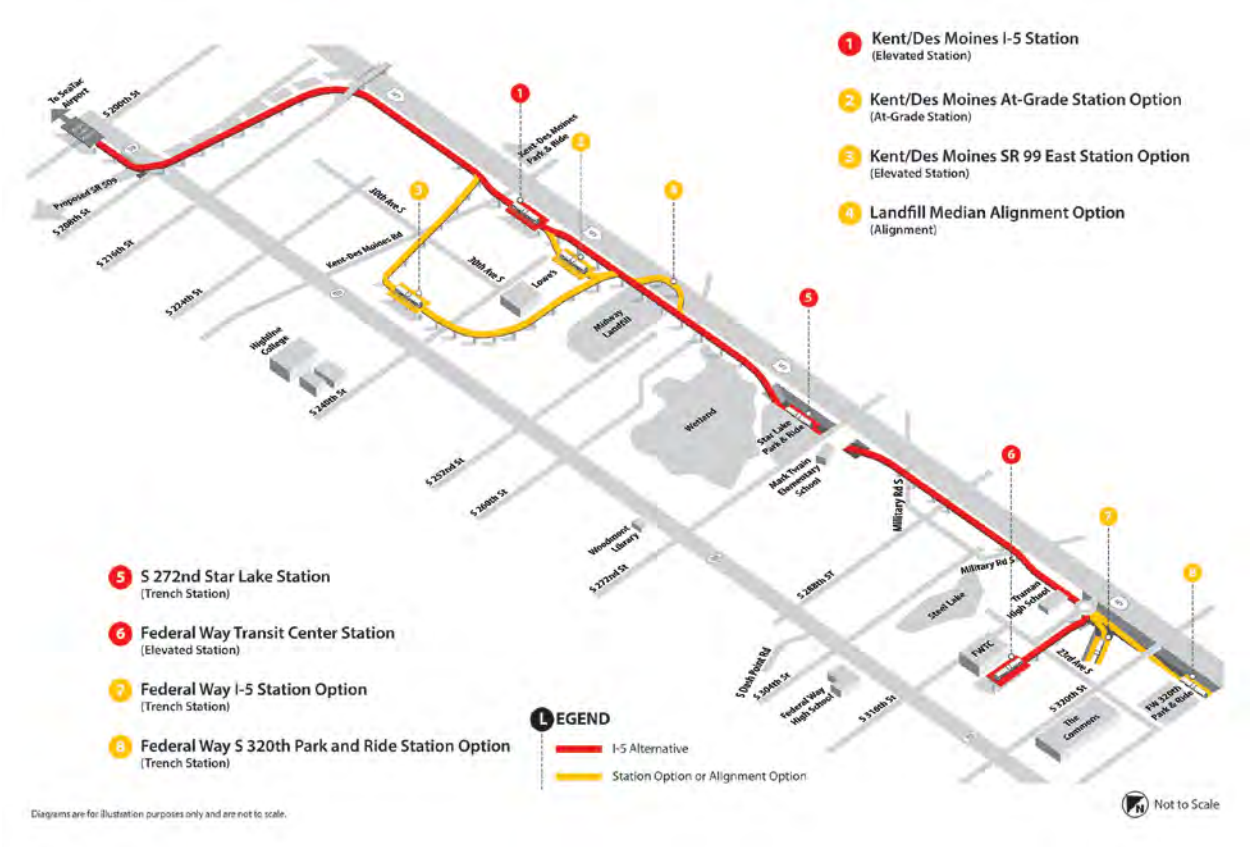


Figure 3-2
I-5 Alternative

The I-5 Alternative has the following station options:

- Kent/Des Moines At-Grade
- Kent/Des Moines SR 99 East
- Federal Way I-5
- Federal Way S. 320th Park and Ride

There are no potential additional station options associated with the I-5 Alternative.

SR 99 to I-5 Alternative

The SR 99 to I-5 Alternative would have the same alignment as the SR 99 Alternative from the Angle Lake Station to just north of Kent-Des Moines Road, where it would transition to 30th Avenue S. with a station north of S. 240th Street and then would transition to the I-5 right-of-way and be the same as the I-5 Alternative to the Federal Way Transit Center. Stations at S. 272nd Street and the Federal Way Transit Center would be the same as the I-5 Alternative. This alignment has a design option called the "Landfill Median" which crosses from the west side of I-5 into the median to avoid the Midway Landfill.

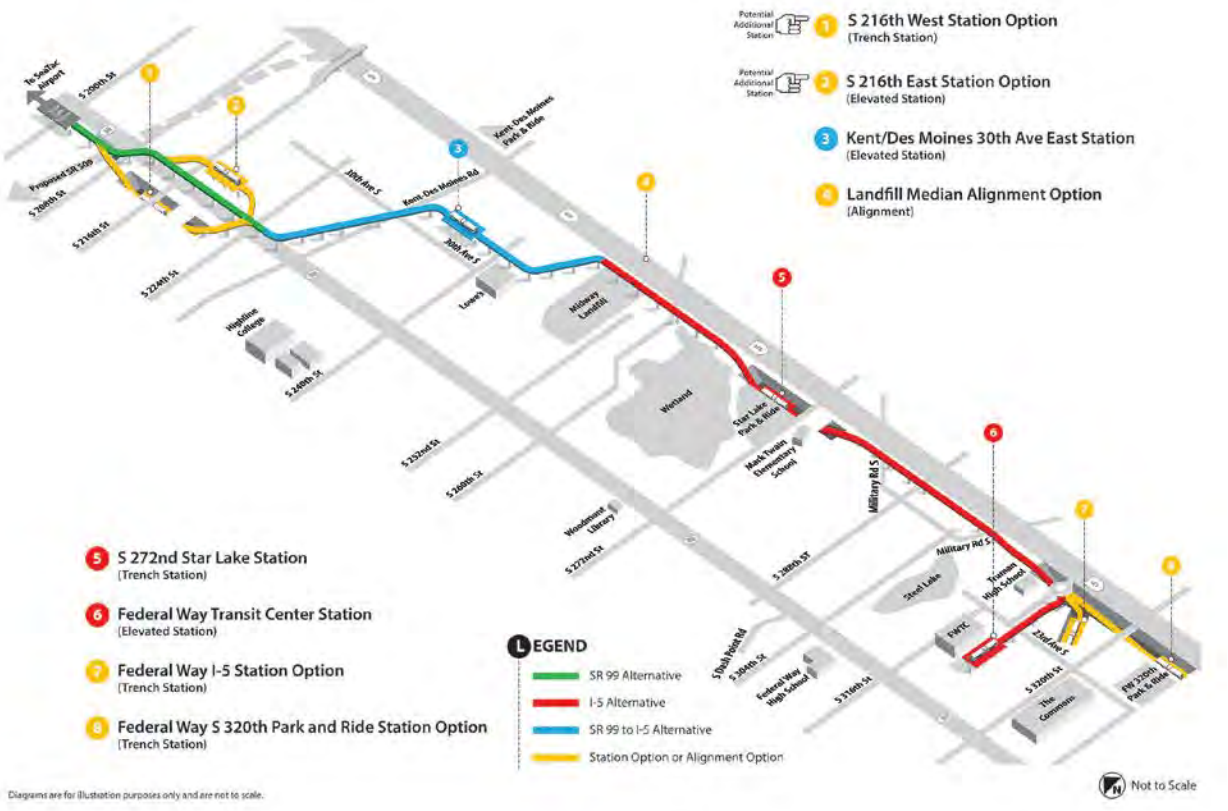


Figure 3-3
SR 99 to I-5 Alternative

The SR 99 to I-5 Alternative has the following station options:

- Federal Way I-5
- Federal Way S. 320th Park and Ride

This alternative also features potential additional station options:

- S. 216th East
- S. 216th West

I-5 to SR 99 Alternative

The I-5 to SR 99 Alternative would have the same alignment as the I-5 alternative from the Angle Lake Station to just north of Kent-Des Moines Road (shown in red). The alignment would then transition to 30th Avenue S. with a station north of S. 240th Street (shown in blue). After leaving this station, the alignment would transition to the SR 99 median and be the same as the SR 99 Alternative to the Federal Way Transit Center (shown in green). Stations at S. 272nd Street and the Federal Way Transit Center would be the same as the SR 99 Alternative. This alternative would be elevated except for from S. 211th Street to S. 216th Street and from S. 218th Street to S. 231st Street, where it would be at-grade next to the I-5 right-of-way. This alignment has a design option called the "Landfill Median" which crosses from the west side of I-5 into the median to avoid the Midway Landfill.

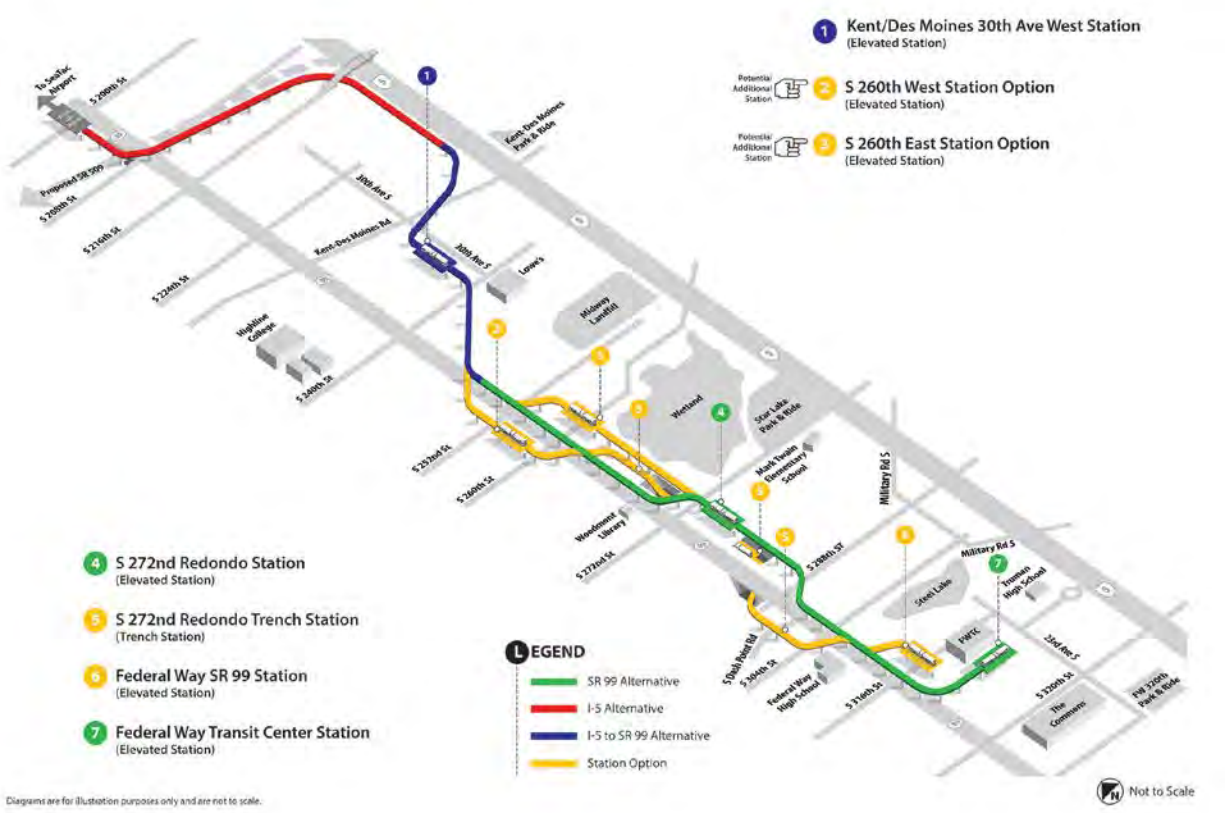


Figure 3-4
I-5 to SR 99 Alternative

The I-5 to SR 99 Alternative has the following station options:

- S. 272nd Redondo Trench
- Federal Way SR 99

This alternative also features potential additional station options:

- S. 260th East
- S. 260th West

4.0 S. 216th Street Station Area

This is a potential additional station near S. 216th Street on the border of SeaTac and Des Moines, with two possible station locations, as illustrated in Figure 4-1. The S. 216th West Station Option would be in a trench on the west side of SR 99 and cross under S. 216th Street. The S. 216th Street East Station Option would be elevated on the east side of SR 99 just south of S. 216th Street.

The S. 216th Street station area is compatible with any SR 99 alignment. The I-5 alignments would not connect to the S. 216th Street station area.

Figure 4-1
S. 216th Station Area Map

4.1 Station Access

How easy is it to access the station?

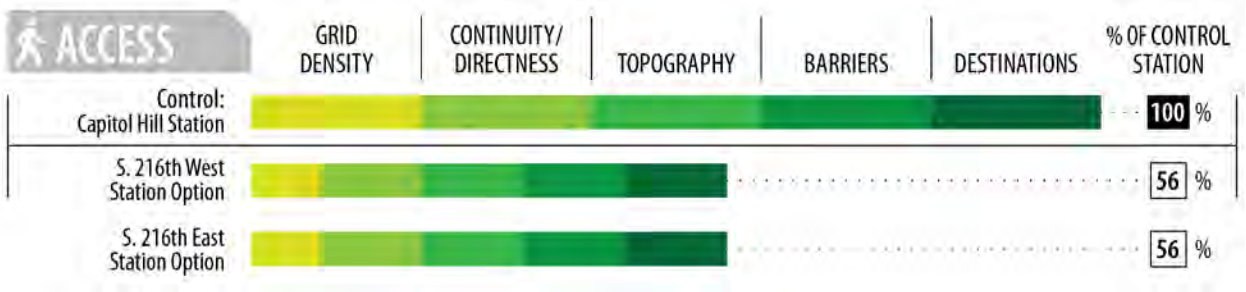
4.1.1 Walk Access

Walk access was evaluated by comparing the proposed station locations to the Capitol Hill station, another light rail station in the Sound Transit system set to open in 2016. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Capitol Hill. Table 4-1 describes the criteria used and Table 4-2 lists the results of the evaluation.

Table 4-1
Walk Access Evaluation Criteria

Criterion	Definition
Grid density	Density of the public walking network, which is presumed to consist primarily of streets and sidewalks
Continuity and directness	Lack of broken links in walk routes, and directness of the route between the station platform and walk trip destinations
Barriers	Lack of barriers and impediments between walk destinations and the station area, such as I-5, major streets, or fences
Destinations	Presence and variety of major walk access destinations in the station area
Topography	Level topography surrounding the station area

Table 4-2
S. 216th Walk Access Scores



The 216th station area is moderately supportive of TOD in terms of walk access. There is no differentiation in walk access scores between these two stations. The street and sidewalk density is similar on the east and west side of SR 99. There is not a significant difference in continuity of walking routes, barriers or impediments in the walk area, or in the number or types of destinations. The topography surrounding the station areas is comparable. Both stations received a score of 56% as compared to the control station, which means the walk access is about half as good as an "ideal" pedestrian environment with a strong grid, directness of routes, few barriers, and a high number of mixed use destinations.

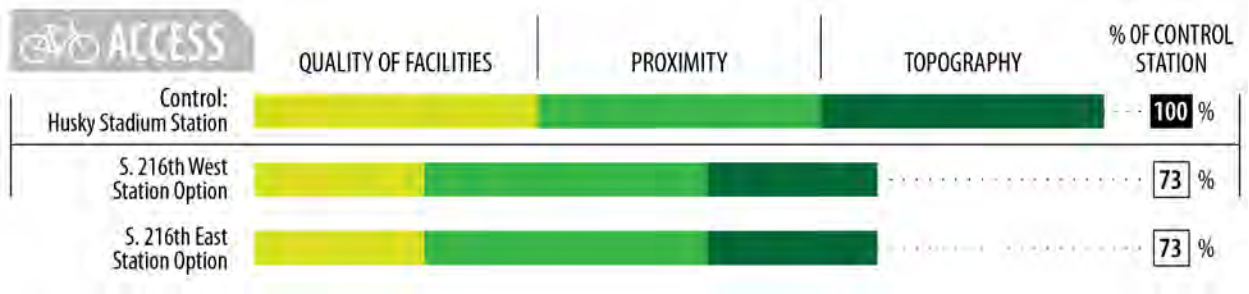
4.1.2 Bicycle Access

Bicycle access was evaluated by comparing the proposed station locations to the University of Washington Station, scheduled to open in 2016. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to the UW Station. Table 4-3 describes the criteria used and Table 4-4 lists the results of the evaluation.

Table 4-3
Bicycle Access Evaluation Criteria

Criterion	Definition
Quality of Facilities	The type or significance of the bicycle route or facility nearby, scored as follows: (1) none, (2) shoulder, (3) designated route, (4) on-street bicycle lane, (5) separated path
Proximity	The proximity of the bicycle route or facility to the station area
Topography	Topography of the station area

Table 4-4
S. 216th Bicycle Access Scores



In terms of bicycle access, the S. 216th station area is strongly supportive of TOD. There is no differentiation in bike access scores between the two station locations. Both options have similar quality of nearby bicycle routes and facilities, which are located in a comparable proximity to the stations. The topography of the station area is similar, meaning neither station poses more difficult access for bicyclists.

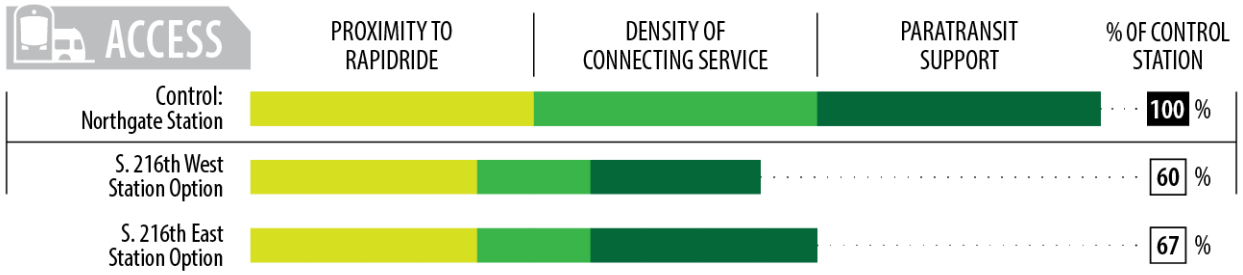
4.1.3 Transit Access

Transit access was evaluated by comparing the proposed station locations to the Northgate station, scheduled to open in 2021. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) compared to its relative performance to Northgate. Table 4-5 describes the criteria used and Table 4-6 lists the results of the evaluation.

Table 4-5
Transit Access Evaluation Criteria

Criterion	Definition
Proximity to RapidRide	The proximity of the proposed light rail station location to RapidRide bus stops to collect riders along the corridor
Density of Connecting Service	Density of other connecting local or regional bus service in the station area
Paratransit Support	Quality of paratransit transfers, including proximity, directness, and freedom from barriers

Table 4-6
S. 216th Transit Access Scores



The S. 216th East Station Option has slightly better transit access than the S. 216th West Station Option because of the paratransit support measure. Both stations received the same rating for proximity to RapidRide and for the density of connecting service. Scores in the range of 60% and 67% are moderately supportive of TOD.

Sound Transit coordinated with King County Metro on the conceptual station layout plans in the early design phase to ensure future bus facilities could be integrated in the station design. The agencies also discussed future service revisions and other ways to improve connectivity between modes, promoting ridership and multimodal accessibility. Coordination will continue throughout the project planning process and future design phases.

4.1.4 Auto Access

Auto access was evaluated by comparing the proposed station locations to the Northgate station. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Northgate. Table 4-7 describes the criteria used and Table 4-8 lists the results of the evaluation.

Table 4-7
Auto Access Evaluation Criteria

Criterion	Definition
Access Options – Quantity	Quantity of streets connecting the station to the surrounding area (the number of access options)
Access Options – Quality	Quality of streets connecting to the station in terms of congestion, complexity, and directness
Parking Stall to Platform Connection	Qualitative assessment of distance and directness from parking area to station platform
Pick-up and Drop-off	Qualitative assessment of proximity and access for short-term parking, as well as orientation and line of sight with respect to the platform

Table 4-8
S. 216th Auto Access Scores

The two stations scored similarly for auto access. The S. 216th West Station Option received a slightly higher score for proximity and access to short-term parking, as well as the orientation and line of sight with respect to the platform. Scores within the 50 – 55% range are moderately supportive of TOD.

4.2 Land Use, Plans & Policies, and Utilities

How transit supportive are the land uses, land use plans, and utility infrastructure?

Sound Transit evaluated whether or not transit oriented development would be compatible with existing land use designations in the proposed station areas. The examination of future land uses, through published information indicating local agency plans and policies, demonstrates a vision for transit oriented development in the future. Looking at existing conditions within the context of future land use planning helps inform the possible "ease of transition" from the existing use(s) of the area toward achieving the identified development goals.

4.2.1 Existing Land Use

Figure 4-2 displays percentages of existing and allowable future land uses in the S. 216th station area.

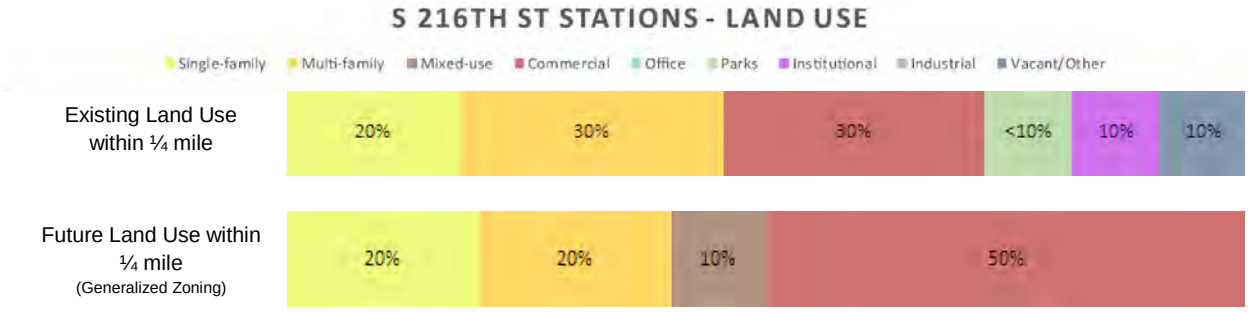


Figure 4-2
Existing Land Uses and Planned Land Uses around the S. 216th Station Options

Summary of Existing Land Use Types

- Within the ¼ mile station area, the predominant existing use in the station area is multi-family residential and commercial, followed by single-family residential.

- Within the ¼ mile station area, commercial development and multi-family residential are 60% of existing land use. These uses support TOD.
- Within the ¼ mile station area, allowable future uses include 50% commercial and 10% mixed use. These uses support TOD.
- Ten percent of parcels in the station area are currently vacant.

Evaluation of Land Uses Supporting TOD

To quantify existing and future TOD-supportive land uses, land use was assessed and grouped into two categories – uses that are transit supportive and those that are not. For the purpose of analyzing TOD potential, the following existing land uses are considered transit supportive: multi-family residential, mixed use, commercial, institutional, and office building.

For TOD purposes, results indicate the percentage of total acres in the station area (as measured in a quarter-mile radius from the center of the proposed station platform) that would be transit-supportive, as indicated in Table 4-9 below.

Table 4-9
Transit-Supportive Land Use at the S. 216th Street Station Area

Station	Existing Land Use *		Planned Land Use	
S. 216th West Station Option	31.5 acres	19%	96.9 acres	97%
S. 216th East Station Option	31.9 acres	24%	96.6 acres	97%

* Excludes vacant parcels.

Nearly all of the S. 216th station area (both east and west) is planned for transit-supportive uses. Existing land use in the station area accounts for less than 25% transit-supportive uses today, excluding parcels that are currently vacant.

4.2.2 Plans and Policies

Local plans and policies frame the jurisdictional and community perspectives, which are important to consider when planning a project to connect employment and activity centers and provide transit access. This section describes the comprehensive plans, CIPs, and TIPs for the cities of SeaTac and Des Moines relevant to the S. 216th station area.

City of SeaTac

The most recent City of SeaTac Comprehensive Plan was adopted in 2012. The City is making updates to the major comprehensive plan elements this year, with City Council action anticipated for June 2015. During this process, the City will accept proposals to change development regulations, including changes to the zoning code. The *City of SeaTac Comprehensive Plan* (City of SeaTac, 2012) identifies a planned future light rail extension south of the Angle Lake Station. Although no additional stations are proposed in SeaTac, the potential additional station at S. 216th Street would be near the boundary between Des Moines and SeaTac, and development of this station could affect land use in SeaTac. This area is planned

for mixed use in the future along SR 99, but otherwise would remain commercial and single-family residential.

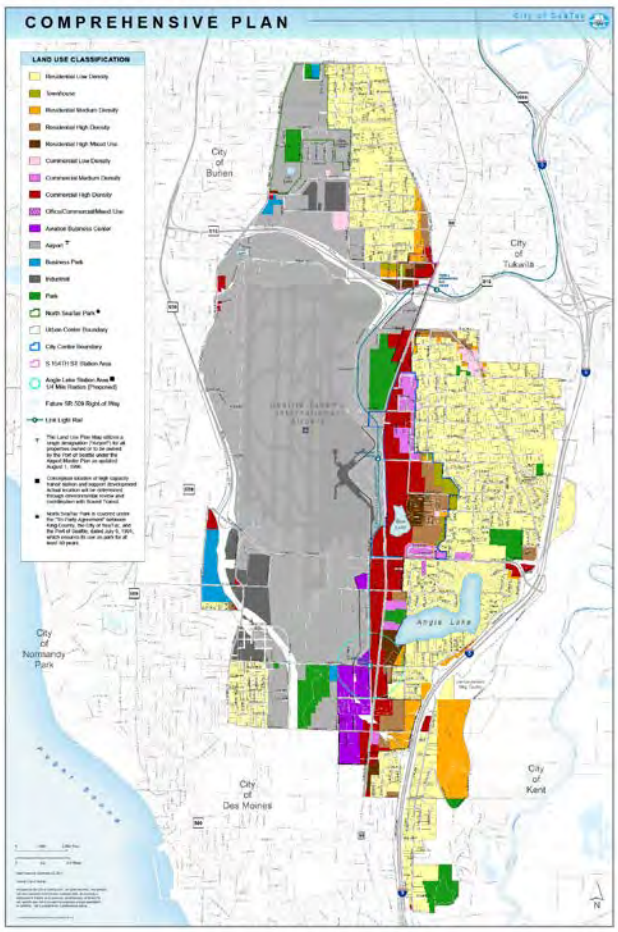


Figure 4-3
City of SeaTac Comprehensive Plan Map (2012)

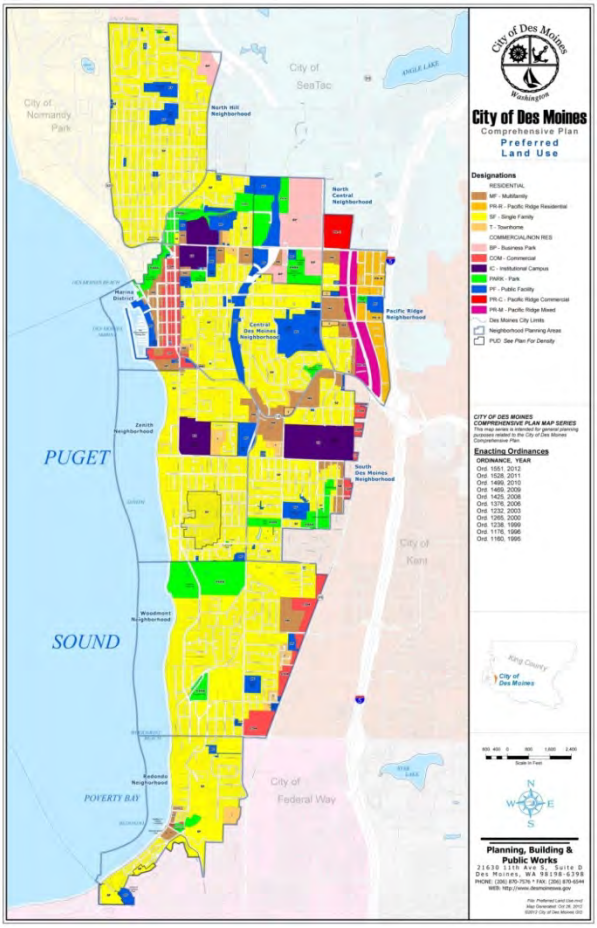


Figure 4-4
City of Des Moines Comprehensive Plan Map (2012)

City of Des Moines

The Pacific Ridge Element of the *City of Des Moines Comprehensive Plan* (City of Des Moines, 2013) calls for higher-density development to utilize regional transportation links. The comprehensive plan encourages developers to take advantage of the increased building heights that are allowed in Pacific Ridge to enhance land value, promote redevelopment, expand view opportunities, and accommodate population growth targets.

CIPs and TIPs

SeaTac

The City of SeaTac's Public Works Transportation Capital Improvement Plan (2013 to 2018) does not identify any capital projects in the vicinity of the S. 216th Street station area.

The *2015 – 2016 Neighborhood Sidewalk Project* could potentially benefit the project area. According to the CIP, the location(s) for this project are yet to be determined. This project would "build new

sidewalks, citywide, on both sides of 12.5 miles of local neighborhood streets over 20 years; supplement and connect to arterial sidewalk network; provide safe connections between neighborhoods, transit, parks, and neighborhood businesses. Projects will be selected from the Sidewalk Ad Hoc Committee's priority map. This is the seventh Neighborhood Sidewalk Project in a 20 year program."

Des Moines

The current Des Moines Capital Improvement Program (CIP) is designated for 2013 to 2018. One project could improve auto access, walk access, and bicycle access in the S. 216th Street station area. The Des Moines Transportation Gateway program widens the roadway to five lanes with a continuous left turn lane, bicycle lanes, sidewalks, planter strips, and U-turn pockets at Pacific Highway S. (SR 99). This work will be constructed in two stages.

4.2.3 Utility Infrastructure Assessment

Utilities were analyzed qualitatively, with respect to proximity of the station options to major existing utility corridors that could have additional capacity. Analysis indicates there are major existing utilities along SR 99 and other major arterials. The results are described in Table 4-10 below.

Table 4-10
S. 216th Station Utility Infrastructure Scores

Station	Score
S. 216th West Station Option	Moderately supportive (50%)
S. 216th East Station Option	Moderately supportive (50%)

A "moderately supportive" score indicates there are existing utilities, but with limited additional capacity. Existing utility infrastructure in the vicinity of the S. 216th station area is as follows:

- Water mains along both sides of SR 99. Generally, the 16-inch water main is on the east side of SR 99 and the 8-inch and 12-inch mains are on the west side.
- 10-inch to 18-inch water mains perpendicular to the SR 99 alignment at arterial intersections.
- 6-inch to 18-inch water mains perpendicular to the alignment along I-5.
- The west side of SR 99 has an 8-inch sewer.
- The east side of SR 99 has a 10-inch sewer.
- Intermittent 8-inch to 12-inch sewers on the east side of SR 99.
- A 115kV electric power line is on the east side of SR 99.

4.3 Market Support

Is the station competitively located to capture demand?

A market support assessment evaluates the station area's TOD potential in the context of housing, retail, lodging, and office market location characteristics. The market location analysis uses a number of

site selection criteria to determine how well positioned each station option is to attract TOD relative to other transit-oriented locations in the market.

Table 4-11 provides a summary of the overall scores, while Tables 4-12, 4-13, 4-14, and 4-15 list the individual market sector scores, and each table is followed by narrative describing the station options relative to each market sector.

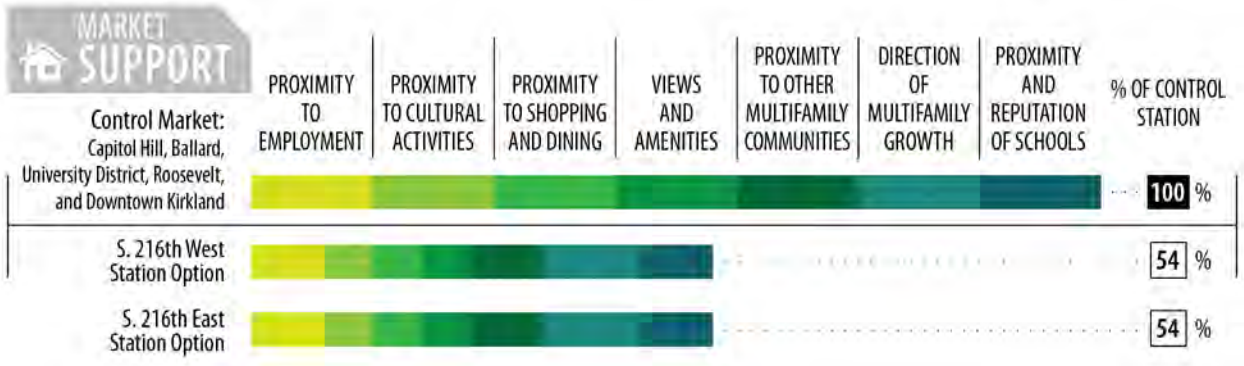
As shown in Table 4-11, the two S. 216th station options rate identically for their overall locational attributes as compared to the controls. Of the four real estate product types assessed, housing, retail, and hospitality received higher scores than office in both station locations.

Table 4-11
S. 216th Station Market Support – Summary Scores

Station	Multi-family Housing	Retail	Hospitality	Office	Overall Score
Control Market Area	Capitol Hill, Ballard, University District, Roosevelt, Downtown Kirkland	Queen Anne, Ballard, Broadway/Pike Pine and Downtown Kirkland, Orenco Station in Hillsboro, Oregon	Downtown Seattle and Bellevue	International District, South Lake Union, Overlake	
S. 216th West Station Option	54%	64%	53%	44%	54%
S. 216th East Station Option	54%	64%	53%	44%	54%

Multi-Family Housing

Table 4-12
S. 216th Station Market Support – Housing

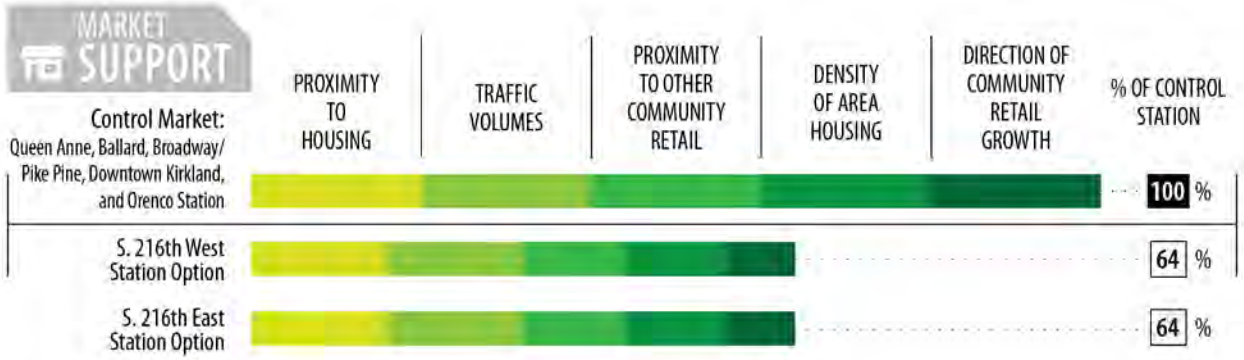


In the region, some of the most attractive multi-family markets include areas such as Capitol Hill, Ballard, the University District, the Roosevelt neighborhood, and Downtown Kirkland. This station area has some positive attributes from an apartment development site selection perspective. It is in the path of multi-family development growth, there has been both recent and proposed multi-family development activity within the station area and it is somewhat close to major employment centers

including the SeaTac Airport. The S. 216th station area lacks apartment-serving amenities however, like shopping and dining, and has a challenging pedestrian environment. The two station options rate identically.

Community Retail

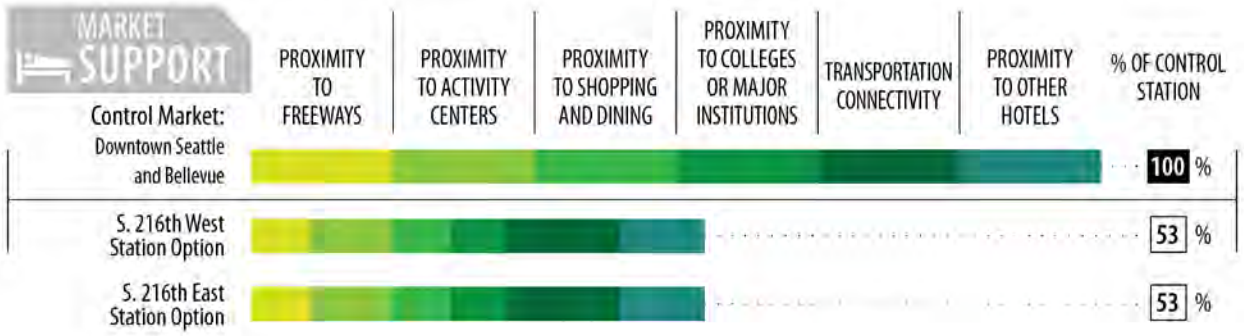
Table 4-13
S. 216th Station Market Support – Community Retail



The region's models for pedestrian-oriented community retail markets include Seattle's Queen Anne, Ballard, the Pike/Pine Corridor, downtown Kirkland on the Eastside, and Hillsboro, Oregon. The S. 216th station strengths include a number of redevelopment sites with SR 99 frontage and proximity and density of existing housing. The station's main disadvantage from a community retail perspective is the lack of community retail, growth in the area, and the auto-oriented nature of the existing retail.

Hospitality

Table 4-14
S. 216th Station Market Support – Hospitality/Lodging

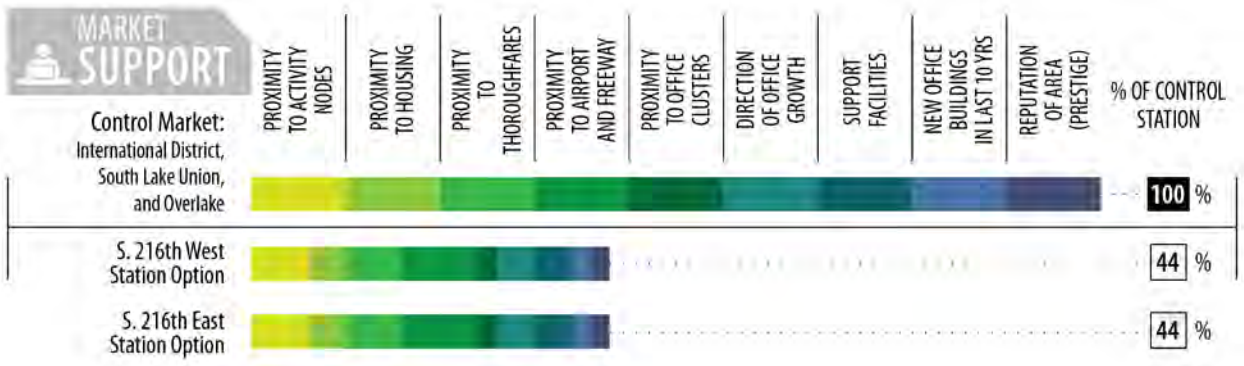


The region's best locations for hospitality uses are in or near the central business districts and major transportation hubs, such as Downtown Seattle and Bellevue, and the SeaTac Airport. The S. 216th station area strengths include SR 99 access, proximity to the SeaTac Airport, transportation connectivity, and recent hotel development just to the south of the station area. It lacks a freeway interchange,

major demand generators in the immediate vicinity (SeaTac Airport is beyond the immediate vicinity), and proximity to shopping and dining options.

Office

Table 4-15
S. 216th Station Market Support – Office



The markets that are the most attractive for low to mid-rise office development in the region are at the fringes of the major central business districts. In Seattle, they include South Lake Union and the International/Stadium district; and on the Eastside, suburban locations such as Overlake. This station area's weaknesses outweigh its strengths from a site selection perspective. Its strengths include SR 99 access, proximity to the SeaTac Airport, and some office supporting facilities. The location's weaknesses include little existing office inventory, a lack of executive housing, no recent office development activity, the fact that it's not in the path of office development growth, and that it doesn't have a reputation as being a desirable location for office development.

4.4 Land Availability

How many acres of redevelopable land are in the station area?

Land availability was evaluated by comparing the amount of redevelopable land in the quarter-mile area around each station option to the total acreage in the quarter-mile. The criteria used to determine redevelopment potential differed depending on the property ownership type. Refer back to Chapter 2 for detailed methodology. As shown in Table 4-16, the quarter-mile area surrounding each of the two station options contains between 46 and 53 acres of land rated to have redevelopment potential.

Table 4-16
S. 216th Land Availability

Station	Agency TOD Acres	Public TOD Acres	Private TOD Acres	Total Acres
S. 216th West Station Option	2	4	47	53
S. 216th East Station Option	1	0	45	46

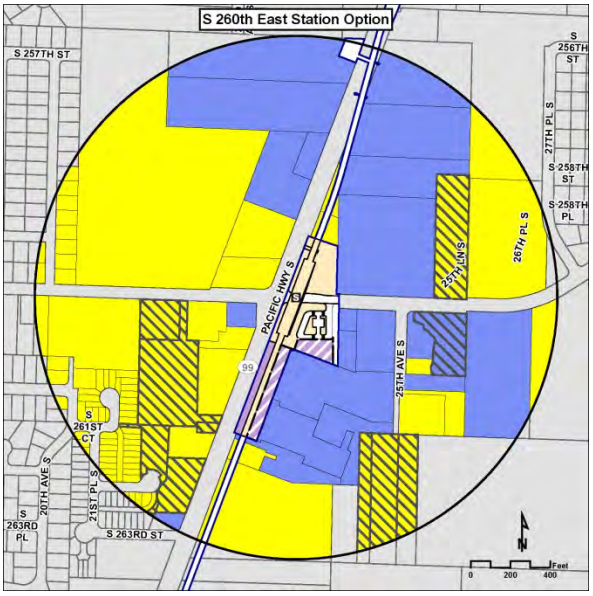
From a land availability perspective, there are a number of factors that influence a station area's total redevelopment potential. The following is a list of the major factors for the S. 216th station area.

- The location of the elevated guideway impacts a number of key parcels with SR 99 frontage.
- There are a few large assemblages with redevelopment potential under single ownership within the station area. At least one of these assemblages is in the early planning stages plans for a large mixed-use project.
- Much of the existing residential housing stock at this location consists of two to eight unit multiplexes.
- This station area would be the second closest light rail stop to the south of the SeaTac Airport, which is one of the largest employment centers in the area.

Land Availability Summary

The S. 216th West Station Option contains 53 acres of land with redevelopment potential, which is more than the S. 216th East Station Option at 46 acres. The difference is due in large part to the fact that more of the S. 216th East Station Option is taken up by the established residential neighborhood located between SR 99 and I-5, which has low redevelopment potential. The following maps illustrate the redevelopment ratings for each parcel within both S. 216th station options by ownership type.

S. 216th East Station Option



S. 216th West Station Option

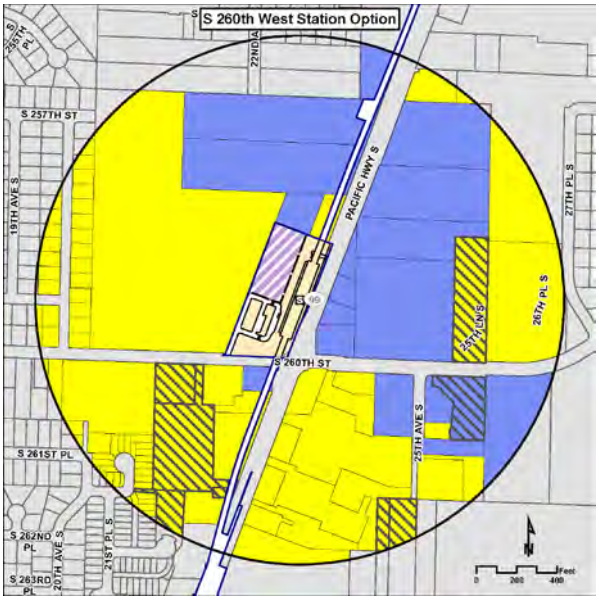


Figure 4-5
Parcel Development Ratings for the 216th Station Area

4.5 Conclusions

Table 4-17
S. 216th Station Summary of Results

Measure	Station option with highest score	Notes
Walk Access	Same	Both station options offer similar walk access.
Bike Access	Same	Both station options offer similar bike access.
Transit Access	S. 216th East	The east station option offers slightly better transit access due to better paratransit support facilities.
Auto Access	S. 216th West	The west station option offers slightly better auto access due to the location and design of the pick-up and drop-off area.
Existing Land Use	S. 216th East	The east station option has a higher percentage of existing land uses that are transit supportive.
Planned Land Use	Same	Both station options have similarly planned transit supportive uses.
Utilities	Same	Both station options have similar utility capacity.
Market Support	Same	The market support applies equally to both station options.
Land Availability	S. 216th West	The west station option has 7 more acres of land with TOD potential.

Within the S. 216th station area, the two potential station options (West and East) are similar and would be relatively supportive of TOD. Of the two stations, the S. 216th West Station Option would have more land with TOD potential.

Key Highlights

S. 216th West Station Option

- This station option would have more agency and public land with TOD potential than the east station option. (53 acres)
- It is a 2 minute walk to RapidRide from the station platform.
- It is a 5 minute ride to the SeaTac Airport (2 stops).
- The elevated guideway serving this station option would impact commercial parcels fronting on the west side of SR 99.
- There are a few large assemblages of parcels with redevelopment potential under single ownership within the area of this station option. At least one of these assemblages is in the early planning stages for a large mixed-use project.
- Much of the existing residential housing stock surrounding this station option consists of two to eight unit multiplexes.
- This station option would be the second closest light rail stop to the SeaTac Airport from the south, which is one of the largest employment centers in the area.

S. 216th East Station Option

- The location of the elevated guideway would impact commercial parcels on the east and west sides of SR 99.
- There are a few large assemblages of parcels with redevelopment potential under single ownership within the area of this station option. At least one of these assemblages is in the early planning stages plans for a large mixed-use project.
- Much of the existing residential housing stock in this station option consists of two to eight unit multiplexes.
- This station option would be the second closest light rail stop to the SeaTac Airport from the south, which is one of the largest employment centers in the area. It is a 5 minute ride to the airport.
- It is a 2 minute walk to RapidRide.
- There are 46 acres of land with TOD potential in the station area.

5.0 Kent/Des Moines Station Area

The Kent/Des Moines station area accommodates station locations for all four alignment alternatives. The station options are illustrated in Figure 5-1 and are also described in more detail in Table 5-1 below.

Figure 5-1
Kent/Des Moines Station Area Map

Table 5-1
Kent/Des Moines Station Descriptions

Station	Alternative	Location Description
Kent/Des Moines Highline Campus Station Option	SR 99	The station would be in a trench in the east parking lot of Highline College.
Kent/Des Moines SR 99 West Station	SR 99	The station would be elevated on the west side of SR 99 near Highline College.
Kent/Des Moines SR 99 Median Station Option	SR 99	The station would be elevated in the median of SR 99.
Kent/Des Moines SR 99 East Station Option (SR 99)	SR 99	The station would be elevated on the east side of SR 99.
Kent/Des Moines SR 99 East Station Option (I-5)	I-5	The station would be elevated station on the east side of SR 99 and closer to Highline College.
Kent/Des Moines 30th Avenue West Station Option	I-5 to SR 99	The station would be elevated west of 30th Avenue S.
Kent/Des Moines 30th Avenue East Station Option	SR 99 to I-5	The station would be elevated east of 30th Avenue S.
Kent/Des Moines I-5 Elevated Station	I-5	The station would be elevated next to I-5 about one-quarter mile east of Highline College.
Kent/Des Moines I-5 At Grade Station Option	I-5	The station would be at-grade along I-5, immediately south of S. 240th Street, about one quarter mile east of Highline College.

5.1 Station Access

How easy is it to access the station?

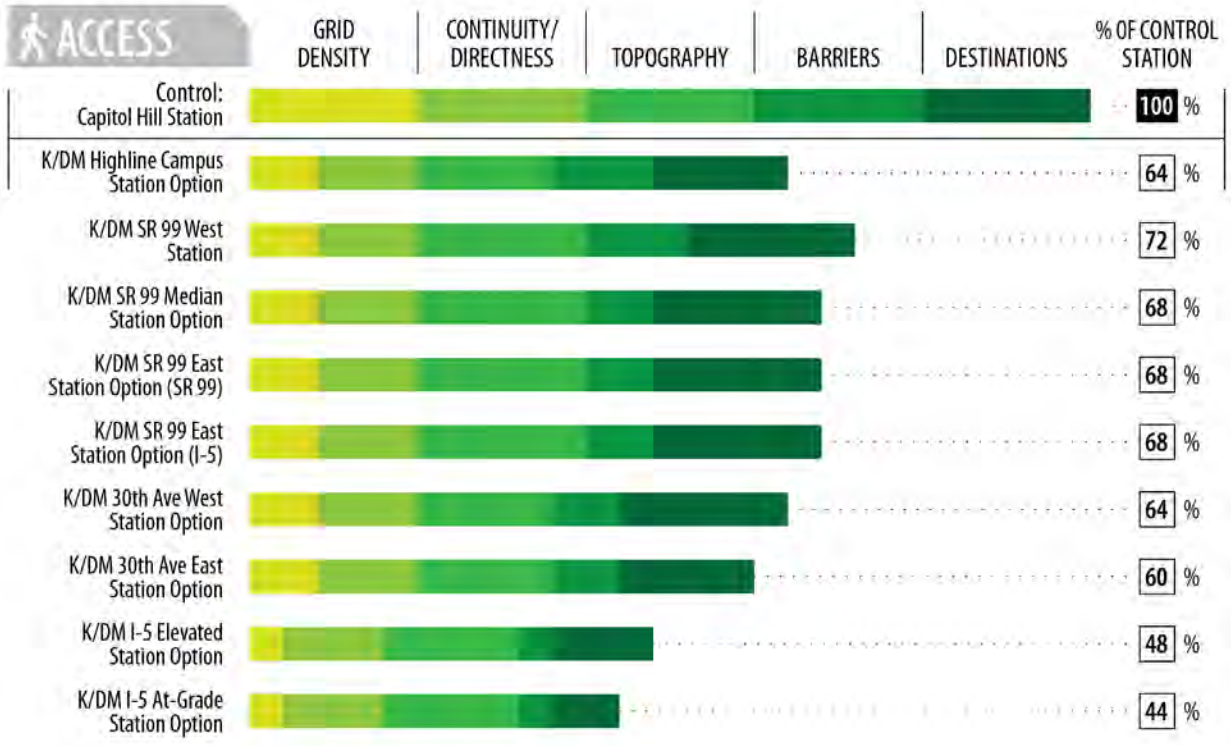
5.1.1 Walk Access

Walk access was evaluated by comparing the proposed station locations to the Capitol Hill station, scheduled to open in 2016. Access was rated using sub-criteria on a scale of one (worst performing) to five (best) for its relative performance to Capitol Hill. Table 5-2 describes the criteria used and Table 5-3 lists the results of the evaluation.

Table 5-2
Walk Access Evaluation Criteria

Criterion	Definition
Grid density	Density of the public walking network, which is presumed to consist primarily of streets and sidewalks
Continuity and directness	Lack of broken links in walk routes, and directness of the route between the station platform and walk trip destinations
Barriers	Lack of barriers and impediments between walk destinations and the station area, such as I-5, major streets, or fences
Destinations	Presence and variety of major walk access destinations in the station area
Topography	Level topography surrounding the station area

Table 5-3
Kent/Des Moines Walk Access Scores



Stations closer to SR 99 have better walk access scores than stations closer to I-5, with stations directly adjacent to SR 99 receiving the highest ratings. Highline College is currently the primary destination in the station area. SR 99 stations are closer to Highline College and had better continuity and more direct walking routes to the campus and other key destinations. SR 99 has sidewalks on both sides of the roadway and providing better walk access to station options located on or adjacent to SR 99. Most neighborhood streets surrounding the station area do not have continuous sidewalks, and stations closer to I-5 were significantly lacking these facilities. Topography is a notable consideration for walk access in this area. Stations closer to Highline College received the best rating for topography, and those closer to I-5 received the lowest, as pedestrians would be required to walk uphill to reach key destinations in the station area. Walk access could improve with refinements to station design and future projects implemented by the local agencies.

5.1.2 Bicycle Access

Bicycle access was evaluated by comparing the proposed station locations to the University of Washington station, scheduled to open in 2016. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to the UW station. Table 5-4 describes the criteria used and Table 5-5 lists the results of the evaluation.

Table 5-4
Bicycle Access Evaluation Criteria

Criterion	Definition
Facilities	The type or significance of the bicycle route or facility nearby, scored as follows: (1) none, (2) shoulder, (3) designated route, (4) on-street bicycle lane, (5) separated path
Proximity	The proximity of the bicycle route or facility to the station area
Topography	Topography of the station area

Stations along SR 99 have slightly better bicycle access than stations near I-5. There are some limited existing bicycle facilities along SR 99; however access could improve in the future with projects implemented by the local agencies. The City of Des Moines has future plans for a bike lane along S. 240th Street.

Table 5-5
Kent/Des Moines Bicycle Access Scores

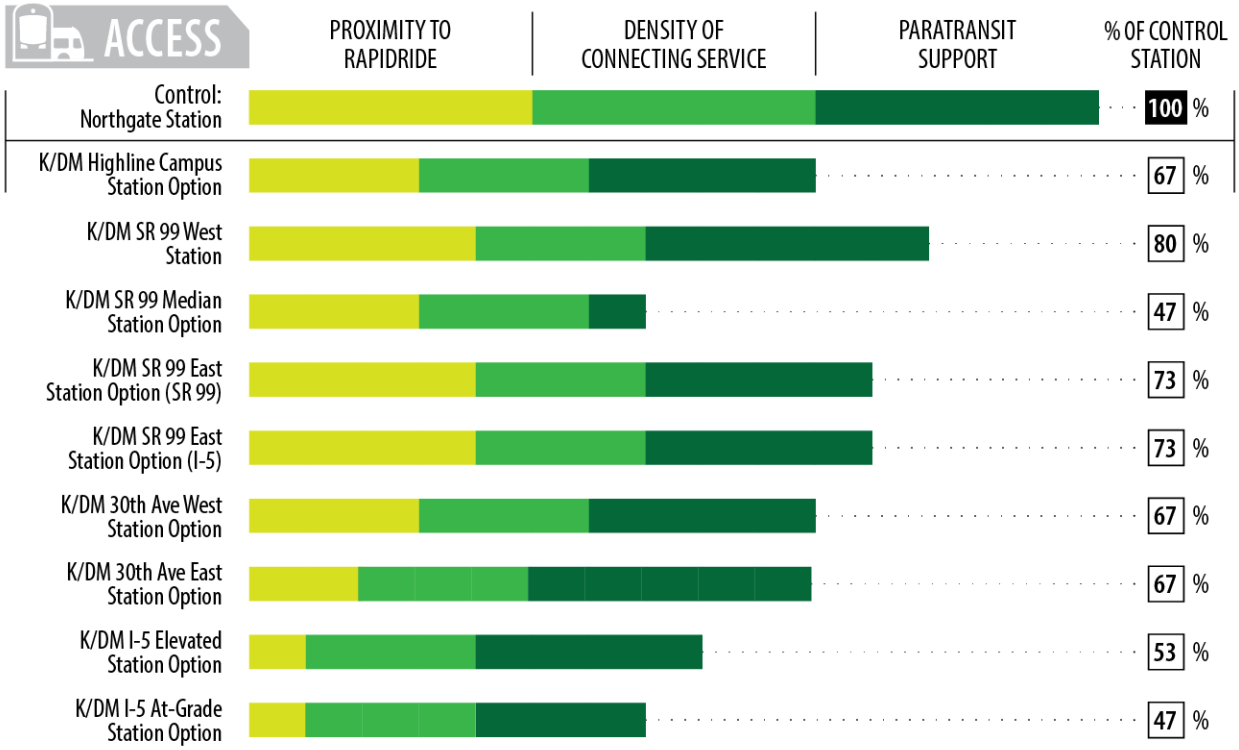
5.1.3 Transit Access

Transit access was evaluated by comparing the proposed station locations to the Northgate station, scheduled to open in 2021. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) compared to its relative performance to Northgate. Table 5-6 describes the criteria used and Table 5-7 lists the results of the evaluation.

Table 5-6
Transit Access Evaluation Criteria

Criterion	Definition
Proximity to RapidRide	The proximity of the proposed light rail station location to RapidRide bus stops to collect riders along the corridor
Density of Connecting Service	Density of other connecting local or regional bus service in the station area
Paratransit	Quality of paratransit transfers, including proximity, directness, and freedom from barriers

Table 5-7
Kent/Des Moines Transit Access Scores



The stations along SR 99 have slightly better access to transit connections than the I-5 and 30th Avenue Station Options, primarily because of proximity to RapidRide bus stops. The SR 99 West Station Option received the highest score of 80%. With the exception of the I-5 At-Grade Station Option, all stations in the Kent/Des Moines station area are at least moderately supportive of TOD in terms of transit access.

Sound Transit coordinated with King County Metro on the conceptual station layout plans in the early design phase to ensure future bus facilities could be integrated in the station design. The agencies also discussed future service revisions and other ways to improve connectivity between modes, promoting ridership and multimodal accessibility. This coordination will continue throughout the environmental planning process and future design phases.

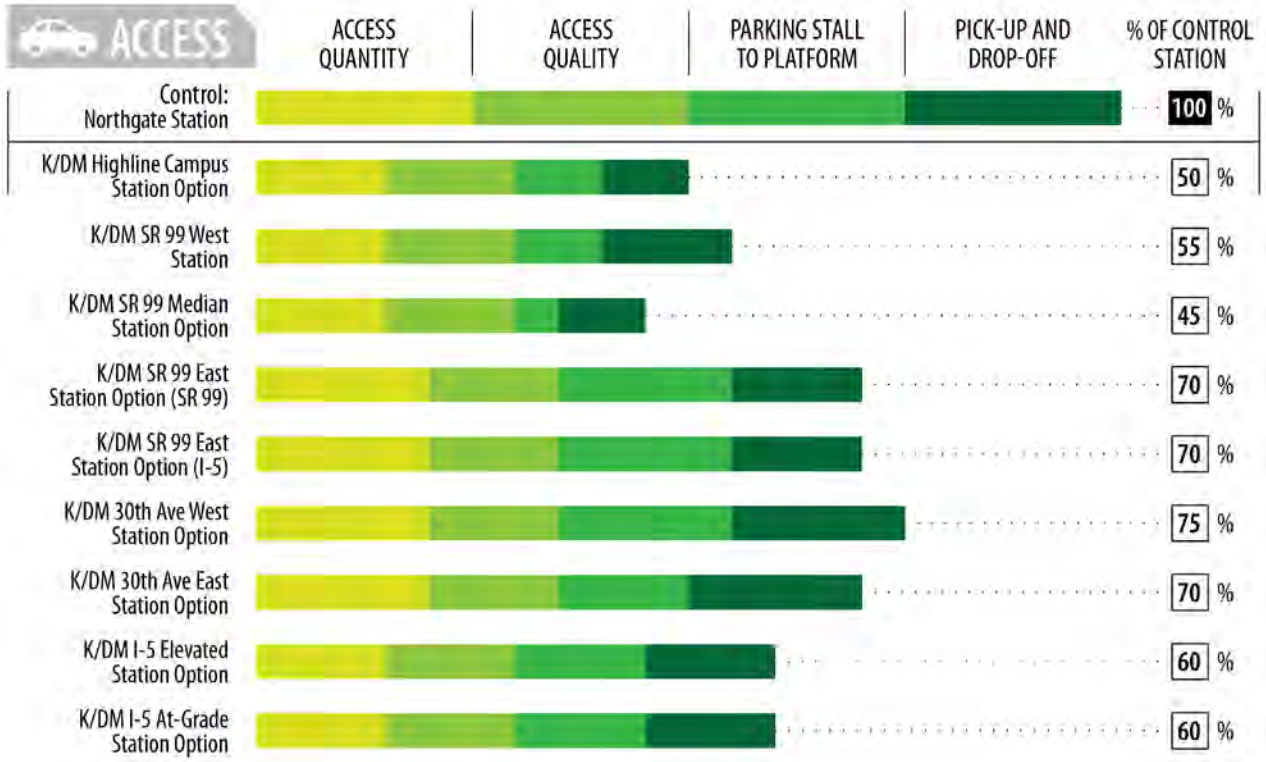
5.1.4 Auto Access

Auto access was evaluated by comparing the proposed station locations to the Northgate station. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Northgate. Table 5-8 describes the criteria used and Table 5-9 lists the results of the evaluation.

Table 5-8
Auto Access Evaluation Criteria

Criterion	Definition
Access Options – Quantity	Quantity of streets connecting the station to the surrounding area (the number of access options)
Access Options – Quality	Quality of streets connecting to the station in terms of congestion, complexity, and directness
Parking Stall to Platform Connection	Qualitative assessment of distance and directness from parking area to station platform
Pick-up and Drop-off	Qualitative assessment of proximity and access for short-term parking, as well as orientation and line of sight with respect to the platform

Table 5-9
Kent/Des Moines Auto Access Scores



The SR 99 East Stations Options (SR 99 and I-5) and the 30th Avenue Station Options (east and west) received the highest scores for auto access primarily because of the number of connecting streets to the station area and the connection from the parking area to the station platform. The Highline Campus Station Option, SR 99 Median Station Option, and the SR 99 West Station Option received the lowest score because of less desirable parking connections (especially for the median station) and proximity and ease of access to the pick-up and drop-off area. Additionally, riders would need to cross SR 99 to access the parking facility. With the exception of the SR 99 Median Station Option, all stations in the Kent/Des Moines station area are at least moderately supportive of TOD in terms of auto access.

5.2 Land Use, Plans & Policies, and Utilities

How transit supportive are the land uses, land use plans, and utility infrastructure?

Sound Transit evaluated whether or not transit oriented development would be compatible with existing land use designations in the proposed station areas. The examination of future land uses, through published information indicating local agency plans and policies, demonstrates a vision for transit oriented development in the future. Looking at existing conditions within the context of future land use planning helps inform the possible "ease of transition" from the existing use(s) of the area toward achieving the identified development goals.

5.2.1 Existing Land Use

Figure 5-2 displays percentages of existing and allowable future land uses around the Kent/Des Moines station area.

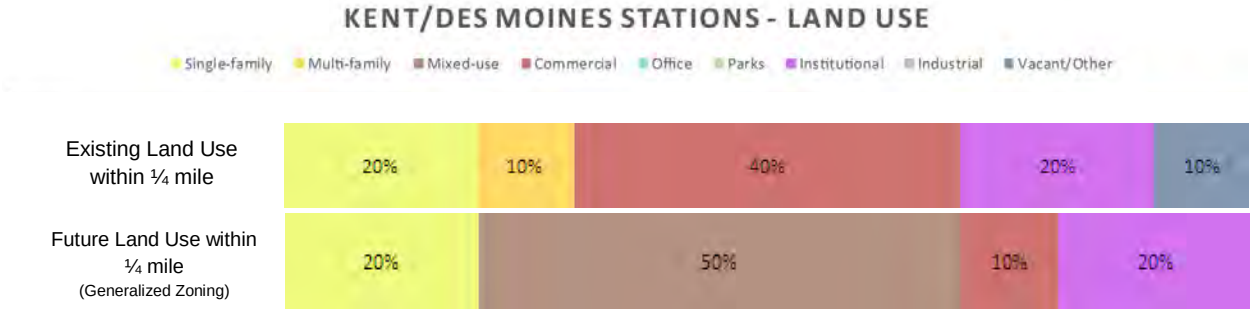


Figure 5-2
Existing Land Uses and Allowable Future Land Uses around Kent/Des Moines Station Area

Summary of Existing Land Use Types

- Within the ¼ mile station area, the predominant existing use in the station area is commercial, followed by institutional and single-family residential.
- Within the ¼ mile station area, commercial development and multi-family residential together represent 50% of existing land use. These uses support TOD.
- Within the ¼ mile station area, allowable future uses include 50% mixed-use and 20% commercial. These uses support TOD.
- Approximately 10% of the parcels in the station area are currently vacant.
- Stations along SR 99 have more land zoned for high density within the ¼ mile station area than stations along I-5.

Evaluation of Land Uses Supporting TOD

To quantify existing and future TOD-supportive land uses, land use was assessed and grouped into two categories For the purpose of analyzing TOD potential, the following existing land uses are considered transit supportive: multi-family residential, commercial, institutional, and office building.

For TOD purposes, results indicate the percentage of total acres in the station area (as measured in a quarter-mile radius from the center of the proposed station platform) that would be transit-supportive, as indicated in Table 5-10 below.

Table 5-10
Kent/Des Moines Land Uses Supportive of TOD

Station	Existing Land Use*		Planned Land Use	
Kent/Des Moines Highline Campus Station	53.4 acres	50%	100.7 acres	100%
Kent/Des Moines SR 99 West Station	48.9 acres	43%	105.8 acres	100%
Kent/Des Moines SR 99 Median Station Option	46.2 acres	40%	105.6 acres	100%
Kent/Des Moines SR 99 East Station Option (SR 99)	44.0 acres	37%	105 acres	100%
Kent/Des Moines SR 99 East Station Option (I-5)	44.0 acres	37%	105 acres	100%
Kent/Des Moines 30th Ave West Station	37.7 acres	28%	97.7 acres	98%
Kent/Des Moines 30th Ave East Station Option	33.6 acres	20%	87.3 acres	87%
Kent/Des Moines I-5 Elevated Station	26.0 acres	9%	62.4 acres	62%
Kent/Des Moines I-5 At-Grade Station Option	30.2 acres	6%	56.5 acres	56%

* Excludes vacant parcels.

Existing land use in the Kent/Des Moines station area has limited TOD support; however, planned land use is highly supportive of TOD. See the section below for more information about the comprehensive plans and subarea plans for the cities of Kent and Des Moines.

5.2.2 Plans and Policies

Local plans and policies frame the jurisdictional and community perspectives, which are important to consider when planning a project to connect employment and activity centers and provide transit access. This section describes the comprehensive plans, subarea plans, CIPs, and TIPs for the Cities of Kent and Des Moines relevant to the Kent/Des Moines station area.

The Cities of Kent and Des Moines have comprehensive plans for overall city planning. In addition, they have developed subarea plans specific to the station area around SR 99, Kent-Des Moines Road, and S. 240th Street.

- Kent Comprehensive Plan (2011; update due 2015)
- Midway Subarea Plan / Envision Midway (2011)
- Pacific Highway S. Subarea Planning Process (2014) (Ordinance No. 1601)
- Des Moines Comprehensive Plan (2013; update in progress – due 2015)

The Pacific Ridge Element of the *City of Des Moines Comprehensive Plan* (City of Des Moines, 2013) calls for higher-density development to utilize regional transportation links. The comprehensive plan encourages developers to take advantage of the increased building heights that are allowed in Pacific

Ridge to enhance land value, promote redevelopment, expand view opportunities, and accommodate household growth targets.

Potential future land uses adjacent to SR 99 include commercial with single- and multi-family residential uses farther east and west. This is generally consistent with existing land uses, although zoning allows for higher-density development than currently exists. The Kent/Des Moines SR 99 West Station would be located in Des Moines, as would the Highline College Campus Station Option. The remaining Kent/Des Moines station options would be located in the city of Kent, but much of the area within a half-mile of these stations would be in the city of Des Moines.

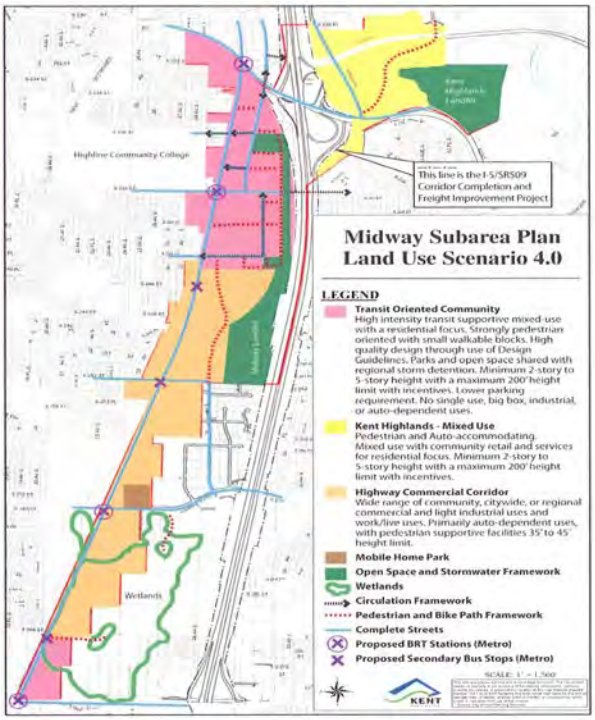


Figure 5-3
Midway Subarea Plan Land Use

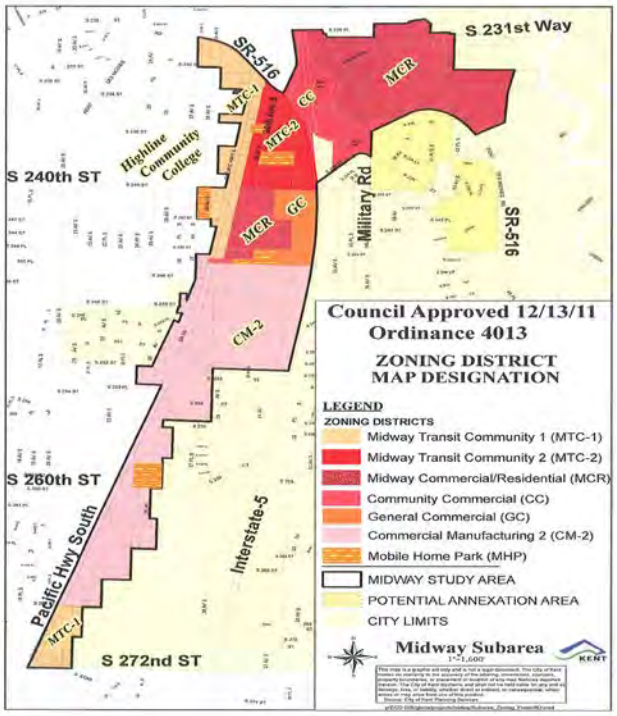


Figure 5-4
Midway Subarea Zoning

Kent Midway Subarea Plan

The Midway Subarea Plan was adopted by the Kent City Council in 2011. This subarea is located between SR 99 and I-5 from east to west, and between Kent-Des Moines Road and S. 272nd Street from north to south. The Midway Subarea was featured in Puget Sound Regional Council's Growing Transit Communities, which is a program funded by the U.S. Department of Housing and Urban Development's Sustainable Communities Regional Planning Grant Program.

Implementation of the Midway Land Use Plan Map designations included:

Midway Transit Community – 1 (MTC-1)

"The purpose and intent of the MTC-1 district is to provide an area that will encourage the location of moderately dense and varied retail, office, or residential activities in support of rapid light rail and mass transit options, to enhance a pedestrian-oriented character while acknowledging the existing highway corridor character, and to implement the goals and policies of the Midway Subarea Plan." (Midway Subarea Plan, 2011)

Midway Transit Community – 2 (MTC-2)

"The purpose and intent of the MTC-2 district is to provide a place and create environmental conditions which will promote the location of dense and varied retail, office, or residential activities, and recreational activities in support of rapid light rail and mass transit options, to ensure a primarily pedestrian-oriented character, and to implement the goals and policies of the Midway Subarea Plan." (Midway Subarea Plan, 2011)

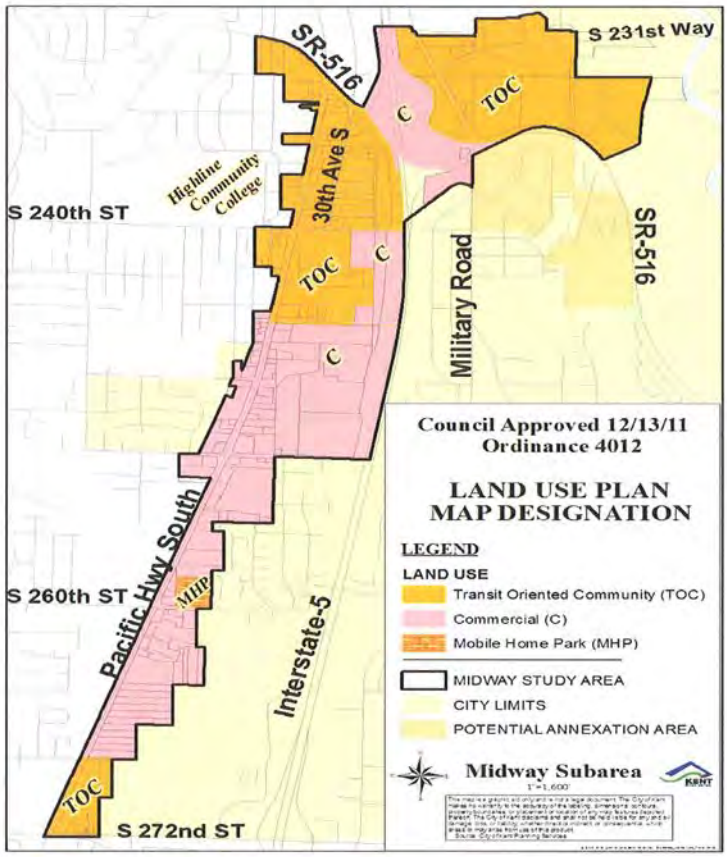


Figure 5-5
Midway Subarea Zoning

Midway Commercial/Residential

"The purpose and intent of the MCR district is to provide area that will encourage the location of dense and varied retail, office, or residential activities in support of rapid light rail and mass transit options, to enhance pedestrian-oriented character, and to implement the goals and policies of the Midway Subarea Plan." (Midway Subarea Plan, 2011)

Also in 2011, the City of Kent Comprehensive Plan Land Use Map designations were amended to designate a Transit Oriented Community (TOC) in the area of the proposed Kent/Des Moines station options. The City defined a TOC as properties "considered redevelopable with capacity determined by a modified build-out scenario of 5-story structures with a maximum of 15-story structures… and assumes little surface parking with mostly enclosed parking or underground." Public input throughout the Midway Subarea planning process indicated support for high-intensity uses around the future light rail station.

Pacific Highway S. Subarea Planning Process This plan established zoning code and development regulation changes for the area around SR 99, S. 240th Street, and Highline College, designating this area as a Transit Community Zone. This ordinance directs the City of Des Moines to work with Sound Transit on station area planning and to coordinate with the City of Kent on plans for the Midway Subarea.

CIPs and TIPs

City of Kent

The current City of Kent Capital Improvement Program (CIP) is designated for 2009 to 2014. In this program, there are no improvements currently funded or planned in the Kent/Des Moines station area that specifically target integration with the future proposed light rail station. The City adopted a CIP for 2015 to 2020 in December 2014, and a TIP for the same six year horizon in July 2014. The update to the comprehensive plan is underway and includes transportation and capital facilities elements. The City of Kent Transportation Master Plan also identifies planned improvements in the general station area.

City of Des Moines

The current Des Moines Capital Improvement Program (CIP) is designated for 2013 to 2018. There are no specific improvements currently funded or planned in the Kent/Des Moines station area. The 2015 update is currently in progress.

5.2.3 Utility Infrastructure Assessment

Utilities were analyzed qualitatively, with respect to proximity of the station to major existing utility corridors that could have additional capacity. Analysis indicates there are more major existing utilities along SR 99 than I-5. The results are described in Table 5-11 below.

Table 5-11
Kent Des Moines Station Utility Infrastructure Scores

Station	Score
Kent/Des Moines Highline Campus Station Option	Moderately supportive (50%)
Kent/Des Moines SR 99 West Station	Moderately supportive (50%)
Kent/Des Moines SR 99 Median Station Option	Moderately supportive (50%)
Kent/Des Moines SR 99 East Station Option (SR 99)	Moderately supportive (50%)
Kent/Des Moines SR 99 East Station Option (I-5)	Moderately supportive (50%)
Kent/Des Moines 30th Ave West Station Option	Moderately supportive (50%)
Kent/Des Moines 30th Ave East Station Option	Moderately supportive (50%)
Kent/Des Moines I-5 Elevated Station	Less supportive (30%)
Kent/Des Moines I-5 At-Grade Station Option	Less supportive (30%)

A "moderately supportive" score indicates there are existing utilities, but with limited additional capacity. A "less supportive" score indicates there are limited utilities and no additional capacity. Stations closer to SR 99 received higher scores, as more existing utilities are present in that corridor. Existing utilities in the vicinity of the Kent/Des Moines station area are as follows:

- Water mains along both sides of SR 99. Generally, the 16-inch water main is on the east side of SR 99 and the 8-inch and 12-inch mains are on the west side.
- 10-inch to 18-inch water mains perpendicular to the SR 99 alignment at arterial intersections.
- 6-inch to 18-inch water mains perpendicular to the alignment along I-5.
- Intermittent 8-inch to 12-inch sewers on the east side of SR 99.
- A 115kV electric power line is located on the west side of SR 99.

5.3 Market Support

Is the station competitively located to capture demand?

A market support assessment evaluates the broader station-area TOD potential in the context of housing, retail, hospitality, and office market location characteristics. The market location analysis uses a number of site selection criteria to determine how well located each station option is to attract TOD, relative to another transit-oriented location in the market.

Table 5-12 provides a summary of the overall scores, while Tables 5-13, 5-14, 5-15, and 5-16 list the individual market sector scores, and each table is followed by narrative describing the station options relative to each market sector.

Table 5-12
Kent/Des Moines Station Market Support – Summary Scores

Station	Housing	Retail	Hospitality	Office	Overall Score
Control Market Area	Capitol Hill, Ballard, University District, Roosevelt, Downtown Kirkland	Queen Anne, Ballard, Broadway/Pike Pine and Downtown Kirkland, Orenco Station in Hillsboro, Oregon	Downtown Seattle and Bellevue	International District, South Lake Union, Overlake	
Kent/Des Moines Highline Campus Station Option	60%	60%	53%	40%	53%
Kent/Des Moines SR 99 West Station	60%	64%	53%	40%	54%
Kent/Des Moines SR 99 Median Station Option	60%	64%	53%	40%	54%
Kent/Des Moines SR 99 East Station Option (SR 99)	60%	64%	53%	40%	54%
Kent/Des Moines SR 99 East Station Option (I-5)	60%	64%	53%	40%	54%
Kent/Des Moines 30th Ave West Station Option	60%	60%	53%	40%	53%

Kent/Des Moines 30th Ave East Station Option	60%	56%	53%	40%	52%
Kent/Des Moines I-5 Elevated Station	51%	48%	53%	38%	48%
Kent/Des Moines I-5 At-Grade Station Option	51%	56%	43%	38%	47%

As shown in Table 5-12, individual station options rate similarly for their overall market support from a locational perspective, with the I-5 options rating slightly lower than the other seven options. In terms of individual product types, housing, retail and hospitality scored higher from a locational perspective than office space at all nine of the proposed station options.

Multi-Family Housing

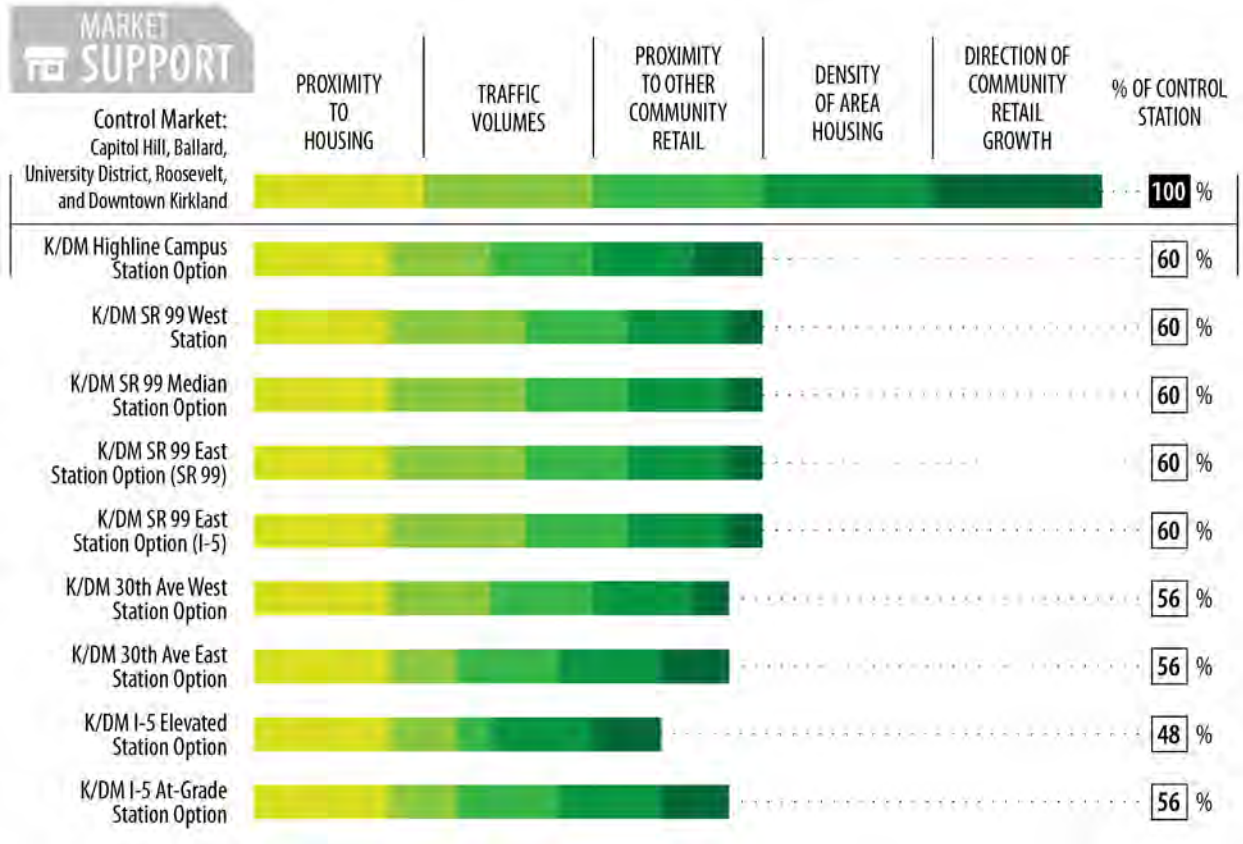
Table 5-13
Kent/Des Moines Station Market Support – Housing

In the region, some of the most attractive multi-family markets include areas such as Capitol Hill, Ballard, the University District, and the Roosevelt neighborhood. The Kent/Des Moines station area has some positive attributes from an apartment development site selection perspective. It is served by a range of educational opportunities and is in the path of multi-family growth; however growth could take decades to reach the station area. There are existing multifamily buildings, and employment and cultural centers are within reach. The station area lacks apartment-serving amenities like shopping and dining

and has a challenging pedestrian environment. The Kent/Des Moines station options are similar in terms of their overall rating, although the two I-5 options received slightly lower scores.

Community Retail

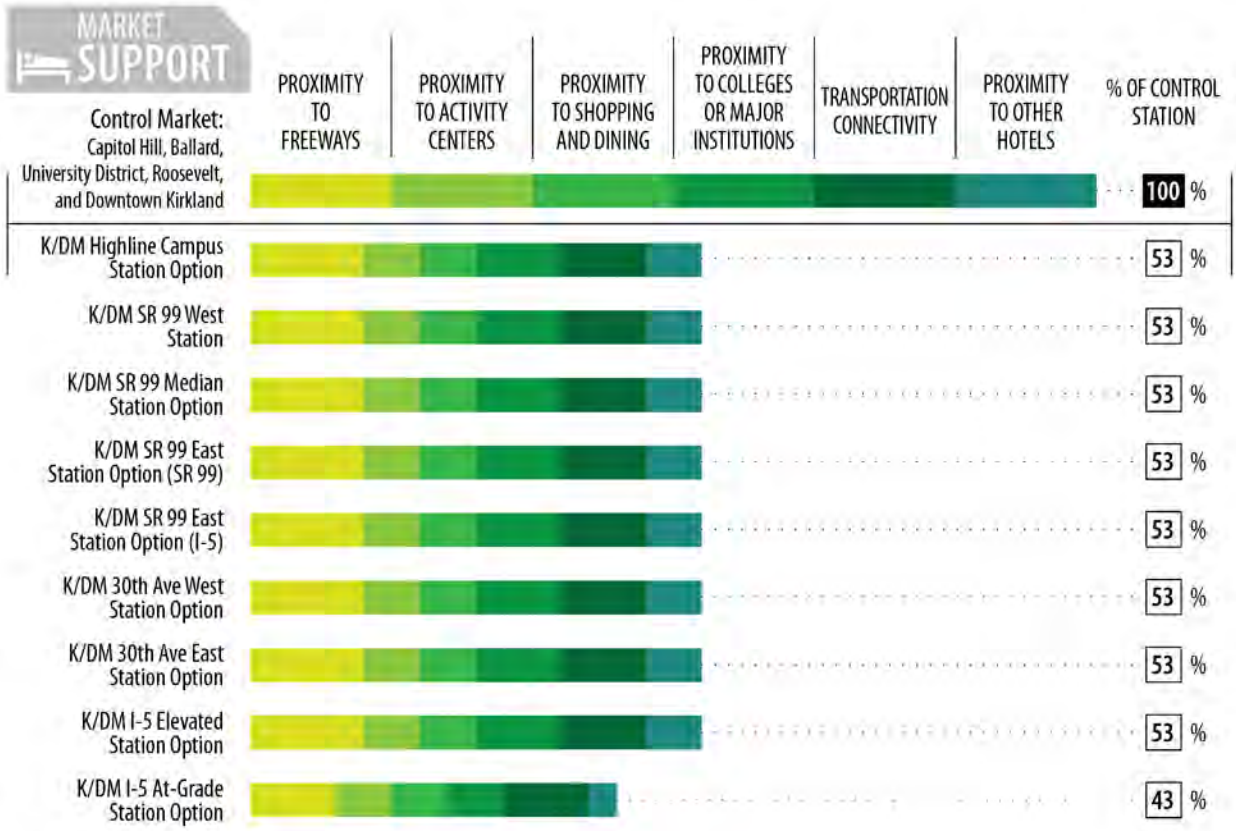
Table 5-14
Kent/Des Moines Station Market Support – Community Retail



The region's models for pedestrian-oriented community retail markets include Seattle's Queen Anne neighborhood, Ballard, the Pike/Pine Corridor, and downtown Kirkland on the Eastside. This station area is moderately well located to attract auto-oriented community retail. The Kent/Des Moines station area's strengths include I-5 access, the exposure to traffic on SR 99, proximity to Highline College, and proximity to moderately dense housing. The station area's main disadvantage from a community retail perspective is the lack of existing community retail and the auto-oriented nature of the existing uses. Access and visibility to SR 99 is desirable to retailers considering this location, which is one reason why the SR 99 stations scored slightly higher than the other locations. The I-5 Elevated Station Option rated noticeably lower than the others due in large part to the relative lack of existing retail.

Hospitality

Table 5-15
Kent/Des Moines Station Market Support – Hospitality/Lodging

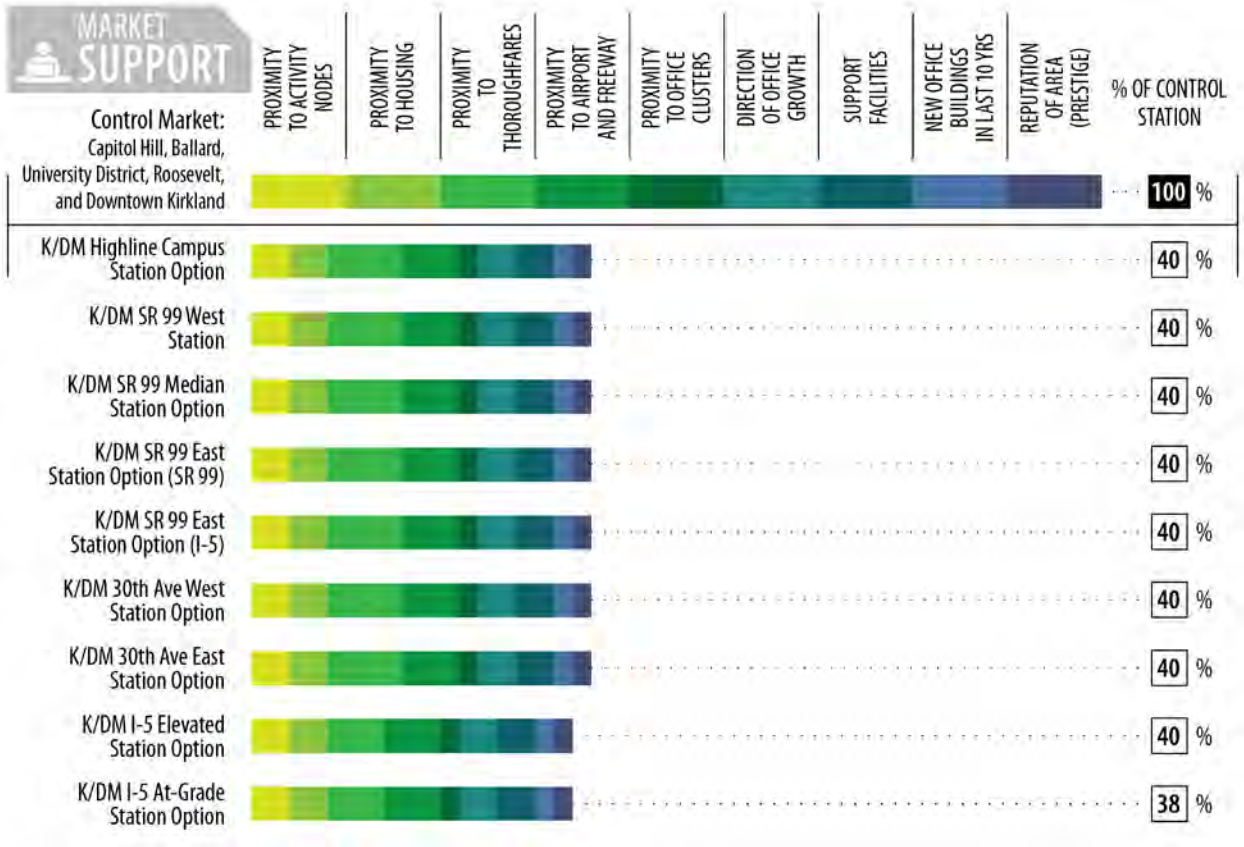


The region's best locations for hospitality uses are in or near the central business districts and major transportation hubs, such as Downtown Seattle and Bellevue, and the SeaTac Airport. A major transportation hub is a multi-modal transportation hub that serves a large number of people. A good example is King Street station in downtown Seattle. The hub serves a large number of people using both inner-city rail, intra-city bus and commuter rail; and is adjacent to light rail and local bus service; major surface transit stops; and the future terminus of the First Hill Streetcar.

From a location standpoint, the station area's greatest strengths include freeway access, proximity to the Highline College, and connectivity to public transit. It lacks major demand generators such as a major office space cluster, and hotel serving amenities like cultural attractions and restaurants. With the exception of the I-5 At-Grade Station Option, the Kent/Des Moines station area hospitality scores were identical. The I-5 At-Grade Station Option scored lower than the others due to being located further south, which put it farther from the I-5 interchange and from other existing hotels located to the north.

Office

Table 5-16
Kent/Des Moines Station Market Support – Office



The markets that are the most attractive for low to mid-rise office development in the region are at the fringes of the major central business districts. In Seattle, they include South Lake Union and the International/Stadium district; and on the Eastside, suburban locations such as Overlake. From an office development site selection perspective, this station area's strengths include I-5 and SR 99 access, proximity to the Highline College, and proximity to the SeaTac Airport. The location's weaknesses include: little existing office inventory, no recent office development, and not being in the path of office development growth. The stations options scored similarly in terms of their overall rating, although the two I-5 options are slightly lower due to fewer sites with SR 99 frontage.

5.4 Land Availability

How many acres of redevelopable land are in the station area?

Land availability was evaluated by comparing the amount of redevelopable land in the quarter-mile area around each station option to the total acreage in the quarter-mile. The criteria used to determine redevelopment potential differed depending on the property ownership type. For detailed methodology, refer back to Chapter 2.

As shown in Table 5-17, the quarter mile area surrounding each of the station options contain between 28 and 47 acres of land rated to have redevelopment potential.

Table 5-17
Kent/Des Moines Land Availability

Station	Agency TOD Acres	Public TOD Acres	Private TOD Acres	Total Acres
Kent/Des Moines Highline Campus Station Option	7	0	23	30
Kent/Des Moines SR 99 West Station	5	1	26	32
Kent/Des Moines SR 99 Median Station Option	6	1	34	41
Kent/Des Moines SR 99 East Station Option (SR 99)	6	1	32	39
Kent/Des Moines SR 99 East Station Option (I-5)	6	1	32	39
Kent/Des Moines 30th Ave West Station Option	6	1	32	39
Kent/Des Moines 30th Ave East Station Option	8	4	35	47
Kent/Des Moines I-5 Elevated Station	7	0	24	31
Kent/Des Moines I-5 At-Grade Station Option	7	0	21	28

From a land availability perspective, there are a number of factors that influence a station option's total redevelopment potential. The following is a list of the major factors at this station area.

- The location of the guideway impacts a number of key parcels in many of the station locations, particularly those in which the guideway runs along the east or west side of SR 99.
- The proposed S. 236th Lane extension improves access to parcels located on 30th Avenue S. in some of the station options.
- The northwest section of the station area primarily consists of an established single family neighborhood and is unlikely to redevelop in the foreseeable future. This area makes up a significant portion of the total land at a few of the station options.
- Highline College accounts for a significant portion of the overall property within some of the station options. The Highline Campus Station Option is currently rated to have limited TOD potential, as there are no known plans for new development on the campus.
- I-5 impedes station access to parcels in the eastern half of the quarter mile station area for some of the station locations.

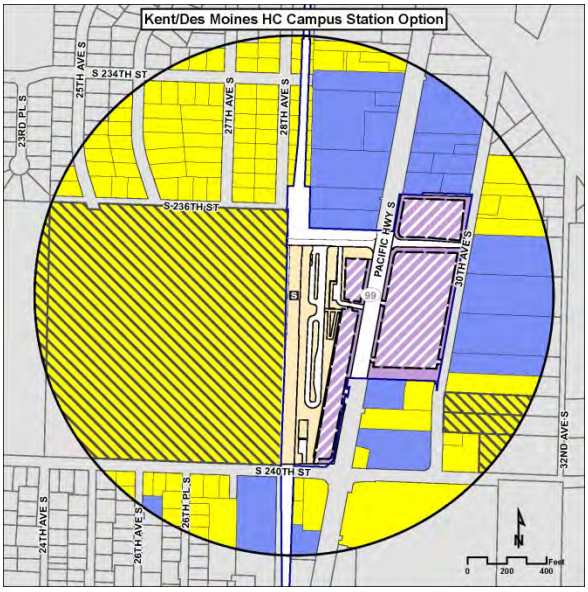
The Kent/Des Moines 30th Avenue East Station Option contains 47 acres of land with redevelopment potential, which is the greatest number of acres of all nine Kent/Des Moines station options. The location of the guideway doesn't impact parcels with SR 99 frontage, the station and facility footprint design leave a relatively large amount of land with future TOD potential, and the location of the guideway requires the demolition of a few publically owned properties with low redevelopment potential, freeing up the remaining portions of these parcels for development.

The SR 99 Median Station Option, SR 99 East Station Option (SR 99), and SR 99 East Station Option (I-5) station options each offer around 40 acres of land with redevelopment potential. The SR 99 West Station Option, Highline Campus Station Option, and the two I-5 Station Options (at-grade and elevated) offer around 30 acres each.

Much of the quarter-mile area surrounding the SR 99 West Station Option and Highline Campus Station Options is taken up by established single family neighborhoods and Highline College, which are not considered to have redevelopment potential. The two I-5 Station Options rate relatively low because access to a significant portion of the quarter mile area surrounding each of these two stations is cut off by I-5.

The following maps in Figure 5-6 illustrate the redevelopment ratings for each parcel within individual Kent/Des Moines station options by ownership type.

Kent/Des Moines Highline Campus Station Option



Kent/Des Moines SR 99 West Station Option

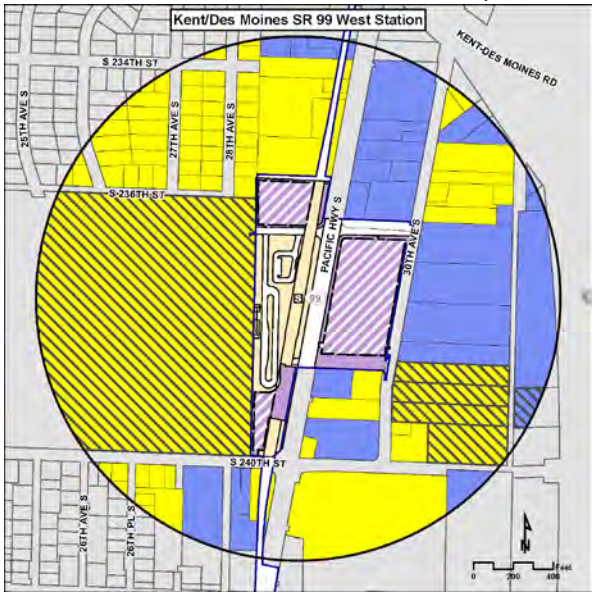
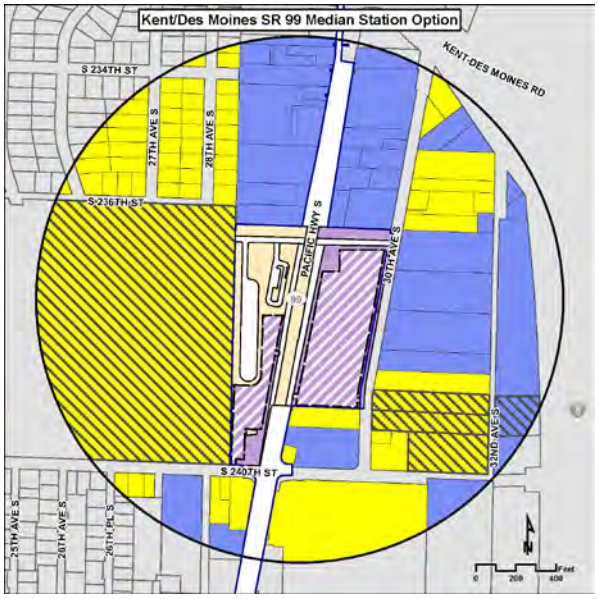


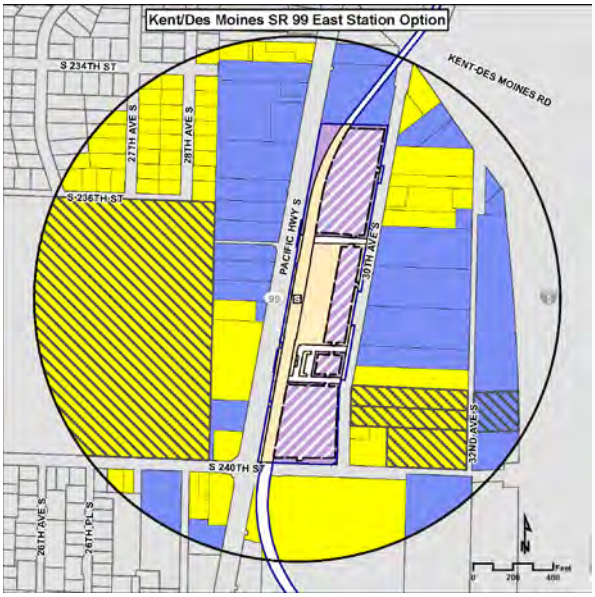
Figure 5-6
Parcel Development Ratings for the Kent/Des Moines Station Area

Kent/Des Moines SR 99 Median Station Option



Kent/Des Moines SR 99 East Station Option (SR 99)

Kent/Des Moines SR 99 East Station Option (I-5)



Kent/Des Moines 30th Ave West Station Option

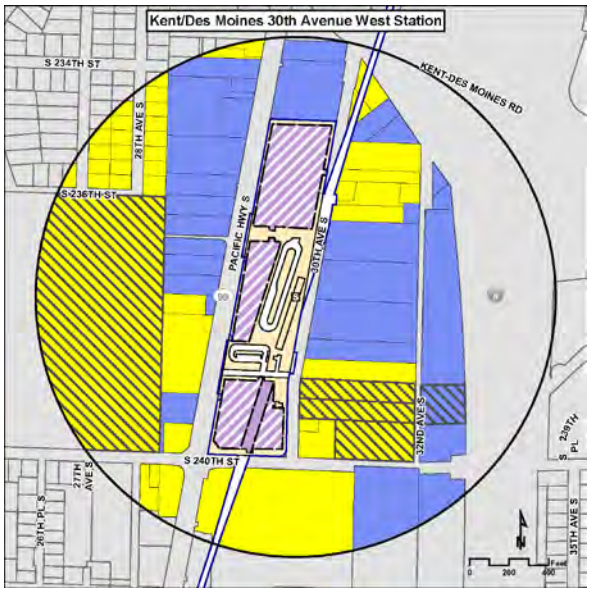
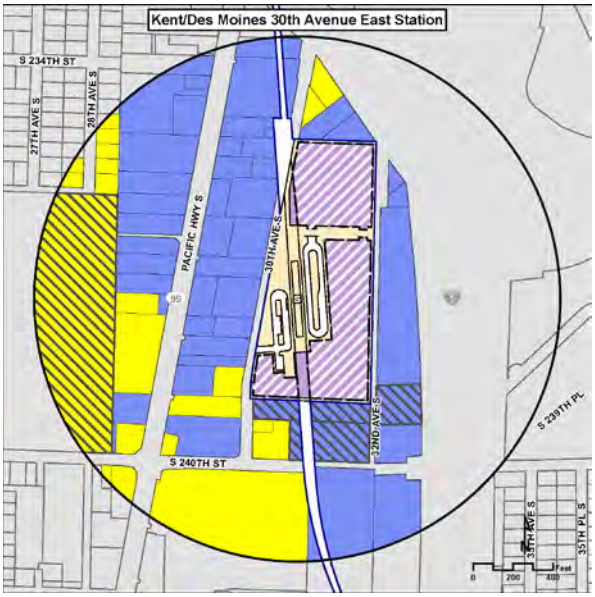
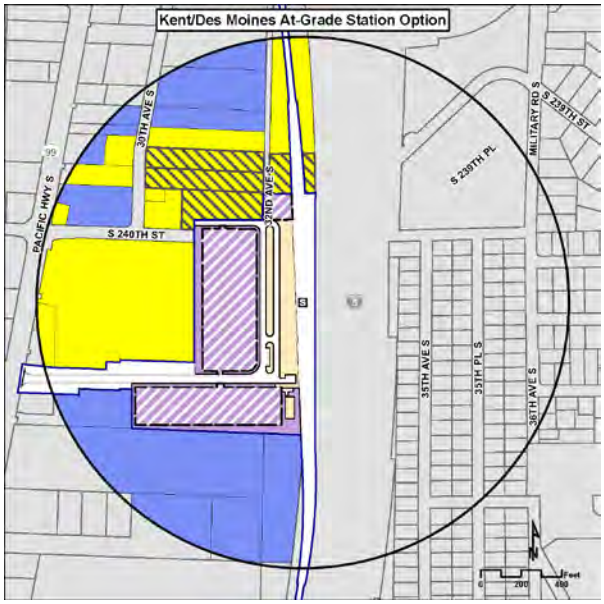


Figure 5-6 (continued)
Parcel Development Ratings for the Kent/Des Moines Station Area

Kent/Des Moines 30th Ave East Station Option



Kent/Des Moines I-5 At-Grade Station Option



Kent/Des Moines I-5 Elevated Station Option

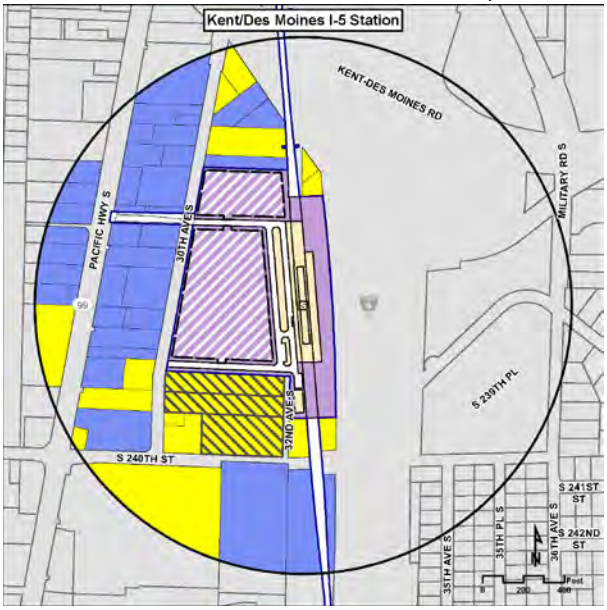


Figure 5-6 (continued)
Parcel Development Ratings for the Kent/Des Moines Station Area

5.5 Conclusions

Table 5-18 lists the station options receiving the highest score for each measure used in this study.

Table 5-18
Kent/Des Moines Station Summary of Results

Measure	Station with highest score	Notes
Walk Access	SR 99 West	Walk access to all station options can be improved through station design and coordination with the local cities.
Bike Access	SR 99 West	Bicycle connections to all station options can be improved through station design and coordination with the local cities.
Transit Access	SR 99 West	Transit access to any station option along SR 99 is moderately better than 30th Avenue and significantly better than I-5 due to proximity to RapidRide. Station design will accommodate bus stops and layover space for local King County Metro routes.
Auto Access	30th Avenue West	Access along SR 99 and 30th Avenue is generally supportive of redevelopment.
Existing Land Use	Highline Campus	Existing land uses near and along SR 99 is generally compatible with TOD. Station options in these locations are closely comparable to the Highline Campus station option.
Planned Land Use	SR 99 West	With the exception of the I-5 station options, planned land use for all locations is strongly supportive of TOD.
Utilities	All SR 99 and 30th Avenue stations	Utilities exist with capacity for expansion. Degree of difficulty of adding capacity near I-5 unknown at this time.
Market Support	All SR 99 stations	SR 99 station options received highest scores in terms of the location analysis. This assessment does not include the market demand.
Land Availability	30th Avenue East	Has the highest agency TOD and public TOD acreage, which may be more likely to redevelop after the station is constructed than property in the general quarter-mile circle that is privately owned.

Within the Kent/Des Moines station area, the nine station locations have varying degrees of support for TOD. The analysis shows that all of the SR 99 Alternative stations, the SR 99 East Station Option (I-5), and the 30th Avenue West and East Station Options are all moderately supportive of TOD.

The other two I-5 Station Options (I-5 At-Grade and SR 99 East) would be the least supportive of TOD in this station area. These two options received the lowest Access, Land Use, and Market Support ratings. The two I-5 Station Options (elevated and at-grade) also offer relatively little acreage with TOD potential due to I-5 bisecting the station area for these two station options.

The 30th Avenue East Station Option would have the greatest amount of land with TOD potential, followed by the SR 99 Median Station Option. The I-5 At-Grade Station Option would have the least amount of land with TOD potential.

Key Highlights by Station

Kent/Des Moines Highline Campus Station Option

- Good walk, bicycle, and transit access to major activity center in the corridor, Highline College. It is a 3 minute walk to the Highline campus and a 2 minute walk to RapidRide.
- There are 30 acres of land with TOD potential in the station area.
- The location of the guideway behind properties preserves parcel frontages along SR 99.
- The northwest quadrant consists of an established single family neighborhood which is unlikely to redevelop in the foreseeable future.
- Highline College accounts for a significant portion of the property surrounding the station option. The Highline College campus is assumed to have no private redevelopment potential; however the College plans to expand its facilities, including redevelopment of some existing facilities on campus. Highline College is the main employer within the station area. If Highline College expands in the future it could improve the TOD potential in the station area.

Kent/Des Moines SR 99 West Station Option

- There are 32 acres of land with TOD potential in the station area.
- It is a 4 minute walk to the Highline College campus and a 2 minute walk to RapidRide.
- The location of the elevated guideway would impact commercial parcels fronting on the west side of SR 99.
- The proposed S. 236th Lane extension would improve access to parcels on 30th Avenue S.
- The northwest quadrant of the station option primarily consists of an established single family neighborhood which is unlikely to redevelop in the foreseeable future.
- Highline College accounts for a significant portion of the property surrounding the station option. This property is currently not rated to have private redevelopment potential; however the College plans to expand its facilities, including redevelopment of existing facilities on campus. Highline College is the main employer in the station area. If Highline College expands in the future it could improve the TOD potential in the station area.

Kent/Des Moines SR 99 Median Station Option

- There are 41 acres of land with TOD potential in the station area.
- It is a 7 minute walk to the Highline College campus and a 2 minute walk to RapidRide.
- The station footprint would require acquisition from both the east and the west sides of SR 99, but there would be fewer impacts to business frontage along SR 99.
- The elevated guideway could impact multistory building views along the east side of SR 99.
- The proposed S. 236th Lane extension would improve access to parcels on 30th Avenue S.
- The northwest quadrant of the station option primarily consists of an established single family neighborhood which is unlikely to redevelop in the foreseeable future.

- Highline College accounts for a significant portion of the property surrounding the station option. This property is currently not rated to have private redevelopment potential; however the College plans to expand its facilities, including redevelopment of existing facilities on campus. Highline College is the main employer in the station area. If Highline College expands in the future it could improve the TOD potential in the station area.

Kent/Des Moines SR 99 East Station Option (SR 99)

- There are 39 acres of land with TOD potential in the station area.
- It is an 8 minute walk to the Highline College campus and a 2 minute walk to RapidRide.
- The location of the elevated guideway would impact commercial parcels fronting on the east side of SR 99.
- The proposed S. 236th Lane extension would improve access to parcels on 30th Avenue S.
- Highline College is the main employer within the station option. The expansion or contraction of this institution will affect the station options overall redevelopment potential going forward.
- The northwest section of the station option primarily consists of an established single family neighborhood which is unlikely to redevelop in the foreseeable future.
- Highline College accounts for a significant portion of the property surrounding the station option. This property is currently not rated to have private redevelopment potential; however the College plans to expand its facilities, including redevelopment of existing facilities on campus. Highline College is the main employer in the station area. If Highline College expands in the future it could improve the TOD potential in the station area.

Kent/Des Moines SR 99 East Station Option (I-5)

- There are 39 acres of land with TOD potential in the station area.
- It is an 8 minute walk to the Highline College campus and a 2 minute walk to RapidRide.
- The location of the elevated guideway impacts parcels fronting on the east side of SR 99.
- The proposed S. 236th Lane extension would improve access to parcels on 30th Avenue S.
- The northwest section of the station option primarily consists of an established single family neighborhood which is unlikely to redevelop in the foreseeable future.
- Highline College accounts for a significant portion of the property surrounding the station option. This property is currently not rated to have private redevelopment potential; however the College plans to expand its facilities, including redevelopment of existing facilities on campus. Highline College is the main employer in the station area. If Highline College expands in the future it could improve the TOD potential in the station area.

Kent/Des Moines 30th Ave West Station Option

- There are 39 acres of land with TOD potential in the station area.

- It is a 9 minute walk to the Highline College campus and a 3 minute walk to RapidRide.
- This station would be located in the center of the area in the Envision Midway Transit-Supportive Community targeted for redevelopment.
- With the exception of the Lowes property, the location of the elevated guideway would preserve parcel frontage along SR 99.
- The location of the guideway would impact parcels to the north of the planned S. 236th Lane & west of 30th Avenue S.
- The proposed S. 236th Lane extension would improve access to parcels on 30th Avenue S.
- Access to some of the quarter-mile area surrounding this station is cut off by I-5.
- The northwest quadrant of the station option primarily consists of an established single family neighborhood which is unlikely to redevelop in the foreseeable future.
- Highline College accounts for a significant portion of the property surrounding the station option. This property is currently not rated to have private redevelopment potential; however the College plans to expand its facilities, including redevelopment of existing facilities on campus. Highline College is the main employer in the station area. If Highline College expands in the future it could improve the TOD potential in the station area.

Kent/Des Moines 30th Ave East Station Option

- There are 47 acres of land with TOD potential in the station area.
- It is a 9 minute walk to the Highline College campus and a 3 minute walk to RapidRide.
- Located in the center of the area in the Envision Midway Transit-Supportive Community targeted for redevelopment.
- This station option has the highest number of acres of land available for redevelopment.
- The proposed S. 236th Lane extension would improve access to parcels on 30th Avenue S.
- The elevated guideway preserves parcel frontage along SR 99.
- With this station configuration there would be no direct station access to SR 99.
- Access to some of the quarter-mile area surrounding this station is cut off by I-5.
- Highline College is the main employer in the area of this station option. If Highline College expands in the future it could improve the TOD potential in the station area.

Kent/Des Moines I-5 Elevated Station Option

- There are 31 acres of land with TOD potential in the station area.
- It is a 14 minute walk to the Highline College campus and an 8 minute walk to RapidRide.
- Access to a significant portion of the quarter-mile circle is cut off by I-5 to the east which reduces land available for TOD.
- There would be less transit supportive land use planned for this station location compared to stations along SR 99 or 30th Avenue S.
- RapidRide is located further away from this station option.
- The proposed S. 236th Lane extension would improve access to parcels on 30th Avenue S.

Kent/Des Moines I-5 At-Grade Station Option

- There are 28 acres of land with TOD potential in the station area.
- It is a 14 minute walk to the Highline College campus and an 8 minute walk to RapidRide.
- Access to some of the quarter-mile circle is cut off by I-5 to the east. This station location has the lowest number of acres available for redevelopment.
- Less transit supportive land use planned for this station location compared to stations along SR 99 or 30th Avenue S.
- RapidRide is located further away from this station option.
- The S. 242nd Street extension would improve SR 99 access to parcels located between SR 99 and I-5.
- Only Kent/Des Moines station option that would include the large vacant parcels to the south of Lowe's property.

6.0 S. 260th Street Station Area

S. 260th is a potential additional station with two station location options, as shown in Figure 6-1. The S. 260th West Station Option would be an elevated station on the west side of SR 99 to the north of S. 260th Street. The S. 260th East Station Option would be elevated on the east side of SR 99 over S. 260th Street.

Figure 6-1
S. 260th Station Area Map

6.1 Station Access

How easy is it to access the station?

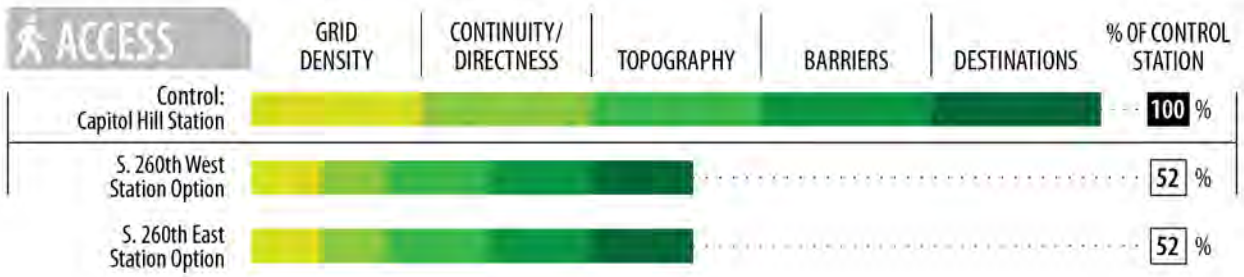
6.1.1 Walk Access

Walk access was evaluated by comparing the proposed station locations to the Capitol Hill station, scheduled to open in 2016. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Capitol Hill. Table 6-1 describes the criteria used and Table 6-2 lists the results of the evaluation.

Table 6-1
Walk Access Evaluation Criteria

Criterion	Definition
Grid density	Density of the public walking network, which is presumed to consist primarily of streets and sidewalks
Continuity and directness	Lack of broken links in walk routes, and directness of the route between the station platform and walk trip destinations
Barriers	Lack of barriers and impediments between walk destinations and the station area, such as I-5, major streets, or fences
Destinations	Presence and variety of major walk access destinations in the station area
Topography	Level topography surrounding the station area

Table 6-2
S. 260th Walk Access Scores



There is no differentiation in walk access scores between the two stations. The street and sidewalk density is similar on the east and west side of SR 99. There is not a significant difference in continuity of walking routes, barriers or impediments in the walk area, or in the number or types of destinations. The topography surrounding the station areas is comparable. Both stations received a score of 52% as compared to the control station, which means the walk access is about half as good as an "ideal" pedestrian environment with a strong grid, directness of routes, few barriers, and a high number of mixed use destinations.

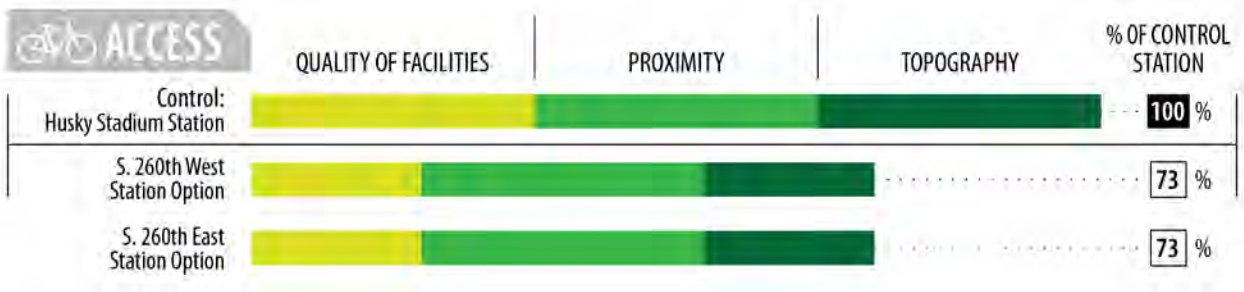
6.1.2 Bicycle Access

Bicycle access was evaluated by comparing the proposed station locations to the University of Washington station, scheduled to open in 2016. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to the University of Washington station. Table 6-3 describes the criteria used and Table 6-4 lists the results of the evaluation.

Table 6-3
Bicycle Access Evaluation Criteria

Criterion	Definition
Facilities	The type or significance of the bicycle route or facility nearby, scored as follows: (1) none, (2) shoulder, (3) designated route, (4) on-street bicycle lane, (5) separated path
Proximity	The proximity of the bicycle route or facility to the station area
Topography	Topography of the station area

Table 6-4
S. 260th Bicycle Access Scores



There is no differentiation in bike access scores between the two stations. A score of 73% is strongly supportive of TOD. Both options have similar quality of nearby bicycle routes and facilities, which are located in a comparable proximity to the stations. The topography of the station area is similar, meaning neither station poses more difficult access for bicyclists.

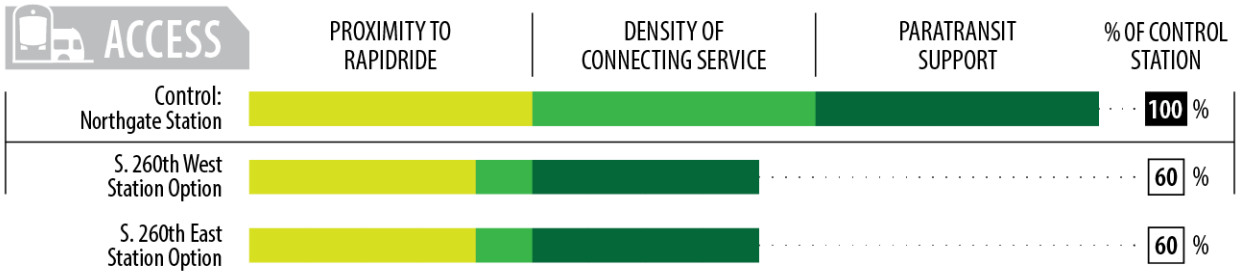
6.1.3 Transit Access

Transit access was evaluated by comparing the proposed station locations to the Northgate station, scheduled to open in 2021. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Northgate. Table 6-5 describes the criteria used and Table 6-6 lists the results of the evaluation.

Table 6-5
Transit Access Evaluation Criteria

Criterion	Definition
Proximity to RapidRide	The proximity of the proposed light rail station location to RapidRide bus stops to collect riders along the corridor
Density of Connecting Service	Density of other connecting local or regional bus service in the station area
Paratransit	Quality of paratransit transfers, including proximity, directness, and freedom from barriers

Table 6-6
S. 260th Transit Access Scores



There is no differentiation in transit access scores between the two stations. A score of 60% is moderately supportive of TOD. Both received the same rating for proximity to RapidRide, density of connecting bus service, and for the quality of paratransit transfers, including proximity, directness, and freedom from barriers.

Sound Transit coordinated with King County Metro on the conceptual station layout plans in the early design phase to ensure future bus facilities could be integrated in the station design. The agencies also discussed future service revisions and other ways to improve connectivity between modes, promoting ridership and multimodal accessibility. This coordination will continue throughout the environmental planning process and future design phases.

6.1.4 Auto Access

Auto access was evaluated by comparing the proposed station locations to the Northgate station. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Northgate. Table 6-7 describes the criteria used and Table 6-8 lists the results of the evaluation.

Table 6-7
Auto Access Evaluation Criteria

Criterion	Definition
Access Options – Quantity	Quantity of streets connecting the station to the surrounding area (the number of access options)
Access Options – Quality	Quality of streets connecting to the station in terms of congestion, complexity, and directness
Parking Stall to Platform Connection	Qualitative assessment of distance and directness from parking area to station platform
Pick-up and Drop-off	Qualitative assessment of proximity and access for short-term parking, as well as orientation and line of sight with respect to the platform

Table 6-8
S. 260th Auto Access Scores

The two stations scored similarly for auto access. The S. 216th West Station Option rated slightly higher for the proximity and access to short-term parking, as well as orientation and line of sight with respect to the station platform. Scores within the 55 – 60% range are moderately supportive of TOD.

6.2 Land Use, Plans & Policies, and Utilities

How transit supportive are the land uses, land use plans, and utility infrastructure?

This study evaluates whether or not transit oriented development would be compatible with existing land use designations in the proposed station areas. The examination of future land uses, through published information indicating local agency plans and policies, demonstrates a vision for transit oriented development in the future. Looking at existing conditions within the context of future land use planning helps inform the possible "ease of transition" from the existing use(s) of the area towards achieving the identified development goals.

6.2.1 Existing Land Use

Exhibit 6-2 displays percentages of existing and planned land uses around the S. 260th station area.

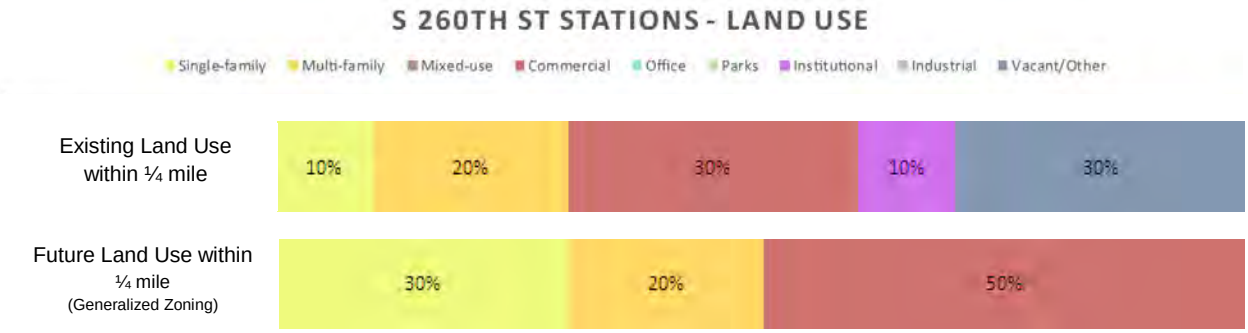


Figure 6-2
Existing Land Uses and Planned Land Uses around the S. 260th Station Area

Summary of Existing Land Use Types

- Within the ¼ mile station area, the predominant existing use in the station area is commercial, followed by multi-family residential. This represents 50% of existing land use.

- Within the ¼ mile station area, allowable future uses include 50% mixed-use and 20% commercial. These uses support TOD.
- Approximately 30% of the parcels in the station area are currently vacant.

Evaluation of Land Uses Supporting TOD

To reflect plans and policies, land use has been analyzed and grouped into two major categories – uses that are transit supportive and those that are not. For the purpose of analyzing TOD potential, the following existing land uses are considered transit supportive: multi-family residential, commercial, institutional, and office building.

For TOD purposes, results indicate the percentage of total acres in the station area (as measured in a quarter-mile radius from the center of the proposed station platform) that would be transit-supportive, as indicated in Table 6-9 below.

Table 6-9
S. 260th Land Uses Supportive of TOD

Station	Existing Land Use *		Planned Land Use	
S. 260th West Station Option	44.8 acres	45%	40.2 acres	40%
S. 260th East Station Option	49.9 acres	50%	43.6 acres	44%

* Excludes vacant parcels.

Planned land use for this station area is not highly supportive of TOD due to existing single family residential surrounding the station area.

6.2.2 Plans and Policies

Local plans and policies frame the jurisdictional and community perspectives, which are important to consider when planning a project to connect employment and activity centers and provide transit access. This section describes the comprehensive plans, CIPs, and TIPs for the cities of Kent and Des Moines relevant to the S. 260th station area.

The Cities of Kent and Des Moines adopted comprehensive plans for overall city planning. There are no specific subarea plans for the immediate vicinity of the S. 260th Street station, but it borders the Midway Subarea Plan, and therefore planning and development of this area could potentially be affected by growth just to the north of this station area.

- Kent Comprehensive Plan (2011; update due 2015)
- Des Moines Comprehensive Plan (2013; update due 2015)
- Midway Subarea Plan / Envision Midway (2011)

In Des Moines, potential future land uses adjacent to SR 99 include commercial with single- and multi-family residential uses farther east and west. This is generally consistent with existing land uses, although zoning allows for higher-density development than currently exists.

CIPs and TIPs

City of Kent TIP

The City of Kent's Six Year Transportation Improvement Program (TIP) (2015-2020) includes improvements to intersection operations at S. 260th Street and Pacific Highway South (SR 99). The project, which is programmed for the year 2020, would add an additional westbound left turn lane, an eastbound right turn pocket, and would modify signal phasing.

> "S. 260th Street provides one of the few direct connections between the Pacific Highway corridor and the downtown City Core. **S. 260th is a multimodal corridor which accommodates vehicles, pedestrians, bicyclists, and bus traffic. As the Midway area redevelops into a more commercial/ residential mixed-use zone, the traffic connections to the Military Road neighborhood and connections to the valley retail and civic center need to be updated to highest efficiency.** This intersection improvement reduces future westbound vehicle queuing and congestion of over 500 vehicles per hour and improves the intersection delay from 180 seconds per vehicle (3 minutes) to approximately 87 seconds per vehicle in the PM peak period".
>
> *– City of Kent TIP (2015-2020)*

6.2.3 Utility Infrastructure Assessment

Utilities were analyzed qualitatively, with respect to proximity of the station to major existing utility corridors that could have additional capacity. Analysis indicates there are major existing utilities along SR 99 and other major arterials. The results are described in Table 6-10 below.

Table 6-10
S. 260th Station Utility Infrastructure Scores

Station	Score
S. 260th West Station Option	Moderately supportive (50%)
S. 260th East Station Option	Moderately supportive (50%)

A "moderately supportive" score indicates there are existing utilities, but with limited additional capacity. Existing utilities in the S. 260th station area are as follows:

- Water mains along both sides of SR 99. Generally, the 16-inch water main is on the east side of SR 99 and the 8-inch and 12-inch mains are on the west side.
- 10-inch to 18-inch water mains perpendicular to the SR 99 alignment.
- 6-inch to 18-inch water mains perpendicular to the alignment along I-5.
- 8-inch to 14-inch sewer on the west side of SR 99.
- Intermittent 8-inch to 12-inch sewers on the east side of SR 99.

6.3 Market Support

Is the station competitively located to capture demand?

A market support assessment evaluates the broader station-area TOD potential in the context of housing, retail, hospitality, and office market location characteristics. The market location analysis uses a number of site selection criteria to determine how well located each station option is to attract TOD, relative to another transit-oriented location in the market.

Table 6-11 provides a summary of the overall scores, while Tables 6-12, 6-13, 6-14, and 6-15 list the individual market sector scores, and each table is followed by narrative describing the station options relative to each market sector.

As shown in Table 6-11, the two S. 260th Station Options scored identically for their overall market locational attributes as compared to the control used in the analysis. Of the four product types, both options rated higher for housing and retail than lodging and office.

Table 6-11
S. 260th Station Market Support – Summary Scores

Station	Housing	Retail	Hospitality	Office	Overall Score
Control Market Area	Capitol Hill, Ballard, University District, Roosevelt, Downtown Kirkland	Queen Anne, Ballard, Broadway/Pike Pine and Downtown Kirkland, Orenco Station in Hillsboro, Oregon	Downtown Seattle and Bellevue	International District, South Lake Union, Overlake	
Control Score	100% (35 points)	100% (25 points)	100% (30 points)	100% (45 points)	
S. 260th West Station Option	51%	64%	40%	38%	48%
S. 260th East Station Option	51%	64%	40%	38%	48%

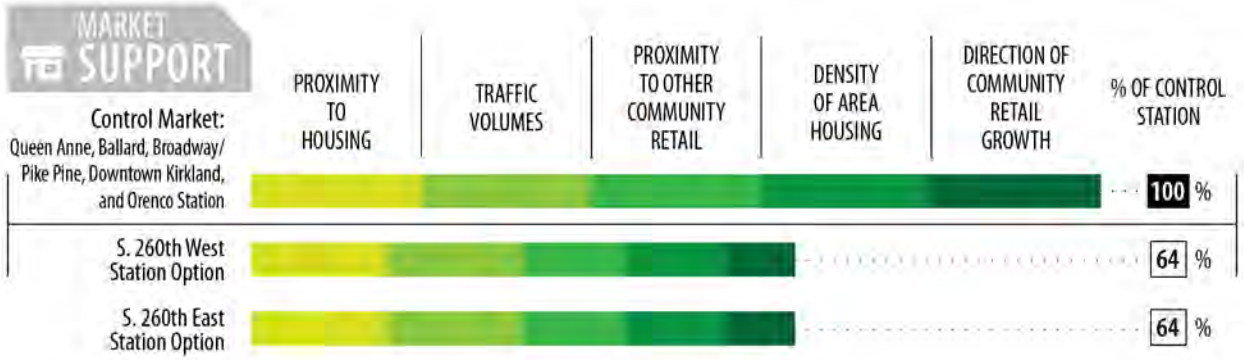
Multi-Family Housing

Table 6-12
S. 260th Station Market Support – Housing

In the region, some of the most attractive multi-family markets include areas such as Capitol Hill, Ballard, the University District, the Roosevelt neighborhood, and Downtown Kirkland. From a multi-family-housing perspective, this station area is in the path of multi-family development growth, and there is some low rise multi-family development in the quarter-mile area. The S. 260th station area lacks apartment-serving amenities like shopping and dining, lacks cultural activities, has a challenging pedestrian environment, and is not located near significant employment centers.

Community Retail

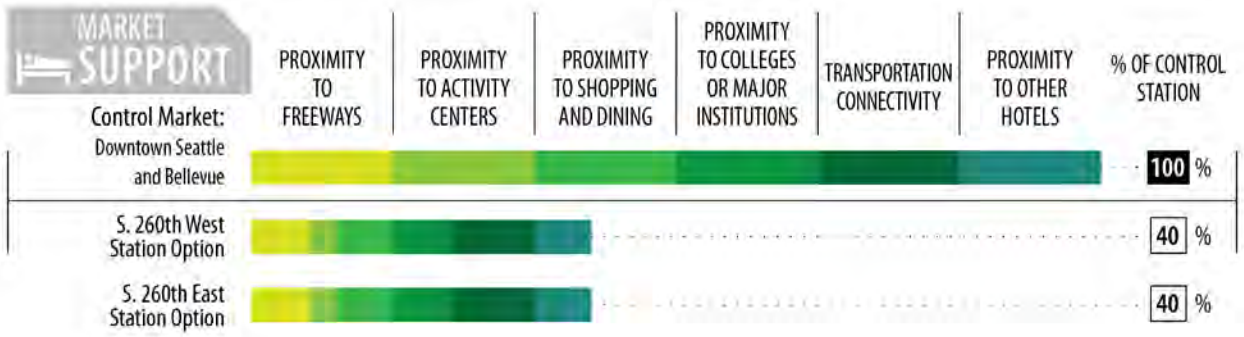
Table 6-13
S. 260th Station Market Support – Community Retail



The region's models for pedestrian-oriented community retail markets include Seattle's Queen Anne, Ballard, the Pike/Pine Corridor, and downtown Kirkland on the Eastside. The S. 260th station area's strengths include SR 99 frontage and proximity and density of existing housing; however, this station area is not in the path of community retail growth and has a challenging pedestrian environment. Because the quarter-mile station area is surrounded by established single family neighborhoods and wetlands, it would also be a challenge to increase the residential density of the area immediately surrounding the station area to support non-auto oriented retail.

Hospitality

Table 6-14
S. 260th Station Market Support – Hospitality/Lodging

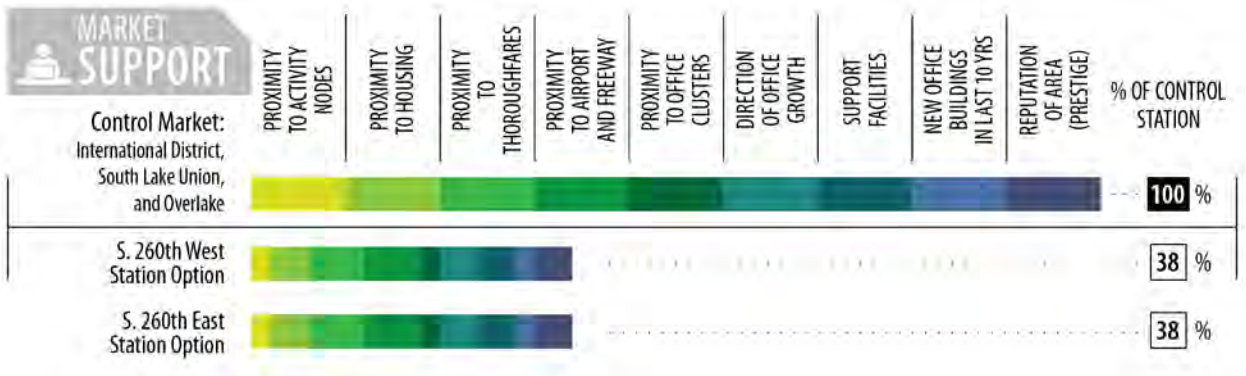


The region's best locations for hospitality uses are in or near the central business districts and major transportation hubs, such as Downtown Seattle and Bellevue, and the SeaTac Airport. The region's models for pedestrian-oriented community retail markets include Seattle's Queen Anne, Ballard, the Pike/Pine Corridor, and downtown Kirkland on the Eastside. From a location standpoint, the S. 260th station area is not a natural location for hotel development. The station area's main strength is that it's served by SR 99; however beyond SR 99 access, the station does not have many other positive locational

attributes like easy freeway access, proximity to activity centers and other hotel demand generators, or proximity to hotel serving amenities like shopping and restaurants.

Office

Table 6-15
S. 260th Station Market Support – Office



The markets that are the most attractive for low to mid-rise office development in the region are at the fringes of the major central business districts. In Seattle, they include South Lake Union and the International/Stadium district; and on the Eastside, suburban locations such as Overlake. This station area is not a natural location for office development. The station area's most notable strength is that it is served by SR 99. The station area's weaknesses include: few office supporting facilities, distance to executive housing options, distance from/to activity nodes, distance from/to existing office clusters, and that there has been almost no office development in the station area to date.

6.4 Land Availability

How many acres of redevelopable land are in the station area?

Land availability was evaluated by comparing the amount of redevelopable land in the quarter-mile area around each station option to the total acreage in the quarter-mile. The criteria used to determine redevelopment potential differed depending on the property ownership type. For detailed methodology, refer back to Chapter 2.

As shown in Table 6-16, the quarter-mile area surrounding each of the two station options contains 36 and 43 acres of land rated to have redevelopment potential.

Table 6-16
S. 260th Land Availability

Station	Agency TOD Acres	Public TOD Acres	Private TOD Acres	Total Acres
S. 260th West Station Option	1	1	34	36
S. 260th East Station Option	1	1	41	43

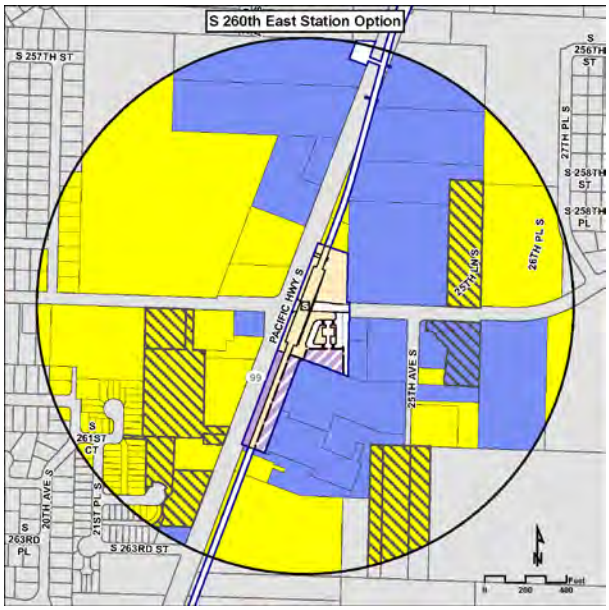
From a land availability perspective, there are a number of factors that influence a station's total redevelopment potential. The following is a list of the major factors at this location.

- The location of the guideway impacts a number of key parcels with SR 99 frontage in both station locations.
- There are a few large parcels within and immediately adjacent to the station area impacted by wetlands.

The S. 260th West Station Option contains 36 acres of land with redevelopment potential, which is less than the S. 260th East Station Option at 43 acres. The main difference between the two station locations is the effect the location of the guideway and facility footprints has on individual parcels.

The following maps illustrate the redevelopment ratings for each parcel within each station location by ownership type.

S. 260th East Station Option



S. 260th West Station Option

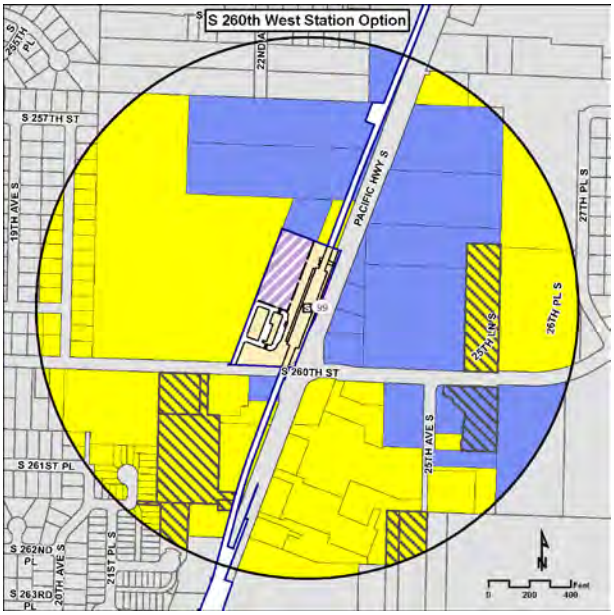


Figure 6-3
Parcel Development Ratings for the S. 260th Station Area

6.5 Conclusions

Table 6-17
S. 260th Station Summary of Results

Measure	Station with highest score	Notes
Walk Access	Same	Both station options offer similar walk access.
Bike Access	Same	Both station options offer similar bike access.
Transit Access	Same	Both station options offer similar transit access.
Auto Access	S. 260th West	The west station option has slightly better auto access due to quality of the pick-up and drop-off access.
Existing Land Use	S. 260th West	The west station option has slightly more transit supportive existing land use.
Planned Land Use	S. 260th East	The east station option has slightly more transit supportive planned land use.
Utilities	Same	Both station options have similar utility capacity.
Market Support	Same	The market support applies equally to both station options.
Land Availability	S. 260th East	The east station option has 7 more acres of land with TOD potential.

Within the S. 260th station area, both potential additional station options (West and East) are relatively similar with respect to their support for TOD. The only notable difference is that the S. 260th East Station Option would have slightly more land with TOD potential. The overall degree to which these stations are supportive of TOD is relatively low compared to most of the other station areas along the corridor, in large part due to the relatively low ratings in the Land Use category.

Key Highlights

S. 260th West Station Option

- There are 36 acres of land with TOD potential in the station area.
- It is a 2 minute walk to RapidRide.
- The surrounding area has a high percentage of single family development, which is less likely to redevelop in the future.
- The location of the elevated guideway would impact parcels fronting on the west side of SR 99.
- There are a few large parcels within and immediately adjacent to the station area that contains wetlands. It is highly unlikely these parcels will develop.
- An inefficient street grid pattern could make it difficult to access parts of the station area.

S. 260th East Station Option

- There are 43 acres of land with TOD potential in the station area.
- It is a 2 minute walk to RapidRide.

- Planned land use not strongly supportive of TOD, but slightly higher than the west station (44%) due to nearby single family residential.
- The location of the elevated guideway would impact parcels fronting on the east side of SR 99.
- There is a significant amount of wetlands within and immediately adjacent to this station option.
- Many of the redevelopment parcels within this station area are adjacent to the station itself.

7.0 S. 272nd Station Area

This station area includes potential station options for all four alignment alternatives: SR 99, I-5, SR 99 to I-5, and I-5 to SR 99. The three station options are illustrated in Figure 7-1. Descriptions of these configurations are also provided in Table 7-1 below.

Figure 7-1
S. 272nd Station Area Map

Table 7-1
S. 272nd Street Station Descriptions

Station	Alternative	Location Description
S. 272nd Redondo Station Option	SR 99, I-5 to SR 99	The station would be elevated on the east side of SR 99 at the existing Redondo Heights park-and-ride lot.
S. 272nd Redondo Trench Station Option	SR 99, I-5 to SR 99	This is a second station option at the Redondo Heights park-and-ride lot. This station would be in a trench that would allow the guideway to cross under SR 99 and continue south utilizing an existing utility corridor east of SR 99 to about S. 304th Street, where it would return to the elevated median of SR 99.
S. 272nd Star Lake Station Option	I-5, SR 99 to I-5	The station would be in a trench at the Star Lake park-and-ride lot which would allow the guideway to travel under S. 272nd Street at this location.

7.1 Station Access

How easy is it to access the station?

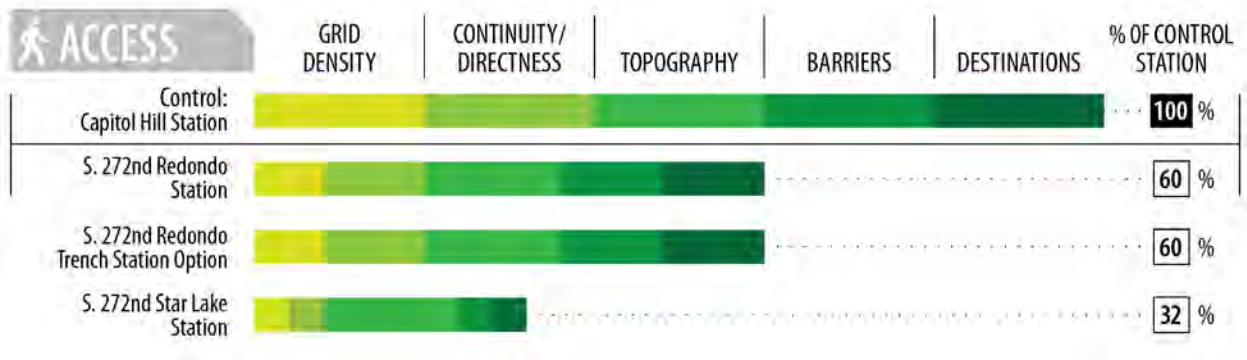
7.1.1 Walk Access

Walk access was evaluated by comparing the proposed station locations to the Capitol Hill station, scheduled to open in 2016. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Capitol Hill. Table 7-2 describes the criteria used and Table 7-3 lists the results of the evaluation.

Table 7-2
Walk Access Evaluation Criteria

Criterion	Definition
Grid density	Density of the public walking network, which is presumed to consist primarily of streets and sidewalks
Continuity and directness	Lack of broken links in walk routes, and directness of the route between the station platform and walk trip destinations
Barriers	Lack of barriers and impediments between walk destinations and the station area, such as I-5, major streets, or fences
Destinations	Presence and variety of major walk access destinations in the station area
Topography	Level topography surrounding the station area

Table 7-3
S. 272nd Walk Access Scores



The S. 272nd Redondo Station Options perform better than S. 272nd Star Lake Station Option in terms of walk access, with a score of 60%. The stations on SR 99 have fewer barriers and more destinations within walking distance from the station. The S. 272nd Star Lake Station Options lacks in density of sidewalks and street grid and walking routes have broken links and are not as direct as compared to SR 99. I-5 is a major barrier to walk access, cutting off significant sections of the station area. There are few destinations for pedestrians along the I-5 corridor.

7.1.2 Bicycle Access

Bicycle access was evaluated by comparing the proposed station locations to the University of Washington station, scheduled to open in 2016. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to the University of Washington station. Table 7-4 describes the criteria used and Table 7-5 lists the results of the evaluation.

Table 7-4
Bicycle Access Evaluation Criteria

Criterion	Definition
Facilities	The type or significance of the bicycle route or facility nearby, scored as follows: (1) none, (2) shoulder, (3) designated route, (4) on-street bicycle lane, (5) separated path
Proximity	The proximity of the bicycle route or facility to the station area
Topography	Topography of the station area

Table 7-5
S. 272nd Bicycle Access Scores

The S. 272nd Redondo Station Options perform better than S. 272nd Star Lake Station Option in terms of bike access, with a score of 60%. The stations on SR 99 received a higher score due to proximity of connecting from the station to nearby existing bicycle facilities or routes. The S. 272nd Star Lake Station Option is not as proximate to existing bicycle routes.

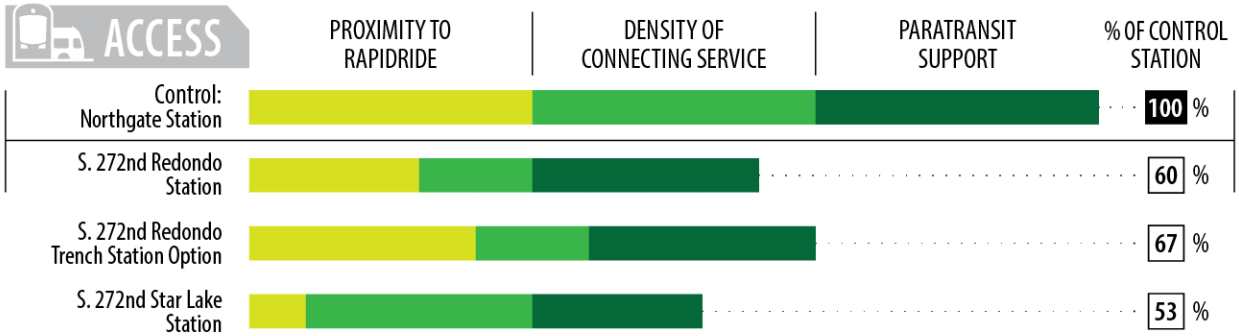
7.1.3 Transit Access

Transit access was evaluated by comparing the proposed station locations to the Northgate station, scheduled to open in 2021. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Northgate. Table 7-6 describes the criteria used and Table 7-7 lists the results of the evaluation.

Table 7-6
Transit Access Evaluation Criteria

Criterion	Definition
Proximity to RapidRide	The proximity of the proposed light rail station location to RapidRide bus stops to collect riders along the corridor
Density of Connecting Service	Density of other connecting local or regional bus service in the station area
Paratransit	Quality of paratransit transfers, including proximity, directness, and freedom from barriers

Table 7-7
S. 272nd Transit Access Scores



The S. 272nd Redondo Station Options scored better than the S. 272nd Star Lake Station Option in terms of transit access. While S. 272nd Star Lake Station Option has a greater density of connecting service, a majority of these routes tend to offer more regional, peak-hour oriented service. The Redondo Station Options have connections to RapidRide, offering better local and regional access for the corridor with more frequent service. King County Metro has indicated RapidRide would not deviate from its route along SR 99 to connect to a light rail station located near I-5.

Sound Transit coordinated with King County Metro on the conceptual station layout plans in the early design phase to ensure future bus facilities could be integrated in the station design. The agencies also discussed future service revisions and other ways to improve connectivity between modes, promoting ridership and multimodal accessibility. Coordination will continue throughout the project planning process and future design phases.

7.1.4 Auto Access

Auto access was evaluated by comparing the proposed station locations to the Northgate station. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Northgate. Table 7-8 describes the criteria used and Table 7-9 lists the results of the evaluation.

Table 7-8
Auto Access Evaluation Criteria

Criterion	Definition
Access Options – Quantity	Quantity of streets connecting the station to the surrounding area (the number of access options)
Access Options – Quality	Quality of streets connecting to the station in terms of congestion, complexity, and directness
Parking Stall to Platform Connection	Qualitative assessment of distance and directness from parking area to station platform
Pick-up and Drop-off	Qualitative assessment of proximity and access for short-term parking, as well as orientation and line of sight with respect to the platform

Table 7-9
S. 272nd Auto Access Scores

The three station options rated similarly for quantity of streets connecting to the station area and for the quality of those streets in terms of congestion, complexity, and directness. The S. 272nd Star Lake Station Option received a higher overall score for auto access, with the key difference due to the quality of the "parking stall to platform" environment. All stations received at least a moderately supportive score.

7.2 Land Use, Plans & Policies, and Utilities

How transit supportive are the land uses, land use plans, and utility infrastructure?

This study evaluates whether or not transit oriented development would be compatible with existing land use designations in the proposed station areas. The examination of future land uses, through published information indicating local agency plans and policies, demonstrates a vision for transit oriented development in the future. Looking at existing conditions within the context of future land use planning helps inform the possible "ease of transition" from the existing use(s) of the area toward achieving the identified development goals.

7.2.1 Existing Land Use

Exhibit 7-2 displays percentages of existing and allowable future land uses around the S. 216th station area.

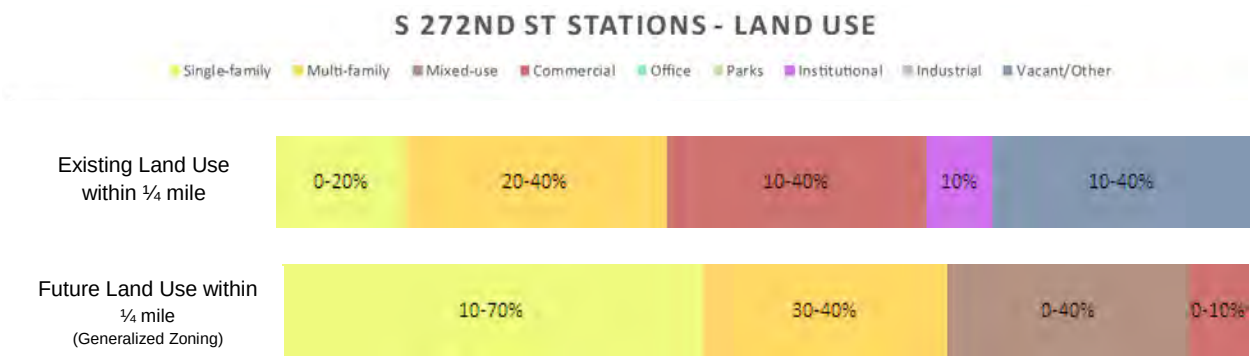


Figure 7-2
Existing Land Uses and Allowable Future Land Uses around S. 272nd Station Area

Summary of Existing Land Use Types

- Within the ¼ mile station area, the predominant existing use in the station area is commercial, multi-family residential, and vacant/other.
- Within the ¼ mile, allowable future uses include 0-10% mixed use and 0-40% commercial. These uses support TOD.
- Commercial development and multi-family residential are 30 to 80% of existing land use. These uses support TOD.
- Approximately 10 - 40% of the parcels in the station area are currently vacant.
- Stations predominantly along SR 99 have more land zoned for high density within ¼ mile than stations along I-5.

Evaluation of Land Uses Supporting TOD

To reflect plans and policies, land use has been analyzed and grouped into two major categories – uses that are transit supportive and those that are not. For the purpose of analyzing TOD potential, the following existing land uses are considered transit supportive: multi-family residential, commercial, institutional, and office building.

For TOD purposes, results indicate the percentage of total acres in the station area (as measured in a quarter mile radius from the center of the proposed station platform) that would be transit-supportive, as indicated in Table 7-10 below.

Table 7-10
Transit-Supportive Land Use at the S. 272nd Station Area

Station	Existing Land Use*		Planned Land Use	
S. 272nd Redondo Station	52.6 acres	43%	71.8 acres	72%
S. 272nd Redondo Trench Station Option	52.6 acres	43%	71.8 acres	72%
S. 272nd Star Lake Station	21.2 acres	21%	27.4 acres	27%

* Excludes vacant parcels.

The planned land use for the S. 272nd Redondo station area is highly supportive of TOD. The planned land use for the S. 272nd Star Lake station area, however, is highly unsupportive of TOD. Furthermore, I-5 is a considerable barrier for development and access within and around the S. 272nd Star Lake station area.

7.2.2 Plans and Policies

Local plans and policies frame the jurisdictional and community perspectives, which are important to consider when planning a project to connect employment and activity centers and provide transit access. This section describes the comprehensive plans, CIPs, and TIPs for the City of Federal Way relevant to the S. 272nd station area. The current Federal Way Comprehensive Plan was adopted in 2012. Updates to the 2015 plan are currently in progress.

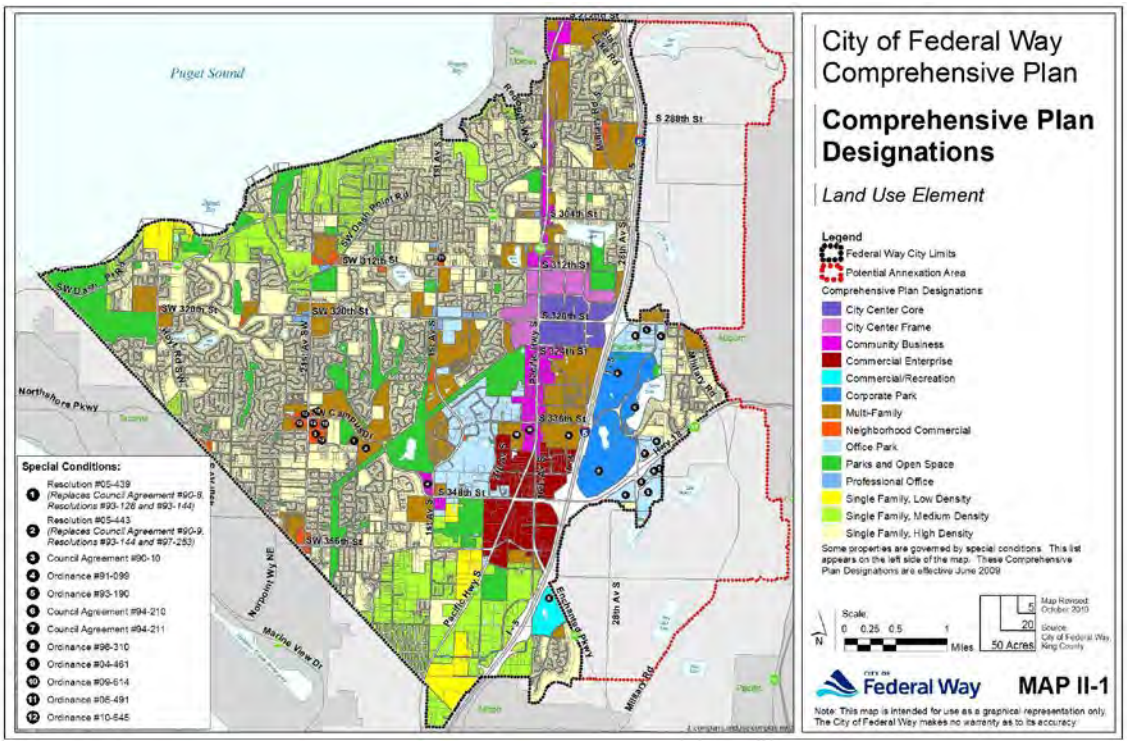


Figure 7-3
Federal Way Comprehensive Plan Land Use Designations (2012)

CIPs and TIPs

Recently Completed Projects

In 2011, Federal Way completed a capital project at S. 272nd Star Lake to upgrade storm sewer and water infrastructure. The *Star Lake Road Drainage Improvement and Water Main Replacement Project* constructed approximately 1,900 linear feet of storm sewer pipeline of varying diameter, associated manholes and inlets, and approximately 1,000 linear feet of concrete curb, gutter, and sidewalk replacement. The City also constructed approximately 2,300 linear feet of 12-inch water main, associated appurtenances, and service relocations. No upcoming projects were identified for the immediate station area.

7.2.3 Utility Infrastructure Assessment

Utilities were analyzed qualitatively, with respect to proximity of the station to major existing utility corridors that could have additional capacity. Analysis indicates there are more major existing utilities along SR 99 and other major arterials than I-5; therefore, the two S. 272nd Redondo station options received a higher score than the S. 272nd Star Lake Station Option. This is described in Table 7-11 below.

Table 7-11
S. 272nd Utility Infrastructure Scores

Station	Score
S. 272nd Redondo Station Option	Moderately supportive (50%)
S. 272nd Redondo Trench Station Option	Moderately supportive (50%)
S. 272nd Star Lake Station Option	Less supportive (30%)

A "moderately supportive" score indicates there are existing utilities, but with limited additional capacity. A "less supportive" score indicates there are limited utilities and no additional capacity. Existing utility infrastructure in the vicinity of the S. 272nd station options are as follows:

- 10-inch to 18-inch water mains perpendicular to the SR 99 alignment at arterial intersections.
- 6-inch to 18-inch water mains perpendicular to the alignment along I-5.
- 8-inch to 14-inch sewer on the west side of SR 99.
- Intermittent 8-inch to 12-inch sewers on the east side of SR 99.

7.3 Market Support

Is the station competitively located to capture demand?

A market support assessment evaluates the broader station-area TOD potential in the context of housing, retail, hospitality, and office market location characteristics. The market location analysis uses a number of site selection criteria to determine how well located each station option is to attract TOD, relative to other transit-oriented locations in the market.

Table 7-12 provides a summary of the overall scores, while Tables 7-13, 7-14, 7-15, and 7-16 list the individual market sector scores, and each table is followed by narrative describing the station options relative to each market sector.

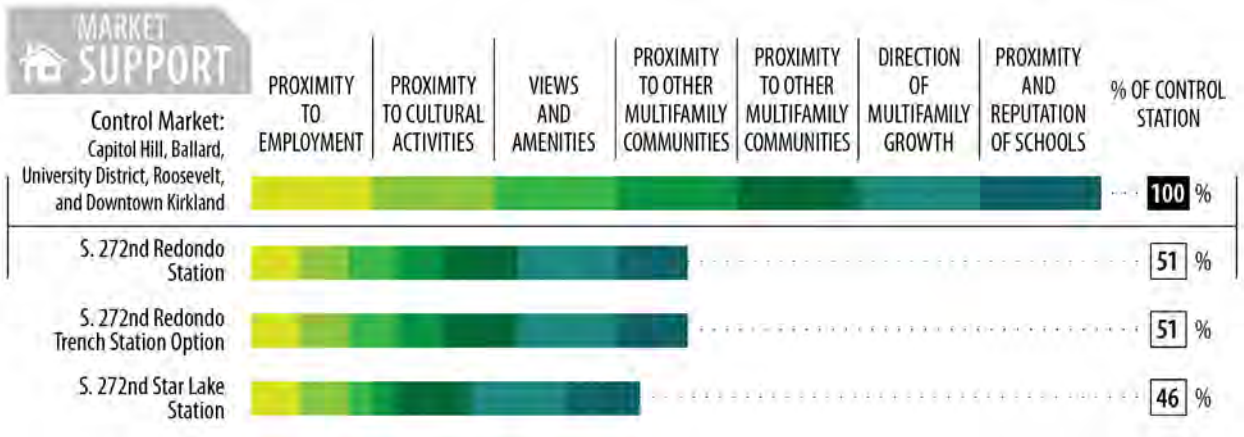
As shown in Table 7-12, the S. 272nd Redondo and S. 272nd Redondo Trench Station Options rate identically for their overall locational attributes. Of the four real estate product types assessed, housing and community retail rated higher than lodging and office for their from a location attribute perspective at these locations. Overall, the S. 272nd Star Lake Station Option rated slightly higher for office and hospitality than the other two station options and slightly lower for housing and community retail.

Table 7-12
S. 272nd Station Market Support – Summary Scores

Station	Housing	Retail	Hospitality	Office	Overall Score
Control Market Area	Capitol Hill, Ballard, University District, Roosevelt, Downtown Kirkland	Queen Anne, Ballard, Broadway/Pike Pine and Downtown Kirkland, Orenco Station in Hillsboro, Oregon	Downtown Seattle and Bellevue	International District, South Lake Union, Overlake	
Control Score	100% (35 points)	100% (25 points)	100% (30 points)	100% (45 points)	
S. 272nd Redondo Station	51%	64%	37%	38%	47%
S. 272nd Redondo Trench Station Option	51%	64%	37%	38%	47%
S. 272nd Star Lake Station	46%	52%	47%	40%	46%

Multi-Family Housing

Table 7-13
S. 272nd Station Market Support – Housing

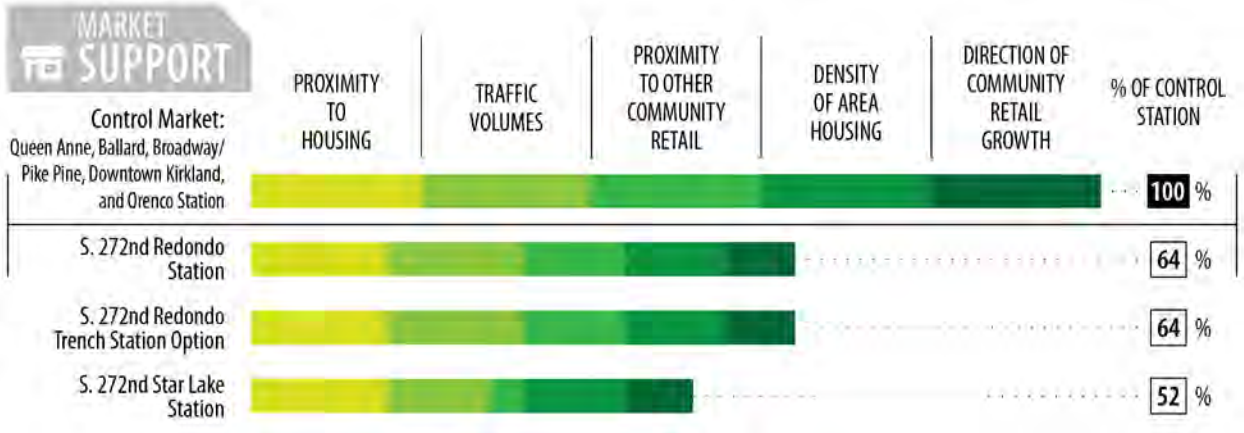


In the region, some of the most attractive multi-family markets include areas such as Capitol Hill, Ballard, the University District, and the Roosevelt neighborhood. The S. 272nd station area has some

positive attributes from a multi-family development site selection perspective. It is in the path of multi-family development growth and there are over 1,000 low rise multi-family units in the immediate area. This area has some challenges, however. It lacks apartment-serving amenities such as shopping and dining, lacks cultural activities, has challenging pedestrian environment, and is not located near significant employment centers.

Community Retail

Table 7-14
S. 272nd Station Market Support – Community Retail

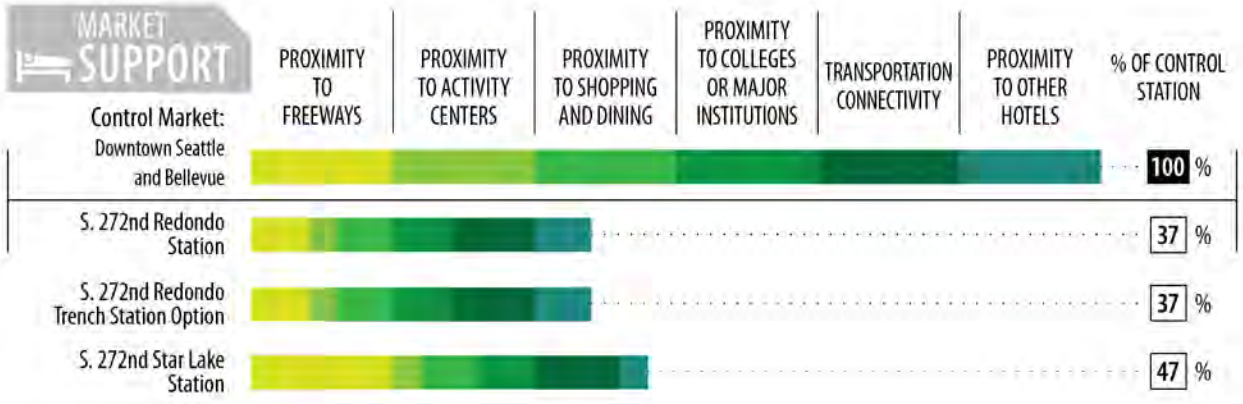


The region's models for pedestrian-oriented community retail markets include Seattle's Queen Anne, Ballard, the Pike/Pine Corridor, and downtown Kirkland on the Eastside. In terms of a location for community retail development, its strengths include proximity to SR 99, and proximity and density of existing housing (which includes over 1,000 existing multi-family units in the immediate area). The station area has some challenges, however. It is not in the path of community retail growth and has challenging pedestrian environment.

The S. 272nd Redondo and S. 272nd Redondo Trench Station Options are slightly more supportive of community retail than the S. 272nd Star Lake Station Option mostly due to the fact that the quarter-mile area surrounding the S. 272nd Star Lake Station Option doesn't contain existing retail.

Hospitality

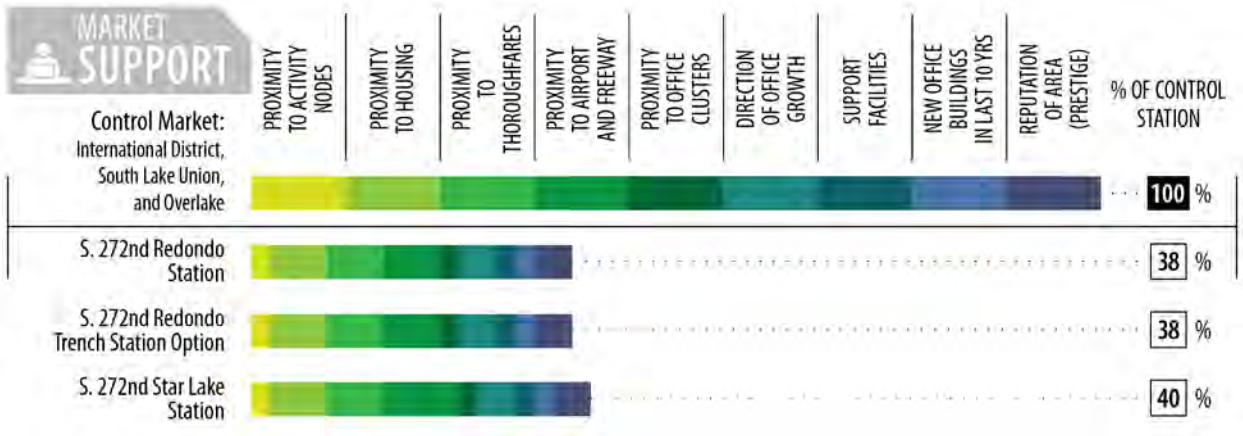
Table 7-15
S. 272nd Station Market Support – Hospitality/Lodging



The region's best locations for hospitality uses are in or near the central business districts and major transportation hubs, such as Downtown Seattle and Bellevue, and the SeaTac Airport. The station area's main attraction for hotel development from a site selection perspective is that it's served by SR 99 and an I-5 interchange. It however lacks a number of key attributes, including activity centers and other hotel demand generators, as well as proximity to hotel serving amenities like shopping and restaurants. The S. 272nd Star Lake Station Option rates higher as it is the only location that offers parcels with I-5 visibility.

Office

Table 7-16
S. 272nd Station Market Support – Office



The markets that are the most attractive for low- to mid-rise office development in the region are at the fringes of the major central business districts. In Seattle, they include South Lake Union and the International/Stadium district; and on the Eastside, suburban locations such as Overlake. The S. 272nd locations' notable strength is that they are served by SR 99 and I-5. Its weaknesses include few office

supporting facilities, distance to executive housing options, distance from to activity nodes, distance from to existing office clusters, a limited reputation as an area for office development, and almost no office development in the station area to date.

7.4 Land Availability

How many acres of redevelopable land are in the station area?

Land availability was evaluated by comparing the amount of redevelopable land in the quarter-mile area around each station option to the total acreage in the quarter-mile. The criteria used to determine redevelopment potential differed depending on the property ownership type. For detailed methodology, refer back to Chapter 2.

As shown in Table 7-17, the stations contain between 5 and 44 acres of land rated to have redevelopment potential. As shown below, both Redondo locations contain around 40 acres of land with redevelopment potential, while the Star Lake station only has five acres of land with redevelopment potential, which is the less than any other station option along the entire corridor.

Table 7-17
S. 272nd Land Availability

Station	Agency TOD Acres	Public TOD Acres	Private TOD Acres	Total Acres
S. 272nd Redondo Station Option	6	0	38	44
S. 272nd Redondo Trench Station Option	4	0	35	39
S. 272nd Star Lake Station Option	0	1	4	5

From a land availability perspective, there are a number of factors that influence a station option's total redevelopment potential. The following is a list of the major factors for the S. 272nd station area.

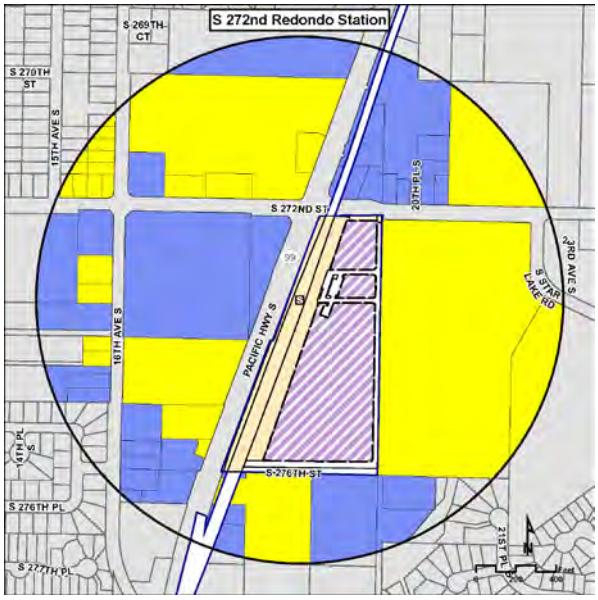
- The location of the guideway impacts a number of key parcels with SR 99 frontage in both Redondo locations.
- There are large parcels within and immediately adjacent to the station area impacted by wetlands.
- An inefficient street grid makes it difficult to access parts of the station area.
- A number of parcels in the station area are currently developed with multi-family housing, which is unlikely to redevelop in the foreseeable future.

The S. 272nd Redondo and S. 272nd Redondo Trench Station Options contain 44 acres of land and 39 acres of land with redevelopment potential, respectively, while the S. 272nd Star Lake Station Option only contains 5 acres of land with similar potential. The limited redevelopable land at the S. 272nd Star Lake Station Option is due to a combination of the fact that a number of large properties are already developed with multi-family residential housing, the existence of large tracts of wetland, a portion of

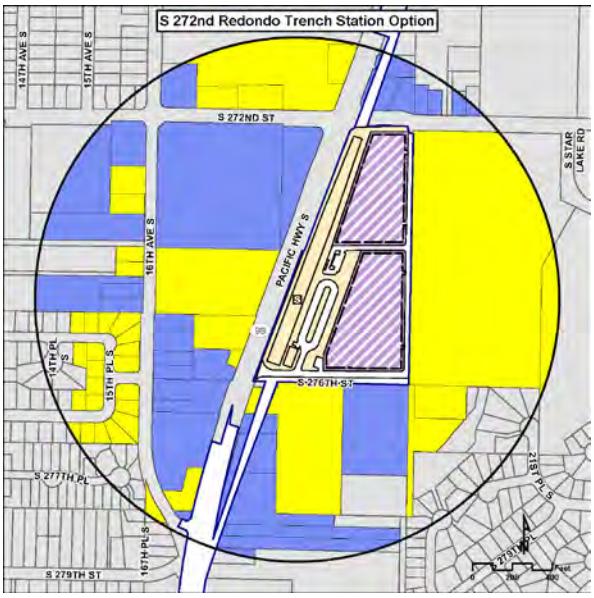
the station area is taken up by the I-5 right-of-way, and there is no agency TOD as the facility footprint is currently designed.

The following maps illustrate the redevelopment ratings for each parcel within individual S. 272nd station options by ownership type.

S. 272nd Redondo Station Option



S. 272nd Redondo Trench Station Option



S. 272nd Star Lake Station Option

Figure 7-4
Parcel Development Ratings for the S. 272nd Station Area

7.5 Conclusions

Table 7-18
S. 272nd Station Summary of Results

Measure	Station with highest score	Notes
Walk Access	S. 272nd Redondo and S. 272nd Redondo Trench	The stations on SR 99 perform better for walk access because of topography, fewer barriers, and more destinations near the station area.
Bike Access	S. 272nd Redondo and S. 272nd Redondo Trench	The stations on SR 99 perform better for bike access because of topography and proximity of existing bike facilities near the station area.
Transit Access	S. 272nd Redondo Trench	The stations on SR 99 perform better for transit access because of the density of existing connecting service.
Auto Access	S. 272nd Star Lake	The station on I-5 performs better for auto access
Existing Land Use	S. 272nd Redondo and S. 272nd Redondo Trench	The stations on SR 99 have double the existing transit supportive land uses than the station on I-5.
Planned Land Use	S. 272nd Redondo and S. 272nd Redondo Trench	The stations on SR 99 have significantly greater planned transit supportive land use than the station on I-5.
Utilities	S. 272nd Redondo and S. 272nd Redondo Trench	The stations on SR 99 have greater utility capacity.
Market Support	Same	All stations have similar market support.
Land Availability	S. 272nd Redondo	The non-trench station at Redondo has 5 more acres of land with TOD potential than the trench option. The Star Lake option only has 5 acres total.

Within the S. 272nd station area, the S. 272nd Redondo Station Option and the S. 272nd Redondo Trench Station Option are similarly supportive of TOD. The only notable difference is that the S. 272nd Redondo Station Option has 5 more acres of land with TOD potential than the S. 272nd Redondo Trench Station Option.

The S. 272nd Star Lake Station Option is less supportive of TOD than the two S. 272nd Redondo Station Options in all four categories. The S. 272nd Star Lake Station Option has only 5 acres of land with TOD potential compared to 39 and 44 acres at the S. 272nd Redondo Station Options. This is primarily because I-5 bisects the S. 272nd Star Lake station area and a significant portion of the area is wetlands.

Key Highlights

S. 272nd Redondo Station Option

- There are 44 acres of land with TOD potential in the station area.
- This station option contains the most acreage with redevelopment potential.
- It is a 2 minute walk to RapidRide.
- The location of the elevated guideway would impact parcels fronting on the east side of SR 99.
- Much of the property to the east of SR 99 is already improved with medium density multi-family housing that is unlikely to redevelop in the foreseeable future.
- An inefficient street grid pattern would make it difficult to access parts of the station area.

S. 272nd Redondo Trench Station Option

- There are 39 acres of land with TOD potential in the station area.
- It is a 2 minute walk to RapidRide.
- The location of the guideway would impacts parcels fronting on the east side of SR 99.
- Much of the property to the east of SR 99 is already improved with medium density multi-family housing that is unlikely to redevelop in the foreseeable future.
- An inefficient street grid pattern would make it difficult to access parts of the station area.

S. 272nd Star Lake Station Option

- Very limited land availability for redevelopment. There are only five acres of land with TOD potential in the station area.
- Existing and planned land use is not very supportive of TOD (27% planned compared to 72% planned at Redondo).
- Very limited walk access. I-5 is a major barrier for pedestrians.
- There is no King County Metro RapidRide connection at this station.
- Much of the developable property within this station area is already improved with multi-family housing that is unlikely to redevelop in the foreseeable future.
- A significant portion of the property within this station area is affected by wetlands.
- The I-5 right of way takes up a significant portion of this station area
- An incomplete street grid makes it difficult to access parts of the station area.

8.0 Federal Way Station Area

The Federal Way station area accommodates station options for all four alignment alternatives: SR 99, I-5, SR 99 to I-5, and I-5 to SR 99. The station options are illustrated in Figure 8-1. More details are also provided in Table 8-1 below.

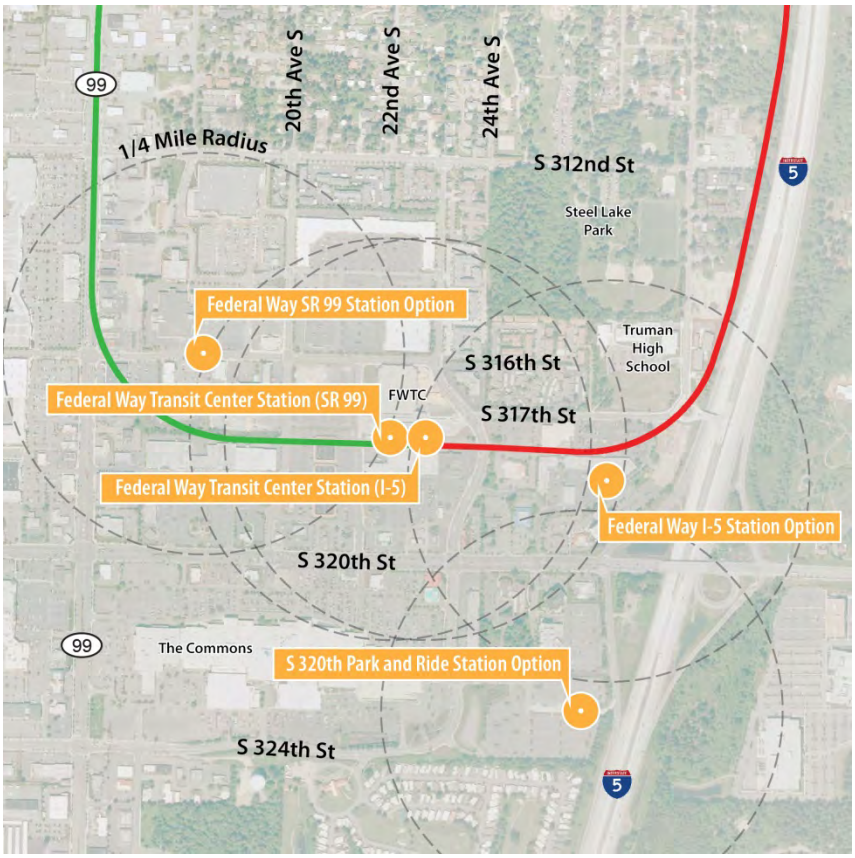


Figure 8-1
Federal Way Station Area Map

Table 8-1
Federal Way Station Descriptions

Station	Alternative	Location Description
Federal Way SR 99 Station Option	SR 99, I-5 to SR 99	The station would be elevated west of the existing transit center. This station location would allow for a future extension of light rail south of Federal Way in the SR 99 corridor.
Federal Way Transit Center Station Option (SR 99)	SR 99, I-5 to SR 99	This elevated terminus station would be located south of the existing transit center.
Federal Way Transit Center Station Option (I-5)	I-5, SR 99 to I-5	The alignment would go under the S. 317th Street roundabout and terminate at an elevated Federal Way Transit Center Station immediately south of the existing Federal Way transit center.
Federal Way I-5 Station Option	I-5, SR 99 to I-5	This station would be in a trench just south of S. 317th Street and east of the existing transit center.
Federal Way S. 320th Park-and-Ride Station Option	I-5, SR 99 to I-5	This station would be a trench in the existing park-and-ride lot.

8.1 Station Access

How easy is it to access the station?

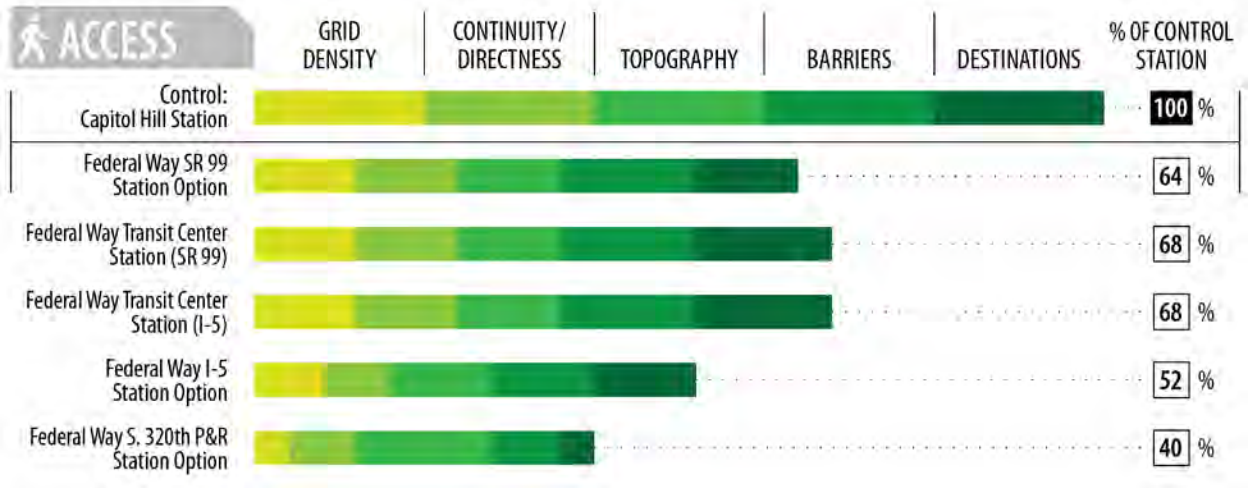
8.1.1 Walk Access

Walk access was evaluated by comparing the proposed station locations to the Capitol Hill station, scheduled to open in 2016. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Capitol Hill. Table 8-2 describes the criteria used and Table 8-3 lists the results of the evaluation.

Table 8-2
Walk Access Evaluation Criteria

Criterion	Definition
Grid density	Density of the public walking network, which is presumed to consist primarily of streets and sidewalks
Continuity and directness	Lack of broken links in walk routes, and directness of the route between the station platform and walk trip destinations
Barriers	Lack of barriers and impediments between walk destinations and the station area, such as I-5, major streets, or fences
Destinations	Presence and variety of major walk access destinations in the station area
Topography	Level topography surrounding the station area

Table 8-3
Federal Way Walk Access Scores



The two station options at the Federal Way Transit Center (SR 99 and I-5) received the highest walk access score, with a moderately supportive score of 68%. These stations rated high because there are fewer barriers and impediments between walk destinations surrounding the station area and because there are a higher number of destinations for pedestrians to access. The lowest-scoring station was the

S. 320th Park-and-Ride station, primarily because of the limited street and sidewalk grid density and limited destinations in the immediate station area.

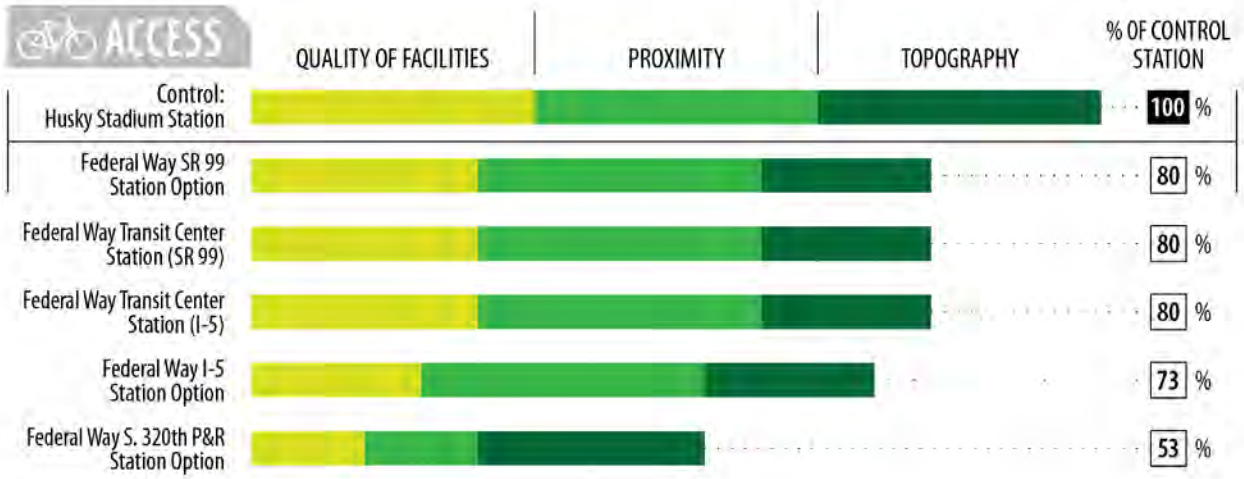
8.1.2 Bicycle Access

Bicycle access was evaluated by comparing the proposed station locations to the University of Washington station, scheduled to open in 2016. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to the University of Washington station. Table 8-4 describes the criteria used and Table 8-5 lists the results of the evaluation.

Table 8-4
Bicycle Access Evaluation Criteria

Criterion	Definition
Facilities	The type or significance of the bicycle route or facility nearby, scored as follows: (1) none, (2) shoulder, (3) designated route, (4) on-street bicycle lane, (5) separated path
Proximity	The proximity of the bicycle route or facility to the station area
Topography	Topography of the station area

Table 8-5
Federal Way Bicycle Access Scores



The Federal Way Transit Center Station Options and the SR 99 Station Option performed the best in terms of bicycle access. All stations have moderately supportive bicycle access. The S. 320th Park-and-Ride station option rated the lowest due to its distance from existing bicycle routes and facilities in the Federal Way station area.

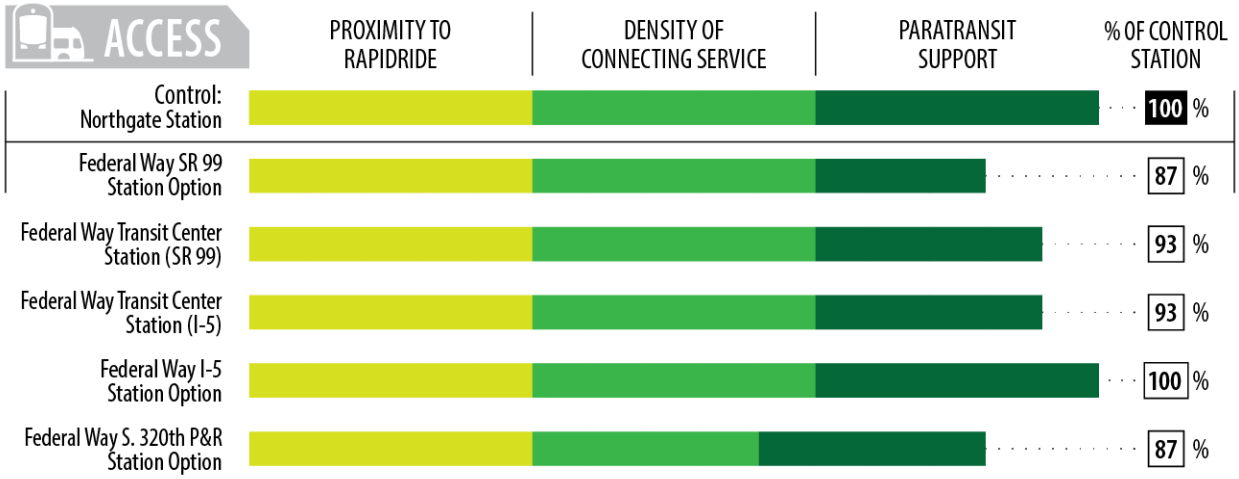
8.1.3 Transit Access

Transit access was evaluated by comparing the proposed station locations to the Northgate station, scheduled to open in 2021. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Northgate. Table 8-6 describes the criteria used and Table 8-7 lists the results of the evaluation.

Table 8-6
Transit Access Evaluation Criteria

Criterion	Definition
Proximity to RapidRide	The proximity of the proposed light rail station location to RapidRide bus stops to collect riders along the corridor
Density of Connecting Service	Density of other connecting local or regional bus service in the station area
Paratransit	Quality of paratransit transfers, including proximity, directness, and freedom from barriers

Table 8-7
Federal Way Transit Access Scores



All of the Federal Way stations have strongly supportive transit access; in fact, this station area rated the highest compared to all other station areas in the corridor. All of the station options have good connections to Rapid Ride. The Federal Way I-5 Station Option had the highest overall score because it performs better than other station options in terms of paratransit support. While the S. 320th Park-and-Ride Station Option rated lower for other access modes, it has a strong transit access score because of its existing use as a park-and-ride.

Sound Transit coordinated with King County Metro on the conceptual station layout plans in the early design phase to ensure future bus facilities could be integrated in the station design. The agencies also discussed future service revisions and other ways to improve connectivity between modes, promoting

ridership and multimodal accessibility. This coordination will continue throughout the environmental planning process and future design phases.

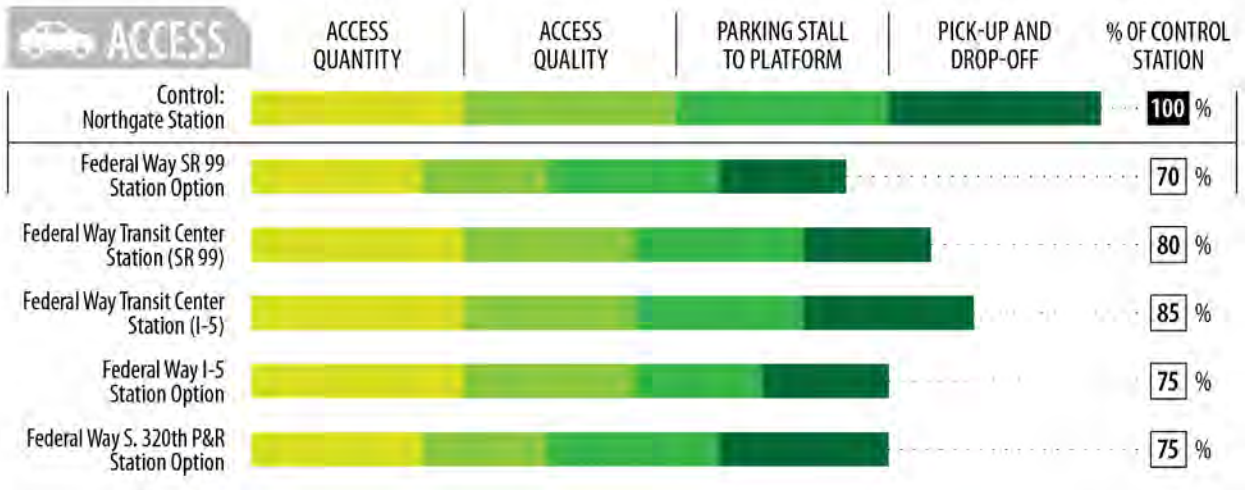
8.1.4 Auto Access

Auto access was evaluated by comparing the proposed station locations to the Northgate station. Access was rated using sub-criteria on a scale of one (worst performing) to five (best performing) for its relative performance to Northgate. Table 8-8 describes the criteria used and Table 8-9 lists the results of the evaluation.

Table 8-8
Auto Access Evaluation Criteria

Criterion	Definition
Access Options – Quantity	Quantity of streets connecting the station to the surrounding area (the number of access options)
Access Options – Quality	Quality of streets connecting to the station in terms of congestion, complexity, and directness
Parking Stall to Platform Connection	Qualitative assessment of distance and directness from parking area to station platform
Pick-up and Drop-off	Qualitative assessment of proximity and access for short-term parking, as well as orientation and line of sight with respect to the platform

Table 8-9
Federal Way Auto Access Scores



All of the Federal Way stations performed well in terms of auto access, receiving strongly supportive scores above 70%. The station area has relatively good quantity and quality of streets connecting to the station area, the conceptual design of the stations have good parking stall to platform direct connections, and the proximity and access to short-term parking for drop-off and pick-up rates well.

8.2 Land Use, Plans & Policies, and Utilities

How transit supportive are the land uses, land use plans, and utility infrastructure?

This study evaluates whether or not transit oriented development would be compatible with existing land use designations in the proposed station areas. The examination of future land uses, through published information indicating local agency plans and policies, demonstrates a vision for transit oriented development in the future. Looking at existing conditions within the context of future land use planning helps inform the possible "ease of transition" from the existing use(s) of the area towards achieving the identified development goals.

8.2.1 Existing Land Use

Figure 8-2 displays percentages of existing and allowable future land uses around the S. 216th station area.

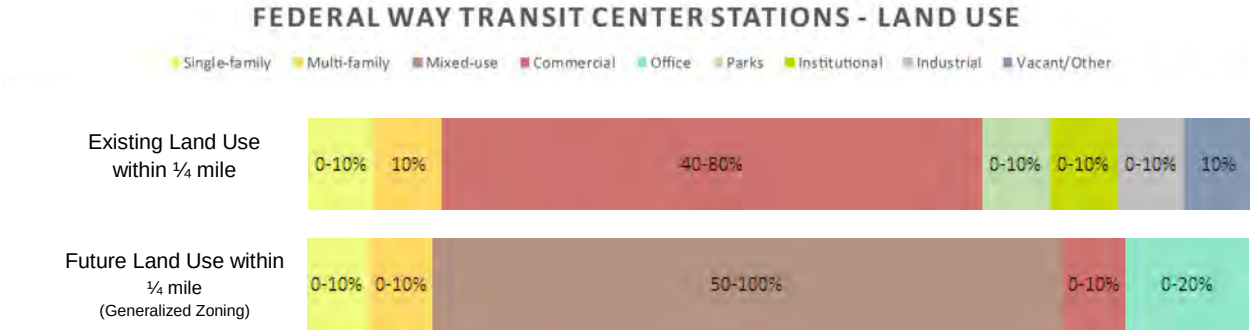


Figure 8-2
Existing Land Uses and Planned Land Uses around Federal Way Station Area

Summary of Existing Land Use Types

- Within the ¼ mile station area, the predominant existing use in the station area is commercial, representing 40 to 80% of existing land use.
- Within the ¼ mile station area, allowable future uses include 50 to 100% mixed-use and 0 to 10% commercial. These uses support TOD.
- Approximately 10% of the parcels in the station area are currently vacant.

Evaluation of Land Uses Supporting TOD

To reflect plans and policies, land use has been analyzed and grouped into two major categories – uses that are transit supportive and those that are not. For the purpose of analyzing TOD potential, the following existing land uses are considered transit supportive: multi-family residential, commercial, institutional, and office building.

For TOD purposes, results indicate the percentage of total acres in the station area (as measured in a quarter-mile radius from the center of the proposed station platform) that would be transit-supportive, as indicated in Table 8-10 below.

Table 8-10
Transit-Supportive Land Use at the Federal Way Station Area

Station	Existing Land Use *		Planned Land Use	
Federal Way SR 99 Station Option	53.1 acres	40%	111.3 acres	100%
Federal Way Transit Center Station (SR 99)	57.0 acres	40%	106.4 acres	100%
Federal Way Transit Center Station (I-5)	54.9 acres	49%	103.7 acres	100%
Federal Way I-5 Station Option	44.3 acres	36%	60.3 acres	60%
Federal Way S. 320th Park-and-Ride Station Option	42.5 acres	18%	84.1 acres	84%

* Excludes vacant parcels.

The SR 99 and the two transit center stations have strongly supportive planned land uses, with greater than 80% of planned acres targeted for transit-supportive uses. The station at I-5 has the least amount of transit-supportive land uses planned at 48%.

8.2.2 Plans & Policies

Local plans and policies frame the jurisdictional and community perspectives, which are important to consider when planning a project to connect employment and activity centers and provide transit access. This section describes the comprehensive plans, CIPs, and TIPs for the City of Federal Way relevant to the Federal Way station area.

The current City of Federal Way Comprehensive Plan was adopted in 2012. Updates for 2015 are currently in progress. The City of Federal Way Comprehensive Plan supports regional high capacity transit and plans to reduce dependency on automobiles. The City Center chapter envisions a transit stop in the City Center surrounded by mixed-use development.

Potential future land uses along SR 99 include commercial and multi-family residential land uses, which is generally consistent with existing conditions. Potential future land uses along I-5 are generally single-family residential with some multi-family residential land uses. Future land use around the Federal Way City Center, which is located between S. 312th and S. 324th Streets and includes much of the area within a half mile of the Federal Way stations, is mixed-use. Other nearby potential future land uses include commercial, single-family residential, multi-family residential, and parks/open space.

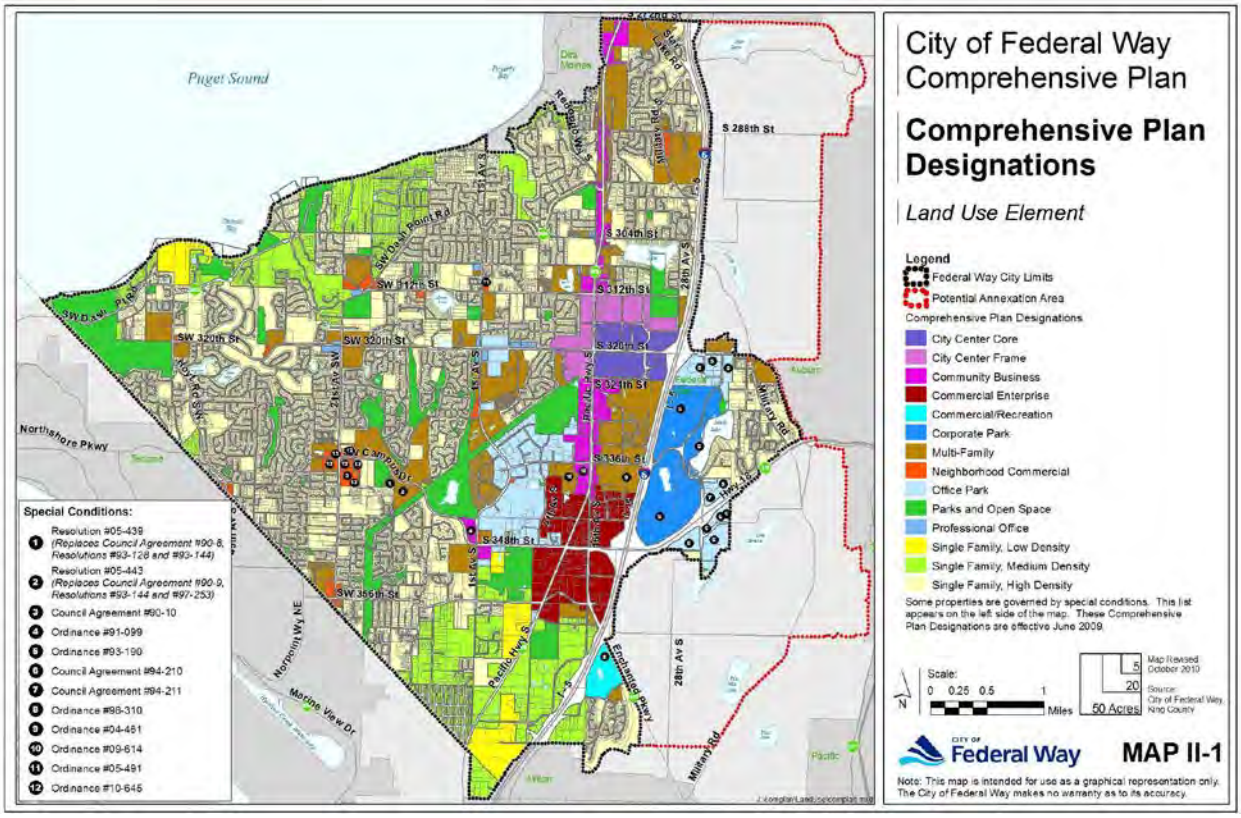


Figure 8-3
Federal Way Comprehensive Plan Land Use Designations (2012)

CIPs and TIPs

The 2011-2016 Transportation Improvement Plan (TIP) includes funding for the following projects in or near the FWLE study area, as shown in Table 8-11.

Table 8-11
Federal Way TIP Projects

Project ID	Name	Description
Project 1a	I-5 SB ramp at S. 320th Street	Add a second southbound left-turn lane; add a third southbound right-turn lane. Funded 2010 & 2011.
Project 1b	S. 320th St. at I-5 Bridge Widening	Add HOV lanes, realign ramps in southeast quadrant. Funded 2012 through 2016.
Project 5	S. 320th at 20th Ave S.	Add a second left-turn lane, both eastbound and westbound. Funded 2011 and 2014.
Project 21	S. 314th St. between 20th Ave S. and 23rd Ave S.	Non-motorized project to install sidewalks, ADA ramps, curbs and gutter, and other pedestrian improvements. Funded 2013.

8.2.3 Utility Infrastructure Assessment

Utilities were analyzed qualitatively, with respect to proximity of the station to major existing utility corridors that could have additional capacity. Analysis indicates there are major existing utilities throughout the Federal Way City Center area along SR 99 and other major arterials near I-5; the exception being near the S. 320th Park and Ride. This station location received the lowest score. The results are described in Table 8-12 below.

Table 8-12
Federal Way Utility Infrastructure Scores

Station	Score
Federal Way SR 99 Station Option	More supportive (70%)
Federal Way Transit Center Station (SR 99)	More supportive (70%)
Federal Way Transit Center Station (I-5)	More supportive (70%)
Federal Way I-5 Station Option	More supportive (70%)
Federal Way S. 320th Park-and-Ride Station Option	Less supportive (30%)

A "more supportive" score indicates there are existing utilities with extra capacity. A "less supportive" score indicates there are limited utilities and no additional capacity. Existing utility infrastructure in the vicinity of the Federal Way station location options are as follows:

- 10-inch to 18-inch water mains perpendicular to the SR 99 alignment at arterial intersections.
- 6-inch to 18-inch water mains perpendicular to the alignment along I-5.
- 8-inch to 14-inch sewer on the west side of SR 99.
- Intermittent 8-inch to 12-inch sewers on the east side of SR 99.

8.3 Market Support

Is the station competitively located to capture demand?

A market support assessment evaluates the station area's TOD potential in the context of housing, retail, hospitality, and office market location characteristics. The market location analysis uses a number of site selection criteria to determine how well located each station option is to attract TOD, relative to other transit-oriented locations.

Table 8-13 provides a summary of the overall scores, while Tables 8-14, 8-15, 8-16, and 8-17 list the individual market sector scores, and each table is followed by narrative describing the station options relative to each market sector.

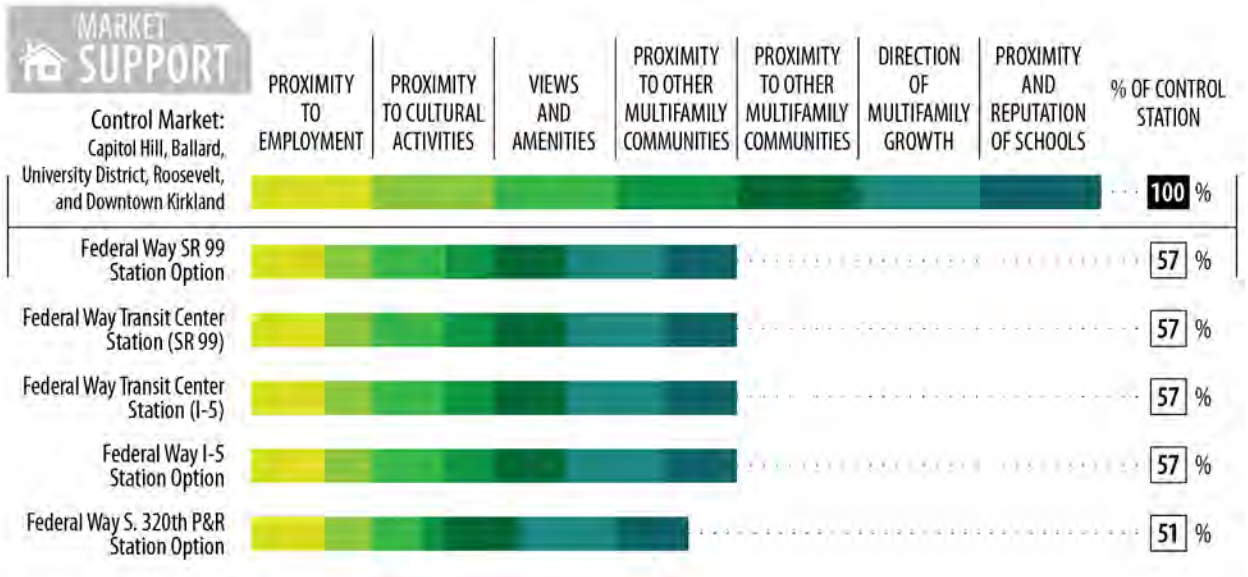
As shown in Table 8-13, individual Federal Way station options rate similarly for their overall locational attributes as compared to the controls, although the Federal Way S. 320th Park and Ride Station Option received a slightly lower overall rating than the other four stations. Lodging scored higher from a locational perspective than housing, office, and retail space for all of the station locations.

Table 8-13
Federal Way Station Market Support – Summary Scores

Station	Housing	Retail	Hospitality	Office	Overall Score
Control Market Area	Capitol Hill, Ballard, University District, Roosevelt, Downtown Kirkland	Queen Anne, Ballard, Broadway/Pike Pine and Downtown Kirkland, Orenco Station in Hillsboro, Oregon	Downtown Seattle and Bellevue	International District, South Lake Union, Overlake	
Control Score	100% (35 points)	100% (25 points)	100% (30 points)	100% (45 points)	
Federal Way SR 99 Station Option	57%	60%	63%	58%	60%
Federal Way Transit Center Station (SR 99)	57%	60%	67%	60%	61%
Federal Way Transit Center Station (I-5)	57%	60%	67%	60%	61%
Federal Way I-5 Station Option	57%	60%	70%	58%	61%
Federal Way S. 320th Park-and-Ride Station Option	51%	48%	63%	53%	54%

Multi-Family Housing

Table 8-14
Federal Way Station Market Support – Housing

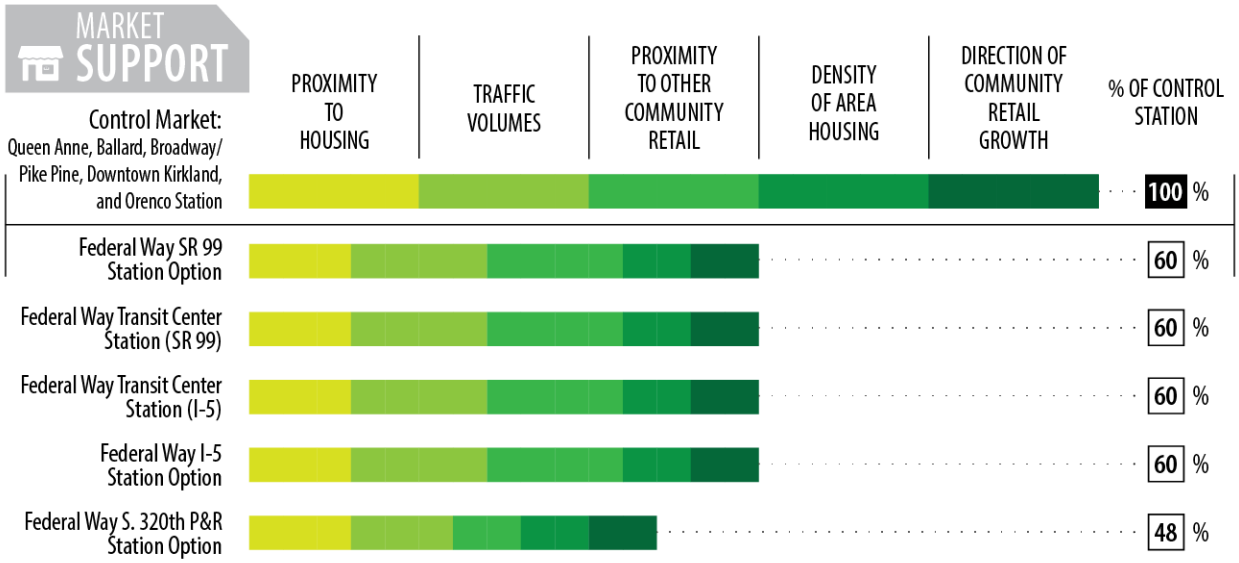


Overall, the station locations rated somewhat similarly. In the region, some of the most attractive multi-family markets from a locational perspective include areas such as Capitol Hill, Ballard, the University District, the Roosevelt neighborhood, and Downtown Kirkland. The Federal Way station area's positive locational attributes include I-5 access, proximity to employment, proximity to other apartment communities, and proximity to shopping and dining options. The area is also in the path of multi-family growth. Its main disadvantage from a community retail perspective is the lack of cultural amenities;

however, the City of Federal Way has plans to develop a performing arts center in the city center, which could help attract other cultural amenities in the future.

Community Retail

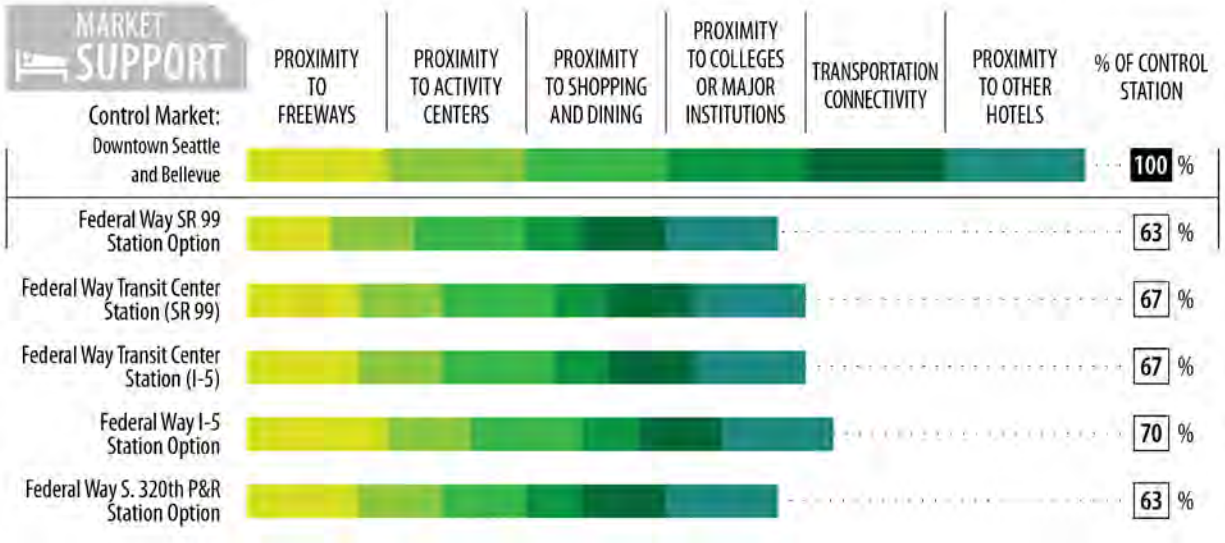
Table 8-15
Federal Way Station Market Support – Community Retail



The region's models for pedestrian-oriented community retail markets include Seattle's Queen Anne, Ballard, the Pike/Pine Corridor, downtown Kirkland on the Eastside, and Hillsboro, Oregon. The Federal Way station area's strengths include I-5 and SR 99 access, proximity to housing, and the concentration of existing retailers. Its main disadvantage from a community retail perspective is the lack of existing community retail and the auto-oriented nature of the existing uses. With the exception of the S. 320th Park and Ride Station Option, the locations rated identically for their attractiveness as community retail locations. The S. 320th Park-and-Ride Station Option rated slightly lower because its location is somewhat removed from the downtown core's commercial activity and from the relatively dense housing to the north of downtown.

Hospitality

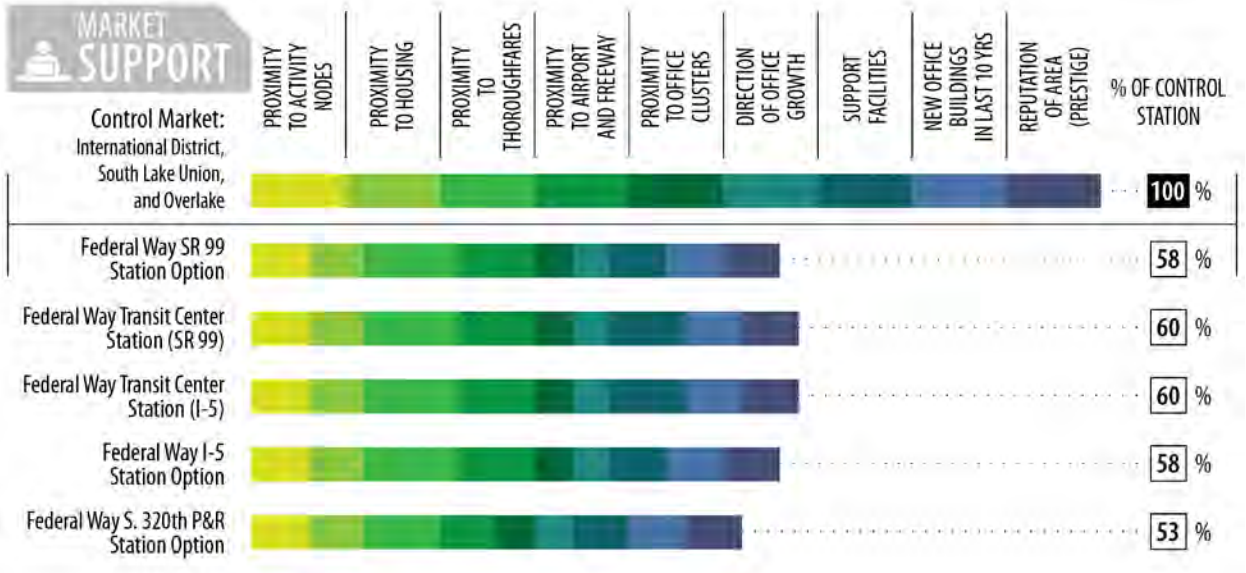
Table 8-16
Federal Way Station Market Support – Hospitality/Lodging



The region's best locations for hospitality uses are in or near the central business districts and major transportation hubs, such as Downtown Seattle and Bellevue, and the SeaTac Airport. Its strengths include visibility and access to I-5, access to SR 99, proximity to hotel serving amenities, proximity to other hotels, transportation connectivity, and proximity to employment centers. Although there are minor demand generators like the Commons Regional Mall and the concentration of commercial space downtown, the station area lacks a major demand generator like the SeaTac Airport. While the five Federal Way station options scored similarly relative to the controls, the two Federal Way Transit Center Station Options and the Federal Way I-5 Station Option scored slightly higher than the other stations.

Office

Table 8-17
Federal Way Station Market Support – Office



The markets that are the most attractive for low to mid-rise office development in the region are at the fringes of the major central business districts. In Seattle, they include South Lake Union and the International/Stadium district; and on the Eastside, suburban locations such as Overlake. The Federal Way station area's strengths include I-5 and SR 99 access, proximity to activity nodes, proximity to housing, and proximity to office supporting amenities. From a location perspective however, it does not contain a high concentration of office space, has seen little office development in the last decade, and is not in the path of office growth. The station locations are similar in terms of their overall rating, although the S. 320th Park-and-Ride Station Option scored slightly lower than the others due to being a relatively removed from the center of downtown Federal Way.

8.4 Land Availability

How many acres of redevelopable land are in the station area?

Land availability was evaluated by comparing the amount of redevelopable land in the quarter-mile area around each station option to the total acreage in the quarter-mile. The criteria used to determine redevelopment potential differed depending on the property ownership type. For detailed methodology, refer back to Chapter 2.

As shown in Table 5-17, the quarter-mile area surrounding each of the station options contains between 18 and 54 acres of land rated to have redevelopment potential.

Table 8-18
Federal Way Station Land Availability

Station	Agency TOD Acres	Public TOD Acres	Private TOD Acres	Total Acres
Federal Way SR 99 Station Option	7	14	33	54
Federal Way Transit Center Station (SR 99)	2	16	25	43
Federal Way Transit Center Station (I-5)	2	16	22	40
Federal Way I-5 Station Option	10	0	8	18
Federal Way S. 320th Park-and-Ride Station Option	2	0	27	29

From a land availability perspective, there are a number of factors that influence a station option's total redevelopment potential. The following is a list of the major factors for this station area.

- The location of the guideway impacts a number of key parcels in many of the station locations and, in some, the station requires the demolition of significant existing improvements.
- An inefficient street grid makes it difficult to navigate many of the station locations.
- The I-5 right-of-way takes up a significant portion of the ¼ mile circle for the two I-5 stations.
- There are several existing multi-story commercial and residential developments within this station area.
- The public sector controls a number of contiguous prime redevelopment sites within many of the station options.

The Federal Way SR 99 Station Option contains 54 acres of land with redevelopment potential, which is more than the other four Federal Way options and also more than any other station along the corridor. The large amount redevelopment acreage at this station is due to a combination of the relatively high amount of "Agency TOD", a number of contiguous publically controlled parcels with redevelopment potential within the station area, and a significant number of privately controlled parcels with redevelopment potential located between SR 99 and 20th Ave S.

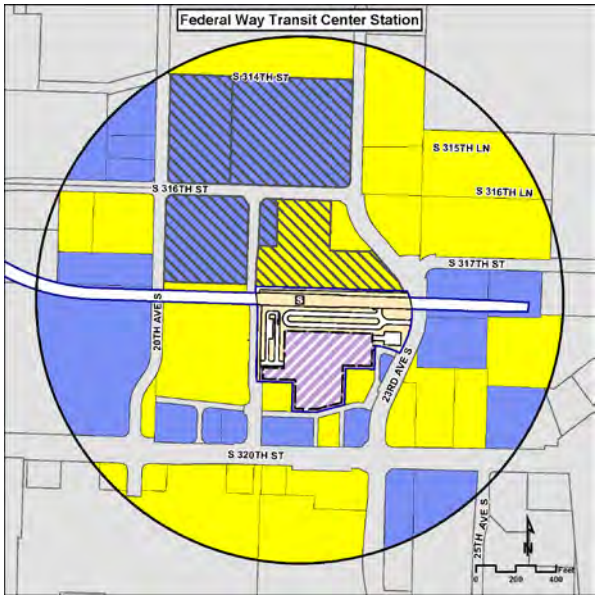
The two Federal Way Transit Center Station Options contain 40 and 43 acres of land with redevelopment potential. The major difference between these two locations and the Federal Way SR 99 Station Option is that they contain less "Agency TOD" potential.

The Federal Way S. 320th Park-and-Ride Station Option and the Federal Way I-5 Station Option locations offer relatively little redevelopment acreage, mostly due to I-5 cutting off pedestrian access to much of the station area. The Federal Way S. 320th Park and Ride Station Option has 29 acres of redevelopment potential. Much of the redevelopment potential here is in the large mobile home park to the southwest of the station. The majority of 18 acres of redevelopment potential for the Federal Way I-5 Station Option consists of "Agency TOD."

Only the portion of each parcel that is within the quarter mile area is counted toward a station option's total redevelopment acreage. In the case of the mobile home park property, it means that only about 30% of the 63 acre parcel is included, and the total redevelopment potential for this station option may be underrepresented. A review of the other station options found that there are no other properties along the entire corridor that are 20 acres in size or greater that also are rated to have redevelopment potential and intersect a quarter-mile area surroundings a station.

The following maps illustrate the redevelopment ratings for each parcel within the Federal Way station options by ownership type.

FWTC Station Option (SR 99)



FWTC Station Option (I-5)

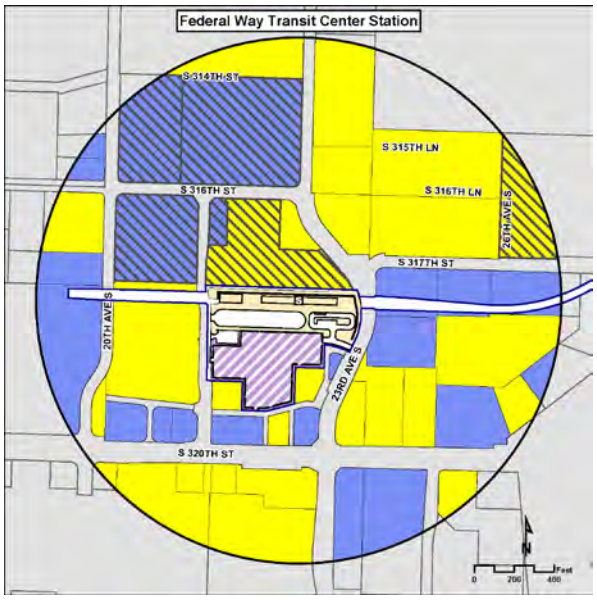
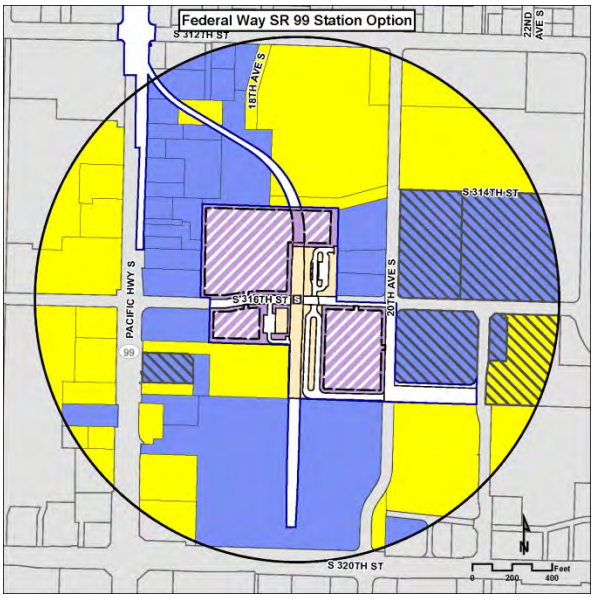
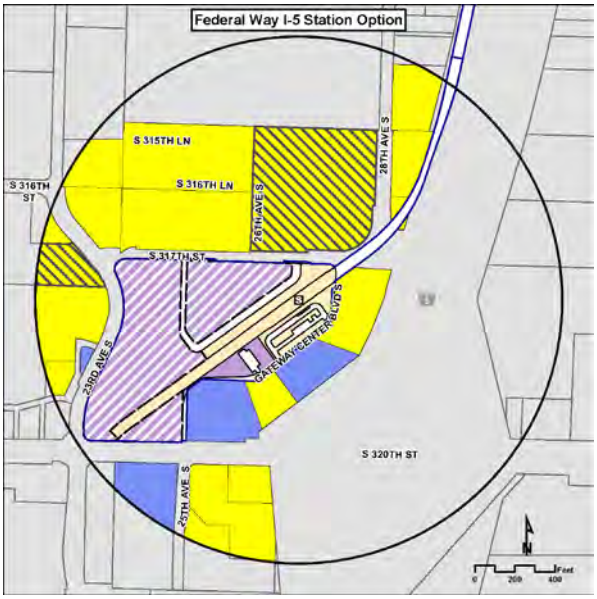


Figure 8-3 a
Parcel Development Ratings for the Federal Way Station Area

Federal Way SR 99 Station Option (SR 99)



Federal Way I-5 Station Option



Federal Way S. 320th P&R Station Option

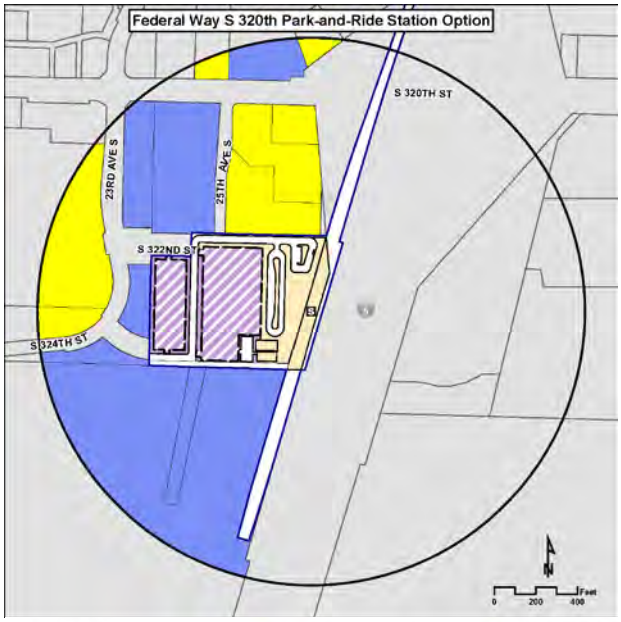


Figure 8-3 b

Parcel Development Ratings for the Federal Way Station Area

8.5 Conclusions

Table 8-19
Federal Way Station Summary of Results

Measure	Station with highest score	Notes
Walk Access	FWTC (SR 99) and FWTC (I-5)	These two station options performed slightly better because of presence and variety of major destinations in the station area.
Bike Access	FWTC (SR 99), FWTC (I-5), and SR 99	These station options performed slightly better because of the quality of existing bike facilities in and connecting to the station area.
Transit Access	I-5	This station option performed better because of density of connecting service and quality of paratransit transfers.
Auto Access	FWTC (I-5)	This station option received the highest score for auto access because it had slightly better pick up and drop off access.
Existing Land Use	FWTC (SR 99) and FWTC (I-5)	These station options had the highest percentage of existing transit supportive land uses.
Planned Land Use	SR 99	This station option had the highest percentage of planned transit supportive land uses.
Utilities	All same, except S. 320th	All station options had similar utility capacity, with the exception of S. 320th where there are limited existing utilities with limited room for expansion.
Market Support	Similar	All station options performed similarly in terms of market support, with the S. 320th station receiving a slightly lower score.
Land Availability	SR 99	This station option has the highest number of acres of land with TOD potential, with 8 more acres than the next highest score.

The two Federal Way Transit Center Stations Options (SR 99 and I-5) are the most supportive of TOD in this station area, followed closely by the Federal Way SR 99 Station Option. The close proximity to the existing transit center provides excellent bus access for both Federal Way Transit Center stations.

Comparatively, the Federal Way I-5 Station Option rates lower in Access and Land Use categories. It also has 18 acres of TOD land with TOD potential compared to over 45 acres at each of the Federal Way Transit Center Station Options.

The Federal Way S. 320th Park-and-Ride Station Option is the least supportive of TOD in the Federal Way station area, with the lowest individual ratings for Access, Land Use, and Market Support categories. This station option also offers the second lowest amount of land with redevelopment potential. The SR 99 Station would have the greatest amount of land available for TOD, followed by the Federal Way Transit Center Station Option. The Federal Way I-5 Station Option would have the least amount of land available for TOD.

Key Highlights

Federal Way SR 99 Station Option

- There are 54 acres of land with TOD potential in the station area.
- It is a 7 minute walk to the Federal Way Transit Center.
- There is a proposed RapidRide connection to this station location.
- This station area has high transit-supportive planned land use (88%).
- An inefficient street grid makes it difficult to navigate parts of the station location.
- There are a number of existing multi-story commercial and residential developments within this station area.
- The public sector controls a number of contiguous redevelopment sites adjacent to the station.
- The guideway impacts a number of parcels within this station area, and requires the demolition of at least one shopping center.

Federal Way Transit Center Station Option (SR 99)

- There are 43 acres of land with TOD potential in the station area.
- This station location offers great connectivity to existing transit services. It is a one minute walk to the Federal Way Transit Center.
- This station location has high transit-supportive planned land uses (82%).
- An inefficient street grid makes it difficult to navigate parts of the station area.
- There are a number of existing multi-story commercial and residential developments within this station area.
- The public sector controls a number of contiguous prime redevelopment sites adjacent to the station. City-owned parcels enhance TOD potential of the station area.
- A large portion of the overall land in this station option is taken up by the Commons Regional Mall and a number existing multi-family developments that are unlikely to redevelop in the foreseeable future.

Federal Way Transit Center Station Option (I-5)

- There are 40 acres of land with TOD potential in the station area.
- This station location offers great connectivity to existing transit services. It is a one minute walk to the Federal Way Transit Center.
- I-5 is a major barrier to pedestrians and bicyclists.
- This station location has high transit-supportive planned land uses (82%).
- An inefficient street grid makes it difficult to navigate parts of the station option.
- There are a number of existing multi-story commercial and residential developments within this station area.
- The public sector controls a number of contiguous prime redevelopment sites adjacent to the station.

- A large portion of the overall land in this station option is taken up by the Commons Regional Mall and a number existing multi-family developments that are unlikely to redevelop in the foreseeable future.

Federal Way I-5 Station Option

- There are 18 acres of land with TOD potential in the station area.
- It is a 9 minute walk to the Federal Way Transit Center.
- There is a proposed RapidRide connection at this station location.
- The facility footprint in this station option offers more potential agency TOD than any of the other station options along the corridor.
- There are a number of existing multi-story commercial and residential developments within this station option.
- This station area has low transit-supportive planned land uses (48%).
- The I-5 right-of-way takes up a significant portion of this station area.
- A significant portion of this station area is taken up by the Truman High School and Steel Lake Park.

Federal Way S. 320th Park-and-Ride Station Option

- There are 29 acres of land with TOD potential in the station area.
- There is limited walk access due to less than ideal proximity to activity centers, grid density, and route directness. It is a 16 minute walk to the Federal Way Transit Center.
- There is a proposed RapidRide connection at this station location.
- This station area has less supportive utility infrastructure capacity.
- Access to the eastern half of this station option is cut off by I-5.
- The location of the elevated guideway has minimal impact parcels within this station option.
- Much of the potential redevelopment potential in this station is concentrated within a large mobile home park that is partially located within the station area. Only about 30% of this 63 acre property is captured within the quarter mile area. If the entire parcel was included in the assessment, it would add a significant amount of acreage to the total and improve this station option's rating relative to the other stations in the Federal Way station area.

9.0 Conclusions

"Within each of the station areas, which station locations would be more supportive of TOD?"

The station locations that would be most supportive of TOD in each station area include:

- For the **S. 216th station area,** both potential additional station options would be moderately supportive of TOD.
- Within the **Kent/Des Moines station area,** all of the potential station options near SR 99 and near 30th Avenue S. would be moderately supportive of TOD. The two station options adjacent to I-5 would be the least supportive of TOD in this station area.
- At the **S. 260th station area,** both potential additional station options would have relatively low support for TOD, compared to other station areas in the corridor.
- Within the **S. 272nd station area,** the two station options close to SR 99 (at the Redondo Park-and-Ride) would be similarly supportive of TOD. The I-5 station option (at the Star Lake Park-and-Ride) is less supportive of TOD than the two SR 99 station options.
- The two **Federal Way Transit Center** station options (for the SR 99 and I-5 alternatives) and the Federal Way SR 99 Station option would be the most supportive of TOD in this station area. The Federal Way I-5 Station Option would be moderately supportive of TOD and the Federal Way S. 320th Park-and-Ride Station option would be the least supportive of TOD in the Federal Way station area.

"What combination of alignment and station locations would be more supportive of TOD?"

In general, an alignment along SR 99, with all stations located along SR 99, would be more supportive of TOD than an alignment along I-5, with all stations located along I-5. However, because there is potential for combinations of the four alignment alternatives and station options, the alignment decision alone would not determine the level of TOD support that could be achieved in the FWLE corridor.

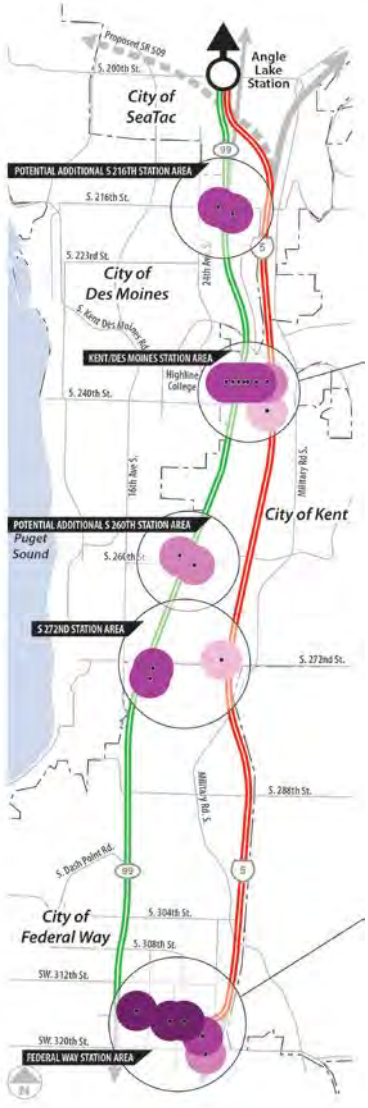


Figure 9-1
FWLE Corridor Map with TOD Potential

Specifically, at both the Kent/Des Moines and Federal Way station areas, all alignment alternatives could connect to station options that would be more supportive of TOD.

Additionally, both of these station areas are projected to generate the majority of the ridership in the corridor. Within each of these station areas, any of the alignments along SR 99 and/or I-5 could effectively connect to station options that would be more supportive of TOD.

More specifically, in the Kent/Des Moines station area, all four of the alignment alternatives could connect with the more TOD supportive station options, as illustrated in the graphics below.

Figure 9-2
FWLE Alignments and TOD Station Connections, Kent/Des Moines Station Area

Similarly, in the Federal Way station area, both the SR 99 and I-5 alignment alternatives could serve station options that are more supportive of TOD, as shown in the illustrations below.

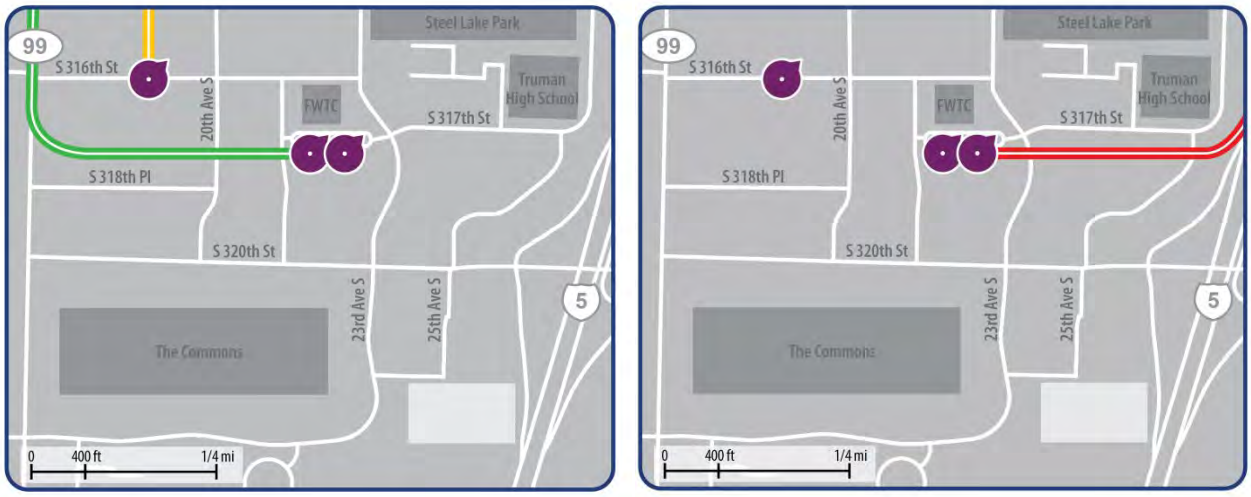


Figure 9-3
FWLE Alignments and TOD Station Connections, Federal Way Station Area

For the S. 272nd station, the SR 99 and I-5 alignment alternatives would each serve different station locations, as illustrated in the graphic below. The station options along SR 99 (at the Redondo Park-and-Ride) would be more supportive of TOD than the station option along I-5 (at the Star Lake Park-and-Ride). Therefore, in the 272nd station area, unlike the Kent/Des Moines and Federal Way station areas, the I-5 alignment alternative could not connect to the station options that are more supportive of TOD.

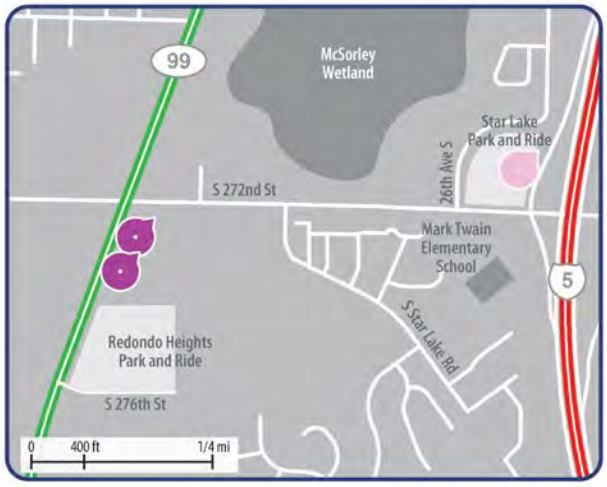


Figure 9-4
FWLE Alignments and TOD Station Connections, S. 272nd Station Area

"Would potential additional stations at S. 216th and S. 260th enhance support for TOD?"

Station options at S. 216th and S. 260th are only possible with an SR 99 alignment alternative and adding any stations would enhance the overall support for TOD along the corridor.

Both the S. 216th and S. 260th station options performed well in terms of transit access due to RapidRide stops nearby. The S. 216th station area would have similar transit-supportive land uses and acres of land with TOD potential as the Kent/Des Moines station area. Further, there is potential for parcel assemblage to enhance TOD support at this station.

The S. 260th station area would have some constraints that could limit its TOD potential. The predominant existing land use nearby is single family residential and the McSorley Creek wetlands limit development potential in the area. The acreage of land with TOD potential is less than at S. 216th and the higher performing stations at Kent/Des Moines.

10.0 Sensitivity Testing

Sound Transit conducted a series of tests involving minor changes to methodology in order to assess the sensitivity of overall station scores to these changes. For the most part, these sensitivity tests were devised in response to specific comments from those reviewing the TOD analysis process, either as members of the Federal Way Link Extension (FWLE) Interagency Working Group (IWG) or of the project team itself. Each sensitivity test is described below, and the results are summarized after the descriptions in Table 9-1.

Test #1 – Use Only Walk Access in the Access Category

The first sensitivity test was suggested by a member of the IWG on the basis that the success of TOD in terms of compact and efficient space depends much more strongly on *walk* access to the transit station than on any other mode of access. To modify the calculation of the overall TOD support score, the score for Walk access simply replaced the access category score for all modes. In effect, this change removed the consideration of access by bike, bus, and auto from the overall TOD support score.

Test #2 – Exclude Auto Score from the Access Subtotal

The project team recommended testing the removal of Auto access from the overall score, but leaving in the Walk, Bike, and Bus components. This test was intended to reflect the premise that where TOD is desired, the space and capacity devoted to convenient auto access should be allocated instead to modes that promote more compact and walkable urban form. Removing this component from the access category score would mean that transit station options with *poor* auto access scores would improve their standing relative to those *good* auto access scores.

Test #3 – Exclude the Existing Score from the Land Use Subtotal

The *Land Use, Plans & Policies, and Utilities* category was created to account for several things, with a primary focus on the level of TOD support that could be expected from the jurisdiction governing land use policies. The consideration of existing land use as a TOD support measure in this category accounts for the amount of change that would be required to create a better transit-oriented place centered around the station, under the assumption that existing land uses that are already transit supportive would require less effort and development force to change. The sensitivity of overall ratings to the inclusion of existing land use in this category was tested because one commenter suggested that the "D" for "Development" (meaning 'change') in TOD is a key part of the opportunity to make the place attractive for transit riders, and therefore candidate station options should not be punished for having existing land use that does not support TOD well.

Test #4 – Exclude the Utilities Score from the Land Use Subtotal

Utilities suitability information was included in the *Land Use, Plans & Policies, and Utilities* category to represent an infrastructure element to the "plans" portion. However, Sound Transit recognized early on that the level of utility infrastructure information needed was not available at the scale and depth needed to conduct a detailed analysis. While some basic information about trunk/transmission system was readily available, Sound Transit added this test to determine the impact removing *Utilities* scores would have on overall TOD Support scores.

Test #5 – Double the Weight of Public TOD for Land Availability

While any attempts at accounting for relative weights of factors were avoided in the primary TOD evaluation, a specific comment was received regarding the importance of favoring the specific measure of Public land availability for TOD. Outcomes for privately-controlled land are much less subject to the control of the agencies with a stake in their successful conversion to transit-supportive uses.

Table 9-1
Sensitivity Testing Results

Station	Overall	1- Access: Walk Only	2- Access: No Auto	3- LUPP: No Existing	4- LUPP: No Utilities	5- Land Availability: 2x "Public"
S. 216th West Station Option	56	55	56	60	57	57
S. 216th East Station Option	55	53	56	59	55	55
Kent/Des Moines Highline Campus Station Option	53	53	53	55	55	53
Kent/Des Moines SR 99 West Station	55	56	56	57	57	55
Kent/Des Moines SR 99 Median Station Option	53	57	54	56	55	54
Kent/Des Moines SR 99 East Station Option (SR 99)	56	56	56	59	57	56
Kent/Des Moines SR 99 East Station Option (I-5)	56	56	56	59	57	56
Kent/Des Moines 30th Avenue West Station Option	54	54	53	58	55	54
Kent/Des Moines 30th Avenue East Station Option	53	53	52	57	53	54
Kent/Des Moines I-5 Elevated Station	41	40	40	44	42	41
Kent/Des Moines I-5 At-Grade Station Option	39	38	38	42	39	39
S. 260th West Station Option	46	44	47	48	45	47
S. 260th East Station Option	48	46	48	50	47	48
S. 272nd Redondo Station	52	52	52	54	53	52
S. 272nd Redondo Trench Station Option	51	50	51	53	52	51
S. 272nd Star Lake Station	33	27	30	34	32	33
Federal Way SR 99 Station Option	65	62	65	69	65	69
Federal Way Transit Center Station (SR 99)	65	62	65	68	66	69
Federal Way Transit Center Station (I-5)	66	62	65	69	66	70
Federal Way I-5 Station Option	52	46	52	55	50	52
Federal Way S. 320th Park and Ride Station Option	48	42	47	51	49	48

0-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-100

----------> MORE TOD SUPPORT ---------->

Appendix A – Evaluation Scores

The table below displays the scores for each station option for all of the evaluation criteria used in this study.

- Sensitivity Tests
  - Access – Walk Only
  - Access – No Auto
  - Land Use, Plans & Policies – No Existing Land Use
  - Land Use, Plans & Policies – No Utilities
  - Land Availability – 2x Public TOD
- Access
  - Walk
  - Bike
  - Transit
  - Auto
- Land Use, Plans & Policies
  - Existing Land Use
  - Planned Land Use
  - Utilities
- Market Support
  - Housing
  - Retail
  - Lodging
  - Office
- Land Availability
  - Agency TOD
  - Public TOD
  - Private TOD

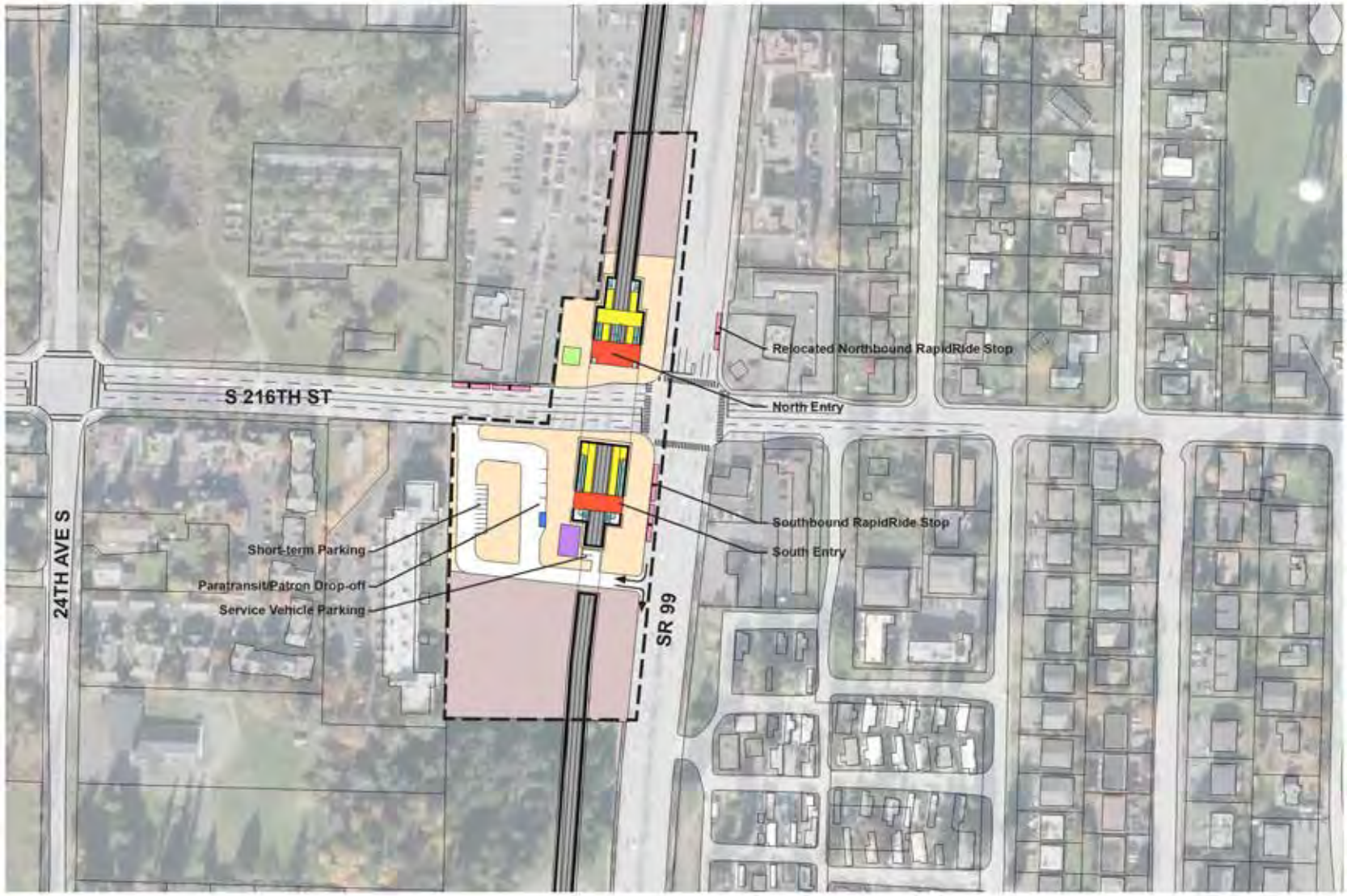
Station Area	Station or Station Option (as named in DEIS)	Overall Score	Overall Score With Sensitivity Tests					Access					Land Use, Plans & Policies				Market Support					Land Availability			
								How easy is it to get to the station?					How much of the land use and infrastructure are transit-supportive?				Is the station competitively located to capture demand?					How many acres of redevelopable land with TOD potential are there?			
			Access: Walk Only	Access: No Auto	LUPP: No Existing	LUPP: No Utilities	LA: 2x "Public"	Score	Walk	Bike	Bus	Auto	Score	Land Use: Existing	Land Use: Planned	Utilities	Score	Housing	Retail	Lodging	Office	Acres	Agency	Public	Private
S 216th	S 216th West Station Option	56	55	56	60	57	57	61	56	73	60	55	55	19	97	50	54	54	64	53	44	53	2	4	47
	S 216th East Station Option	55	53	56	59	55	55	62	56	73	67	50	57	24	97	50	54	54	64	53	44	46	1	0	45
Kent-Des Moines	Kent/Des Moines Highline Campus Station Option	53	53	53	55	55	53	60	64	60	67	50	67	50	100	50	53	60	60	53	40	30	7	0	23
	Kent/Des Moines SR 99 West Station	55	56	56	57	57	55	68	72	67	80	55	64	43	100	50	54	60	64	53	40	32	5	1	26
	Kent/Des Moines SR 99 Median Station Option	53	57	54	56	55	54	55	68	60	47	45	63	40	100	50	54	60	64	53	40	41	6	1	34
	Kent/Des Moines SR 99 East Station Option (SR 99)	56	56	56	59	57	56	68	68	60	73	70	62	37	100	50	54	60	64	53	40	39	6	1	32
	Kent/Des Moines SR 99 East Station Option (I-5)	56	56	56	59	57	56	68	68	60	73	70	62	37	100	50	54	60	64	53	40	39	6	1	32
	Kent/Des Moines 30th Avenue West Station Option	54	54	53	58	55	54	65	64	53	67	75	59	28	98	50	53	60	60	53	40	39	6	1	32
	Kent/Des Moines 30th Avenue East Station Option	53	53	52	57	53	54	61	60	47	67	70	53	20	87	50	52	60	56	53	40	47	8	4	35
	Kent/Des Moines I-5 Elevated Station	41	40	40	44	42	41	52	48	47	53	60	34	9	62	30	48	51	48	53	38	31	7	0	24
	Kent/Des Moines I-5 At-Grade Station Option	39	38	38	42	39	39	49	44	47	47	60	31	6	56	30	47	51	56	43	38	28	7	0	21
S 260th	S 260th West Station Option	46	44	47	48	45	47	61	52	73	60	60	40	30	40	50	48	51	64	40	38	36	1	1	34
	S 260th East Station Option	48	46	48	50	47	48	60	52	73	60	55	40	27	44	50	48	51	64	40	38	43	1	1	41
S 272nd	S 272nd Redondo Station	52	52	52	54	53	52	63	60	60	60	70	55	43	72	50	47	51	64	37	38	44	6	0	38
	S 272nd Redondo Trench Station Option	51	50	51	53	52	51	63	60	60	67	65	55	43	72	50	47	51	64	37	38	39	4	0	35
	S 272nd Star Lake Station	33	27	30	34	32	33	54	32	47	53	85	26	21	27	30	46	46	52	47	40	5	0	1	4
Federal Way TC	Federal Way SR 99 Station Option	65	62	65	69	65	68	75	64	80	87	70	70	40	100	70	60	57	60	63	58	54	7	14	33
	Federal Way Transit Center Station (SR 99)	66	63	66	69	66	70	80	68	80	93	80	73	49	100	70	61	57	60	67	60	43	2	16	25
	Federal Way Transit Center Station (I-5)	64	60	64	67	64	70	82	68	80	93	85	73	49	100	70	61	57	60	67	60	40	2	16	22
	Federal Way I-5 Station Option	52	46	52	55	50	52	75	52	73	100	75	55	36	60	70	61	57	60	70	58	18	10	0	8
	Federal Way S 320th Park and Ride Station Option	48	42	47	51	49	48	64	40	53	87	75	44	18	84	30	54	51	48	63	53	29	2	0	27

Appendix B – Conceptual Station Layouts

See exhibits below.

Draft EIS - Station Conceptual Design

S 216th West Station Option



Not to Scale

Figure B-1

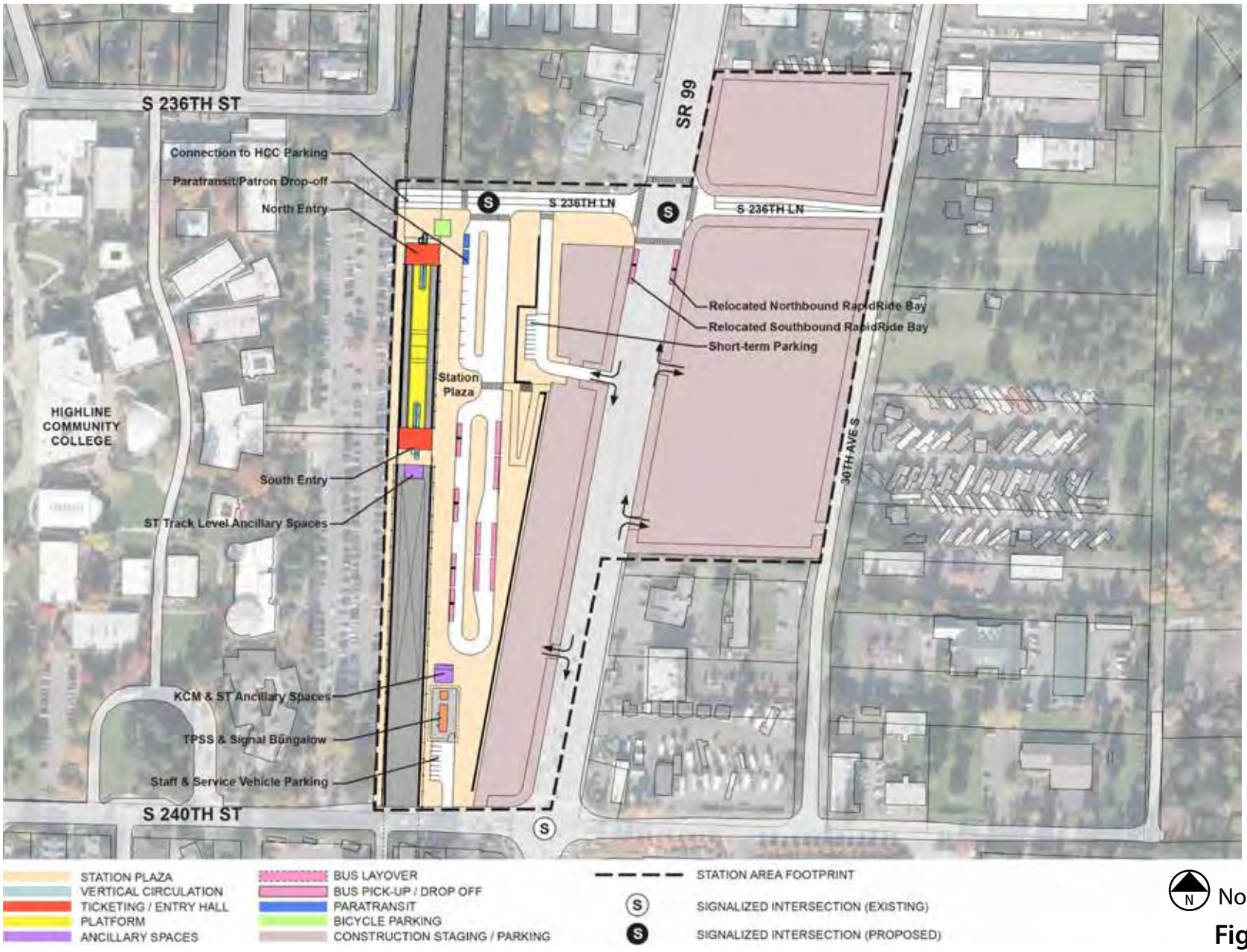
Draft EIS - Station Conceptual Design

S 216th East Station Option

Figure B-2

Draft EIS - Station Conceptual Design

Kent/Des Moines HC Campus Station Option



Not to Scale

Figure B-3

Draft EIS - Station Conceptual Design

Kent/Des Moines SR 99 West Station Option

Figure B-4

Draft EIS - Station Conceptual Design

Kent/Des Moines SR 99 Median Station Option

Figure B-5

Draft EIS - Station Conceptual Design

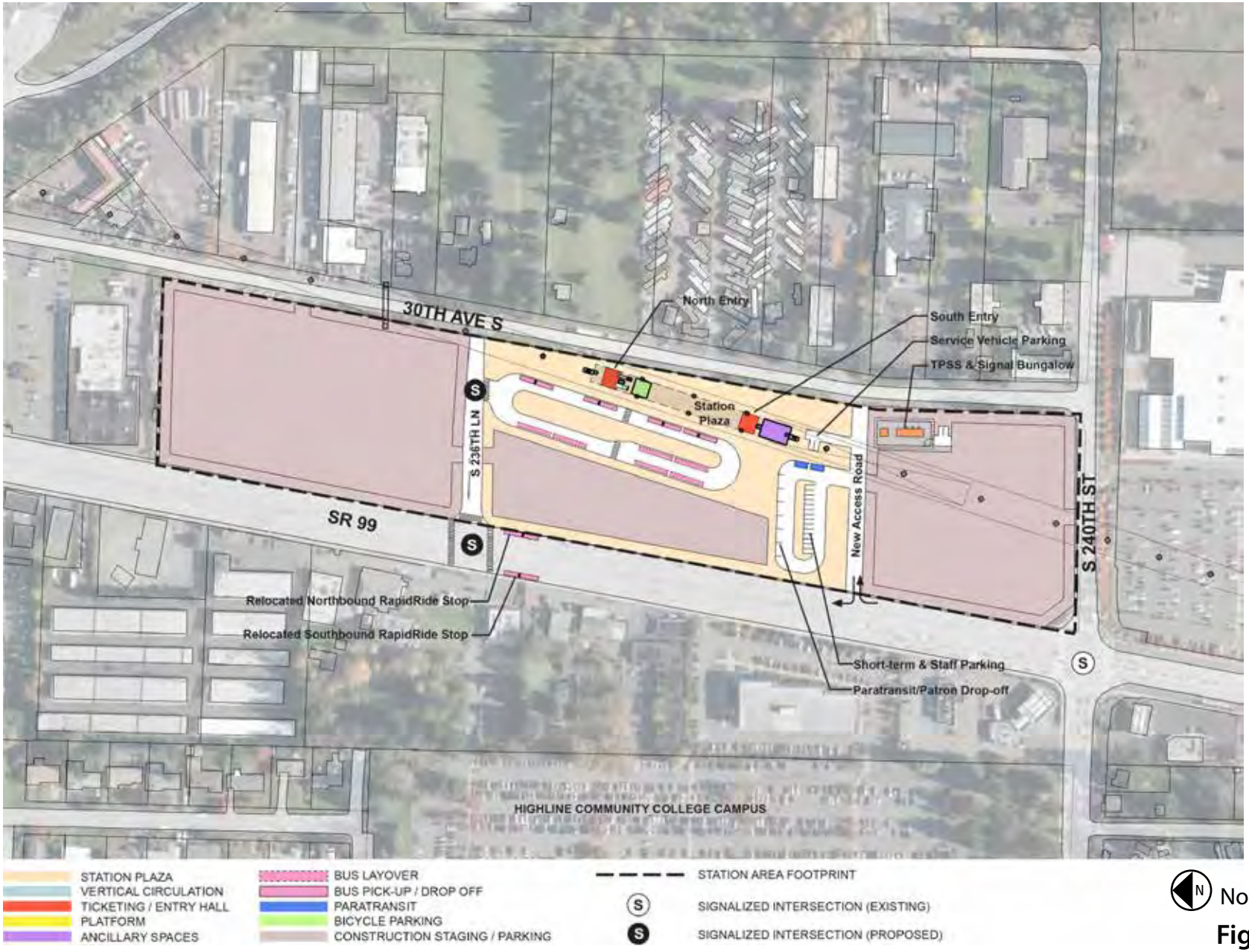
Kent/Des Moines SR 99 East Station Option (SR 99)

Not to Scale

Figure B-6

Draft EIS - Station Conceptual Design

Kent/Des Moines 30th Ave West Station Option



Not to Scale

Figure B-7

Draft EIS - Station Conceptual Design

Kent/Des Moines 30th Ave East Station Option

Not to Scale

Figure B-8

Draft EIS - Station Conceptual Design

Kent/Des Moines I-5 Station Option

N Not to Scale

Figure B-9

Draft EIS - Station Conceptual Design

Kent/Des Moines SR 99 East Station Option (I-5)

Not to Scale

Figure B-10

Draft EIS - Station Conceptual Design

Kent/Des Moines I-5 At-Grade Station Option

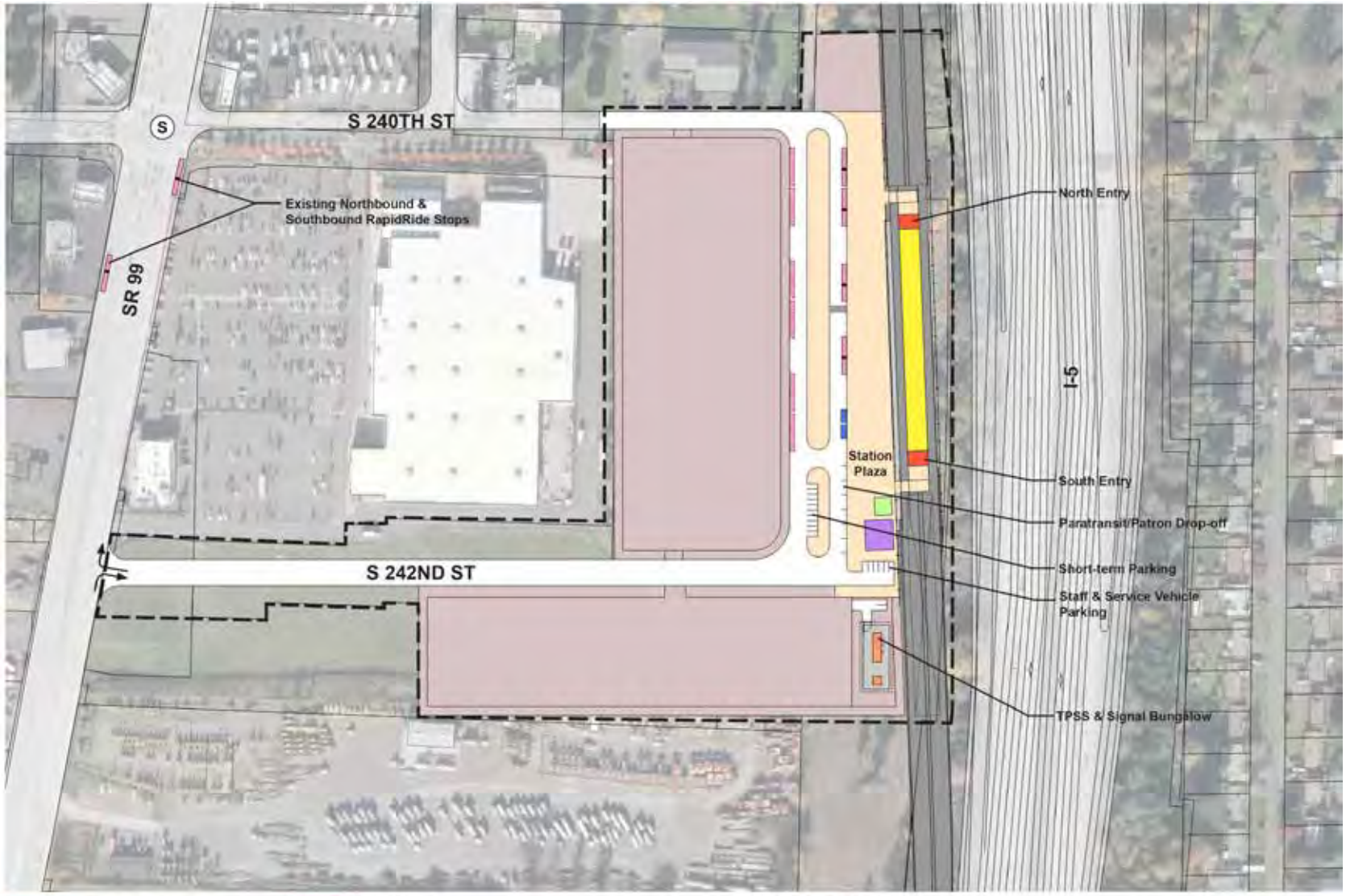


Figure B-11

Draft EIS - Station Conceptual Design

S 260th West Station Option

N Not to Scale

Figure B-12

Draft EIS - Station Conceptual Design

S 260th East Station Option

Not to Scale

Figure B-13

Draft EIS - Station Conceptual Design

S 272nd Redondo Station Option

Not to Scale

Figure B-14

Draft EIS - Station Conceptual Design

S 272nd Redondo Trench Station Option

Not to Scale

Figure B-15

Draft EIS - Station Conceptual Design

S 272nd Star Lake Station Option

Figure B-16

Draft EIS - Station Conceptual Design

Federal Way SR 99 Station Option

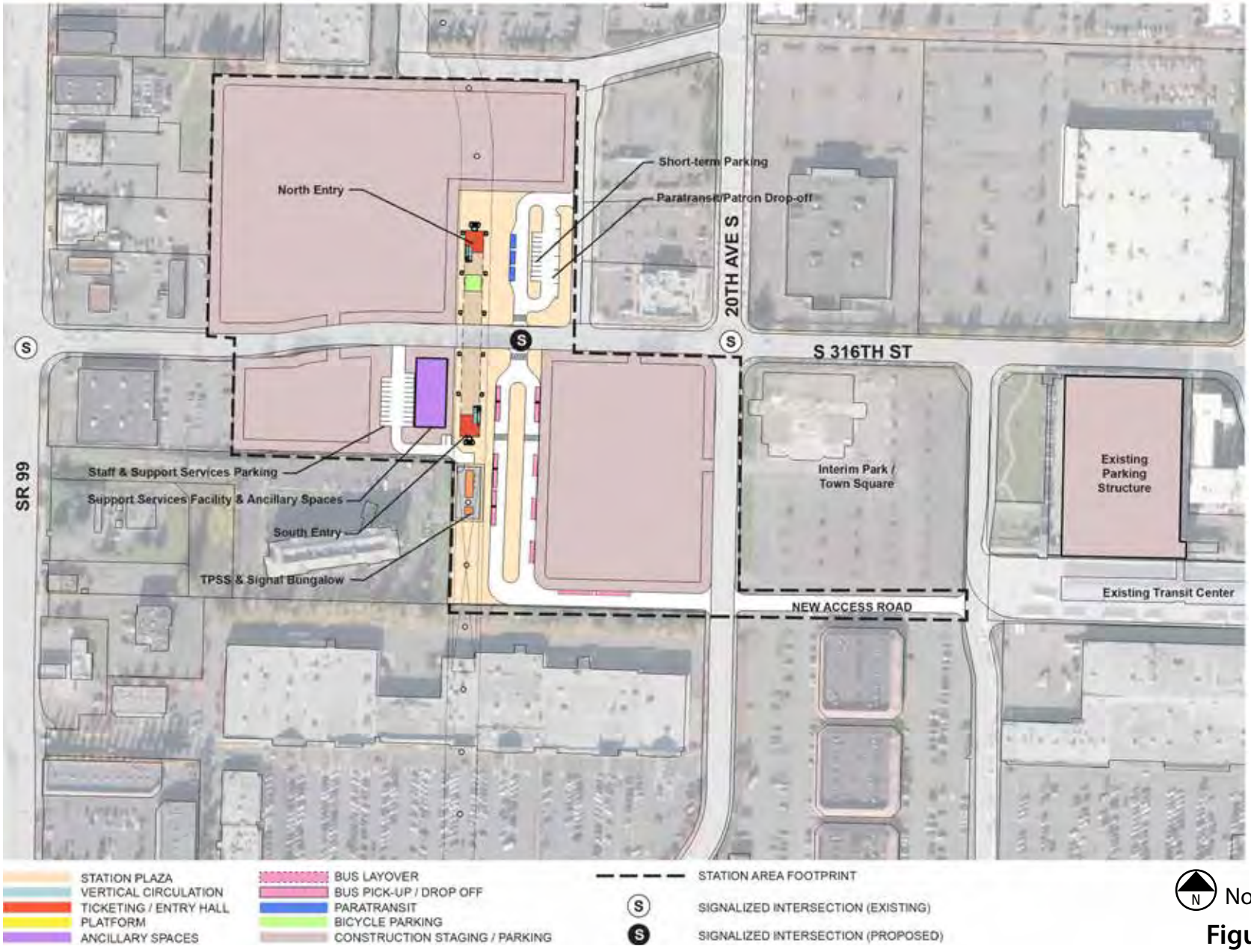
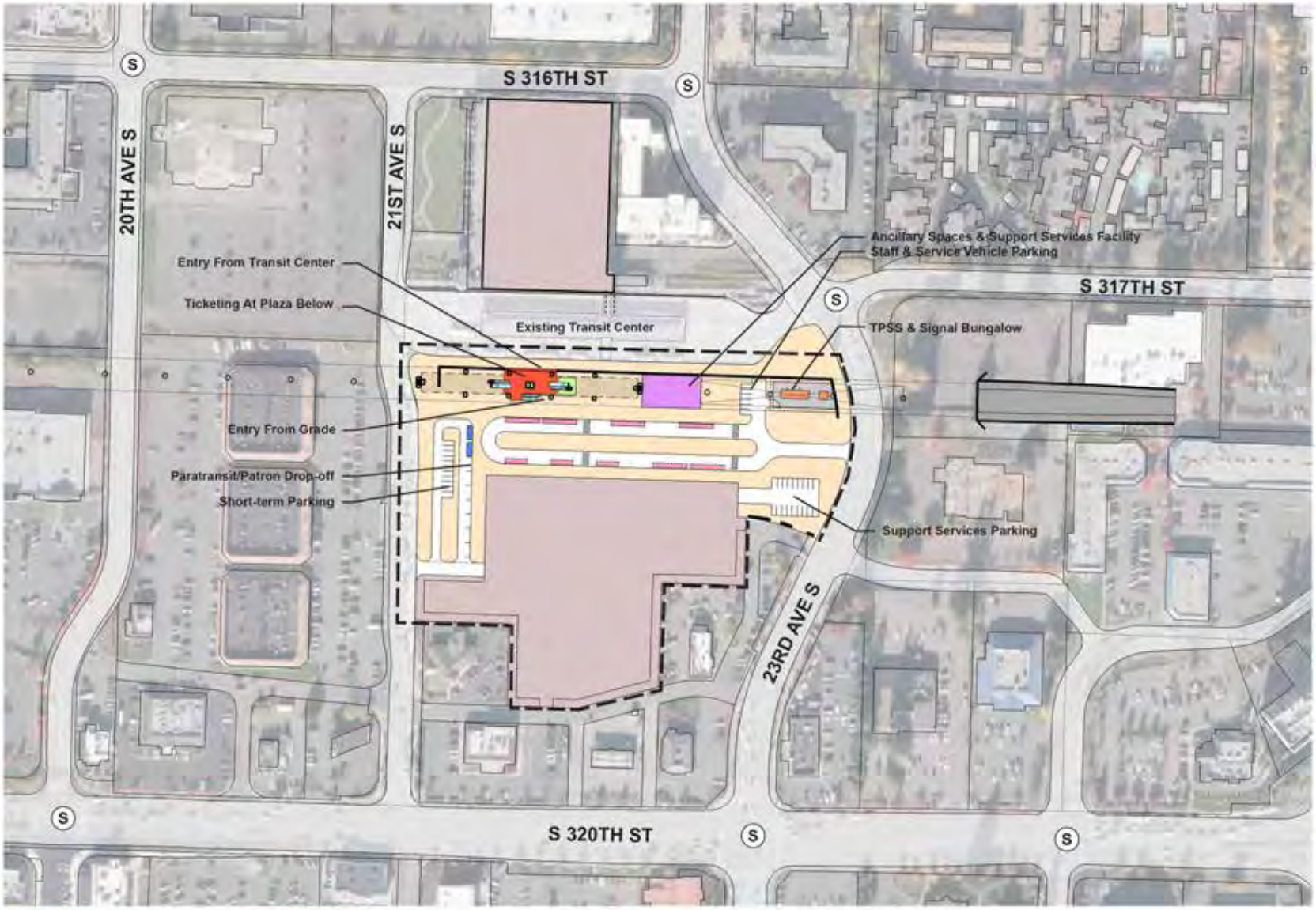


Figure B-17

Draft EIS - Station Conceptual Design

Federal Way Transit Center Station Option (SR 99)



Not to Scale

Figure B-18

Draft EIS - Station Conceptual Design

Federal Way Transit Center Station Option (I-5)

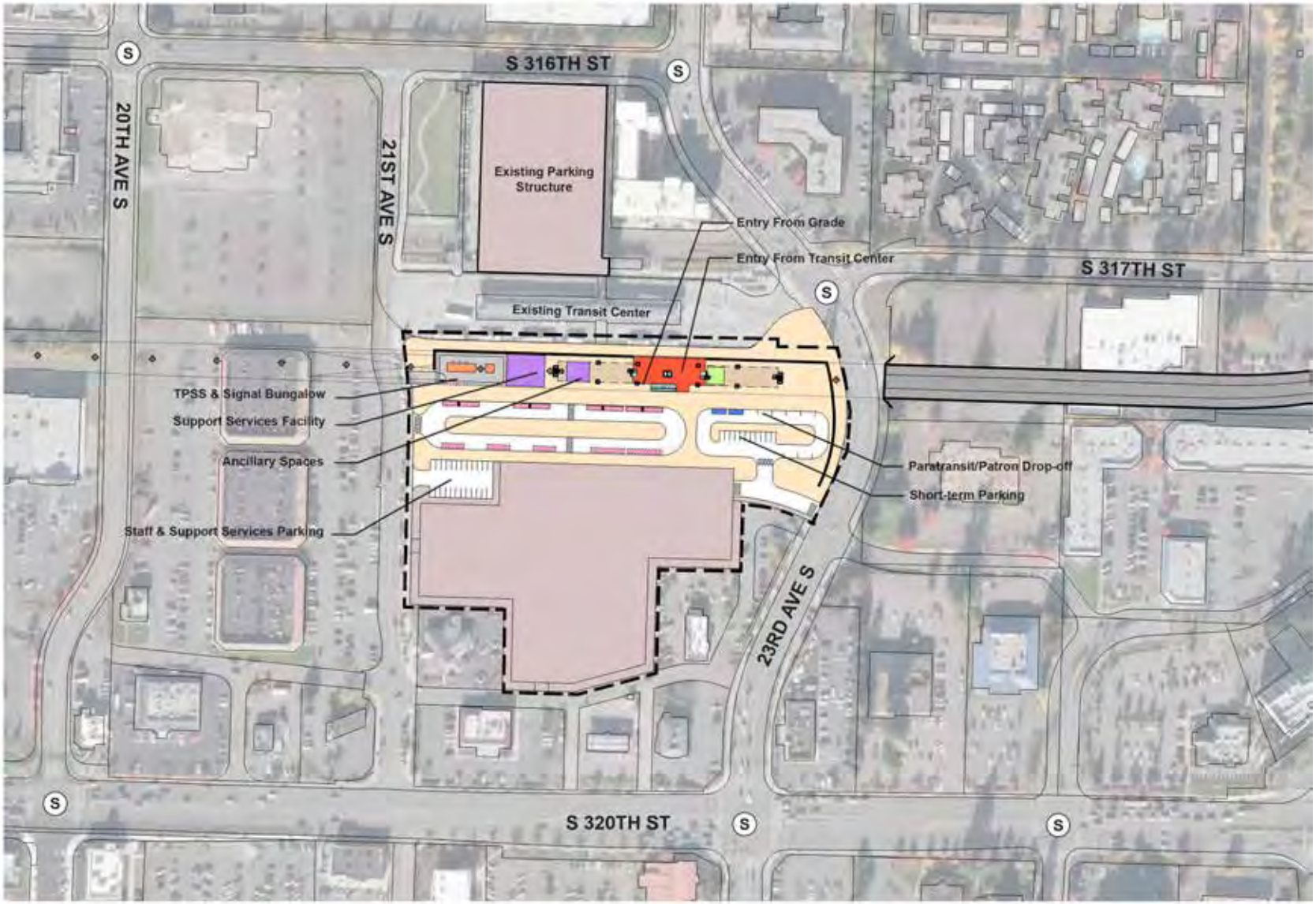


Figure B-19

Draft EIS - Station Conceptual Design

Federal Way I-5 Station Option

Not to Scale

Figure B-20

Draft EIS - Station Conceptual Design

Federal Way S 320th Park and Ride Station Option

N Not to Scale

Figure B-21