King County

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

KING COUNTY

Signature Report

December 12, 2017

Motion 15020

Proposed No. 2017-0408.1 **Sponsors** von Reichbauer

A MOTION approving a report by the Department of Transportation on siting and funding of transit passenger facility options along the SR 18 corridor in the vicinity of Southeast 256th Street to serve new and existing transit users as required in the 2017-2018 Biennial Budget Ordinance, Ordinance 18409, Section 115, Proviso P3.

WHEREAS, Ordinance 18409, Section 115, Proviso P3, withheld $1,000,000 until the executive transmits a report on transit passenger facility options in the Covington vicinity and a motion approving the report is passed by the council, and

WHEREAS, the proviso requires the report to include but not be limited to:

1. A study of the feasibility of siting and funding of various transit passenger facility options along the SR 18 corridor in the vicinity of Southeast 256th Street to serve new and existing transit users. The parking facility of each option shall be sized commensurate with the specific type of transit facility;

2. Cost estimates for options, including: 1) a transit center and parking facility; 2) a transit station and parking facility; and 3) other transit passenger facility options. All options should reflect the Transit Division's most current estimates of projected future transit demand in the vicinity;

3. Identification of potential funding sources and partnerships with other

appropriate entities for the various options, including, but not limited to, Sound Transit, the state of Washington and the city of Covington;

4. An evaluation of each option's capacity to reduce demand for parking at Sound Transit facilities in Auburn and Kent through the use of feeder bus connections; and

5. An assessment of each option's suitability for accommodating fixed route transit riders, vanpools, pedestrians, bicyclists and users of alternative services developed and implemented through a partnership of the transit division and community stakeholders;

NOW, THEREFORE, BE IT MOVED by the Council of King County:

The report entitled King County Metro Transit SR 18 at SE 256th Street and

Vicinity Transit Passenger Facility Feasibility Study, included as Attachment A to this motion, is hereby approved.

Motion 15020 was introduced on 10/16/2017 and passed by the Metropolitan King County Council on 12/11/2017, by the following vote:

Yes: 7 - Mr. von Reichbauer, Mr. Dunn, Mr. McDermott, Mr. Dembowski, Mr. Upthegrove, Ms. Kohl-Welles and Ms. Balducci
No: 0
Excused: 2 - Mr. Gossett and Ms. Lambert

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

J. Joseph McDermott, Chair

ATTEST:

Melani Pedroza, Clerk of the Council

METROPOLITAN KING COUNTY COUNCIL
King County Washington

Attachments: 2017-0408 A. SR 18 at SE 256th Street and Vicinity Transit Passenger Facility Feasibility Study - July 2017

15020

ATTACHMENT A

King County Metro Transit

SR 18 at SE 256th Street and Vicinity Transit Passenger Facility Feasibility Study

July 2017

Executive Summary

Background

This **SR 18 at SE 256th Street and Vicinity Transit Passenger Facility Feasibility Study** evaluates options for transit passenger facilities in the vicinity of State Route (SR) 18 and SE 256th Street. This study was required as part of the 2017-2018 King County Budget Proviso (Ordinance 2016-0475), which required "a study of the feasibility of siting and funding of various transit passenger facility options along the SR 18 corridor in the vicinity of Southeast 256th Street to serve new and existing transit users." Passenger facilities can include bus stops, bus stations, transit centers, and park-and-rides. Key elements of this study include:

- Description of project context including land use, environmental conditions, transit service, and transportation facilities
- Identification of potential sites for transit passenger facilities
- Evaluation of the feasibility of siting transit passenger facility options at various locations
- Conceptual site designs and cost estimates for facilities at potential sites
- Comparison of the conceptual site designs

Evaluation Screening

The potential for development of transit passenger facilities as part of this study was based upon the 2040 transit network envisioned in METRO CONNECTS long-range plan and the future growth in the area as forecast by the Puget Sound Regional Council. The Comprehensive Plans and Transportation Plans adopted by the City of Covington and King County were used to frame the anticipated changes to land use and the transportation network by 2040.

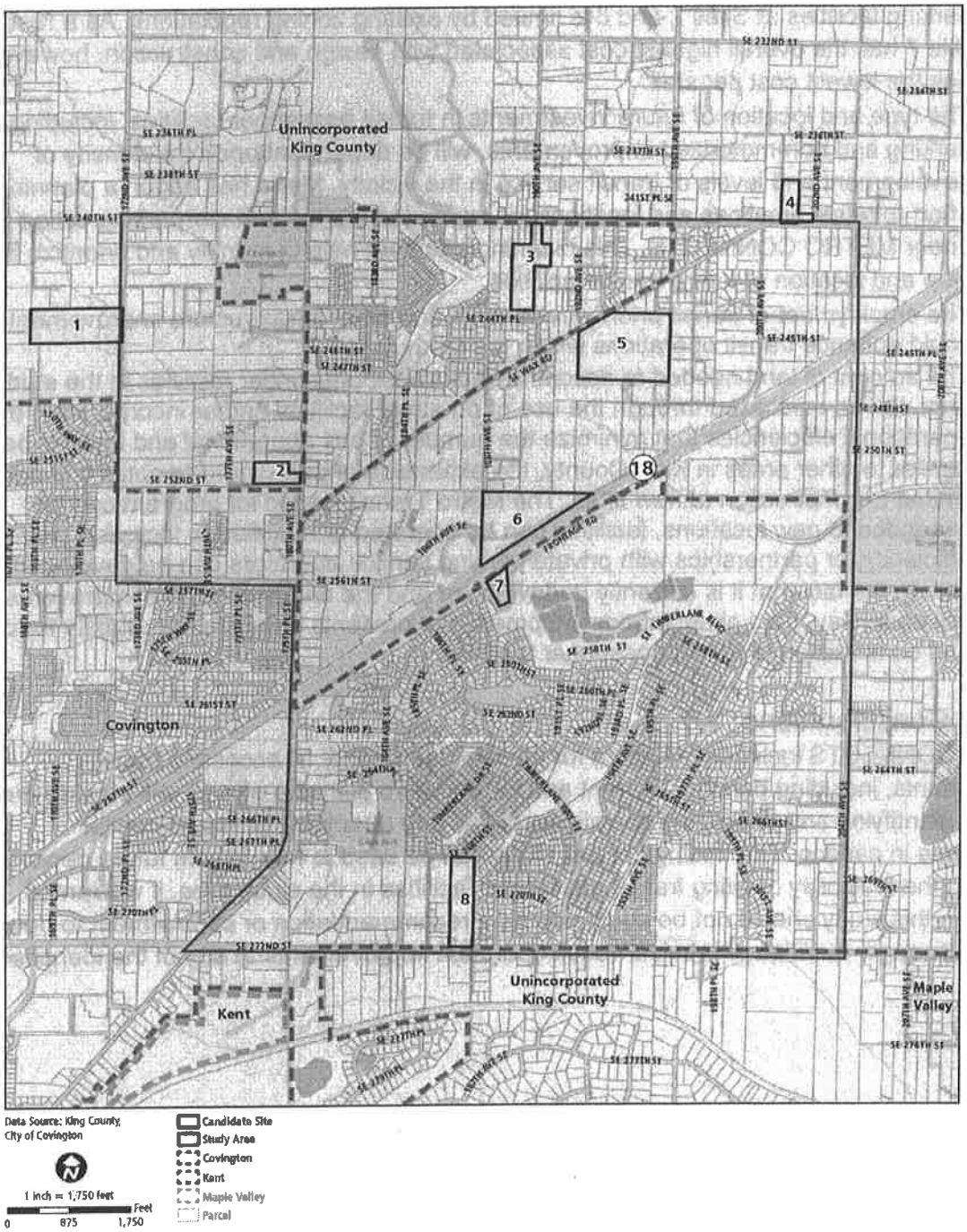
Sites were evaluated as potential locations for transit passenger facilities through a three-step evaluation screening process.

- Screen 1 of this process was applied to all vacant parcels within the study area to eliminate those with 'fatal flaws' from further consideration. Sites with significant environmental constraints, limited potential for development as transit passenger facilities, inability to accommodate future facilities, and those inaccessible by transit were removed from further consideration. Upon completion of Screen 1, 8 sites were advanced for additional evaluation.
- Screen 2 focused on access to the site for transit passengers as well as transit routes, and the potential for future acquisition. Sites were scored on a three-point scale based on how well they met the objectives of the evaluation criteria. The three sites with the highest cumulative rankings, comprising two in the city of Covington and one in unincorporated King County, were scored as the Top Tier sites that moved into the next step of the screening process. One of the sites in the city of Covington is located within the planned Lakepointe Development.
- Screen 3 compared the design and location of the Top Tier sites to each other using metrics addressing traffic and transit operations, modal conflicts, safety, site accessibility, the potential to reduce parking demand at the Kent and Auburn Sounder stations, and cost. A conceptual design and associated cost estimate was prepared for each Top Tier site. Each design included the facilities needed to accommodate operational needs, such as active and layover transit bays, drive aisles for bus

circulation, boarding platforms, as well as parking to meet estimated demand, in accordance with the zoning allowances.

Figure ES-1 shows all sites evaluated in Screen 2. Sites 2, 7, and 8 emerged as the Top Tier sites.

Figure ES-1. Candidate Sites for Screen 2 Evaluation



Summary of Findings

Key findings of the report include:

- Site 7 performed the highest across many categories in large part due to its location in the future Lakepointe Development, which will include up to 1,500 dwelling units and 850,000 square feet of commercial uses. The Lakepointe Development also includes construction of new bicycle and pedestrian facilities serving the site.
- Site 7 has the greatest potential to accommodate the forecast parking demand of 225 to 325 vehicles and the conceptual design includes structured parking. Development of parking facilities at Sites 2 and 8 is limited by existing zoning regulations. As a result, Site 7 has the overall highest cost associated with design and construction, however, it has the lowest cost per stall.
- The type and location of future investments in transit passenger facilities, including parking and non-motorized improvements, will be dependent upon the density of development and levels of transit service in the vicinity. Metro has begun a planning effort to refine timelines and locations for expanded bicycle and car parking called for under METRO CONNECTS. This planning effort will help to identify and prioritize the type and location of future transit facilities.
- The employment of transit priority treatments and other infrastructure improvements could enhance transit operations within the study area.
- The amount of land needed to accommodate transit passenger facilities in the study area can be minimized through the use of on-street facilities and/or incorporation of operational efficiencies that minimize the number of bus operational and layover bays.
- Similar to other areas in King County, the expansion of park-and-ride options is not limited to construction at new sites. The Metro Transit leased lot program can be expanded to new locations, facilities can be operated or modified to increase their efficiency, or partnerships with private parking service operators can be developed.
- Due to the fact that it is currently undeveloped and the design for future improvements is still underway, the Lakepointe development site presents a unique opportunity for design and construction of transit passenger facilities.

Further Considerations

METRO CONNECTS includes guidance for the development of all access to transit improvements, including parking. Current and future Metro planning efforts, will provide more clarity in identifying and prioritizing specific locations and quantities for future capital investments in parking. The findings of this study can be used to help inform future decisions regarding the feasibility of siting transit passenger facilities in the study area, if warranted. The findings in this study should not be construed as a recommendation or commitment to develop transit passenger facilities or provide transit operation improvements at any of the identified sites.

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Report Organization

This report is organized into five sections, as outlined below.

Section 1, Introduction, describes the project background, limitations of the study, and the role of the Technical Advisory Committee.

Section 2, Project Context, defines the project study area and describes the existing land use, environmental, transit, and transportation conditions within the study area. This section also details the future conditions within the study area and the assumptions used throughout this study.

Section 3, Evaluation Screening, describes the first two steps used to evaluate vacant sites within the study area for siting of transit passenger facilities. It details the criteria used to objectively analyze the viability of each site. This section includes the results of the first two evaluation screens that narrowed the potential sites for further review.

Section 4, Top Tier Sites, includes a more detailed review of the three top tier sites. It presents conceptual designs and cost estimates for each site and an analysis of the access alternatives for each site. The results of the final screening to compare the three sites and the conceptual designs are included in this section.

Section 5, Funding Sources, describes a variety of funding sources that are available to assist with development of the transit passenger facilities described in this report.

Section 6, Summary of Findings, documents the key conclusions from this study.

Section 1: Introduction

Project Background and Purpose

The 2017-2018 King County Budget Proviso (Ordinance 2016-0475) required "a study of the feasibility of siting and funding of various transit passenger facility options along the SR 18 corridor in the vicinity of Southeast 256th Street to serve new and existing transit users." The purpose of this study is to evaluate options for transit passenger facilities in the vicinity of State Route (SR) 18 and SE 256th Street based on current and future transit demand as described in METRO CONNECTS.

Key elements of this study include:

- Description of project context including land use, environmental conditions, transit service, and transportation facilities
- Identification of potential sites for transit passenger facilities
- Evaluation of the feasibility of siting transit passenger facility options at various locations
- Conceptual site designs and cost estimates for facilities at potential sites
- Comparison of the conceptual site designs

Policy Context

METRO CONNECTS is Metro's long range vision for changes to the transit network in King County over the next 25 years. It describes a future transit network with expanded bus service countywide, as well as the complimentary capital infrastructure needed to support transit service. Infrastructure investments include passenger facilities, such as bus stops, bus stations, and transit centers, which are well-designed, safe, and support easy connections between services. METRO CONNECTS envisions more than 1,000 new bus stops, upgrades to existing stops, and 85 new and upgraded transit hubs.

Access to transit improvements, including parking and infrastructure for non-motorized travel modes, are also assumed in METRO CONNECTS. As described in the plan, the combined investments by Sound Transit and Metro would expand parking for transit riders in King County by 60 percent. The development of METRO CONNECTS included a planning process that evaluated ways to improve access to future transit service. It resulted in different strategies to improve access in four zones based upon expected future density of jobs and population and on proposed transit service. The largest investments in parking are anticipated in lower-density areas within walking distance of less frequent local or express service and lowest-density areas with limited or no walk access to transit. It is important to note that METRO CONNECTS does not identify or prioritize specific locations for parking investments and explicitly states "the final siting of new stalls would be based on access to the service network—particularly frequent and express service—and on local considerations such as transit demand, traffic impacts, land use and congestion". METRO CONNECTS prioritizes strategies for parking access as follows: 1) manage parking supply; 2) increase parking supply using relatively low-cost solutions; and 3) build new parking facilities.

Each project area in the plan, including passenger facilities and access to transit improvements, requires more detailed analysis and consideration as Metro moves toward project delivery. To help guide these efforts, Metro is producing a rolling 6-to-8 year Development Program focused on internal coordination and collaboration with local jurisdictions. Creation of the first

Development Program is currently underway. It will address service and capital needs throughout the organization. By considering both planning factors and available resources, the Development Program will detail opportunities to reconcile the needs identified in Metro's Annual System Evaluation with the METRO CONNECTS service network and vision. Breaking the METRO CONNECTS vision down into smaller, achievable pieces will help Metro to ensure that the needed system infrastructure, land use, service, policies, and programs are coordinated and scaled appropriately and that transportation infrastructure is in place as transit expands.

The Development Program will provide Metro with an understanding of what is anticipated in the near-term and to better communicate what will be included in upcoming biennial (2 year) budgets, helping to further define the resources needed. The program would also help Metro align transit service expansion with changes in local community development and growth plans, keeping service relevant in the places where people want to use public transportation. Metro will engage the public in shaping major service changes before they are adopted by the King County Council. The capital program would be subject to budget review and approval by the King County Council.

Limitations of this Study

King County adopted their long-range public transportation plan, METRO CONNECTS, in 2016. The plan describes a vision for future transit service in King County, including the City of Covington and southeast King County. METRO CONNECTS identifies the locations for future routes as well as their planned service levels, including assumptions regarding service frequency, span of service, and travel speeds. The service network in METRO CONNECTS serves as a basis for many of the assumptions employed in this study.

METRO CONNECTS also identifies the need for future investments to improve access to transit by all modes and includes a description of what is envisioned in different areas of King County based on future growth and changes to the transit network. METRO CONNECTS does not specifically identify or prioritize the type and location of access improvements. Additional planning efforts, including the current work underway associated with production of the METRO CONNECTS Development Program, are needed to determine the location and timing of access investments. This report may be used to inform but should not be considered a replacement for those processes.

It is important to note that this is not an implementation study. As a feasibility analysis, this study has a limited scope and therefore does not evaluate or document environmental impacts pursuant to Washington's State Environmental Policy Act (SEPA) or the National Environmental Policy Act (NEPA). No surveying of potential sites or investigation of soil conditions was undertaken. The conceptual designs included in this report are meant to represent potential transit passenger facility layouts for each site. They should not be construed as preferred or final designs for any of the sites.

Almost no targeted public outreach was performed with property owners as part of this process to determine interest and/or willingness to sell property for development as a transit facility. The one exception relates to the involvement of the property developer for the Lakepointe development. Located just east of the SR 18/SE 256th Street interchange, the Lakepointe development is a planned community of up to 1,500 housing units and 850,000 square feet of commercial/office space. A park-and-ride facility is a required part of the development according to the Covington Comprehensive Plan. The layout of the development had not been finalized at

the time of this study. The King County project team met with the property developer to gain a general understanding of the proposed layout of the site, including arterial roadways and potential locations for transit passenger facilities. The study includes a representative site for transit passenger facilities within the Lakepointe development. This site should not be construed as representing King County Metro's preferred location for facilities within the development.

This study is based on current information, including existing conditions and adopted plans and policies. These factors may change over time; therefore, an updated analysis would be required in the future to determine the appropriate location for transit passenger facilities. Additionally, this study focused on vacant sites only. There are parcels within the study area that may be considered "underdeveloped," meaning they are not developed to the full capacity allowed under their respective zoning allowances. Transit passenger facilities may be permitted on these sites. King County Metro may wish to consider opportunities at these locations in conjunction with future development of plans for facilities in the vicinity. The findings of this study can be used to help inform future decisions regarding the feasibility of siting transit passenger facilities in the study area should these facilities be warranted. They should not be construed as a commitment to develop transit passenger facilities at any of the identified sites or as a recommendation for development at any site or sites.

Technical Advisory Committee

Multiple public agencies were involved in the development of this study including King County Metro, the Central Puget Sound Regional Transit Authority (Sound Transit), Washington State Department of Transportation (WSDOT), City of Covington, and King County Department of Permitting and Environmental Review (DPER). In order to facilitate involvement and communication among agencies, a Technical Advisory Committee (TAC) was formed comprising representatives from the various agencies. The TAC also served as an advisory body to the King County Metro (Metro) project manager and project team.

The primary conduit for dissemination of project information was through the TAC. The TAC met monthly for 6 months. Members were responsible for reviewing project data and meeting materials, providing relevant feedback to Metro, and reviewing draft memorandums and the draft reports. Additional coordination with individual TAC agencies was undertaken to identify existing conditions and applicable plans and policies, and to determine future improvements within the study area.

Section 2: Project Context

Study Area

The 2017–2018 King County Budget Proviso (Ordinance 2016-0475) identified that the study evaluate siting various transit passenger facility options along the SR 18 corridor in the vicinity of SE 256th Street. Initially, a 1 mile radius from the SR 18/SE 256th Street interchange was selected to identify potential parcels for further evaluation. Sites within the study area include parcels within the city of Covington as well as those outside of the Urban Growth Area (UGA) in unincorporated King County. With input from the TAC, the study area boundary was refined from the 1-mile radius around the interchange to one defined by arterials in the area that could support transit service. The study area is shown in **Figure 1**.

Existing and Future Land Use

The study area includes parcels in both unincorporated King County and Covington. Parcels located in unincorporated King County have different assumed growth, zoning, and planned land uses than those located within Covington. **Figure 2** shows the land use designations for both unincorporated King County and Covington. **Table 1** summarizes the zoning codes applicable to each of the land use categories as well as the development standards for park-and-ride facilities under each zoning category in the study area. Other types of transit facilities, such as layover sites, transit centers, and bus bays, are not described in Covington's or King County's zoning codes.

Figure 1. Study Area

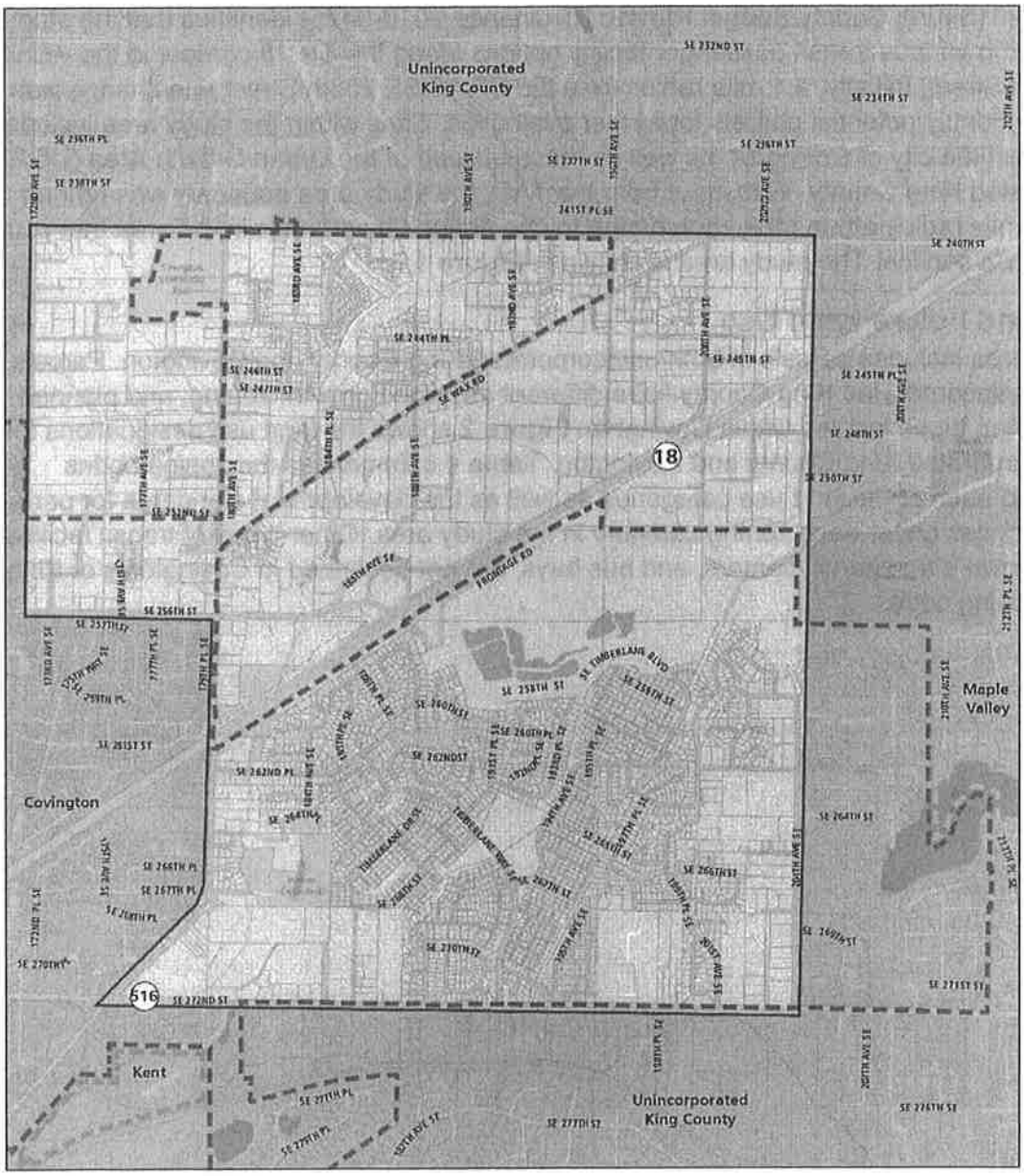


Figure 2. Land Use

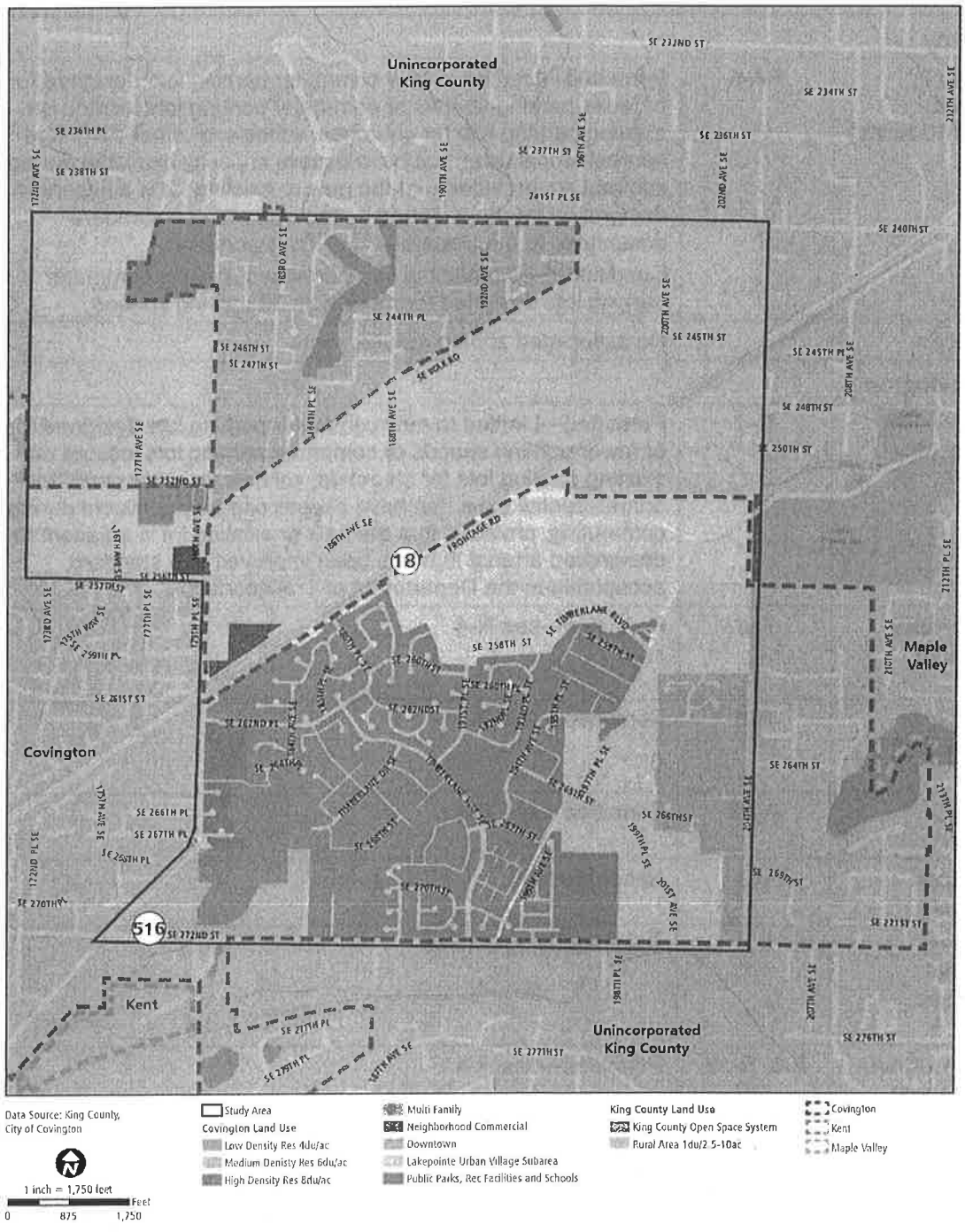


Table 1. City and County Land Use and Development Standards

Land Use Designation	Zoning	Development Standards for Commuter Parking Lot
King County		
Rural Area (1 dwelling unit (du)/2.5 to 10 acres)	RA-5	Permitted—Limited to new commuter parking lots designed for 30 or fewer parking spaces or commuter parking lots located on existing parking lots for churches, schools, or other permitted nonresidential uses that have excess capacity available during commuting, provided that the new or existing lot is adjacent to a designated arterial that has been improved to a standard acceptable to the Department of Transportation Conditional—Conditional use permit required for commuter parking lots designed for more than 30 parking spaces
Open Space		No associated zoning requirements
City of Covington		
Low Density Residential (4 du/acre)	R-4	Permitted—Limited to new commuter parking lots designed for 30 or fewer parking spaces or commuter parking lots located on existing parking lots for churches, schools, or other permitted nonresidential uses that have excess capacity available during commuting, provided that the new or existing lot is adjacent to a designated arterial that has been improved to a standard acceptable to the Department of Transportation
Medium Density Residential (6 du/acre)	R-6	Permitted—see R-4
High Density Residential (8 du/acre)	R-8	Permitted—see R-4
Multifamily Residential	R-18	Permitted—see R-4
Neighborhood Commercial	NC	Not permitted
Public Parks, Recreational Facilities, and Schools		See underlying zoning
Lakepointe Urban Village Subarea	R-6, R-12, MR	Permitted—see R-4
	RCMU	Permitted—Limited to park-and-ride facilities associated with a public or private transit facility provider. Any such commuter parking lot shall not exceed 125 surface spaces. Parking stalls in excess of this amount shall be located within a parking structure.
Downtown Commercial	MC	Not permitted

NC = Neighborhood Commercial; MR = Mixed Residential; RCMU = Regional Commercial Mixed Use; MC = Mixed Commercial

Within the study area and outside of the UGA, sites are zoned as Rural Area 5 (RA-5). RA-5 allows for rural residential development with a density of 1 dwelling unit per 5 acres. Park-and-ride facilities are permitted on sites zoned RA-5 as long as the capacity is 30 stalls or fewer. If the capacity of the park-and-ride facility is more than 30 stalls, a conditional use permit is required. Park-and-ride facilities larger than 30 stalls are subject to consistency with the King County Comprehensive Plan Policies, which restrict facilities serving a primarily urban population from being located in the Rural Area. There are also restrictions for park-and-ride facilities on RA-5 sites in proximity to King County trails; however, no sites in the study area are in proximity to the county trail system to which this restriction applies.

Sites that are within the study area and inside the UGA are located in the city of Covington and are zoned as low to high density residential uses; industrial; public parks, recreational facilities, and schools; neighborhood commercial; and downtown commercial. Park-and-ride facilities are permitted on industrial-zoned sites, but not on downtown commercial sites. Park-and-ride facilities also are permitted on sites that are residential (zoned R-4 to R-18) if the capacity is 30 stalls or fewer. A conditional use permit is required for park-and-ride facilities with more than 30 stalls.

The Lakepointe Urban Village subarea was recently annexed into the city of Covington; Lakepointe is a planned development that will include mixed-use commercial and residential development. The zoning classifications for the Lakepointe Urban Village subarea are R-6, R-12, Mixed Residential (MR), and Regional Commercial Mixed Use (RCMU). The sites under R-6, R-12, and MR zoning have the same development standards for a park-and-ride facility as R-4 zones. Park-and-ride facilities with 125 surface stalls or less are permitted on RCMU-zoned sites; if a facility has more than 125 stalls, a parking structure is required. The Covington Comprehensive Plan requires development of a park-and-ride facility as part of the approval for the Lakepointe development; therefore, the developers of the site identified a potential location for this facility as part of their conceptual site drawings. The City of Covington anticipates development of this site with approximately 1,500 dwelling units and 850,000 square feet of commercial/office space, with buildout completed by 2025.

Environmental Conditions

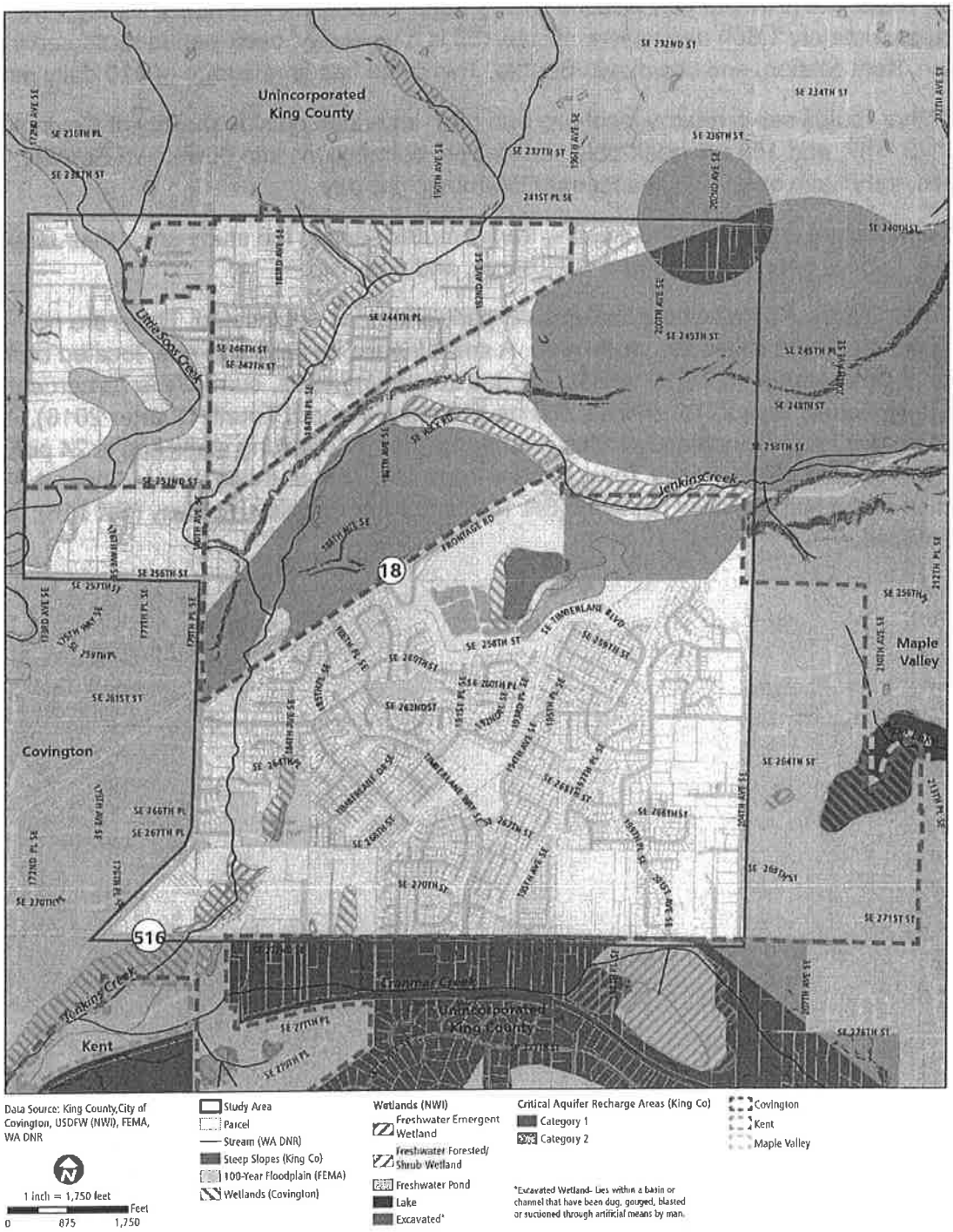
In addition to land use, environmentally sensitive areas will influence a site's development potential for a transit facility. Environmentally sensitive areas, shown on **Figure 3**, include streams, wetlands, steep slopes, and floodplains/floodways. **Table 2** indicates if alterations are allowed for the designated critical areas in the study area. For environmentally sensitive areas where alterations are allowed, the alteration must meet development standards and mitigation requirements, as described in the City of Covington and King County Zoning Codes. A critical area review would be required as part of the development proposal for any parcel where an alteration is deemed necessary.

Table 2. Allowable Alterations and Buffers for Designated Critical Areas, King County, and Covington

Critical Area Designation	Critical Area Buffers	Covington Alterations	King County Alterations
Critical Aquifer Recharge Area	None	Allowed	Allowed
Flood Hazard Area	None	Allowed	Allowed
Steep Slope Hazard Area	Minimum of 50 feet/25 feet if the steep slope is located within a wetland buffer	Allowed with conditions	Allowed with conditions
Stream	25-165 feet (varies by stream type)	Allowed with conditions	Allowed with conditions
Wetland	50–225 feet (varies by wetland category)	Allowed with conditions	Allowed with conditions
Aquatic Area	25–165 feet (varies by type)	Allowed with conditions	Allowed with conditions

In addition to environmental and land use information, future growth in the study area is an important contextual component to development of a transit facility. Population and employment growth in Covington is expected to continue to increase at a rapid rate; as described in Covington's Comprehensive Plan, Covington is poised to grow its population by 50 percent and its jobs by 78 percent over the next 20 years. The nearby cities of Maple Valley and Black Diamond are also growing. Maple Valley is expected to add 932 new housing units and 2,000 new employees by 2031. Black Diamond is expected to increase its population by 12,895 people and employment by 2,098 jobs by 2025. Growth in the rural area is expected to be minimal.

Figure 3. Critical Areas



Existing and Future Transit Routes and Operations

Covington is served by routes that connect transit riders to many areas throughout King County and the Puget Sound Region. Currently, only two routes directly serve Covington. Route 168 is an all-day route that provides connections linking Kent, Covington, and Maple Valley, and carries approximately 1,600 daily riders. Route 159 is a weekday, peak-period route serving Covington, Kent Station, and downtown Seattle. This route has an average of 420 daily riders.

Several other routes serve nearby locations and park-and-rides outside the city of Covington. Routes 143, 157, and 158 are peak-only service with connections into downtown Seattle. Combined, they have over 1,300 passenger boardings per day.

Table 3 and Figure 4 highlight the existing transit routes serving the study area, their respective headways, service spans, the markets they serve, and ridership.

Table 4 and Figure 4 detail where the existing park-and-rides are located. There are no existing park-and-rides within the study area. A small leased lot park-and-ride, located on the east side of Covington on SR 516, which includes 20 parking stalls, currently is 73 percent utilized (King County Metro Transit Park & Ride Utilization Report, Fourth Quarter 2016). A larger lot west of Lake Meridian on 132nd Avenue SE has 172 parking stalls and is 24 percent utilized. The 97-stall Maple Valley Town Square leased lot park-and-ride, located near the intersection of the Maple Valley highway (SR 169) and Kent-Kangley Highway (SR 516), is 69 percent utilized.

Table 3. Existing Covington Transit Service

Route	Weekday Headways (in minutes)			Service Span	Destinations Served	Transit Centers or Park-and-Rides Served	Total Daily Ridership by Route
	Peak *	Midday	Evening				
All-day Routes							
168	30	30	60	Westbound: 4:30 am-11:00 pm Eastbound: 5:25 am-11:45 pm	Kent, Lake Meridian, Covington, Maple Valley	Kent Station, Lake Meridian Park-and-Ride, Covington Park-and-Ride	1,635
Peak-Period Routes							
143	20	--	--	Northbound: 5:20 am-7:00 am; 4:00 pm-6:30 pm Southbound: 4:00 pm-5:40 pm	Downtown Seattle, Renton, Maple Valley, Black Diamond	Maple Valley Park-and-Ride, Renton Transit Center, King Street Station	495
157	25-60	--	--	Northbound: 5:15 am-7:10 am Southbound: 4:15 am-5:15 pm	Downtown Seattle, Kent East Hill, Lake Meridian	Lake Meridian Park-and-Ride, King Street Station	230
158	20-60	--	--	Northbound: 4:55 am-7:15 am Southbound: 3:30 pm-6:00 pm	Downtown Seattle, Kent, Kent East Hill, Lake Meridian, Timberlane	Lake Meridian Park-and-Ride, Kent Station, Kent-James Street Park-and-Ride, Kent-Des Moines Park-and-Ride, King Street Station	630
159	20-60	--	--	Northbound: 5:00 am-6:50 am Southbound: 3:50 am-5:45 pm	Downtown Seattle, Kent, Lake Meridian, Covington, Timberlane	Lake Meridian Park-and-Ride, Kent Station, Kent-James Street Park-and-Ride, Kent-Des Moines Park-and-Ride, King Street Station	420
Off-Peak Period Routes							
DART 914	--	60	--	Westbound: 9:00 am-4:00 pm Eastbound: 10:00 am-4:00 pm	Kent East Hill, Kent, Lake Meridian	Lake Meridian Park-and-Ride	NA

* Denotes AM and PM peak periods of 6:00 am to 9:00 am and 3:00 pm to 7:00 pm
Source: King County Metro, Spring 2016 Ridership Data

Figure 4. Existing Routes and Ridership

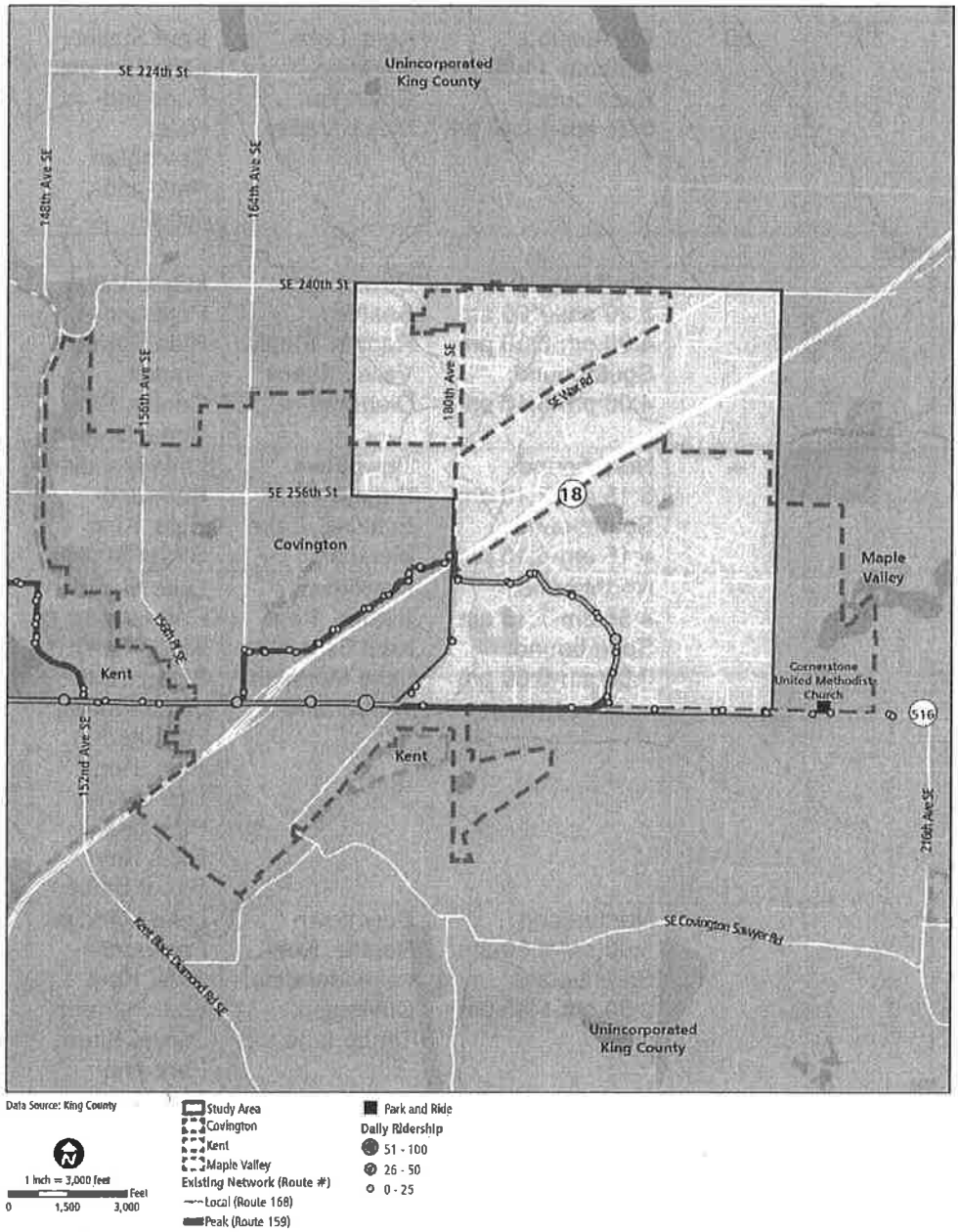


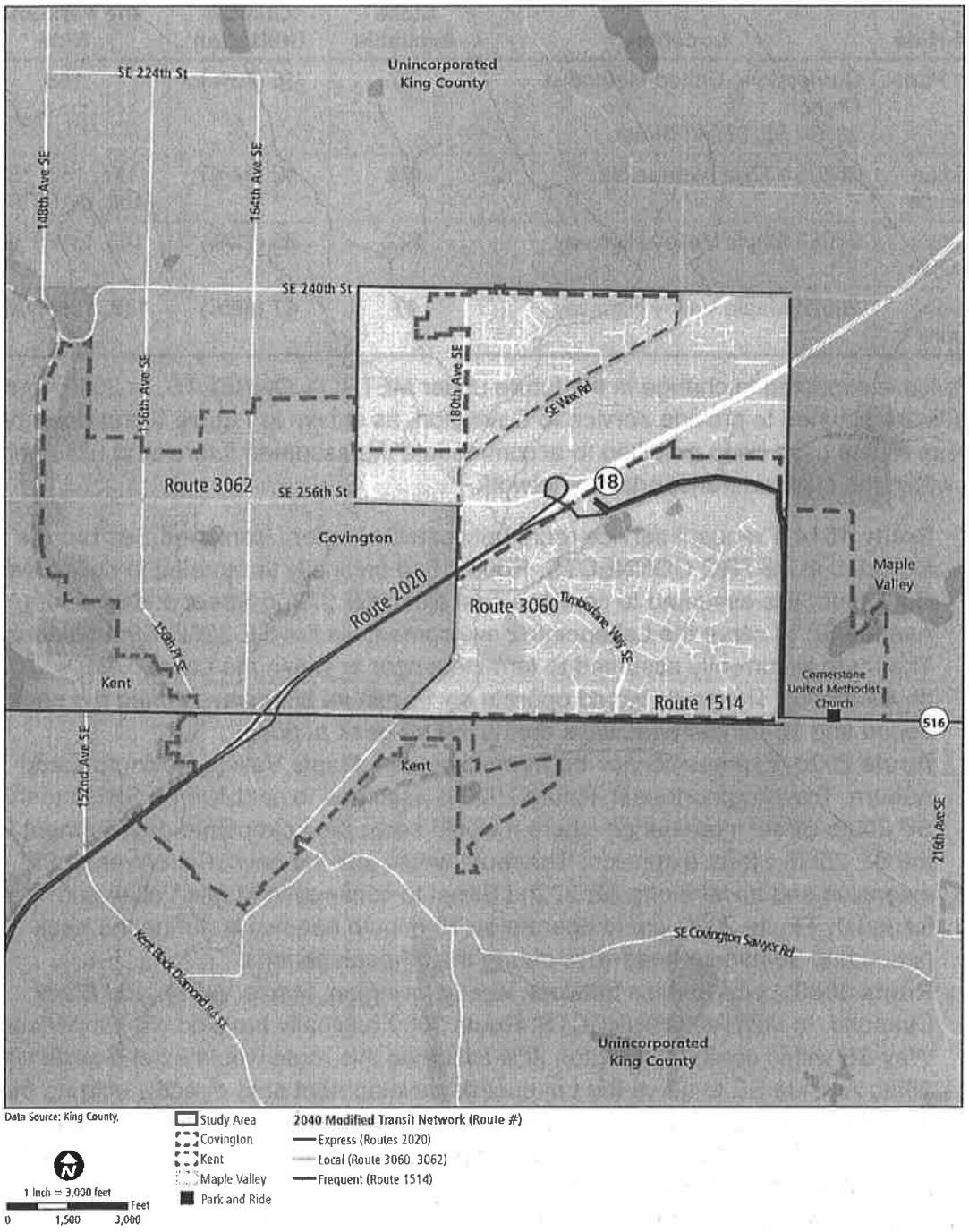
Table 4. Existing Nearby Park-and-Rides

Park-and-Ride	Location	Parking Stalls Available	2016 Fourth Quarter Utilization	Routes Serving the Park-and-Ride
Covington Park-and-Ride	Cornerstone United Methodist Church 20730 SE 272nd Street	20	15 (73%)	168
Lake Meridian Park-and-Ride	26805 132nd Avenue SE	172	42 (24%)	157, 158, 159, 168, DART 914
Maple Valley Park-and-Ride	23033 Maple Valley Highway	122	88 (72%)	143, DART 907
Maple Valley Town Square	26520 Maple Valley Highway	97	67 (69%)	143, 168, DART 907

Transit service is expected to change in the future under METRO CONNECTS. In 2040, four Metro routes are planned to provide service to Covington, as shown in **Figure 5** and described below. These routes have been modified to accommodate the assumed future land uses and roadways within the planned transportation network.

- **Route 1514**: Frequent service route between Covington, Kent, and SeaTac. As indicated in METRO CONNECTS, Route 1514 originally terminated in downtown Covington. It is assumed to continue east along SE 272nd Street and up 204th Avenue SE to serve the Lakepointe development via the SE 256th Street extension. The route is currently assumed to terminate near or within the Lakepointe development. This route would operate on 10-minute headways during the peak period and 15-minute headways during the off-peak periods.
- **Route 2020**: Express service between Issaquah, Maple Valley, Covington, and Auburn. Traveling northeast, Route 2020 is assumed to continue on SR 18 to the SE 256th Street interchange where it would serve the Lakepointe development via the SE 256th Street extension. The route would use the new 204th Avenue SE extension and travel along SE 272nd Street to continue to Maple Valley and Issaquah. Route 2020 would operate on 15-minute headways during the peak period and 30-minute headways during the off-peak periods.
- **Route 3060**: Local service between Kent, Covington, Maple Valley, and Black Diamond. In METRO CONNECTS, Route 3060 originally traveled via Timberlane Way SE within central Covington. It is assumed this route would extend north via 189th Avenue SE to serve the Lakepointe development area directly, utilizing the new extensions of SE 256th Street and 204th Avenue SE to continue to Maple Valley and Black Diamond. This route would operate on 30-minute headways during peak and off-peak periods.
- **Route 3062**: Local service between Kent, Covington, Maple Valley, and Black Diamond. This route is unchanged as indicated in METRO CONNECTS.

Figure 5. 2040 Modified Transit Network



Existing and Future Transportation Services and Facilities

Regional automobile access to and from the study area is provided on SR 18, with the SE 256th Street interchange providing access to local streets, as shown on **Figure 6**. SR 516/SE 272nd Street is located along the southern border of the study area and is a principal arterial. SE Wax Road, 108th Avenue SE, SE 256th Street, and SE 240th Street are also arterial streets (Collector and Minor). Existing roadway segment traffic counts and intersection traffic congestion (at city concurrency intersections), measured in level of service (LOS), are also shown in **Figure 7**.

LOS is a measure of how well an intersection is able to accommodate traffic demand. LOS is measured in six levels designated LOS A through LOS F, with LOS A indicating free-flowing conditions with no traffic delays and LOS F indicating heavy congestion and long delays for most traffic.

For intersections, LOS is determined by measuring the average delay per vehicle during the peak hours, and is calculated as outlined in the Highway Capacity Manual (National Academy of Sciences, Transportation Research Board, Special Report 209, 2000 edition or latest update).

The measures and values that define each service level are shown in **Table 5** and differ according to the type of facility.

Table 5. Level of Service Thresholds

Measure: Level of Service	Signalized Intersection Control Delay per Entering Vehicle	Unsignalized Intersection Delay per Vehicle, Stopped Approach Only
A	< 10 sec	< 10 sec
B	10-20 sec	10-15 sec
C	20-35 sec	15-25 sec
D	35-55 sec	25-35 sec
E	55-80 sec	35-50 sec
F	>80 sec	> 50 sec

Intersection LOS was not available for county intersections. Currently, all city concurrency intersections operate at LOS D or better. In 2035, four intersections are expected to operate worse than LOS D if no improvements are made.

Figure 6. Existing and Planned Motorized Facilities and Improvements

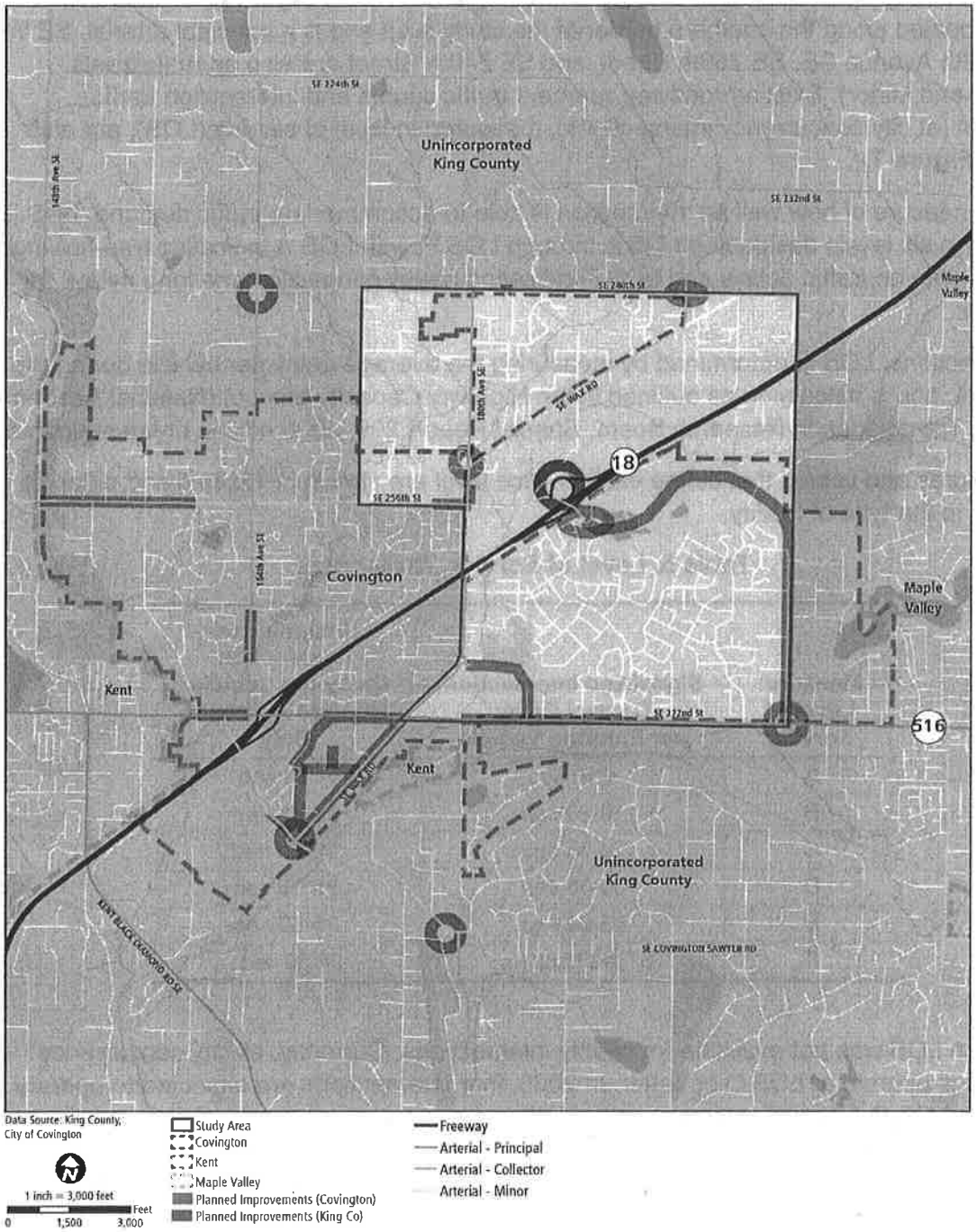
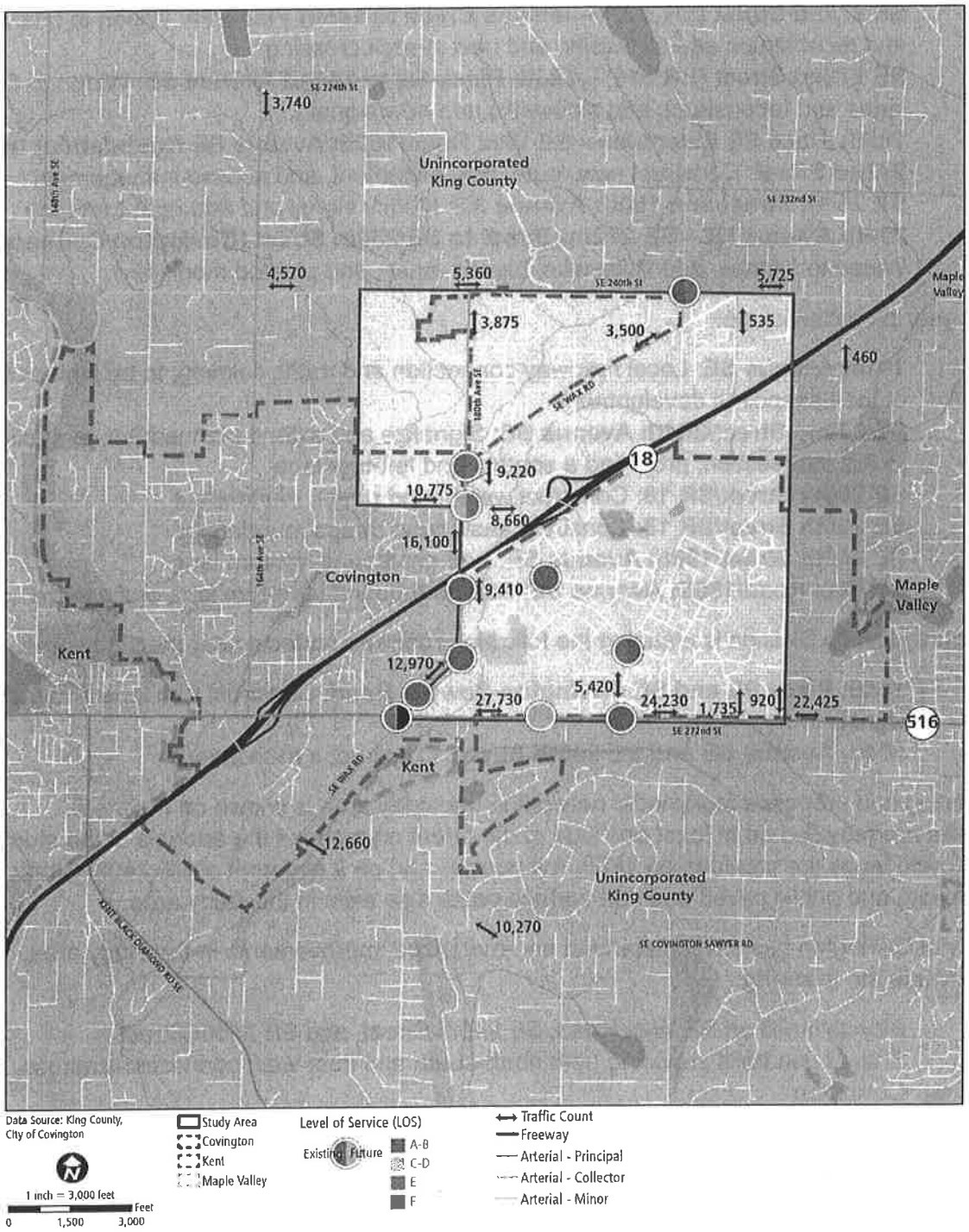


Figure 7. Existing Traffic Volumes and Existing and Future LOS



A number of planned capacity and operational improvement projects are included in the City of Covington's 6 year Transportation Improvement Plan (TIP) and 20-year plan, also shown in **Figure 6**. The 6-year TIP projects are:

- **SE 272nd Street (SR 516)—Jenkins Creek to 185th Place SE**: Widen to 5 lanes and reconstruct; add sidewalks and new stream crossing
- **SE 272nd Street (SR 516)—185th Place SE to 192nd Avenue SE**: Widen to 5 lanes and reconstruct; add sidewalks and new signal
- **185th Place SE Extension—SE Wax Road/180th Avenue SE Roundabout to SE 272nd Street**: Construct new route, new alignment, and access management
- **SE 256th Street and 180th Avenue SE**: Modify signal and add right-turn lane
- **204th Avenue SE—SE 272nd Street to SE 256th Street (Covington Connector)**: Widen to 3 lanes; add sidewalks, bicycle lanes, and planted medians

The 20-year projects include:

- **191st Avenue SE**: Local roadway connection and traffic calming, to be built as part of the Lakepointe development
- **SE 272nd Street/204th Avenue SE**: Signalize and extend planned 3-lane section to this intersection, providing a southbound left-turn lane
- **SE 256th Street/SR 18**: Construct westbound ramps roundabout
- **SE 256th Street/SR 18**: Construct eastbound ramps roundabout
- **SE 240th Street/196th Avenue SE**: Add eastbound left-turn lane
- **SE Wax Road/180th Avenue SE**: Add northbound right-turn lane or signalize

King County Roads Division is planning the following roadway projects near the study area:

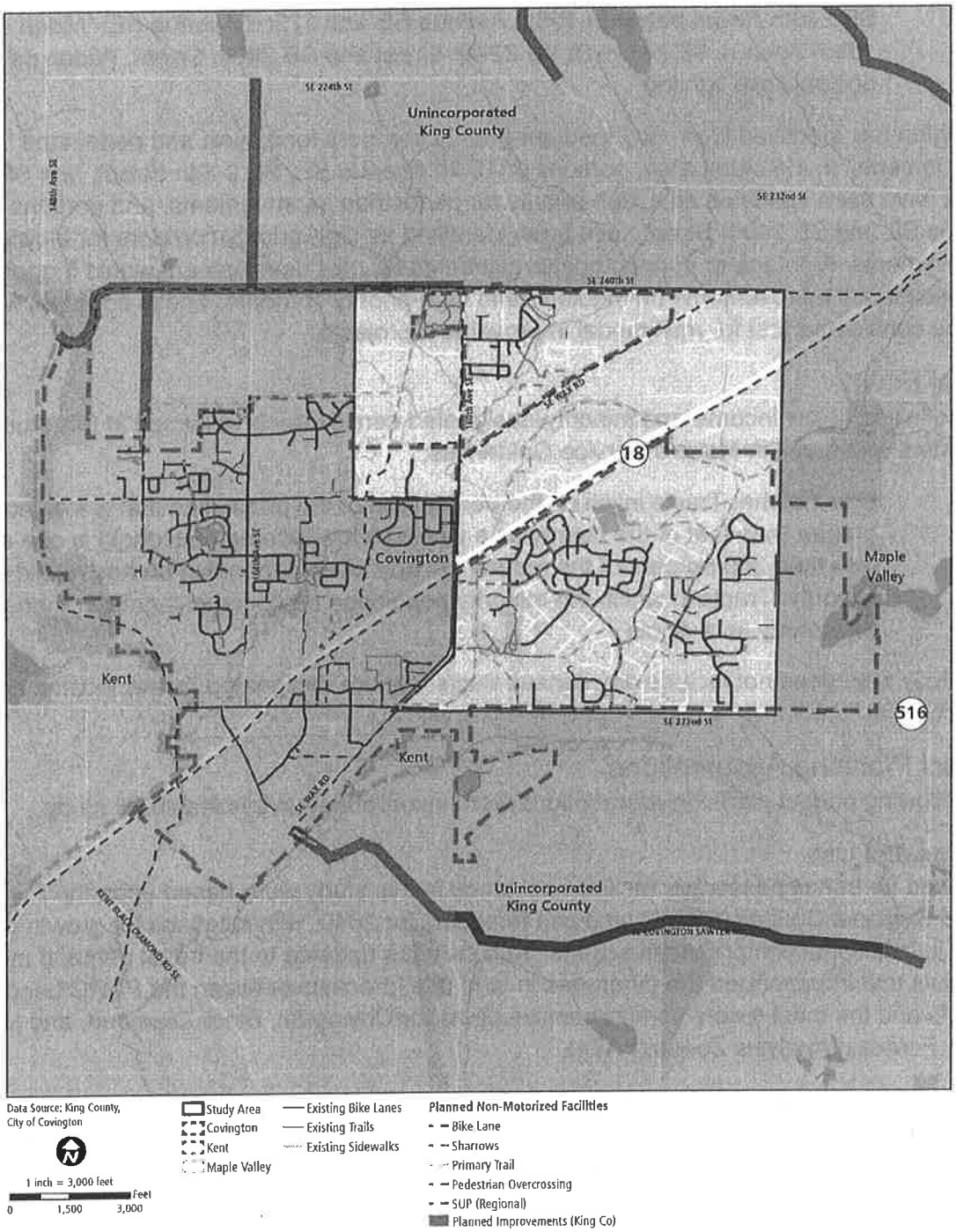
- **164th Place SE and SE Covington-Sawyer Road**: Construct turn lane and traffic signal
- **164th Avenue SE and SE 240th Street**: Construct a roundabout

The existing and proposed multimodal network in the study area is shown on **Figure 8**. Sidewalks are provided on at least one side of the street on many of the arterials in the study area. Bicycle lanes are provided on 180th Avenue SE and on a segment of SE 240th Street. Many private and public paved and soft-surface paths also exist in the study area.

The City of Covington has several planned non-motorized improvements in the study area, which include the following:

- Bicycle lanes on SE Wax Road, SE 240th Street, and SE 256th Street
- Shared use trails providing both north-south and east-west connections across Covington

Figure 8. Non-Motorized Facilities and Improvements



King County is planning the following non-motorized improvements in or near the study area:

- SE 240th Street between 148th Avenue SE and 180th Avenue SE: Provide a non-motorized facility
- SE 240th Street between 156th Avenue SE and 172nd Avenue SE: Widen walkway
- 164th Avenue SE between SE 224th Street and SE 240th Street: Widen pathway and improve lighting

Covington has identified high- and medium-priority corridors for bicycle and pedestrian improvements. In the study area, portions of 180th Avenue SE, SE 240th Street, and SE 272nd Street have been identified as a high priority for pedestrian improvements, and portions of 180th Avenue SE and SE 240th Street have been identified as high-priority corridors for bicycle improvements. Frontage or connector improvements for new development would trigger bicycle and pedestrian improvements on medium- and high-priority corridors. These corridors would also be considered first for multimodal improvement projects.

Social Equity

The definition of low income and minority-designated census tracts assumed in this study are consistent with those in Metro's Service Guidelines:

- Low income: Tracts in which the percentage of the population that is low income is greater than that of the county as a whole (A low-income household is one earning less than 200 percent of the federal poverty level, depending on household size)
- Minority: Tracts in which the minority population percentage is greater than that of the county as a whole

The study area does not include any census tracts that are designated as low income and/or minority.

Project Planning Assumptions

The following project planning assumptions were incorporated in this feasibility study.

Future Land Use

The need for transit passenger facilities assumed in this study were based upon the Puget Sound Regional Council (PSRC) land use forecasts for 2040, with locations for growth detailed in the jurisdictional comprehensive plans. This includes updates to the travel demand model forecasts that incorporated the difference in land use forecasts between the PSRC Land Use Targets and the most recent comprehensive plans for Covington, Black Diamond, and Maple Valley Forecast Analysis Zones (FAZs).

Where the horizon years of the comprehensive plans differ from the PSRC travel demand model, the growth rates identified in each comprehensive plan were applied to the forecasts to prepare an updated 2040 horizon year forecast.

Lakepointe Development

The Lakepointe development, which is planned to be located in the Lakepointe Urban Village Subarea, is expected to add 1,500 housing units, 850,000 square feet of commercial/office space, and a park-and-ride, which is a required part of the development as indicated in the Covington Comprehensive Plan. This study assumed the development will be complete by 2025.

Future Transportation Network

The future transportation network assumed to be in place includes all of the 6-year TIP projects as well as the 20-year planned projects described earlier. This network includes new roadway connections between the SE 256th Street interchange and SE 272nd Street (Covington Connector), as well as improvements to the SR 18/SE 256th Street interchange.

Future Transit Service

Future transit service was assumed to be consistent with the modified METRO CONNECTS 2040 service discussed earlier. Transit service in the study area will include one frequent route, one express route, and two local routes—all providing service to or near the SE 256th Street interchange via the Covington Connector, which is assumed to be in place for this evaluation.

The revised transit service, along with the previously described land use forecasts, were incorporated into the PSRC travel demand model to forecast the estimated transit ridership and park-and-ride demand. Transit demand from passengers that walk and bicycle to transit is typically drawn from approximately a 0.5-mile radius from the stop for walk-up passengers and up to 3 miles for riders that bicycle to the transit stop. The demand for park-and-rides extends farther, typically between 2.5 to 5 miles from the transit stop. The PSRC travel demand model incorporates these access profiles to forecast ridership generated from both park-and-rides and non-motorized access modes.

Section 3: Evaluation Screening

Sites were evaluated as potential locations for transit passenger facilities through a three-step evaluation screening process.

Screen 1 Evaluation – Fatal Flaw Analysis

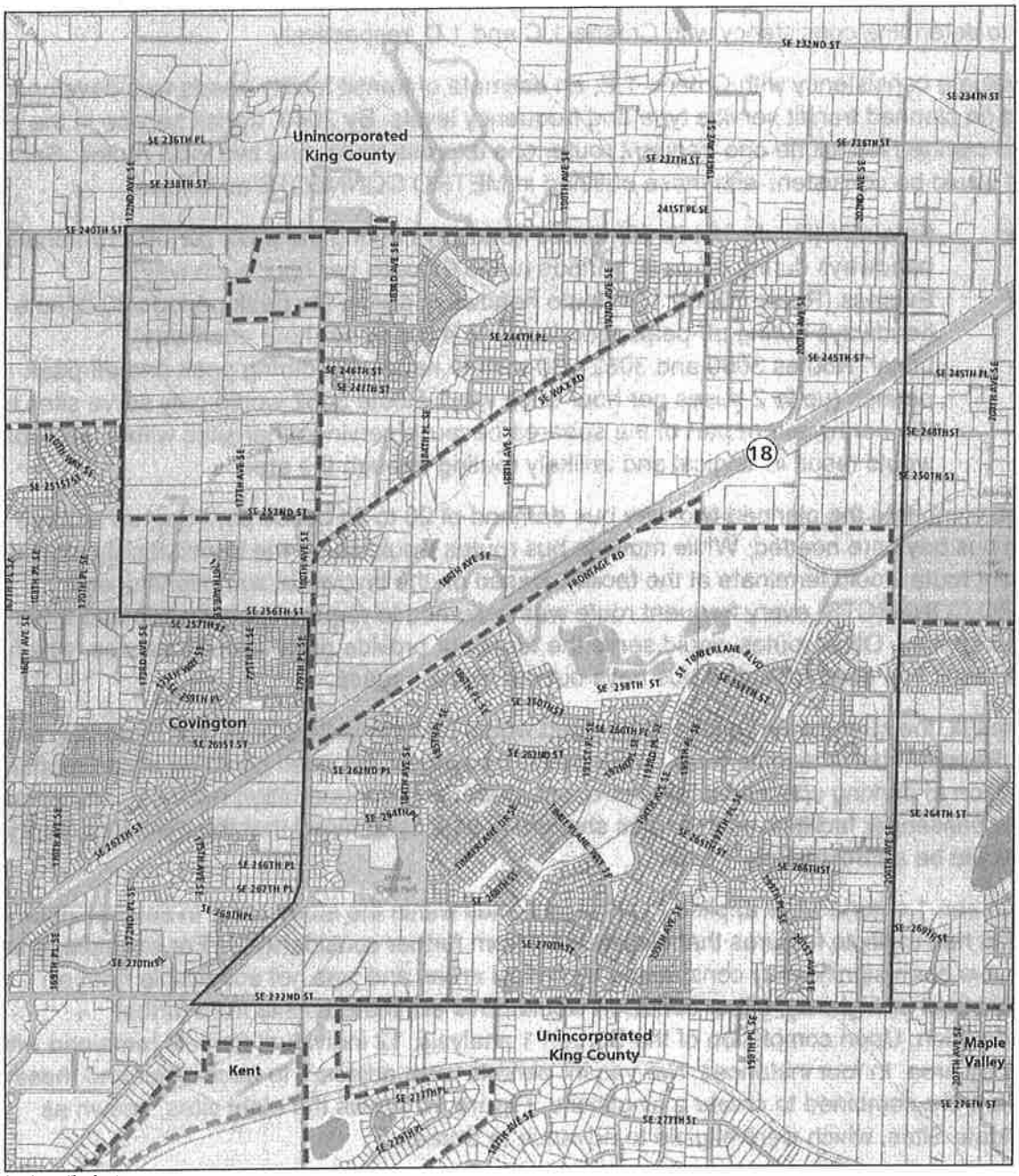
The Screen 1 evaluation process was applied to all vacant parcels within the study area to eliminate those with "fatal flaws" from further consideration. Table 6 lists the Screen 1 evaluation criteria. Figure 9 identifies all vacant parcels within the study area.

Table 6. Screen 1 Evaluation Criteria—"Fatal Flaws"

Objective	Evaluation Criteria		Scoring[1]	
Only consider sites reasonably anticipated to be available for potential development	1.A	Are there any existing development applications or permits, long-term temporary permits, or other encumbrances or regulatory reasons why the site is not a viable candidate for future development?	Yes	No
	1.B	Are there near-term development plans for the site that would preclude construction of transit passenger facilities?	Yes	No
Avoid impacts to sensitive lands and topographical constraints	1.C	Are there environmentally critical areas (e.g., wetlands, streams, steep slopes) on the site that will preclude the development of a park-and-ride facility?	Yes	No
Only consider sites accessible by transit service	1.D	Is the site's only access from a roadway other than an existing or planned arterial street or highway?	Yes	No
Accommodate future facilities	1.E	Is the site too small to accommodate projected ridership demand, bus bay needs, and layover needs?	Yes	No

[1] Screen 1 Scoring:
Yes indicates the site should be removed from further consideration.
No indicates the site should be evaluated further under Screen 2.

Figure 9. Vacant Parcels in Study Area



The City of Covington and King County DPER were consulted to confirm the status of development permit applications, permits, other regulatory impediments, or near-term development plans that would preclude development of transit passenger facilities at a site (Criteria 1.A and 1.B). The jurisdictions' critical areas maps and future transportation plans were used to determine consistency with Criteria 1.C and 1.D, respectively.

To evaluate consistency with Criteria 1.E, an estimate of transit facility needs was developed based on planned transit service type and frequency levels. By 2040, transit service in the study area is planned to include one frequent route, one express route, and two local routes. Service levels would be consistent with those outlined in METRO CONNECTS as follows:

- Frequent (Route 1514): 10-minute headways during the peak periods/15-minute headways during off-peak periods (up to 6 buses per hour each way)
- Express (Route 2020): 15-minute headways during the peak periods/30-minute headways during off-peak periods (up to 4 buses per hour each way)
- Local (Routes 3060 and 3062): 30-minute headways during peak and off-peak periods (up to 2 buses per hour each way). Route 3062 would only serve sites in the northwestern part of the subarea because serving other sites within the subarea would result in illogical and unlikely routing through the area.

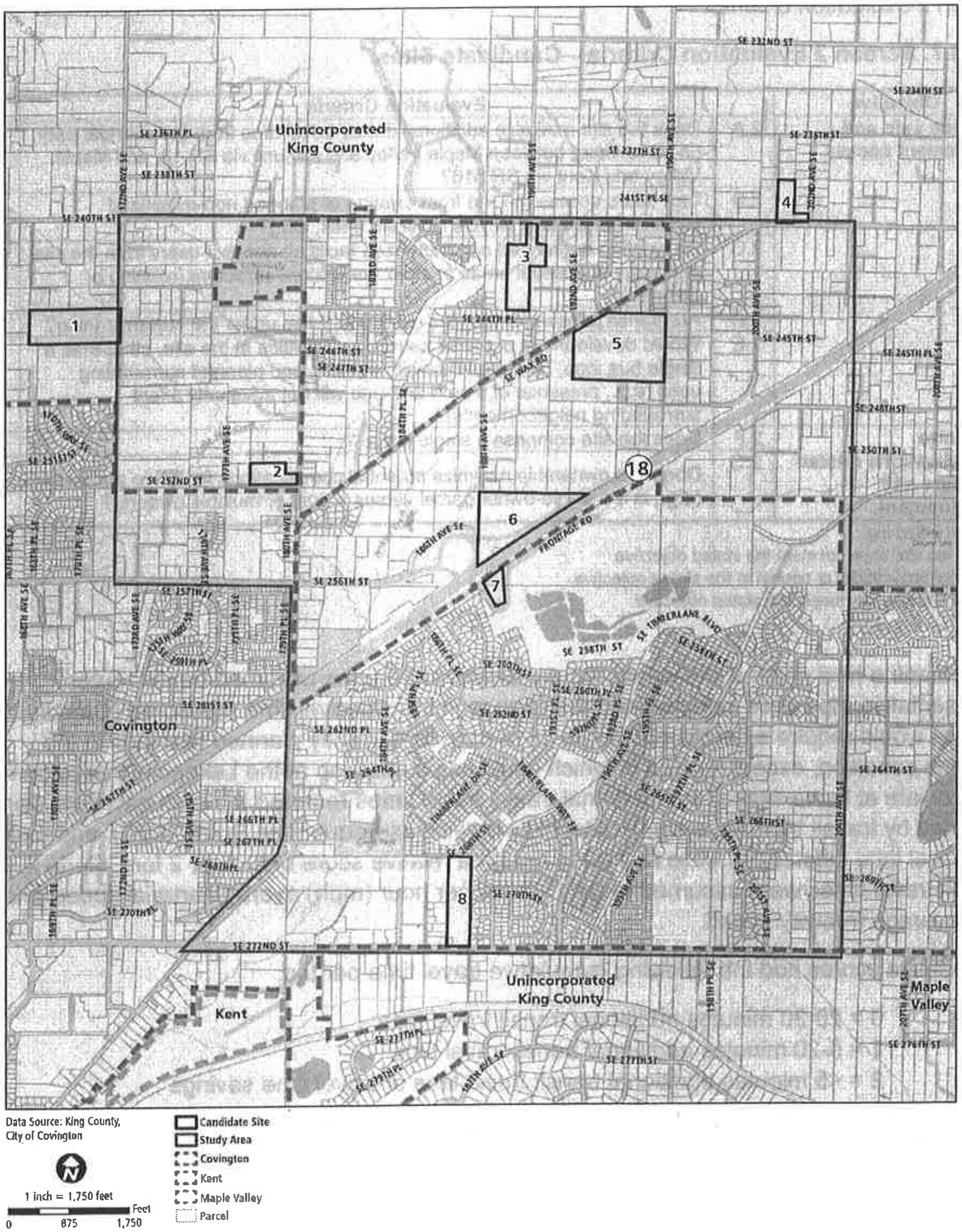
To accommodate the planned two-way bus demand of 20 to 24 buses per hour, up to three active bus bays are needed. While multiple bus routes would serve the transit facility, only the frequent route would terminate at the facility. Based on the layover assumptions used in METRO CONNECTS, every frequent route was assumed to require between two and three layover spaces. Other routes would serve the facility or provide pass-through service, which would result in a need for active bus bays but not layover space.

As a result, the cumulative transit facility need would be three active bays and three layover bays. Representative layouts were developed to show how this need could be accommodated, in addition to parking spaces for rideshare, car share, and transportation network companies, as well as passenger facilities such as bus shelters. It was determined that the minimum facility size would be approximately 1 acre.

The Screen 1 criteria were applied to all vacant sites within the study area. In several instances, a parcel had multiple features that eliminated it from further consideration. For example, a site may have been significantly constrained by critical areas and was not accessible from an arterial street or highway; either condition would have eliminated a site from further consideration. Upon completion of the Screen 1 analysis, 12 individual parcels remained within the study area. In four instances, two vacant parcels were adjacent to each other and these parcels were combined to create a single site. **Figure 10** shows the eight sites, known as Candidate Sites, which were eligible to advance to Screen 2[1].

[1] The final layout for the Lakepointe development had not been determined at the time of this study. Site 7 serves as a representative site within the Lakepointe development. The location and dimensions of potential transit passenger facilities within this site is subject to change.

Figure 10. Candidate Sites for Screen 2 Evaluation



Screen 2 Evaluation—Candidate Site Evaluation

The evaluation criteria for Screen 2 focused on providing access to the site for transit passengers as well as transit routes, and the potential for future acquisition. Table 7 lists the Screen 2 evaluation criteria.

Table 7. Screen 2 Evaluation Criteria—Candidate Sites

Objective	Evaluation Criteria		Score[1]		
Provide safe and convenient access	2.A	Does the site minimize additional transit travel time from the shortest path (in travel time) between Maple Valley and Auburn via SR 18, and Maple Valley and Kent via SR 516?	0	1	2
	2.B	Can users access the site from existing or planned non-motorized facilities (sidewalks, bicycle facilities, trails, etc.)?	0	1	2
	2.C	Do existing or planned non-motorized facilities connect users from the site to nearby residential areas or other generators/attractors (existing or planned)?	0	1	2
	2.D	Are transit passenger facilities a permitted use under the current zoning?	0	1	2
	2.E	Would development of transit passenger facilities at the site, other than a single bus stop, be compatible with existing and planned surrounding uses (e.g., presence of a park-and-ride will not adversely affect surrounding neighborhoods)?	0	1	2
Minimize complications related to future site development	2.F	Does the site comprise a single parcel?	0	1	2
	2.G	Does site ownership minimize potential complications for future purchase (e.g., is it a single-owner parcel versus a trust or multiple owners)?	0	1	2

[1] Screen 2 Scoring:
0 = No, the site does not meet the stated objective
1 = Partial applicability or neutral to the stated objective
2 = Yes, the site fully meets the stated objective

To determine how much a site would require deviation from the assumed transit routes, representative trips were selected and the change in transit travel time measured (Criteria 2.A). All sites would require extension of Route 1514 from its currently planned terminus in the baseline condition, except for Site 8, which could use a live loop at the Lakepointe development to terminate at those sites. The additional transit travel times required to reach each site were weighted by transit trip frequency (Route 1514 is twice as frequent as Route 2020), and their raw travel time differences were ranked to assign a relative score of 0, 1, or 2 for Criteria 2.A. Transit travel times were assumed to be 15 miles per hour (mph) average arterial speed and 55 mph average freeway speed.

The relative scores add the following cumulative travel time per trip:

- 0 = 20-30 minutes additional transit travel time
- 1 = 5-20 minutes additional transit travel time
- 2 = <5 minutes additional transit travel time or travel time savings

Criteria 2.B and 2.C evaluated non-motorized access to each site, as well as non-motorized connections to transit ridership generators or attractors. All non-motorized improvements included in the City of Covington and King County Comprehensive Plan were assumed to be in place.

Consistency with the zoning code as well as compatibility with existing or planned development outlined in the Comprehensive Plans were evaluated through Criteria 2.D and 2.E. For Criteria 2.D, park-and-ride facilities were used as the metric to evaluate whether transit passenger

facilities are permitted at a site. Both the City of Covington and King County development codes include language about park-and-ride allowances but are unclear about other types of facilities, such as a transit center without parking.

The final two criteria (2.F and 2.G) focus on whether a site comprises a single parcel and ownership.

Candidate Site Evaluation Results

Table 8 summarizes the results of the Screen 2 evaluation. A more detailed analysis for each site is provided in Appendix A.

Table 8. Screen 2 Evaluation Results

			Site							
Objective	**Evaluation Criteria**		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Provide safe and convenient access	2.A	Does the site minimize additional transit travel time from the shortest path (in travel time) between Maple Valley and Auburn via SR 18, and Maple Valley and Kent via SR 516?	0	1	0	0	0	1	2	2
	2.B	Can users access the site from existing or planned non-motorized facilities (sidewalks, bicycle facilities, trails, etc.)?	0	1	1	1	1	0	2	1
	2.C	Do existing or planned non-motorized facilities connect users from the site to nearby residential areas or other generators/attractors (existing or planned)?	0	1	1	1	0	0	2	2
	2.D	Are transit passenger facilities a permitted use under the current zoning?	1	1	1	1	1	1	2	1
	2.E	Would development of transit passenger facilities at the site, other than a single bus stop, be compatible with existing and planned surrounding uses (e.g., presence of a park-and-ride will not adversely affect surrounding neighborhoods)?	0	1	0	0	0	1	2	1
Minimize complications related to future site development	2.F	Does the site comprise a single parcel?	2	2	0	1	2	0	2	1
	2.G	Does site ownership minimize potential complications for future purchase (e.g., is it a single-owner parcel versus a trust or multiple owners)?	2	2	0	0	2	2	2	2
		Total	5	9	3	4	6	5	14	10

Following are notable findings associated with the Screen 2 evaluation:

- The site located in the planned Lakepointe development (Site 7) did not require any changes to the modified 2040 transit network and thus resulted in no changes to the transit travel time associated with the representative trips. The site located near

downtown Covington (Site 8) required changes to the modified 2040 transit network, which resulted in a net reduction in transit travel time between Maple Valley and Auburn.

- Most of the candidate sites are accessible via one existing or planned non-motorized facility. Site 7 is accessed by two existing or planned non-motorized facilities. Sites 1 and 6 are not served by any existing or planned non-motorized facilities.
- Transit passenger facilities, including parking, are permitted at all of the candidate sites. The development regulations at Site 7 do not place a limit on the number of allowed parking stalls; however, parking facilities with more than 125 stalls must be developed within a structure. All of the remaining sites are limited to 30 stalls as a permitted use. Sites located in unincorporated King County (Sites 1, 2, 4, 5, and 6) may be developed with more than 30 stalls, subject to a conditional use permit.
- The majority of the sites are located in areas developed as single-family residential, with several sites adjacent to or in proximity to schools, churches, or fire stations. Site 8 is located near downtown Covington on SR 516. The future land use designation at these sites anticipates continuation of this development pattern. Site 7 is located within the planned Lakepointe development, which envisions redevelopment of the surrounding properties with residential, commercial, and office uses.
- Four of the eight candidate sites comprise two parcels. Of these four sites, two have parcels with common ownership; the other two do not. The remaining four candidate sites comprise a single parcel.
- Sites 2, 7, and 8 received the highest cumulative rankings and are ranked at least 3 points higher than the next highest ranked sites. These are considered Top Tier sites.

Section 4: Top Tier Sites

Conceptual Designs

Figures 11 through 13 show the conceptual designs for transit passenger facilities for each of the Top Tier sites. Each design included the following features:

- Three active transit bays
- Three layover bays
- Drive aisles for bus circulation
- Boarding platform
- Two parking spaces for rideshare
- Two parking spaces in a drop-off/pick-up area for transportation network company (TNC) services
- Five parking spaces for car share
- Bicycle parking
- Comfort station
- Landscaping

Given the planned levels of fixed route transit service identified in METRO CONNECTS by 2040 and the estimated need for flexible transit service options, such as rideshare, car share, and TNC services, the conceptual design for each site accommodated the forecast operational needs. Off-street layover spaces could be reduced if on-street layover was available and its use was approved by the City of Covington, King County, or other approving agencies. It is also feasible that other operational efficiencies could be implemented to reduce the number of active and/or layover bays at the site, and any additional space could be utilized for other transit services, such as alternative services.

Each site included parking facilities in accordance with the applicable zoning regulations for King County or the City of Covington. Sites 2 and 8 included 30 parking stalls. The King County zoning code, which is applicable for Site 2, allows for more than 30 stalls subject to a conditional use permit. The City of Covington zoning requirements do not limit the number of stalls allowed at Site 7; however, park-and-ride surface lots may not exceed 125 stalls. Site 7 includes a parking structure with 390 stalls. Each site is forecast to have different parking needs, as indicated in Table 9.

Table 9. 2040 Forecast Parking Demand for Top Tier Sites

	Forecast Parking Demand
Site 2	185 to 265 spaces
Site 7	225 to 325 spaces
Site 8	250 to 360 spaces

Figure 11. Site 2 Conceptual Design

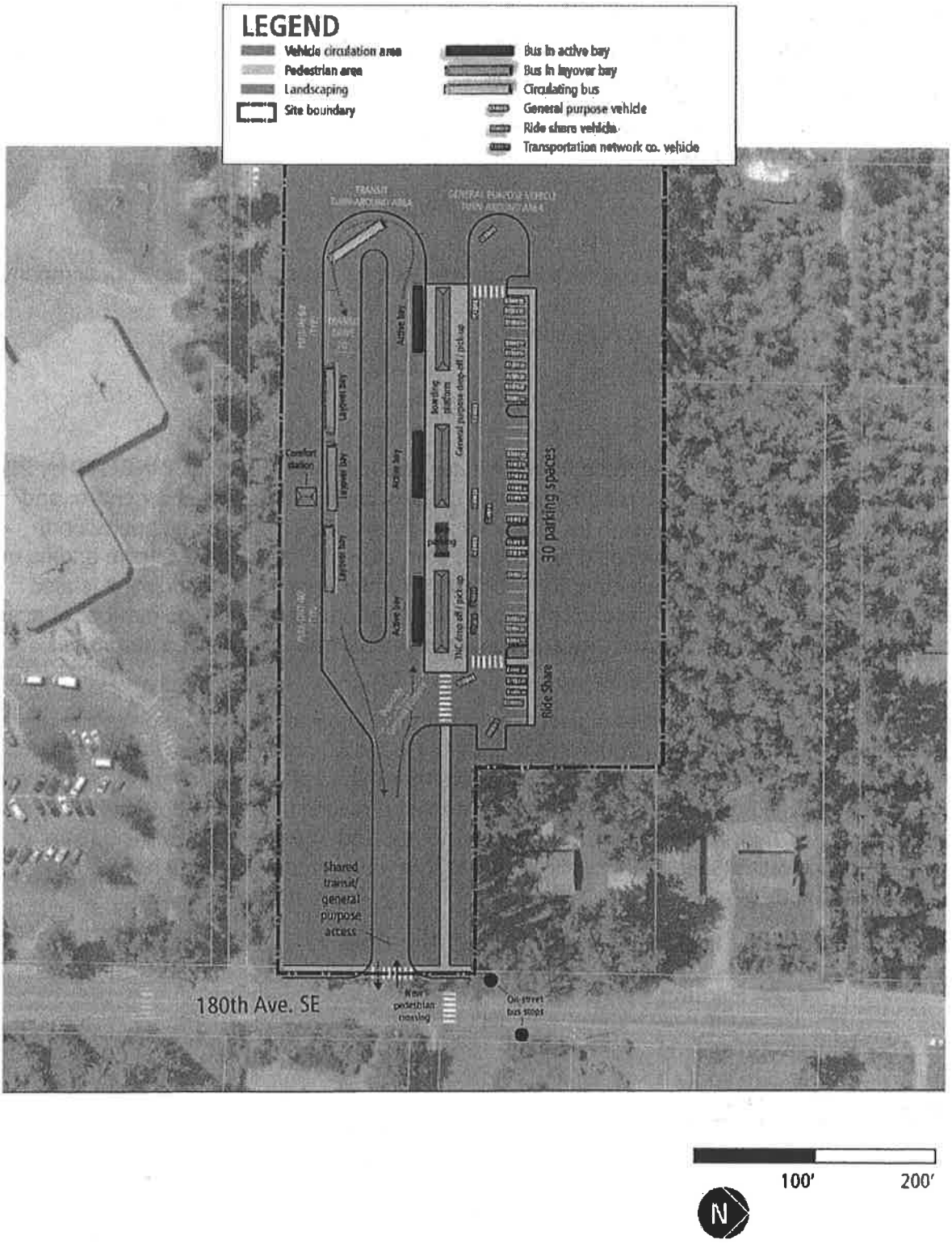


Figure 12. Site 7 Conceptual Design

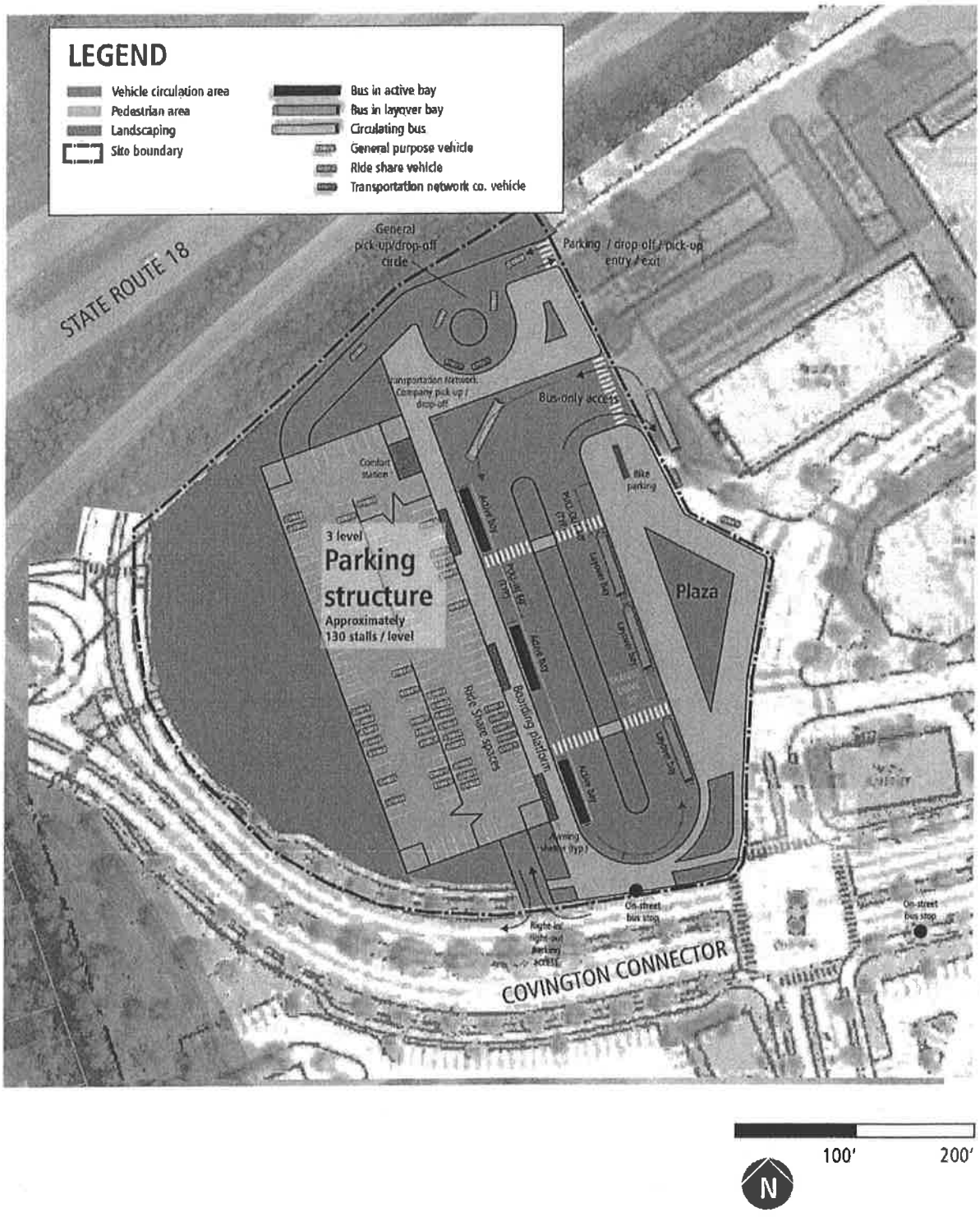
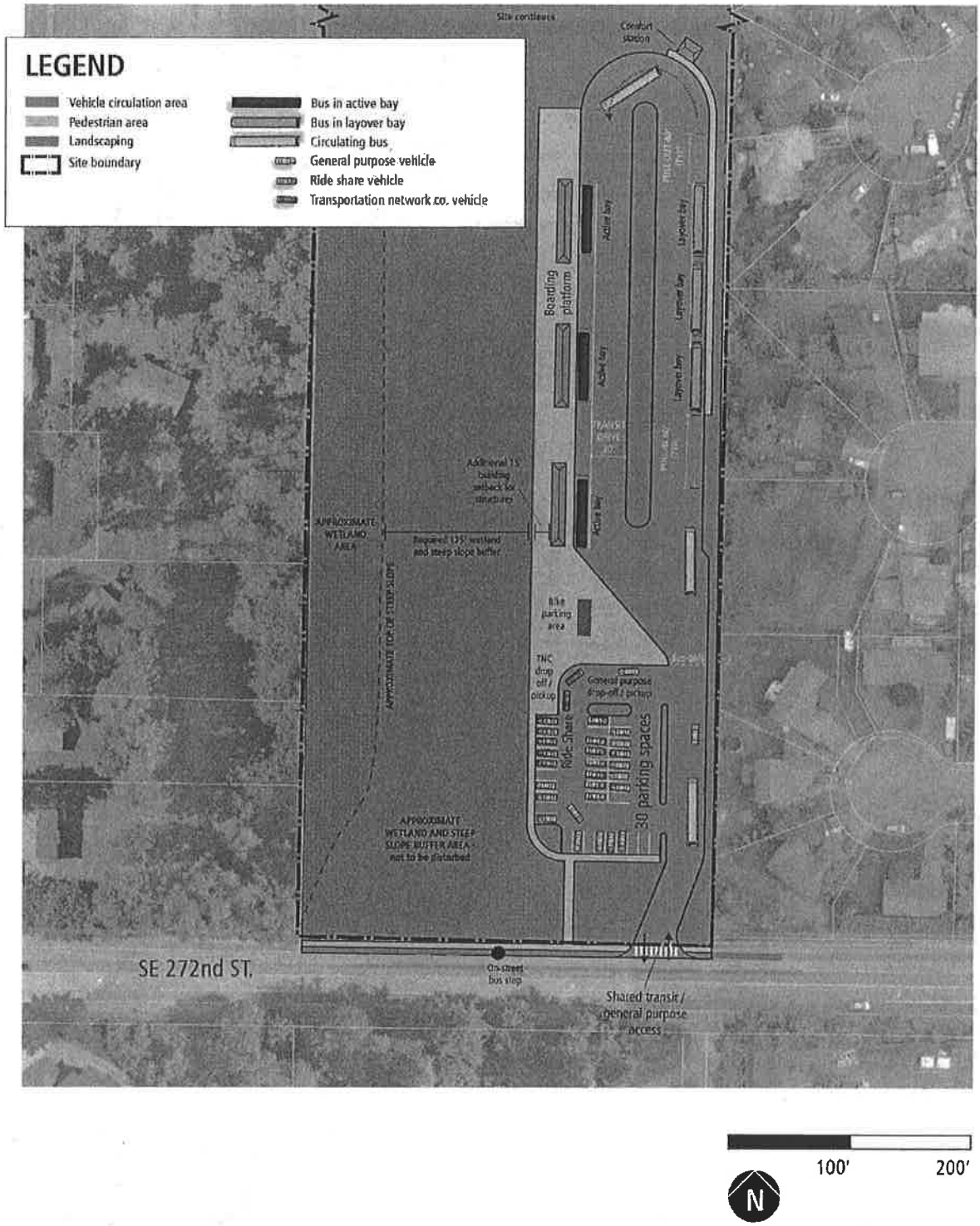


Figure 13. Site 8 Conceptual Design



Environmentally critical areas, including Category II wetlands and steep slopes, are present on Site 8. The Covington zoning code requires a 100- to 200-foot buffer from the edge of Category II wetlands. The wetland on Site 8 was determined to have a 100-foot buffer by the City of Covington's on-call biologist[2]. A 15-foot building setback is required from the edge of the wetland buffer. Steep slopes are likely present on the west and north sides of the property. The slopes on the west side of the property are located within the wetland buffer, which would require an additional 25-foot buffer. The slopes on the north side of the property are subject to a 50-foot buffer. The location of all critical areas is approximate; the conceptual design for the site was prepared assuming all of the listed buffer and building setback requirements would be applicable. It is important to note that the extent of all applicable buffers would require delineation of critical areas in subsequent design and permitting approval phases to ensure zoning code requirements are met.

Access Alternatives and Analysis

For each site, an operational analysis was performed assuming the transportation improvements described in the Existing and Future Transportation Services and Facilities section of this report would be in place. All analyzed intersections are within the city of Covington, and the analysis used 2035 traffic volume forecasts as provided by the City of Covington. All of the LOS findings noted represent the change from 2035 without the transit facility to 2035 with the transit facility. Unless otherwise noted, delay was calculated using the Highway Capacity Manual 2010 methodology. Table 10 identifies the forecast PM peak hour volumes for buses and vehicles associated with the conceptual transit facilities.

For each site, a second analysis was performed to evaluate the impacts associated with installation of additional infrastructure improvements that could improve transit performance.

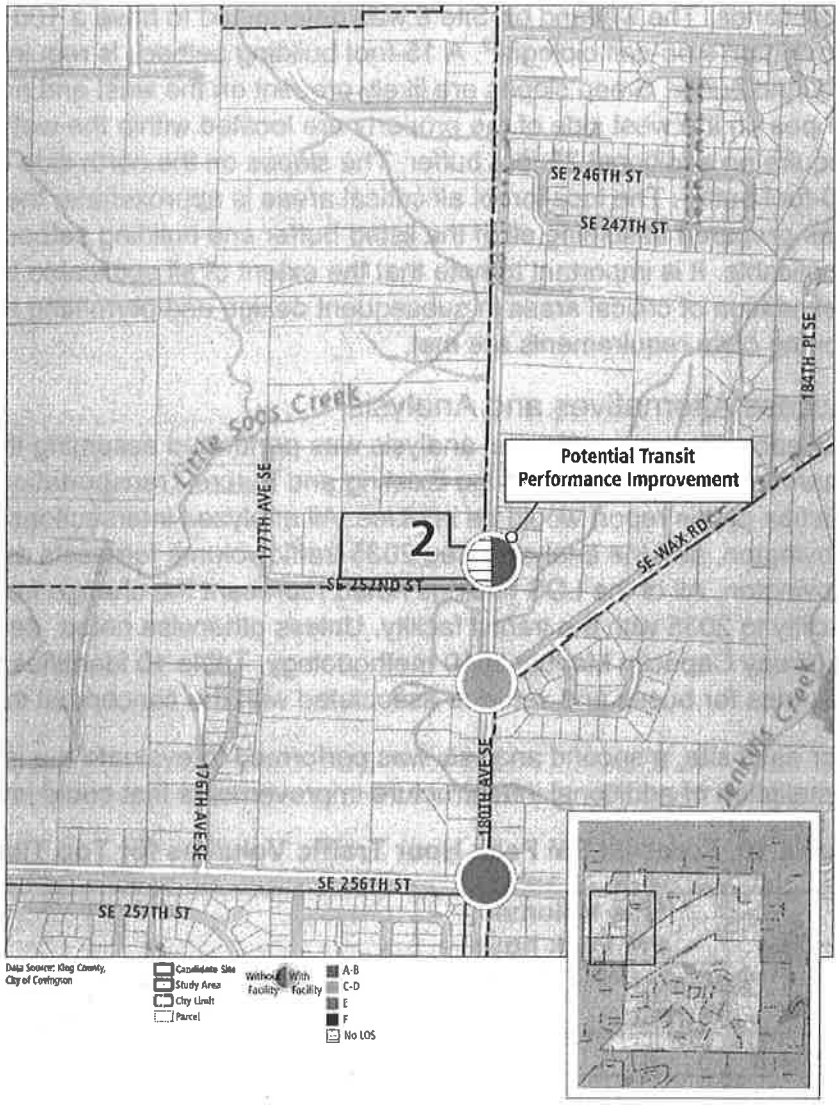
Table 10. Forecast PM Peak Hour Traffic Volumes for Top Tier Sites

	Bus Volumes PM Peak hour		Outbound PM Peak Hour Vehicle Volume	Inbound PM Peak Hour Vehicle Volume
	On-street	Off-street		
Site 2	4	24	15	5
Site 7	8	16	135	25
Site 8	12	12	30	15

Figures 14 through 16 display the forecast changes to LOS associated with development of a transit facility at each site. These figures also include the results of the analysis associated with installation of transit performance improvements.

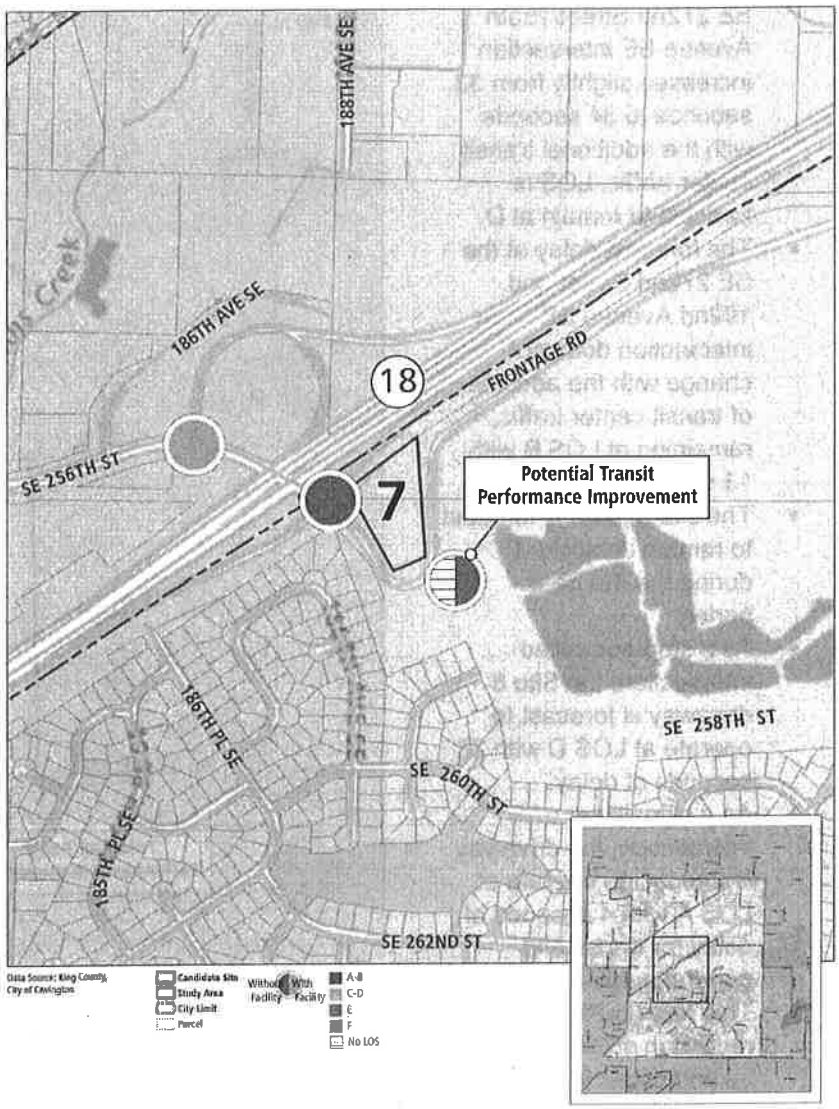
[2] Neither a delineation nor evaluation of the wetland was performed for this study. Approximate wetland boundaries were based upon the City of Covington Critical Areas map.

Figure 14. Site 2 Traffic Operational Analysis



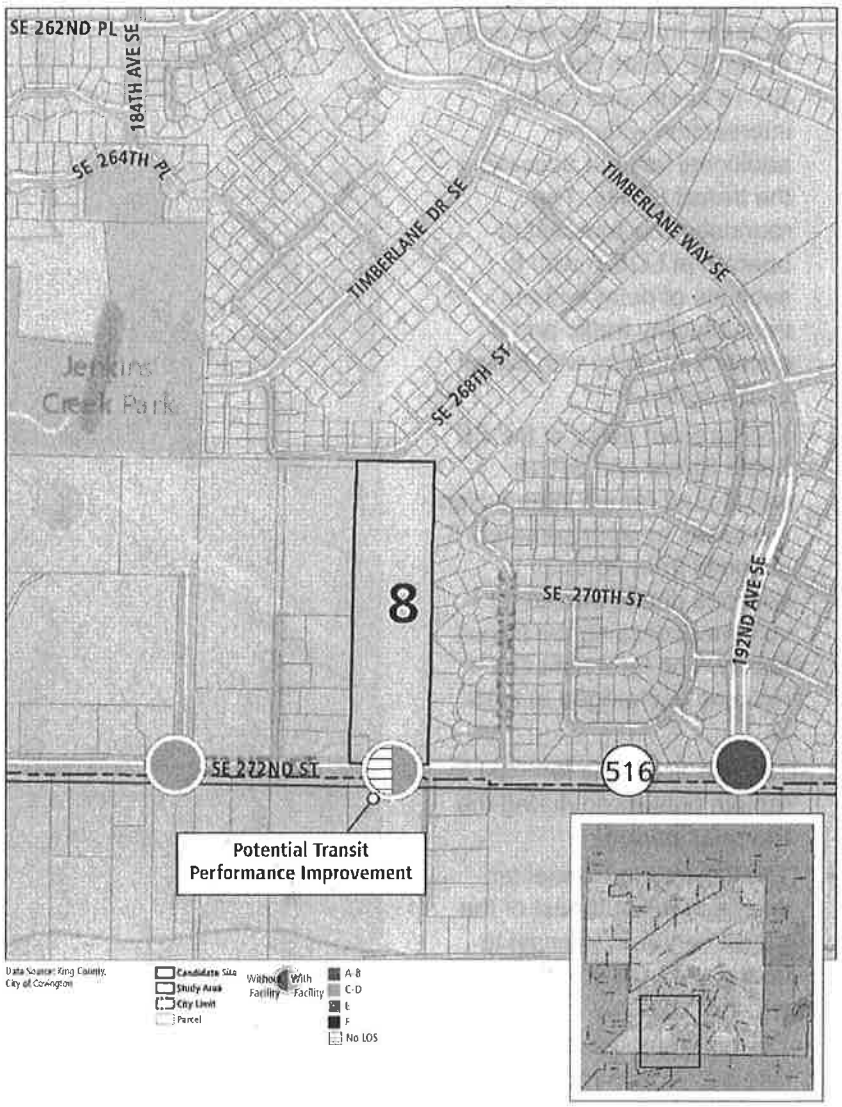
- The forecast delay at the SE 256th Street and 180th Avenue SE intersection would increase by approximately 4 seconds due to additional volume accessing the transit facility. The forecast delay increases from 58 seconds to 62 seconds and the LOS remains at E.
- The forecast delay at the SE Wax Road and 180th Avenue SE intersection would increase by approximately 5 seconds due to additional volume accessing the transit facility. The forecast delay increases from 21 seconds to 26 seconds, and the forecast LOS changes from C to D.
- The site access is forecast to remain unblocked during the PM peak period.
- As a stop-controlled intersection, the driveway intersection is forecast to operate at LOS B with 15 seconds of delay.
- As a signalized intersection, the driveway intersection is forecast to operate at LOS A with 4 seconds of delay for transit and general purpose traffic. This represents a reduction of 11 seconds as compared to an unsignalized driveway. It is important to note that the intersection would most likely not meet signal warrants due to the low volume of traffic exiting the transit center.

Figure 15. Site 7 Traffic Operational Analysis



- There would be a negligible increase in the forecast delay at the SE 256th Street and SR 18 eastbound ramps intersection with the additional volume accessing the transit facility. The roundabout is forecast to operate at LOS A with 8 seconds of delay without transit facility traffic and 9 seconds of delay with transit facility traffic.
- The forecast delay at the SE 256th Street and SR 18 westbound ramps intersection increases by approximately 5 seconds from 26 to 31 seconds due to additional volume accessing the transit facility. The forecast LOS remains unchanged at LOS C.
- The site access is forecast to remain unblocked during the PM peak period.
- The Covington Connector intersection southeast of the transit center is forecast to operate at LOS B with 17 seconds of delay.
- The on-street westbound far-side bus stop introduces a potential conflict between buses and westbound vehicles turning into the transit center at the right-in/right-out driveway. The conflict would occur if a bus finishes dwelling and leaves the stop just as a vehicle is attempting to change into the right lane after passing the bus to access the right-in/right-out driveway. Additionally, buses dwelling at the stop could block sight distance for drivers changing into the right lane, creating a potential conflict with drivers exiting the garage. Developing the bus stop as a pull-out or moving the bus stop to the east side of the intersection could minimize this potential conflict.
- As a standard intersection with typical phasing, the Covington Connector intersection southeast of the transit center is forecast to operate at LOS B with 17 seconds of delay. The addition of a transit-only phase and curbside queue jump would allow for reduced delay for transit. Transit signal priority (TSP) generally reduces transit delay by approximately 5 to 15 percent; however, the degree to which transit delay would be reduced would depend upon the aggressiveness of the TSP programming at the signal. The introduction of a transit-only phase is forecast to cause the intersection to operate at LOS C with 22 seconds of delay for general purpose traffic.

Figure 16. Site 8 Traffic Operational Analysis



- The forecast delay at the SE 272nd Street/185th Avenue SE intersection increases slightly from 33 seconds to 34 seconds with the additional transit center traffic. LOS is forecast to remain at D.
- The forecast delay at the SE 272nd Street and 192nd Avenue SE intersection does not change with the addition of transit center traffic, remaining at LOS B with 13 seconds of delay.
- The site access is forecast to remain unblocked during the PM peak period.
- As a stop-controlled intersection, the Site 8 driveway is forecast to operate at LOS D with 28 seconds of delay.
- As a signalized intersection, the driveway is forecast to operate at LOS A with 4 seconds of delay for transit and general purpose traffic. This represents a reduction of 24 seconds as compared to an unsignalized driveway. However, the intersection would most likely not meet signal warrants due to the low volume of traffic exiting the transit center. A signal at this location would also require approval from WSDOT.

Preliminary "Order of Magnitude" Cost Estimates

Cost estimates were developed for each conceptual design associated with the Top Tier sites. **Table 11** summarizes the costs for each site, including the costs per stall. A detailed cost breakdown associated with each site is provided in Appendix C.

Table 11. Top Tier Sites Conceptual Design Cost Estimates

	Estimated Costs	Number of Stalls	Cost Per Stall
Site 2	$5.6 million	30	$201,000
Site 7	$28.6 million	390	$75,000
Site 8	$8.0 million	30	$269,000

The transit passenger facility cost estimates were developed using bid-based methodology. This method applies historical unit costs to the quantity of each item to determine a total cost for the item. The unit costs used in this estimate were collected from standard WSDOT and King County Metro bid items, as well as from historical project costs. They include:

- Passenger Facilities costs: The proposed transit passenger facility includes a boarding platform that consists of three shelters, a tech pylon with a fare station and real time sign, and benches. The unit cost for the boarding platform and associated passenger facilities was calculated using component unit costs from METRO CONNECTS. Passenger facilities include bicycle cages, pedestrian illumination, and on-street bus stops.
- Parking Structure costs: For Site 7, the proposed transit passenger facility includes a multi-level parking structure. Historical unit costs were collected from the existing Sound Transit System Plan Development (ST3) unit cost library and were applied based on the number of parking stalls.
- Property Acquisition costs: The proposed transit passenger facility requires property acquisition to complete the project. The property acreage and appraised value for each site were collected using the King County Parcel Viewer. The appraised value was then escalated to include costs associated with the typical property purchase process and requirements, including administration costs, contingency, and fair market value adjustments. Property costs for each site were included in the total cost of the project.

Detailed quantity take-offs were not prepared for this project because the proposed transit passenger facility drawings are conceptual. Quantities for general bid items were estimated by direct measurement and calculation of the proposed conceptual drawings or electronically calculated from the CAD files used to prepare these concepts.

The cost estimates were prepared using the Design Construction Overall Project Estimate Form provided by Metro. Following the form's layout, each estimate included construction costs (separated by major components), soft costs, and other costs, including property acquisition costs. Soft costs represent the costs of engineering, project and construction management, contract administration, permits and fees, training/start-up/testing, and any force account work. For projects with construction costs greater than $1 million, the following soft costs were applied as a percentage of the construction costs:

- Project management 5 percent
- Engineering/Design 20 percent
- Construction Management 15 percent
- Environmental Review 5 percent

The form used to generate the cost estimates also provided guidelines to develop an overall project contingency to be applied to the construction costs. The project timeline and project risk level were completed, and an automated formula in the form resulted in a project contingency of 40 percent to be applied to the construction cost.

In addition to the estimates prepared for the conceptual designs, cost estimates were prepared for the transit performance infrastructure improvements identified in the Access Alternatives and Analysis section of this report. **Table 12** summarizes these costs.

Table 12. Transit Performance Infrastructure Improvements Cost Estimates

	Improvements	Estimated Cost
Site 2	New traffic signal and intersection rebuild	$1.8 million
Site 7	Queue jump and TSP	$0.4 million
Site 8	New traffic signal, intersection rebuild, and on-street bus stop	$1.9 million

Comparative Metrics Results

The Screen 3 comparative metrics were applied to the three Top Tier sites. The metrics were used to describe the performance of the sites and the associated conceptual designs to one another. **Table 13** lists the Screen 3 comparative metrics as well as the methodology used to assess their performance. For many of the metrics, the evaluation at each site was qualitative, as indicated in the table.

Table 13. Screen 3 Comparative Metrics—Top Tier Sites

Objective	Comparative Metrics		Performance Assessment Methodology[1]
Minimize Impacts from Topographical Constraint	3.A	How much does the existing topography minimize construction costs on the site (e.g., there are no steep slopes or no retaining walls/other infrastructure is required)?	*The City of Covington and King County environmentally critical area maps were used to identify the presence of steep slopes. Agency staff were consulted to verify the presence of critical areas on the sites.*
Minimize Conflicts Between Modes	3.B	How well does the internal site design minimize potential conflicts between modes?	*The conceptual designs for each site were reviewed to determine the extent of potential conflicts between modes.*
	3.C	How well does the existing or planned transportation infrastructure help to minimize conflicts between modes accessing the site or nearby uses?	*Jurisdictional plans for future transportation investments were used to evaluate the potential for modal conflicts accessing the sites.*
Minimize Impacts to Traffic and Transit Operations	3.D	Do the location and design of the site help to minimize on-street parking impacts on local roads and in nearby neighborhoods?	*Jurisdictional plans for future land uses and transportation investments were consulted to assess the potential for spillover parking to nearby streets and neighborhoods.*
	3.E	Are traffic signals and/or other Intelligent Transportation Systems (ITS) and infrastructure in place or planned to help minimize traffic impacts and improve transit and vehicular access to/from the site?	*Jurisdictional plans for future transportation investments were used to evaluate the potential to help minimize traffic impacts and improve transit and vehicular access to/from the site.*
	3.F	How will the level of service at nearby intersections and interchanges be affected by the operation of the facility?	An operational analysis was performed assuming the transportation improvements included in the City of Covington and King County Comprehensive Plans would be in place, and using the forecasts for 2035 volumes as provided by the City of Covington[2]. The impacts of the transit facility on LOS were based upon the change from the 2035 forecast without the transit facility to the 2035 forecast with the transit facility. In most cases, delay was calculated using the Highway Capacity Manual 2010 methodology.
	3.G	Are potential site access points forecast to remain unblocked during peak traffic periods?	Traffic modeling using Synchro was employed to identify queueing at surrounding intersections.
Safety and Code Compliance Considerations	3.H	How well does the site design incorporate Crime Intervention through Environmental Design (CPTED) principles that promote safety and security for transit users?	*The conceptual designs for each site were evaluated to determine consistency with CPTED principles.*
	3.I	Does the site have sufficient space for landscaping and other design features required by the development code?	The site designs were assessed in accordance with the zoning requirements applicable to each Top Tier site, as summarized in Table 14. The environmentally critical area requirements summarized in the Conceptual Design section of this report were also applied during the assessment.
Regional Coordination	3.J	What is the potential for the site location and design to reduce parking demand at the Kent and Auburn Sounder stations?	This metric was assessed in two ways. The first was a direct relationship to the forecast parking demand. Based on the

Objective	Comparative Metrics		Performance Assessment Methodology[1]
		(e.g., Do the site design and permitted improvements accommodate a facility with the potential to reduce parking demand at the Kent and Auburn Sounder stations? Is the site located near existing or planned residential uses and non-motorized infrastructure investments that will allow riders to walk or bicycle to bus service that will deliver them to a Sounder station?)	site locations, those with greater available parking have a higher propensity to relieve parking demand at the Kent and Auburn Sounder stations. The second was a qualitative assessment of the degree to which the surrounding the existing and planned land uses and transportation improvements are transit supportive. It was assumed that the more transit-supportive areas would have the potential to encourage nearby riders to use transit to access the Kent and Auburn Sounder stations.
Transit Operations	3.K	How well does the site accommodate projected operational needs for fixed route transit (e.g., layover spaces, bus bays, comfort station, electric bus charging infrastructure), as well as other modes such as Access, ridesharing, car share, pick up/drop off, etc.?	Each of the Top Tier sites was able to accommodate the minimum operational needs for all planned transit service. The performance assessment focused on the potential for each site to adapt to changing needs, such as additional transit service or increased TNC drop-off.
	3.L	How well does the site accommodate projected parking demand?	The forecast parking need was compared to the parking included in the conceptual drawings for the Top Tier sites.
	3.M	How well does the site accommodate facilities that minimize transit turns and out-of-direction movements?	*The transit routing through the site was assessed by evaluating the efficiency of operations.*
Site Accessibility and Functionality	3.N	How accessible and functional is the site for transit riders? (e.g., Does the site location minimize the distance for non-motorized connections to existing or planned development? Are existing or planned land uses transit supportive? Do existing or planned land uses include social service providers?)	*Jurisdictional plans for future land uses and transportation investments were consulted to evaluate the accessibility and functionality of each site.*
Cost	3.O	How do the costs associated with the design and potential construction compare with other Top Tier sites?	The costs associated with design and potential construction for each site were compared.
	3.P	How do the ongoing facility maintenance costs (e.g., permits use of standard materials/parts, minimizes footprint of maintained surfaces, etc.) compare with other Top Tier sites?	*The amount of landscaped area, stormwater treatment facilities, developed areas (parking lots, driving areas, bus bays, paved surfaces), and structures on the sites were compared to each other. It was assumed that landscaped areas and stormwater maintenance facilities would have a low maintenance cost, developed areas would have a higher maintenance cost, and the parking structure would have the highest maintenance cost.*
	3.Q	How do the costs per stall associated with the design and potential construction compare with other Top Tier sites?	The cost per stall associated with design and potential construction for each site were compared.

[1] Text in italics indicates that the associated assessment was qualitative, rather than quantitative.
[2] All intersections that were evaluated are located in the city of Covington.

Table 14 summarizes the zoning requirements applicable to each top tier site.

Table 14. King County and City of Covington Zoning Requirements

Category	King County	City of Covington	
	Site 2: RA-5 Zone	Site 7: RCMU Zone	Site 8: R-8 Zone
Impervious Surfaces	Non-residential use in RA zone: 40 percent maximum	80 percent maximum	75 percent maximum
Setbacks	Street: 30 feet Interior: 10 feet	Street: 0 feet Interior: 10 feet (20 feet if adjacent to residential zone)	Street: 10 feet Interior: 7 feet 6 inches
Landscaping	Street frontage: 20 feet Type II for an institutional use Interior property lines: 10 feet Parking lot landscaping: 25 square feet per stall, at least every 10 stalls, and at end of every parking row; perimeter landscaping can count toward 10% of parking lot landscaping	Street frontage: 20 feet Type II for an institutional use Interior property lines: 10 feet	Street frontage: 20 feet Type II for an institutional use Interior property lines: 10 feet Parking lot landscaping: 25 square feet per stall, at least every 10 stalls, and at end of every parking row; perimeter landscaping can count toward 10% of parking lot landscaping
Pedestrian Circulation	Parallel to parking rows: Walkways every 6 rows Perpendicular to parking rows: Every 20 spaces Walkways: 4 feet minimum width Crosswalks required where crosses drive	Parallel to parking rows: Walkways every 6 rows Perpendicular to parking rows: Every 20 spaces Walkways: 5 feet minimum width Crosswalks required where crosses drive	Parallel to parking rows: Walkways every 6 rows Perpendicular to parking rows: Every 20 spaces Walkways: 5 feet minimum width Crosswalks required where crosses drive
Parking Standards	Width – 90 degree parking angle – 9 feet desired/8 feet minimum Depth – 90 degree parking angle – 18 feet Drive aisle width 90 degree parking angle – 24 feet	Width – 90 degree parking angle – 9 feet desired/8 feet minimum Depth – 90 degree parking angle – 18 feet Drive aisle width 90 degree parking angle – 24 feet	Width – 90 degree parking angle – 9 feet desired/8 feet minimum Depth – 90 degree parking angle – 18 feet Drive aisle width 90 degree parking angle – 24 feet

Table 15 summarizes the Screen 3 Comparative Metrics results. The sites were compared to one another and the findings were identified on a scale ranging from Lowest Performing to Highest Performing. A detailed analysis for each site is provided in Appendix B.

Table 15. Screen 3 Comparative Metrics Results

Lowest Performing — Highest Performing

Objective		Comparative Metrics	Site #2	Site #7	Site #8
Minimize Impacts from Topographical Constraint	3.A	How much does the existing topography minimize construction costs on the site (e.g., there are no steep slopes or no retaining walls/other infrastructure is required)?			
Minimize Conflicts Between Modes	3.B	How well does the internal site design minimize potential conflicts between modes?			
	3.C	How well does the existing or planned transportation infrastructure help to minimize conflicts between modes accessing the site or nearby uses?			
Minimize Impacts to Traffic and Transit Operations	3.D	Do the location and design of the site help to minimize on-street parking impacts on local roads and in nearby neighborhoods?			
	3.E	Are traffic signals and/or other Intelligent Transportation Systems (ITS) and infrastructure in place or planned to help minimize traffic impacts and improve transit and vehicular access to/from the site?			
	3.F	How will the level of service at nearby intersections and interchanges be affected by the operation of the facility?			
	3.G	Are potential site access points forecast to remain unblocked during peak traffic periods?			
Safety and Code Compliance Considerations	3.H	How well does the site design incorporate Crime Prevention through Environmental Design (CPTED) principles which promote safety and security for transit users?			
	3.I	Does the site have sufficient space for landscaping and other design features required by the development code?			
Regional Coordination	3.J	What is the potential for the site location and design to reduce parking demand at the Kent and Auburn Sounder stations? (e.g., Do the site design and permitted improvements accommodate a facility with the potential to reduce parking demand at the Kent and Auburn Sounder stations? Is the site located near existing or planned residential uses and non-motorized infrastructure investments that will allow riders to walk or bicycle to bus service that will deliver them to a Sounder station?)			

			Lowest Performing		Highest Performing
Objective	**Comparative Metrics**		**Site #2**	**Site #7**	**Site #8**
Transit Operations	3.K	How well does the site accommodate projected operational needs for fixed route transit (e.g., layover spaces, bus bays, comfort station, electric bus charging infrastructure), as well as other modes such as Access, ridesharing, car share, pick up/drop off, etc.?			
	3.L	How well does the site accommodate projected parking demand?			
	3.M	How well does the site accommodate facilities that minimize transit turns and out-of-direction movements?			
Site Accessibility and Functionality	3.N	How accessible and functional is the site for transit riders? (e.g., Does the site location minimize the distance for non-motorized connections to existing or planned development? Are existing or planned land uses transit supportive? Do existing or planned land uses include social service providers?)			
Cost	3.O	How do the costs associated with the design and potential construction compare with other Top Tier sites?			
	3.P	How do the ongoing facility maintenance costs (e.g., permits use of standard materials/parts, minimizes footprint of maintained surfaces, etc.) compare with other Top Tier sites?			
	3.Q	How do the costs per stall associated with the design and potential construction compare with other Top Tier sites?			

The following are notable findings associated with Screen 3:

All sites

- All three sites have limited potential to expand their respective facilities beyond what is included in the conceptual design.

Site 2

- Site 2 has the greatest potential for spillover parking into the adjacent neighborhood. The estimated parking demand at this site is 185 to 265 spaces. The zoning code restricts parking on site to 30 stalls unless a conditional use permit is approved and the conceptual site plan assumes only 30 spaces. 180th Avenue SE and surrounding streets have wide shoulders that can accommodate on-street parking. A conditional use permit allowing additional parking could help to alleviate this potential. A larger parking lot could result in the need to expand impervious surfaces beyond the 40 percent maximum allowed by the zoning code, thereby necessitating a zoning variance. However, a structured parking facility could minimize expansion to impervious surfaces or the parking lot could also be redesigned to allow for more efficient use of the conceptually designed impervious surfaces.
- Site 2 has the lowest potential to reduce parking demand at the Kent and Auburn Sounder stations. The zoning code regulations restrict size of parking facilities, and thus would not accommodate the forecast parking demand for the facility. Additionally, this site is located in the lowest density residential neighborhood of all three sites, and is not accessible via existing or planned non-motorized improvements. A limited number of people would be able to access the facility from nearby residential areas. This site has the lowest potential to provide an alternative for some riders to access the Kent and Auburn Sounder stations via a one-seat bus ride, allowing for a transit trip with a single transfer.

Site 7

- The conceptual design for Site 7 shows the greatest separation of modes internal to the site. Transit vehicles and automobiles have separate access driveways. Pedestrians are able to access the active transit bays from the garage or pick-up/drop-off area without conflicts with automobiles or transit vehicles. Similarly, the planned infrastructure improvements in the vicinity provide for the greatest modal separation for persons accessing the site via automobile, walking, or cycling.
- Site 7 has the greatest potential to reduce parking demand at the Kent and Auburn Sounder stations. It has the greatest number of parking spaces of all three sites and would accommodate the forecast parking demand for the facility. Because of its proximity to the SR 18/SE 256th Street interchange, drivers traveling on SR 18 that might otherwise continue to the Kent or Auburn Sounder station have relatively easy access to the transit center. The non-motorized improvements included in the proposed Lakepointe development would provide access from the residential areas of the development to the facility, providing an alternative for riders to access the Kent and Auburn Sounder stations via a one-seat bus ride, allowing for a transit trip with a single transfer.

- The conceptual design for Site 7 best incorporates CPTED design principles. The site location along two roadways allows for the greatest visibility of passenger waiting areas, pedestrian walkways, and active bays, as compared to the other two sites. The plaza provides an opportunity for an "activated" space with activities and people. The surrounding commercial land uses suggest the presence of people and "eyes" on the facility throughout the day.
- Site 7 has the highest construction and maintenance costs due primarily to the presence of the parking structure.
- Site 7 has the lowest cost per stall associated with the design and potential construction.

Sites 7 and 8

- Sites 7 and 8 have greater functional values and accessibility for transit riders than Site 2. They are both served by existing or planned non-motorized facilities and are located near existing or planned transit-supportive uses.

Site 8

- Site 8 has a limited number of parking spaces that would not accommodate the forecast parking demand for the facility. As a result, this site has limited potential to reduce parking demand at the Kent and Auburn Sounder stations. Because of its adjacency to SE 272nd Street (SR 516), drivers traveling on SE 272nd Street that might otherwise continue to the Kent or Auburn Sounder station have relatively easy access to the transit center. The site is accessible via non-motorized improvements and will provide access from nearby residential areas to the facility, providing an alternative for some riders to access the Kent and Auburn Sounder stations via a one-seat bus ride, allowing for a transit trip with a single transfer.
- Site 8 has the highest cost per stall associated with the design and potential construction.

Section 5: Funding Sources

The following funding sources are available to assist with development of the transit passenger facilities described in this report.

- The Federal Transit Administration administers two grant programs that could provide funding for transit passenger facilities. These funds are available to Metro through PSRC's competitive process.
  - Section 5307 provides funds for transit capital projects, including construction of transfer facilities, intermodal terminals, and bus shelters. Funds may be used for design, engineering, and land acquisition.
  - Section 5339 funds provide for constructing bus-related facilities. Section 5339 are also available at the national level through a competitive process.
- Two programs administered by the Federal Highway Administration are potential funding sources for development of transit passenger facilities.
  - The Surface Transportation Program provides funding that may be used by states and localities for transit capital projects.
  - The Congestion Mitigation and Air Quality Improvement Program is a funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act.
- The Washington State Regional Mobility Grant Program, administered by WSDOT through a biennial, competitive process, supports local efforts to improve transit mobility and reduce congestion on heavily traveled roadways. The program's goal is to deliver projects that are cost-effective, reduce travel delay for people and goods, improve connectivity between counties and regional population centers, and are consistent with local and regional transportation and land use plans. Capital-construction, equipment-acquisition, and operating projects are funded through this program.
- The study area and all Top Tier sites are located outside of Sound Transit's district boundary. Sound Transit's long range plan includes the following policy language addressing the extension of services beyond the district boundaries

  "Sound Transit will commit to extending new services beyond its boundaries to make connections to significant regional destinations contingent on agreements with local government agencies. Such service extensions would be implemented at a mutually agreeable cost.

  This option would permit areas outside of the Sound Transit District to function as part of the regional system. Extending Sound Transit services outside of its district would require agreements with the affected local transit agency or other appropriate government agencies.

  Sound Transit will enter into agreements with agencies beyond the district boundary to integrate fares. This will allow flexible transfers between various transit operators and prevent citizens who live outside the district from being penalized for making regional trips via transit instead of an automobile."
- The City of Covington or King County could serve as potential funding partners. In addition to financial contributions toward the planning, design, or construction of the

facilities, they can alleviate costs through reduced permit fees or expedited permitting processes. The City or County could also assist through infrastructure contributions, such as the installation of new signals or transit signal priority or other transit priority treatments at existing or planned signals. The City or County could also construct frontage sidewalks or install shelter foundations or fiber optic conduit in conjunction with sidewalk improvements.

- A private developer could contribute to the development of transit passenger facilities through the donation of property, financial contributions to design or construction, or direct development of the facilities. The Lakepointe Urban Village subarea, which includes Site 7, is required to include a park-and-ride facility by the City of Covington. The Lakepointe developer has not determined the location or design of this facility at this time.

Section 6: Summary of Findings

Following is a summary of the key findings from the SR 18 at SE 256th Street and Vicinity—Transit Passenger Facility Feasibility Study:

- Investments in transit passenger facilities, including access to transit improvements, are identified in METRO CONNECTS. The type and location of future investments will be dependent upon the density of development and levels of transit service in the vicinity. Current planning work by Metro will help to identify the type and location of future transit passenger facilities, as well as prioritize them. This report may help to identify the appropriate levels of investment in southeast King County.
- The employment of transit priority treatments and other infrastructure improvements could enhance transit operations within the study area. Examples include:
  - Installation of a new signal at SE 180th Street serving Site 2 to allow for improved ingress and egress to the site and to facilitate pedestrian crossings to access on-street stops
  - Installation of a queue jump at the traffic signal serving Site 7 to improve ingress and egress for the planned frequent route
  - Installation of a new signal at SR 516 serving Site 8 to allow for improved ingress and egress for the planned frequent route and to facilitate pedestrian crossings to access on-street stops served by the planned express and local routes
  - Operation of metered, high-occupancy vehicle lanes on the SR 18 eastbound on-ramps at SE 256th Street to improve the planned express route
- It is feasible that the amount of land needed to accommodate transit passenger facilities in the study area could be reduced. The number of off-street layover spaces could be reduced through the use of on-street layover, subject to approval by the City of Covington, King County, or other agencies with jurisdiction. Operational efficiencies, such as the use of joint active/layover bays, could be implemented to reduce the total number of bays at the site.
- The expansion of park-and-ride options is not limited to construction at new sites. Metro can employ options for use of existing facilities owned by private property owners for park-and-ride use through its leased lot program, which may include churches or other retail or commercial uses. The modification of existing routes and expansion of transit service to new locations within the study area will provide an opportunity to explore options for use of existing parking facilities. Additionally, existing or new facilities can be operated in a manner that helps to maximize their efficiency through the use of programs such as restriping of existing facilities to maximize the number of stalls, paid parking, or incentives for the use of carpools. This could allow for siting or construction of smaller facilities, thereby reducing overall construction and/or operational costs. Finally, Metro has recently entered into a park-and-ride partnership with Diamond Parking Service to provide fee-based daily and monthly parking to transit customers. Parking strategies are prioritized in METRO CONNECTS as follows:
  - Manage parking supply:
    - Increase efficiency, for example by promoting carpools and real-time ridesharing or marketing underutilized lots.
    - Implement permits and payment for parking, making it easier for customers to find spaces.

        - Improve bicycle and pedestrian access to park-and-rides, for example through better bicycle parking facilities and walkways.
    - Increase parking supply using relatively low-cost solutions:
        - Restripe existing lots to create more spaces.
        - Lease more lots, especially in the short term, before expanding frequent service as proposed or build permanent park-and-rides.
        - Use multifamily and commercial lots, which often have parking space available when transit parking is in high demand.
        - Add on-street parking, working with cities to minimize impacts.
    - Build new parking facilities:
        - Compared to investments in expanding and enhancing service, construction of parking is more expensive for the ridership it generates. This will be a lower priority strategy. As Metro considers future park-and-rides, we would coordinate with affected jurisdictions and consider costs and needs, local partnerships, the service network, and other options for accessing transit.
- The Lakepointe development site presents a unique opportunity for design and construction of transit passenger facilities. Because the development site is a "clean slate," there is no established transportation infrastructure or buildings that must be considered in the design of future transit passenger facilities. Similarly, Metro could work with the developer to ensure the siting and design of facilities allow for the maximum efficiency of transit operations and passenger accessibility, and incorporate design features meant to enhance passenger security and comfort. Additionally, the design of the facilities could be tied into the larger Lakepointe stormwater management system, thereby reducing overall project costs.

Appendix A

Screen 2 Evaluation Results by Site

Site 1						
Objective	**Evaluation Criteria**		**Score**			**Notes**
Provide Safe and **Convenient Access**	2.A	Does the site minimize additional transit travel time from the shortest path (in travel time) between Maple Valley and Auburn via SR 18, and Maple Valley and Kent via SR 516?	0	1	2	Route 2020 extended west then continues south on 164th Ave S to reach SR18 at SE 272nd St
	2.B	Can users access the site from existing or planned non-motorized facilities (sidewalks, bicycle facilities, trails, etc.)?	0	1	2	No existing or planned non-motorized facilities serve the site
	2.C	Do existing or planned non-motorized facilities connect users from the site to nearby residential areas or other generators/ attractors (existing or planned)?	0	1	2	
	2.D	Are transit passenger facilities a permitted use under the current zoning?	0	1	2	30 stalls or less is permitted
	2.E	Would development of transit passenger facilities at the site, other than a single bus stop, be compatible with existing and planned surrounding uses (e.g., presence of a park-and-ride will not adversely affect surrounding neighborhoods)?	0	1	2	Site is surrounded by low density residential uses
Minimize Complications Related to Future Site Development	2.F	Does the site comprise a single parcel?	0	1	2	
	2.G	Does site ownership minimize potential complications for future purchase (e.g., is it a single-owner parcel versus a trust or multiple owners)?	0	1	2	
		Total		5		

Screen 2 Scoring:
0 = No, the site does not meet the stated objective
1 = Partial applicability or neutral to the stated objective
2 = Yes, the site fully meets the stated objective

For Criteria 2.A:
All sites would require extension of the Route 1514 from its currently planned terminus in the baseline condition, except for Site 8 which could use a live loop at the Lakepointe development to terminate at that site. The additional transit travel times required to reach each site were weighed by transit trip frequency (Route 1514 is twice as frequent as Route 2020) and their raw travel time differences were ranked to assign a relative score of 0, 1, or 2 for criteria 2a. The relative scores add the following cumulative travel time per trip:

0 = 20-30 minutes additional transit travel time
1 = 5-20 minutes additional transit travel time
2 = <5 minutes additional transit travel time or travel time savings

Assumptions:

15 mph average arterial speed
55 mph average freeway speed

Site 2						
Objective	**Evaluation Criteria**		**Score**			**Notes**
Provide Safe and Convenient Access	2.A	Does the site minimize additional transit travel time from the shortest path (in travel time) between Maple Valley and Auburn via SR 18, and Maple Valley and Kent via SR 516?	0	1	2	Route 2020 serves site and returns to SR18/SE 256th Interchange
	2.B	Can users access the site from existing or planned non-motorized facilities (sidewalks, bicycle facilities, trails, etc.)?	0	1	2	Site is served by planned bike lanes
	2.C	Do existing or planned non-motorized facilities connect users from the site to nearby residential areas or other generators/ attractors (existing or planned)?	0	1	2	Bicycle lanes connect to an existing high school (to be converted to a middle school) and cemetery within <1/2 mile
	2.D	Are transit passenger facilities a permitted use under the current zoning?	0	1	2	30 stalls or less is permitted; facilities with more than 30 stalls require a conditional use permit
	2.E	Would development of transit passenger facilities at the site, other than a single bus stop, be compatible with existing and planned surrounding uses (e.g., presence of a park-and-ride will not adversely affect surrounding neighborhoods)?	0	1	2	Site is in close proximity to elementary school and church (under construction)
Minimize Complications Related to Future Site Development	2.F	Does the site comprise a single parcel?	0	1	2	
	2.G	Does site ownership minimize potential complications for future purchase (e.g., is it a single-owner parcel versus a trust or multiple owners)?	0	1	2	
		Total		9		

Screen 2 Scoring:
0 = No, the site does not meet the stated objective
1 = Partial applicability or neutral to the stated objective
2 = Yes, the site fully meets the stated objective

For Criteria 2.A:
All sites would require extension of the Route 1514 from its currently planned terminus in the baseline condition, except for Site 8 which could use a live loop at the Lakepointe development to terminate at that site. The additional transit travel times required to reach each site were weighed by transit trip frequency (Route 1514 is twice as frequent as Route 2020) and their raw travel time differences were ranked to assign a relative score of 0, 1, or 2 for criteria 2a. The relative scores add the following cumulative travel time per trip:

0 = 20-30 minutes additional transit travel time
1 = 5-20 minutes additional transit travel time
2 = <5 minutes additional transit travel time or travel time savings

Assumptions:

15 mph average arterial speed
55 mph average freeway speed

Site 3						
Objective	**Evaluation Criteria**		**Score**			**Notes**
Provide Safe and Convenient Access	2.A	Does the site minimize additional transit travel time from the shortest path (in travel time) between Maple Valley and Auburn via SR 18, and Maple Valley and Kent via SR 516?	0	1	2	Route 2020 serves site and returns to SR18/SE 256th Interchange
	2.B	Can users access the site from existing or planned non-motorized facilities (sidewalks, bicycle facilities, trails, etc.)?	0	1	2	Site is served by planned bike lanes
	2.C	Do existing or planned non-motorized facilities connect users from the site to nearby residential areas or other generators/ attractors (existing or planned)?	0	1	2	Bicycle lanes connect to an existing high school (to be converted to a middle school) and cemetery within <1/2 mile
	2.D	Are transit passenger facilities a permitted use under the current zoning?	0	1	2	30 stalls or less is permitted
	2.E	Would development of transit passenger facilities at the site, other than a single bus stop, be compatible with existing and planned surrounding uses (e.g., presence of a park-and-ride will not adversely affect surrounding neighborhoods)?	0	1	2	Site is surrounded by low density residential uses
Minimize Complications Related to Future Site Development	2.F	Does the site comprise a single parcel?	0	1	2	
	2.G	Does site ownership minimize potential complications for future purchase (e.g., is it a single-owner parcel versus a trust or multiple owners)?	0	1	2	
		Total		3		

Screen 2 Scoring:
0 = No, the site does not meet the stated objective
1 = Partial applicability or neutral to the stated objective
2 = Yes, the site fully meets the stated objective

For Criteria 2.A:
All sites would require extension of the Route 1514 from its currently planned terminus in the baseline condition, except for Site 8 which could use a live loop at the Lakepointe development to terminate at that site. The additional transit travel times required to reach each site were weighed by transit trip frequency (Route 1514 is twice as frequent as Route 2020) and their raw travel time differences were ranked to assign a relative score of 0, 1, or 2 for criteria 2a. The relative scores add the following cumulative travel time per trip:

0 = 20-30 minutes additional transit travel time
1 = 5-20 minutes additional transit travel time
2 = <5 minutes additional transit travel time or travel time savings

Assumptions:

15 mph average arterial speed
55 mph average freeway speed

Site 4						
Objective	**Evaluation Criteria**		**Score**			**Notes**
Provide Safe and Convenient Access	2.A	Does the site minimize additional transit travel time from the shortest path (in travel time) between Maple Valley and Auburn via SR 18, and Maple Valley and Kent via SR 516?	0	1	2	Route 2020 serves site and returns to SR18/SE 256th Interchange
	2.B	Can users access the site from existing or planned non-motorized facilities (sidewalks, bicycle facilities, trails, etc.)?	0	1	2	Site is served by planned bike lanes
	2.C	Do existing or planned non-motorized facilities connect users from the site to nearby residential areas or other generators/ attractors (existing or planned)?	0	1	2	Bicycle lanes connect to an existing high school (to be converted to a middle school) and cemetery within <1/2 mile
	2.D	Are transit passenger facilities a permitted use under the current zoning?	0	1	2	30 stalls or less is permitted; facilities with more than 30 stalls require a conditional use permit
	2.E	Would development of transit passenger facilities at the site, other than a single bus stop, be compatible with existing and planned surrounding uses (e.g., presence of a park-and-ride will not adversely affect surrounding neighborhoods)?	0	1	2	Site is surrounded by low density residential uses
Minimize Complications Related to Future Site Development	2.F	Does the site comprise a single parcel?	0	1	2	Both parcels not required for development
	2.G	Does site ownership minimize potential complications for future purchase (e.g., is it a single-owner parcel versus a trust or multiple owners)?	0	1	2	
		Total	4			

Screen 2 Scoring:
0 = No, the site does not meet the stated objective
1 = Partial applicability or neutral to the stated objective
2 = Yes, the site fully meets the stated objective

For Criteria 2.A:
All sites would require extension of the Route 1514 from its currently planned terminus in the baseline condition, except for Site 8 which could use a live loop at the Lakepointe development to terminate at that site. The additional transit travel times required to reach each site were weighed by transit trip frequency (Route 1514 is twice as frequent as Route 2020) and their raw travel time differences were ranked to assign a relative score of 0, 1, or 2 for criteria 2a. The relative scores add the following cumulative travel time per trip:

0 = 20-30 minutes additional transit travel time
1 = 5-20 minutes additional transit travel time
2 = <5 minutes additional transit travel time or travel time savings

Assumptions:

15 mph average arterial speed
55 mph average freeway speed

Site 5						
Objective	**Evaluation Criteria**		**Score**			**Notes**
Provide Safe and Convenient Access	2.A	Does the site minimize additional transit travel time from the shortest path (in travel time) between Maple Valley and Auburn via SR 18, and Maple Valley and Kent via SR 516?	0	1	2	Route 2020 serves site and returns to SR18/SE 256th Interchange
	2.B	Can users access the site from existing or planned non-motorized facilities (sidewalks, bicycle facilities, trails, etc.)?	0	1	2	Site is served by planned bike lanes
	2.C	Do existing or planned non-motorized facilities connect users from the site to nearby residential areas or other generators/ attractors (existing or planned)?	0	1	2	Bicycle lanes connect to minimal uses within <1/2 mile
	2.D	Are transit passenger facilities a permitted use under the current zoning?	0	1	2	30 stalls or less is permitted; facilities with more than 30 stalls require a conditional use permit
	2.E	Would development of transit passenger facilities at the site, other than a single bus stop, be compatible with existing and planned surrounding uses (e.g., presence of a park-and-ride will not adversely affect surrounding neighborhoods)?	0	1	2	Site is surrounded by low density residential uses
Minimize Complications Related to Future Site Development	2.F	Does the site comprise a single parcel?	0	1	2	
	2.G	Does site ownership minimize potential complications for future purchase (e.g., is it a single-owner parcel versus a trust or multiple owners)?	0	1	2	
		Total		6		

Screen 2 Scoring:
0 = No, the site does not meet the stated objective
1 = Partial applicability or neutral to the stated objective
2 = Yes, the site fully meets the stated objective

For Criteria 2.A:
All sites would require extension of the Route 1514 from its currently planned terminus in the baseline condition, except for Site 8 which could use a live loop at the Lakepointe development to terminate at that site. The additional transit travel times required to reach each site were weighed by transit trip frequency (Route 1514 is twice as frequent as Route 2020) and their raw travel time differences were ranked to assign a relative score of 0, 1, or 2 for criteria 2a. The relative scores add the following cumulative travel time per trip:

0 = 20-30 minutes additional transit travel time
1 = 5-20 minutes additional transit travel time
2 = <5 minutes additional transit travel time or travel time savings

Assumptions:

15 mph average arterial speed
55 mph average freeway speed

Site 6						
Objective	**Evaluation Criteria**		**Score**			**Notes**
Provide Safe and Convenient Access	2.A	Does the site minimize additional transit travel time from the shortest path (in travel time) between Maple Valley and Auburn via SR 18, and Maple Valley and Kent via SR 516?	0	1	2	Route 2020 has short extension out and back to site using new access road from SE 256th Street interchange
	2.B	Can users access the site from existing or planned non-motorized facilities (sidewalks, bicycle facilities, trails, etc.)?	0	1	2	No existing or planned non-motorized facilities serve the site
	2.C	Do existing or planned non-motorized facilities connect users from the site to nearby residential areas or other generators/ attractors (existing or planned)?	0	1	2	
	2.D	Are transit passenger facilities a permitted use under the current zoning?	0	1	2	30 stalls or less is permitted; facilities with more than 30 stalls require a conditional use permit
	2.E	Would development of transit passenger facilities at the site, other than a single bus stop, be compatible with existing and planned surrounding uses (e.g., presence of a park-and-ride will not adversely affect surrounding neighborhoods)?	0	1	2	Site is immediately adjacent to SR 18 and the existing interchange
Minimize Complications Related to Future Site Development	2.F	Does the site comprise a single parcel?	0	1	2	
	2.G	Does site ownership minimize potential complications for future purchase (e.g., is it a single-owner parcel versus a trust or multiple owners)?	0	1	2	
		Total		5		

Screen 2 Scoring:
0 = No, the site does not meet the stated objective
1 = Partial applicability or neutral to the stated objective
2 = Yes, the site fully meets the stated objective

For Criteria 2.A:
All sites would require extension of the Route 1514 from its currently planned terminus in the baseline condition, except for Site 8 which could use a live loop at the Lakepointe development to terminate at that site. The additional transit travel times required to reach each site were weighed by transit trip frequency (Route 1514 is twice as frequent as Route 2020) and their raw travel time differences were ranked to assign a relative score of 0, 1, or 2 for criteria 2a. The relative scores add the following cumulative travel time per trip:

0 = 20-30 minutes additional transit travel time
1 = 5-20 minutes additional transit travel time
2 = <5 minutes additional transit travel time or travel time savings

Assumptions:

15 mph average arterial speed
55 mph average freeway speed

Site 7						
Objective	**Evaluation Criteria**		**Score**			**Notes**
Provide Safe and Convenient Access	2.A	Does the site minimize additional transit travel time from the shortest path (in travel time) between Maple Valley and Auburn via SR 18, and Maple Valley and Kent via SR 516?	0	1	2	No difference in routing as site is at initial baseline condition point
	2.B	Can users access the site from existing or planned non-motorized facilities (sidewalks, bicycle facilities, trails, etc.)?	0	1	2	Site is served by a planned trail; future roadway improvements will include sidewalks and bicycle lanes
	2.C	Do existing or planned non-motorized facilities connect users from the site to nearby residential areas or other generators/ attractors (existing or planned)?	0	1	2	Development plans at the adjacent properties include a mix of commercial and residential uses
	2.D	Are transit passenger facilities a permitted use under the current zoning?	0	1	2	Limited to 125 spaces in a surface lot; more than 125 spaces permitted in a parking structure.
	2.E	Would development of transit passenger facilities at the site, other than a single bus stop, be compatible with existing and planned surrounding uses (e.g., presence of a park-and-ride will not adversely affect surrounding neighborhoods)?	0	1	2	Upon full buildout of the Lakepointe property, the site will be surrounded by commercial and residential uses
Minimize Complications Related to Future Site Development	2.F	Does the site comprise a single parcel?	0	1	2	
	2.G	Does site ownership minimize potential complications for future purchase (e.g., is it a single-owner parcel versus a trust or multiple owners)?	0	1	2	
		Total		14		

Screen 2 Scoring:
0 = No, the site does not meet the stated objective
1 = Partial applicability or neutral to the stated objective
2 = Yes, the site fully meets the stated objective

For Criteria 2.A:
All sites would require extension of the Route 1514 from its currently planned terminus in the baseline condition, except for Site 8 which could use a live loop at the Lakepointe development to terminate at that site. The additional transit travel times required to reach each site were weighed by transit trip frequency (Route 1514 is twice as frequent as Route 2020) and their raw travel time differences were ranked to assign a relative score of 0, 1, or 2 for criteria 2a. The relative scores add the following cumulative travel time per trip:

0 = 20-30 minutes additional transit travel time
1 = 5-20 minutes additional transit travel time
2 = <5 minutes additional transit travel time or travel time savings

Assumptions:

15 mph average arterial speed
55 mph average freeway speed

Site 8						
Objective	**Evaluation Criteria**		**Score**			**Notes**
Provide Safe and Convenient Access	2.A	Does the site minimize additional transit travel time from the shortest path (in travel time) between Maple Valley and Auburn via SR 18, and Maple Valley and Kent via SR 516?	0	1	2	Route 2020 does not serve Lakepointe directly, instead continues west along SE 272nd Street to SR 18. Net reduction in Maple Valley to Auburn travel time
	2.B	Can users access the site from existing or planned non-motorized facilities (sidewalks, bicycle facilities, trails, etc.)?	0	1	2	Existing sidewalks; future roadway improvements will include sidewalks
	2.C	Do existing or planned non-motorized facilities connect users from the site to nearby residential areas or other generators/ attractors (existing or planned)?	0	1	2	<1/4 mile to commercial uses; approx. 0.6 miles to medical services
	2.D	Are transit passenger facilities a permitted use under the current zoning?	0	1	2	30 stalls or less is permitted; facilities with more than 30 stalls require a conditional use permit
	2.E	Would development of transit passenger facilities at the site, other than a single bus stop, be compatible with existing and planned surrounding uses (e.g., presence of a park-and-ride will not adversely affect surrounding neighborhoods)?	0	1	2	Elementary school to the west, Single Family residential to the east
Minimize Complications Related to Future Site Development	2.F	Does the site comprise a single parcel?	0	1	2	Both parcels not required for development
	2.G	Does site ownership minimize potential complications for future purchase (e.g., is it a single-owner parcel versus a trust or multiple owners)?	0	1	2	
		Total		10		

Screen 2 Scoring:
0 = No, the site does not meet the stated objective
1 = Partial applicability or neutral to the stated objective
2 = Yes, the site fully meets the stated objective

For Criteria 2.A:
All sites would require extension of the Route 1514 from its currently planned terminus in the baseline condition, except for Site 8 which could use a live loop at the Lakepointe development to terminate at that site. The additional transit travel times required to reach each site were weighed by transit trip frequency (Route 1514 is twice as frequent as Route 2020) and their raw travel time differences were ranked to assign a relative score of 0, 1, or 2 for criteria 2a. The relative scores add the following cumulative travel time per trip:

0 = 20-30 minutes additional transit travel time
1 = 5-20 minutes additional transit travel time
2 = <5 minutes additional transit travel time or travel time savings

Assumptions:

15 mph average arterial speed
55 mph average freeway speed

Appendix B

Screen 3 Comparative Metrics Results by Site

Site 2

Lowest Performing — Highest Performing

Objective		Comparative Metrics	Performance	Notes
Minimize Impacts from Topographical Constraint	3.A	How much does the existing topography minimize construction costs on the site (e.g., there are no steep slopes or no retaining walls/other infrastructure is required)?		No portion of the site is designated as a steep slope hazard. Site is relatively flat.
Minimize Conflicts Between Modes	3.B	How well does the internal site design minimize potential conflicts between modes?		Transit vehicles and automobiles are required to use the same access point. Pedestrians must cross the pick-up/drop-off area to access the active transit bays.
	3.C	How well does the existing or planned transportation infrastructure help to minimize conflicts between modes accessing the site or nearby uses?		The location is not served by existing or planned sidewalks. Pedestrian access would be via a wide shoulder. Bicycle lanes are planned on the street.
Minimize Impacts to Traffic and Transit Operations	3.D	Do the location and design of the site help to minimize on-street parking impacts on local roads and in nearby neighborhoods?		The estimated parking demand at this site is 185 to 265 spaces. The zoning code restricts parking on site to 30 stalls unless a conditional use permit is approved and the conceptual site plan assumes only 30 spaces. 180th Avenue SE and surrounding streets have wide shoulders that can accommodate on-street parking. Given the limited parking available on the site, the potential for spillover parking is high.
	3.E	Are traffic signals and/or other Intelligent Transportation Systems (ITS) and infrastructure in place or planned to help minimize traffic impacts and improve transit and vehicular access to/from the site?		No traffic signals are planned to provide access to the site. Roadway improvements are planned at SE Wax Road, approximately 500 feet to the south, in the form of a northbound right-turn pocket or traffic signal.

Objective	Comparative Metrics		Performance	Notes
	3.F	How will the level of service at nearby intersections and interchanges be affected by the operation of the facility?		The forecast delay at the SE 256th Street/180th Avenue SE intersection would increase by approximately 4 seconds due to additional volume of traffic accessing the transit facility. The forecast delay increases from 58 seconds to 62 seconds and the LOS remains at E. The forecast delay at the SE Wax Road/180th Avenue SE intersection would increase by approximately 4 seconds due to additional volume accessing the transit facility. The forecast delay increases from 21 seconds to 26 seconds, and the forecast LOS changes from C to D.
	3.G	Are potential site access points forecast to remain unblocked during peak traffic periods?		The site access is forecast to remain unblocked during the PM peak period.
Safety and Code Compliance Considerations	3.H	How well does the site design incorporate Crime Prevention through Environmental Design (CPTED) principles that promote safety and security for transit users?		The passenger waiting areas, pedestrian walkways, and active bays are not very visible from the street. The surrounding land uses and landscaping allow for minimal "eyes" on the facility throughout the day.
	3.I	Does the site have sufficient space for landscaping and other design features required by the development code?		The site design complies with all requirements for impervious surfaces, setbacks, landscaping, pedestrian circulation, and parking standards.
Regional Coordination	3.J	What is the potential for the site location and design to reduce parking demand at the Kent and Auburn Sounder stations? (e.g., Do the site design and permitted improvements accommodate a facility with the potential to reduce parking demand at the Kent and Auburn Sounder stations? Is the site located near existing or planned residential uses and non-motorized infrastructure investments that will allow riders to walk or bicycle to bus service that will deliver them to a Sounder station?)		This site has a limited number of parking spaces that would not accommodate the forecast parking demand for the facility. As a result, this site has limited potential to reduce parking demand at the Kent and Auburn Sounder stations. The site is located in the lowest density residential neighborhood of all three sites, and is not accessible via non-motorized improvements. A limited number of people would be able to access the facility from nearby residential areas. This site has the lowest potential to provide an alternative for some riders to access the Kent and Auburn Sounder stations via a one-seat bus ride, allowing for a transit trip with a single transfer.

Objective	Comparative Metrics		Performance	Notes
Transit Operations	3.K	How well does the site accommodate projected operational needs for fixed route transit (e.g., layover spaces, bus bays, comfort station, electric bus charging infrastructure), as well as other modes such as Access, ridesharing, car share, pick up/drop off, etc.?		The site accommodates all operational needs for fixed route and flexible transit services. The site has limited area for expansion of the facility should additional bus bays or other infrastructure be needed.
	3.L	How well does the site accommodate projected parking demand?		Projected parking demand at this site is 185 to 265 spaces. The conceptual design includes a 30-space parking facility. The King County zoning code restricts parking at this location to 30 spaces unless a conditional use permit is obtained. While approval of a conditional use permit is possible, a zoning variance would also be needed to accommodate any significant expansion to parking because the impervious surface coverage of the site is limited to 40 percent and the conceptual design is very close to this maximum.
	3.M	How well does the site accommodate facilities that minimize transit turns and out-of-direction movements?		Standard transit routing through the site minimizes out-of-direction transit turns and easily accommodates operations.
Site Accessibility and Functionality	3.N	How accessible and functional is the site for transit riders? (e.g., Does the site location minimize the distance for non-motorized connections to existing or planned development? Are existing or planned land uses transit supportive? Do existing or planned land uses include social service providers?)		The location is not served by existing or planned sidewalks. Pedestrian access would be via a wide shoulder. Bicycle lanes are planned on the street. The site is located in a low-density residential area. Limited services exist in the vicinity. The western entrance to the planned Lakepointe development will be more than a 3/4 mile walk, which includes 1,500 new housing units and 850,000 square feet of commercial and retail space within a 3/4 mile walk. Specific service providers are unknown at this time.
Cost	3.O	How do the costs associated with the design and potential construction compare with other Top Tier sites?		This site has the lowest overall costs associated with design and potential construction, including the lowest property acquisition costs.
	3.P	How do the ongoing facility maintenance costs (e.g., permits use of standard materials/parts, minimizes footprint of maintained surfaces, etc.) compare with other Top Tier sites?		This site has less developed area to maintain than Site 8. The stormwater management system would be less expensive to maintain than Site 8. It does not include a parking structure that would need to be maintained, as does Site 7.

Objective	Comparative Metrics		Performance	Notes
	3.Q	How do the costs per stall associated with the design and potential construction compare with other Top Tier sites?		This site has the second highest cost per stall associated with design and potential construction.

Site 7

Lowest Performing — Highest Performing

Objective	Comparative Metrics		Performance	Notes
Minimize Impacts from Topographical Constraint	3.A	How much does the existing topography minimize construction costs on the site (e.g., there are no steep slopes or no retaining walls/other infrastructure is required)?		No portion of the site is designated as a steep slope hazard. Retaining walls may be required on the northwest edge of the site adjacent to the SR 18 on-ramp.
Minimize Conflicts Between Modes	3.B	How well does the internal site design minimize potential conflicts between modes?		Transit vehicles and automobiles have separate access driveways. Pedestrians are able to access the active transit bays from the garage or pick-up/drop-off area without conflicts with automobiles or transit vehicles.
	3.C	How well does the existing or planned transportation infrastructure help to minimize conflicts between modes accessing the site or nearby uses?		The proposed Lakepointe development includes construction of the Covington Connector road. The preliminary roadway design includes a signalized intersection at the entrance serving the site. Sidewalks and bicycle lanes are components of the roadway design.
Minimize Impacts to Traffic and Transit Operations	3.D	Do the location and design of the site help to minimize on-street parking impacts on local roads and in nearby neighborhoods?		The zoning code allows for development of facilities that can accommodate the forecast parking demand. The preliminary design of the Covington Connector roadway accessing the site does not include on-street parking. The proposed Lakepointe development includes multiple parking areas to serve businesses. There is potential for spillover parking in these areas.

Objective	Comparative Metrics		Performance	Notes
	3.E	Are traffic signals and/or other Intelligent Transportation Systems (ITS) and infrastructure in place or planned to help minimize traffic impacts and improve transit and vehicular access to/from the site?		The preliminary roadway design of the Covington Connector includes a signalized intersection adjacent to the transit center. The signal will allow for location of on-street bus stops near designated pedestrian crossings. On-street stops can minimize the need for pass-by buses to enter/exit the transit facility.
	3.F	How will the level of service at nearby intersections and interchanges be affected by the operation of the facility?		There would be a negligible increase in the forecast delay at the SE 256th Street/SR 18 eastbound ramps intersection with the additional volume of traffic accessing the transit facility. The roundabout is forecast to operate at LOS A with 8 seconds of delay without transit facility traffic and 9 seconds of delay with transit facility traffic. The forecast delay at the SE 256th Street/SR 18 westbound ramps intersection increases by approximately 5 seconds from 26 to 31 seconds due to additional volume of traffic accessing the transit facility. The forecast LOS remains unchanged at LOS C.
	3.G	Are potential site access points forecast to remain unblocked during peak traffic periods?		The site access is forecast to remain unblocked during the PM peak period.
Safety and Code Compliance Considerations	3.H	How well does the site design incorporate Crime Prevention through Environmental Design (CPTED) principles that promote safety and security for transit users?		Passenger waiting areas, pedestrian walkways, and active bays are visible from the Covington Connector and other roadways internal to the Lakepointe development. The plaza provides an opportunity for an "activated" space with activities and people. The surrounding commercial land uses suggest the presence of people and "eyes" on the facility throughout the day.
	3.I	Does the site have sufficient space for landscaping and other design features required by the development code?		The site design complies with all requirements for impervious surfaces, setbacks, landscaping, pedestrian circulation, and parking standards.

Objective	Comparative Metrics		Performance	Notes
Regional Coordination	3.J	What is the potential for the site location and design to reduce parking demand at the Kent and Auburn Sounder stations? (e.g., Do the site design and permitted improvements accommodate a facility with the potential to reduce parking demand at the Kent and Auburn Sounder stations? Is the site located near existing or planned residential uses and non-motorized infrastructure investments that will allow riders to walk or bicycle to bus service that will deliver them to a Sounder station?)		This site has the greatest number of parking spaces of all three sites and would accommodate the forecast parking demand for the facility. As a result, this site has the greatest potential to reduce parking demand at the Kent and Auburn Sounder stations. Because of its proximity to the SR 18/SE 256th Street interchange, drivers traveling on SR 18 that might otherwise continue to the Kent or Auburn Sounder station have relatively easy access to the transit center. The non-motorized improvements included in the proposed Lakepointe development would provide access from the residential areas of the development to the facility, providing an alternative for riders to access the Kent and Auburn Sounder stations via a one-seat bus ride, allowing for a transit trip with a single transfer.
Transit Operations	3.K	How well does the site accommodate projected operational needs for fixed route transit (e.g., layover spaces, bus bays, comfort station, electric bus charging infrastructure), as well as other modes such as Access, ridesharing, car share, pick up/drop off, etc.?		The site accommodates all operational needs for fixed route and flexible transit services. The site has limited area for expansion of the facility should additional bus bays or other infrastructure be needed.
	3.L	How well does the site accommodate projected parking demand?		Projected parking demand at this site is 225 to 325 spaces. The conceptual design includes a 360-space parking facility.
	3.M	How well does the site accommodate facilities that minimize transit turns and out-of-direction movements?		Standard transit routing through the site minimizes out-of-direction transit turns and easily accommodates operations. Requires additional transit turns off the main corridor to reach the site's access/egress point.

Objective	Comparative Metrics		Performance	Notes
Site Accessibility and Functionality	3.N	How accessible and functional is the site for transit riders? (e.g., Does the site location minimize the distance for non-motorized connections to existing or planned development? Are existing or planned land uses transit supportive? Do existing or planned land uses include social service providers?)		The preliminary design for the Covington Connector roadway includes sidewalks, bicycle lanes, and a signalized intersection at the entrance serving the site. The site is located within the planned Lakepointe development, which includes 1,500 new housing units and 850,000 square feet of commercial and retail space within a 3/4 mile walk. Specific service providers are unknown at this time.
Cost	3.O	How do the costs associated with the design and potential construction compare with other Top Tier sites?		This site has the highest costs associated with design and potential construction. Inclusion of the parking structure results in significantly higher overall costs for development of this site compared to Sites 2 and 8.
	3.P	How do the ongoing facility maintenance costs (e.g., permits use of standard materials/parts, minimizes footprint of maintained surfaces, etc.) compare with other Top Tier sites?		The parking structure would result in higher maintenance costs for this site compared to Sites 2 and 8.
	3.Q	How do the costs per stall associated with the design and potential construction compare with other Top Tier sites?		This site has the lowest cost per stall associated with design and potential construction.

Site 8

Objective	Comparative Metrics		Performance	Notes
Minimize Impacts from Topographical Constraint	3.A	How much does the existing topography minimize construction costs on the site (e.g., there are no steep slopes or no retaining walls/other infrastructure is required)?		The site design was developed to avoid all steep slopes and the associated buffers on the site. Verification of exact locations would be needed prior to site design.
Minimize Conflicts Between Modes	3.B	How well does the internal site design minimize potential conflicts between modes?		Transit vehicles and automobiles are required to use the same access point.
	3.C	How well does the existing or planned transportation infrastructure help to minimize conflicts between modes accessing the site or nearby uses?		SE 272nd Street has sidewalks serving the site. The planned roadway improvements include widening the road from three to five lanes and reconstructing the sidewalks. There are no plans to install a signal at the entrance to the site. A trail provides access to the rear of the property.
Minimize Impacts to Traffic and Transit Operations	3.D	Do the location and design of the site help to minimize on-street parking impacts on local roads and in nearby neighborhoods?		The estimated parking demand at this site is 250 to 360 spaces. The zoning code restricts parking on site to 30 stalls unless a conditional use permit is approved and the conceptual site plan assumes only 30 spaces. Currently, there is no on-street parking available on SE 272nd Street, and conceptual roadway designs do not include on-street parking. There are a few surrounding streets that have wide shoulders that can accommodate on-street parking, which may serve as a deterrent to some spillover parking. The nearest on-street parking is on 189th Avenue SE, approximately 350 feet to the east. Given the limited parking available on site and off site, the potential for spillover parking is moderate.

Objective	Comparative Metrics		Performance	Notes
	3.E	Are traffic signals and/or other Intelligent Transportation Systems (ITS) and infrastructure in place or planned to help minimize traffic impacts and improve transit and vehicular access to/from the site?		No traffic signals are planned to provide access to the site. The nearest traffic signal is located approximately 650 feet to the west, in the form of a northbound right turn pocket or traffic signal.
	3.F	How will the level of service at nearby intersections and interchanges be affected by the operation of the facility?		The forecast delay at the SE 272nd Street and 185th Avenue SE intersection increases slightly from 33 seconds to 34 seconds with the additional transit center traffic, LOS is forecast to remain at D. The forecast delay at the SE 272nd Street and 192nd Avenue SE intersection does not change with the addition of transit center traffic, remaining at LOS B with 13 seconds of delay.
	3.G	Are potential site access points forecast to remain unblocked during peak traffic periods?		The site access is forecast to remain unblocked during the PM peak period.
Safety and Code Compliance Considerations	3.H	How well does the site design incorporate Crime Prevention through Environmental Design (CPTED) principles that promote safety and security for transit users?		Some passenger waiting areas, pedestrian walkways, and active bays are somewhat visible from the street. The surrounding land uses and landscaping do not facilitate the presence of people and "eyes" on the facility throughout the day.
	3.I	Does the site have sufficient space for landscaping and other design features required by the development code?		The site design complies with all requirements for impervious surfaces, setbacks, landscaping, pedestrian circulation, parking standards, and critical area regulations.

Objective	Comparative Metrics		Performance	Notes
Regional Coordination	3.J	What is the potential for the site location and design to reduce parking demand at the Kent and Auburn Sounder stations? (e.g., Do the site design and permitted improvements accommodate a facility with the potential to reduce parking demand at the Kent and Auburn Sounder stations? Is the site located near existing or planned residential uses and non-motorized infrastructure investments that will allow riders to walk or bicycle to bus service that will deliver them to a Sounder station?)		This site has a limited number of parking spaces that would not accommodate the forecast parking demand for the facility. As a result, this site has limited potential to reduce parking demand at the Kent and Auburn Sounder stations. Because of its adjacency to SE 272nd Street (SR 516), drivers traveling on SE 272nd Street that might otherwise continue to the Kent or Auburn Sounder station have relatively easy access to the transit center. The site is accessible via non-motorized improvements and will provide access from nearby residential areas to the facility, providing an alternative for some riders to access the Kent and Auburn Sounder stations via a one-seat bus ride, allowing for a transit trip with a single transfer.
Transit Operations	3.K	How well does the site accommodate projected operational needs for fixed route transit (e.g., layover spaces, bus bays, comfort station, electric bus charging infrastructure), as well as other modes such as Access, ridesharing, car share, pick up/drop off, etc.?		The site accommodates all operational needs for fixed route and flexible transit services. The site has limited area for expansion of the facility should additional bus bays or other infrastructure be needed.
	3.L	How well does the site accommodate projected parking demand?		Projected parking demand at this site is 250 to 360 spaces. The conceptual design includes a 30-space parking facility. The City of Covington zoning code restricts parking at this location to 30 spaces.
	3.M	How well does the site accommodate facilities that minimize transit turns and out-of-direction movements?		Standard transit routing through the site minimizes out-of-direction transit turns and easily accommodates operations.
Site Accessibility and Functionality	3.N	How accessible and functional is the site for transit riders? (e.g., Does the site location minimize the distance for non-motorized connections to existing or planned development? Are existing or planned land uses transit supportive? Do existing or planned land uses include social service providers?)		The location is served by existing sidewalks, and future roadway improvements envision reconstructing the sidewalks. Planned bicycle facilities will provide access to the rear of the site. The site is located adjacent to a low-density residential area to the east. Downtown Covington is immediately to the west and includes established commercial, retail, and medical services within a 3/4 mile walk.

Objective	Comparative Metrics		Performance	Notes
Cost	3.O	How do the costs associated with the design and potential construction compare with other Top Tier sites?		This site has the second highest cost associated with design and potential construction.
	3.P	How do the ongoing facility maintenance costs (e.g., permits use of standard materials/parts, minimizes footprint of maintained surfaces, etc.) compare with other Top Tier sites?		This site has more developed area to maintain than Site 2. The stormwater management system would be more expensive to maintain than Site 2. It does not include a parking structure that would need to be maintained, as does Site 7. It is assumed that the critical area buffers would not need significant maintenance because they would remain undisturbed.
	3.Q	How do the costs per stall associated with the design and potential construction compare with other Top Tier sites?		This site has the highest cost per stall associated with design and potential construction.

Appendix C

Preliminary Cost Estimates Support Detail

Summary of Conceptual Costs SR 18 at SE 256th Street and Vicinity - Transit Passenger Facility Feasibility Study			
Concept	**Site 2**	**Site 7**	**Site 8**
Site size (acres)	4.15	5.00	9.94
Base Construction Cost*	$5,643,900	$28,353,856	$7,240,300
ROW	$386,100	$783,144	$821,700
Total Costs*	$6,030,000	$29,137,000	$8,062,000
Total Parking Stalls	30	390	30
Cost per Stall	$201,000	$74,710	$268,733
Transit Performance Improvement Cost*	$1,838,000	$432,000	$1,913,000
*Including 40% contingency, plus typical King County Metro soft cost items, such as project management, engineering, and environmental review.			

SR 18 at SE 256th Street and Vicinity
Transit Passenger Facility Feasibility Study - Site 2

Input project information here:		
	Project Timeline (% of Design will change overall Project Contingency percentage)	*0%*
	Specify Project Risk Level: High or Low (Typical)	*high*
	Rule 171 (Transit centers, P&Rs, & passenger facilities ONLY)	*no*
	Overall Project Contingency Applied to Construction Cost (assigned automatically)	*40%*

Project Cost Estimate Worksheet

REQUESTOR & PROBLEM DEFINITION:

Requestor:	
Problem /Need:	*Development of a transit center*

PROJECT SCOPE & ASSUMPTIONS:

Scope:	*Transit center to include three active bus bays, three layover bus bays, comfort station, boarding platform, bike parking area, and a ground-level parking lot with spaces for ride share and general purpose vehicles.*
Assumptions:	

Construction Cost Estimate *(breakout by major components)*

Site Prep			$ 1,169,050
Transit Center			$ 589,587
Passenger Facilities			$ 543,202
Others			
	Estimate Construction Cost Sub-Total		$ 2,301,839
	Sales Tax at 9.8%		$ 225,580
	10% Construction Contingency		$ 252,742
	0% Design Level Project Contingency	40%	$ 1,112,065
	Estimated Total Construction Cost (including tax & contingencies)		**$ 3,892,000**

Soft Costs (Lower Percentages for Construction Cost > $1M)

Project Management		5%	$ 195,000
Engineering/Design		20%	$ 778,000
Construction Management		15%	$ 584,000
Environmental Review		5%	$ 194,600
Permits		0%	
Property			$ 386,100
other: *(list here)*		0%	$ -
other: *(list here)*		0%	$ -
	Soft Cost SUBTOTAL:		$ 2,137,700

Other Costs:

County provided equipment (Temporary plating)			
Tests and reports			
Others			
Others			
	Other Costs SUBTOTAL:		$ -

Rough Order of Magnitude GRAND TOTAL: $ *6,030,000*

Author:	E. Welter	Date:	5/31/2017 0:00
Checked by:	M.Stumpf	Date:	6/1/2017

SR 18 at SE 256th Street and Vicinity Transit Passenger Facility Feasibility Study - Site 2 Development of Quantities				
Description	Quantity	Unit	Unit Cost	Total Cost
Site Prep				**$ 1,169,050**
Mobilization (10%)	1	LS	10%	$ 209,258
Clearing and Grubbing	4.15	Acre	$ 6,500	$ 26,975
Stormwater	1	LS	$ 326,400	$ 326,400
Utility Allowance	750	LF	$ 100	$ 75,000
Illumination	8	EA	$ 15,000	$ 120,000
Landscaping	96,804	SF	$ 4.25	$ 411,417
Transit Center				**$ 589,587**
Crushed Surfacing Top Course	566	Ton	$ 22	$ 12,447
Crushed Surfacing Base Course	566	Ton	$ 20	$ 11,315
Concrete Pavement	3,920	SY	$ 80	$ 313,600
Planing Bituminous Pavement	2,360	SY	$ 5	$ 11,800
Pavement Markings (Stripe)	1,600	LF	$ 4	$ 6,400
Cement Concrete Sidewalk	500	SY	$ 40	$ 20,000
Cement Conc. Traffic Curb and Gutter	3,000	LF	$ 25	$ 75,000
Comfort Station	1	EA	$ 139,025	$ 139,025
Passenger Facilities				**$ 543,202**
Cement Concrete Sidewalk	1,250	SY	$ 40	$ 50,000
Curb Ramp	9	EA	$ 2,000	$ 18,000
Boarding Platform Shelters	1	LS	$ 175,187	$ 175,187
Bike Cage	1	EA	$ 200,015	$ 200,015
Pedestrian Illumination	1,000	LF	$ 40	$ 40,000
On-Street Bus Stop	2	EA	$ 30,000	$ 60,000
Total				**$ 2,301,839**
Property Acquisition	181,645	SF	$ 2.13	$ 386,100

Parking Area	6,300	SF
Total Landscaping Area	110,090	SF
Pond Area	13,286	SF

SR 18 at SE 256th Street and Vicinity
Transit Passenger Facility Feasibility Study - Site 7

Input project information here:		
	Project Timeline (% of Design will change overall Project Contingency percentage)	*0%*
	Specify Project Risk Level: High or Low (Typical)	*high*
	Rule 171 (Transit centers, P&Rs, & passenger facilities ONLY)	*no*
	Overall Project Contingency Applied to Construction Cost (assigned automatically)	*40%*

Project Cost Estimate Worksheet

REQUESTOR & PROBLEM DEFINITION:

Requestor:	
Problem /Need:	*Development of a transit center*

PROJECT SCOPE & ASSUMPTIONS:

Scope:	*Transit center to include three active bus bays, three layover bus bays, comfort station, boarding platform, bike parking area, and a multi-level parking structure with spaces for ride share and general purpose vehicles.*
Assumptions:	

Construction Cost Estimate *(breakout by major components)*		
Site Prep	$	1,030,789
Transit Center	$	683,093
Passenger Facilities	$	697,202
Parking	$	9,153,300
Others		
Estimate Construction Cost Sub-Total	$	11,564,383
Sales Tax at 9.8%	$	1,133,310
10% Construction Contingency	$	1,269,769
0% Design Level Project Contingency 40%	$	5,586,985
Estimated Total Construction Cost (including tax & contingencies)	**$**	**19,554,000**

Soft Costs (Lower Percentages for Construction Cost > $1M)			
Project Management	5%	$	978,000
Engineering/Design	20%	$	3,911,000
Construction Management	15%	$	2,933,000
Environmental Review	5%	$	977,700
Permits	0%		
Property (Partial Acquisition)		$	783,144
other: *(list here)*	0%	$	-
other: *(list here)*	0%	$	-
Soft Cost SUBTOTAL:		$	9,582,844

Other Costs:		
County provided equipment (Temporary plating)		
Tests and reports		
Others		
Others		
Other Costs SUBTOTAL:	$	-

Rough Order of Magnitude GRAND TOTAL:	**$**	***29,137,000***

Author:	E. Welter	Date:	5/31/2017 0:00
Checked by:	M.Stumpf	Date:	6/1/2017

SR 18 at SE 256th Street and Vicinity Transit Passenger Facility Feasibility Study - Site 7				
Development of Quantities				
Description	Quantity	Unit	Unit Cost	Total Cost
Site Prep				**$ 1,030,789**
Mobilization (10%)	1	LS	10%	$ 219,189
Clearing and Grubbing	5.00	Acre	$ 6,500	$ 32,500
Stormwater	1	LS	$ 453,600	$ 453,600
Utility Allowance	600	LF	$ 100	$ 60,000
Illumination	6	EA	$ 15,000	$ 90,000
Landscaping	41,294	SF	$ 4.25	$ 175,500
Transit Center				**$ 683,093**
Crushed Surfacing Top Course	514	Ton	$ 22	$ 11,297
Crushed Surfacing Base Course	514	Ton	$ 20	$ 10,270
Concrete Pavement	5,700	SY	$ 80	$ 456,000
Pavement Markings (Stripe)	1,000	LF	$ 4	$ 4,000
Cement Conc. Traffic Curb and Gutter	2,500	LF	$ 25	$ 62,500
Comfort Station	1	EA	$ 139,025	$ 139,025
Passenger Facilities				**$ 697,202**
Cement Concrete Sidewalk	4,350	SY	$ 40	$ 174,000
Curb Ramp	14	EA	$ 2,000	$ 28,000
Boarding Platform Shelters	1	LS	$ 175,187	$ 175,187
Bike Cage	1	EA	$ 200,015	$ 200,015
Pedestrian Illumination	1,500	LF	$ 40	$ 60,000
On-Street Bus Stop	2	EA	$ 30,000	$ 60,000
Total				**$ 2,411,083**
Parking				**$ 9,153,300**
Parking Structure	390	Stall	$ 23,470	$ 9,153,300
Property Acquisition	218,000	SF	$ 3.59	$ 783,144

Parking Area	45,000	SF
Total Landscaping Area	63,450	SF
Pond Area	22,156	SF

SR 18 at SE 256th Street and Vicinity
Transit Passenger Facility Feasibility Study - Site 8

Input project information here:		
	Project Timeline (% of Design will change overall Project Contingency percentage)	*0%*
	Specify Project Risk Level: High or Low (Typical)	*high*
	Rule 171 (Transit centers, P&Rs, & passenger facilities ONLY)	*no*
	Overall Project Contingency Applied to Construction Cost (assigned automatically)	*40%*

Project Cost Estimate Worksheet

REQUESTOR & PROBLEM DEFINITION:

Requestor:	
Problem /Need:	*Development of a transit center*

PROJECT SCOPE & ASSUMPTIONS:

Scope:	*Transit center to include three active bus bays, three layover bus bays, comfort station, boarding platform, bike parking area, and a ground-level parking lot with spaces for ride share and general purpose vehicles.*
Assumptions:	

Construction Cost Estimate *(breakout by major components)*

Site Prep		$	1,743,389
Transit Center		$	635,190
Passenger Facilities		$	574,002
Others			
	Estimate Construction Cost Sub-Total	$	2,952,580
	Sales Tax at 9.8%	$	289,353
	10% Construction Contingency	$	324,193
	0% Design Level Project Contingency 40%	$	1,426,451
	Estimated Total Construction Cost (including tax & contingencies)	$	**4,993,000**

Soft Costs (Lower Percentages for Construction Cost > $1M)

Project Management	5%	$	250,000
Engineering/Design	20%	$	999,000
Construction Management	15%	$	749,000
Environmental Review	5%	$	249,650
Permits	0%		
Property		$	821,700
other: *(list here)*	0%	$	-
other: *(list here)*	0%	$	-
	Soft Cost SUBTOTAL:	$	3,069,350

Other Costs:

County provided equipment (Temporary plating)			
Tests and reports			
Others			
Others			
	Other Costs SUBTOTAL:	$	-

	Rough Order of Magnitude GRAND TOTAL:	**$**	***8,062,000***

Author:	E. Welter	Date:	5/31/2017 0:00
Checked by:	M.Stumpf	Date:	6/1/2017

SR 18 at SE 256th Street and Vicinity Transit Passenger Facility Feasibility Study - Site 8 Development of Quantities				
Description	Quantity	Unit	Unit Cost	Total Cost
Site Prep				**$ 1,743,389**
Mobilization (10%)	1	LS	10%	$ 268,416
Clearing and Grubbing	3.00	Acre	$ 6,500	$ 19,500
Stormwater	1	LS	$ 1,123,200	$ 1,123,200
Utility Allowance	775	LF	$ 100	$ 77,500
Illumination	6	EA	$ 15,000	$ 90,000
Landscaping	38,770	SF	$ 4.25	$ 164,773
Transit Center				**$ 635,190**
Crushed Surfacing Top Course	640	Ton	$ 22	$ 14,072
Crushed Surfacing Base Course	640	Ton	$ 20	$ 12,793
Concrete Pavement	4,600	SY	$ 80	$ 368,000
Planing Bituminous Pavement	2,500	SY	$ 5	$ 12,500
Pavement Markings (Stripe)	1,100	LF	$ 4	$ 4,400
Cement Concrete Sidewalk	360	SY	$ 40	$ 14,400
Cement Conc. Traffic Curb and Gutter	2,800	LF	$ 25	$ 70,000
Comfort Station	1	EA	$ 139,025	$ 139,025
Passenger Facilities				**$ 574,002**
Cement Concrete Sidewalk	2,520	SY	$ 40	$ 100,800
Curb Ramp	4	EA	$ 2,000	$ 8,000
Boarding Platform Shelters	1	LS	$ 175,187	$ 175,187
Bike Cage	1	EA	$ 200,015	$ 200,015
Pedestrian Illumination	1,500	LF	$ 40	$ 60,000
On-Street Bus Stop	1	EA	$ 30,000	$ 30,000
Total				**$ 2,952,580**
Property Acquisition	423,403	SF	$ 1.65	$ 697,950
Property Acquisition	9,600	SF	$ 12.89	$ 123,750

Parking Area	5,800	SF
Total Landscaping Area	38,770	SF

SR 18 at SE 256th Street and Vicinity			
Transit Passenger Facility Feasibility Study - Site 2			
Input project information here:	*Project Timeline (% of Design will change overall Project Contingency percentage)*	*0%*	
	Specify Project Risk Level: High or Low (Typical)	***high***	
	Rule 171 (Transit centers, P&Rs, & passenger facilities ONLY)	***no***	
	Overall Project Contingency Applied to Construction Cost (assigned automatically)	***40%***	

Project Cost Estimate Worksheet				
REQUESTOR & PROBLEM DEFINITION:				
Requestor:				
Problem /Need:	*Transit performance improvement for a new transit center*			
PROJECT SCOPE & ASSUMPTIONS:				
Scope:	*Transit performance improvement to include a traffic signal and a new intersection rebuild.*			
Assumptions:				
Construction Cost Estimate *(breakout by major components)*				
Transit performance improvement			$	750,000
Others				
	Estimate Construction Cost Sub-Total		$	750,000
	Sales Tax at 9.8%		$	73,500
	10% Construction Contingency		$	82,350
	0% Design Level Project Contingency	40%	$	362,340
	Estimated Total Construction Cost (including tax & contingencies)		**$**	**1,268,000**
Soft Costs (Lower Percentages for Construction Cost > $1M)				
Project Management		5%	$	63,000
Engineering/Design		20%	$	254,000
Construction Management		15%	$	190,000
Environmental Review		5%	$	63,400
Permits		0%		
Property				
other: *(list here)*		0%	$	-
other: *(list here)*		0%	$	-
	Soft Cost SUBTOTAL:		$	570,400
Other Costs:				
County provided equipment (Temporary plating)				
Tests and reports				
Others				
Others				
	Other Costs SUBTOTAL:		$	-
	Rough Order of Magnitude GRAND TOTAL:		**$**	***1,838,000***
Author:	E. Welter	Date:		5/30/2017 0:00
Checked by:	M.Stumpf	Date:		6/1/2017

SR 18 at SE 256th Street and Vicinity Transit Passenger Facility Feasibility Study - Site 2				
Development of Quantities				
Description	Quantity	Unit	Unit Cost	Total Cost
Transit performance improvement				**$ 750,000**
Traffic Signal	1	EA	$ 250,000	$ 250,000
Intersection Modification	1	EA	$ 500,000	$ 500,000
Total				**$ 750,000**

SR 18 at SE 256th Street and Vicinity
Transit Passenger Facility Feasibility Study - Site 7

Input project information here:		
	Project Timeline (% of Design will change overall Project Contingency percentage)	*0%*
	Specify Project Risk Level: High or Low (Typical)	*high*
	Rule 171 (Transit centers, P&Rs, & passenger facilities ONLY)	*no*
	Overall Project Contingency Applied to Construction Cost (assigned automatically)	*40%*

Project Cost Estimate Worksheet

REQUESTOR & PROBLEM DEFINITION:

Requestor:	
Problem /Need:	*Transit performance improvement for a new transit center*

PROJECT SCOPE & ASSUMPTIONS:

Scope:	*Transit performance improvement to include a queue jump and TSP.*
Assumptions:	

Construction Cost Estimate *(breakout by major components)*			
Transit performance improvement		$	150,000
Others			
Estimate Construction Cost Sub-Total		$	150,000
Sales Tax at 9.8%		$	14,700
10% Construction Contingency		$	16,470
0% Design Level Project Contingency	40%	$	72,468
Estimated Total Construction Cost (including tax & contingencies)		**$**	**254,000**
Soft Costs (Higher Percentages for Construction Cost <$1M)			
Project Management	10%	$	25,000
Engineering/Design	35%	$	89,000
Construction Management	20%	$	51,000
Environmental Review	5%	$	12,700
Permits	0%		
Property			
other: *(list here)*	0%	$	-
other: *(list here)*	0%	$	-
Soft Cost SUBTOTAL:		$	177,700
Other Costs:			
County provided equipment (Temporary plating)			
Tests and reports			
Others			
Others			
Other Costs SUBTOTAL:		$	-
Rough Order of Magnitude GRAND TOTAL:		**$**	***432,000***

Author:	E. Welter	Date:	5/30/2017 0:00
Checked by:	M.Stumpf	Date:	6/1/2017

SR 18 at SE 256th Street and Vicinity Transit Passenger Facility Feasibility Study - Site 7				
Development of Quantities				
Description	Quantity	Unit	Unit Cost	Total Cost
Transit performance improvement				**$ 150,000**
TSP Intersection	1	EA	$ 100,000	$ 100,000
Queue Jump	1	EA	$ 50,000	$ 50,000
Total				**$ 150,000**

SR 18 at SE 256th Street and Vicinity
Transit Passenger Facility Feasibility Study - Site 8

Input project information here:		
	Project Timeline (% of Design will change overall Project Contingency percentage)	*0%*
	Specify Project Risk Level: High or Low (Typical)	*high*
	Rule 171 (Transit centers, P&Rs, & passenger facilities ONLY)	*no*
	Overall Project Contingency Applied to Construction Cost (assigned automatically)	*40%*

Project Cost Estimate Worksheet

REQUESTOR & PROBLEM DEFINITION:

Requestor:	
Problem /Need:	*Transit performance improvement for a new transit center*

PROJECT SCOPE & ASSUMPTIONS:

Scope:	*Transit performance improvement to include a traffic signal, a new intersection rebuild, and a new on-street stop.*
Assumptions:	

Construction Cost Estimate *(breakout by major components)*			
Transit performance improvement		$	780,000
Others			
Estimate Construction Cost Sub-Total		$	780,000
Sales Tax at 9.8%		$	76,440
10% Construction Contingency		$	85,644
0% Design Level Project Contingency	40%	$	376,834
Estimated Total Construction Cost (including tax & contingencies)		**$**	**1,319,000**
Soft Costs (Lower Percentages for Construction Cost > $1M)			
Project Management	5%	$	66,000
Engineering/Design	20%	$	264,000
Construction Management	15%	$	198,000
Environmental Review	5%	$	65,950
Permits	0%		
Property			
other: *(list here)*	0%	$	-
other: *(list here)*	0%	$	-
Soft Cost SUBTOTAL:		$	593,950
Other Costs:			
County provided equipment (Temporary plating)			
Tests and reports			
Others			
Others			
Other Costs SUBTOTAL:		$	-
Rough Order of Magnitude GRAND TOTAL:		**$**	***1,913,000***

Author:	E. Welter	Date:	5/30/2017 0:00
Checked by:	M.Stumpf	Date:	6/1/2017

SR 18 at SE 256th Street and Vicinity Transit Passenger Facility Feasibility Study - Site 8				
Development of Quantities				
Description	Quantity	Unit	Unit Cost	Total Cost
Transit performance improvement				**$ 780,000**
Traffic Signal	1	EA	$ 250,000	$ 250,000
Intersection Modification	1	EA	$ 500,000	$ 500,000
On-Street Bus Stop	1	EA	$ 30,000	$ 30,000
Total				**$ 780,000**