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TUKWILA TRANSIT PLAN UPDATE

City of Tukwila

DRAFT

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NELSON
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1 INTRODUCTION AND EXECUTIVE SUMMARY

OVERVIEW

In 2015, the City of Tukwila embarked on a transit plan update to set a clear direction for transit over the following ten years by outlining recommendations for short-term plan actions that can be made over the coming years. This transit plan considers future service changes and investments by King County Metro and Sound Transit, as well as investments that the City of Tukwila can make to improve transit service in the city.

An analysis of existing conditions makes up the first several chapters of this report (chapters 2-6) and includes a thorough analysis of demographic data, existing planning documents, travel demand, and existing transit service in Tukwila. Following is a summary of public outreach activities conducted for the Tukwila Transit Plan, including stakeholder interviews with employers and community members, a "pop-up" open house, and an online community survey. Using findings from the existing conditions report and information gathered during the outreach activities, a series of recommendations were developed to improve transit service for those who ride transit in Tukwila.

The remainder of the report is divided into the following sections:

- Chapter 2: Planning Context
- Chapter 3: External Conditions Analysis
- Chapter 4: Travel Demand Analysis
- Chapter 5: Fixed-Route System Overview
- Chapter 6: Route-by-Route Evaluation
- Chapter 7: Public Outreach
- Chapter 8: Service and Policy Recommendations
- Chapter 9: Capital Recommendations

MAJOR FINDINGS

Existing Conditions Analysis

Local and regional plans support integration with current and future transportation investments.

Plans from the City of Tukwila demonstrate a strong commitment to coordinating land use and transportation to facilitate the safe and efficient movement of all transportation modes. Pertinent goals and priorities include:

- Creating and/or revitalizing transit hubs, activity centers, and transit-oriented communities
- Connecting these centers through a network of transportation corridors that offer logistically good access to transit service
- Working with and advocating to King County Metro and Sound Transit to achieve and/or maintain an adequate level of transit service for those in and around Tukwila
- Continuing to improve and expand pedestrian and bicycle networks, with a strong focus on connections to transit, schools, and employment

The existing Tukwila Transit Network Plan was completed in 2004, and since then there have been numerous transit investments in Tukwila, including the opening of Link Light Rail service at Tukwila International Boulevard Station and the opening of the Tukwila Transit Center.

The transit network is equipped to meet the mobility needs of many Tukwila residents, but there are opportunities to increase accessibility and meet additional travel demand.

An analysis of demographic and employment data found that transit coverage in Tukwila is largely within proximity to Tukwila residents that may have a higher propensity to use transit and the destinations they need to access. However, there is a visible lack of service to the Tukwila Community Center and the Allentown neighborhood.

An analysis of regional travel data found that the existing transit network is equipped to serve the needs of many commuters who travel to and from employment hubs such as downtown Seattle and the Tukwila Urban Center (TUC). However, there are additional opportunities to meet these needs, including:

- **Expanded service in north Tukwila.** The significant amount of employment in north Tukwila, and associated commute travel, illustrates the need for a Link light rail station at Boeing Access Road and convenient bus routes to make last mile connections to destinations.
- **Improved/expanded east-west connections.** Notable commuter activity between Tukwila and Bellevue/Redmond illustrate the need for transit service that could provide a better transit connection for these workers. Additionally, there are areas east of Tukwila (between Kent and Renton) where workers employed in Tukwila would benefit from accessible east-west transit options.

Service frequencies and route coverage decrease substantially during midday, evening, and weekend service.

While this trend is typical for transit service in general, some routes see high ridership and productivity during off-peak service, indicating a need for increased service to meet travel needs (discussed in Service and Policy Recommended Strategies section below).

Community Input

Riders want more frequent service.

Improved transit frequency was one of the most popular requests for service improvements among outreach participants. Many said they would like to see routes operating at least every 15 minutes. Regular riders expressed dissatisfaction with routes that operate with 30 minute frequencies.

Additional parking capacity is needed

On weekdays, it is often the case that parking lots are full at Tukwila International Boulevard Station (TIBS), Tukwila Station (Sounder), and Interurban Ave. S. Park-and-Ride. Many current and potential riders said they would like to see increased parking availability so that they can drive to access regional commuter services. Additional rider amenity requests include new or improved transit shelters, lighting, security, maintenance, real-time arrival information, and language access.

Boeing Access Road Station was the most frequently requested capital project.

Both community stakeholders and major employers expressed strong support for the construction of Boeing Access Road Station. Several employers in north Tukwila have already committed to providing shuttles to facilitate first- and last-mile connections for their workers.

Employers and employees want more early morning and late evening service.

Some of the major employers where Tukwila residents work (Seattle-Tacoma International Airport, Southcenter, downtown Seattle hotels, and Boeing work sites in Tukwila and Renton), have start times or end times that are not served well by current schedule spans or frequencies.

Riders want more local routes and better east-west connections.

Allentown (including the Tukwila Community Center) was the most frequently-requested area for improved transit accessibility. In addition, outreach participants indicated a need for increased or improved east-west travel options, specifically citing a lack of direct service to Bellevue and a lack of coverage for workers commuting to or from Renton, east Kent, and Puyallup.

Perception of security can be a barrier to transit.

Levels of comfort and perceptions of security (while riding or waiting for transit) were often cited as barriers to attracting ridership and improving the rider experience. Some members of the community said that both riding and waiting for the bus can feel unsafe.

There is a lack of transit access in lower income areas.

The rising cost of housing in areas with good transit access is an increasing concern for lower income residents. Residents that seek lower housing costs in less central locations must often contend with less transit coverage and reduced service. Agencies that place refugees in Seattle-area housing favor Tukwila, in part due to its strong transit coverage, but increased housing costs have forced agencies to look for less expensive areas for some placements.

SERVICE AND POLICY RECOMMENDATIONS

Regional Transit

I-405 BRT

The I-405 Bus Rapid Transit (BRT) line, part of the proposed Sound Transit 3 plan (ST3), would improve the lack of regional east-west connections for transit riders and provide a one-seat ride for commuters traveling to Bellevue, Lynnwood, and stations in between. The BRT would largely operate on expressways, both in general purpose and managed lanes for different route segments. While current plans for the route include Tukwila International Boulevard Station (see map on page 8-2), consideration should be given for the BRT to directly serve the PSRC identified Regional Growth Center that includes both Tukwila Station and the Tukwila Transit Center.

Tukwila – Bellevue Express Route

Before I-405 BRT is implemented, a new express route operating between Tukwila and Bellevue should be considered. Currently, there are a significant number of people commuting from Tukwila to the Eastside who do not have a one-seat ride. In order to maximize the ridership potential, this route should be targeted to both Tukwila residents as well as Sounder riders. A non-stop trip between Sounder and Bellevue will attract South King County and Pierce County riders that would otherwise have to connect in Kent. A map of the proposed route is shown on page 8-4.

Existing Bus Route Service Changes – Short Term

Changes are recommended to bus routes operating in Tukwila. Descriptions and maps of these routes can be found in Chapter 6 Route by Route Evaluation. The primary recommendations are frequency improvements on routes that are currently below the target service levels identified by King County Metro. Additional recommendations include providing earlier service and additional trips to meet demand on certain routes (based on both public input and ridership levels). Routes are ranked in priority order:

- **Route 124 Tukwila – Downtown Seattle.** Increase frequency to every 15 minutes during peak and midday periods (currently 15 to 30 minutes). Add additional service before 5:00 a.m.
- **Route 150 Kent – Downtown Seattle.** Increase frequency to better than 15 minutes during peak periods (currently 15 minutes). Add additional service before 5:00 a.m.
- **Route 128 Southcenter – North Admiral.** Increase frequency to every 15 minutes during peak and midday periods, from 30 minutes today. Add additional service before 6:00 a.m. from Southcenter.

- **RapidRide F Burien – Renton.** Increase frequency to better than 15 minutes during peak periods (currently 15 minutes) and every 15 minutes during evening periods (currently 15 to 30 minutes). Add new westbound trip at 5:00 a.m.
- **Route 156 Southcenter – Kent.** Increase frequency to every 15 minutes during peak periods (currently 30 minutes) and every 30 minutes during evening, Saturday, and Sunday service (currently 60 minutes).
- **Route 906 (DART) Fairwood – Southcenter.** Increase frequency to every 30 minutes (currently 60 minutes).
- **Route 154 Tukwila Station – Boeing Industrial District.** Add additional trips leaving later in the morning and later in the afternoon to serve more Sounder trains.
- **RapidRide A Tukwila – Federal Way.** Increase frequency to better than 15 minutes minutes during peak periods (currently 10 to 15 minutes) and every 15 minutes during evening periods (currently 15 to 30 minutes)

Hyde Shuttle

The Hyde Shuttle is a service operated by Sound Generations (previously Senior Services) to provide rides for seniors (55 and over) and people with disabilities. Trip destinations may include hot meal programs, medical appointments, senior centers, grocery stores, and other local destinations. A single van serves Tukwila and SeaTac, and in 2015, the service provided 3,454 one way trips within SeaTac and Tukwila to a total of 86 unique riders.

The Hyde Shuttle is an important component of the transit system in Tukwila. Its funding comes primarily from the federal government, but recent cuts in the funding have led to more financial support from King County Metro. In the future, the service may be modified or discontinued in some areas due to the tenuous funding situation. Maintaining the operation of this service is important for Tukwila, as it provides a valuable way to get around Tukwila for those with limited transportation options.

Options to Serve Allentown and Tukwila Community Center

The lack of transit service to the Tukwila Community Center and Allentown has been identified as a gap in service and an unmet need. Three potential options for serving these locations include the following:

Shuttle from TIBS to Tukwila Community Center

The proposed shuttle (see map on page 8-11) would operate between Tukwila Community Center and TIBS, primarily on Tukwila International Boulevard and 42nd Avenue South. The shuttle would primarily serve:

- Trips to the Tukwila Community Center for seniors and after-school programs
- Trips to the grocery store
- Access to Link light rail at TIBS

Taxi/Transportation Network Company (TNC) Subsidy

A pilot project could provide a subsidy to people traveling between the Allentown/Duwamish neighborhoods and other parts of Tukwila (see map on page 8-14). Travelers with an origin or

destination within the project area could use a discount coupon (such as $2-$3) towards fare on a taxi or TNC (e.g. Uber, Lyft) for travel within Tukwila.

Community Van

A community van program could provide transportation to and from the Community Center at specific times or for specific programs with trips planned ahead of time. One option is to hire dedicated staff drivers who could use the Community Center's vehicles in a structured way to improve visibility of the service and expand use. Another option is to participate in King County Metro's Community Van program, a rideshare pilot program whereby vans are driven by approved volunteer drivers, and trips are planned ahead of time.

Long-Term Transit Service Changes

King County Metro Long-Range Network

King County Metro is in the process of developing long-range system networks for the years 2025 and 2040. This plan has a 10-year horizon, and so the 2025 network is considered. Three conceptual route changes are included in the 2025 network:

- **Route 3054 Tukwila Station – Kent Station.** This route would improve frequencies along corridors currently served by Route 906. A map of the proposed route is shown on page 8-16.
- **Route 1046 Fairwood – Des Moines.** Benefits include improved frequencies and a connection to Sea-Tac Airport Station and other destinations to the west, a connection that does not currently exist (see page 8-17)
- **Route 3052 Downtown Renton – Sea-Tac Airport Station.** This route would offer another way to connect between Tukwila Transit Center, Tukwila Station, and downtown Renton (see page 8-18)

Sounder

The draft Sound Transit 3 plan includes a variety of improvements considered for South Sounder service. Sounder will continue to be an important component of Tukwila's transit system, and future investments should allow for improved access and quality of service for Tukwila residents and employees. In addition, these strategies should support Sound Transit in efforts to increase and expand Sounder service in the area. From the perspective of Tukwila, the following improvements would provide the most support for Sounder expansion and the most benefit for Tukwila residents and workers.

- **Improve frequency, capacity, and span of service.** As ridership grows, increased frequency and capacity will be necessary to prevent overcrowding This will also make the service more attractive, as will extending the span of service to provide more trips during early morning, midday, and evening periods.
- **Increase transit connectivity to destinations surrounding Tukwila Station.** Effective connectivity mechanisms, including fixed-route service, employee shuttle services, or community vanpools should continue to grow as Sounder ridership at Tukwila Stations grows.

- **Increase non-motorized connectivity to destination surrounding Tukwila Station.** Additional direct connections are needed for pedestrians and cyclists to access Tukwila Station from surrounding areas. Once the Tukwila Urban Center Pedestrian/Bicycle Bridge is completed, a bikeshare system could be an effective means to connect riders to nearby destinations, including Southcenter and Starfire Sports.
- **Increase parking capacity at Tukwila Station.** Parking is currently at capacity, and additional vehicle capacity would improve station access.
- **Transit-oriented development (TOD).** Opportunities should be explored further to determine how TOD can be added at Tukwila Station. This work should be done in coordination with Sound Transit.

Transit Priority Corridors

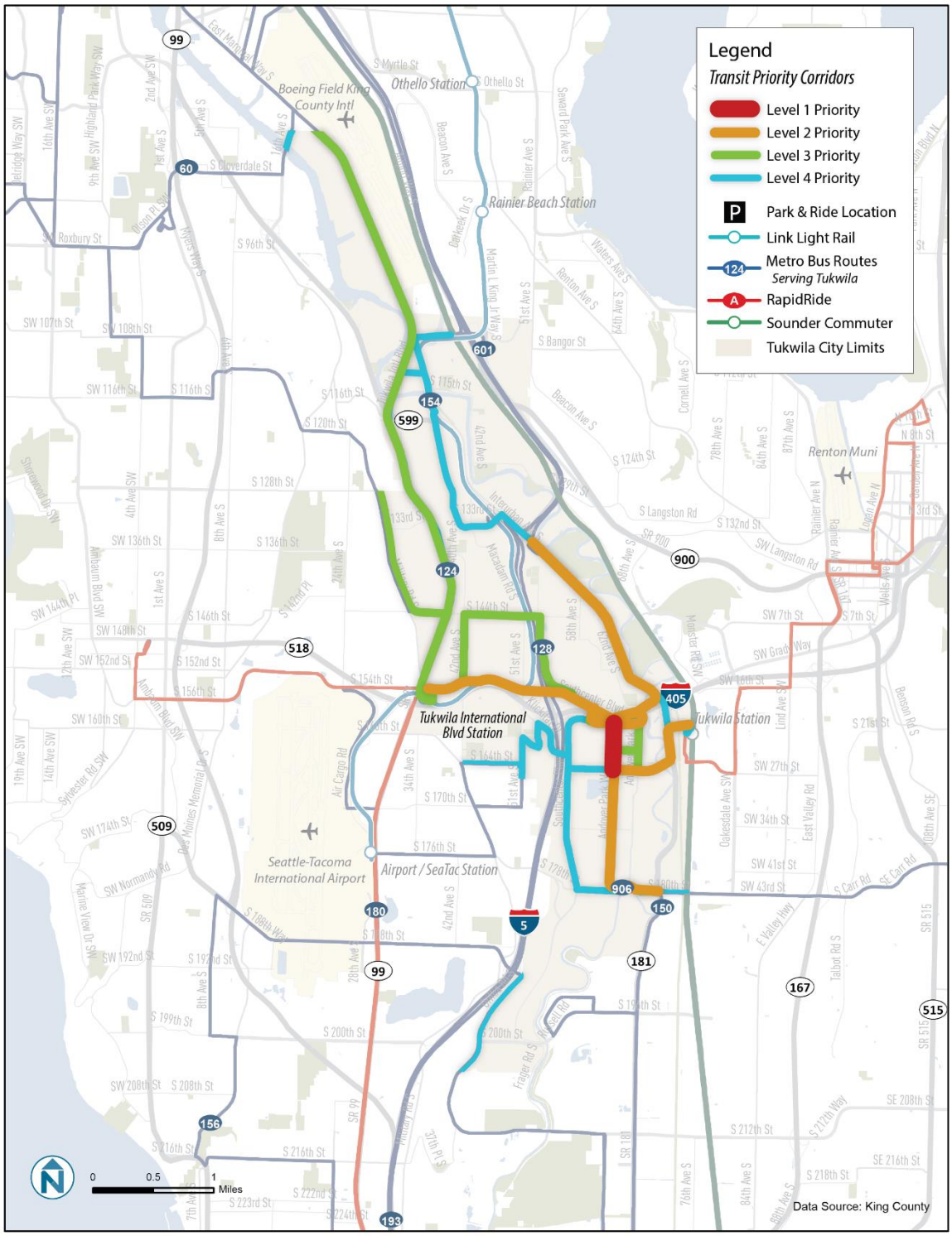
Proposed Definitions

It is recommended that the City update its Transit Priority Corridor classifications based on the current transit network in Tukwila and King County Metro target service levels, which indicate the future level of service on a route. This plan recommends four classifications for the City to use as an input when determining modal priorities by corridor when updating its Transportation Master Plan:

- **Level 1** – Streets that are served by at least two routes operating every 15 minutes or better. Currently, the street meeting this level is Andover Park W between Tukwila Pkwy and Strander Blvd, which includes the Tukwila Transit Center. Transit should be the highest priority mode along this corridor due to its level of service and the presence of the Transit Center.
- **Level 2** – Streets that currently have 15 minute service during peak and midday periods. Currently, this includes the streets utilized by Route 150 and RapidRide F. Given the high level of service on these routes, transit should be among the most prioritized modes on these streets. On some segments, transit will be the highest priority, while on others it may be second or third priority, depending on the needs of other modes such as autos, freight, and bicycles.
- **Level 3** – This level consists of streets that presently have routes operating every 15-30 minutes in the peak, but that have King County Metro target service levels every 15 minutes, meaning that they will eventually operate at that frequency. As routes are upgraded to every 15 minute service during the peak and midday, the streets on which they operate should be upgraded to Level 2 status.
- **Level 4 –** Streets that have routes with 30-60 minute service occupy the lowest level. Transit should be considered when determining which mode has priority on these corridors, but due to the low level of service, transit will not likely be the highest priority.

These corridors are illustrated in the map on the following page and discussed in Chapter 8.

Figure 1 Proposed Transit Priority Corridors



Transit-Supportive Actions for Corridors

Designating a corridor as a Transit Priority Corridor can serve as a tool to develop the transit market along the corridor in the long-term, thereby increasing ridership and associated benefits. This report provides guidelines for both land use and transportation components, so that each can shape the other's ability to function effectively as transit priority corridors. Land use components include relatively high population and employment densities, a diversity of land uses, and accessible design. Transportation components include frequent transit service, transit priority features (such as bulb outs, traffic signal queue jumps, and transit signal priority), pedestrian facilities, bicycle facilities, parking management, and traffic calming features.

Transportation Demand Management and Outreach to Diverse Communities

Stakeholder and public input during the planning process indicated that many people, especially immigrant populations and individuals with limited English proficiency (LEP), do not understand how to use transit and what services are available. Targeted outreach to individuals and groups in Tukwila can help overcome cultural and language barriers and provide information to people about how to use transit. To address the issues, the City has undertaken a project called *TDM for Diverse Communities* to target both commute and non-commute trips among immigrants, refugees, LEP populations, older adults, people with disabilities, and veterans. This project component is part of the WSDOT GTEC/TDM Expansion for Urban Centers and Diverse Communities with funding from CMAQ. Projects like this should be continued in the future, as new residents and employees who are unfamiliar with transit come to Tukwila on a regular basis.

CAPITAL RECOMMENDATIONS

Boeing Access Road Station

Throughout the public outreach process, stakeholders and community members alike expressed interest in the construction of Boeing Access Road Station along the current Central Link light rail line. There are many potential benefits associated with this new station. The development of this station, included in the original Sound Transit plans, would increase transit accessibility in an underserved area and have the potential to spur TOD, attract employment, and address demand for additional park-and-rides. Moreover, these benefits would be possible with a comparatively marginal cost increase (i.e., constructing an infill station vs. extending the current light rail line).

The Draft Sound Transit 3 plan proposes building this station in 2036, which is outside of this plan's 10-year horizon. However, it may be possible to speed up the timing to construct this station, making it operational sooner. In either case, the station is very important for Tukwila, and the City should start planning for it once funding is secured. In order to make a station at Boeing Access Road successful, there are several challenges that need to be addressed. These include: limited pedestrian and bicycle infrastructure, limited opportunity for residential expansion, the need to balance opportunities for both park & ride spaces and TOD, and a lack of connectivity for all modes (especially east-west connections). However, it should be noted that transit serving the station is planned for expansion as part of King County Metro's Long Range Plan, which should address current bus connectivity issues. In addition, the Draft Sound Transit 3 plan includes funds for station-area access improvements.

Park-and-Rides

All major park-and-rides in Tukwila are heavily utilized. While the City's park-and-ride strategies will largely depend on the completion date and capacity of Boeing Access Road Station (also dependent on passage of ST3), there will remain an ongoing need for intermediate solutions to meet the demand of drivers who wish to connect to express service to Seattle.

Tukwila International Boulevard Station

Parking utilization at TIBS saw a rate of 99% in 2015, and will likely remain very high if parking capacity does not increase or feeder services into the station are not improved. As the City explores options to increase access to transit service at TIBS, it should remain conscious of the potential tradeoffs between balancing parking supply and TOD opportunities.

Tukwila Station

Parking utilization at Tukwila Station was at 97% in 2015, and the potential for additional Sounder service will likely increase demand. The City should work with Sound Transit to construct additional parking stalls to the south of the existing lot.

Interurban Ave. S. Park-and-Ride

Parking utilization at Metro's Interurban Ave. S. Park-and-Ride was at 99% in 2015. The City should continue to look for opportunities, especially considering that Metro has indicated short-term plans to increase frequency on Route 150, the highest-ridership route serving the facility.

Customer Amenities

Bus Shelters

Additional shelters should be installed at Tukwila bus stops, as they improve rider comfort and can increase transit ridership. This analysis identified 12 stops that have at least 25 boardings per day but no shelter. The City should advocate to King County Metro to install stops at these locations, which meet Metro's standards for installing shelters.

Upgrade Amenities at RapidRide Stops

As ridership increases on the F Line, the City of Tukwila should advocate to King County Metro to increase the level of amenities at RapidRide stations in Tukwila, with the most frequently requested amenity being real-time information signs. Additional amenities include larger shelters, ORCA card readers, improved lighting, and maps showing connecting transit routes.

Other Capital Improvements

Non-Motorized Access to Transit

An analysis of stop-level ridership and sidewalk connectivity was conducted to help the City prioritize where to make improvements for non-motorized access to transit. Among stops in Tukwila with at least 25 daily boardings, 56% have a medium level of connectivity, and 24% have a low level of connectivity. A map illustrating this analysis is included on page 9-12. Proximity to transit should be taken into account as the City is prioritizing sidewalk improvements.

Access to transit should also be considered as the City prioritizes bicycle infrastructure improvements. Many people are not comfortable biking in traffic but will consider biking on an off-street path or a bike lane, and as these facilities are developed, more people will be attracted to biking and may ride their bicycle to a transit stop. As the City continues to develop its bicycle network, it should do so in coordination with King County Metro to create facilities that encourage bicycle access to transit. This type of coordination is supported by the King County Metro Long-Range Plan.

It is also recommended that the City continue evaluating potential projects to improve non-motorized connectivity, such as the new streets proposed in the Southcenter Subarea Plan that would minimize walking distances to transit stops and other nearby destinations.

Transit Priority Features

As Metro implements short-term improvements to increase frequencies among routes serving Tukwila, the City should work with Metro to ensure that these routes are given priority treatments when necessary, while maintaining a desired level of service for automobile traffic.

Security

Recommendations to improve security at transit facilities include providing adequate lighting at bus stops, maintaining bus stop facilities in satisfactory condition, and providing real-time arrival information signs so riders can reliably determine how long they will need to wait for the bus at night.

2 PLANNING CONTEXT

OVERVIEW

This chapter provides a summary of relevant planning documents and identifies goals, policies, and actions that ensure the compatibility of transit system planning with other local and regional long-range planning efforts in Tukwila. Several major themes emerged through the review of plans:

- A Boeing Access Road light rail station and I-405 Bus Rapid Transit (BRT) are included in the Draft Sound Transit 3 (ST3) plan. Additionally, Sound Transit is proposing to study a light rail line directly linking Burien to Tukwila and Renton.
- The Tukwila Urban Center (TUC) is the hub for transit connections in Tukwila, and the Comprehensive Plan highlights goals to incorporate housing and further develop a thriving mixed-use regional center.
- There is a need to have better connections between the Manufacturing Industrial Center in the north and the TUC in the south.
- Other plans emphasize strategies to encourage non-motorized modes of travel within Tukwila as an alternative to driving alone.

It should be noted that many projects identified in the plans listed below have been implemented. For example, the Tukwila Transit Center identified in the previous Tukwila Transit Network Plan was completed in 2015.

PLAN REVIEW

City of Tukwila Comprehensive Plan

The City of Tukwila 2015 Comprehensive Plan outlines goals, objectives, and policies related to future growth in the city.

Four Major Objectives

- To improve and sustain residential neighborhood quality and livability.
- To redevelop and reinvigorate the Tukwila International Boulevard District both economic and residentially.
- To redevelop and reinvigorate the industrial uses in the Manufacturing/Industrial Center along East Marginal Way.
- To further develop a thriving Urban Center as a true regional concentration of employment, housing, shopping, and recreational opportunities.

Chapter 8 Tukwila International Boulevard District

The Tukwila International Boulevard (TIB) District chapter establishes goals and policies to guide the "local center," where existing and future land use and infrastructure capacity will be used to accommodate project growth, consistent with PSRC and King County's goals and policies. The planning process will help the TIB District achieve the vision to become a complete neighborhood and destination. Selected goals, policies and strategies for TIB include:

- Identify and promote an "identity" for the area around Tukwila International Boulevard Station that is distinct from other stations along the Link light rail alignment.
- Optimize opportunities for transit-supportive redevelopment in and around the station by partnering with the City of SeaTac and Sound Transit to share TOD policies and practices in the master plan.
-

Strategies also include reducing required parking, requiring pedestrian-oriented design elements, developing a master plan for the TOD node area, exploring conventional and unconventional retail anchors, improving street design as a "Main Street," and improving walkability.

Chapter 10 Southcenter – Tukwila's Urban Center

Tukwila's Southcenter area is intended to develop as a high-density, regionally-oriented, mixed-use center. Southcenter is a regional growth center where employment and housing are concentrated to create a vibrant community to live and work. Notable features in the vision for Southcenter include:

- Anchor areas linked by frequent transit service (5 to 10 minute frequency), enhanced with public and private pedestrian facilities, and development standards supporting this type of built environment.
- High-quality transit and pedestrian facilities, focusing on creating strong connections between the Mall and the Sounder commuter rail/Amtrak station.
- Encouragement of a pedestrian-oriented environment through building and streetscape design standards and guidelines.

Chapter 13 Transportation

The transportation chapter establishes a basis for decision-making that is consistent with other state and regional plans, in addition to all adopted local plans, which include: Transportation Background Report, Walk and Roll Non-Motorized Transportation Plan, Tukwila Transit Network Plan, Commute Trip Reduction (CTR) Program and Plan, Growth and Transportation Efficiency Center (GTEC) Plan, the annually updated six-year Transportation Improvement Plan, six-year CIP/FPM, and the City of Tukwila Budget. Included in this chapter are transportation goals:

- *Transit Level of Service (LOS).* Frequency and span of service is important to how well transit serves a community. The City uses the Transit Capacity and Quality of Service Manual, published by the Transportation Research Board, as a methodology to measure transit level of service, and can be found in the City's Transit Network Plan (2004). See Figure 2 for a table of span and frequency of recommended transit service. The City recognizes that it is not currently a provider of transit service, but encourages all transit providers within the City to achieve and maintain a minimum LOS C within Tukwila's

Transit Priority Corridors. Tukwila's goal is to have transit service every 15-20 minutes throughout most of the day on its Transit Priority Corridors.[1]

- *Transit Priority Corridors*. King County Metro identifies eight corridors in Tukwila where it has set target service levels, as shown in Figure 3. This is not a comprehensive list; other local KCM routes operate in Tukwila. Currently, only the RapidRide and Link Light Rail routes are served with frequent service throughout the day. To achieve the goal of increased frequency and span of service to Tukwila's activity centers and regional destinations, a multi-hub system and Transit Priority Corridor classifications were developed, as shown in Figure 4.

Figure 2 Transit LOS for Urban Scheduled Transit Service and Hours of Service

LOS	Headway (min)	Vehicle/hour	Comments
A	<10	>6	Passengers don't need schedule
B	10–14	5–6	Frequent service, passengers consult schedules
C	15–20	3–4	Maximum desirable time to wait if bus/train missed
D	21–30	2	Service unattractive to choice riders
E	31–60	1	Service available during hour
F	>60	<1	Service unattractive to all riders

Source: Transit Capacity and Quality of Service Manual, 2nd Edition, 2003

LOS	Hours per Day	Comments
A	19–24	Night or owl service provided
B	17–18	Late evening service provided
C	14–16	Early evening service provided
D	12–13	Daytime service provided
E	4–11	Peak hour service / limited midday service
F	0–3	Very limited or no service

Source: Transit Capacity and Quality of Service Manual, 2nd Edition, 2003

Source: City of Tukwila Comprehensive Plan 2015

Figure 3 King County Metro Transit Corridors in Tukwila

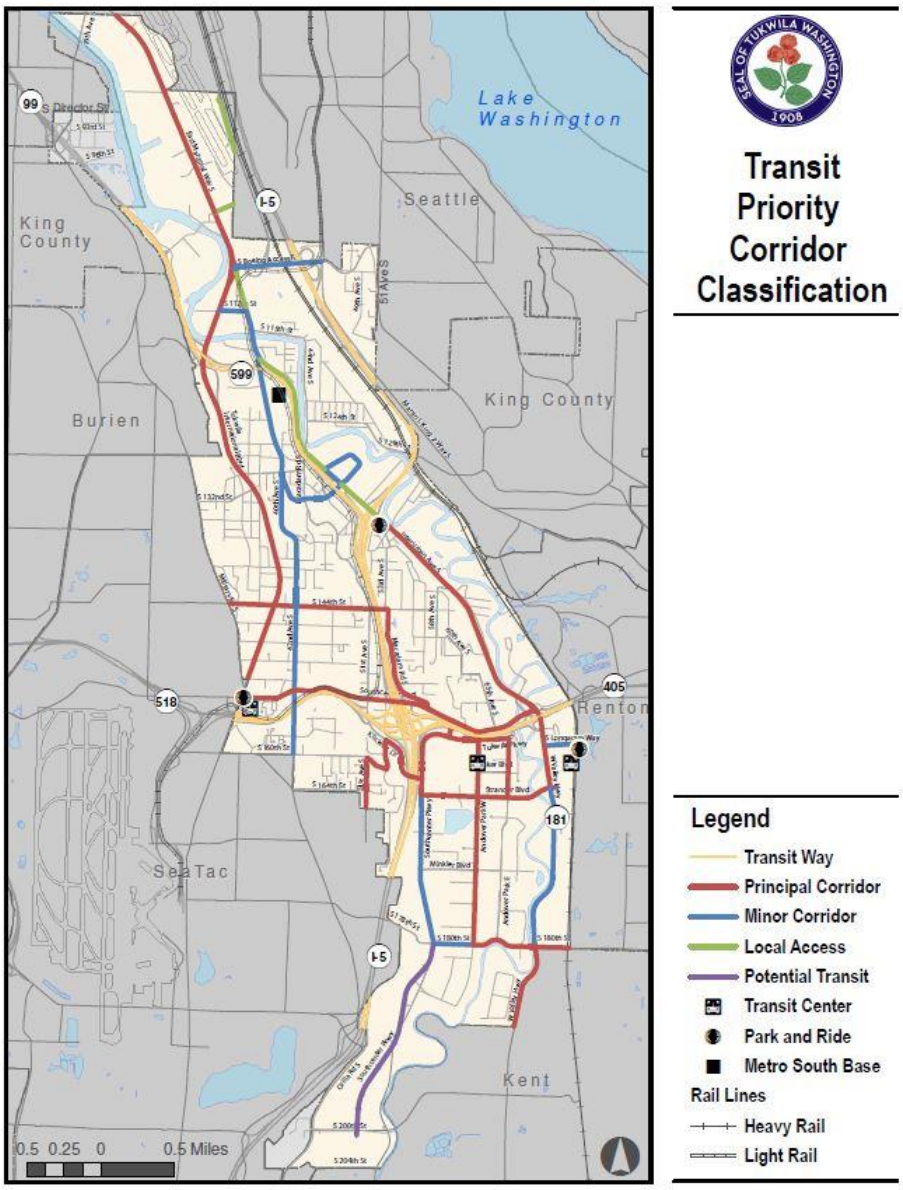
Between	And	Via	Major Route
Federal Way	SeaTac	SR-599	A Line
Kent	Seattle CBD	Tukwila	150
Tukwila	Fairwood	S 180th St, Carr Road	155
Renton	Burien	S 154th St	140 (F Line)*
Tukwila	Seattle CBD	Pacific Hwy S, 4th Ave S	124
Admiral District	Southcenter	California Ave SW, Military Rd, TIBS	128
Tukwila	Des Moines	McMicken Heights, Sea-Tac	156
Auburn	Burien	Kent, SeaTac	180

** Service scheduled to go into effect June 2014*

Source: City of Tukwila Comprehensive Plan 2015

[1] Tukwila Comprehensive Plan 2015

Figure 4 **Transit Priority Corridor Classification**



Source: Tukwila 2015 Comprehensive Plan, Element 13 Transportation

City of Tukwila: Background Report for the Transportation Element of the Comprehensive Plan Update

The 2012 Background Report adopted in 2013 provides a basis for updating the Transportation Element of the Comprehensive Plan. The report details existing conditions, as well as year 2030 forecast assumptions to inform year 2030 recommended improvements to address or lessen the degree of existing or future deficiencies on the bicycle, pedestrian, and roadway networks. The Priority A (Pre 2030) Recommended Transit Improvement city-wide is the Tukwila Urban Center Transit Center. This project has now been constructed.

City of Tukwila Strategic Plan

The City of Tukwila's 2012 Strategic Plan guides actions and investments for the next five to ten years and identifies the City's role in making Tukwila the city of opportunity, the community of choice. One goal of the plan includes:

- Goal C, focus City planning and investments on creating a connected, dynamic urban environment.

The Strategic Plan outlines ways to support this goal including active use of space by increasing foot and bike access, employing creative ways to increase transit, foot and bicycle access to community amenities, and to work with the community to identify desirable retail opportunities in residential neighborhoods.

In a Community Survey conducted for the Plan, high-level findings indicate that transit, along with parks and shopping, are seen as Tukwila's biggest strengths. Over 60% of survey respondents gave these elements a four or five on a five-point scale, identifying them as strengths of the community.

Tukwila Walk and Roll Plan

The 2009 Walk & Roll Plan is the City's first pedestrian and bicycle plan and includes projects to improve streets and trails for pedestrians and bicycles. The Plan supports a "complete streets" focus that expands transportation planning from improving travel time for cars and trucks to the idea that Tukwila's streets should be for everyone.

Seven Actions to Improve Mobility

1. Adoption of bicycle and pedestrian infrastructure designs.
2. Designation and adoption of "bicycle friendly routes."
3. Continue construction of neighborhood links.
4. More than the minimum for pedestrian safety.
5. Railbanking for the future: acquiring and using abandoned rail spurs for future trails.
6. Promotion of and participation in biking and walking programs.
7. Identify and fund Walk and Roll projects in the Capital Improvement Program (CIP).

The Walk and Roll Plan acknowledges that people walk for different reasons, and one of those reasons is to access transit. Each transit trip is linked with a pedestrian, bicycle or other mobility device trip. The Plan also highlights that the goal of the sidewalk construction program is to improve safety and comfort for pedestrians, especially around places that generate higher-than-average pedestrian traffic such as a school, transit stop or library. In the Plan's prioritization criteria, a sidewalk link was given ten points if it is located within 1,320 feet (one quarter mile) of a high capacity transit stop/station (rail, light rail, bus rapid transit). Similarly, if a link is located within 1,320 feet of a transit bus stop, it received four points. Other high trip generators received points. The Plan also states that short-term and long term bicycle parking should be provided at transit stations, stores, schools and workplaces.

Tukwila Transit Network Plan

The goal of the City of Tukwila's 2005 Transit Network Plan is to study existing King County Metro and Sound Transit routes within the City to improve and maximize usage of all transit service and better meet the needs of the communities, residents, employers and employees.

Several Objectives to Guide Tukwila Transit Planning

- To ensure the compatibility of system planning with other local and regional long-range planning efforts.
- To determine the feasibility of implementing expanded transit services and facilities in Tukwila.
- To identify approaches to improving system ridership productivity, service cost effectiveness, and cost efficiency.
- To determine a future route network which will best meet anticipated demand for services.
- To improve system connections, transfer options and facilities.
- To identify optimal locations for additional system facilities.

To inform key service findings for the Transit Network Plan, passenger and market data was collected through surveys, public focus groups, and a service analysis.

Key Service Findings

Key service findings of the plan include the following. Many of the identified service deficiencies have been remedied since the plan was written.

- *Weekend service and span of services is inadequate in the Tukwila Urban Center (TUC).* Several bus routes that serve the TUC do not operate on weekends or operate much less frequently. Vehicle traffic is high on the weekends and in some cases, higher than weekday traffic. Retail and entertainment opportunities are not well served late night by transit service.
- *Transit connections to Tukwila Station are Poor.* Routes serving Tukwila Station operate only during peak periods. There is no connecting service for midday Amtrak service.
- *Bus Connections on S. 154th Street Link Station are Limited.* Currently no bus serves the Tukwila LINK light rail station, opening in 2009, from TUC or Burien.
- *I-405 bus rapid transit stop in TUC is necessary.* The I-405 Plan recommended all-day, high-speed bus rapid transit service on the corridor with high initial ridership projections.
- *No direct connections from TUC to Federal Way.* Large amounts of service between Seattle and Federal Way pass through TUC, but do not stop.

Service and Capital Recommendations

Overall the service recommendations reflect the desire to improve frequency along the productive routes, serve new destinations, and to improve route directedness. The following Figure 5, briefly describes the recommendations for both existing and proposed routes within Tukwila. The plan

also recommends transit capital improvements, with the Tukwila Transit Center being a major development resulting from this plan. Many of these changes have since been implemented.

Figure 5 Summary of Recommended Changes

Route	Recommended Changes
Short Term Recommendations (2005-2009 Implementation)	
128	*Span:* Extend Sunday Evening service for one hour. *Frequency:* Improve Sunday service to 30-minute service. *Routing:* None.
140	*Frequency:* Improve Saturday service to 30-minute service.
150	*Span:* None. *Frequency:* Improve weekday frequency to all-day 15-minute service. *Routing:* None.
154	*Span:* None. *Frequency:* None. *Routing:* Restructure route to serve Tukwila Station and employment sites north.
Mid-Term Recommendations (2009 & Changes to Feed LINK & Tukwila Station)	
126	*Routing:* Adjust routing to serve S. 154th Street Station and Tukwila International Boulevard/S. 144th Street. *Span:* Add midday, evening, and weekend service. *Frequency:* Midday, evening, and weekend service should be 30-minute service.
128	*Span:* None *Frequency:* None. *Routing:* Extend Route 128 to Tukwila Station.
140	*Span:* Add earlier trips on weekends. *Frequency:* Improve Sunday service to 30-minute service. *Routing:* Restructure route so that it provides a direct route between S. 154th LINK station and the TUC (it would no longer serve Sea-Tac Airport), and serve Tukwila Station on every trip.
Long-Term Recommendations (2010-2015 Implementation)	
155	*Span:* Implement Sunday service. *Frequency:* Improve weekday frequencies to every 30 minutes. *Routing:* None.
BRT[5]	*Span:* Implement weekday, Saturday, and Sunday route. *Frequency:* Ten to 20 minute service weekdays, Saturdays, and Sundays. *Routing:* From TUC to Sea-Tac Airport and Renton, and points beyond.
Fed. Way Rte.[4]	*Span:* Implement weekday, Saturday, and Sunday route. *Frequency:* Every 30 minutes weekdays, Saturdays, and Sundays. *Routing:* From TUC south on Southcenter Parkway to serve new development.
TUC Trolley	*Span:* 11:00 a.m. – 8 p.m., weekdays, Saturdays, and Sundays. *Frequency:* 10 minutes. *Routing:* Tukwila Station, Baker, Andover Park W., Strander, Southcenter Parkway, Segale Park Dr. C, Andover Park W., S. 180th and return.

Source: Final Tukwila Transit Network Plan, Section 4.2 Tukwila Route Recommendations, 2005

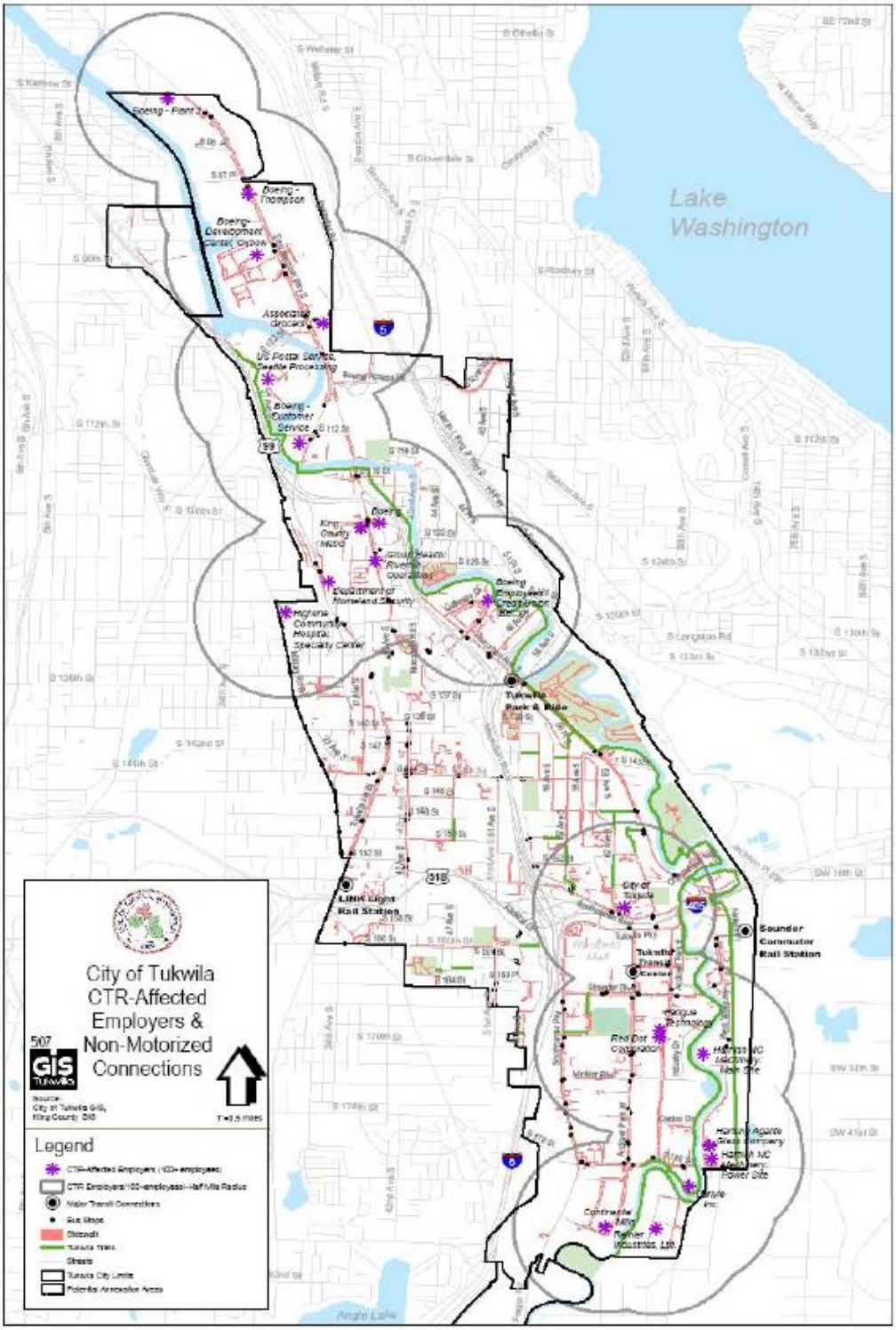
City of Tukwila Commute Trip Reduction Plan, 2008

The Commute Trip Reduction (CTR) Plan is a collection of jurisdiction-adopted goals and policies, facility and service improvements, and marketing strategies about how the City of Tukwila will help make progress for reducing drive alone trips and vehicle miles traveled over the next four years. Since 1991, the City of Tukwila has participated in the Washington State Commute Trip Reduction program. As part of this program, the City has worked with major employers to reduce drive alone trips and vehicle miles traveled. In 2006, the Washington State Legislature passed the Commute Trip Reduction Efficiency Act which requires local governments in those counties experiencing the greatest automobile-related air pollution and traffic congestion to develop and implement plans to reduce single-occupant vehicle trips. Accordingly, the City

developed a CTR Plan in 2007; the plan outlined goals and policies, facility and service improvements, and marketing strategies to support ongoing CTR work.

The majority of Tukwila's employers are concentrated within two areas: in the northern area of the City (north of S 130th St.) and in the Tukwila Urban Center (TUC) in the southeastern part of Tukwila, bounded by I-5 to the west, see Figure 6. The Plan contains a brief summary of the transit needs of each CTR-affected employer, lists potential actions to eliminate barriers, and lists planned transportation facilities.

Figure 6 Commute Trip Reduction Employers in Tukwila



Source: City of Tukwila Commute Trip Reduction Plan, 2008

Potential Actions for the Jurisdiction to Eliminate CTR Barriers

- *Land Use*: Through capital investment and land use regulation, facilitate mixed use residential development within the Tukwila Urban Center (TUC).
- *Transit Facilities and Services*: Continue working with King County Metro and Sound Transit to provide service improvements to existing transit routes and facilities. Additionally, explore the possibility of a City-wide circulator route, or use of a small fleet of vans going from the Sounder Station around the TUC and up north to employment sites in the Manufacturing Industrial Center.
- *Transportation Facilities and Services*: Provide non-motorized connections to major employment sites, and work with neighboring cities and regional agencies to provide missing links in the regional trail system. Support employers that implement aggressive parking management policies.

Tukwila Urban Center Growth and Transportation Efficiency Center Program, 2007

In 2007, Under the Washington State CTR Efficiency Act, the City of Tukwila was given the option of developing a Growth and Transportation Efficiency Center (GTEC) program. The GTEC program was a voluntary program designed to encourage cities to expand CTR efforts to additional employers and residential groups within a defined area.

As part of the GTEC program, The Tukwila Urban Center (TUC), or "Southcenter", was designated as a Regional Growth Center by the Puget Sound Regional Council. The Southcenter area is predominately comprised of retail, commercial and light industrial/warehouse uses. The vision for the Southcenter is a high density, pedestrian oriented mixed-use area. New projects in Southcenter have since begun to introduce large-scale housing developments, a key component for creating a vibrant city core.

The Manufacturing Industrial Center/Heavy Industrial zone (MIC/H), which encompasses the majority of the northern city limits, was also designated as a GTEC. Many large-scale employers are located in the MIC, including Boeing, Group Health, the USPS, BECU, and King County Metro. The city has focused CTR efforts in these two designated regional centers and advocated for improved transit service in these areas to bolster development while mitigating its impacts on congestion.

Update of CTR Goals in a Transportation Demand Management Plan, expected 2017

The City is in the process of updating and combining the Commute Trip Reduction Plan (2008) and Tukwila Urban Center GTEC Plan (2007) into a Transportation Demand Management (TDM) Plan. The TDM plan will be in alignment with a recent shift in statewide goals and strategies to focus on *all* trips, not just commuter trips, and is expected to be completed in 2017.

King County Metro Strategic Plan for Public Transportation, 2007-2016

This Plan focuses the improvement of transit services and facilities in the designated urban growth area of King County. Additionally, the Plan also establishes strategies to make development as well as transit services and facilities more efficient. The Plan strategies are organized into five categories and provide direction for service and system development from 2007 to 2016.

Capital Strategies

- Strategy C-2 Passenger Facilities seeks to improve facility access, shelter, lighting, bus stop locations and other amenities. A major focus of transit route and facilities efforts will be to improve passenger facilities on identified RapidRide and other core connection corridors. The RapidRide A and F lines currently serve Tukwila.
- Additionally, Strategy C-2 also highlights facilities improvements along the high ridership core connections network which include the following routes and facilities in Tukwila: Link Light Rail, Routes 150 and 157 along I-5, RapidRide A and F lines, and TIBS.
- Strategy C-3 Speed, Reliability and Safety seeks to improve transit operating efficiency and will be focused on the RapidRide corridors, two of which serve Tukwila.
- Strategy C-6 Operating Base Expansion projects future base capacity at Central, Atlantic and Ryerson bases to support projected transit fleet growth. In the event of significant increase in transit service or mitigation of regional freeway construction projects, additional base capacity will be needed at the South Base in Tukwila, where currently all South King County service is located.

Metro Connects: King County Metro's Draft Long-Range Vision, 2016

King County Metro has released its draft long-range plan called *Metro* Connects. This plan creates a vision for the future of King County's public transportation system, by inviting transit customers, King County cities, Sound Transit and other transit agencies, businesses, and others to share their needs, hopes, and ideas for getting around better. This brief summary will focus on strategies King County has identified to support access to transit, rather than service improvements, which are discussed in the Service and Policy Recommendations of this plan.

Alternative Services Program

The Alternative Service Program develops right-sized, community-driven transit service to meet specific needs and expand the voices available for different types of trips. Alternative services are collaborations with nonprofit organizations, jurisdictions, and community groups to identify needs of local communities. Current alternatives services include the rideshare and vanpool services provide by King County Metro, and a number of other innovative services provided through community partnerships. Metro is also open to partnering with a real-time ride-share apps, and other emerging transportation services.

InMotion

One of KCM's successful TDM programs is InMotion, which is a pledge-based program where participants pledge to change their travel behavior and receive an ORCA card with two weeks of unlimited travel in the mail. InMotion targets cities and neighborhoods in King County and previously had a campaign in Tukwila.

Pass Programs

Transit pass programs offer administrative cost advantages to organizations looking to provide transit subsidies to part or all of their populations. KCM is currently using pass programs to grow transit/HOV ridership with passes and reach new markets.

Non-Motorized Ways to Access Transit

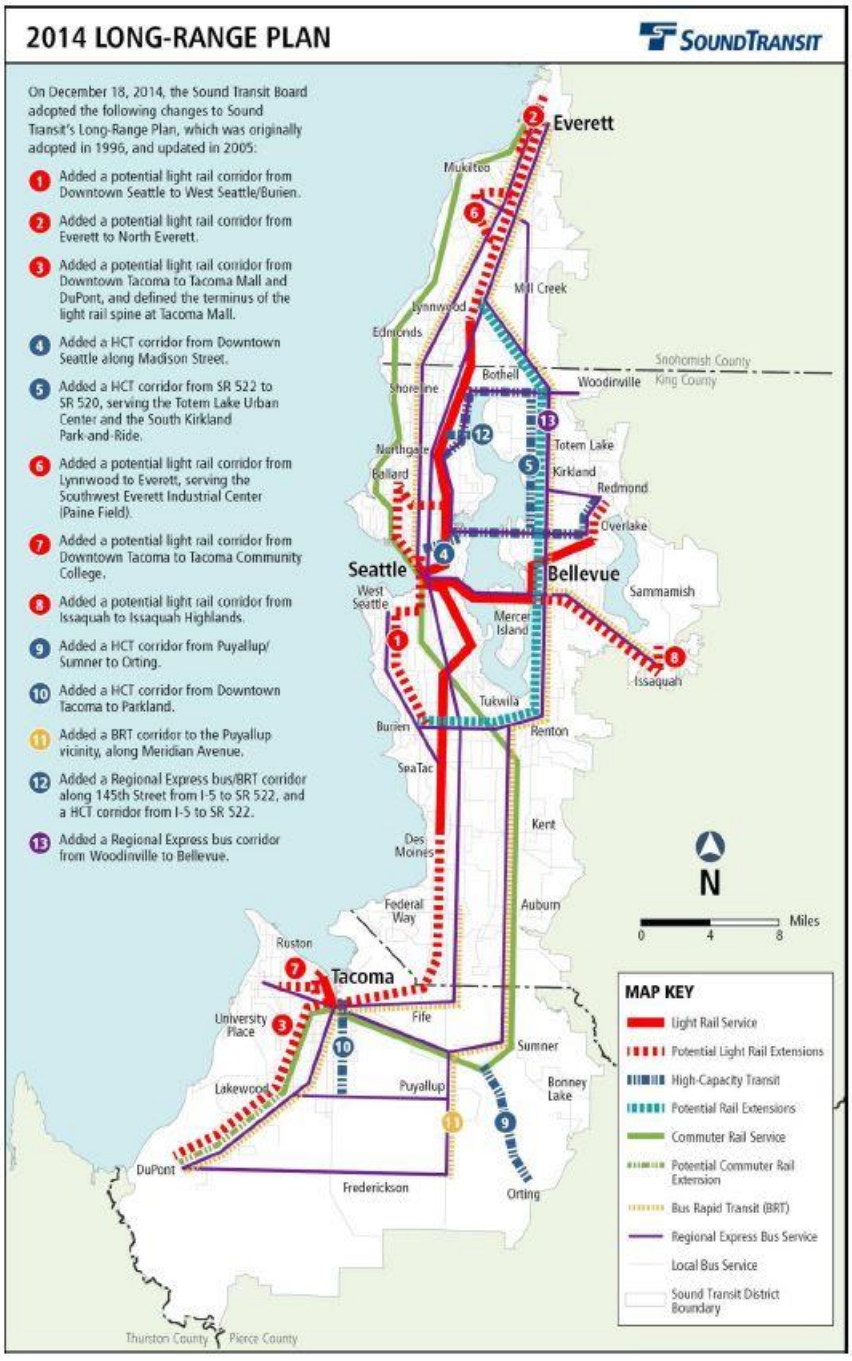
KCM envisions easier ways to access transit by many different modes. Transit facilities, including bus stops, stations, major transit centers, and park-and-rides, would accommodate both more passengers and new multimodal travel options. Walking and biking improvements could include sidewalks, trails, good lighting, grading, bike lanes, and bike parking. King County Metro is looking to coordinate with cities making these improvements near transit.

Sound Transit Regional Transit Long-Range Plan, 2014

The Regional Transit Long-Range Plan represents Sound Transit's goals, policies, and strategies to guide the long-term development of the high-capacity transit system. The Plan is intended to guide how the Sound Transit system can best address the region's mobility needs and support growth management objectives.

In the Plan, a potential rail extension is highlighted in Tukwila, though it does not specify light rail or otherwise, see Figure 7.

Figure 7 Sound Transit Regional Transit Long-Range Plan



Source: Sound Transit Long Range Plan, 2014

Sound Transit 3: Candidate Projects List, 2015, and Draft Plan, 2016

As part of the planning process to determine how and where the Puget Sound regional mass transit system should expand, Sound Transit released a Draft Priority Projects List of representative projects to be considered as possible candidate projects for Sound Transit 3 (ST 3):

- *C-09 Infill Light Rail Station: Boeing Access Road*. This project would add an elevated Link light rail station in the vicinity of Boeing Access Road.
- *C-10 Infill Sounder Station: Boeing Access Road*. This project would add a commuter rail station to the existing South Sounder service in the vicinity of Boeing Access Road along the BNSF tracks.
- *C-12 Additional Parking at Tukwila International Boulevard (TIB) Station*. This Project would evaluate demand and examine the additional cost and operational considerations for adding parking at the TIB station.
- *E-02 I-405 Bus Rapid Transit: Lynnwood to SeaTac/Burien in HOV/Managed Lanes*. This project would establish Bus Rapid Transit that would operate primarily in HOV/managed lanes from Lynnwood to Burien Transit Center. The closest stops to Tukwila would be at Tukwila International Boulevard Station and a new parking structure and station in South Renton.
- *P-06 Study: Light Rail Transit Directly Linking Burien to Tukwila and Renton*. This study would examine and conduct environmental analysis of a light rail extension from Burien to Tukwila and Renton.

In 2016, Sound Transit released a draft ST3 plan. Of the candidate projects listed above, three projects that would provide new service to Tukwila have been included:

- Infill Light Rail Station: Boeing Access Road
- I-405 Bus Rapid Transit
- HCT Study: Light rail extending from West Seattle to Burien, Tukwila, and Renton

Transit Supportive Planning Toolkit, 2013

The Puget Sound Regional Council prepared a toolkit for communities to create transit-supportive plans with case studies on policy and practice based on three elements:

- *Coordinating land use and transportation*. Promote and develop compact, mixed-use, equitable communities around transit. This also includes strategically managing parking in pedestrian- and transit-oriented areas.
- *Supporting multimodal mobility*. Working closely with transit agencies, neighboring jurisdictions, and the community to strengthen multimodal solutions to help meet transportation needs and encourage alternatives to driving alone.
- *Connecting people to transit*. Provide access to transit through complete streets.

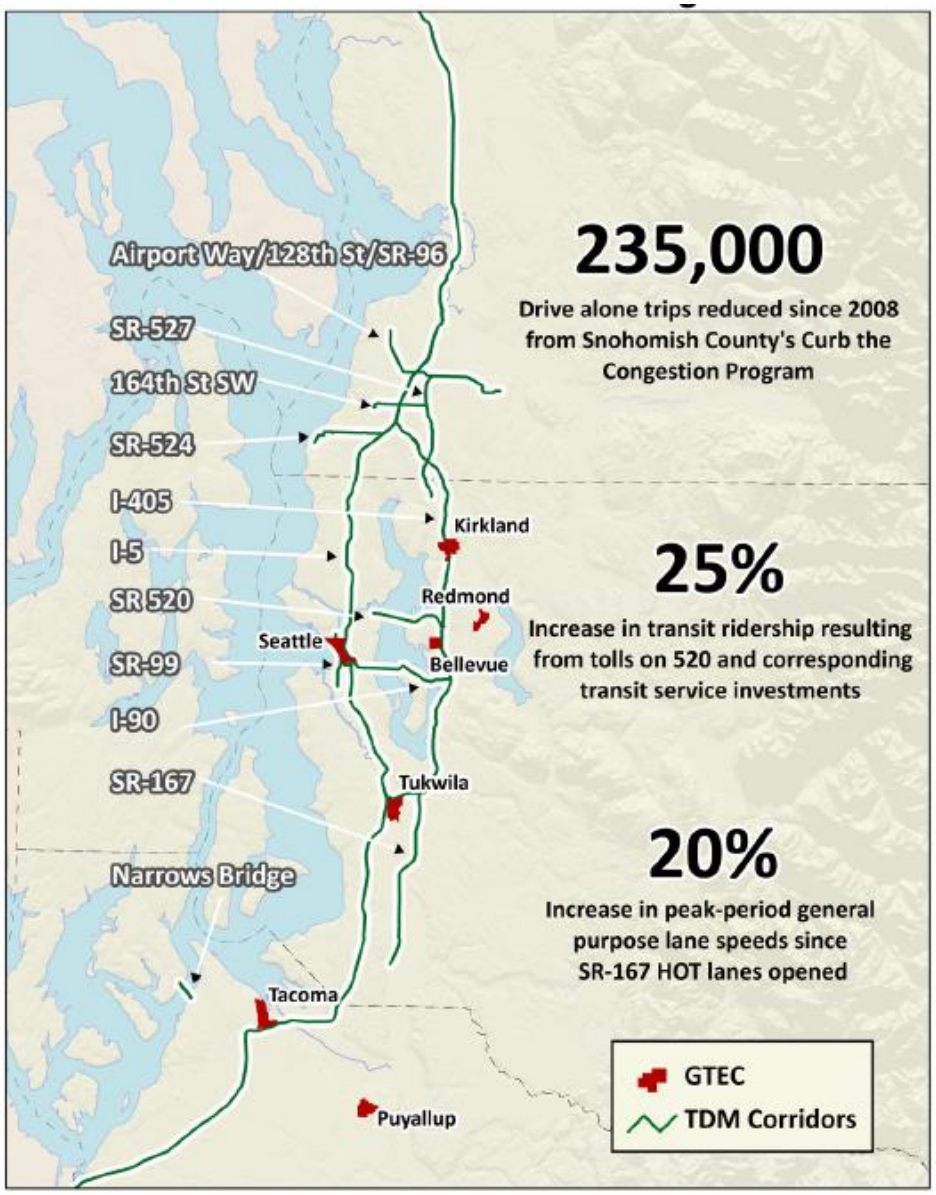
Regional TDM Action Plan, 2013

The Puget Sound Regional Council published a plan for transportation demand management (TDM) in the state, regional and local context. The Plan describes the strategic priorities that TDM implementers across the region continue to pursue and recommends implementation actions for the Puget Sound Regional Council and TDM Steering Committee to support and augment the work happening at the local level.

The Region's Strategic TDM Priorities

- *Maintain and grow successful, foundational TDM activities across the region, that are center and corridor*-based. A TDM corridor, I-5, runs through Tukwila and its Growth and Transportation Efficiency Center (GTEC), the Tukwila Urban Center (TUC), see Figure 8. Many commute trip reduction programs target large employers, but GTECs allow local jurisdictions to target smaller employers, residents and students with commute option programs in congested areas.
- *Expand local and regional residential and neighborhood programs*. Most demand management programs operate at the employer-level, and there are opportunities to encourage alternative transportation for non-work trips. King County Metro's In Motion program targets neighborhoods in King County and asks residents to join the program and a take a pledge to change travel behavior.
- *Explore regional and locally-appropriate parking management tools*. One of the strongest levers for decreasing drive alone trips is the supply of abundant free parking. Managing the supply of parking strategically, especially on-street and locally controlled lots, can encourage individuals to try other options while maintaining easy access and mobility for the system as a whole.
- *Improve multimodal connections and access to efficient transportation options*. Good access to bicycle and pedestrian facilities can encourage that use of transit and other alternative modes.

Figure 8 TDM Corridors and GTECs in the Puget Sound



Source: PSRC Regional Action Plan, 2013

PSRC Transportation 2040: Toward a Sustainable Transportation System

The Puget Sound Regional Council (PSRC) adopted Transportation 2040 (the 2010 Metropolitan Transportation Plan) as the long range transportation plan for the four-county central Puget Sound region. PSRC maintains a common vision for the region's future, expressed through three connected major plans: Vision 2040, the region's growth strategy, Transportation 2040, and the Prosperity Partnership, which develops the region's economic strategy. Transportation 2040 lays out a set of steps that are designed to improve transportation to move people and goods, improve the quality of the region's air and water, and strengthen the economy.

Key Themes

- *Centers*. Tukwila is listed as a regional growth center, and is a major focal point of higher density population and employment served with efficient transportation. North Tukwila is listed as one of eight manufacturing and industrial centers, where concentrated industrial land uses cannot be easily mixed with other activities.
- *Transit-Oriented Communities*. The development of high-capacity transit system offers an important opportunity to create and enhance growth centers and meet regional growth objectives.
- *Centers-Based Transportation Demand Management*. Tukwila is also listed as one of seven regional activity centers part of the Growth and Transportation Efficiency Center concept, for which a transportation demand management plan outlines strategies that target local businesses and residents to reduce the percentage of single-occupant vehicles traveling to, through and from the center.
- *Increase in Transit Service for Work and Non-Work Trips*. Transportation 2040 calls for significant increases in regional and local transit service by 2040, and to continue to implement a high-capacity transit system along logical corridors that connect regional growth centers. Three levels of service are outlined for different urban contexts: Core Transit Services, Community Connector Transit Services, and Specialized Transit Services.
- *Transit-Supportive Corridors*. Joint work between transit agencies and local jurisdictions to implement bus rapid transit and improve bus service in the Puget Sound, have identified capital investments in the roadway of corridors in Snohomish, King, Pierce and Kitsap Counties.

Planned Transit Infrastructure Improvements in Tukwila

- *Passenger Rail Station Improvements*. In conjunction with Sound Transit, Amtrak and local jurisdictions, station improvements will be made at Tukwila and Seattle.

2016 Washington State Public Transportation Plan

The 2016 Washington State Public Transportation Plan is an update to the 2007-2026 Washington Transportation Plan and seeks to have all transportation partners work together to provide a system of diverse and integrated public transportation options. Through five goals, the Plan outlines ways to achieve a common vision: "Transportation partners in Washington work together to provide a system of diverse, integrated public transportation options. People throughout the state use these questions to make transportation choices that enable their families, communities, economy and environment to survive." The five goals are:

1. **Thriving Communities**. The benefits of public transportation go beyond moving people from one place to another; transit provides access to jobs, healthcare, and schools and supports sustainable travel options. Recommended strategies include: develop additional strategies for local jurisdictions and partners to reduce drive-alone vehicle trips, pilot efforts to integrate access to transit and land use planning, continue to develop methodologies to create an integrated multimodal system, and clearly identify human services transportation needs and gaps.

2. **Access.** Provide and sustain transportation that allows people of all ages, abilities, and geographic locations to access jobs, goods, services, schools and community activities. Recommended strategies include: gather and use data that provides a complete pictures of public transportation performance metrics, develop recommendations that overcome barriers and improve coordination and efficiency of special needs services, and maximize the effectiveness of park and ride lots.
3. **Adaptive Transportation Capacity**. Use new technologies and partnerships to make better use of existing transportation assets and meet changing customer needs. Recommended strategies include: establish an innovation center to foster and support public transportation innovation and adaptation, and pilot the use of a multimodal, corridor level mobility index.
4. **Customer Experience**. Enhance everyone's transportation experience by providing public transportation that is safe, seamless, pleasant, convenient, reliable, relevant and understandable. Recommended strategies include: support Target Zero Plans to reduce pedestrian and bicycle fatalities and injuries, provide tools and techniques to be used by transportation providers to enhance customer experience, and support efforts to make it easier for customers to pay for transit services, regardless of agency or mode.
5. **Transportation System Guardianship**. Protect, conserve and manage Washington's transportation assets in a manner that maximizes and sustains their value to the public, and the transportation system. Recommended strategies include: increase stakeholder and public understanding of the value of public transportation, advance opportunities for integrated, multimodal investments, and identify ways to help jurisdictions and transit providers to better prepare for emergencies and disasters.

3 EXTERNAL CONDITIONS ANALYSIS

This chapter summarizes the external conditions that affect transit service planning in Tukwila. An analysis of demographic and employment data was conducted to identify populations that may have a higher propensity to use transit. This analysis highlights where these populations are well-served by transit and where there are potential gaps.

DEMOGRAPHIC ANALYSIS

This section explores the demographic and socio-economic characteristics in the Tukwila service area, and focuses on population segments that have a higher likelihood to use transit.

Population

As can be seen in Figure 9, at this time most of Tukwila's population density lies within the central portion of the city, bounded by Interurban Avenue to the east and Military Road to the west. The only visible density in north Tukwila is in Allentown. There is virtually no residential population in Southcenter.

Figure 10 shows projected population changes between 2013 and 2031. Tukwila South and TUC are expected to see the highest levels of population growth in Tukwila, while other areas are expected to grow as well. While TUC has extensive transit service today, Tukwila South does not. As population in this area increases, additional transit service should be considered to improve mobility to and from the area.

Employment

Figure 11 shows the employment density in Tukwila, which is mainly concentrated to the north and the south. Within the northern half of the city, jobs are primarily concentrated to the west of East Marginal Way (with the exception of the retail centers to the east of Interurban Avenue, just south of Allentown).

Notable employers in northern Tukwila (Figure 12) include Boeing, Group Health Cooperative, King County Metro, and USPS. Jobs in the southern half of Tukwila are concentrated in TUC. Southcenter Mall is home to several major employers, including Nordstrom, Macy's, and J.C. Penney. Other notable employers in the area include Costco, City of Tukwila, and Red Dot Corporation.

Employment growth is shown in Figure 13. Employment is projected to increase significantly in Tukwila from 2010 to 2040, particularly in TUC, Tukwila South, and areas along Gateway Drive and East Marginal Way south of SR-599.

Transit Demand

Figure 14 is a transit demand map, which combines population and employment densities as a measure for predicting likelihood that a given area can support successful fixed-route transit. It is important to note that high population and employment density *combined* is perhaps the best indicator of where transit demand is expected to be the highest. Areas with high population or employment density alone can indicate areas of higher transit demand, but when they are not combined, that demand is often peak-oriented rather than all-day demand. Based on this analysis, areas that should produce the most demand for transit are to the north (around Boeing) and to the south (bounded by I-405 and South 180th Street). Other locations with notable combined densities include western Tukwila along the South 144th Street corridor as well as the commercial area just south of Allentown, which is only served by limited peak hour service on Route 154.

Socio-Economic Factors

Zero-vehicle households are more likely to use available transit services than car-owning households. While some households are car-free by choice, vehicle ownership generally shares a strong relationship with household income. A review of Figure 15 and Figure 16 reveal that the highest concentrations of zero-vehicle and low income households are within central Tukwila, located along the Tukwila International Boulevard corridor and within the area bounded by Interurban Avenue, I-5, and I-405.

Specific Population Segments

Other populations that often depend on transit are seniors (adults 65 and older) and youth (aged less than 18 years), because they are either unable to drive or do not have access to a vehicle. As can be seen in Figure 17, the highest concentrations of seniors are located to the west along the Tukwila International Boulevard corridor and within the area bounded by Interurban Avenue, I-5, and I-405. Concentrations of the youth population (Figure 18) largely mirror those of the senior population, but with slightly more geographic coverage. There is also a noticeable presence of the youth population in Allentown.

Transit Dependency

A transit dependency map, shown in Figure 19, was created by combining densities of seniors, low-income households, households without vehicles, and disabled populations. Combining these factors illustrates where transit needs are highest. Based on the combined densities of these groups, the most anticipated need for transit in Tukwila occurs within central Tukwila, with the highest concentrations occurring along the Tukwila International Boulevard corridor and within the area bounded by Interurban Avenue, I-5, and I-405. These areas are served by Routes 124 and 128, which generally operate at least every 30 minutes throughout the day. Some of these areas are also served by the RapidRide A and F lines and Link.

Figure 9 Population Density

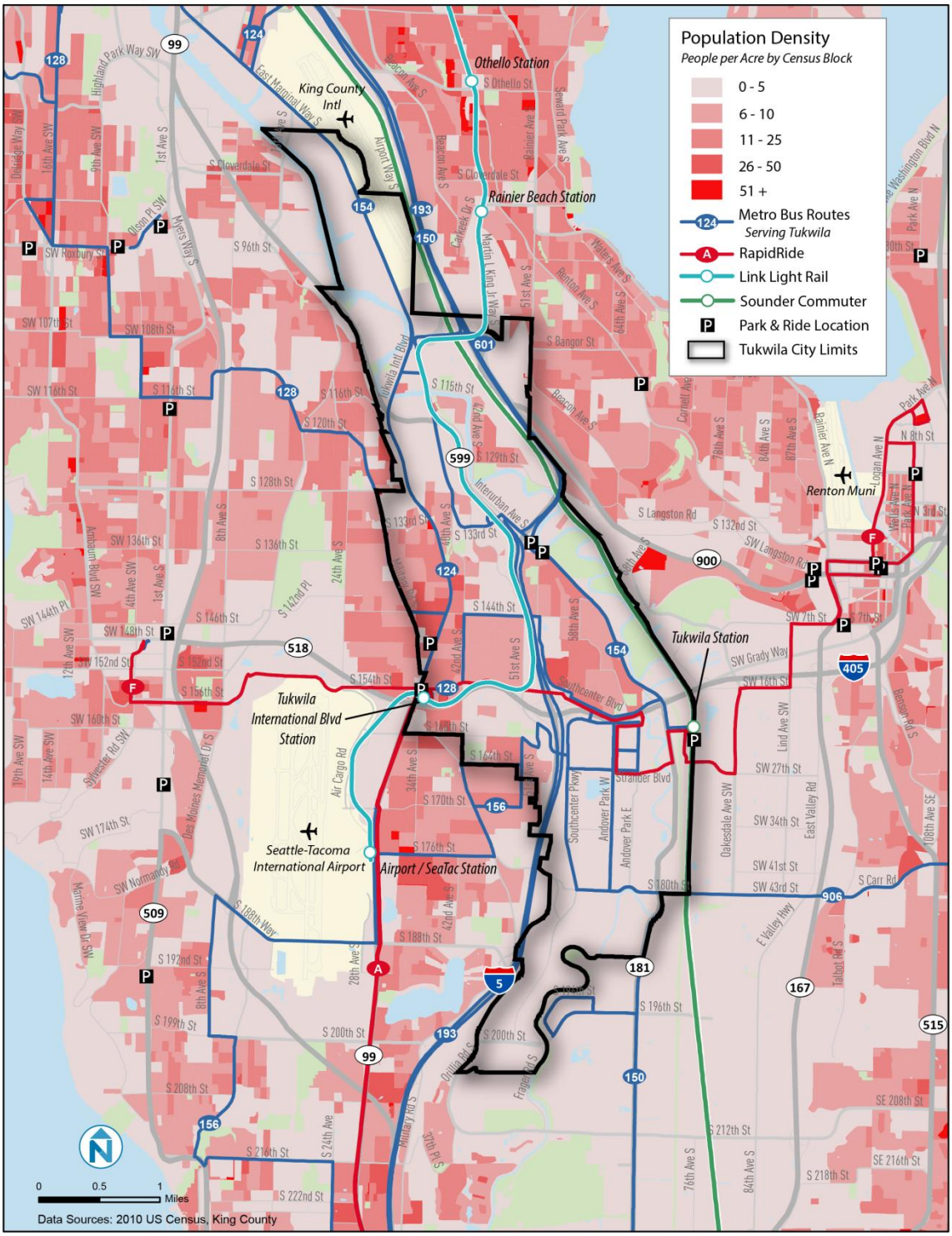


Figure 10 Projected Population Change, 2013 - 2031

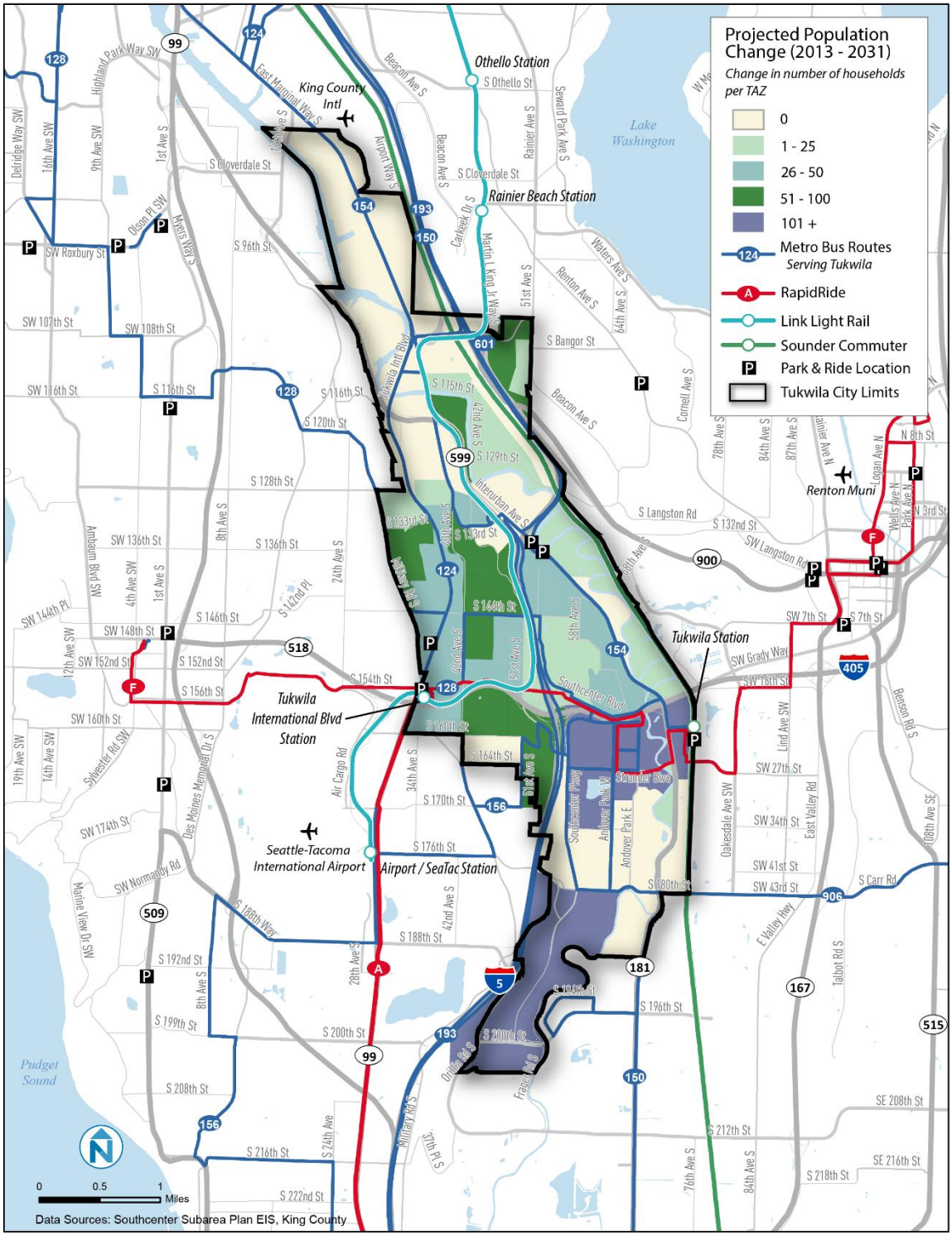


Figure 11 Employment Density

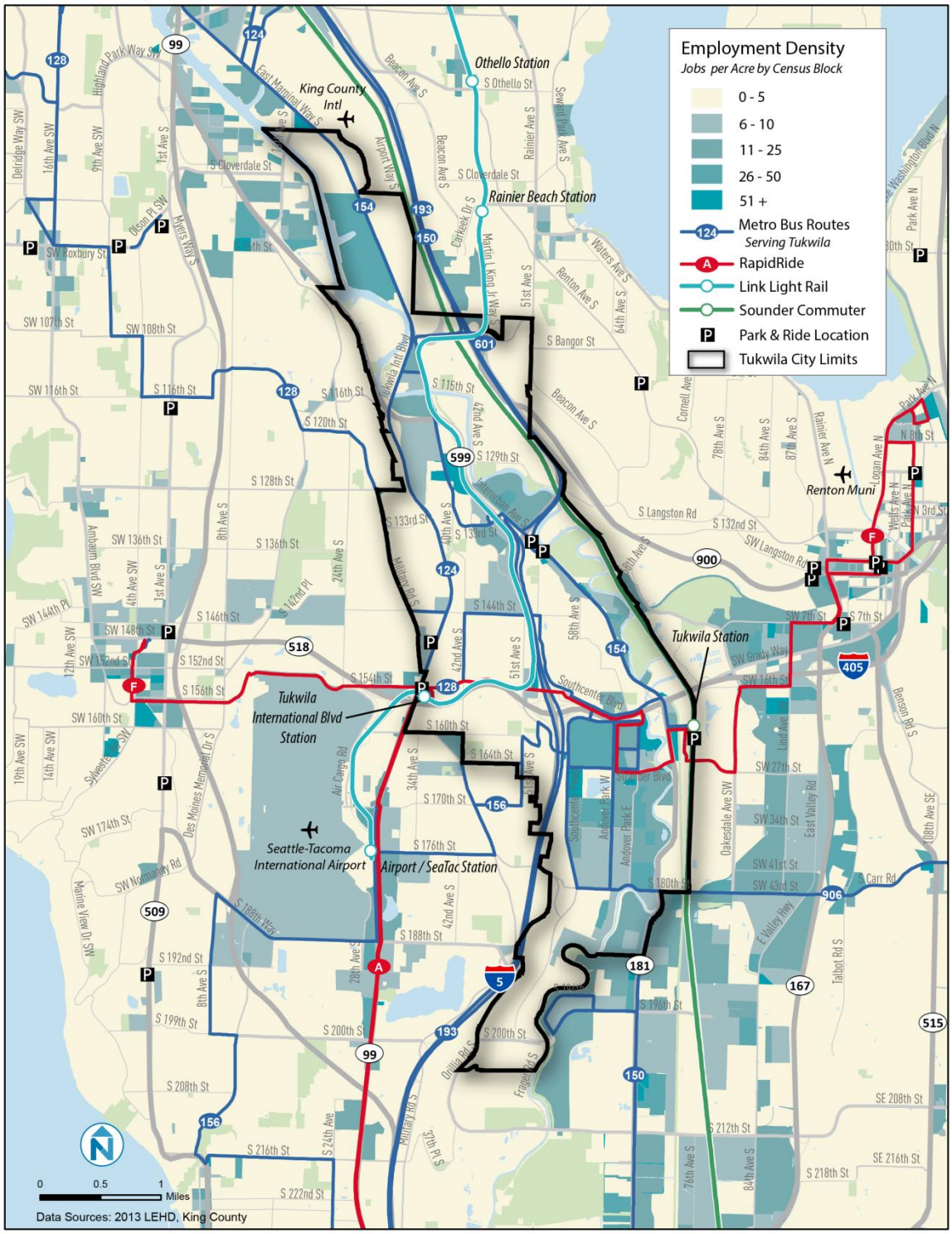


Figure 12 Major Employers

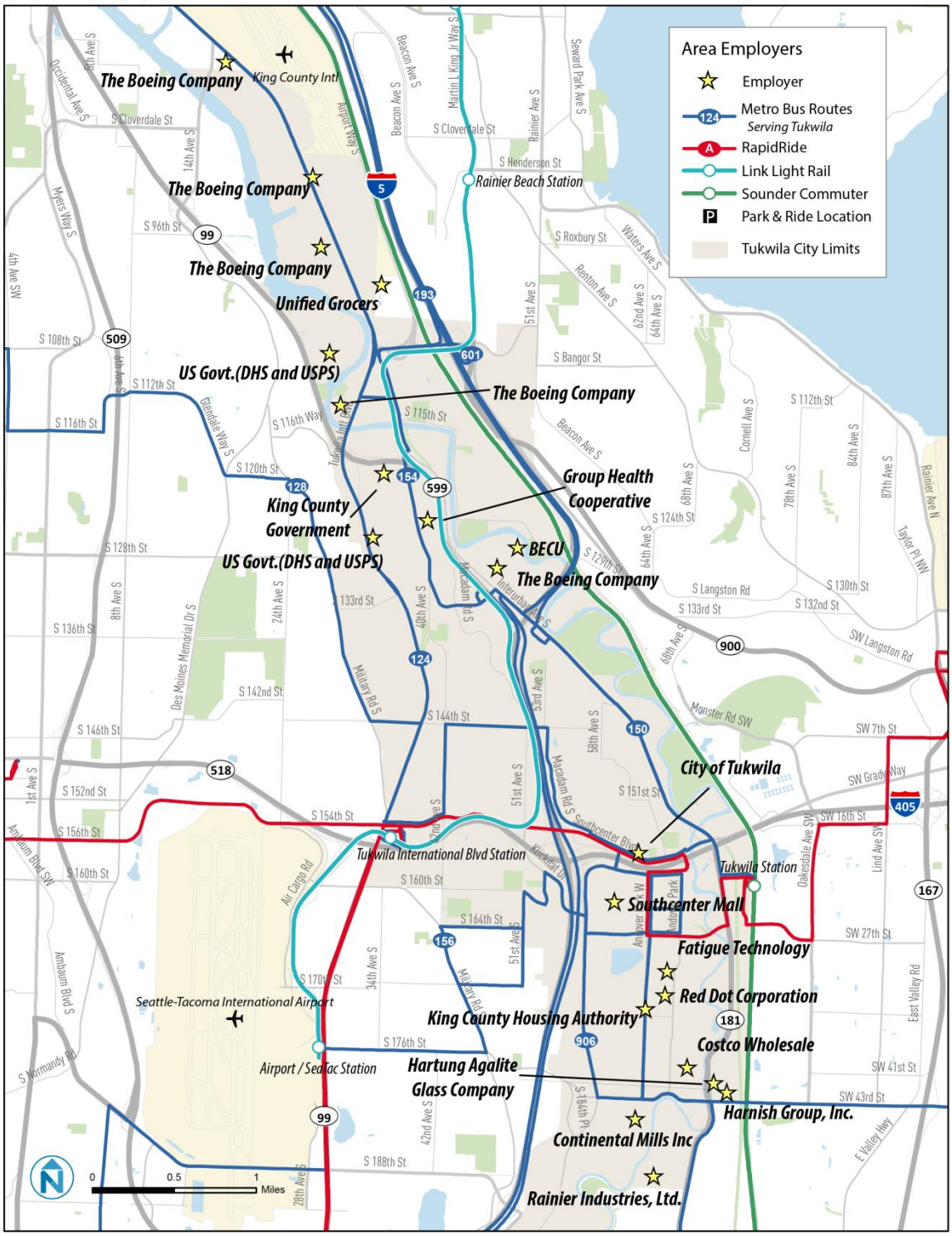


Figure 13 Projected Employment Change, 2010-2040 (PSRC Travel Demand Model)

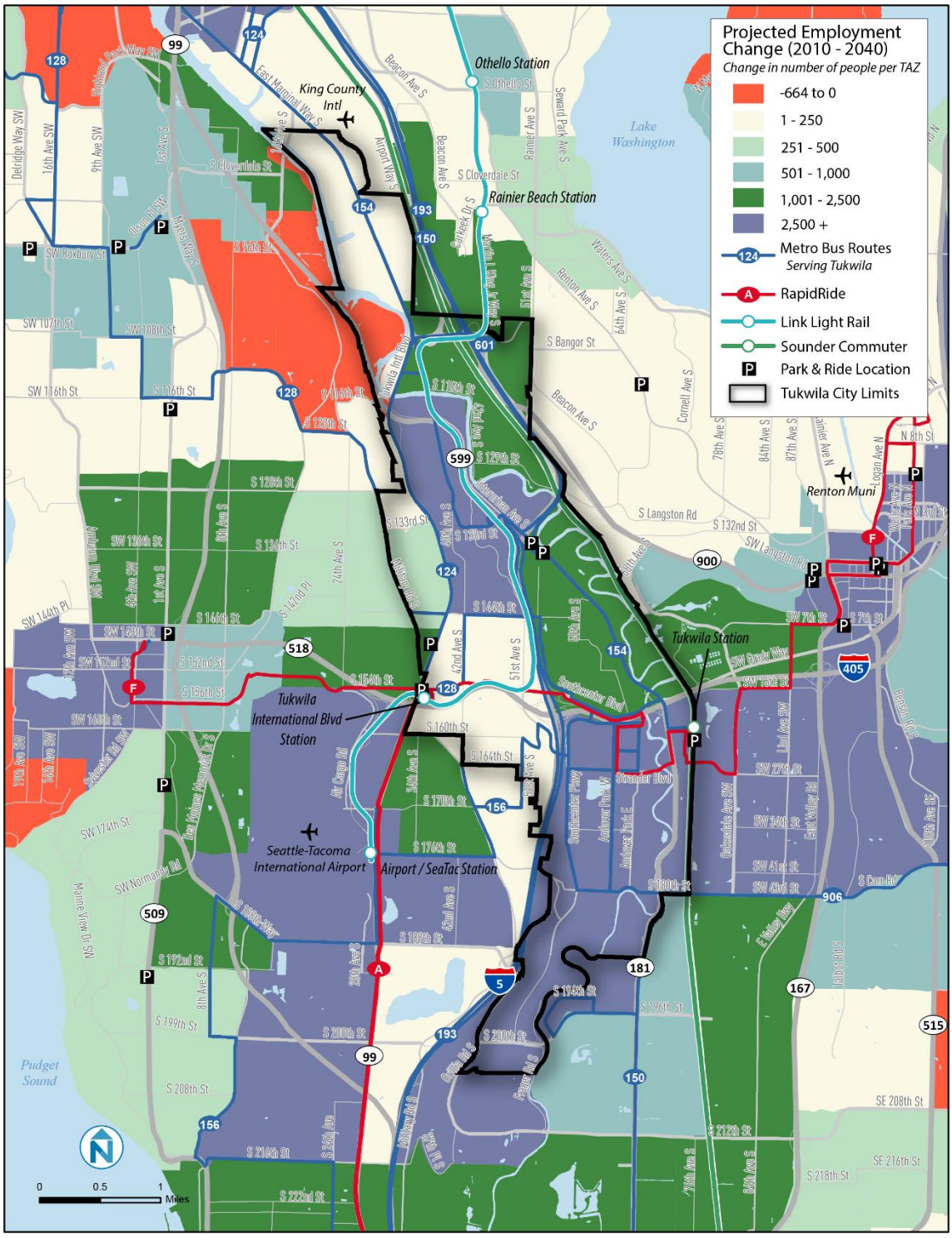


Figure 14 Transit Demand

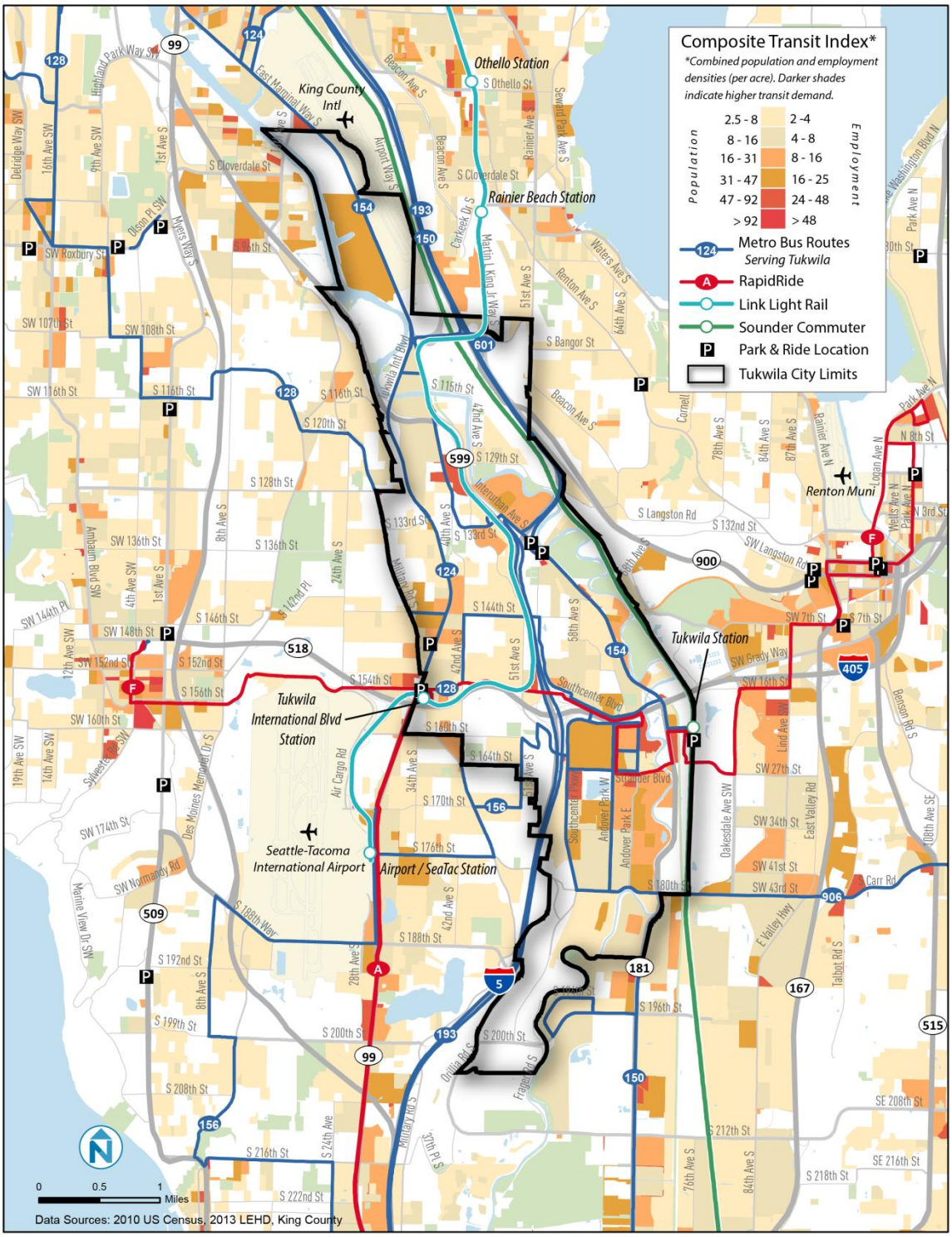


Figure 15 Zero Vehicle Household Density

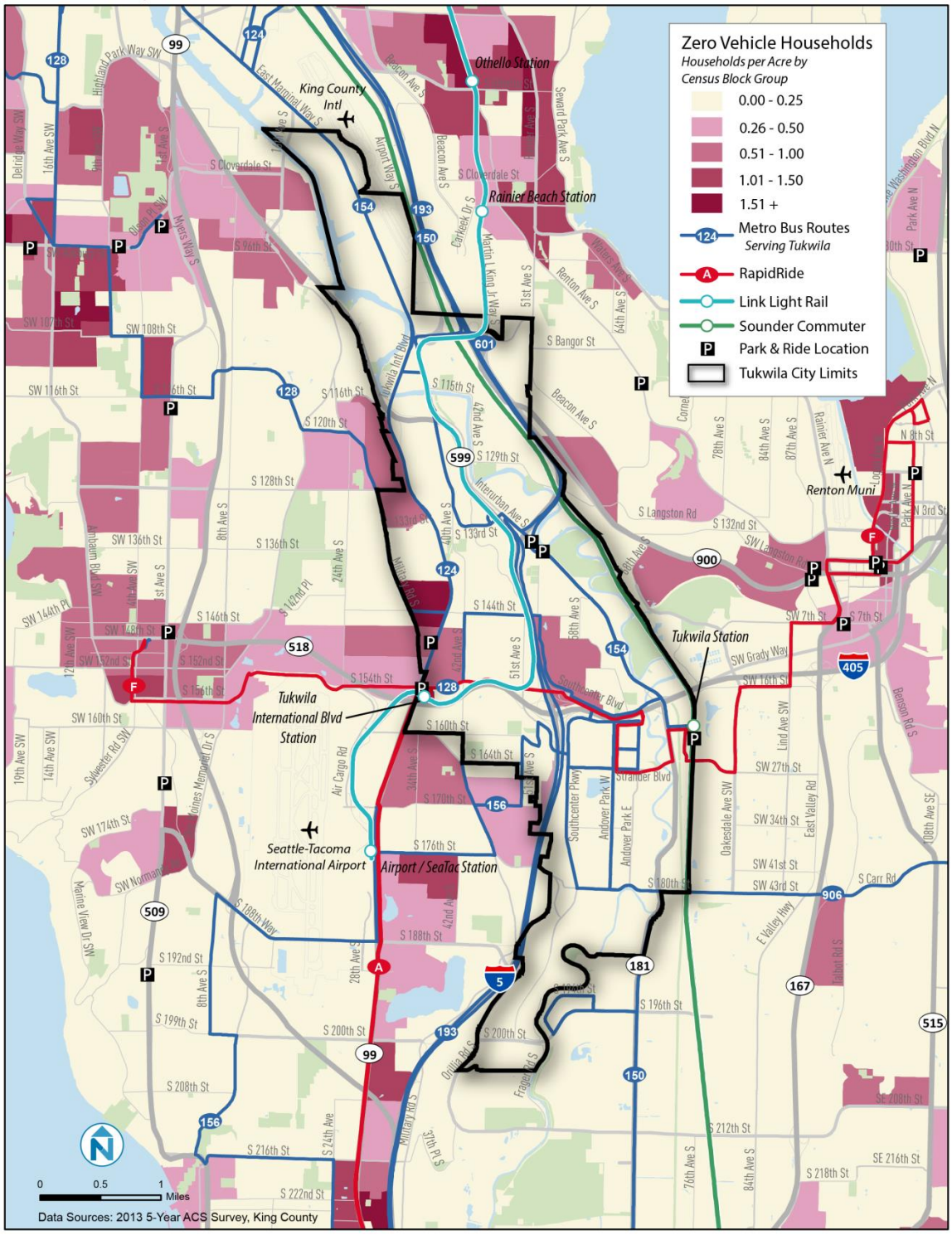


Figure 16 Density of Households in Poverty

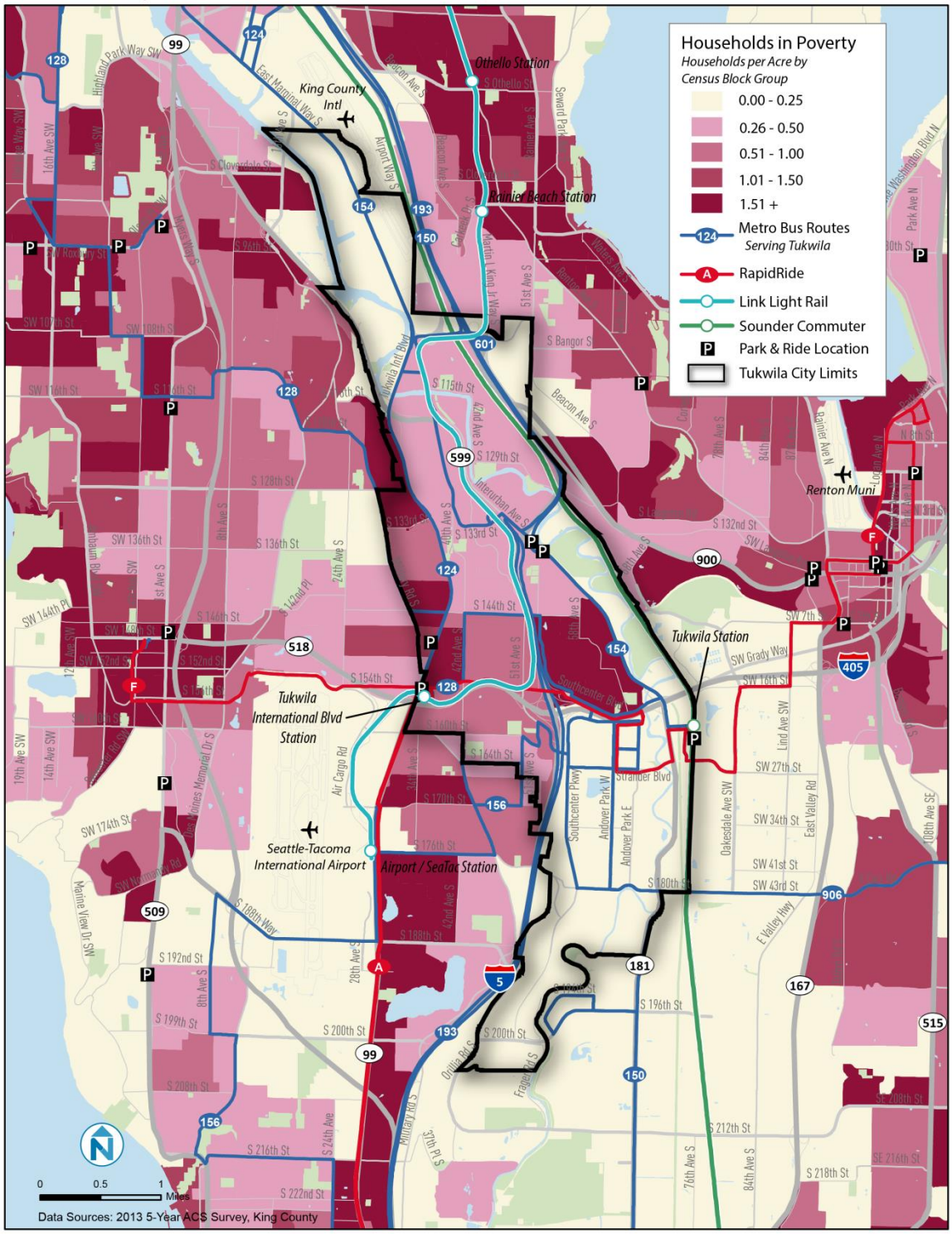


Figure 17 Senior Density

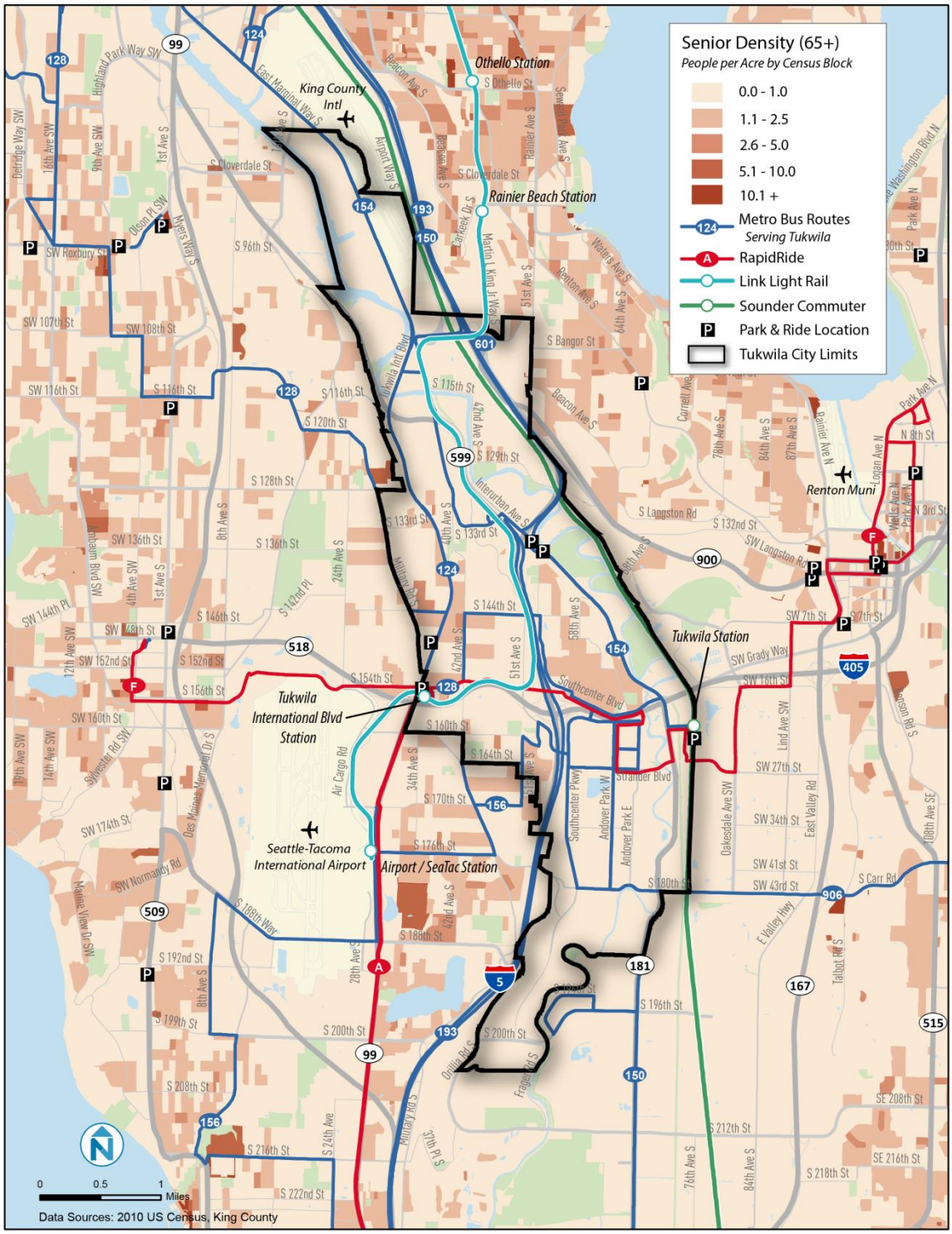


Figure 18 Youth Density

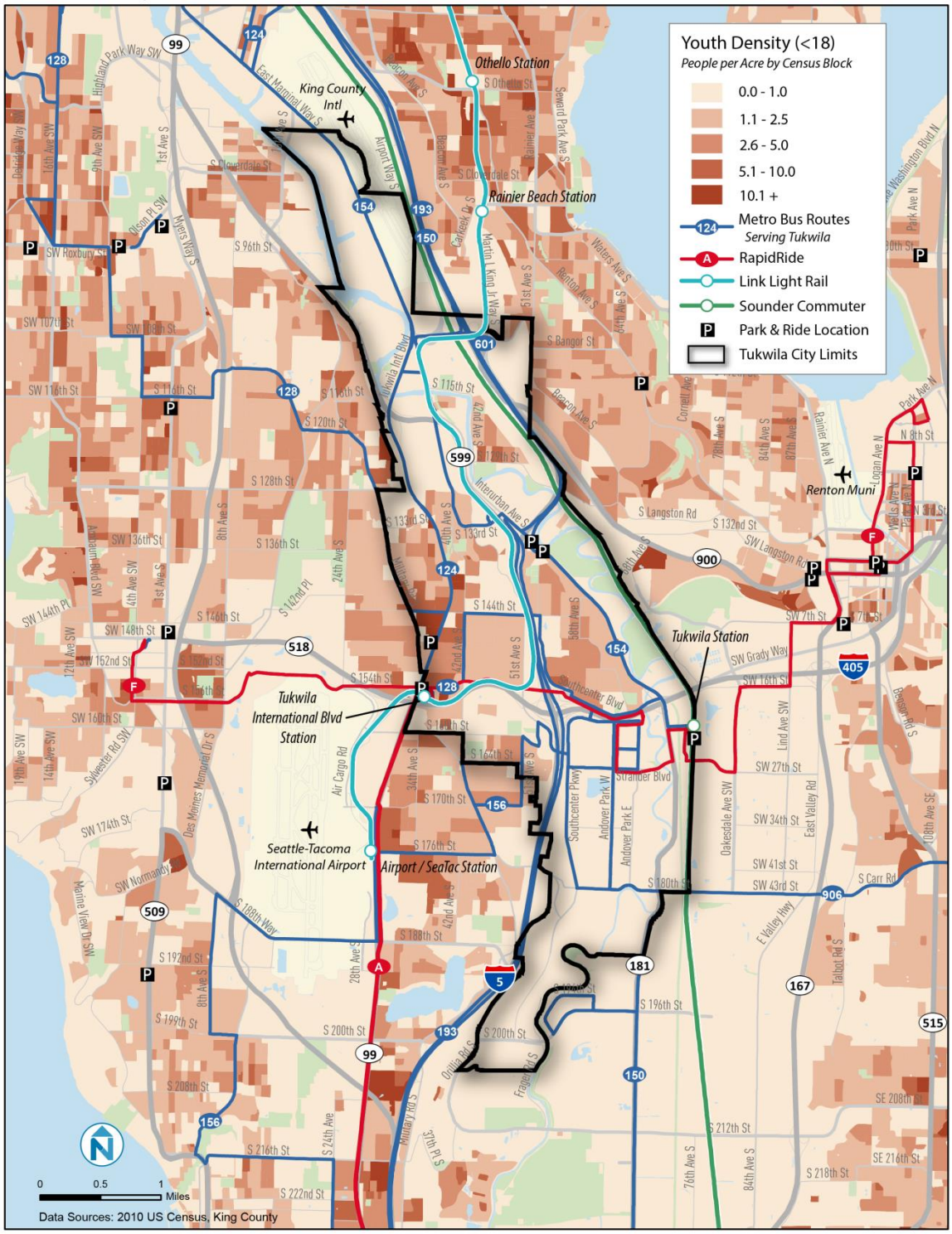
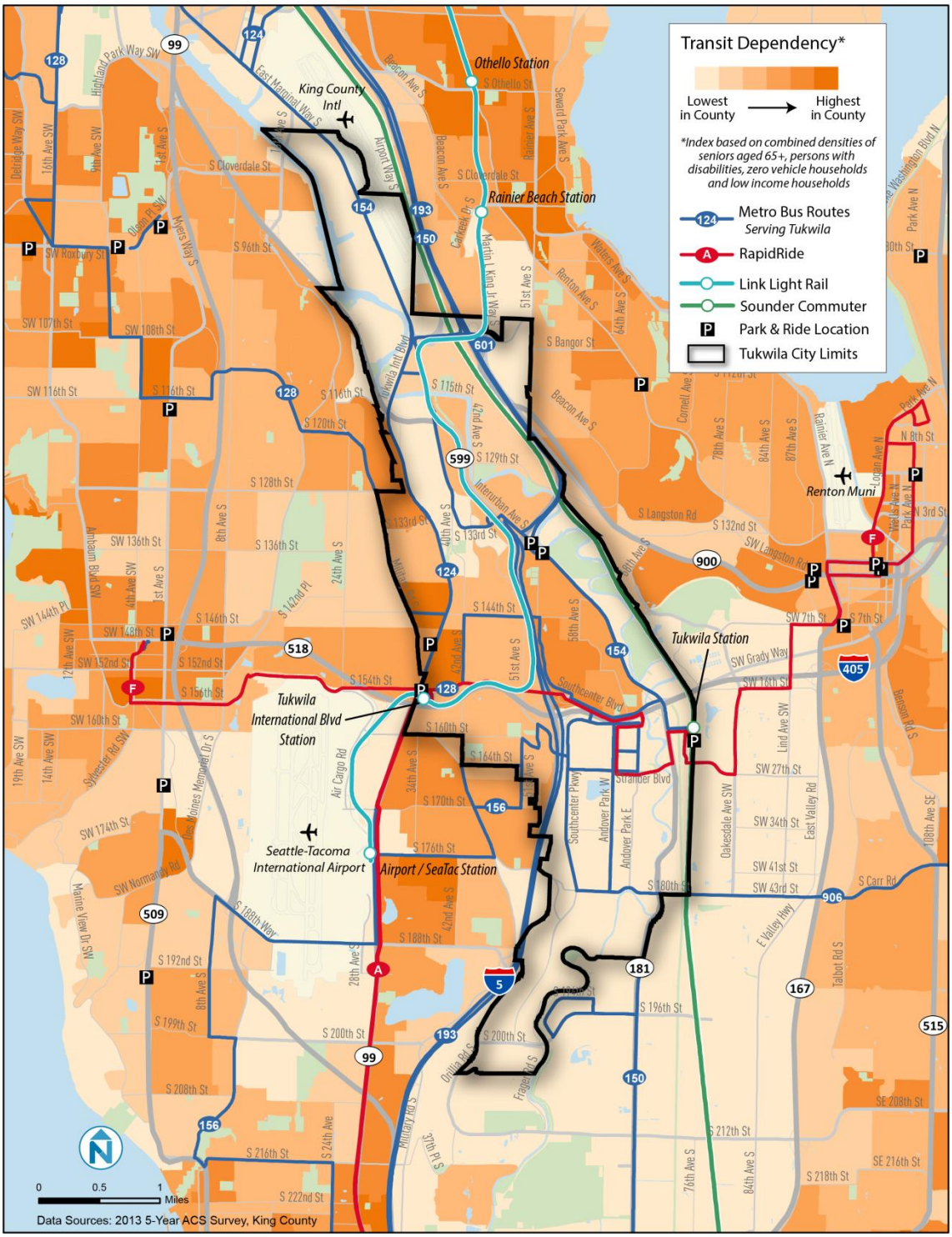


Figure 19 Transit Dependency



4 TRAVEL DEMAND ANALYSIS

OVERVIEW

This chapter summarizes the current travel demand patterns between Tukwila and other portions of King and Pierce counties. Two data sources were used for this analysis:

- **U.S Census LEHD:** Home-to-work travel patterns were analyzed based on groupings of Census blocks within the City of Tukwila. This analysis employed Longitudinal Employer-Household Dynamics (LEHD) data to isolate the commuting patterns of employees who live and/or work within the northern, southern, eastern, or western portions of Tukwila.
- **PSRC Travel Demand Model:** All types of trips, including work, school, and other, were analyzed using data from the PSRC regional travel demand model. The PSRC model estimates both current and future travel, so the analysis was conducted using trip patterns from the year 2010 as well as projected travel in the year 2040.

ANALYSIS BY AREA

North Tukwila

Work Trips

As can be seen in Figure 20, which shows the home locations of workers employed in north Tukwila, the area is a major trip generator for commuters across the Puget Sound region. However, being that there are not many residential units in the area, there is only a small pocket of residents around Allentown who are employed in north Tukwila. Among all working residents who live in north Tukwila (Figure 21), the highest concentration is employed in downtown Seattle.

All Trip Types

Based on PSRC data, all-purpose trip activity is high (more than 4,000 trips) between north Tukwila and downtown Seattle, Burien, and SeaTac (Figure 22). There is also significant travel to southeast Seattle and northwest Renton. By 2040, similar trip patterns are projected, with increased travel to and from certain locations, including west and south Tukwila, northwest Renton, and southeast Seattle (Figure 23). These patterns illustrate the need for strong transit service to the east and west, as well as north-south to Tacoma and to downtown Seattle.

Tukwila Urban Center and Tukwila South

Work Trips

Figure 24 shows the home locations of workers employed in the southern portion of Tukwila, an area that includes the Tukwila Urban Center (TUC) and Tukwila South. The home locations of workers employed here see even greater geographic dispersion compared to that of workers employed in north Tukwila, but also exhibit more visible concentrations within and around Tukwila. These pockets include the area to the west bounded by SR-99 and I-5 and communities to the east of SR-167. Due to a scarcity of residential units in TUC or Tukwila South, there is minimal commuter activity from workers residing in the area (Figure 25).

All Trip Types

Compared to PSRC travel data from north Tukwila, all-purpose trips to and from south Tukwila cover a larger geographic area (Figure 26). The highest activity (more than 4,000 daily trips) occurs to and from areas to the south, east, and west, with less travel to the north. There is significant travel to and from Burien, SeaTac, Renton, Kent, Des Moines, Federal Way, and north Tukwila. There is also notable activity to the northeast (Bellevue and Newcastle/Factoria). In 2040, travel patterns are expected to be similar, with significant growth occurring in trips to and from areas to the south (Figure 27). These travel patterns illustrate the need for transit investments that facilitate travel to the east, west, and south, such as further extensions of Link light rail to the south.

East Tukwila

Work Trips

East Tukwila has more residential communities than it does centers of employment. However, while there are fewer total workers commuting into the area when compared to work trips generated from north and south Tukwila, the residential locations of these workers are highly dispersed across the Puget Sound region (Figure 28). The few notable concentrations of worker populations occur in the area immediately to the east of I-5 and north of I-405 and in the area east of Tukwila along the Petrovitsky Road corridor. Among workers who reside in east Tukwila (Figure 29), the highest concentration have jobs in downtown Seattle, followed by TUC. There are also notable concentrations of employment in north Tukwila, Renton, Bellevue, and Redmond.

All Trip Types

As stated above, east Tukwila is highly residential, so the trips shown in the PSRC travel model (Figure 30) are generally made by residents for work, school, and other purposes. Significant activity occurs to and from south Tukwila, south Burien, SeaTac, and southeast Renton. By 2040, patterns of trip activity are projected to remain relatively similar, but with an increase in trips to and from SeaTac and south Tukwila (Figure 31).

West Tukwila

Work Trips

Similar to east Tukwila, the western portion of Tukwila is more residential than it is commercial, and thus attracts comparatively fewer commuters. However, compared to the work travel patterns of other areas of Tukwila, western Tukwila has the most visible cluster of residents who live and work in the same area, with a large portion residing along the Tukwila International Boulevard corridor. As can be seen in Figure 33, the strongest trip generator for workers living in western Tukwila is downtown Seattle. Other strong generators for work trips include Seattle's Industrial District, Sea-Tac International Airport and the surrounding area, TUC, Renton, Burien, and Bellevue.

All Trip Types

According to PSRC data, the highest levels of all-purpose travel activity (more than 2,000 trips) occur between west Tukwila and SeaTac, south Tukwila, and south Burien (Figure 34). There is also notable trip activity to and from downtown Seattle, Renton, and southeast Seattle. By 2040, projected travel patterns are similar, with higher volumes to and from a number of locations (Figure 35).

CONCLUSIONS

Work Trips

In general, commuters employed in Tukwila travel from all parts of the Puget Sound region. This is especially true for workers commuting to sections of Tukwila with big employment hubs (such as Boeing to the north and Southcenter Mall to the south). Existing routes provide a variety of options (both express and local service) for workers traveling anywhere between downtown Seattle and Federal Way. There are currently no one-seat ride offering rides between Tukwila and north Seattle. However, the expansion of Link light rail service to the University District should help address this issue.

While RapidRide F line serves as an important transit link among relatively scarce east-west services, there are still areas east of Tukwila (between Kent and Renton) where workers employed in Tukwila are not within walking distance of transit. Additionally, there is notable commuter activity among workers traveling from Tukwila to Bellevue and Redmond. Currently, these employees do not have direct transit service. Sound Transit is studying a BRT line on I-405 that could meet their commuting needs while also providing more east-west transit options for residents and employees living and/or working in Tukwila, Renton, Bellevue, and in between.

All Trip Types

The all trip types maps illustrate that most travel to and from Tukwila occurs within the I-5 corridor from downtown Seattle to Federal Way, and to the east and west from Burien and SeaTac to Renton. Existing transit services, including Link light rail, Sounder, and RapidRide lines provide good service for these connections. The significant amount of travel to and from north Tukwila illustrates that a Link/Sounder station at Boeing Access Road could provide a valuable connection for people traveling to this area, provided there are convenient bus routes to make last mile connections to destinations. Travel to and from areas to the south is projected to increase

substantially by 2040, illustrating the need for future investments to serve these connections, such as an extension of Link light rail to Federal Way or Tacoma.

Figure 20 Home Locations of Workers Employed in North Tukwila

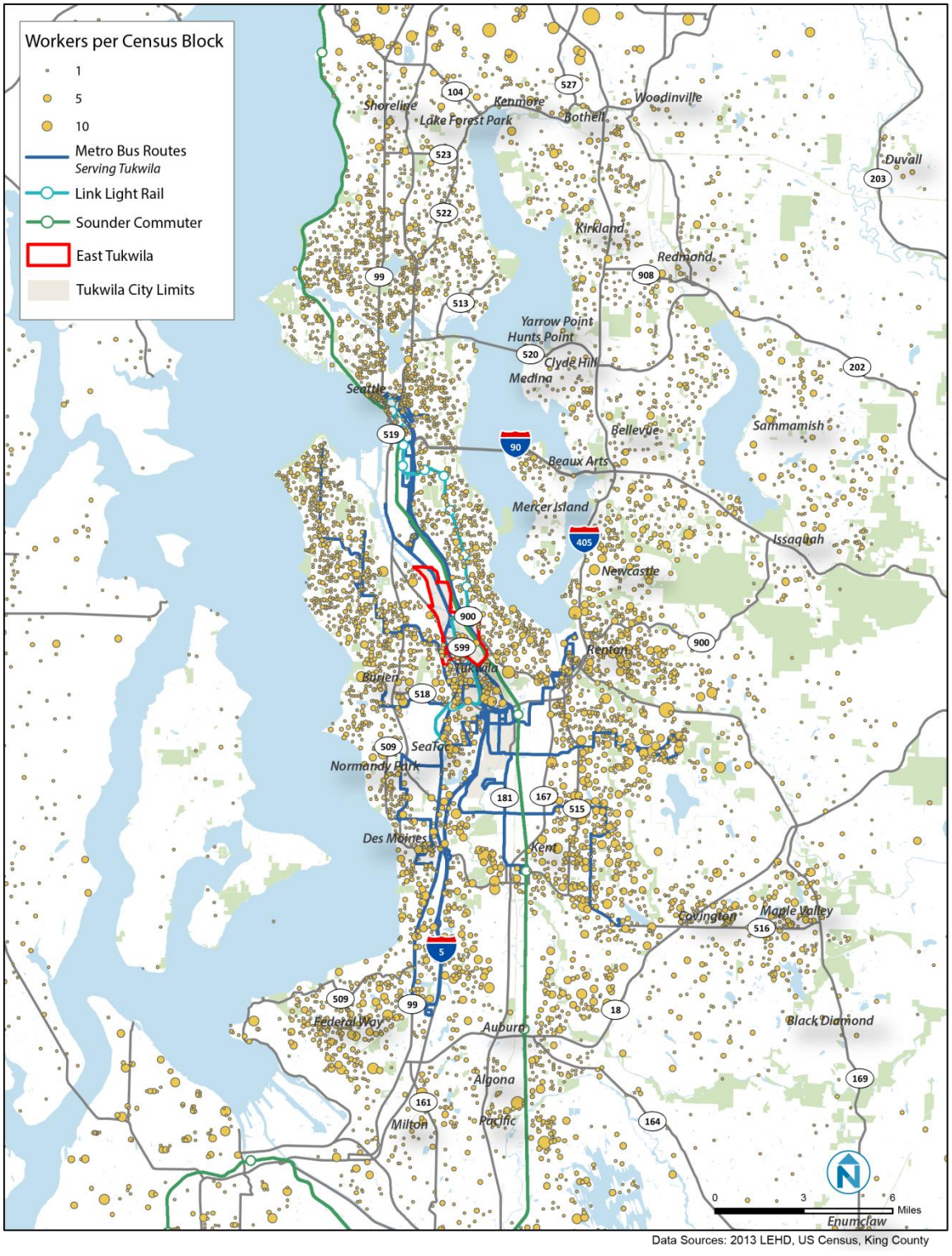


Figure 21 Work Locations of Residents Living in North Tukwila

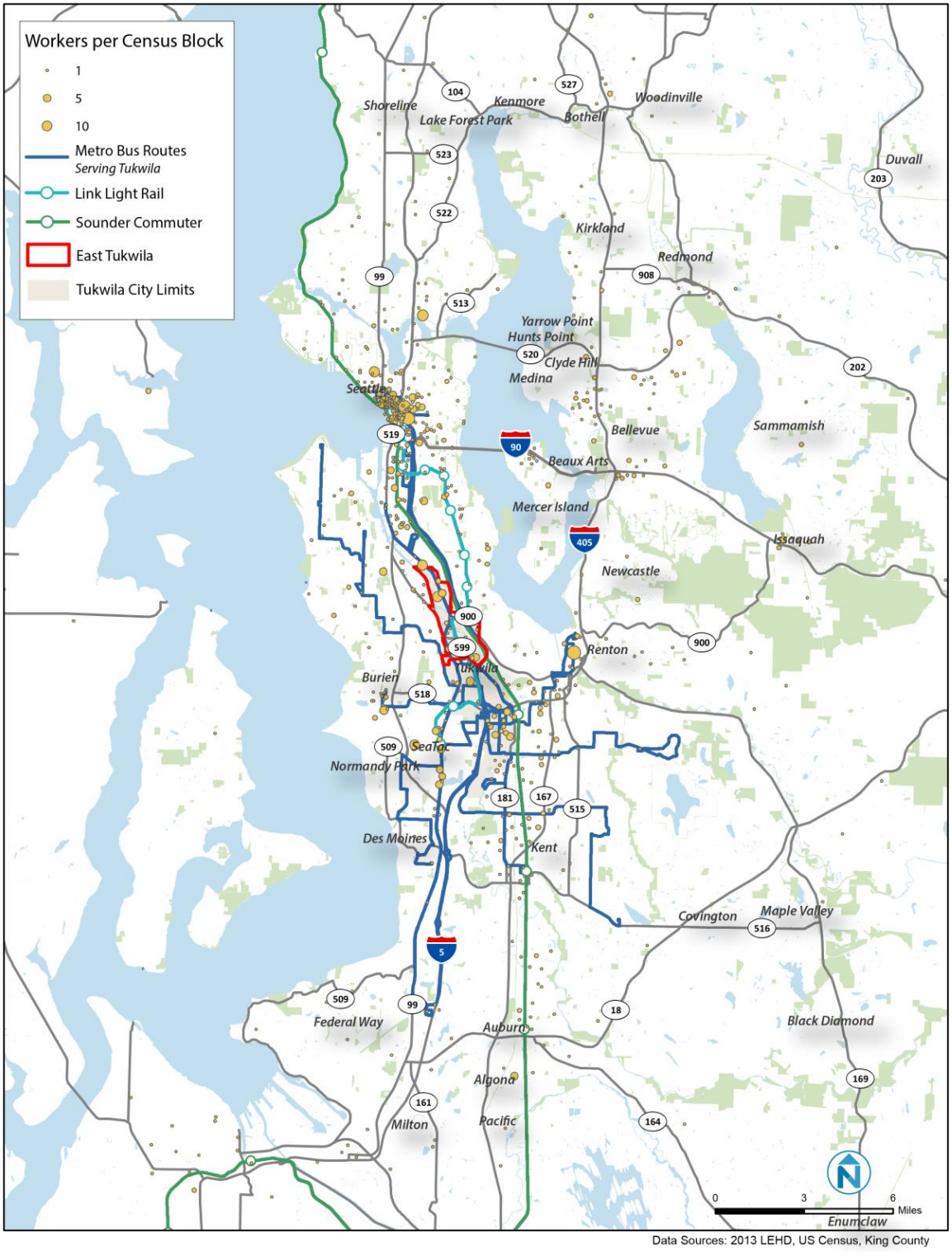


Figure 22 Trips to and from North Tukwila (2010)

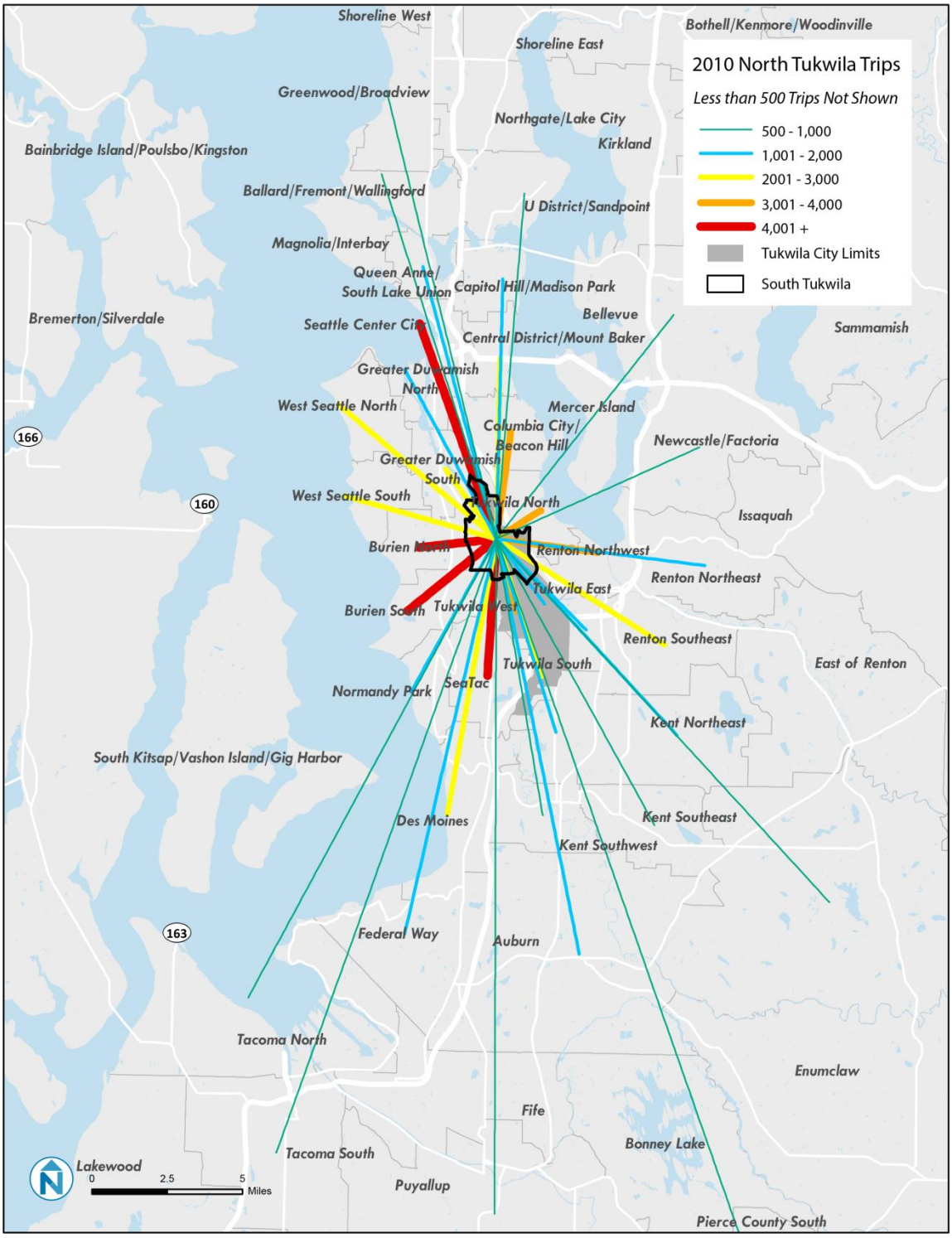


Figure 23 Projected Trips to and from North Tukwila (2040)

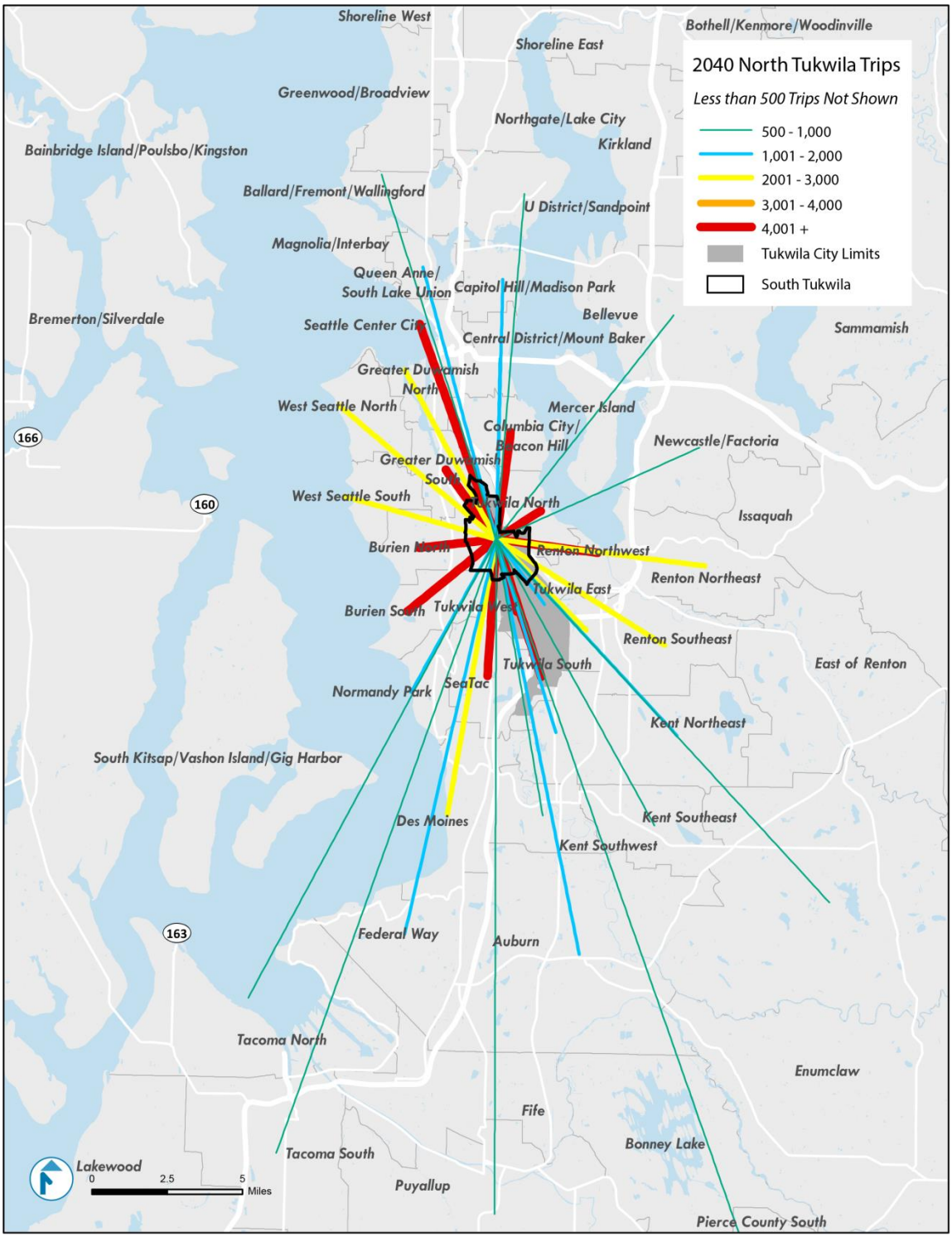


Figure 24 Home Locations of Workers Employed in Tukwila Urban Center and Tukwila South

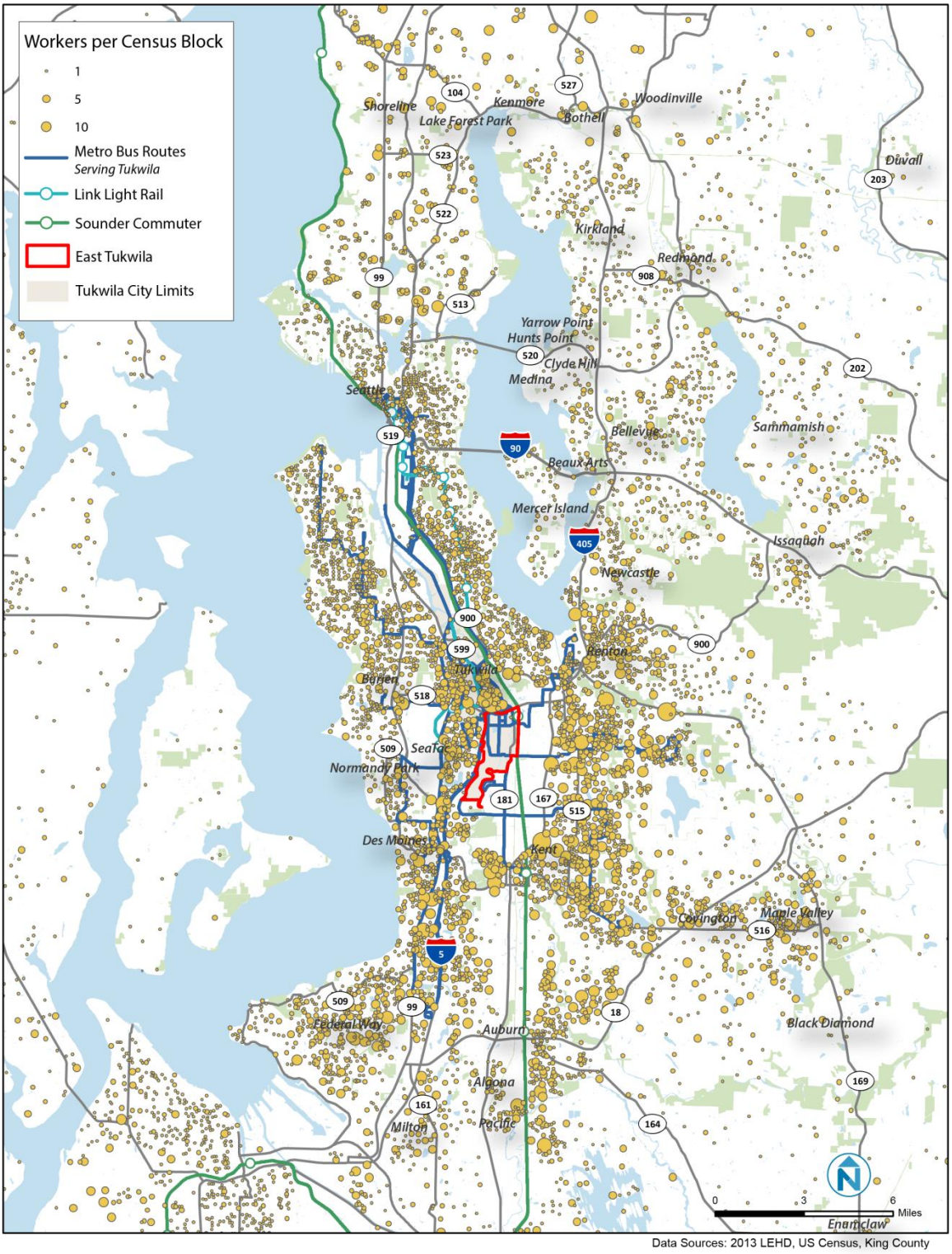


Figure 25 Work Locations of Residents Living in Tukwila Urban Center and Tukwila South

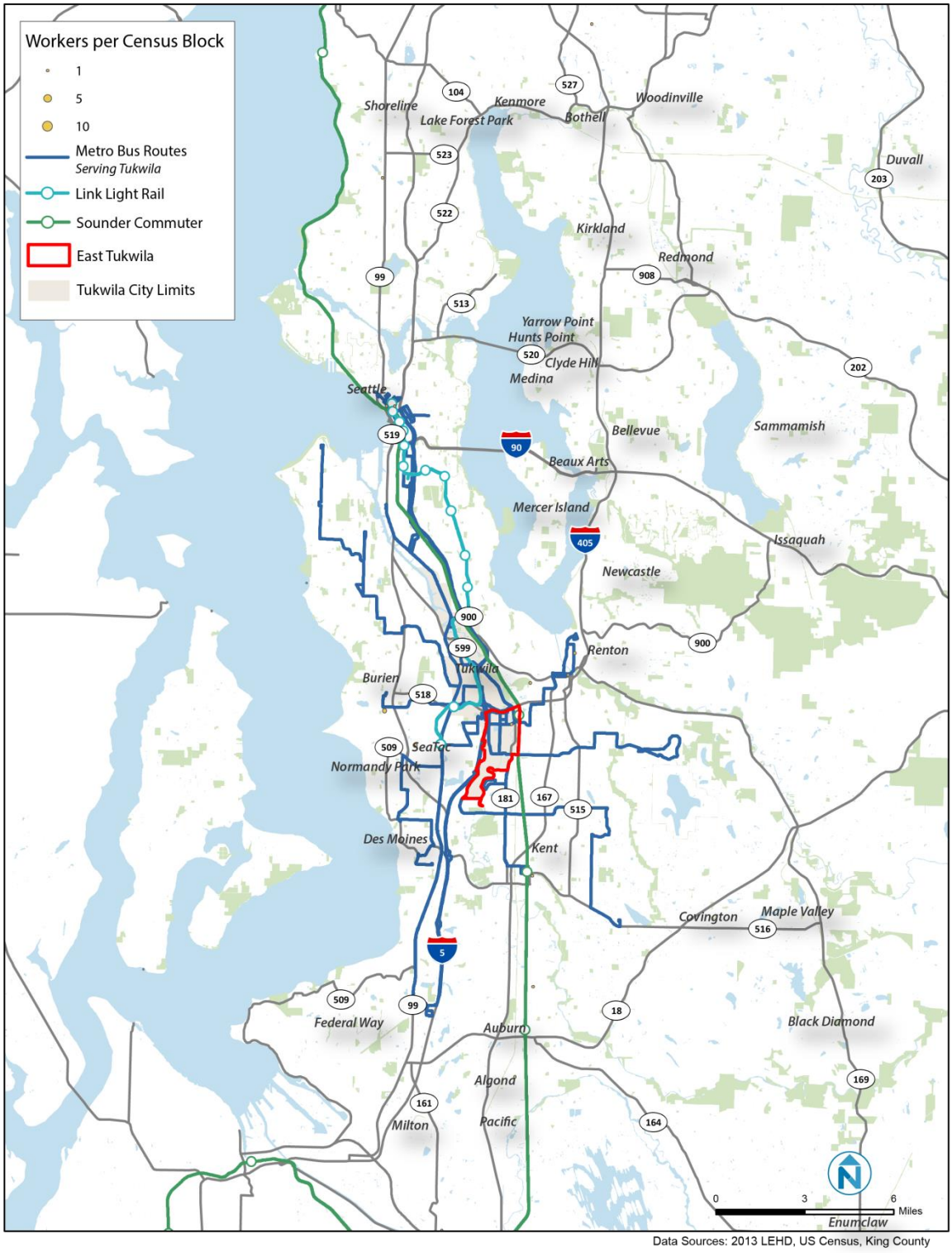


Figure 26 Trips to and from Tukwila Urban Center and Tukwila South (2010)

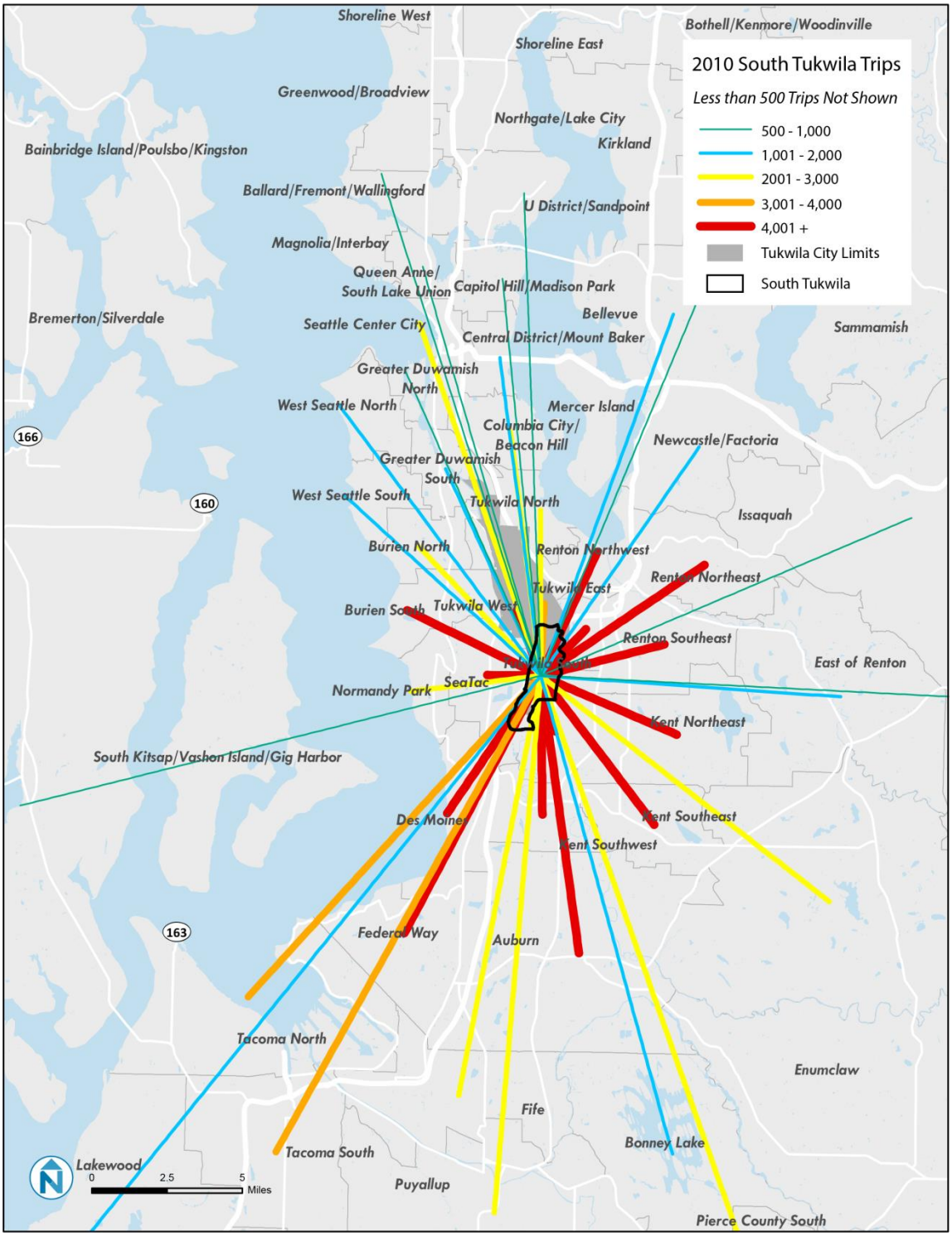


Figure 27 Projected Trips to and from Tukwila Urban Center and Tukwila South (2040)

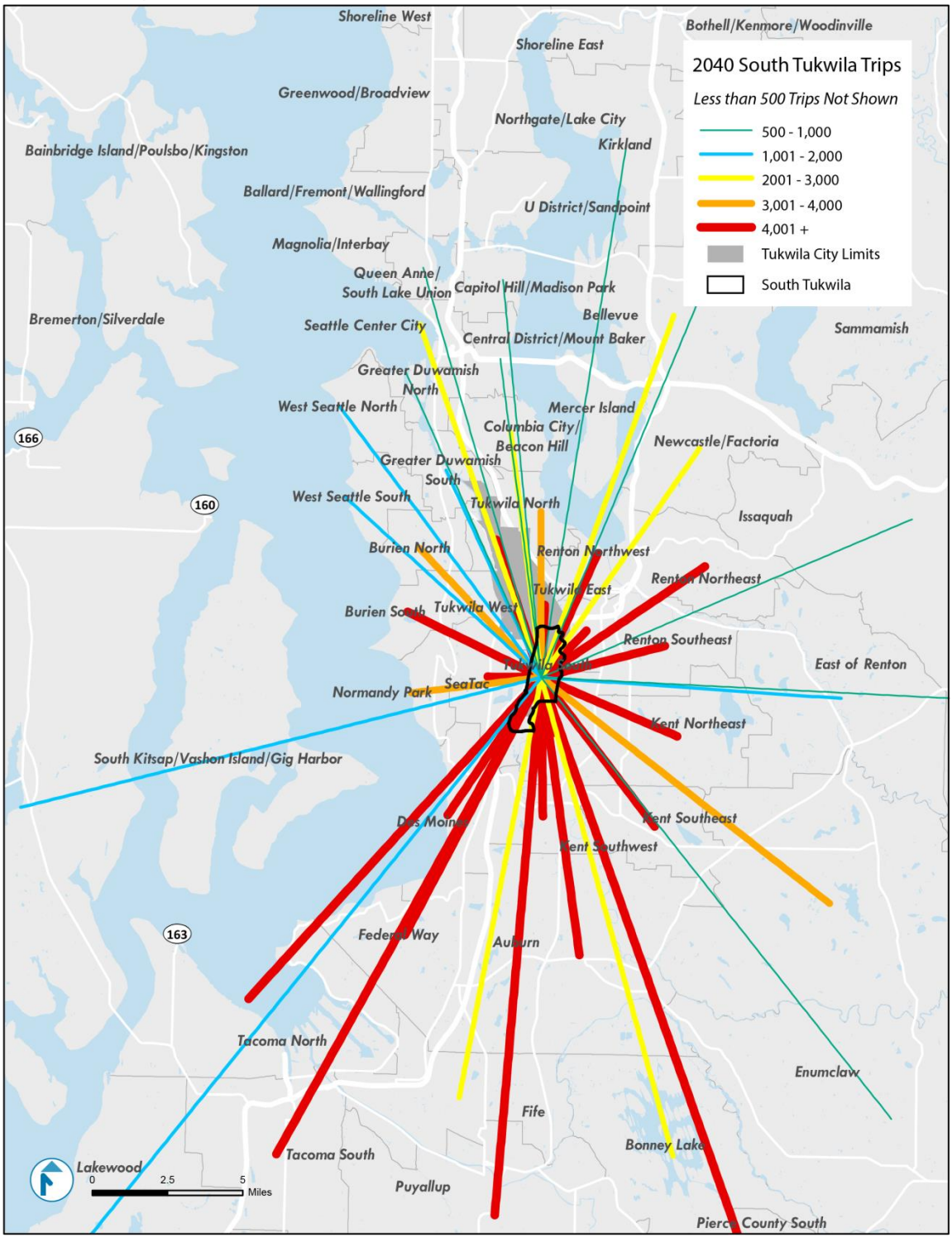


Figure 28 Home Locations of Workers Employed in East Tukwila

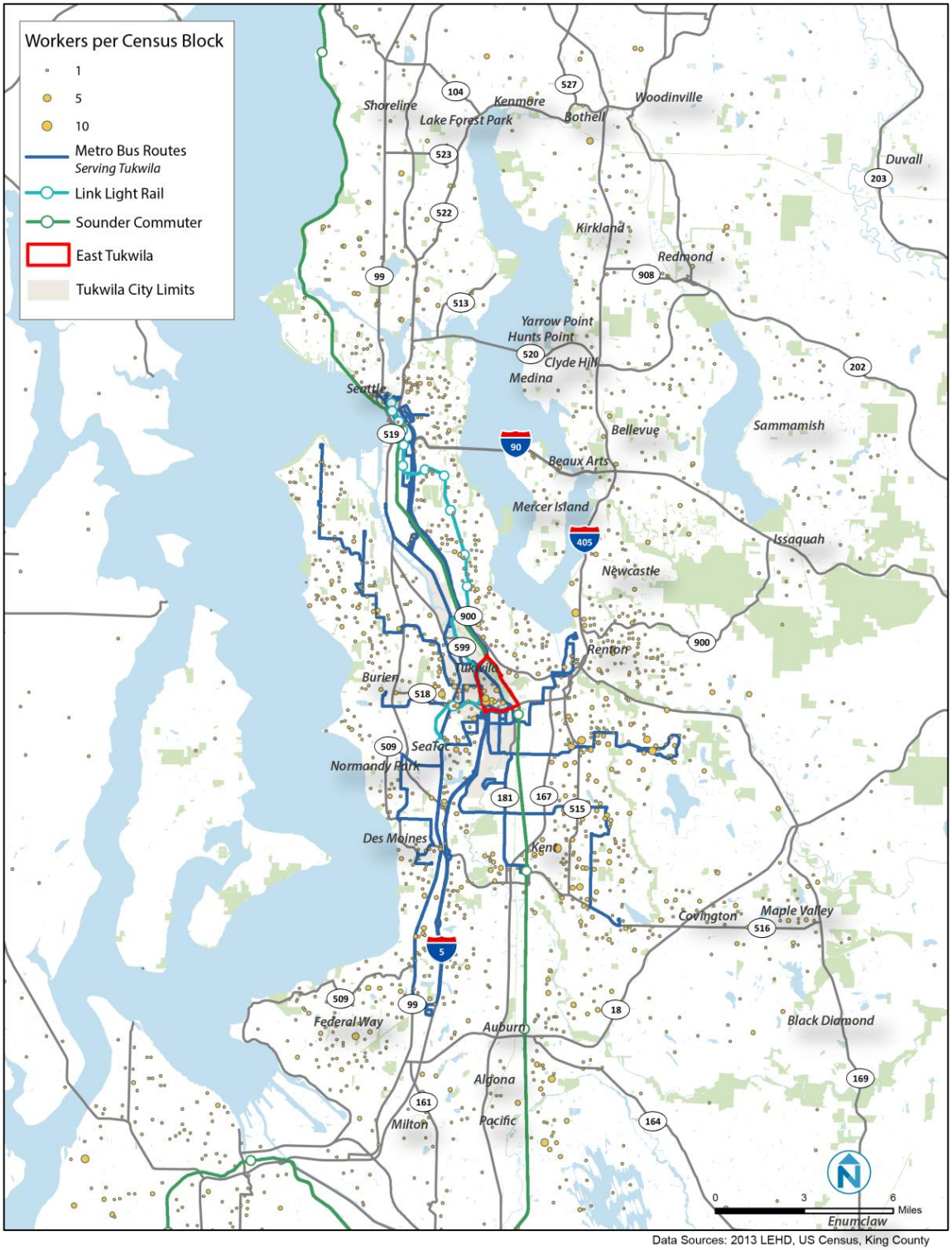


Figure 29 Work Locations of Residents Living in East Tukwila

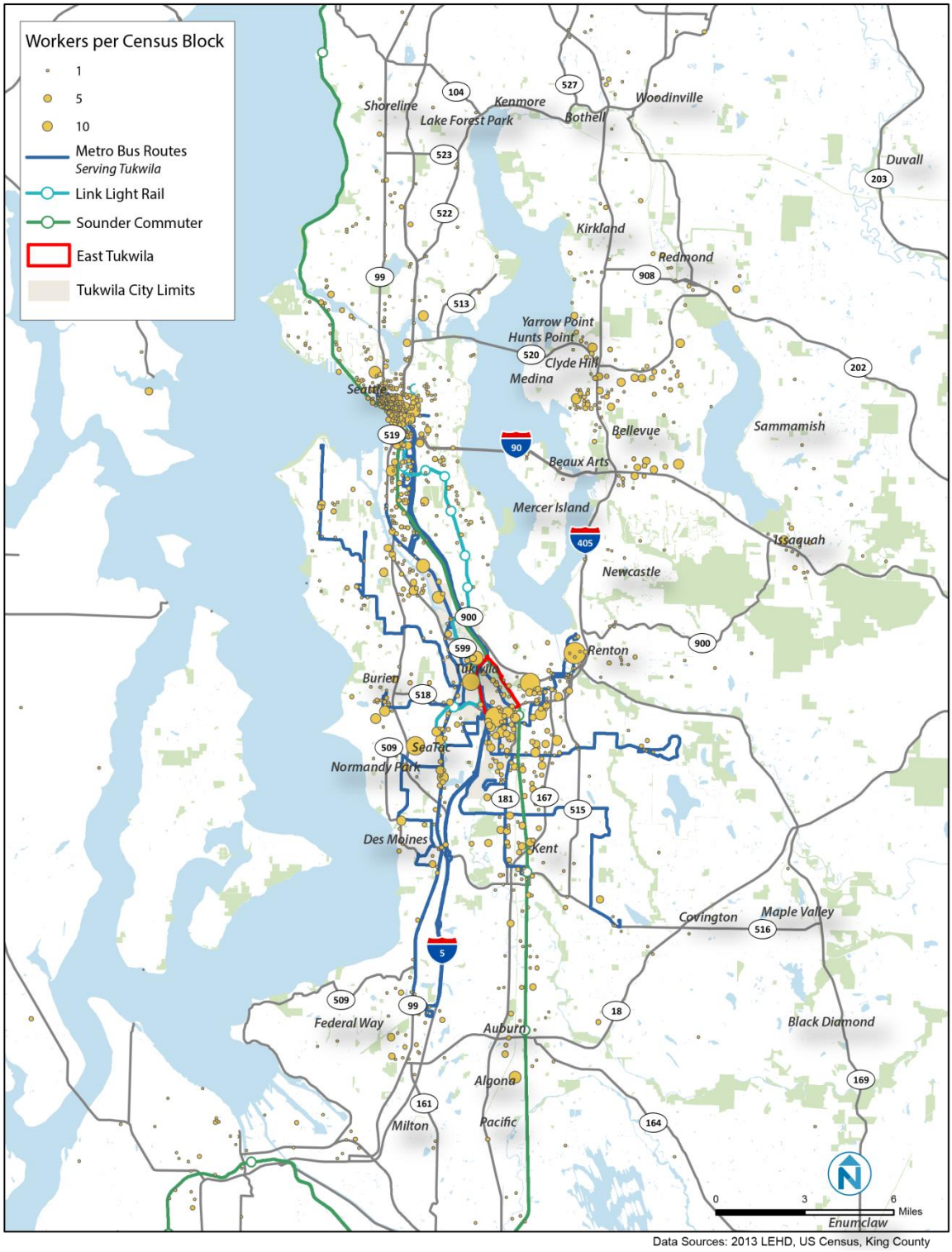


Figure 30 Trips to and from East Tukwila (2010)

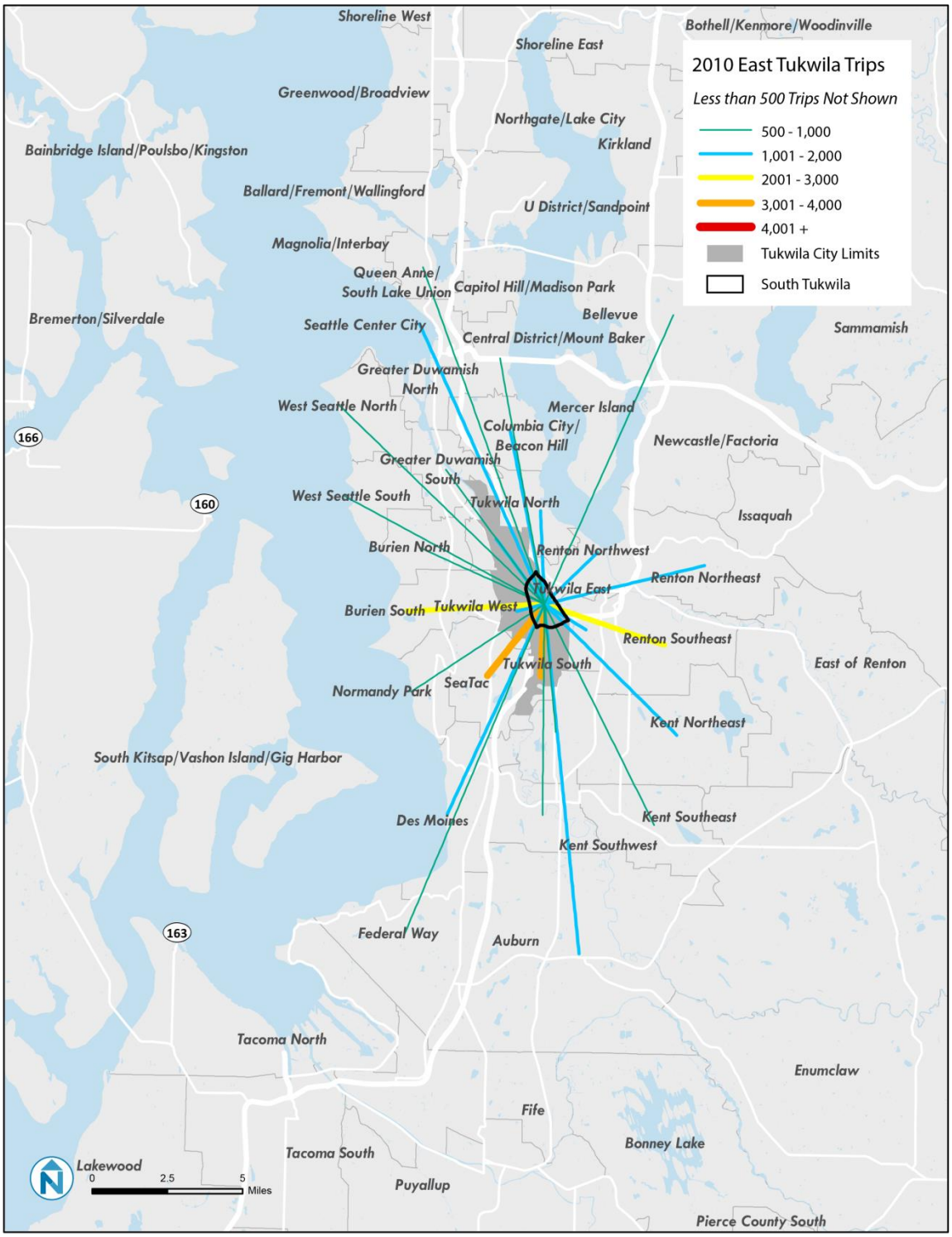


Figure 31 Projected Trips to and from East Tukwila (2040)

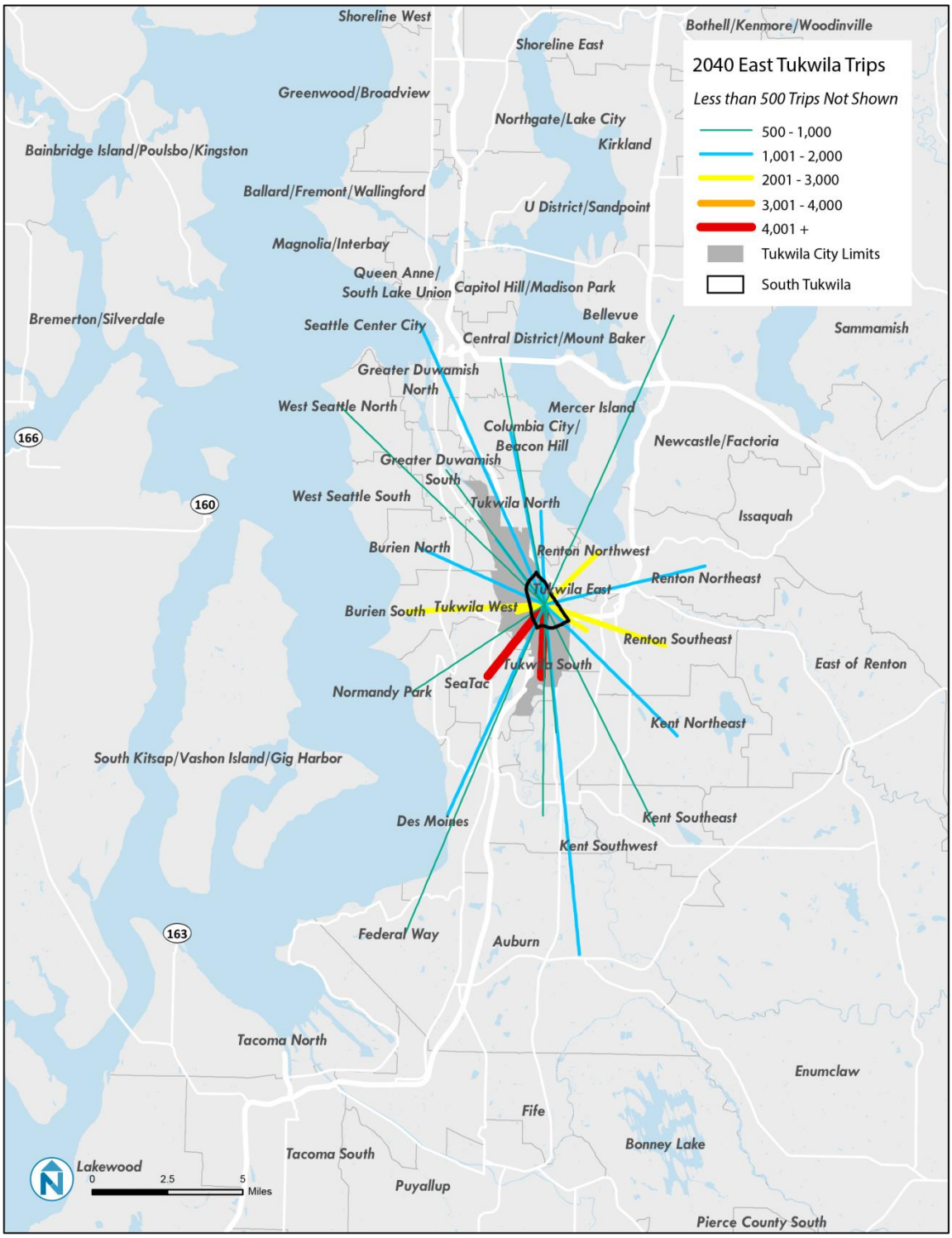


Figure 32 Home Locations of Workers Employed in West Tukwila

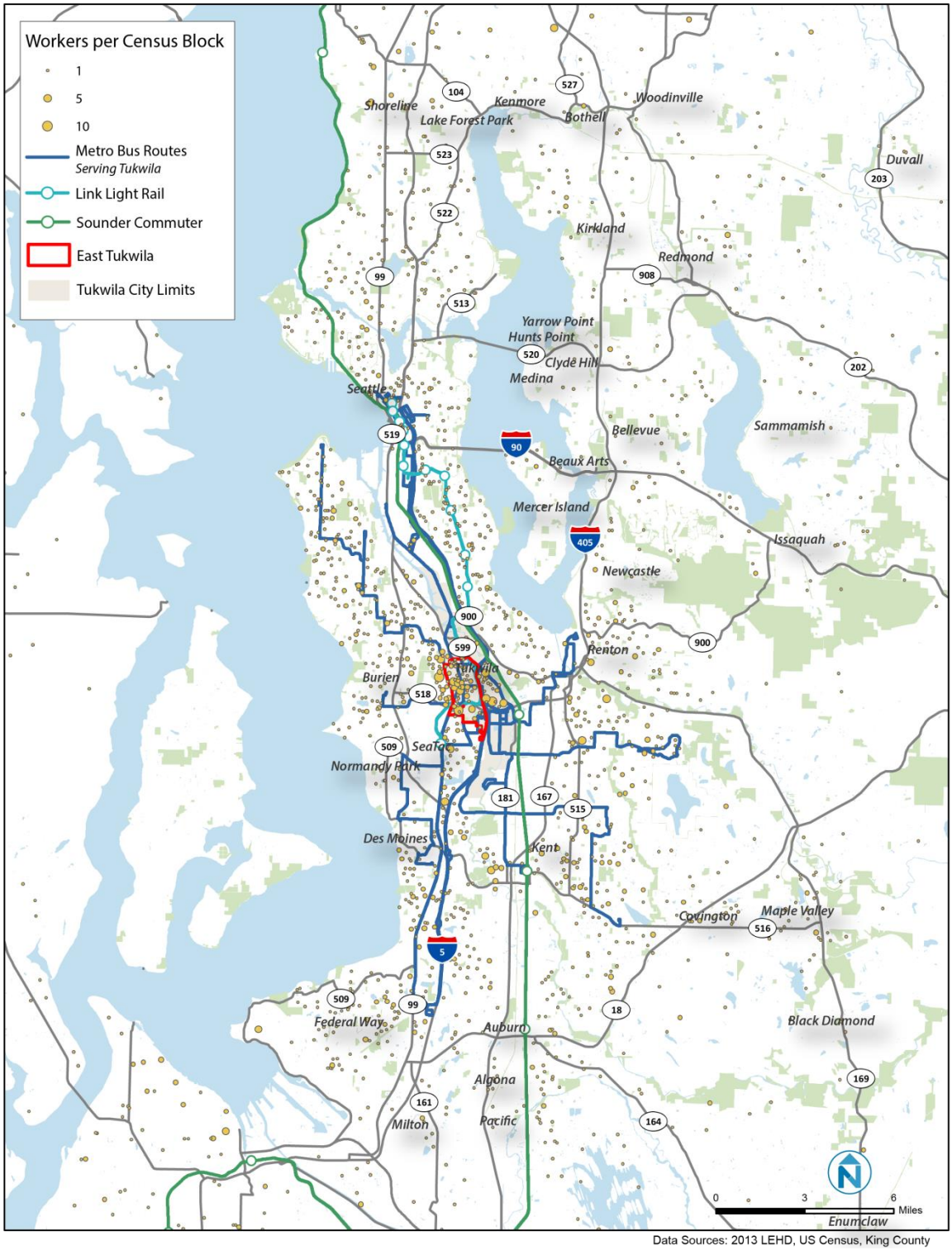


Figure 33 Work Locations of Residents Living in West Tukwila

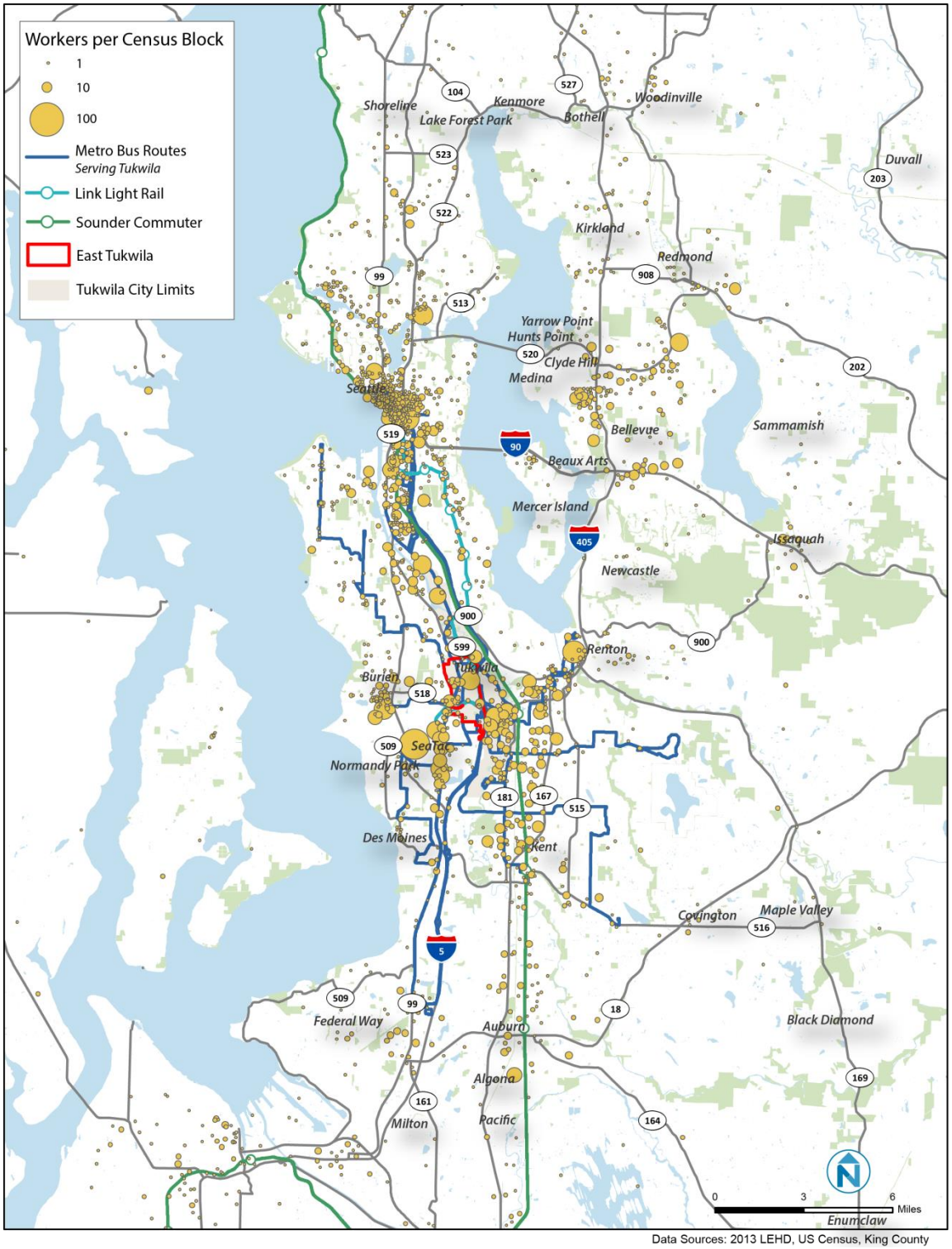


Figure 34 Trips to and from West Tukwila (2010)

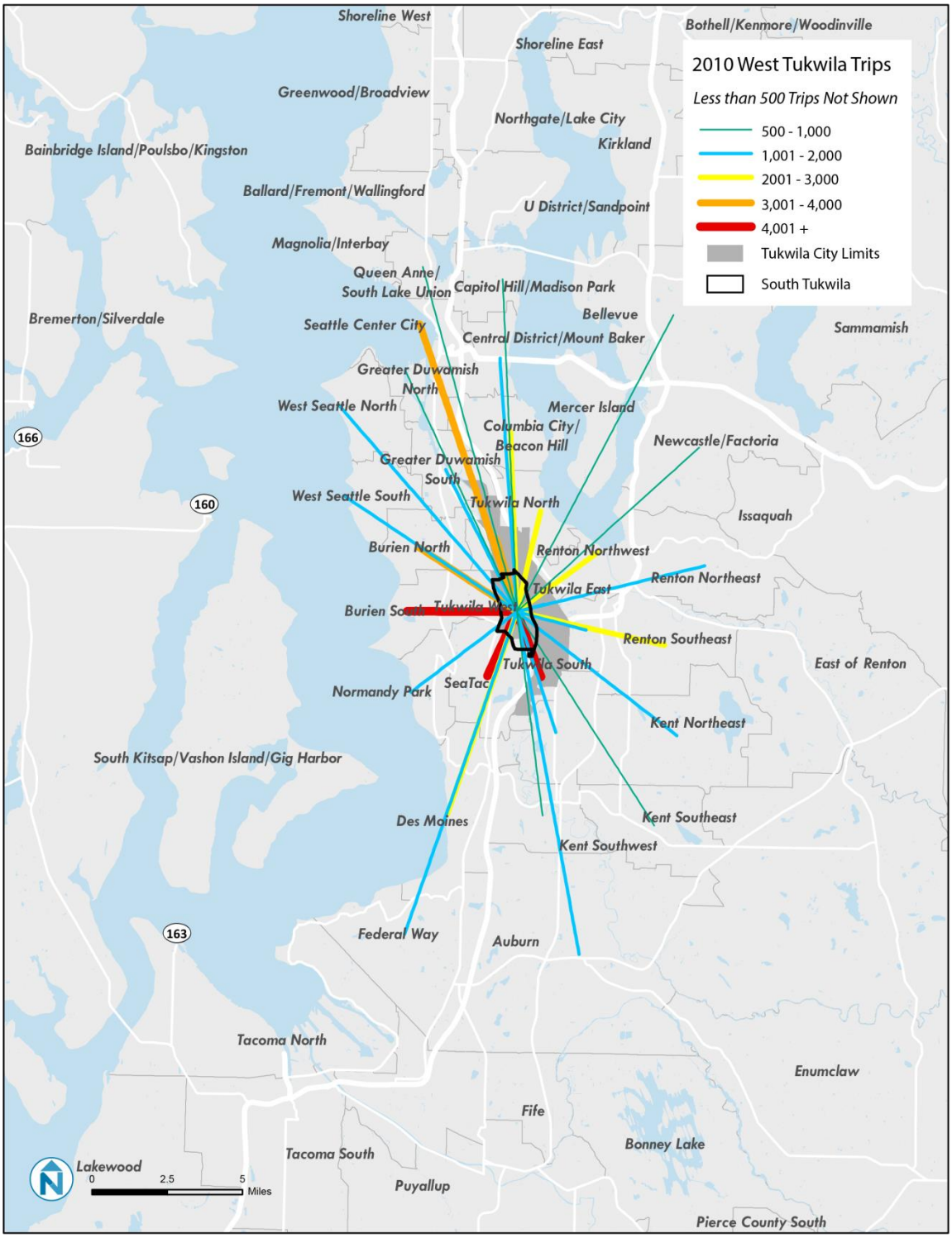
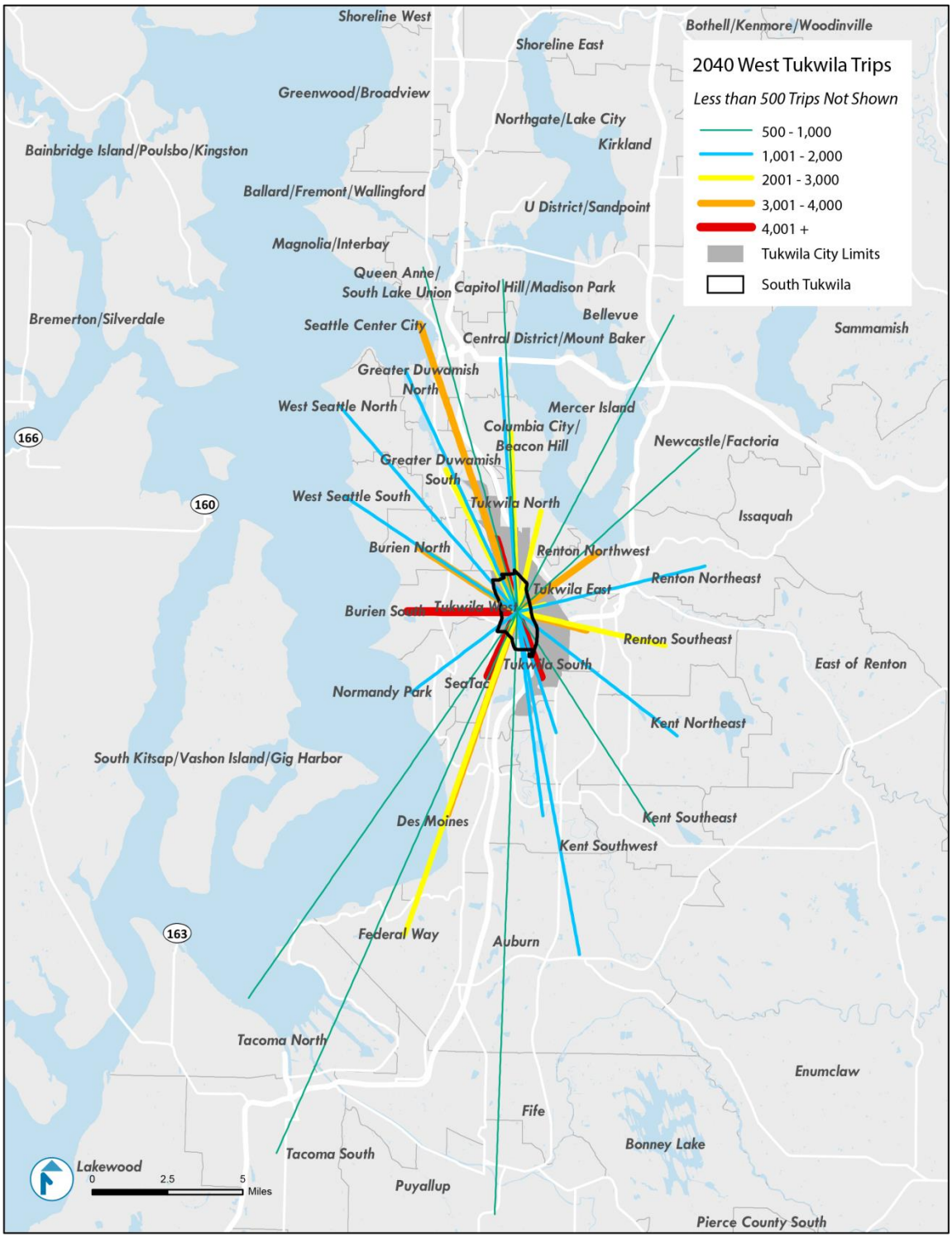


Figure 35 Projected Trips to and from West Tukwila (2040)



5 FIXED-ROUTE SYSTEM OVERVIEW

This chapter provides an overview of the transit routes that provide service to and from Tukwila.

SYSTEM OVERVIEW

King County Metro offers eight traditional fixed route lines, two RapidRide routes, and one Demand Area Response (DART) route that serve the City of Tukwila. Additionally, Sound Transit provides Link light rail service to TIBS and Sounder train service to Tukwila Station. The characteristics of these services are summarized below.

Figure 36 Service Characteristics by Route

Route	Frequency of Service					Span of Service		
	A.M.	Midday	P.M.	Saturday	Sunday	Weekday	Saturday	Sunday
Route 124	15-30	30	13-30	25-30	25-30	4:56 AM-4:12 AM	5:23 AM-4:12 AM	5:53 AM-4:15 AM
Route 128	30	30	30	30	30	4:46 AM-1:18 AM	6:00 AM-1:05 AM	6:02 AM-1:09 AM
Route 150	15	15	15-30	30	30	4:54 AM-2:16 AM	5:07 AM-2:09 AM	6:04 AM-2:07 AM
Route 154	30-45	---	30-45	---	---	5:34 AM-5:18 PM	---	---
Route 156	30	30	30-60	60	60	5:06 AM-11:31 PM	5:25 AM-11:01 PM	5:28 AM-10:35 PM
Route 193	15-25	---	30	---	---	5:28 AM-8:42 PM	---	---
Route 601	17-40	---	30	---	---	6:23 AM-5:52 PM	---	---
Route 906	60	60	60	60	---	6:07 AM-7:15 PM	8:20 AM-6:51 PM	---
RapidRide A	10-15	15	10-30	15-30	15-30	24 Hr	24 Hr	24 Hr
RapidRide F	10-20	15	10-30	15-30	15-30	4:45 AM-12:50 AM	5:56 AM-12:51 AM	5:57 AM-12:50 AM
Link Light Rail	6-15	10	6-15	10-15	10-15	4:22 AM-1:20 AM	4:21 AM-1:15 AM	5:33 AM-12:15 AM
Sounder Train	30	---	20-30	---	---	4:41 AM-7:33 PM	---	---

SERVICE FREQUENCIES

During peak travel times on weekdays, three routes serve Tukwila with service frequency of 15 minutes or better: RapidRide A Line, RapidRide F Line, and Link light rail. The RapidRide lines

are very frequent routes serving Sea-Tac Airport, Burien, Tukwila Urban Center (TUC) and Southcenter Mall, Renton, and south to Des Moines, Kent and Federal Way. Additionally, Link Light Rail serves Tukwila, SeaTac, downtown Seattle, and the University of Washington. Service frequency for routes 124 and 150 is nearly every 15 minutes during a.m. and p.m. peak service. Routes 128, 154, and 193 serve local trips in Tukwila with a service frequency between 16 and 30 minutes. Figure 37 shows weekday peak service frequencies.

During weekday midday travel times, RapidRide A Line, RapidRide F Line, and Route 150 serve Tukwila with frequency of 15 minutes, and Link Light Rail maintains a service frequency of 15 minutes or better. Routes 124, 128, and 156 serve Tukwila with a 25 or 30 minute frequency. DART Route 906 serves Tukwila with a 60 minute service frequency. Several peak-only routes (154, 193, 601, and the Sounder) do not offer service during midday hours. Figure 38 shows weekday midday service frequencies.

During weekday evening service, Link Light Rail continues with a frequency of 15 minutes or better. RapidRide A Line, RapidRide F Line, and Route 128 frequencies vary throughout the evening, but are at least 30 minutes or better. Routes 124 and 150 serve Tukwila with 30 minute frequencies, and Route 156 has 30 to 60 minute frequency. Figure 39 shows weekday evening service frequencies.

During Saturday service, Link Light Rail has frequencies of 15 minutes or better throughout the day. RapidRide A Line, RapidRide F Line, and Route 150 serve Tukwila with frequencies of 20 minutes or better through most of the day, while Route 124 serves Tukwila with frequencies of 30 minutes or better. Route 156 serves Tukwila at a 30 minute frequency. Figure 40 shows Saturday service frequencies.

During Sunday service, Link Light Rail has frequencies of 15 minutes or better throughout the day, while RapidRide A Line and RapidRide F Line serve Tukwila with frequencies of 20 minutes or better during most of the day. Routes 124, 128, and 150 serve Tukwila with 30 minute frequencies or better over the course of the day, while Route 156 serves Tukwila has frequencies of 30 to 60 minutes. Figure 41 shows Sunday service frequencies.

Figure 37 Weekday Peak Service Frequencies

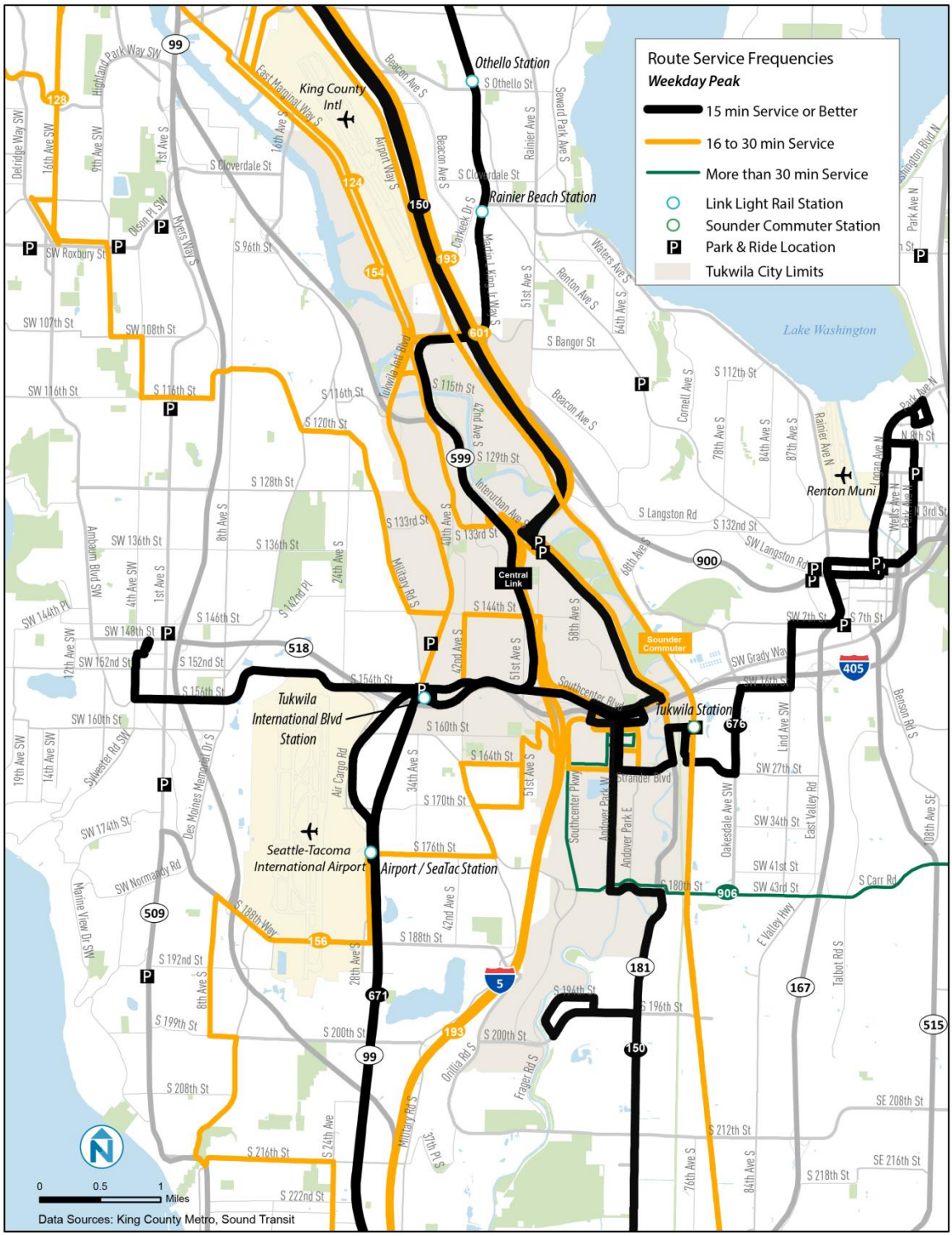


Figure 38 Weekday Midday Service Frequencies

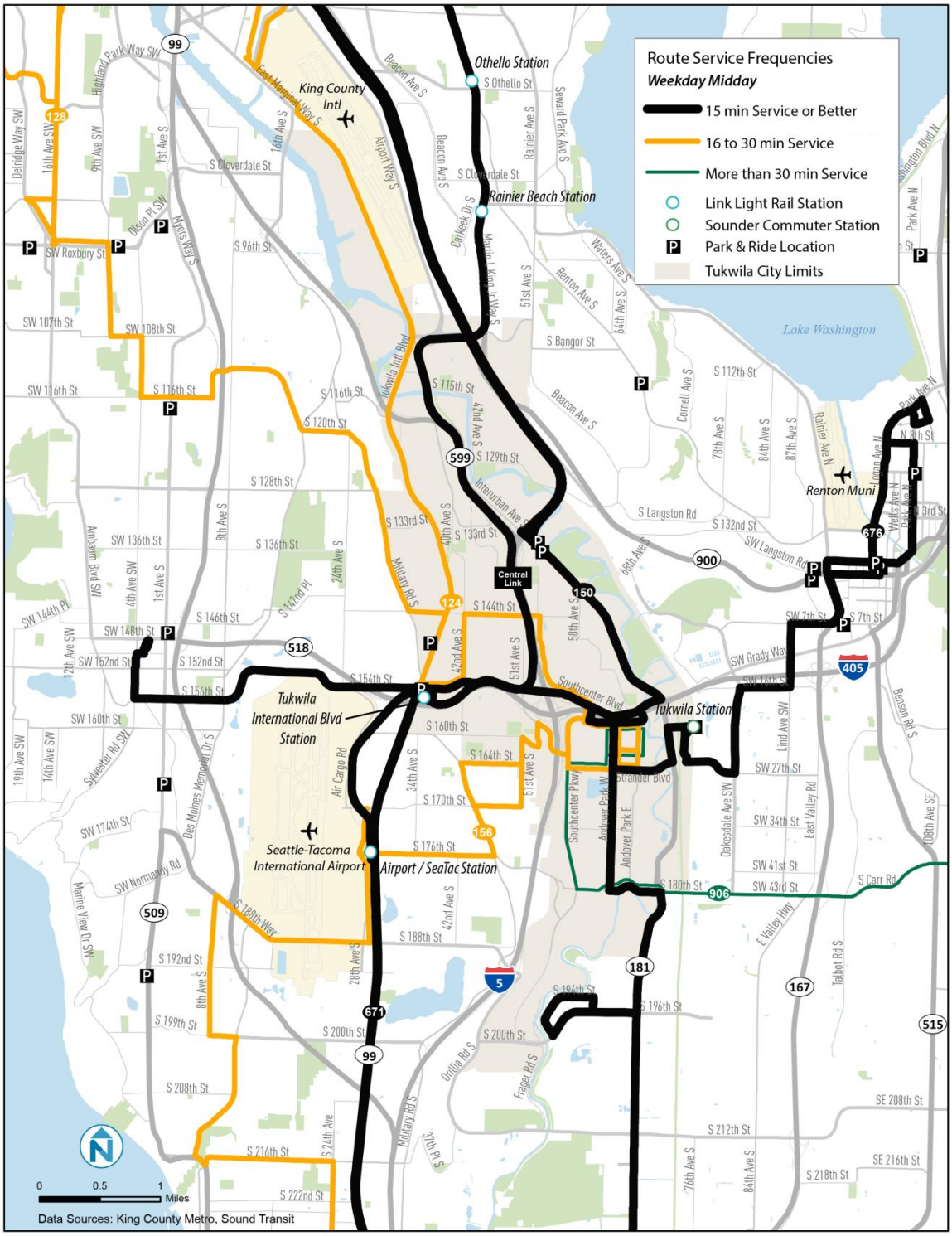


Figure 39 Weekday Evening Service Frequencies

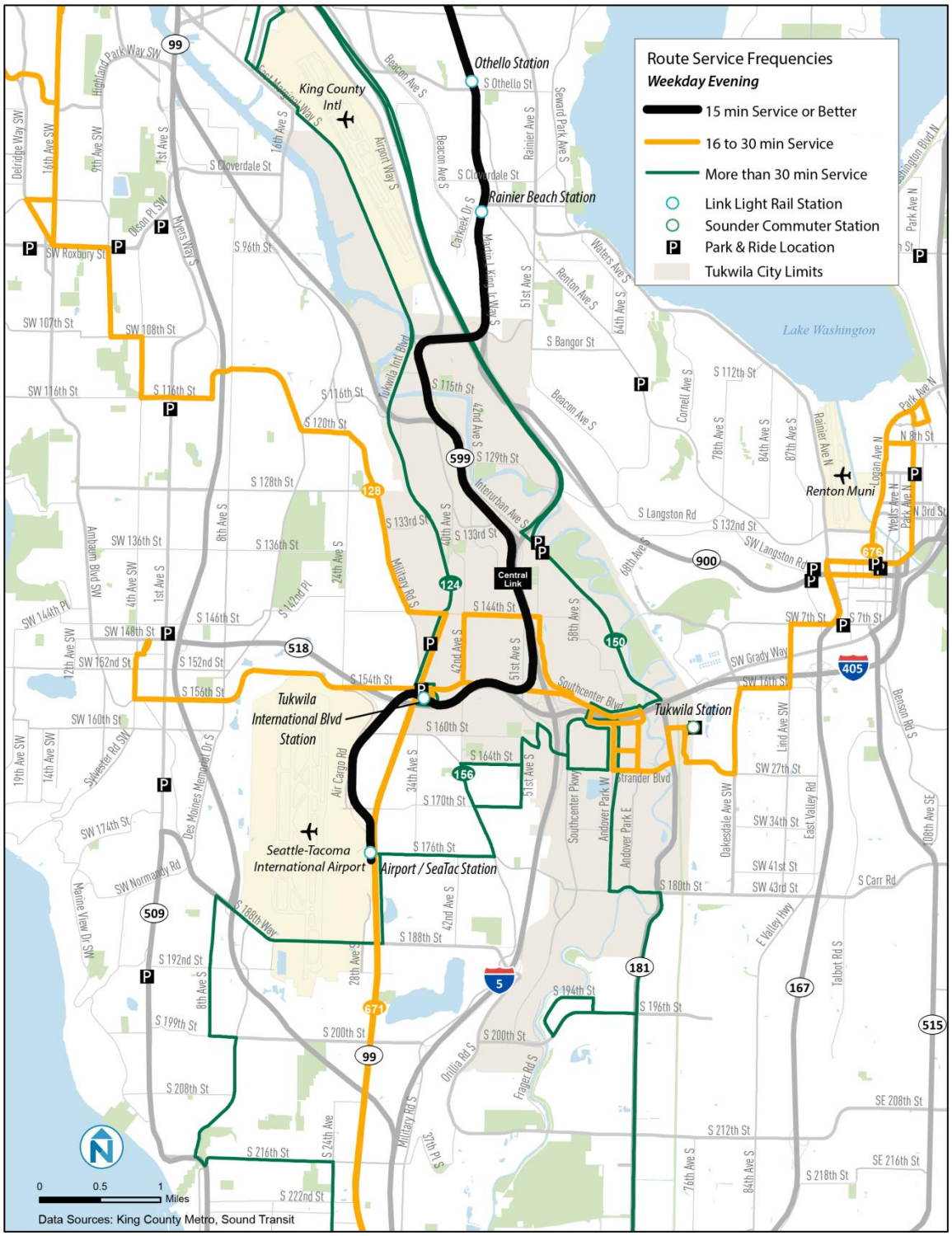


Figure 40 Saturday Service Frequencies

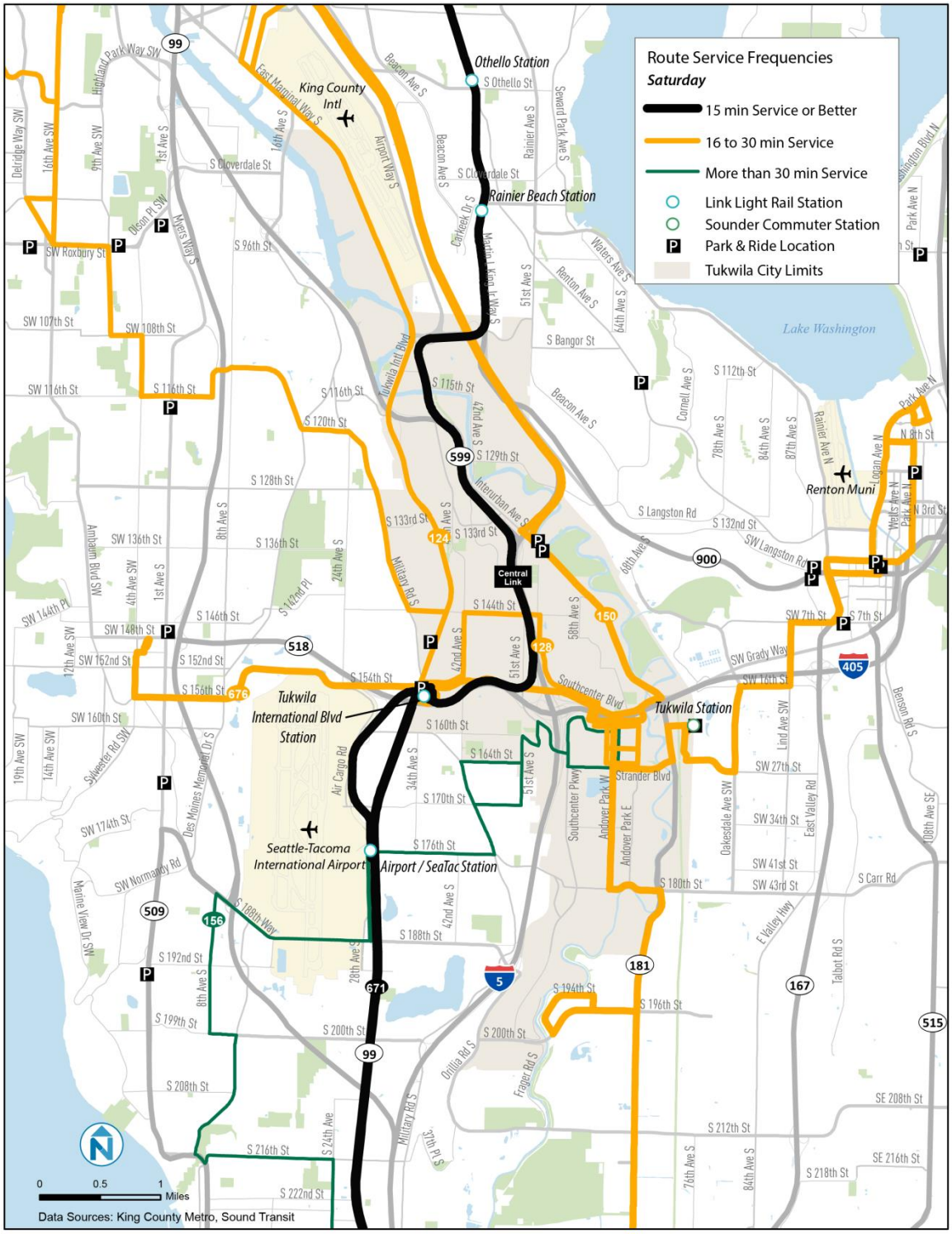
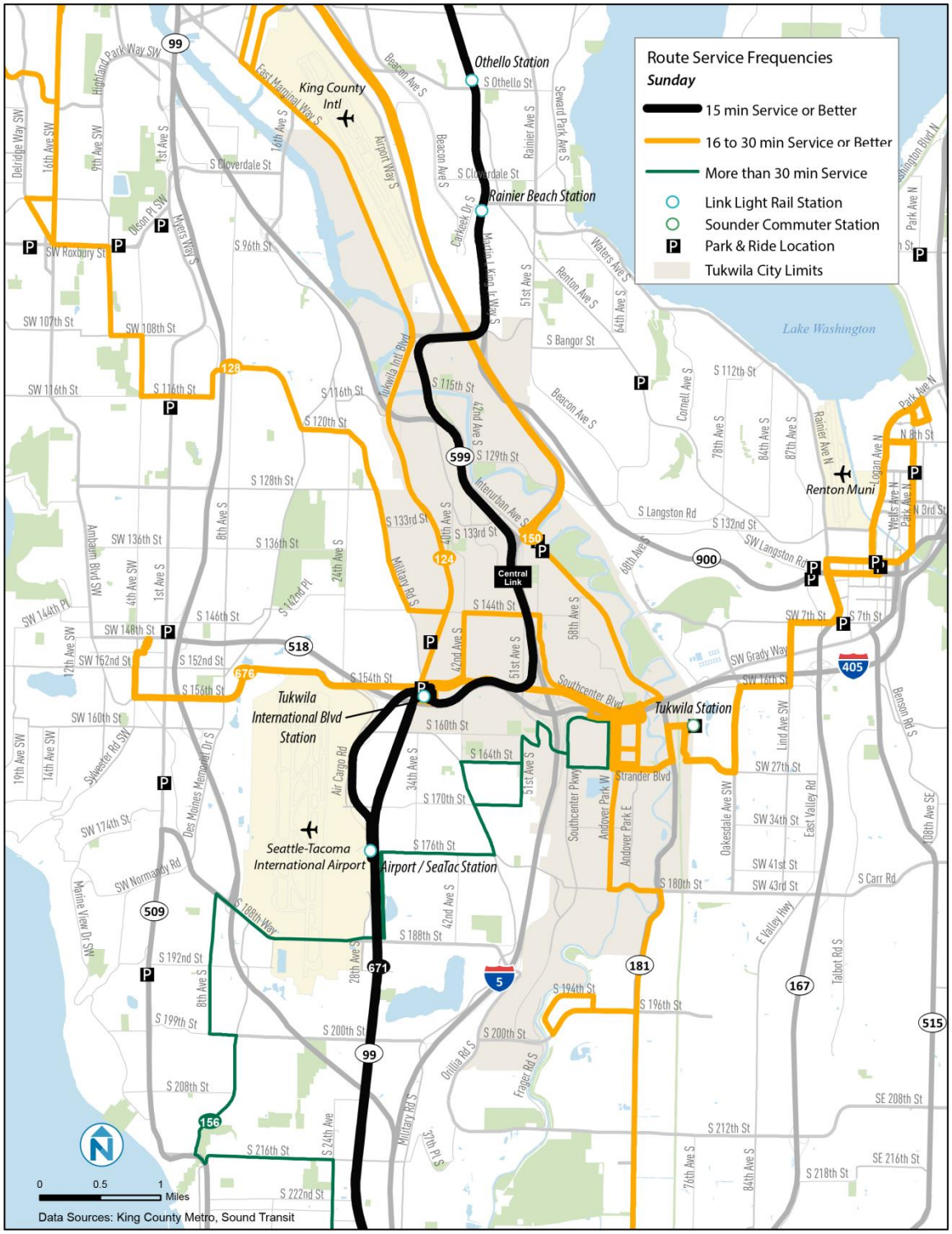


Figure 41 Sunday Service Frequencies



PERFORMANCE MEASURES

Service Levels and Ridership

The routes serving Tukwila with the highest daily service hours include Route 150, RapidRide F Line, RapidRide A Line, and Route 180, each with over 100 hours per weekday. Routes 154 and 601, which only offer trips during a.m. and p.m. peak hours, have the least amount of daily service hours.

In terms of total daily ridership (Figure 43), RapidRide A Line has the most with 10,150 average boardings per weekday, followed by Route 150 (7,611 boardings), and RapidRide F Line (5,743 boardings). Routes 154 and 601 have the lowest daily boardings. Figure 45 shows total ridership activity at the stop level for all fixed-route ridership activity on weekdays. By far, the most boardings occur at TIBS (3,872 combined daily bus boardings). Within Tukwila there is also strong ridership activity along the Andover Park West corridor in Southcenter and along the Interurban Avenue corridor east of I-5.

Figure 44 shows weekday route productivity. RapidRide A Line has the highest productivity among all bus routes serving Tukwila, with 82.4 boardings per service hour. Following are Routes 150 and Route 124, both with productivity measures at or above the average of routes serving Tukwila (52.4).

Including Sound Transit ridership, 12,033 riders board transit within the city limits of Tukwila on an average weekday. The highest ridership stops are at TIBS (6,584 boardings), stops around Southcenter Mall (1,323 boardings), Tukwila Station (1,194 boardings), and the Park-and-Ride on Interurban Avenue (493 boardings). It should be noted that Sound Transit ridership accounts for 40% of boardings at TIBS and 80% of boardings at Tukwila Station.

To and from Tukwila, the strongest ridership patterns occur on a north-south alignment (north to Seattle and south to Federal Way). Ridership is highest where there are most connections to other routes and transit services (and often where there is ample parking). The parking lots at TIBS (600 spaces), Tukwila Station (390 spaces), and Interurban Avenue S Park-and-Ride (255 spaces) see heavy use among commuters and are often filled to capacity on weekdays.

Figure 42 Weekday Service Hours by Route (King County Metro, Spring 2015)

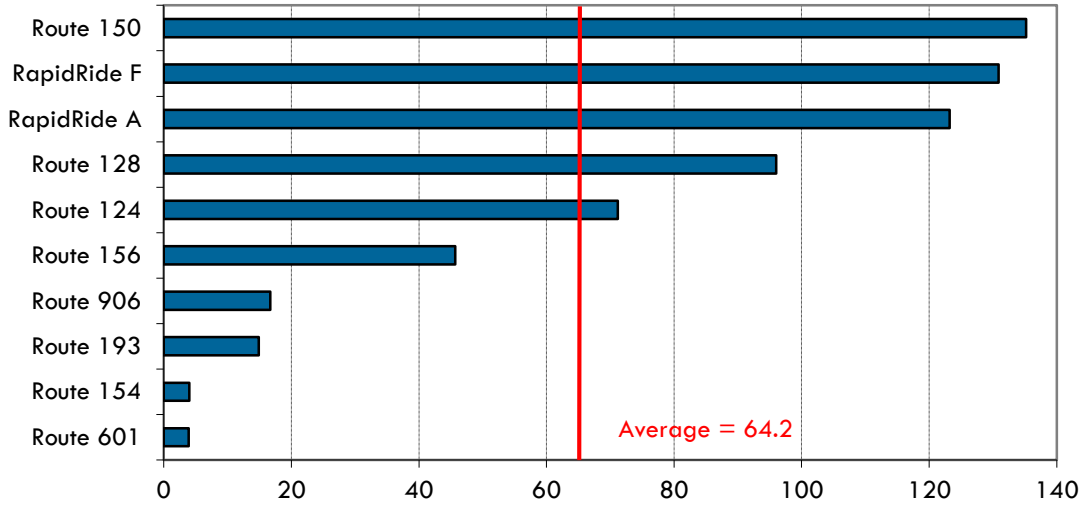


Figure 43 Weekday Ridership by Route (King County Metro, Spring 2015)

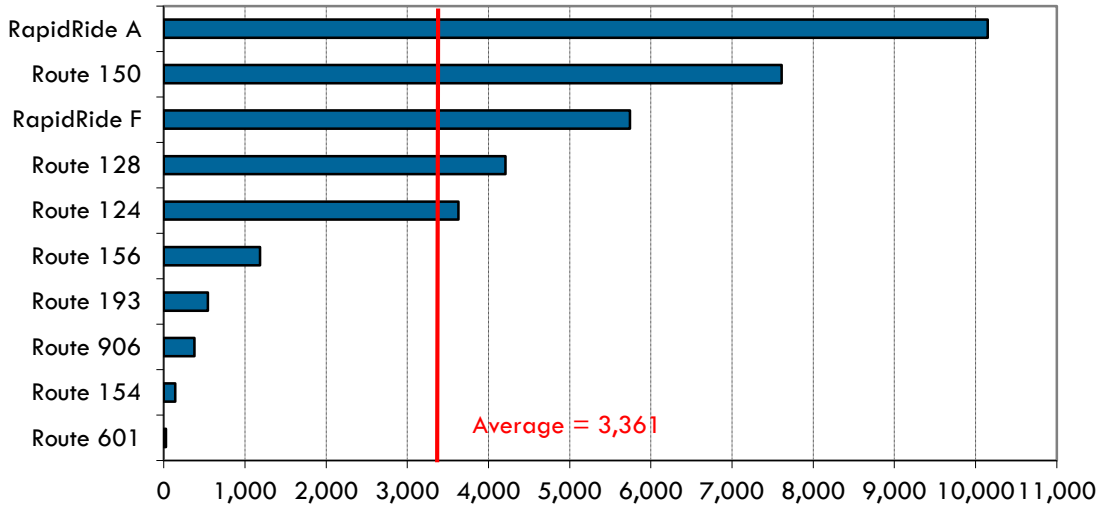


Figure 44 Weekday Boardings per Service Hour by Route (King County Metro, Spring 2015)

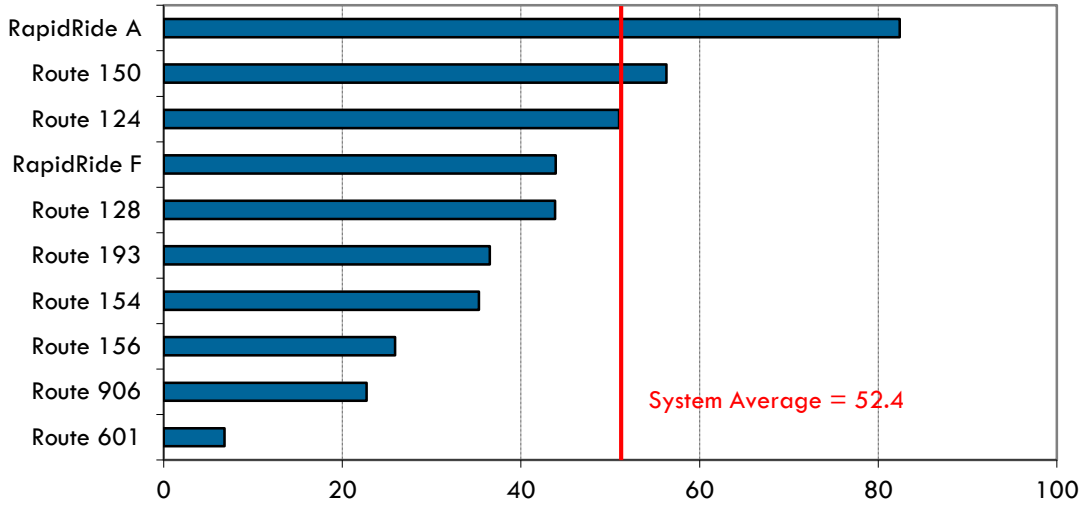
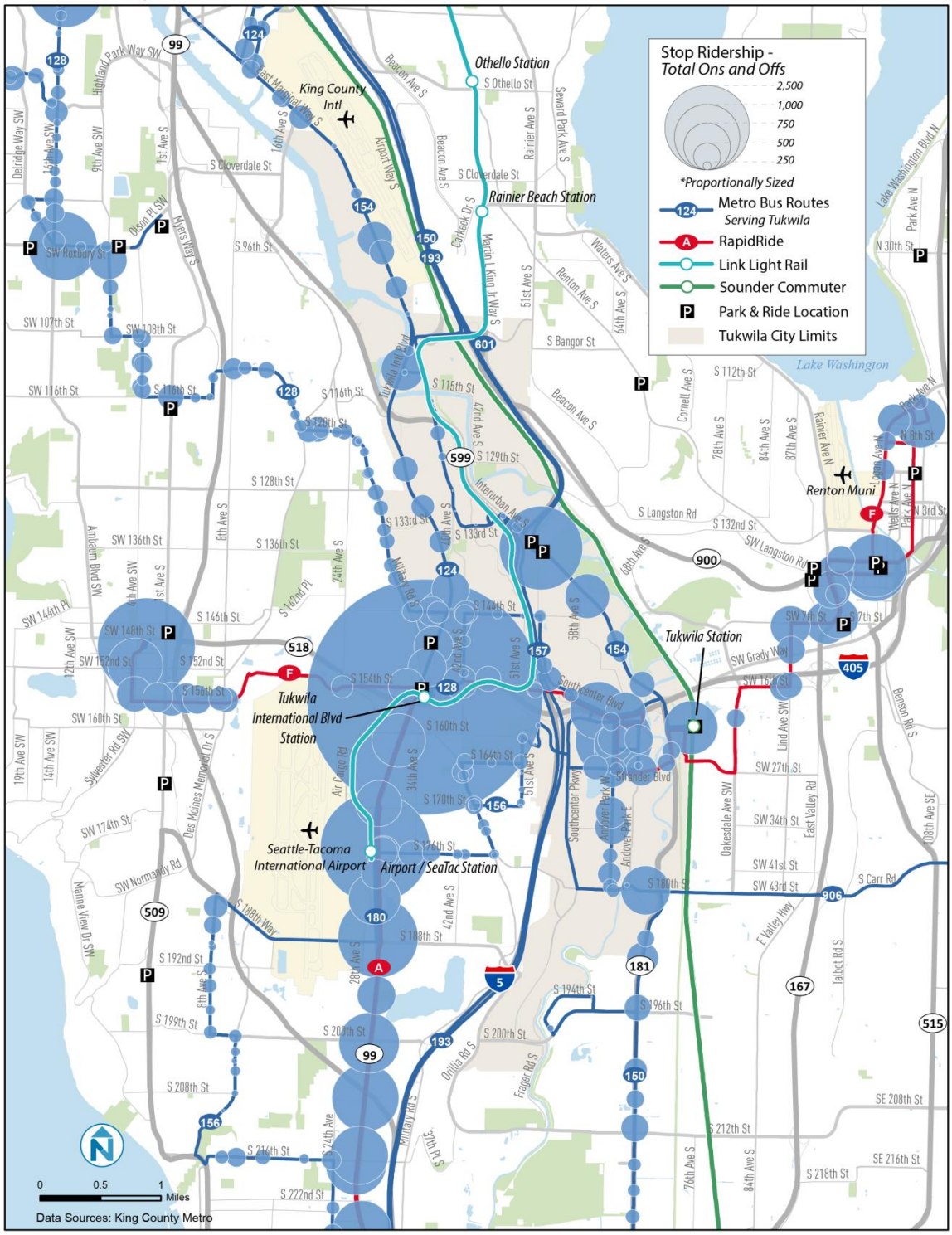


Figure 45 Total Weekday Bus Ridership Activity by Stop



On-Time Performance

Among all fixed-route bus lines that serve Tukwila (excluding RapidRide), the average for on-time performance is 68%. Route 154 has the highest percentage of on-time trips (94%), followed by Route 156 (84%). Routes 124 and 601 fall below the average for on-time performance. In all cases except for Route 156, issues with on-time performance are more likely to be caused by late-running as opposed to early-running. On-time performance for RapidRide is between 80% and 90%, and above 90% for Link and Sounder.

Figure 46 On-Time Weekday Performance by Service (King County Metro & Sound Transit, Spring 2015)

Route	On-Time	Early	Late
Route 124	65%	4%	31%
Route 128	73%	8%	19%
Route 150	77%	6%	17%
Route 154	94%	1%	5%
Route 156	84%	9%	7%
Route 193	62%	3%	34%
Route 601	21%	0%	79%
RapidRide A*	82%	---	---
RapidRide F*	89%	---	---
Link*	91%	---	---
Sounder*	97%	---	---

Notes: *Data only reflects schedule adherence, not early or late running
No data available for Route 906

6 ROUTE BY ROUTE EVALUATION

This chapter presents performance summaries for all King County Metro routes that serve Tukwila, as well as Sound Transit Link and Sounder. The summaries include service descriptions, a performance assessment, and route strengths and weaknesses.

Route 124 Tukwila – Downtown Seattle

Description

Route 124 connects Tukwila to downtown Seattle on a north-south alignment. Traveling north from TIBS, it travels primarily on Tukwila International Boulevard, East Marginal Way South, Airport Way South, 4th Avenue South, and 3rd Avenue. In north Tukwila, it serves Boeing DC, Museum of Flight, and Boeing Field.

At a Glance		
Weekday Boardings		3,630
Weekday Service Hours		71.2
Weekday Boardings per Service Hour		51
Weekday Schedule Adherence	On-Time	65%
	Early	4%
	Late	31%
Frequency (minutes)	A.M.	15-30
	Midday	30
	P.M.	13-30
	Sat	25-30
	Sun	25-30
Span	Mon-Fri	4:56 AM-4:12 AM
	Sat	5:23 AM-4:12 AM
	Sun	5:53 AM-4:15 AM

Route Productivity

Among Metro routes serving Tukwila, Route 124 ranks among the bottom half for average weekday boardings (3,630), but ranks third overall for average productivity (51 boardings per service hour). Its most productive segment is in downtown Seattle (98.7 boardings per service hour) followed by Tukwila International Boulevard between the Link station and South 112th Street (61.8 boardings per service hour). The highest ridership stop is TIBS. Service productivity is highest during the middle of the day.

On-Time Performance

Route 124 has slightly below average on-time performance (65%) among Metro routes serving Tukwila. Late-running occurs at a rate of 31%.

Summary

Route 124 provides important service along Tukwila International Boulevard, providing core service within Tukwila. The ridership pattern indicates that short trips within Tukwila are taking place primarily from Link to areas north of Link along International Boulevard. The high productivity during the middle of the day indicates that frequency improvements may be warranted in the future by increasing frequency to every 15-20 minutes.

Figure 47 Route 124 Northbound Weekday Stop Activity

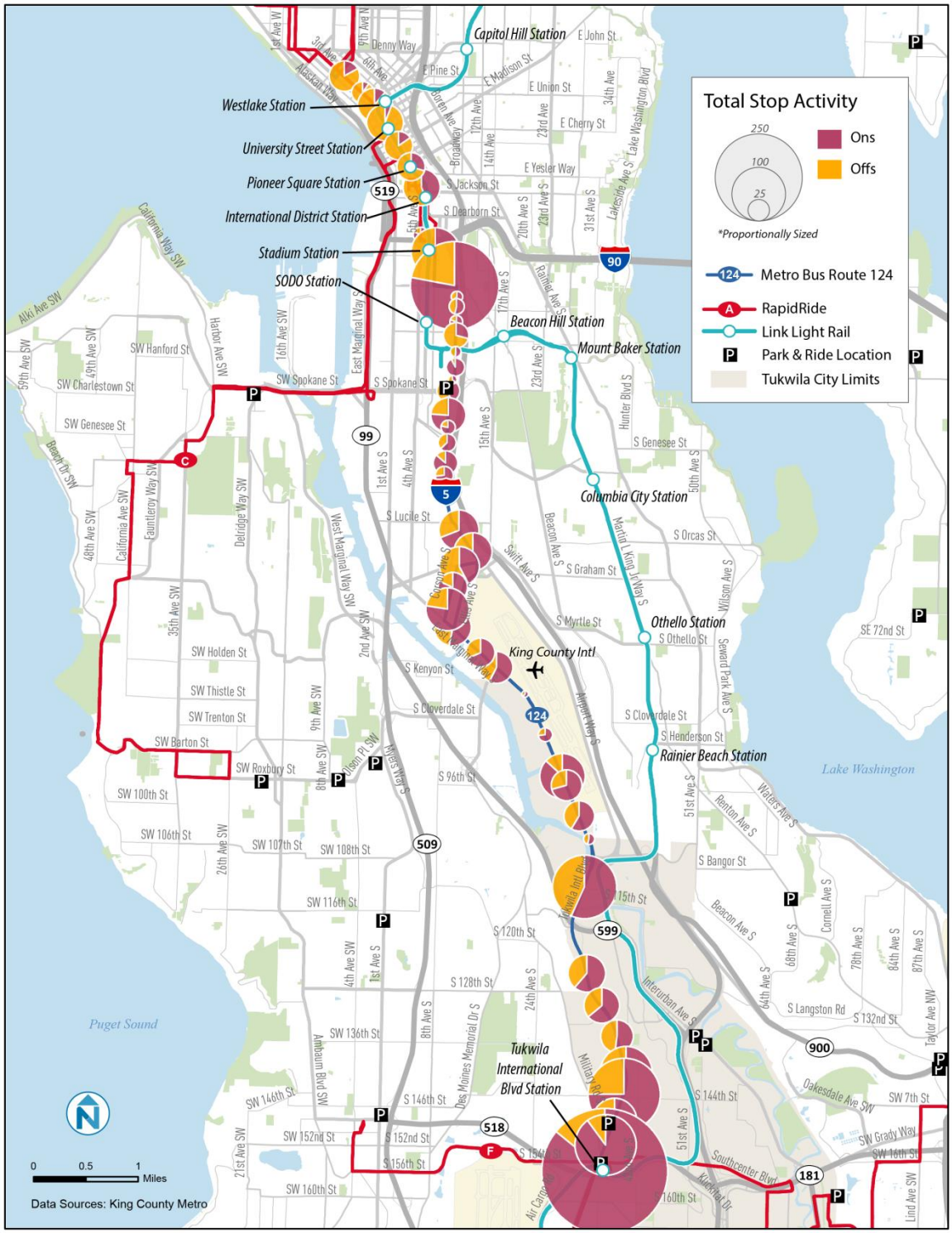
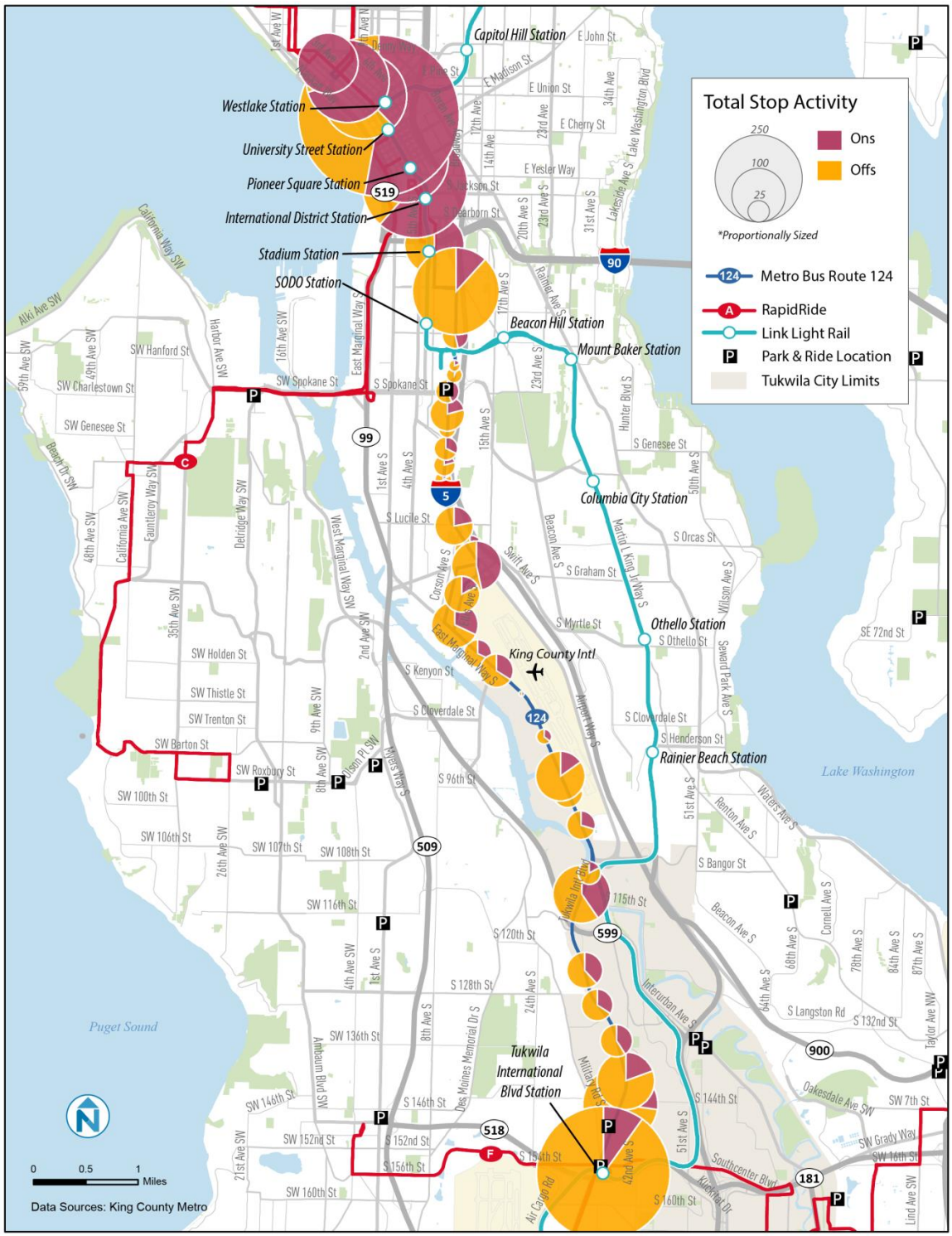


Figure 48 Route 124 Southbound Weekday Stop Activity



Route 128 Southcenter – North Admiral

Description

Route 128 operates between Southcenter and the North Admiral district in West Seattle. From Southcenter, it travels west through central Tukwila, then northwest to White Center. The alignment operates primarily on South 144th Street, Military Road, South 120th Street, South 112th Street, 4th Avenue Southwest, and 15th Avenue Southwest. From White Center, it travels north primarily along 16th Avenue Southwest, Sylvan Way Southwest, and California Avenue Southwest. Destinations served include Southcenter Mall, TIBS, South Seattle College, and Alaska Junction.

At a Glance		
Weekday Boardings		4,207
Weekday Service Hours		96
Weekday Boardings per Service Hour		43.8
Weekday Schedule Adherence	On-Time	73%
	Early	8%
	Late	19%
Frequency (minutes)	A.M.	30
	Midday	30
	P.M.	30
	Sat	30
	Sun	30
Span	Mon-Fri	4:46 AM-1:18 AM
	Sat	6:00 AM-1:05 AM
	Sun	6:02 AM-1:09 AM

Route Productivity

Among Metro routes serving Tukwila, Route 128 has above-average daily weekday boardings (4,207) and ranks below the average for ridership productivity at 43.8 boardings per service hour. Its most productive segment is between TIBS and South 120th Street. All remaining segments are relatively strong, carrying over 30 passengers per service hour.

On-Time Performance

Route 128 has above average on-time performance (74%) among Metro routes serving Tukwila. The remaining trips run late 19% of the time and early 8% of the time.

Summary

Route 128 is one of the few routes operating east to west through Tukwila and thus provides an important connection through the city. It combines regional connections with local service in Tukwila. Ridership is strong in Tukwila and focused on Tukwila Station and Southcenter Mall. When Link opened, Route 128 was deviated to serve the Link Station. Ridership levels show this deviation is well warranted. The current frequency, with a bus every 30 minutes, appears to be adequate to meet Tukwila's needs.

Figure 49 Route 128 Northbound Weekday Stop Activity

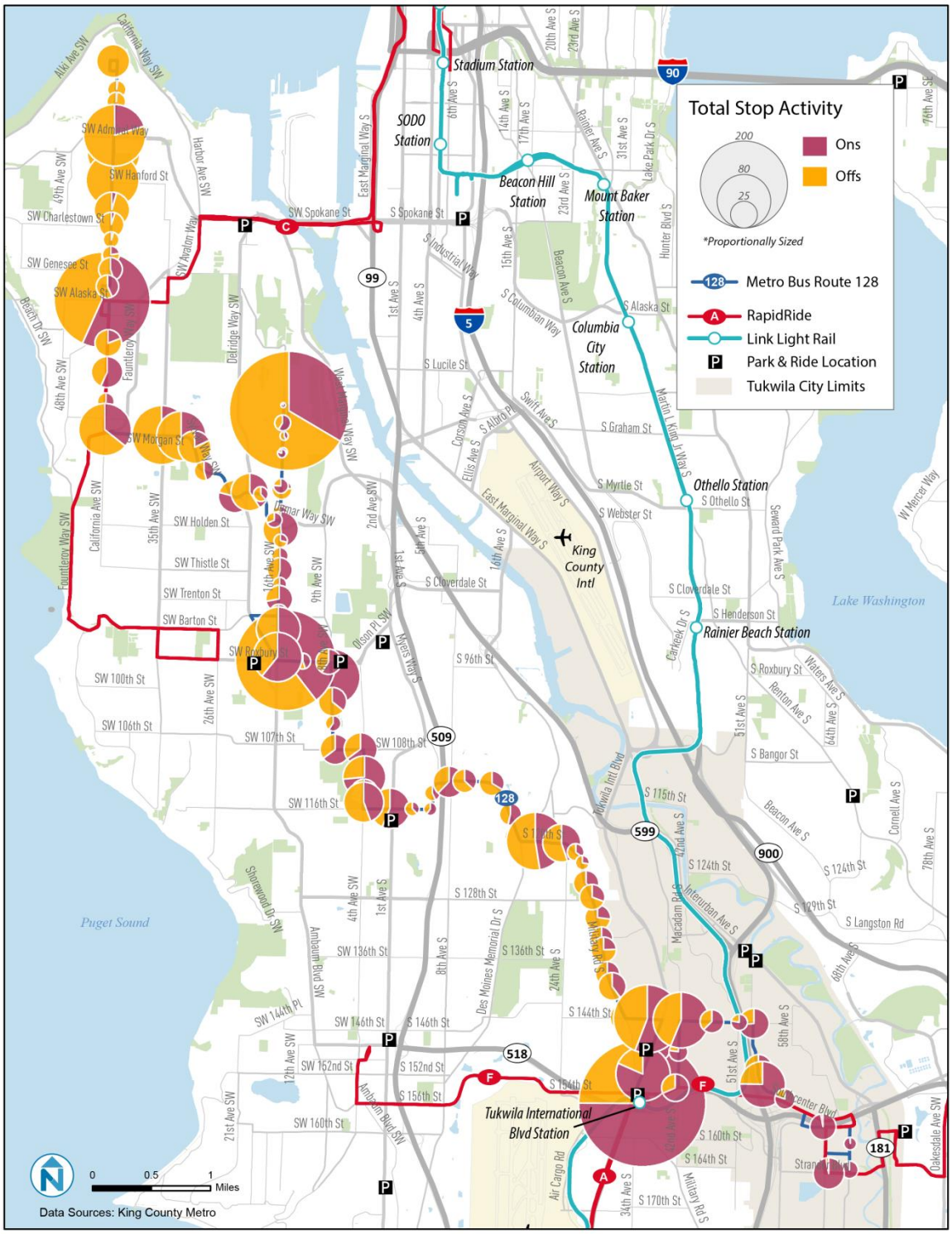
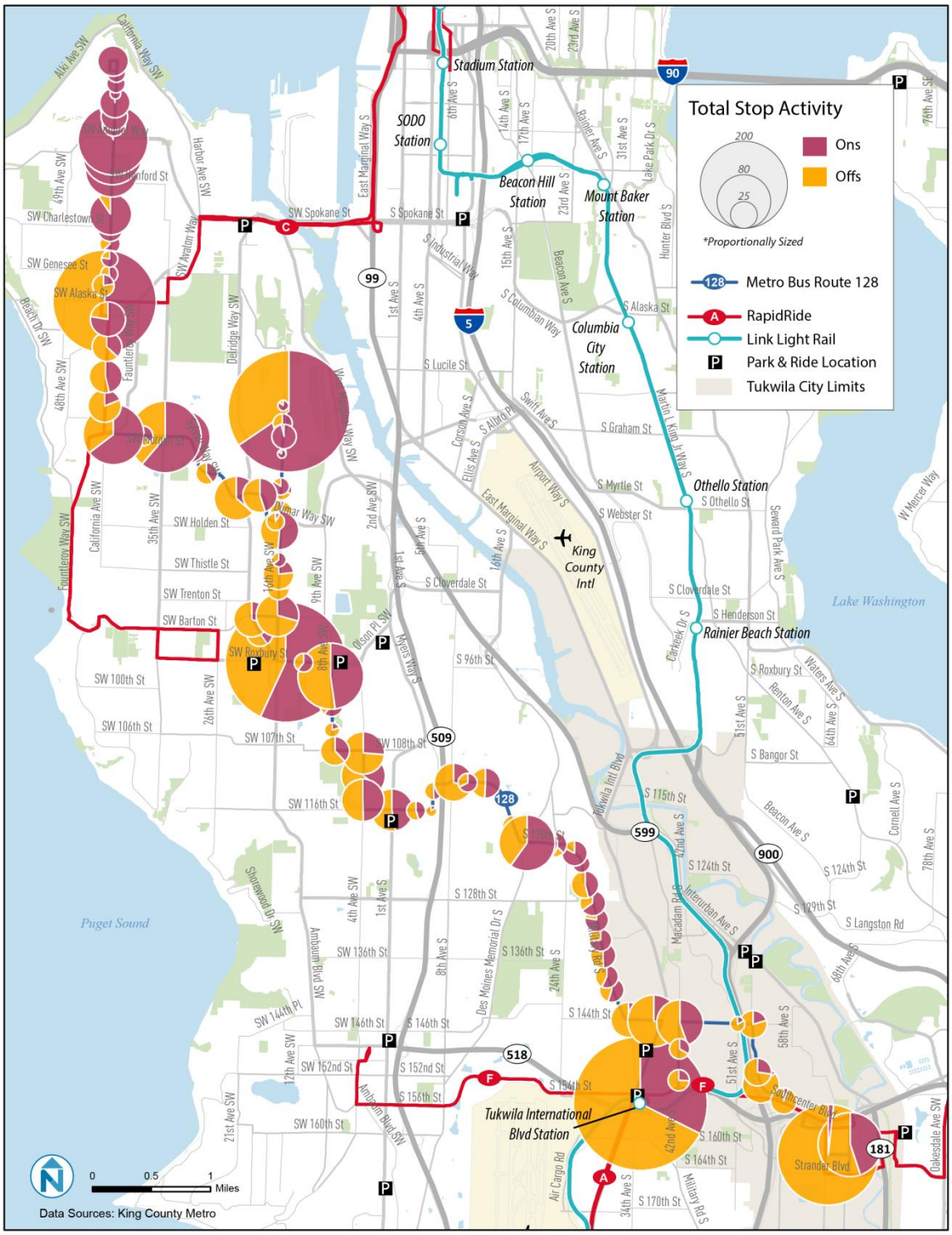


Figure 50 Route 128 Southbound Weekday Stop Activity



Route 150 Kent – Downtown Seattle

Description

Route 150 operates on a north-south alignment between Kent and downtown Seattle. Departing Kent Station, it travels north primarily along SR 181, passes through Tukwila via Andover Park West and Interurban Avenue South, then travels on I-5 to Seattle's Industrial District, arriving to Downtown via 5th Avenue South and 3rd Avenue.

At a Glance		
Weekday Boardings		7,611
Weekday Service Hours		135.2
Weekday Boardings per Service Hour		56.3
Weekday Schedule Adherence	On-Time	77%
	Early	6%
	Late	17%
Frequency (minutes)	A.M.	15
	Midday	15
	P.M.	15-30
	Sat	30
	Sun	30
Span	Mon-Fri	4:54 AM-2:16 AM
	Sat	5:07 AM-2:09 AM
	Sun	6:04 AM-2:07 AM

Route Productivity

Among Metro routes serving Tukwila, Route 150 ranks second for both average weekday ridership (7,611) and for average weekday productivity (56.3 boardings per service hour). Its most productive segments are in the Industrial District and downtown Seattle. Aside from the I-5 portion of the route (18.4 boardings per service hour), the remaining segments each average 39 boardings (or greater) per service hour.

On-Time Performance

Among Metro routes serving Tukwila, Route 150 ranks third overall for average weekday on-time performance, with 77% of trips running on time. Late running occurs at a rate of 17%, with early running occurring 6% of the time.

Summary

Route 150 is a strong bus route that serves the heart of Tukwila's retail core. It has strong ridership in both directions. It is the most direct and fastest connection between downtown Seattle and the Southcenter retail and employment area. Ridership is strong at the Interurban Park-and-Ride, and would be higher if additional parking were available.

Figure 51 Route 150 Northbound Weekday Stop Activity

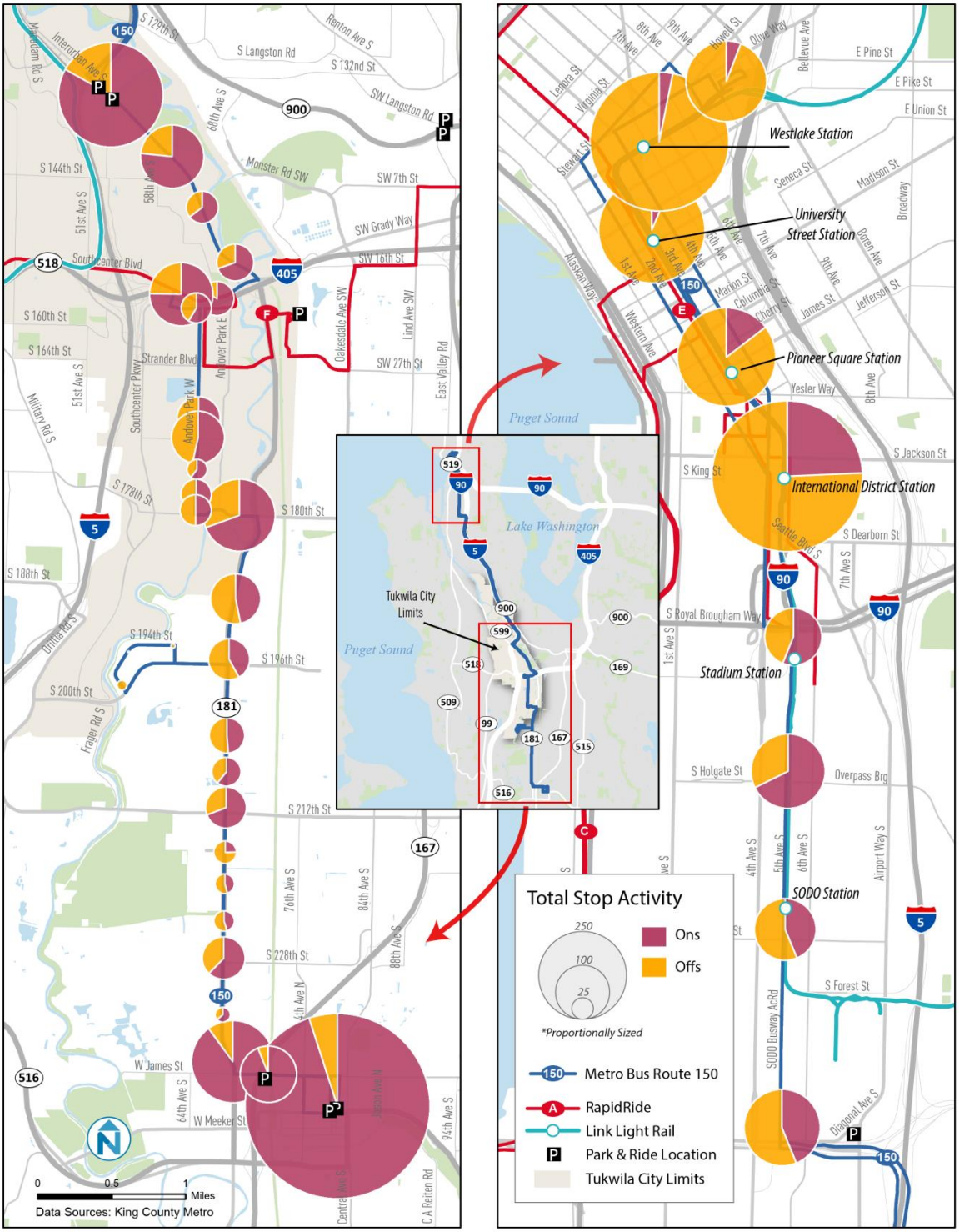
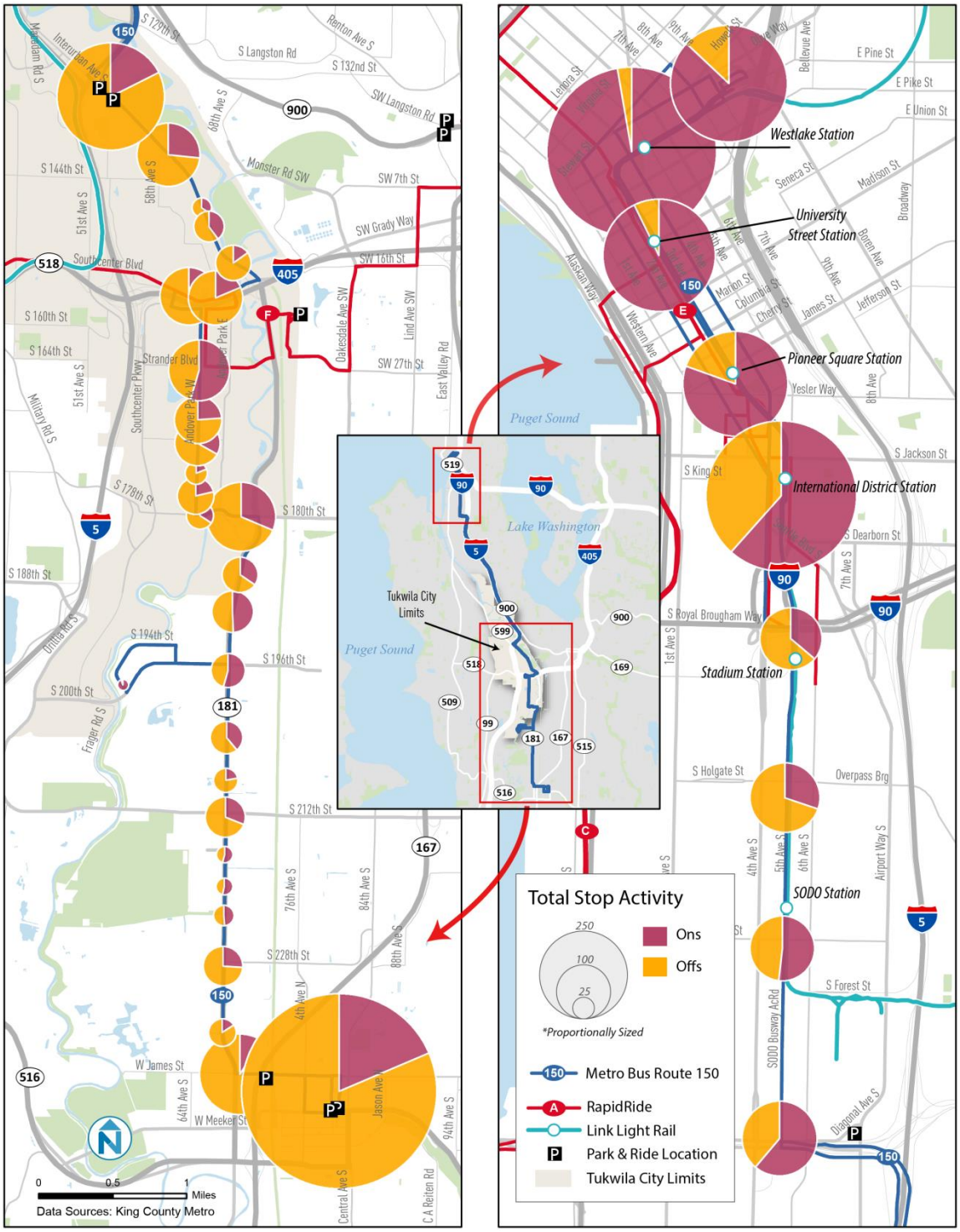


Figure 52 Route 150 Southbound Weekday Stop Activity



Route 154 Tukwila Station – Boeing Industrial District

Description

Route 154 offers peak-direction service between the Tukwila Sounder station and the Boeing Industrial District. It travels on a north-south alignment, primarily via Interurban Avenue South and East Marginal Way South. There are three northbound trips in the morning and four southbound trips in the afternoon, with the final southbound trip departing at 4:26 p.m.

At a Glance		
Weekday Boardings		141
Weekday Service Hours		4
Weekday Boardings per Service Hour		35.3
Weekday Schedule Adherence	On-Time	94%
	Early	1%
	Late	5%
Frequency (minutes)	A.M.	30-45
	Midday	---
	P.M.	30-45
	Sat	---
	Sun	---
Span	Mon-Fri	5:34 AM-5:18 PM
	Sat	---
	Sun	---

Route Productivity

Among Metro routes serving Tukwila, Route 154 ranks second-to-last for average weekday ridership (141) and fourth-to-last for average weekday productivity (35.3 boardings per service hour). Its most productive segment is on Interurban Avenue between the Tukwila train station and 52nd Avenue (64.5 boardings per service hour). The least productive segment is on East Marginal Way between 16th Avenue and South Alaska Street (14.5 boardings per service hour). It attracts more boardings per service hour during early morning (52.7) and a.m. service (40.6) compared to p.m. service (27.5).

On-Time Performance

Among Metro Routes serving Tukwila, Route 154 has the highest percentage of on-time trips (94%) with only 5% instances of late running.

Summary

Route 154 is an employment-oriented route and provides a timed connection between Sounder service and employment destination. Most riders board at Tukwila Station or the Interurban Park & Ride and then alight at their employment location. The pattern is reversed in the afternoon.

Figure 53 Route 154 Northbound Weekday Stop Activity

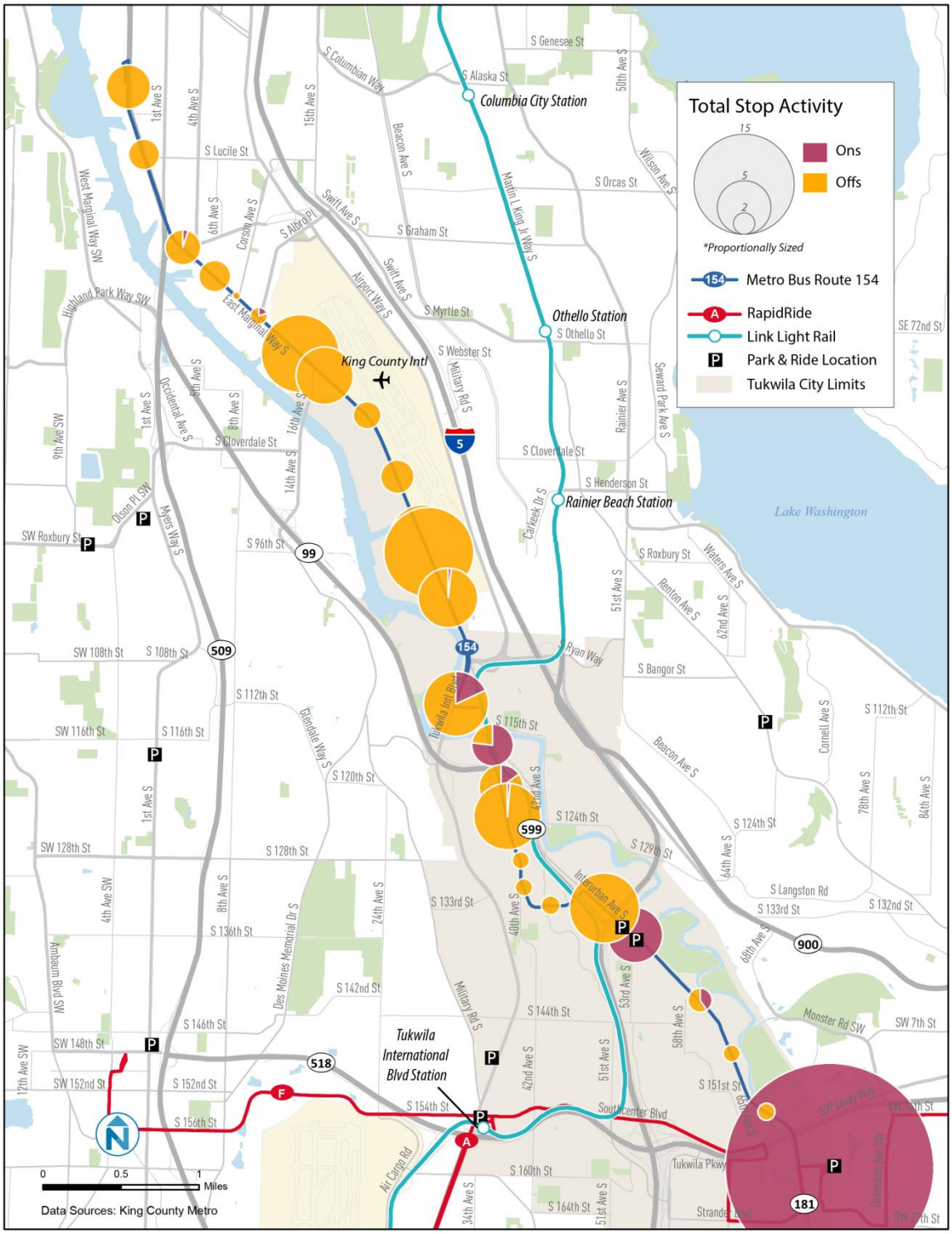
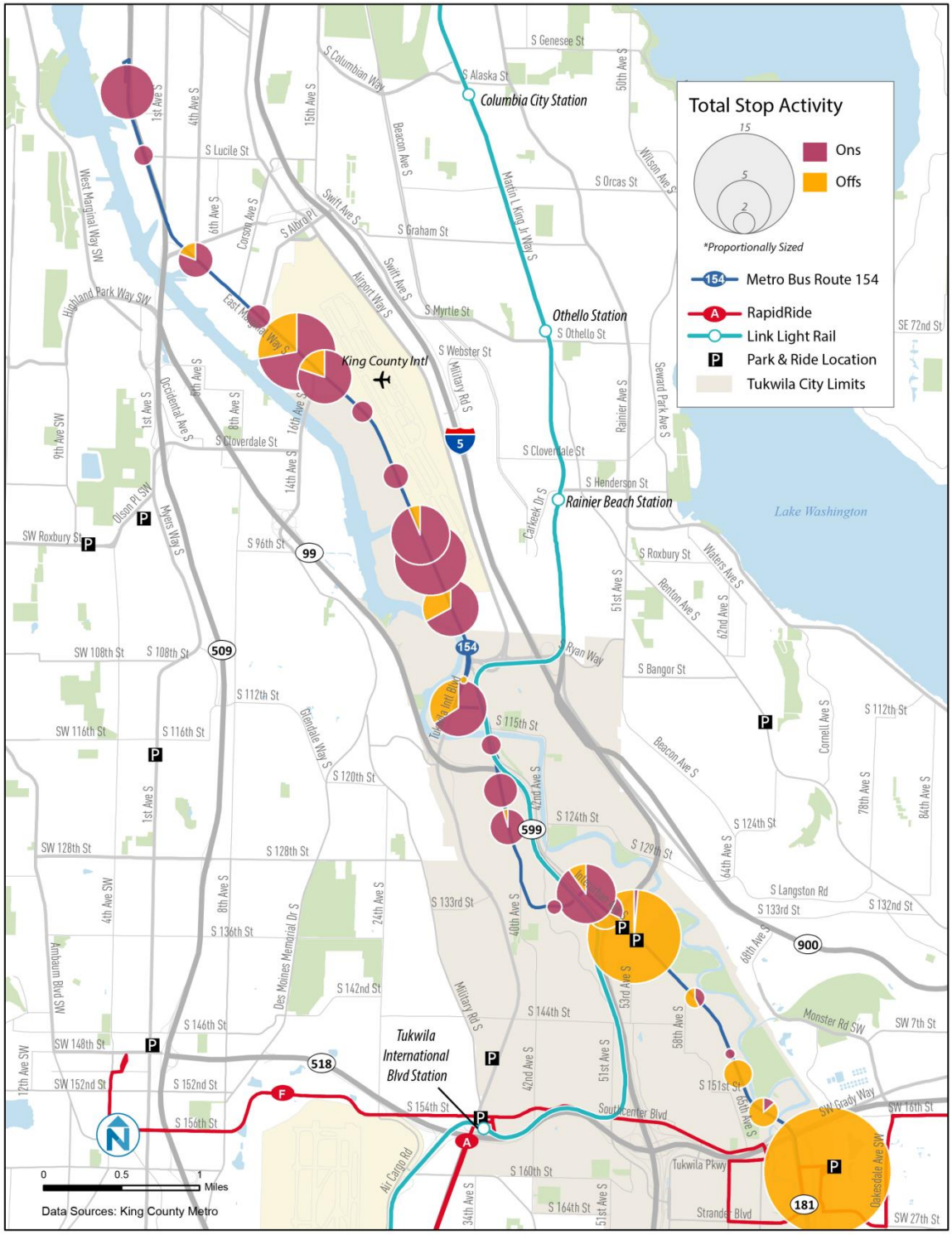


Figure 54 Route 154 Southbound Weekday Stop Activity



Route 156 Southcenter – Kent

Description

Route 156 provides service between Des Moines and Southcenter. From Highline College, the route meanders north to the Sea-Tac Airport Station primarily via Kent Des Moines Road, 24th Avenue South, Des Moines Memorial Drive, 8th Avenue South, South 188th Street, and International Boulevard. From Sea-Tac Airport, the route travels north and east primarily via South 176th Street, Military Road, and 51st Avenue South.

At a Glance		
Weekday Boardings		1,184
Weekday Service Hours		45.7
Weekday Boardings per Service Hour		25.9
Weekday Schedule Adherence	On-Time	84%
	Early	9%
	Late	7%
Frequency (minutes)	A.M.	30
	Midday	30
	P.M.	30-60
	Sat	60
	Sun	60
Span	Mon-Fri	5:06 AM-11:31 PM
	Sat	5:25 AM-11:01 PM
	Sun	5:28 AM-10:35 PM

Route Productivity

Among Metro routes serving Tukwila, Route 156 ranks in the bottom half for average weekday boardings (1,184). It ranks second-to-last for average weekday productivity with 25.9 boardings per service hour. Its most productive segment is between Sea-Tac Airport Station and Southcenter (31.2 boardings per service hour). The least productive segment is along South 216th Street and Des Moines Memorial Drive (16.9 boardings per service hour).

On-Time Performance

Among Metro routes serving Tukwila, Route 156 has the second-best on time performance at a rate of 84%. Route 156 is the only route with higher instances of early running compared to late running (9% vs. 7%).

Summary

Route 156 provides a direct connection between Southcenter and Sea-Tac Airport. This segment is Route 156's most productive. Service levels appear commensurate with the ridership levels.

Figure 55 Route 156 Northbound Weekday Stop Activity

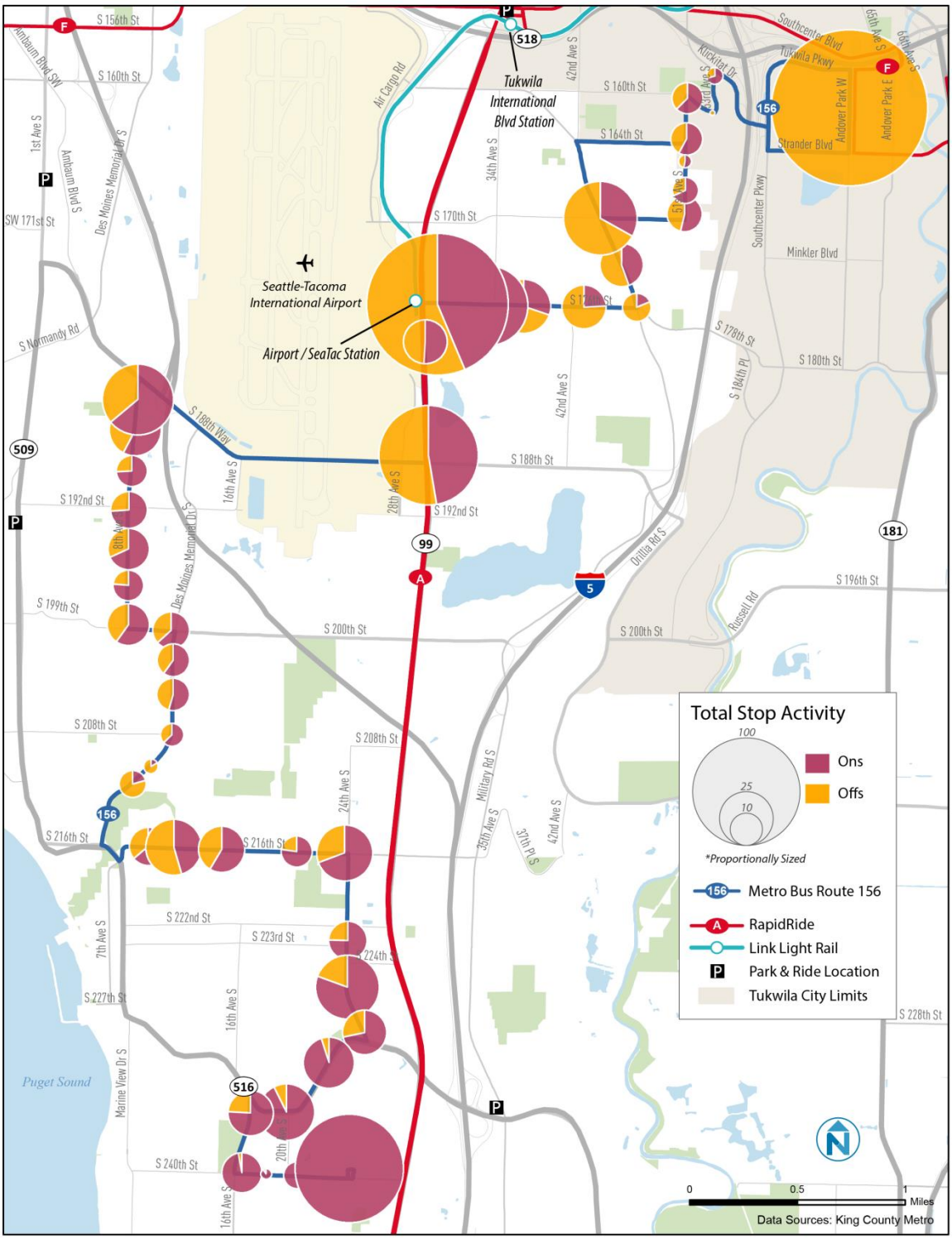
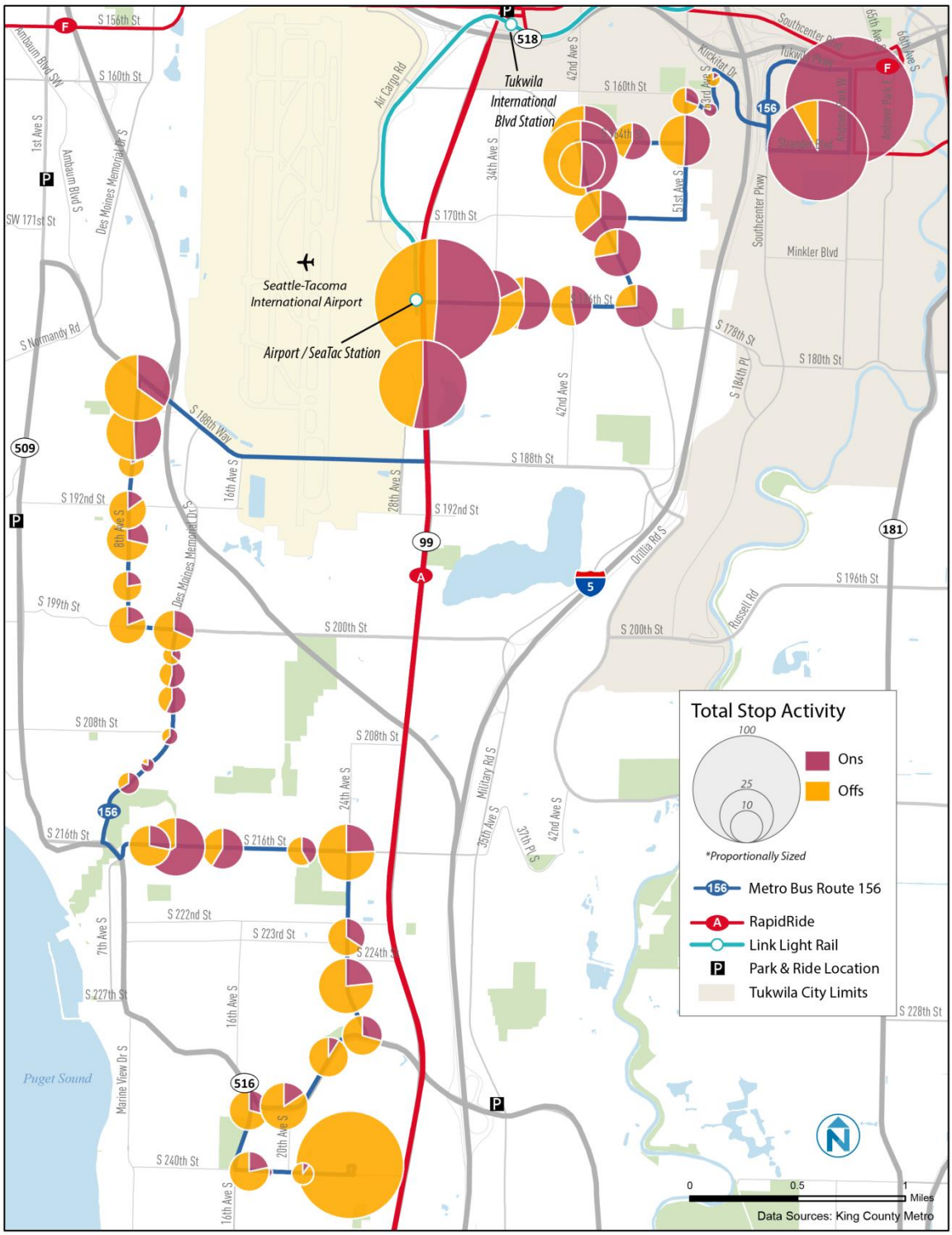


Figure 56 Route 156 Southbound Weekday Stop Activity



Route 193 Federal Way – First Hill

Description

Route 193 provides peak-only, limited stop service between Federal Way and First Hill on weekdays. The route operates primarily on I-5, serving the Federal Way Park-and-Ride, the Federal Way Transit Center, Star Lake Park-and-Ride, Kent-Des Moines Freeway Station, Interurban Avenue S Park-and-Ride, and three medical centers in the First Hill/Downtown area (Virginia Mason, Swedish, and Harborview).

At a Glance		
Weekday Boardings		543
Weekday Service Hours		14.9
Weekday Boardings per Service Hour		36.5
Weekday Schedule Adherence	On-Time	
	Early	
	Late	
Frequency (minutes)	A.M.	15-25
	Midday	---
	P.M.	30
	Sat	---
	Sun	---
Span	Mon-Fri	5:28 AM-8:42 PM
	Sat	---
	Sun	---

Route Productivity

Route 193 carries an average of 543 daily riders, ranking among the bottom of Metro routes serving Tukwila. Its productivity is 36.5 boardings per service hour, below the average of 52. Interurban Avenue S Park-and-Ride is the highest ridership stop south of Seattle.

On-Time Performance

On average, Route 193 runs on time at a rate of 62%, ranking second-to-last among all routes serving Tukwila. Late running occurs 34% of the time. This is likely due to the unreliable nature of operating on I-5.

Summary

Route 193 is a valuable service for Tukwila workers commuting to First Hill. Being that the bulk of its alignment is along I-5, its travel time between Tukwila and Seattle is competitive with Link light rail service.

Figure 57 Route 193 Northbound Weekday Stop Activity

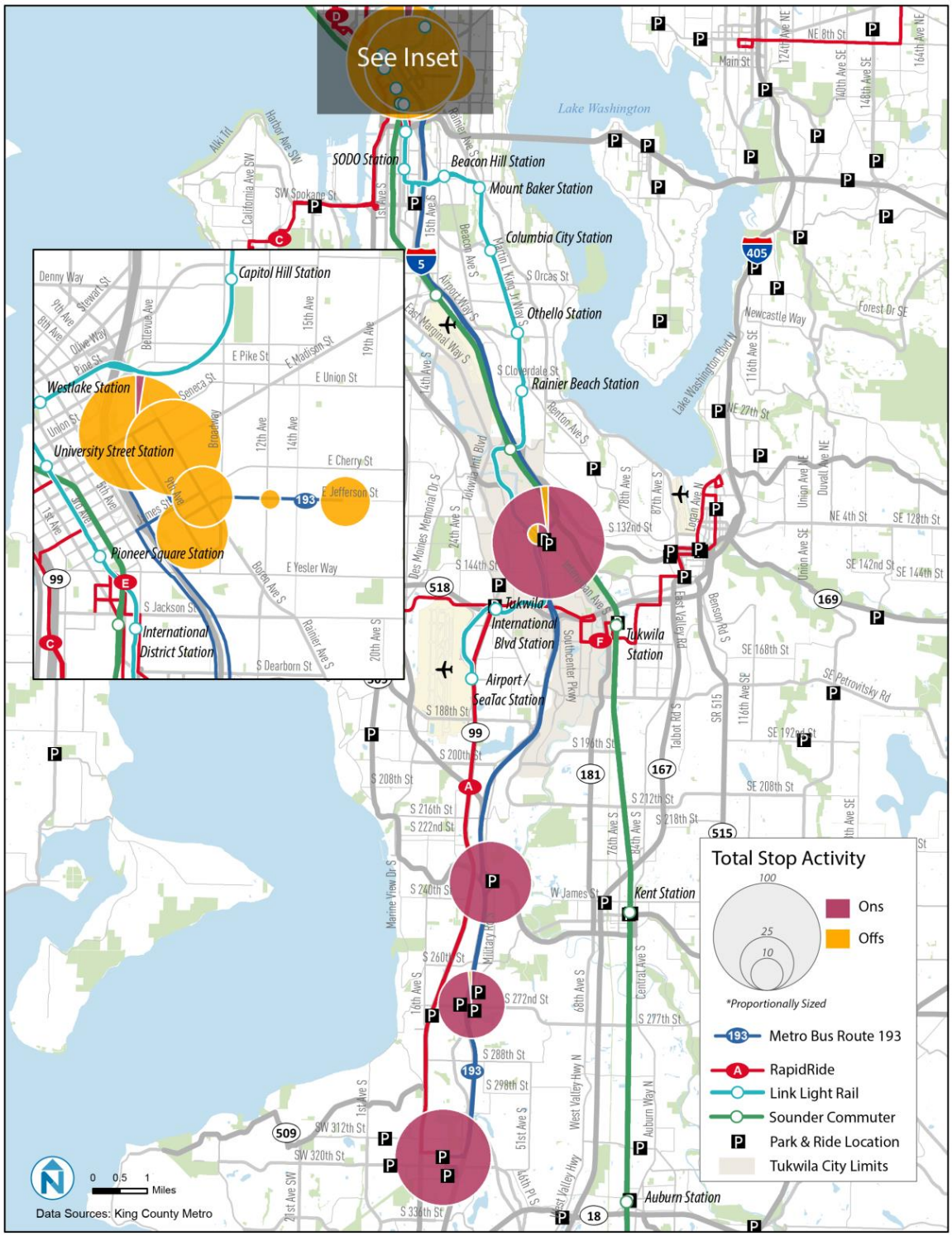
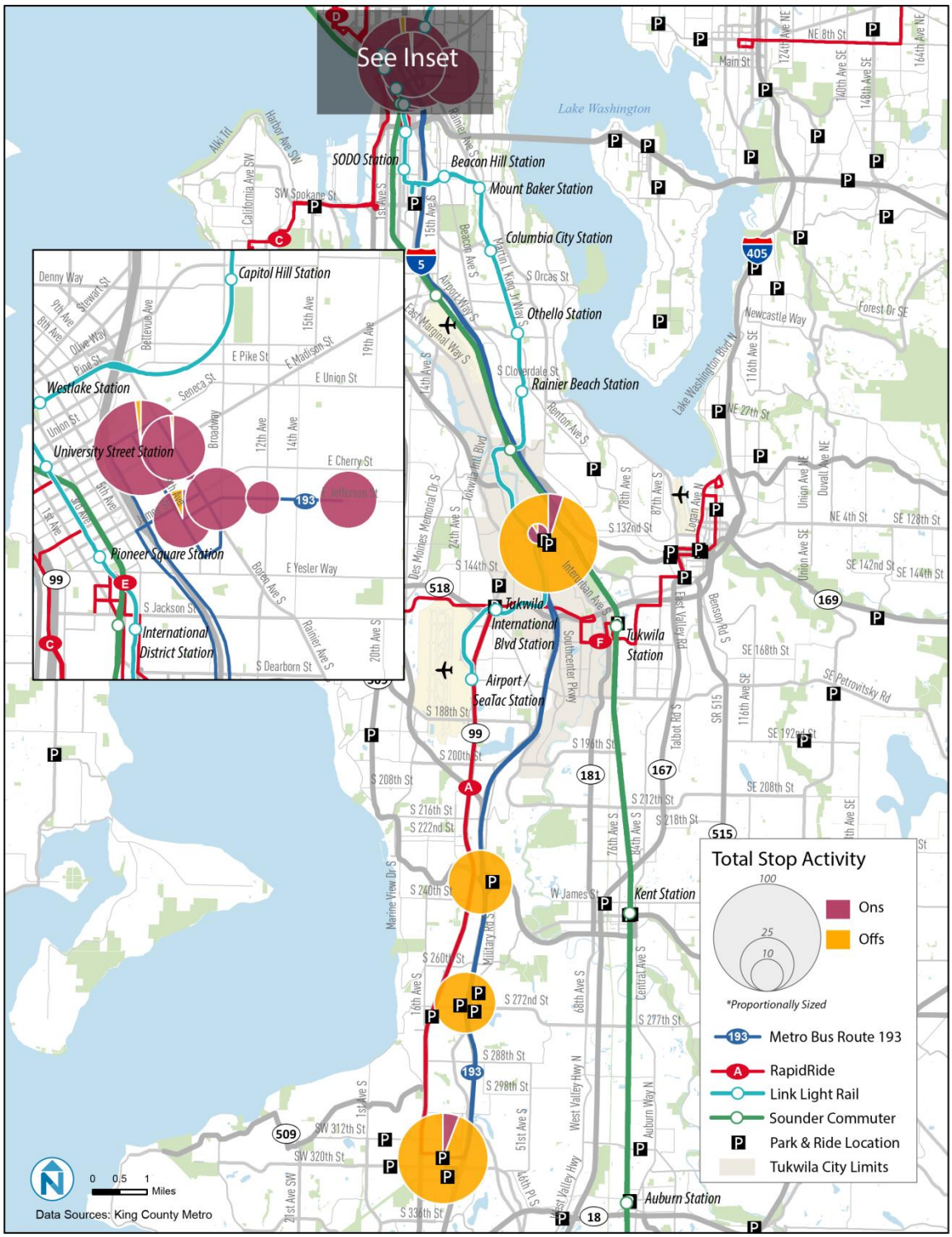


Figure 58 Route 193 Southbound Weekday Stop Activity



Route 601 Group Health – Downtown Seattle

Description

Route 601 provides peak-only service between Group Health and downtown Seattle via East Marginal Way South, South Boeing Access Road and I-5.

At a Glance		
Weekday Boardings		27
Weekday Service Hours		3.9
Weekday Boardings per Service Hour		6.8
Weekday Schedule Adherence	On-Time	21%
	Early	0%
	Late	79%
Frequency (minutes)	A.M.	17-40
	Midday	---
	P.M.	30
	Sat	---
	Sun	---
Span	Mon-Fri	6:23 AM-5:52 PM
	Sat	---
	Sun	---

Route Productivity

Among Metro routes serving Tukwila, Route 601 ranks the lowest for both average daily ridership (27 boardings) and productivity (6.8 boardings per service hour).

On-Time Performance

Route 601 ranks last for on-time performance, with only 21% of trips running on time and the remaining 79% running late.

Summary

Route 601 was designed to allow Group Health residents the ability to identify which routes from downtown Seattle were deadheading back to South Base, and thus allow for a direct ride to their employer. While productivity is poor, buses would be making this trip anyway, and any riders are welcome. Group Health may be relocating this facility to Renton, which will remove the biggest destination for this route.

Figure 59 Route 601 Northbound Weekday Stop Activity

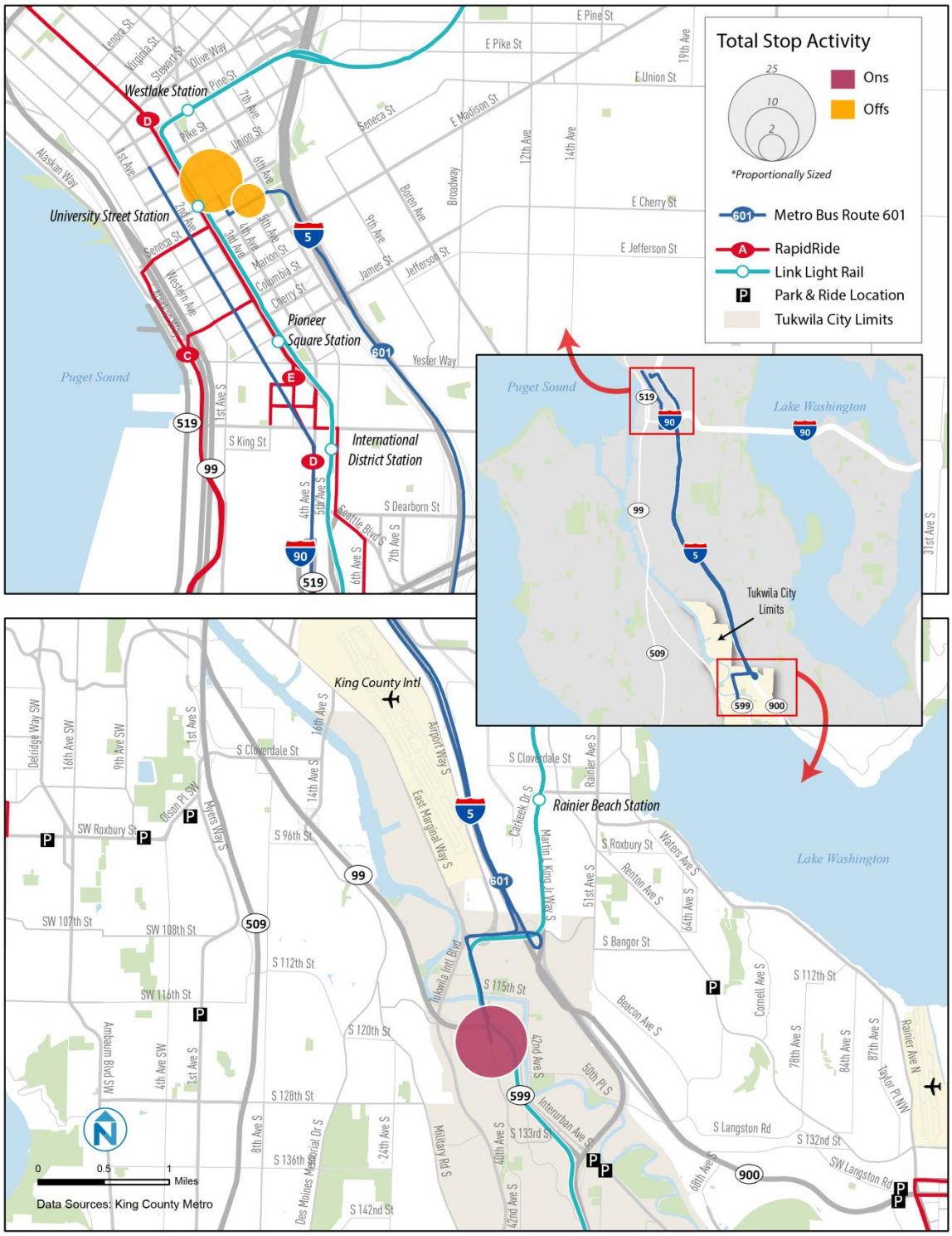
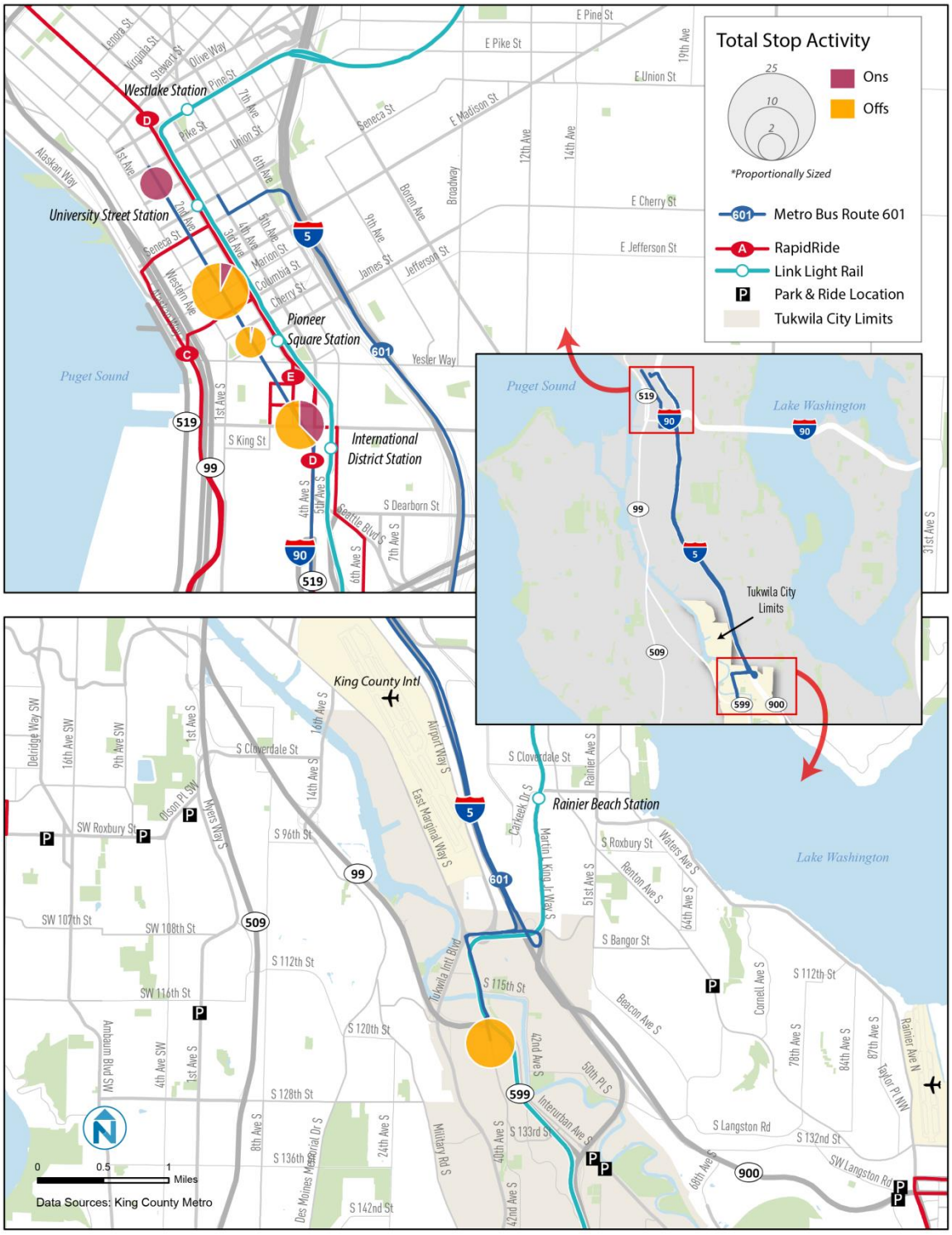


Figure 60 Route 601 Southbound Weekday Stop Activity



Route 906

Description

Route 906 is a Metro Demand Area Response Transit (DART) route offering service between Tukwila and Fairwood on weekdays and Saturdays. The route operates primarily along Southcenter Parkway, S 180th Street, SE Carr Road, SE 176th Street, and Southeast Petrovistsky Road. The DART service area is only offered in Fairwood.

At a Glance		
Weekday Boardings		378
Weekday Service Hours		16.65
Weekday Boardings per Service Hour		22.7
Frequency (minutes)	A.M.	60
	Midday	60
	P.M.	60
	Sat	60
	Sun	---
Span	Mon-Fri	6:07 AM-7:15 PM
	Sat	8:20 AM-6:51 PM
	Sun	---

Note: On-time performance data not available

Route Productivity

Route 906 has 378 weekday boardings and 22.7 boardings per service hour, which among the lowest of all routes serving Tukwila. Stop-level data are not available for this route because it deviates off the route to serve customers.

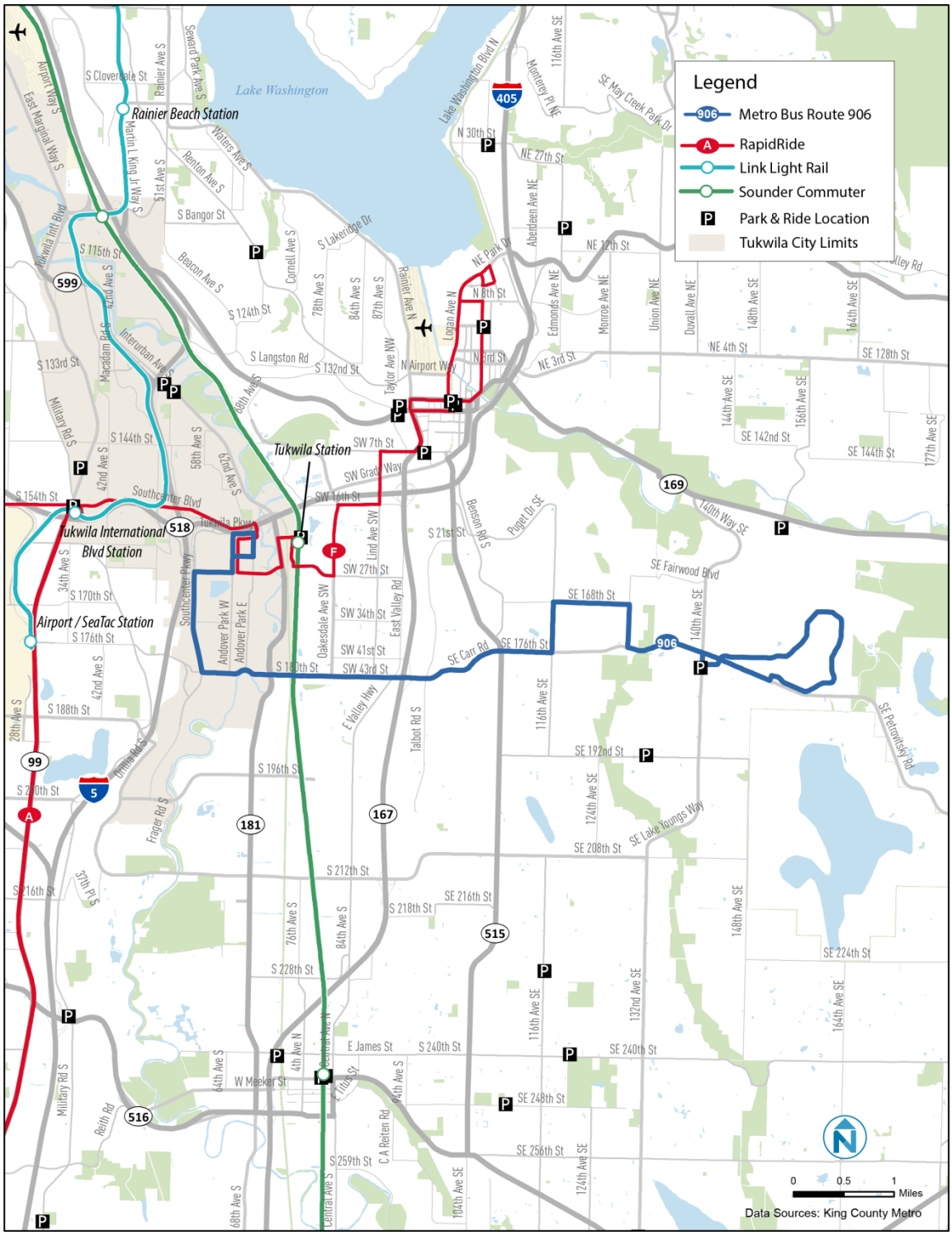
On-Time Performance

No data available.

Summary

Route 906 provides an important connection to Fairwood in unincorporated King County south of Renton. At 60 minute frequency, the route's usefulness is limited, but it does provide a connection to Valley Medical Center, which would be difficult to access otherwise.

Figure 61 Route 906 Map



RapidRide A Line Tukwila – Federal Way

Description

The RapidRide A Line provides service between Tukwila Station and Federal Way. It operates primarily via International Boulevard and Pacific Highway South. Destinations served include TIBS, Sea-Tac Airport Station, Highline College, Redondo Heights Park and Ride, Federal Way High School, and the Federal Way Transit Center.

At a Glance		
Weekday Boardings		10,150
Weekday Service Hours		123.2
Weekday Boardings per Service Hour		82.4
Weekday Schedule Adherence		82%
Frequency (minutes)	A.M.	10-15
	Midday	15
	P.M.	10-30
	Sat	15-30
	Sun	15-30
Span	Mon-Fri	24 Hr
	Sat	24 Hr
	Sun	24 Hr

Route Productivity

Among Metro routes serving Tukwila, RapidRide A Line ranks first for average weekday boardings (10,150) and productivity (82.4 boardings per service hour). The most daily boardings occur at TIBS (1,677), Federal Way Transit Center (984), Highline College (872), and Sea-Tac Airport Station (683). Route productivity is highest during the middle of the day, indicating that many riders are using the route for non-work purposes.

On-Time Performance

RapidRide A Line has a schedule adherence rate of 82%.

Summary

RapidRide A Line is the strongest performing bus route serving Tukwila. It provides direct, frequent service along Pacific Highway to areas with high ridership demand. At TIBS, the many riders transfer to Link, but many also likely transfer to other bus routes to access Tukwila, such as RapidRide F.

Figure 62 RapidRide A Line Northbound Weekday Stop Activity

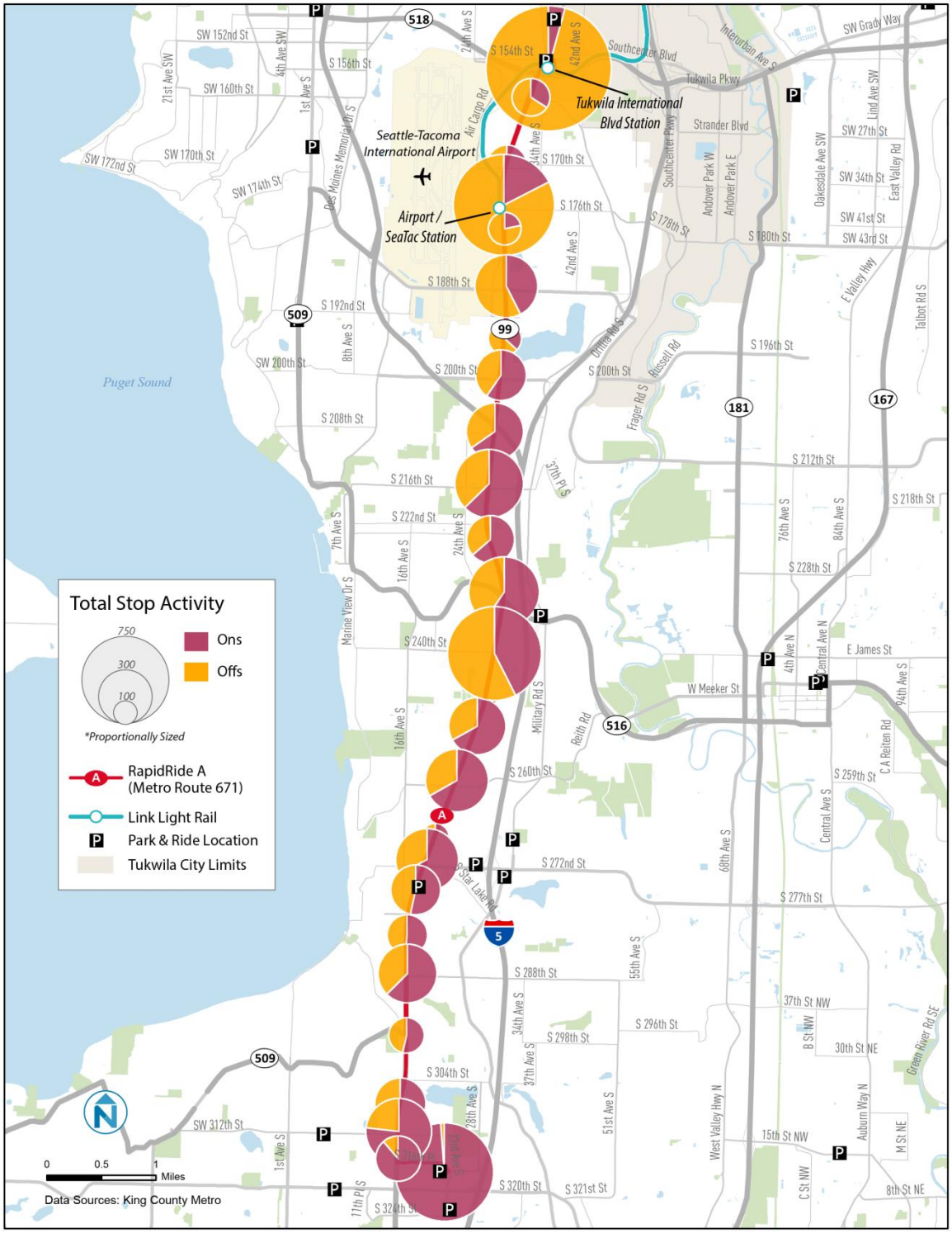
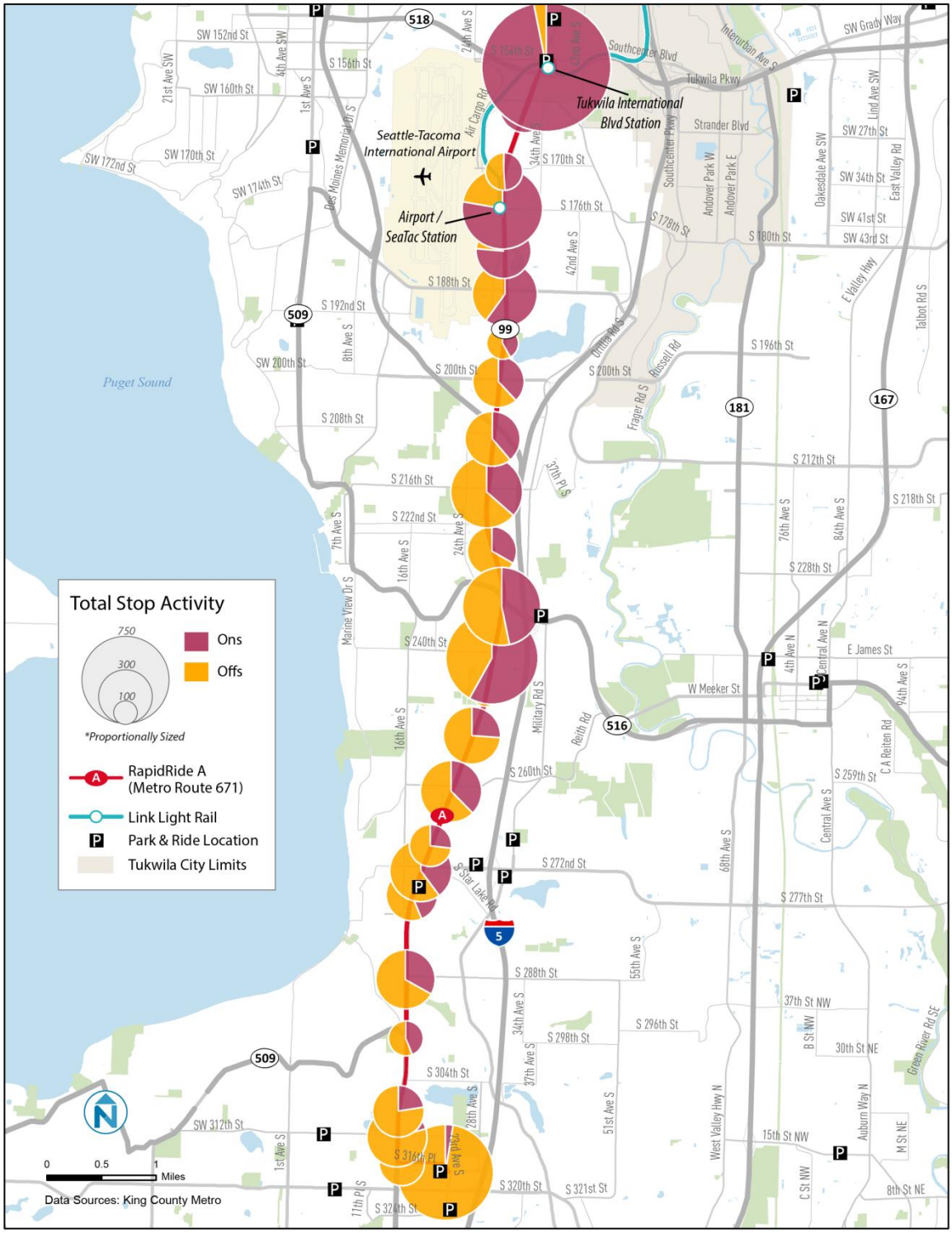


Figure 63 RapidRide A Line Southbound Weekday Stop Activity



RapidRide F Line Burien – Renton

Description

RapidRide F Line provides east-west service between Renton and the Burien Transit Center. From The Landing in Renton, the route steps down south and west to Southwest 27th Street, deviating north to serve the Tukwila train station, then travels through Tukwila primarily via Strander Boulevard, Andover Park West, Southcenter Boulevard, South 154th Street and Southwest 156th Street.

At a Glance		
Weekday Boardings		5,743
Weekday Service Hours		130.9
Weekday Boardings per Service Hour		43.9
Weekday Schedule Adherence		89%
Frequency (minutes)	A.M.	10-20
	Midday	15
	P.M.	10-30
	Sat	15-30
	Sun	15-30
Span	Mon-Fri	4:45 AM-12:50 AM
	Sat	5:56 AM-12:51 AM
	Sun	5:57 AM-12:50 AM

Route Productivity

Among Metro routes serving Tukwila, RapidRide F Line has the third most average weekday boardings (5,743) but ranks below average for productivity (43.9 boardings per service hour). The most productive segment is between TIBS and Southcenter (72.8 boardings per service hour). The stops with the most daily boardings are TIBS (1,191), Andover Park West and Baker Boulevard (830), Burien Transit Center (654), and Renton Transit Center (516).

On-Time Performance

RapidRide F Line has a schedule adherence percentage of 89%.

Summary

Although it is below the average for ridership productivity, RapidRide F Line is still a relatively strong route, especially considering that it operates through some low density areas, such as the northern edge of Sea-Tac Airport, and must operate on a meandering alignment due to the discontinuous street network in the area. It provides frequent service and is one of the few routes that operates on an east-west alignment through Tukwila.

Figure 64 RapidRide F Line Eastbound Weekday Stop Activity

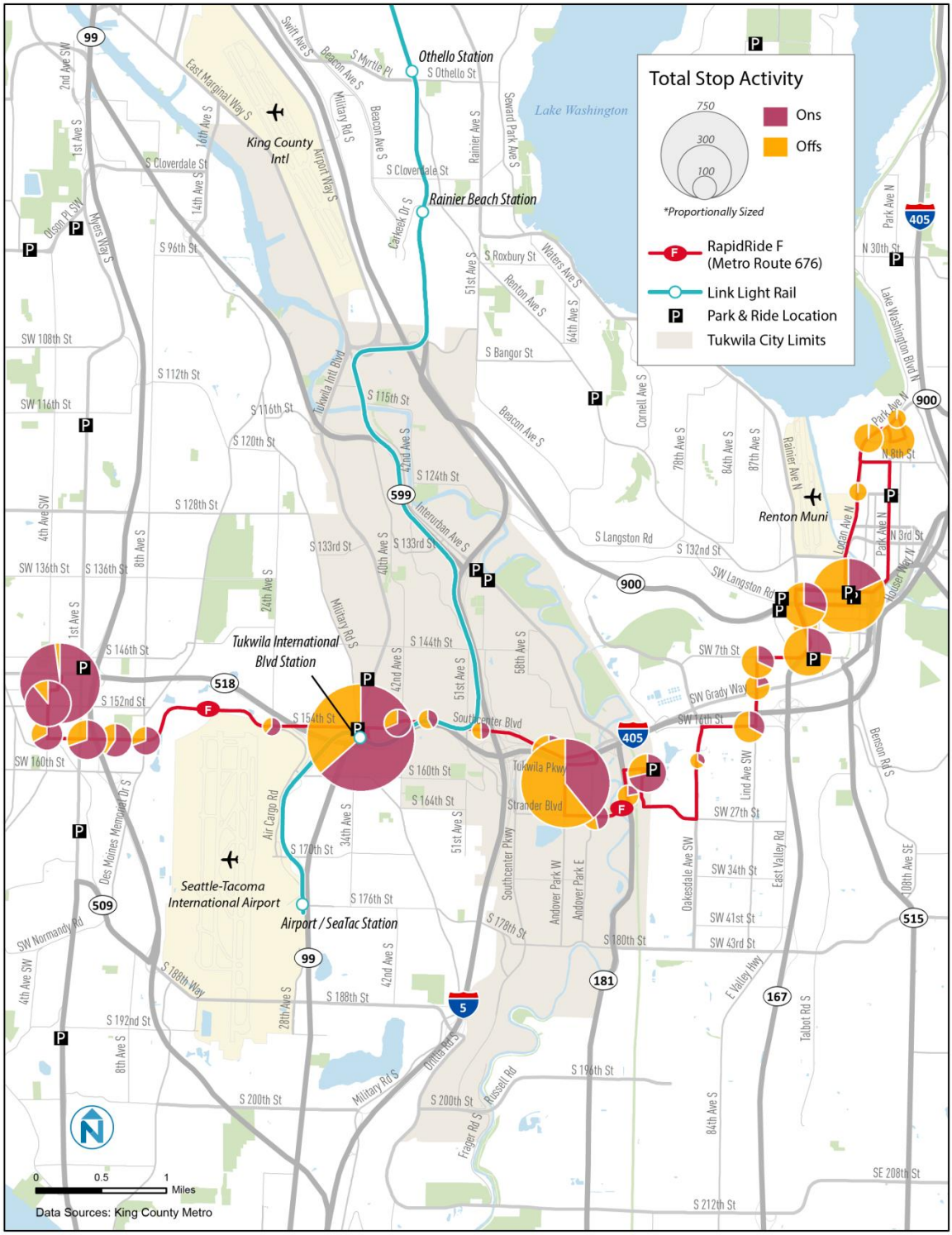
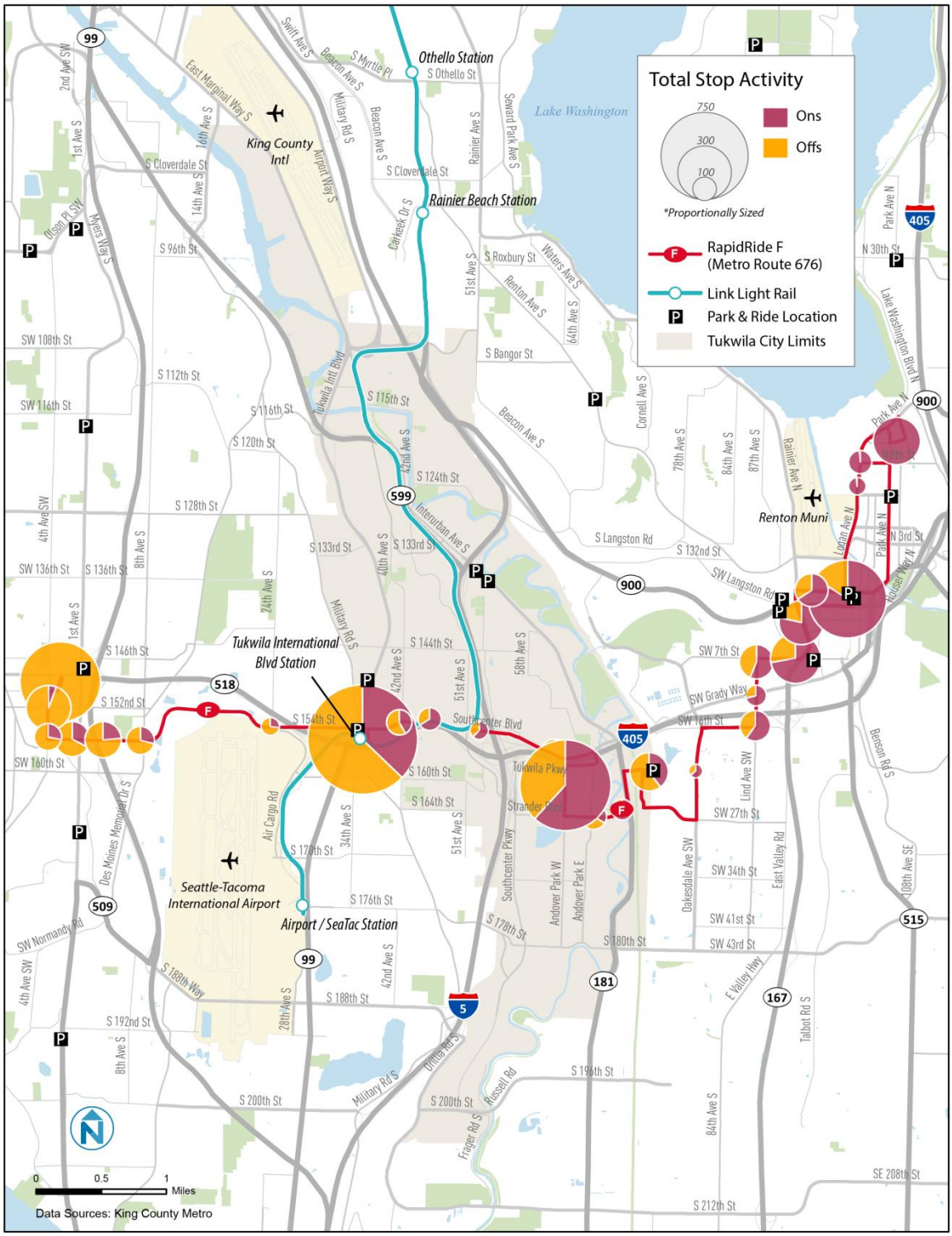


Figure 65 RapidRide F Line Westbound Weekday Stop Activity



Sound Transit Link Light Rail

Description

Link Light Rail provides all day, high-frequency service between Sea-Tac International Airport and the University of Washington. Stops served include TIBS, Rainier Beach Station, Othello Station, Columbia City Station, Mount Baker Station, Beacon Hill Station, SODO Station, Stadium Station, International District/Chinatown Station, Pioneer Square Station, University Street Station, Westlake Station, Capitol Hill Station, and University of Washington Station. Angle Lake Station will open in late 2016.

At a Glance		
Weekday Boardings		34,011
Boardings per Revenue Hour		75.9
Weekday Schedule Adherence		91%
Frequency (minutes)	A.M.	6-15
	Midday	10
	P.M.	6-15
	Sat	10-15
	Sun	10-15
Span	Mon-Fri	4:22 AM-1:20 Am
	Sat	4:21 AM-1:15 AM
	Sun	5:33 AM-12:15 AM

Route Productivity

Link light rail carries an average of 34,011 riders and has productivity of 75.9 passengers per revenue hour. On average, 2,712 passengers per day board at TIBS. About 80% of these boardings are in the northbound direction destined for Seattle, while the remainder are southbound boardings destined for Sea-Tac Airport Station.

On-Time Performance

Link light rail is on schedule at a rate of 91%.

Summary

Link light rail serves as the transit backbone for north-south travel between Sea-Tac Airport and Seattle. TIBS connects Link with most Metro bus routes that serve Tukwila, and is the highest activity stop within the city when all modes are combined. Sound Transit is considering a new station at Boeing Access Road, which would increase Link's usefulness and effectiveness for Tukwila.

Figure 66 Link Light Rail Northbound Ridership

Figure 67 Link Light Rail Northbound Ridership

Sound Transit Sounder Train

Description

The Sounder train provides commuter service between Lakewood and Seattle and between Seattle and Everett. The southern half of the route serves Tacoma, Puyallup, Sumner, Auburn, Kent, and Tukwila. In Tukwila, it serves Tukwila Station (also served by Amtrak). Service is offered on weekdays and for special weekend events (such as sports games).

At a Glance		
Weekday Boardings		12,270
Weekday Service Hours		
Boardings per Revenue		70.4
Schedule Adherence		97%
Frequency (minutes)	A.M.	30
	Midday	---
	P.M.	20-30
	Sat	---
	Sun	---
Span	Mon-Fri	4:41 AM-7:33 PM
	Sat	---
	Sun	---

Route Productivity

Sounder carries an average of 12,270 daily passengers and averages 70.4 boardings per revenue hour. On average, 954 passengers per day board at Tukwila Station. About 40% of these boardings occur in the northbound direction, with the remainder occurring in the southbound direction. This indicates that Sounder is serving more trips coming to and from stations to the south than trips to and from King Street Station in Seattle.

On-Time Performance

The Sounder has a schedule adherence rate of 97%

Summary

Sounder provides a valuable service for Tukwila commuters traveling to and from downtown Seattle. The travel time between Tukwila and Seattle is faster than parallel Link service. In addition, it is serving many people from the south traveling to Tukwila, likely for work, indicating the need for good transit service between Tukwila Station and employment sites.

Figure 68 Sound Transit Sounder Train Northbound Ridership

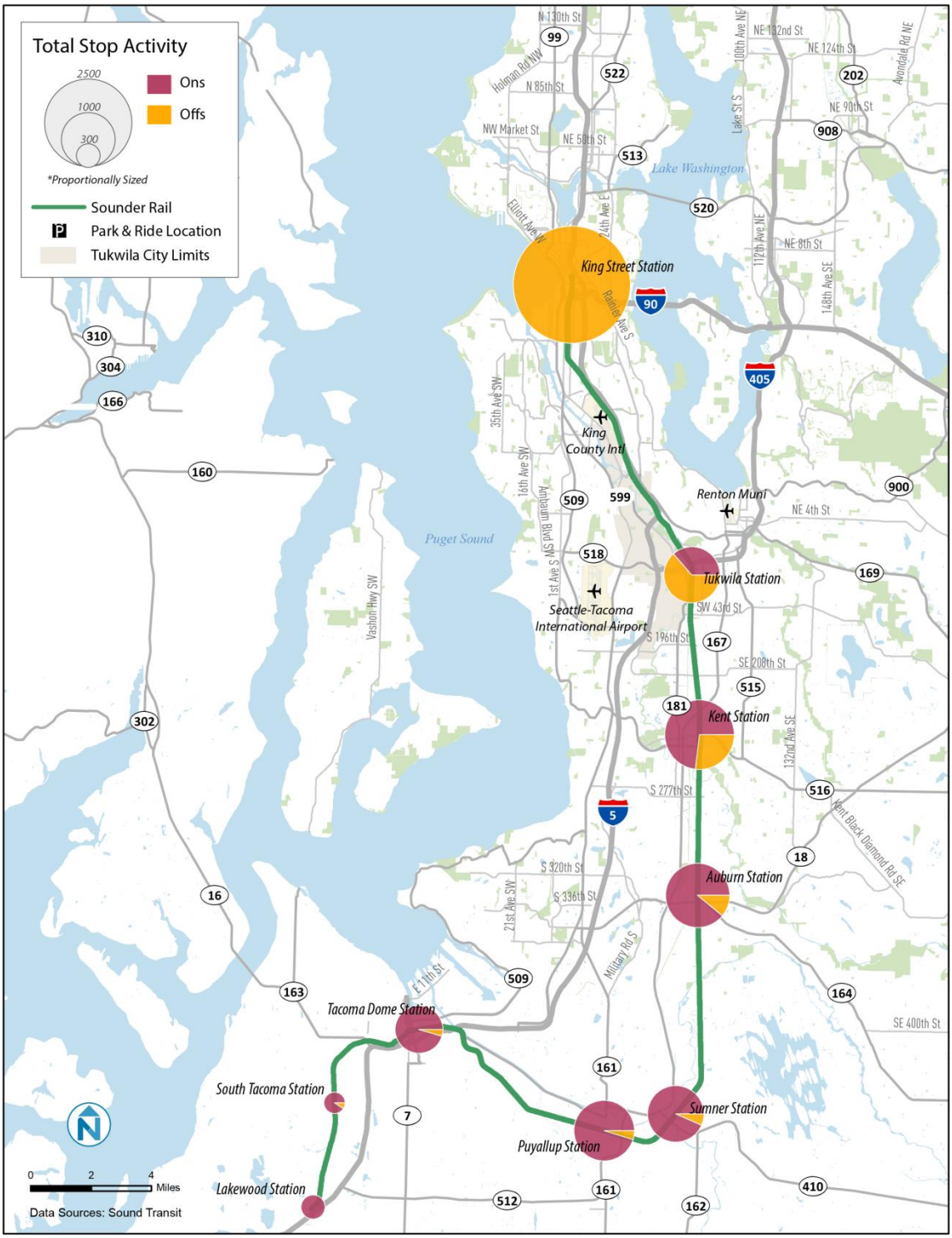
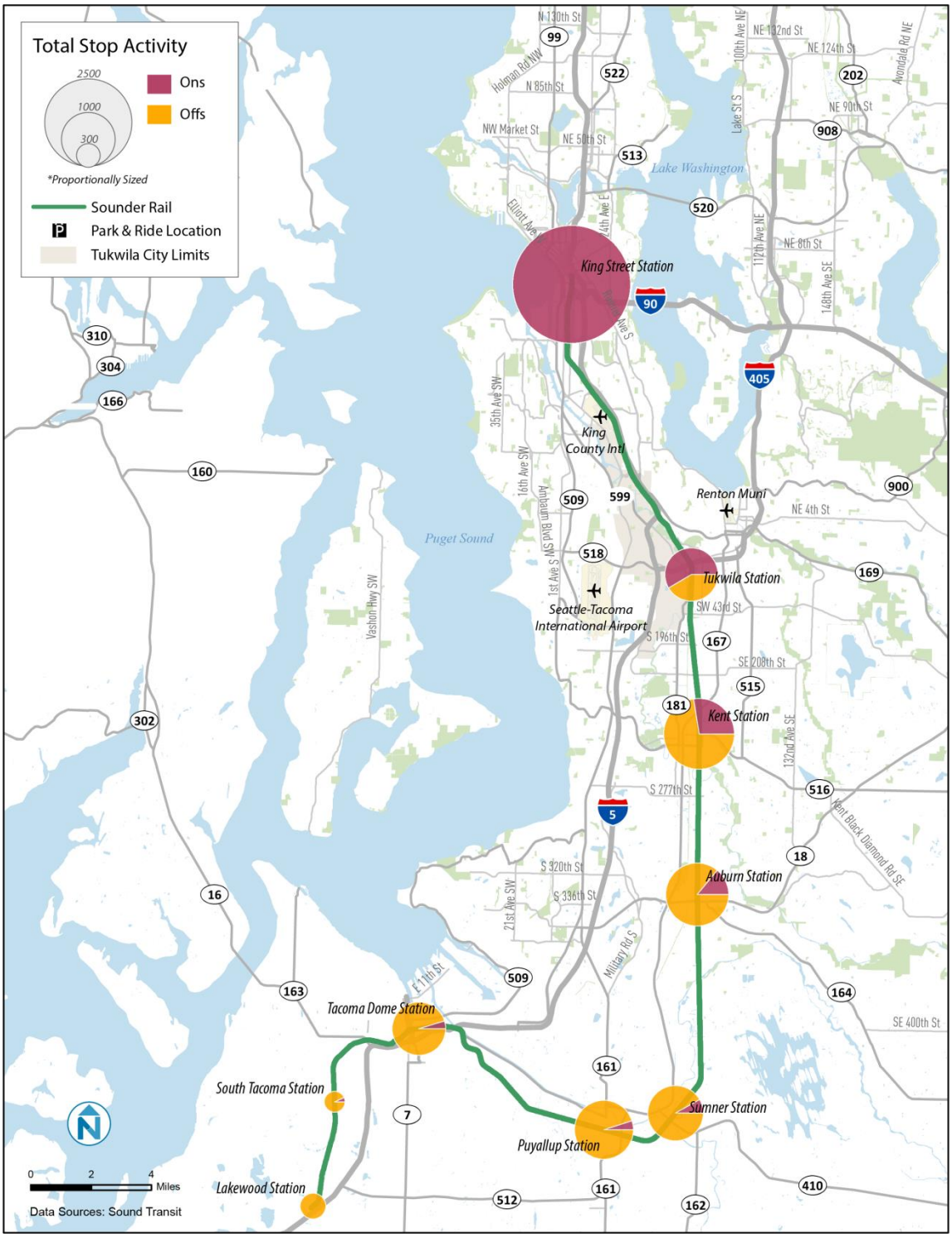


Figure 69 Sound Transit Sounder Train Southbound Ridership



7 PUBLIC OUTREACH

This section summarizes public outreach activities conducted for the Tukwila Transit Plan. Activities included stakeholder interviews with employers and community members, a "pop-up" open house held at Saar's Super Saver Foods, and an online community survey.

STAKEHOLDER INTERVIEWS

To better understand community perceptions, needs, and priorities related to public transit within and around Tukwila, a series of stakeholder interviews were conducted during October and November with employers and community members who have a direct stake in the transit services provided in Tukwila.

Approximately thirty individuals (including one high school civics class) representing a variety of organizations participated in the stakeholder meetings. Several different segments of the community were encouraged to participate in the interviews, including organizations that serve low-income and homeless populations, immigrants, refugees, major employers, and young people. The following organizations were represented in the stakeholder interviews:

- BECU
- Boeing
- Foster High School
- International Rescue Committee
- Riverton Park United Methodist Church
- Tukwila's Somali community

Before each stakeholder interview, participants were given a brief overview of the study, its goals, and the purpose of the stakeholder meeting. Participants were asked to describe the services offered by their business, organization, or agency, and to discuss various topics pertaining to the current and future role public transportation should play in Tukwila. They were then asked to discuss their views on local transit service in Tukwila, its strengths and weaknesses, desired system improvements, key travel destinations among their community members/employees, and demand for service outside of Tukwila. The questionnaires that were used to guide the meetings are provided at the end of this memo.

Major Themes

A number of major themes emerged during the stakeholder interviews. Rather than attribute comments to an individual or a stakeholder group in isolation, the major themes have been summarized below.

Perception of Transit

Overall, community and employer stakeholders agree that transit services in and around Tukwila meet the transportation needs of Tukwila residents and employees. Opinions towards frequency and span of service are largely dependent on the route in question. For example, most stakeholders spoke favorably of Link and the RapidRide routes but less so for the traditional bus routes. Levels of comfort and perceptions of safety (while riding or waiting for transit) were often cited as barriers to attracting ridership and improving the rider experience. Some members of the community say that both riding and waiting for the bus can feel unsafe.

Service Improvements

In general, stakeholders interviewed expressed satisfaction with frequencies of 20 minutes or better. However, many stated that 30 minute frequencies on certain routes are frustrating for current riders and a barrier to attracting new ones, and that routes should run at least every 15 minutes. While on-time performance was brought up as an area for service improvement, it was not typically in reference to routes that operate with higher frequency (e.g., Link and RapidRide).

From the employer standpoint, routes should operate earlier in the morning and later in the evening to serve the needs of workers who do not have traditional nine-to-five schedules. Some of the major employers where Tukwila residents work (Seattle Tacoma International Airport, Southcenter, downtown Seattle hotels, and Boeing work sites in Tukwila and Renton), have start times or end times that are not served well by current schedules. Service may exist at those times, but if it does it is not frequent enough. Employers who see a large number of employees commuting in on the Sounder would like to see better timed connections with local transit services.

Several stakeholders said they would like to see overall transit operations improve through an increase in prepayment mechanisms. For example, at some locations, RapidRide riders can purchase a ticket at the station before boarding the bus, which reduces boarding time. Increasing the ability to do this would improve customer convenience and reduce dwell time at stops.

Passenger Information and Amenities

In terms of station amenities, parking supply was among the most frequently-cited issues. On weekdays, it is often the case that parking lots are full at TIBS, Tukwila Sounder Station, and Interurban Avenue S Park-and-Ride. Parking capacity is also an issue for employers that coordinate (or intend to provide) vanpool and vanshare services with transit stations.

Interview participants were also likely to bring up the need for new shelters that protect from the elements. Additionally, lighting, security, cleaning, and maintenance for current bus stops were cited as necessary to increase levels of comfort and safety among riders. Several interviewees said they would like to see real-time arrival kiosks at more bus stops.

Multiple stakeholders said that language access was a barrier to attracting ridership and improving the rider experience. Non-English speaking residents who are unfamiliar with current service are more likely to be intimidated by riding transit due to a lack of instructions in other languages. According to one stakeholder, many members of the Somali community were under the assumption that riders were required to pay for parking at TIBS and thus did not attempt to ride Link. Discussions with non-English speaking community members revealed that many were unfamiliar with Link service and did not know where to purchase an ORCA card.

In general, access to information (not only among non-English speakers) was cited as an issue during interviews. Some students interviewed claimed that trying transit was intimidating for those that are not already "transit savvy." Many students stated the need for a real-time arrival app, unaware that several versions already exist for the Puget Sound region, such as the One Bus Away app.

Service to New Areas

When asked where they would like to see new transit service within Tukwila, Allentown (including the Tukwila Community Center) was the most frequent response. Multiple participants indicated they would like to see regular service to the Safeway on Military Road South, especially considering that accessing the location on foot requires a steep uphill trip. Family Fun Center was cited as a destination popular among students that is not conveniently served by transit.

Employers in the area said they would like to see more neighborhood routes and local express routes to improve last mile connections to job sites (especially for 5 a.m. start time commuters and for those arriving via the Sounder). According to one employer, the significant of a vanshare connection for Sounder commuters makes driving alone a reasonable cost option.

While most interview participants agree that existing transit services are adequate for serving north-south travel needs, many expressed need for increased or improved east-west travel options. Specifically, stakeholders cited a lack of direct service to Bellevue and a lack of coverage for workers commuting to or from Renton, east Kent, and Puyallup.

Pedestrian Infrastructure and Connectivity

Several stakeholders stated that pedestrian infrastructure was inadequate along various corridors in Tukwila, serving as a barrier to connecting pedestrians to transit. In some areas, pedestrians only have a shoulder to walk along. New or improved crosswalks were also requested as necessary improvements.

Affordability

While stakeholders generally agreed that current transit services meet the general transportation needs for the bulk of Tukwila residents, the rising prices of housing in well-connected areas has become an increasing concern for lower income residents. Residents that seek lower housing costs in less central locations must often contend with less transit coverage and reduced service. An increased supply of affordable housing near transit would improve overall transit accessibility, particularly for lower income residents.

Several groups (low income populations, students, and parents with multiple children) cited the cost of fares as a barrier to accessing transit. Several students expressed the need for reduced fares, especially during peak hours. Many stakeholders interviewed were not familiar with the recently implemented ORCA Lift program that allows reduced fares for low-income populations.

COMMUNITY OUTREACH EVENT

On November 2nd, the project team conducted outreach at Saar's Super Saver Foods, a local grocery store, for four hours in the afternoon and evening. The team included a City representative and several interpreters speaking Spanish, Somali, Vietnamese, Burmese, Arabic, and Mandarin. Over 100 community members spoke with the outreach team about public

transportation in Tukwila. General question topics included attitudes toward transit, level of transit use, reasons for not using transit, and desired improvements that would incentivize people to ride more.

Major Themes

Frequency of Use

Community members interviewed reported a wide range of transit use (from never to every day). Occasional riders were more likely to ride the Link for recreational purposes, such as going to sporting events or traveling to downtown Seattle. Among regular riders, frequently mentioned routes include 124, 128, 150, RapidRide A and F, and Link. Community members who do not ride often or who no longer ride were likely to give automobile ownership as their primary reason.

What Riders Like about Transit

Overall, most community members who spoke with the outreach team were approving of transit service in and around Tukwila. Reasons given include frequency, good on-time performance, timed transfers, responsible and courteous drivers, improved pedestrian connections and bus shelters, convenience, and affordability. Riders also mentioned specific routes that meet their travel needs, the primary two being Routes 124 and 128.

What Riders Want Improved

Among community members who expressed dissatisfaction with transit service, on-time performance and low frequencies were the most-often cited reason.

Many people expressed concerns over safety at transit stations and on buses. They worried about being in exposed places for long periods of time and provided anecdotes of violent activities while riding or waiting for transit

Some people also expressed concern over rude drivers and rowdy passengers. Some people said that rude or drunk passengers made them feel unsafe. Additionally, some passengers cited issues with cleanliness at shelters/stations and on the bus.

What Would Attract More Ridership

Aside from improving the issues mentioned above (on-time performance, frequency, safety, cleaning/maintenance, and driver/passenger behavior), community members also shared additional improvements that would influence them to ride transit (or ride transit more often).

Several participants said they would like to see service that runs earlier in the morning and later in the evening to meet the commuting needs of those who do not work traditional hours. Several people said they would like to see more parking availability at transit stations and park-and-rides.

Some riders expressed need for expanded service within Tukwila, such as a local circulator serving Allentown. Others said they are looking forward to the proposed Boeing Access Road Station on Link. Additional requests for new service destinations include Kent, Bellevue, and Tacoma.

Requested amenities include new and improved bus shelters and real-time arrival kiosks. Many riders said they would ride more often if the fares were lower. Parents with more than one child

reported that they would like to ride more, but that paying round trip fare for multiple children can be more costly than parking and gas.

ONLINE SURVEY

An online survey was conducted to collect information from transit riders as well as non-riders in Tukwila. The survey included two components: a "Build Your Transit System" tool and a follow-up online survey. The Build tool presented 18 strategies that could be used to improve the transit service for Tukwila and showed the benefits of each in the areas of ridership, speed & reliability, passenger experience, multimodal connections, and energy/emissions. It also presented relative costs for each strategy, and survey respondents were given a budget of 15 dollar signs to spend on strategies. Respondents were instructed to select the strategies most important to them while staying within the budget. After completing the first component, respondents were transferred to the second component, which was an online survey consisting of follow up questions. These included questions related to personal values, rider characteristics, and desired improvements that would influence increased transit use. A screenshot of the Build Your Transit System is included at the end of this chapter.

A total of 84 people took the "Build Your Transit System" survey, with a 74 of those respondents completing the accompanying follow-up survey in SurveyMonkey that asked additional questions. The survey was made available in English, Spanish, and Somali, and was advertised through several different channels:

- City of Tukwila website
- E-Hazelnut newsletter
- Emails to members of the City of Tukwila Community Connectors Program and local human service providers
- Flyers distributed to families with children attending Tukwila School District elementary schools, with information in English, Spanish, and Somali

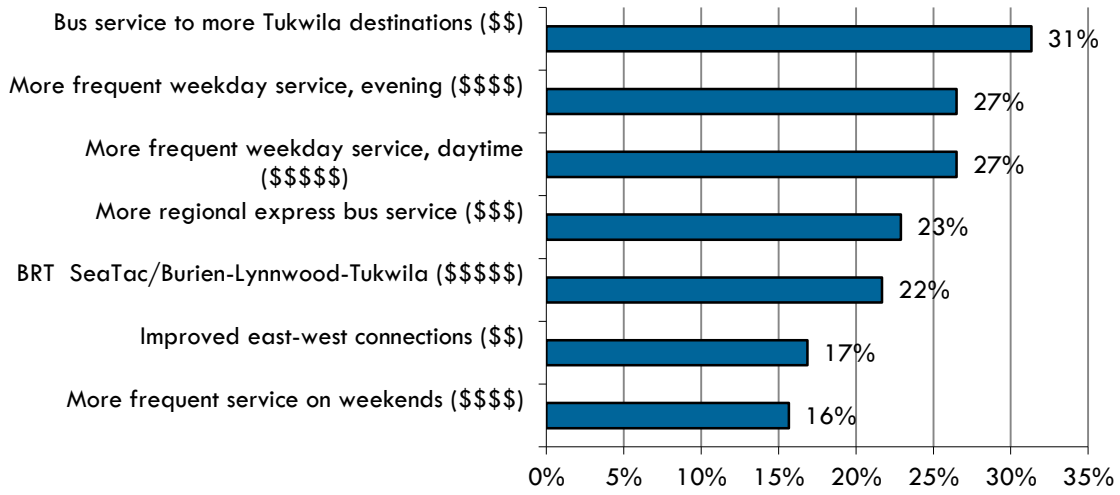
Given that the survey was not a random sample and the respondents were self-selected, the survey does not provide statistically significant results. However, the results provide useful information about the preferences and characteristics of some people who use Transit in Tukwila.

Build Your Transit System Results

Transit Service Strategies

The Build Your Transit System tool was divided into three strategies: Transit Service, Facilities, and Customer Amenities. As can be seen in Figure 70, the most popular transit service strategies were to improve bus service to more Tukwila destination (31%) and to improve weekday frequency during daytime and evening service (27%).

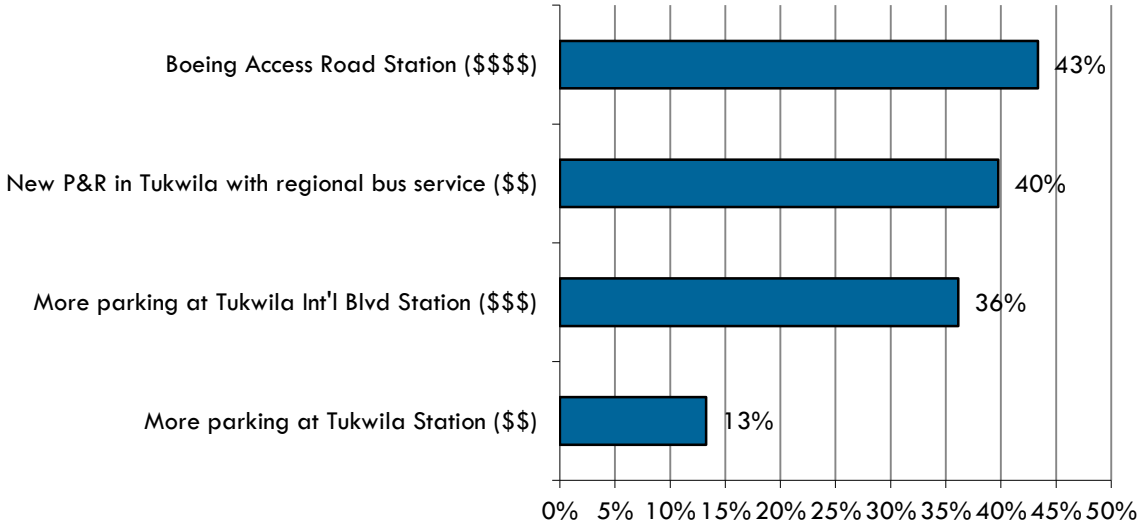
Figure 70 Transit Service Strategies from Build Your Transit System Tool



Facility Strategies

Figure 71 below shows respondent preference for proposed facility strategies. A proposed Boeing Access Road Station with Link and Sounder service was the most popular among respondents (43%) followed by a new or expanded park-and-ride in Tukwila with buses to regional destinations (40%). Following that, more parking at Tukwila International Blvd Station was popular, as it was selected by 36% of respondents. It should be noted that these three strategies were the most popular out of all 18 options.

Figure 71 Facility Strategies from Build Your Transit System Tool

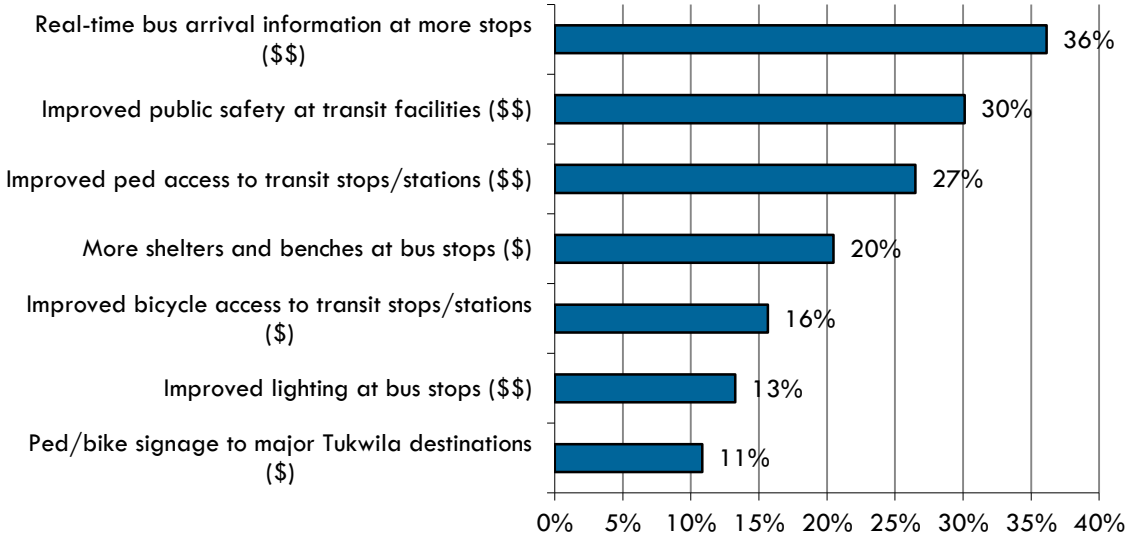


Customer Amenity Strategies

Figure 72 below shows respondent preference for proposed customer amenity strategies, the most popular being real-time bus arrival information at more stops (36%). This was tied with more

parking at Tukwila International Blvd Station as the third most popular strategy among the 18 options. Other popular customer amenity strategies include improved public safety at transit facilities (30%) and improved pedestrian access to transit stops and stations (27%).

Figure 72 Customer Amenity Strategies from Build Your Transit System Tool



Other Improvements

Respondents in the follow-up survey were asked if there were additional improvements they would like to see happen that were not included in the Build Your Transit System Tool, of which 48% responded yes. Of those, desired improvements can be broken down into the following themes:

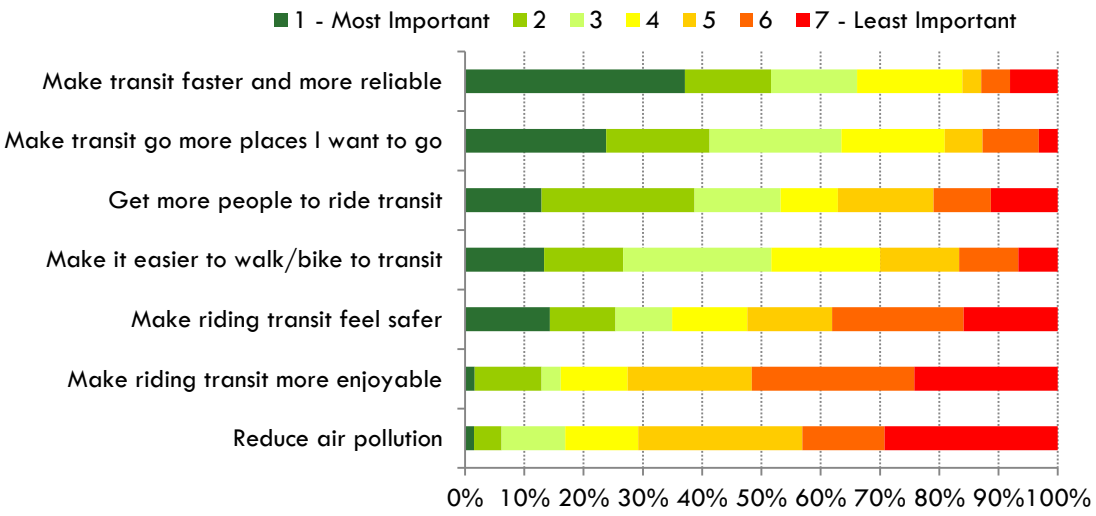
- **Service to new areas or along new corridors.** There were several requests to increase transit in and around Tukwila, including a transit option to carry passengers up the steep hill on 42nd Avenue, a circulator route serving Allentown, direct service along East Marginal Way, and service between Interurban Avenue S Park-and-Ride and TIBS.
- **Station and stop amenities.** Requests related to station and stop amenities include improved cleaning and maintenance, more ORCA card vending machines, increased regional bus connections at TIBS, and more wayfinding systems.
- **Service improvements.** Several respondents said they would like to see transit reliability improvements, such as dedicated bus lanes, transit signal priority, and transit queue jump lanes. Others said they would like to see improved frequency on Sounder service.
- **Light rail expansion.** Respondents expressed desire for expansion of light rail service in Tukwila, including a new east-west line.

Motivating Factors and Transit Values

In the follow-up survey, respondents were asked to rank their motivating factors for picking proposed transit improvements from 1 to 7 (with 1 being the most important consideration and 7 being the least important). As Figure 73 shows, the highest share of respondents indicated that

making transit faster and more reliable was their top priority, followed by making transit go more places they wanted to go. Reducing air pollution and making transit more enjoyable were the lowest motivators.

Figure 73 Motivations for Desired Transit Improvements



Respondent Characteristics

Home and Work Location

Among those who participated in the follow-up survey, 69% are Tukwila residents. ZIP codes in north Tukwila and Southcenter are home to most respondents (Figure 74). Among respondents who work, job locations see most representation from ZIP codes in downtown Seattle and Tukwila (Figure 75).

Figure 74 Home Location of Respondents by ZIP Code

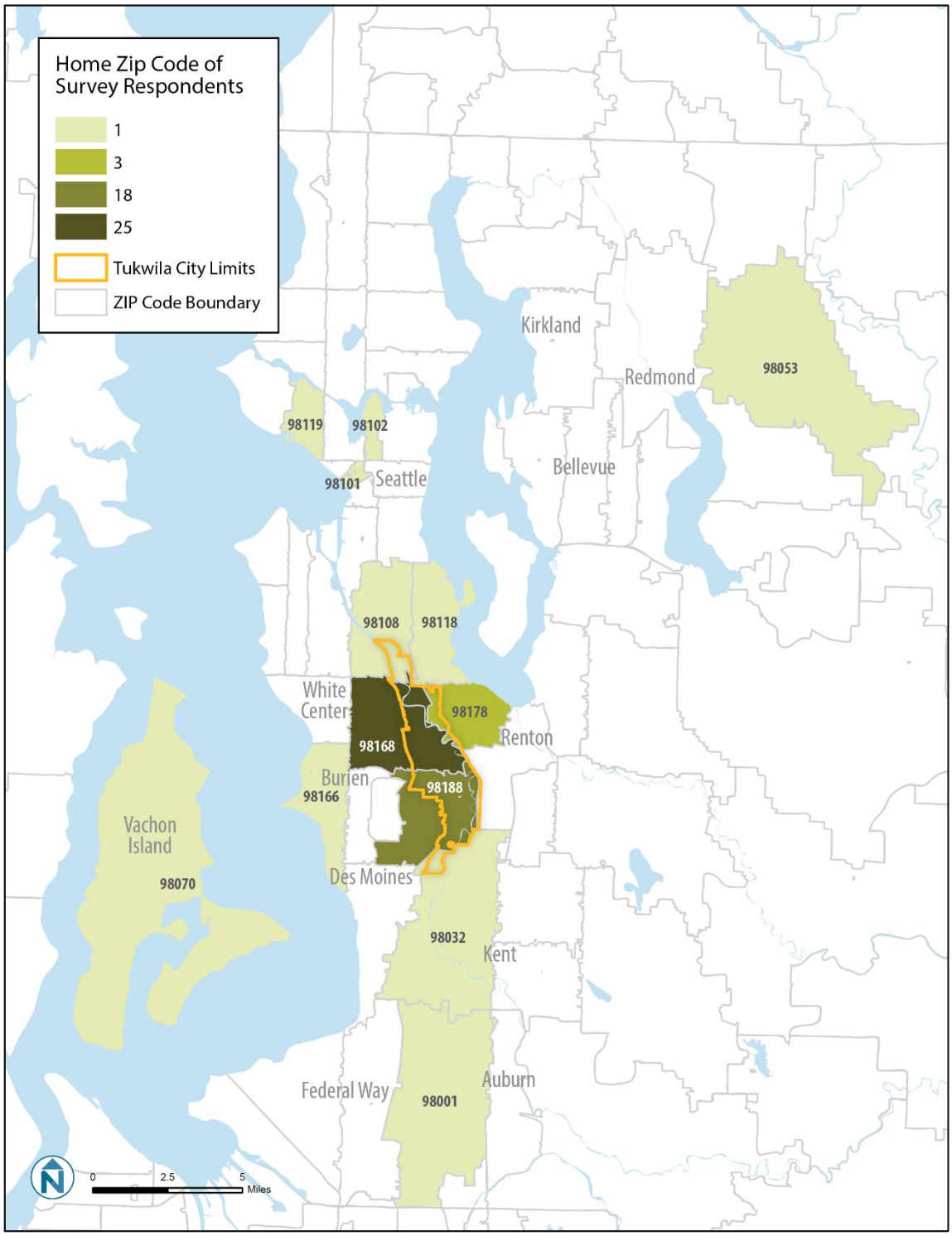
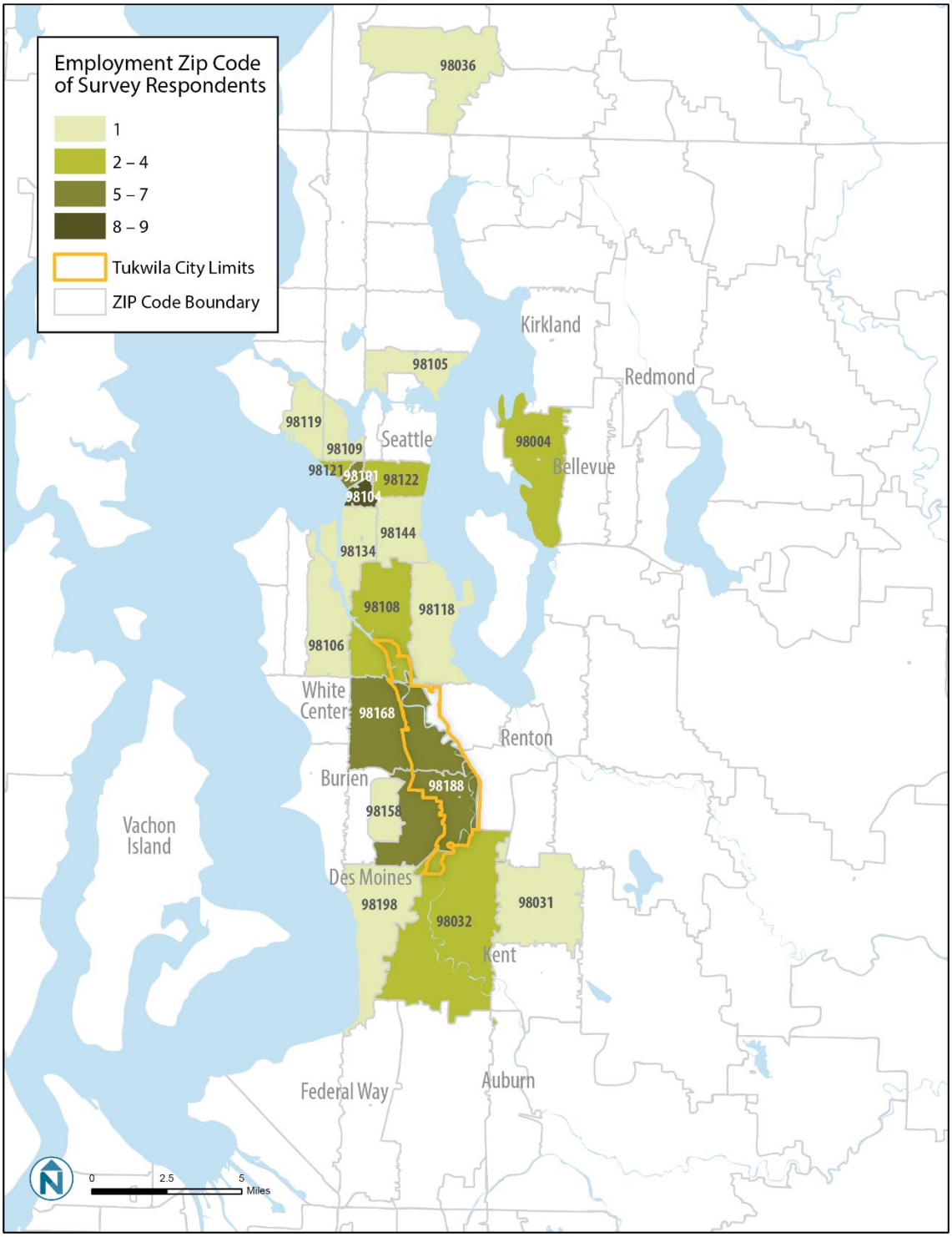


Figure 75 Work Location of Respondents by ZIP Code



Transit Use

Nearly all (96%) respondents reported having ridden transit within the past year (on King County Metro and/or Sound Transit). Figure 76 shows frequency of transit use among respondents. The highest share of survey participants (36%) ride transit five or more times per week. Among those who ride (Figure 77), 84% said they ride Link light rail. Other routes with a high shares of responses were Route 150 (42%) and RapidRide F (35%).

Figure 76 Frequency of Transit Use

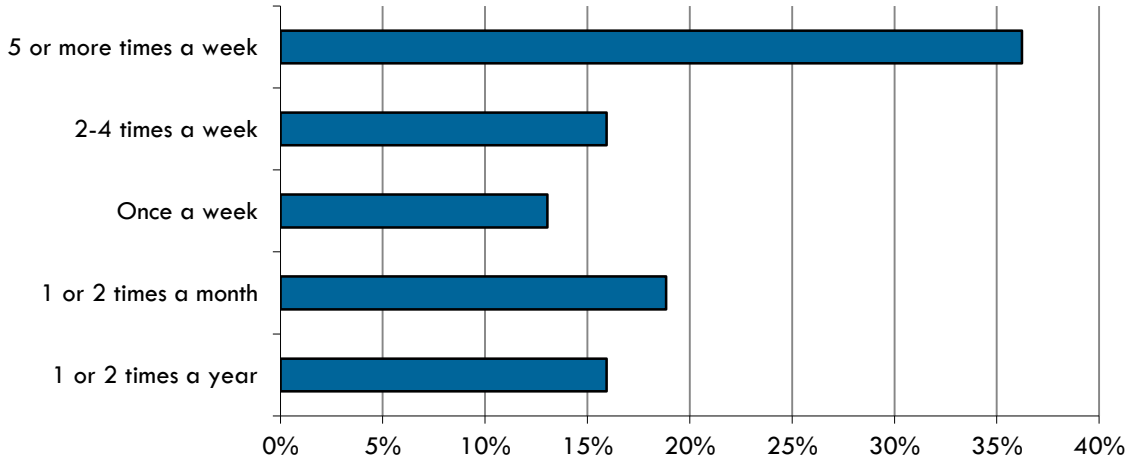
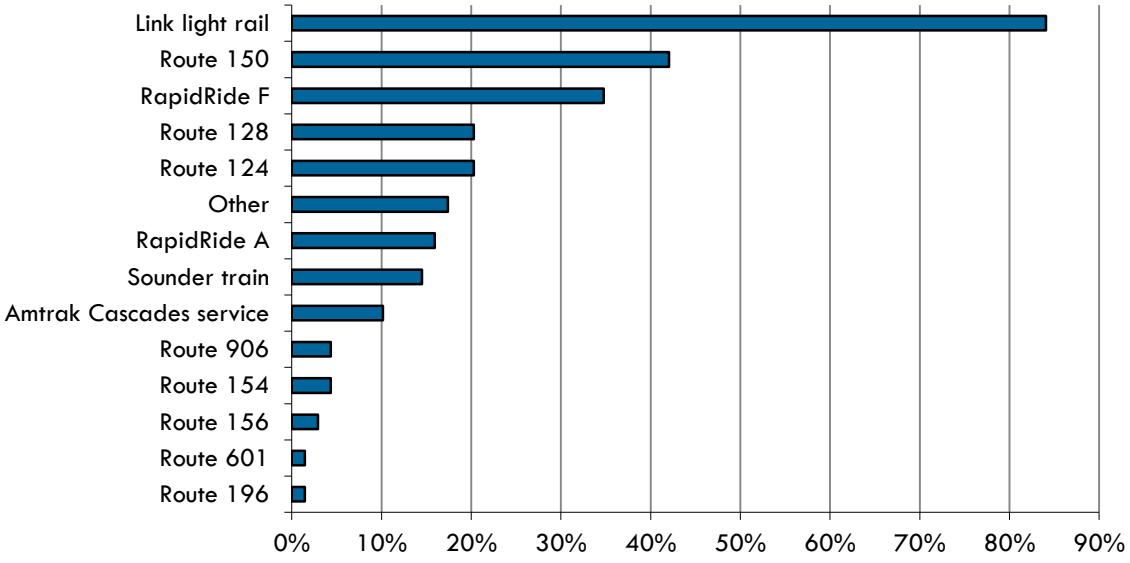
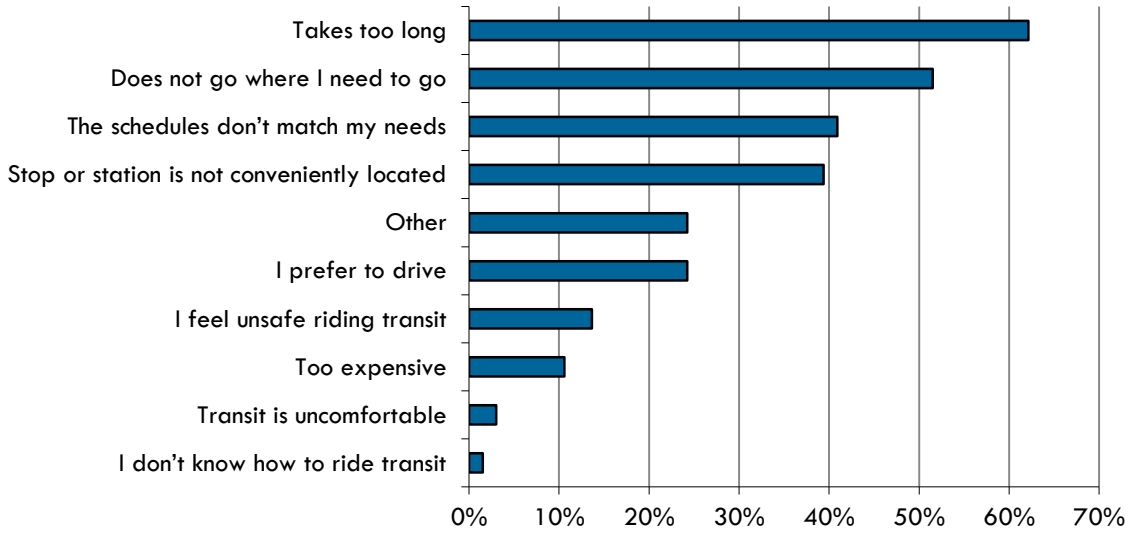


Figure 77 Percentage of Respondents Using Each Route (Multiple Responses Possible)



Respondents were asked to indicate reasons why they may choose not to ride transit (Figure 78). The most popular response was that it takes too long (62%). Approximately half of respondents said it does not take them where they need to go. Roughly 40% said the schedule does not match their needs or that the stop/station is not conveniently located.

Figure 78 Reasons why Respondents May Choose to Not Ride Transit (Multiple Responses Possible)



Language and Disability Status

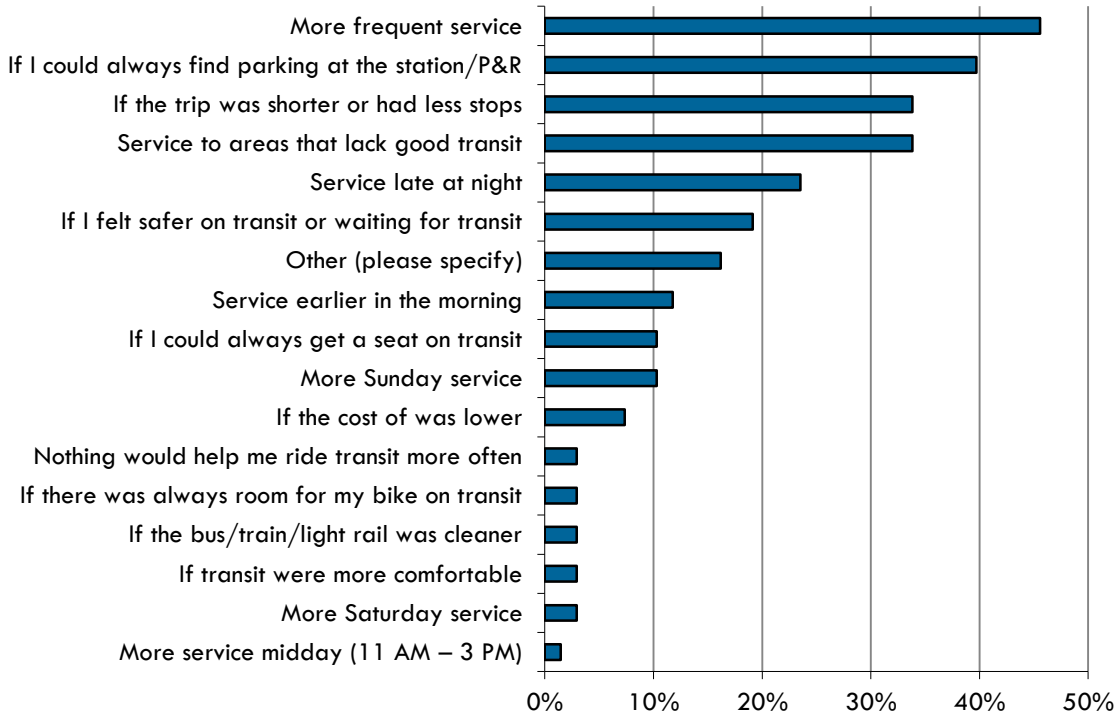
Respondents were asked what language they speak at home and if they have a disability that makes riding transit difficult. Ninety-seven percent of respondents speak English as their first language. Of those who do not speak English as their first language, one speaks German and the other speaks Vietnamese. No respondents reported having a disability that would make riding transit difficult.

Transit Improvements

Survey participants were also asked to choose three desired improvements that would influence them to ride transit more often (Figure 79). The most popular response was more frequent service (46%) followed by parking availability at stations and park-and-rides (40%). Shorter trip times (with possible stop reductions) and service to areas that lack good transit each accounted for 34% of responses.

Following this question, respondents were given the opportunity to elaborate on why their desired improvements would get them to ride transit more. For many, accessibility is the main barrier to taking transit. Related issues include a lack of proximity to Link stations, a shortage of parking at transit stations, or a lack of physical coverage of bus routes in certain neighborhoods. For others, an increase in service availability (including nights, weekends, and midday service) would give workers the confidence to rely on transit for their commuting needs. Finally, some respondents said that it is difficult to justify commuting on certain routes that have notably longer travel times than driving alone.

Figure 79 Improvements that Would Influence More Transit Use (3 Responses per Participants)

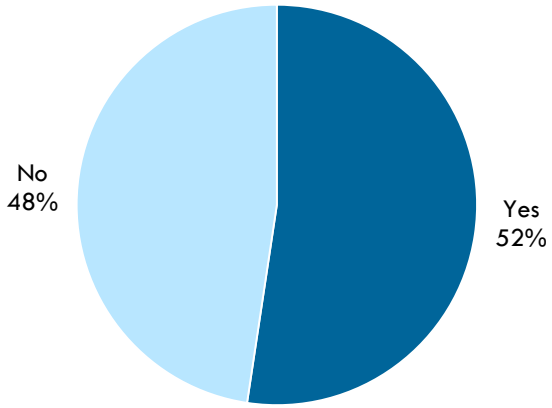


When asked what their ideal transit system would look like, answers ranged from local specifics to broad, regional-focused models. In general, respondents would like to see increased accessibility locally (e.g., Boeing Access Road Station, bus service in Allentown) connected to a high-frequency, regional network. This network should be able to carry passengers unencumbered by traffic and should be well integrated with other modes (in terms of network connectivity, parking availability, and bike storage capacity).

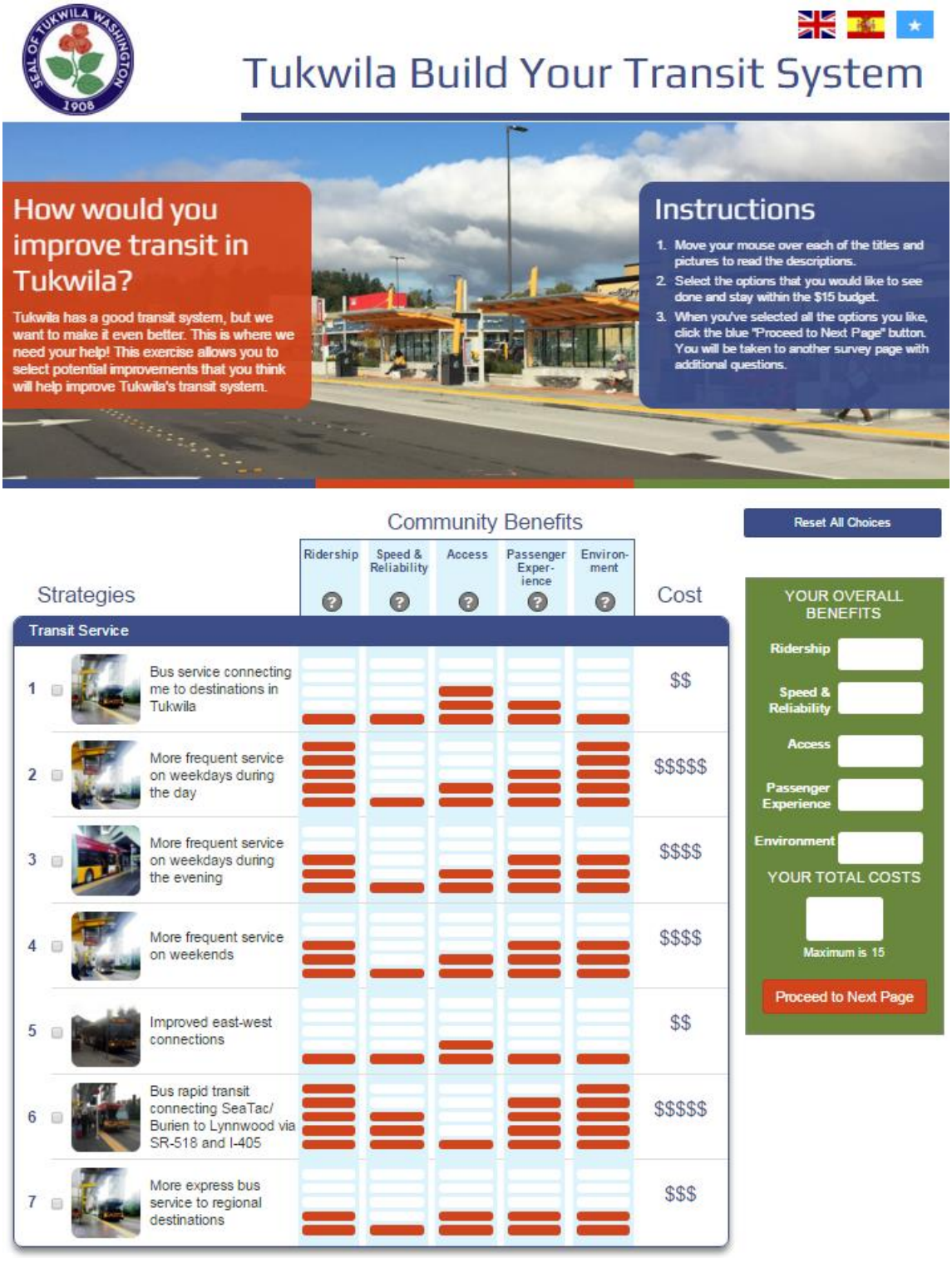
On-Street Parking Near Transit Stations

In the final question, respondents were asked to indicate if they would like to see on-street parking restricted around park-and-rides and TIBS for Tukwila residents only (which would in turn require Tukwila residents to get parking permits to use the spaces). Only 57% of respondents answered the question, of which 52% responded yes (Figure 80).

Figure 80 Approval for Limiting On-Street Parking to Tukwila Residents around Tukwila Int'l Blvd Station



Build Your Transit System Survey



Community Benefits

Strategies	Ridership	Speed & Reliability	Access	Passenger Experience	Environment	Cost
Facilities						
8  A station serving Link light rail and Sounder train at Boeing Access Road						$$$$
9  More parking spaces at Tukwila Station (Sounder/Amtrak)						$$
10  More parking spaces at Tukwila International Blvd Station (Link light rail)						$$$
11  A new or expanded park and ride in Tukwila serving buses to regional destinations						$$

YOUR OVERALL BENEFITS

Ridership

Speed & Reliability

Access

Passenger Experience

Environment

YOUR TOTAL COSTS

Maximum is 15

Proceed to Next Page

Community Benefits

Strategies	Ridership	Speed & Reliability	Access	Passenger Experience	Environment	Cost
Customer Amenities						
12  Improved bicycle access to transit stops/stations						$
13  Improved pedestrian access to transit stops/stations						$$
14  More shelters and benches at bus stops						$
15  Improved lighting at bus stops						$$
16  Signage to help you find your way by bike or foot to major destinations in Tukwila						$
17  Provide real-time bus arrival information at more stops						$$
18  Improved public safety at transit facilities						$$

8 SERVICE AND POLICY RECOMMENDATIONS

REGIONAL TRANSIT

I-405 Bus Rapid Transit

The I-405 Bus Rapid Transit (BRT) line is a rapid transit corridor proposed in the draft Sound Transit 3 plan (ST3). This section describes its stations, alignment, and preliminary cost estimates, and expected ridership, with a focus on Tukwila.

Figure 81 shows the proposed alignment and stations for the planned I-405 BRT line.

Stations

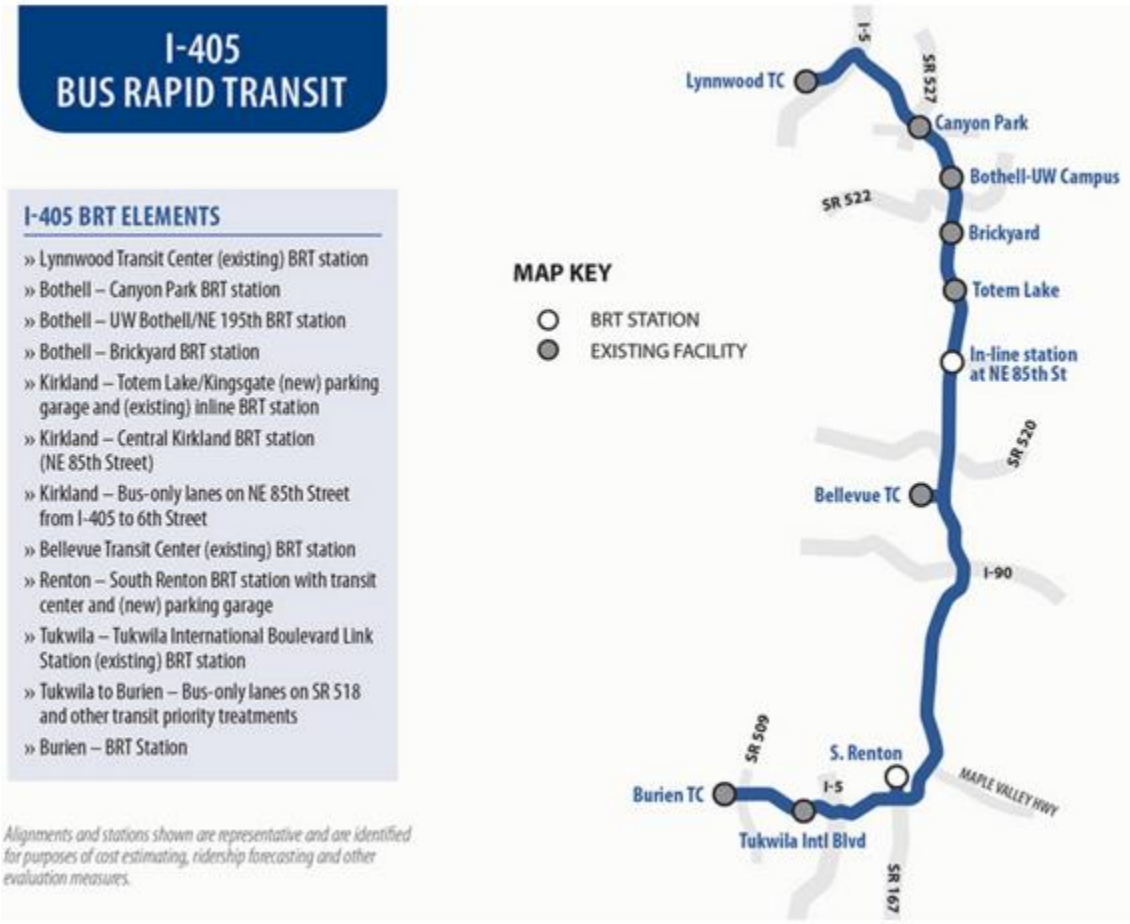
The proposed I-405 BRT line would include 10 stations: Lynnwood Transit Center, Canyon Park Park-and-Ride, UW Bothell Campus, Brickyard Park-and-Ride, Totem Lake, Central Kirkland (in-line station near NE 85th Street), Bellevue Transit Center, South Renton, TIBS, and Burien. TIBS would be the only stop in Tukwila. There are no stations planned for Tukwila Station (Sounder and Amtrak) or the Tukwila Transit Center in the proposed alignment in ST3.

With respect to TIBS, no major changes are planned for the BRT. The plan specifies "minor improvements including signage" for the station. The entry and exit route from SR 518 to the station has not been specified.

Alignment

The BRT would largely operate on expressways, both in general purpose and managed lanes for different route segments. Between Lynnwood Transit Center and Brickyard, it would operate in general purpose lanes on I-5 and I-405. Conversely, from Brickyard to South Renton, the BRT would operate in I-405 express toll lanes. Between South Renton and TIBS, it would again operate in general purpose lanes on I-405 and SR 518. The Plan calls for BRT lanes and transit signal priority on S. 154th Street from the TIBS to the SR 518 on and off-ramps. Finally, it would operate in new bus-only lanes on SR 518.

Figure 81 ST3 Proposed I-405 Alignment and Stations



Source: Sound Transit

Preliminary Cost Estimates

The preliminary cost estimates for the I-405 BRT include $687 – $735 million (2014 dollars) in capital expenses, as well as $27 million yearly in operating and maintenance expenses.

Ridership

The I-405 BRT line is expected to attract 11,000 to 13,000 daily riders by 2040.

Benefits and Opportunities for Tukwila

Benefits

For Tukwila, there would be two primary benefits from this project. First, it would provide a relatively fast connection between Tukwila and the Eastside. The travel demand analysis conducted during the initial phase of this project indicated that there is a significant number of Tukwila residents commuting to Bellevue and other parts of the Eastside, a connection that is difficult to make by transit today. The service would be most useful to Tukwila residents if three stations are included in Tukwila at TIBS, the Tukwila Transit Center, and Tukwila Station.

A second primary benefit would be improved multimodal connections at TIBS and the opportunity to enhance the bus transfer facility at TIBS. The City of Tukwila should advocate to Sound Transit to improve bus connections at TIBS as part of this project and ensure that there is adequate capacity for buses at the facility into the future.

Opportunities and Recommendations

The proposed I-405 BRT alignment bypasses the Tukwila Urban Center. PSRC has designated this area of Tukwila as a regional growth center. In its Long Range Plan, Sound Transit has a goal to "Provide reliable, convenient, and safe public transportation services between regional growth centers and create an integrated system of transit services and fares."

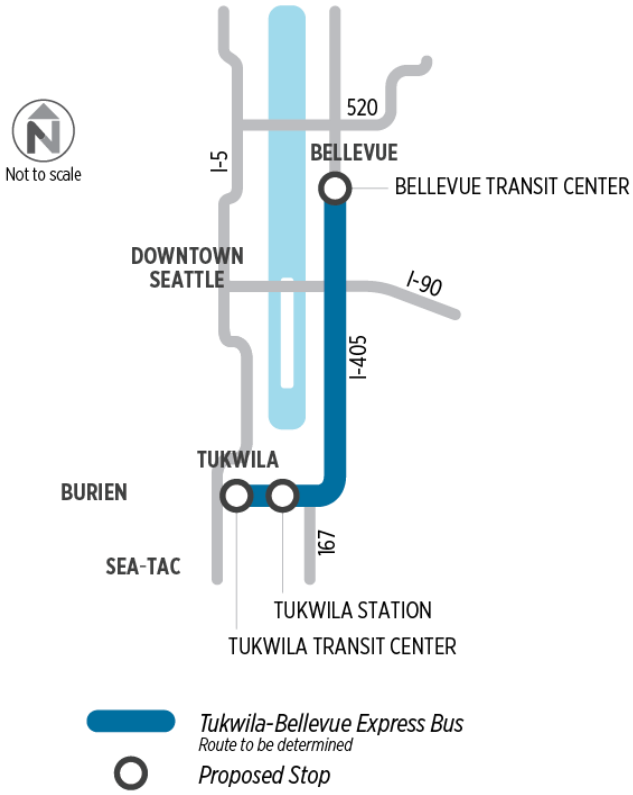
The I-405 BRT must balance speed, reliability, and ridership. While some riders may be lost between Burien, TIBS, and Renton due to longer travel times, adding stops to serve a growing urban center with commercial, retail, and residents will offset that loss, and more importantly, generate additional long-term all-day ridership that is necessary for the success of the I-405 BRT.

Sound Transit and the City of Tukwila should continue to explore options to add the Tukwila Transit Center and Tukwila Station to the I-405 BRT.

Tukwila – Bellevue Express Route

Assuming that the Sound Transit 3 plan passes, the I-405 BRT could be implemented by 2024. Before I-405 BRT is implemented, a new express route operating between Tukwila and Bellevue should be considered. Service between Tukwila and the Eastside was identified as an unmet need in the existing conditions analysis, as there is a significant number of people commuting from Tukwila to the Eastside. The proposed routing should serve the Tukwila Transit Center as well as Tukwila Station (Sounder and Amtrak), and operate non-stop from Tukwila Station to downtown Bellevue – bypassing Renton. The route would operate during peak hours only and would be timed to meet with Sounder trains.

Figure 82 Tukwila – Bellevue Route



In order to maximize the ridership potential, this route should be targeted to both Tukwila residents as well as Sounder riders. The non-stop trip between Tukwila Station and Bellevue will offer a more attractive trip to passengers from South King County and Pierce County than the current connections in Kent.

Existing park & rides in Tukwila are typically filled to capacity, and additional parking capacity would be needed to make this service successful. Alternative parking opportunities should be explored, such as leasing stalls for a park & ride on nearby private property in the Southcenter area.

EXISTING BUS ROUTE SERVICE CHANGES – SHORT TERM

Overview

This section presents proposed service improvements to bus routes serving Tukwila. The primary service improvements are frequency improvements identified by King County Metro on routes that are currently below their target service levels. For example, Route 124 has a target service level of 15 minutes during peak and midday periods and 30 minutes during the evening. This target service level is based on several factors, including corridor productivity, social equity, and

geographic value.[2] Additional improvements proposed below include providing earlier service on selected routes, and adding additional trips to Route 154.

Route improvements have been prioritized in the order in which they would provide the most benefit to Tukwila:[3]

1. Route 124 Tukwila – Downtown Seattle
2. Route 150 Kent – Downtown Seattle
3. Route 128 Southcenter – North Admiral
4. RapidRide F Burien – Renton
5. Route 156 Southcenter – Kent
6. Route 906 (DART) Fairwood – Southcenter
7. Route 154 Tukwila Station – Boeing Industrial District
8. RapidRide A Tukwila – Federal Way

Route 124 Tukwila – Downtown Seattle

Route 124 connects Tukwila to downtown Seattle on a north-south alignment. Traveling north from TIBS, it travels through Tukwila on Tukwila International Boulevard and East Marginal Way. The following improvements are recommended for Route 124:

- Frequency should be increased to every 15 minutes during peak and midday periods (currently 15 to 30 minutes) to match target service levels defined by King County Metro (Figure 83). Overall productivity is strong at 51 boardings per service hour, and the route can support 15 minute frequency. Route 124 operates on Tukwila International a very important corridor in Tukwila, and 15 minute peak and midday frequency will improve mobility for residents and employees located close to the route.
- In addition to increasing service frequency, additional service should be added before 5:00 a.m. Existing early trips are well utilized, and public input indicated the need for additional early morning service on routes serving Tukwila to improve mobility for workers traveling to jobs at non-traditional times.

Figure 83 Route 124 Existing and Target Service Levels (King County Metro)

	Peak	Midday	Evening
Existing	15-30	30	30
Target	**15**	**15**	30

Route 150 Kent – Downtown Seattle

Route 150 operates on a north-south alignment between Kent and downtown Seattle. Through Tukwila, it operates primarily on Andover Park West and Interurban Avenue South. It has the

[2] King County Metro Transit 2015 Service Guidelines Report: http://metro.kingcounty.gov/planning/pdf/2011-21/2015/service-guidelines-full-report.pdf

[3] Two routes that serve Tukwila are not included in the recommendations due to their limited impact on transit in Tukwila. Route 193 is an express route to First Hill in Seattle, with just one stop in Tukwila at the Interurban Ave S. Park & Ride. Route 601 is a reverse commute route from downtown Seattle to Group Health in Tukwila that has little ridership and that is losing importance as Group Health transitions staff to other facilities.

second highest productivity of any route serving Tukwila, at 56.3 boardings per service hour. Recommendations for the route include:

- Frequency should be increased to better than 15 minutes during peak periods (currently 15 minutes) to match target service levels defined by King County Metro (Figure 84).
- Additional service should be added before 5:00 a.m. Existing early trips are well utilized, and public input indicated the need for additional early morning service on routes serving Tukwila to provide access to jobs.

Figure 84 Route 150 Existing and Target Service Levels (King County Metro)

	Peak	Midday	Evening
Existing	15	15	30
Target	**<15**	15	30

Route 128 Southcenter – North Admiral

Route 128 operates between Southcenter and the North Admiral district in West Seattle. From Southcenter, it travels west through central Tukwila, then northwest to White Center. Recommendations for the route include:

- Improve frequency to every 15 minutes during peak and midday periods (currently 30 minutes), which would put the route at the target service levels specified by King County Metro (Figure 85).
- In addition to increasing service frequencies, additional service should be added before 6:00 a.m. from Southcenter, where the first trip begins at 6:04 a.m. This trip is well utilized, and public input indicated the need for additional early morning service on routes serving Tukwila to improve mobility for workers traveling to jobs at non-traditional times.

Figure 85 Route 128 Existing and Target Service Levels (King County Metro)

	Peak	Midday	Evening
Existing	30	30	30
Target	**15**	**15**	30

RapidRide F Burien – Renton

RapidRide F Line provides east-west service between Renton and the Burien Transit Center. Within Tukwila, the route operates primarily on Strander Blvd, Andover Park West, and Southcenter Blvd. The following recommendations are proposed:

- Improve service frequency to better than 15 minute frequency during peak periods (currently 15 minutes) and every 15 minutes during evening periods (currently 15 to 30 minutes) to match King County Metro's target service levels (Figure 86).
- Additional service should be added in the westbound direction with an additional trip at 5:00 a.m. The first trip is at 5:20 a.m. and is well utilized, and public input indicated the need for additional early morning service on routes serving Tukwila to improve mobility for workers traveling to early morning shifts.

Figure 86 RapidRide F Existing and Target Service Levels (King County Metro)

	Peak	Midday	Evening
Existing	10-15	15	15-30
Target	**<15**	15	**15**

Route 156 Southcenter – Kent

Route 156 provides service between Des Moines and Southcenter. Within Tukwila, the route primarily operates on S 164th St, 51st Ave S, Klickitat Dr, and streets surrounding Southcenter Mall. The following recommendations are proposed:

- Frequency should be increased to every 15 minutes during peak periods (currently 30 minutes) and every 30 minutes during the evening and on Saturdays and Sundays (currently 60 minutes), as specified by King County Metro target service levels (Figure 87).

Figure 87 Route 156 Existing and Target Service Levels (King County Metro)

	Peak	Midday	Evening
Existing	30	30	60
Target	**15**	30	**30**

Route 906 (DART) Fairwood – Southcenter

Route 906 is a Metro Demand Area Response Transit (DART) route offering service between Tukwila and Fairwood on weekdays and Saturdays. In Tukwila, it primarily operates on Andover Park W, Strander Blvd, Southcenter Pkwy, and S 180th St. The following recommendations are proposed:

- Improve frequency to every 30 minutes (currently 60 minutes) to match King County Metro target service levels (Figure 88).

Figure 88 Route 906 Existing and Target Service Levels (King County Metro)

	Peak	Midday	Evening
Existing	60	60	-
Target	**30**	**30**	-

Route 154 Tukwila Station – Boeing Industrial District

Route 154 offers peak-direction service between Tukwila Station (Sounder and Amtrak Cascades service) and the Boeing Industrial District. It travels on a north-south alignment, primarily via Interurban Avenue South and East Marginal Way South. The route meets four Sounder trains in the morning and four in the afternoon.

Route 154 does not have target service levels defined by King County Metro because it is peak-only and does not provide all day service. In the future, service improvements should focus on

additional trips to serve more Sounder trains. All existing trips morning trips leave Tukwila Station before 7:30 a.m., and all existing afternoon trips arrive at Tukwila station before 5:00 p.m. Adding additional trips leaving later in the morning and afternoon would provide service to employees working a traditional 8:00 a.m. to 5:00 p.m. schedule.

RapidRide A Tukwila – Federal Way

The RapidRide A Line provides service between TIBS, which is its only stop in Tukwila, and Federal Way.

The route is already very close to its target service level and does not appear on King County Metro's list of prioritized service investments. However, in the future, its frequency should be improved to better than 15 minutes during the peak (currently 10 to 15 minutes) and every 15 minutes during the evening (currently 15 to 30 minutes) to match target service levels (Figure 89).

Figure 89 RapidRide A Existing and Target Service Levels (King County Metro)

	Peak	Midday	Evening
Existing	10-15	15	15-30
Target	**<15**	15	**15**

HYDE SHUTTLE

The Hyde Shuttle is a service operated by Sound Generations (previously Senior Services) to provide rides for seniors (55 and over) and people with disabilities. Trip destinations may include hot meal programs, medical appointments, senior centers, grocery stores, and other local destinations. Rides are free and must be arranged in advance over the phone. The Hyde Shuttle operates in many cities and neighborhoods throughout King County, including Tukwila and neighboring cities.

One van serves Tukwila and SeaTac. Rides must stay within the two communities, with the exception of trips to Highline Medical Center in Burien. In 2015, the service provided 3,454 one way trips within SeaTac and Tukwila to a total of 86 unique riders.

The Hyde Shuttle is an important component of the transit system in Tukwila. Its funding comes primarily from the federal government, but recent cuts in the funding have led to more financial support from King County Metro. In the future, the service may be modified or discontinued in some areas due to the tenuous funding situation. Maintaining the operation of this service is important for Tukwila, as it provides a valuable way to get around Tukwila for those with limited transportation options.

OPTIONS TO CONNECT ALLENTOWN AND TUKWILA COMMUNITY CENTER

The lack of transit service to the Tukwila Community Center and the Allentown neighborhood from other parts of the City has come up repeatedly during the project as a gap in service and an unmet need. The location of the neighborhood, wedged between I-5 on one side and the Duwamish River on the other, with little other residential development nearby, makes it difficult to serve with traditional fixed-route transit. The closest bus stops are located over three-quarters

of a mile away on Route 150 or Route 124. However, as an important community facility, making the Community Center accessible by transit would make it much more accessible to people without cars. The users who would most benefit from improved transportation options include seniors, who tend to visit to attend programs between 9:00 a.m. and 2:00 p.m., and teens/young adults, who attend after school programs until 9:00 p.m. Both groups tend to have lower access to autos than the general population.

In the short-term, traditional fixed-route service to Allentown is unlikely, based on King County Metro plans. However, there are options for serving the neighborhood with other forms of transit. Three potential options for serving Allentown and the Tukwila Community Center include the following:

- Shuttle between Tukwila Community Center and TIBS
- Program to subsidize taxi and TNC trips between the Allentown/Duwamish neighborhoods and other portions of Tukwila
- A Community Van program

Shuttle from TIBS to Tukwila Community Center

Under this option, a shuttle would operate between Tukwila Community Center and TIBS, operating primarily on Tukwila International Boulevard and 42nd Ave S. The Shuttle would not be designed to accommodate work trips, but instead be focused on three different markets, including:

- Trips to the Tukwila Community Center for seniors and after-school programs
- Trips to the grocery store
- Access to Link light rail at TIBS

Figure 90 Potential Shuttle Vehicle

Source: King County Metro

As a pilot, the service could begin during periods of peak demand for seniors traveling to and from the Community Center. Senior programs are typically between 9:00 a.m. and 2:00 p.m. The service could be potentially expanded to operate for a longer span to serve before and after-school programs. The route would likely be served by a cutaway shuttle vehicle, such as the vehicle in Figure 90. The potential route alignment of the shuttle is shown in Figure 91.

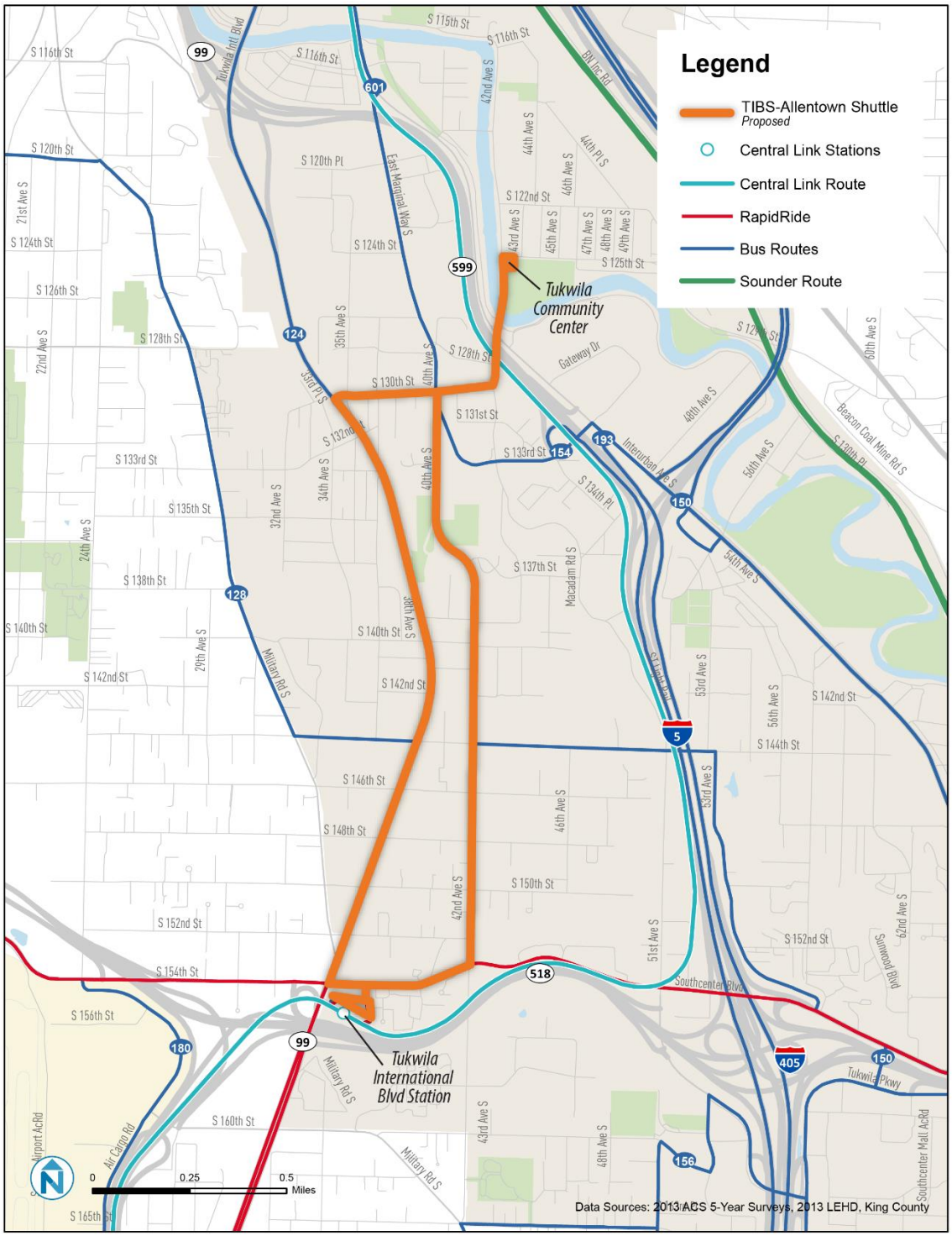
This concept is supported by the Tukwila Comprehensive Plan. Within the Tukwila International Boulevard (TIB) District Element, Goal 8.6 is stated as:

> *"A larger network of streets, sidewalks, trails and other public spaces throughout the TIB District supports community interaction; connects neighborhoods, commercial areas, civic areas, and destinations; and improves community health. The TIB District's circulation network makes the*

> *neighborhood a great place to walk, improves mobility and safety for all users, encourages walking, bicycling and use of public transit, and supports the envisioned land uses."*

One of the implementation strategies of this goal is "Explore the feasibility of implementing an internal transit system using buses, vans, or other alternative transit service circulating within the TIB District and connecting to other destinations in the City, such as Southcenter and the Tukwila Community Center." In addition to providing a connection to the Tukwila Community Center and the Allentown neighborhood, this shuttle concept would improve circulation within the Tukwila International Boulevard District.

Figure 91 Potential Shuttle Alignment



Taxi/Transportation Network Company (TNC) Subsidy

The term "Transportation Network Company" (TNC) was defined by the California Public Utilities Commission in 2013 to describe companies that "provide prearranged transportation services for compensation using an online-enabled application or platform to connect drivers using their personal vehicles with passengers." The largest TNCs operating today in King County include Uber and Lyft, which have expanded that supply of on-demand transportation options beyond traditional taxi services. As these services have become more popular, transit agencies in cities such as Atlanta, San Francisco, and Portland, Oregon have developed partnerships with TNCs to provide transportation to locations where traditional fixed-route service may be inefficient.

Developing a partnership with TNCs and taxi companies to provide subsidized rides to or from the Tukwila Community Center and Allentown could be an effective way to serve the area. Under this option, a pilot project would be developed to provide a subsidy to people traveling between the Allentown/Duwamish neighborhoods and other parts of Tukwila. Travelers with an origin or destination within the project area (see Figure 92) could use a discount coupon (such as $2-$3) towards fare on a taxi or TNC (e.g. Uber, Lyft) for travel within Tukwila. Travelers needing an accessible vehicle would use an accessible taxi or Metro's Access Transportation, a paratransit service available to ADA eligible riders.

One potential concern is that the program would focus too much on providing trips with TNCs, which can only be accessed using a smartphone. Smartphone ownership is very high among transit riders in King County. In 2012, 60% of riders owned a smartphone, but that rate increased to 84% in 2015, according to a King County Metro survey. However, smartphone ownership is lower for low income populations, with a 68% ownership rate for those making less than $35,000 a year compared to over 90% for those earning over $75,000 a year. The elderly also have lower smartphone use, with just 35% ownership for riders over 65. Creating a program that can be used with taxis, which can be booked by calling a telephone number, would help mitigate this issue.

Currently, a TNC partnership program for the general public does not exist in King County. A pilot project could be jointly developed by King County Metro and the City of Tukwila to test the concept. After a period of time (e.g. 1-2 years), the pilot project would be evaluated to determine its effectiveness in meeting the goal of improving transportation to and from the community.

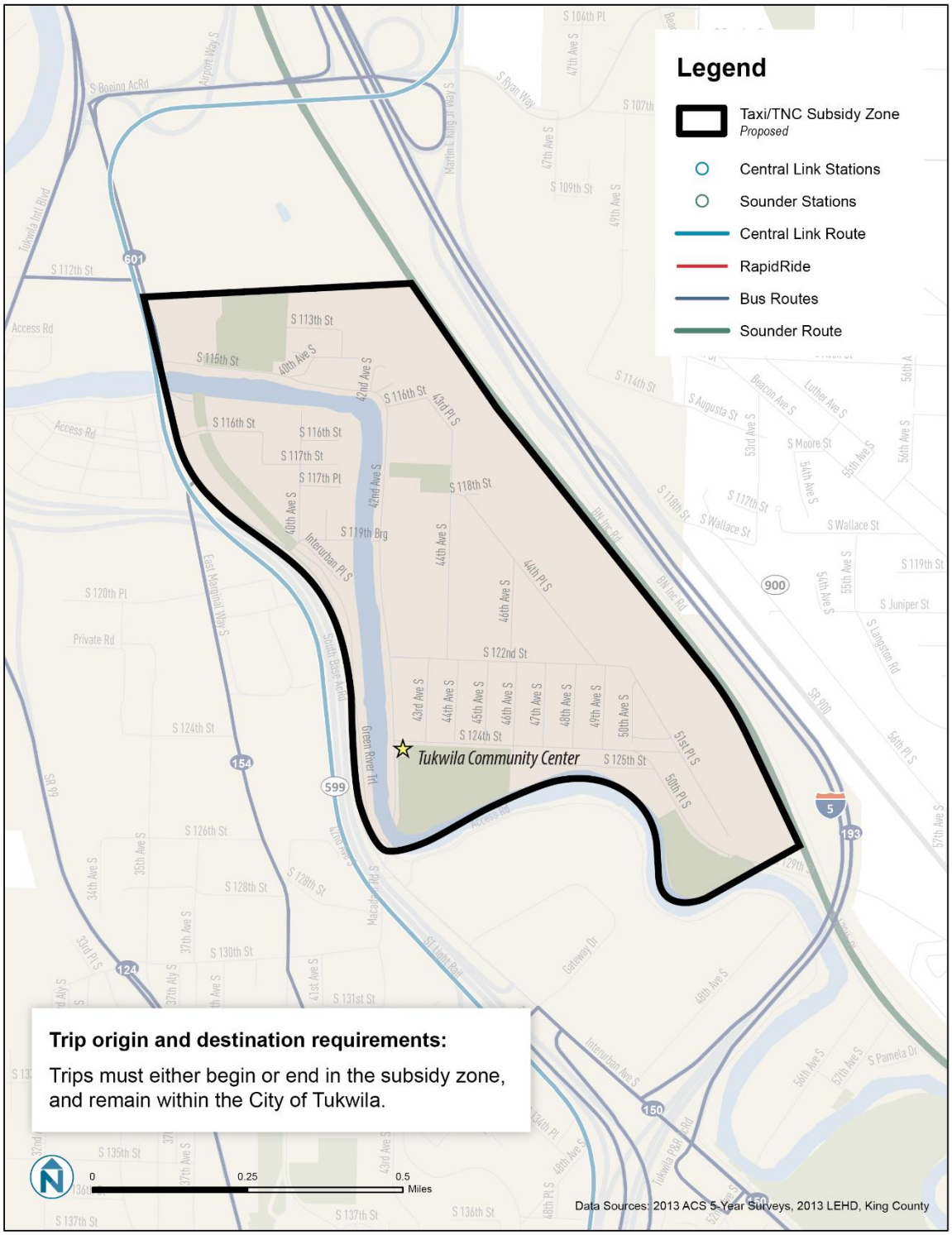
Community Van

A Community Van program is another option for improving access to the Tukwila Community Center. Under this option, vans would be used to provide transportation to and from the Community Center at specific times or for specific programs. Trips would be planned ahead of time and could include group trips to the Community Center.

Currently, the Community Center has five 15-passenger vans and a 22-passenger shuttle bus that are used to take people who do not have access to an automobile to and from the Community Center. The benefits of this service are that Community Center staff can provide rides to people who they know will benefit from improved transportation to the Community Center and could not get there otherwise. The disadvantage is that it takes Community Center staff away from their other job responsibilities. With dedicated staff drivers, it is possible that the Community Center's vehicles could be used in a more structured way to improve visibility of the service and expand use. There may be additional barriers associated with the City operating a service like this such as insurance requirements.

Alternatively, Tukwila could partner with King County Metro to be a part of its Community Van program. This is a new rideshare pilot program that King County Metro is developing through partnerships with participating cities. Vans are driven by volunteer drivers approved by King County Metro. Trips are planned ahead of time and are intended to be group or one-time trips to destinations like community centers, grocery stores, and shopping centers. Fares are free for volunteer drivers, and passengers pay a standard Metro fare. By partnering with King County Metro, the City of Tukwila may be able to recruit volunteer drivers to drive recurring trips to the Community Center for regular programs.

Figure 92 Potential Taxi/TNC Subsidy Area



LONG-TERM TRANSIT SERVICE CHANGES

King County Metro Long-Range Network

King County Metro will finalize its long range plan, called *Metro Connects*, in 2016. The plan lays out a vision for public transit in King County, with more frequent service connecting more communities in the county. The plan has been developed with input from City staff to reflect consistency with Tukwila's Comprehensive Plan. As part of *Metro Connects*, a long range system network has been developed that includes conceptual bus routes for the years 2025 and 2040. The 2040 network lays out an ambitious vision for transit, with a significant increase in very frequent transit (i.e. 10 minute frequency) on many corridors. The 2025 network includes more modest route changes proposed in the interim. Given that the Tukwila Transit Plan has a 10-year plan horizon, the focus here is on the conceptual 2025 network.

There are three route changes in the conceptual 2025 network that would have a significant impact on transit travel in Tukwila. These are described below, including the benefits they would have for Tukwila. Route maps of the proposed corridors are included in figures 93 to 95.

- **Route 3054 Tukwila Station – Kent Station:** This route would serve Tukwila Station and Tukwila Transit Center before heading south to serve Southcenter Parkway and continuing on to Kent Station, with 30 minute service. This route would replace existing Route 906 service in Tukwila (which currently runs every 60 minutes), and instead of turning east on S 180th Street, it would serve Southcenter Pkwy south of 180th. The major benefits of this concept are service on this segment of Southcenter Pkwy, which will become increasingly important as Tukwila South is developed, as well as 30 minute service.
- **Route 1046 Fairwood – Des Moines:** This route would provide service along S 180th St in Tukwila, connecting to Fairwood to the east and Sea-Tac Airport Station and Des Moines to the west and south, with 30 minute service. Along with Route 3054 described above, this would replace current Route 906 service along S 180th Street (which currently runs every 60 minutes). The benefits of the new route concept include improved frequency and a connection to Sea-Tac Airport station and other destinations to the west, a connection that does not currently exist.
- **Route 3998 Downtown Renton – Sea-Tac Airport Station** – This route would replace Route 156 service between Tukwila Transit Center and Sea-Tac Airport station. The one seat ride that is currently possible between Tukwila Transit Center and Des Moines would be eliminated. The route would offer another way to connect between Tukwila Transit Center, Tukwila Station, and downtown Renton, and appears to duplicate some portions of the RapidRide F line.

In order to help realize the transit improvements envisioned in *Metro Connects*, the City of Tukwila can apply transit priority treatments and create policies to encourage transit-supportive land use. These actions will demonstrate support for the proposed routes and help them achieve success (both operationally and in attracting ridership). For more information, see Transit Supportive Actions for Corridors (page 8-22).

Figure 93 King County Metro Conceptual Route 3054

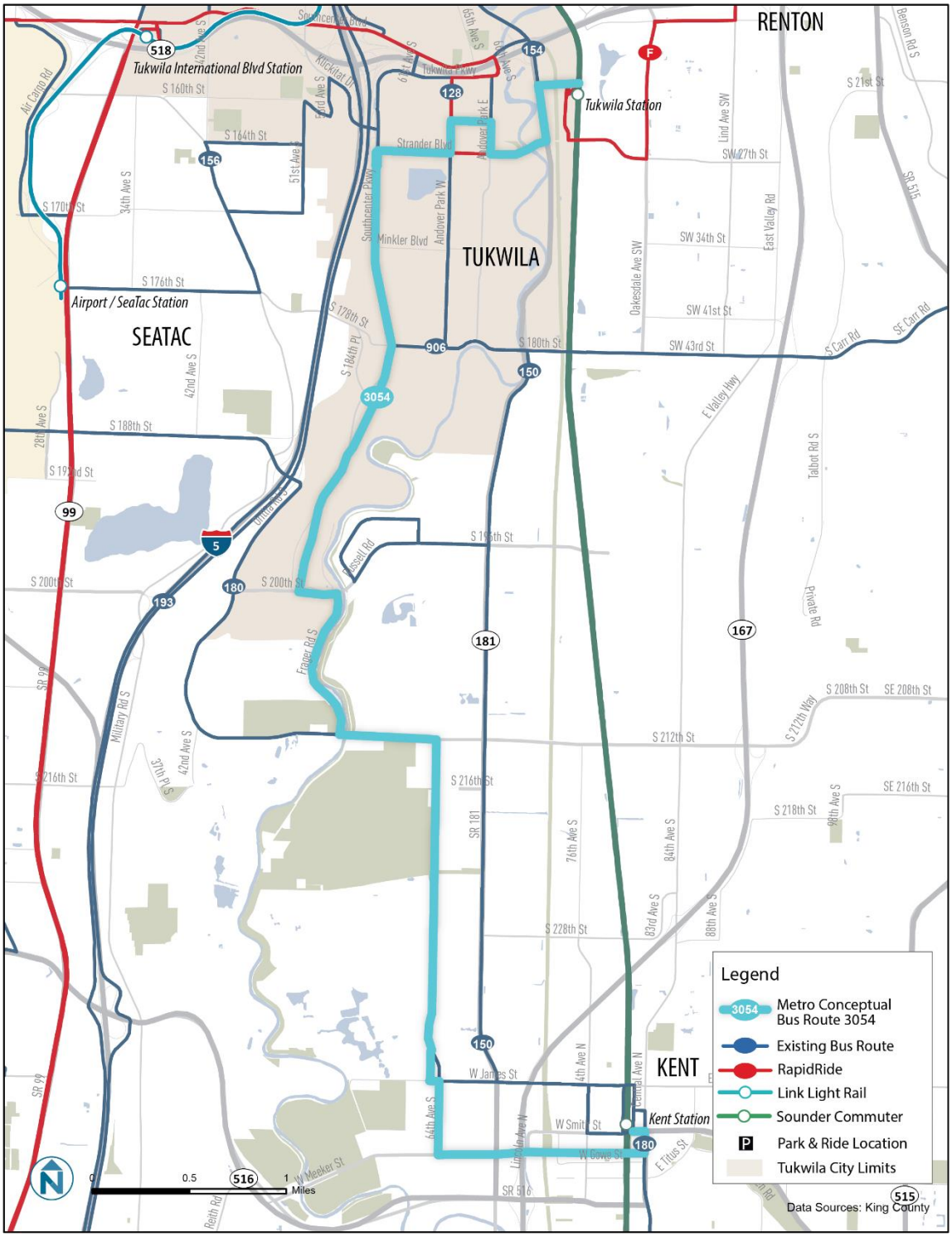


Figure 94 King County Metro Conceptual Route 1046

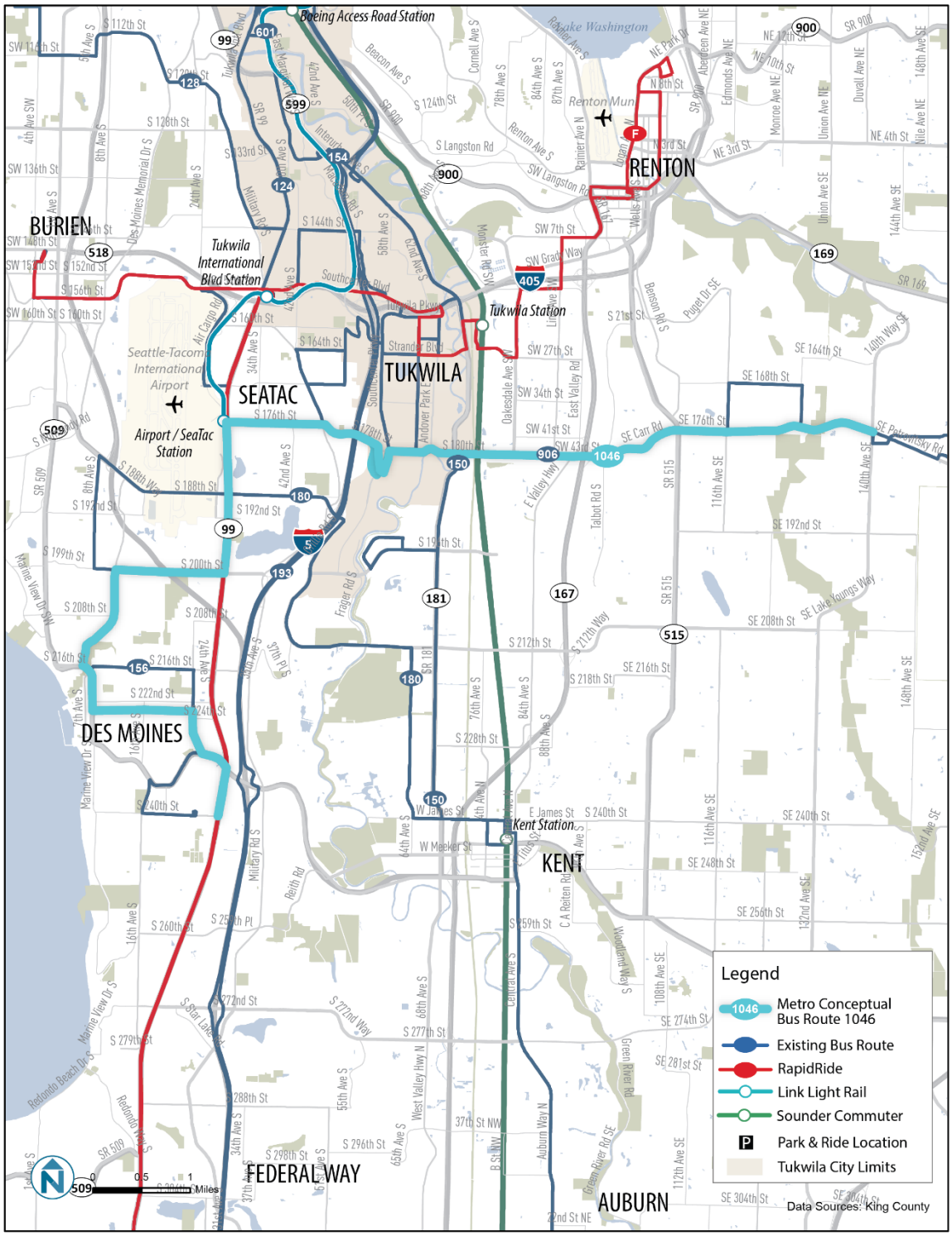
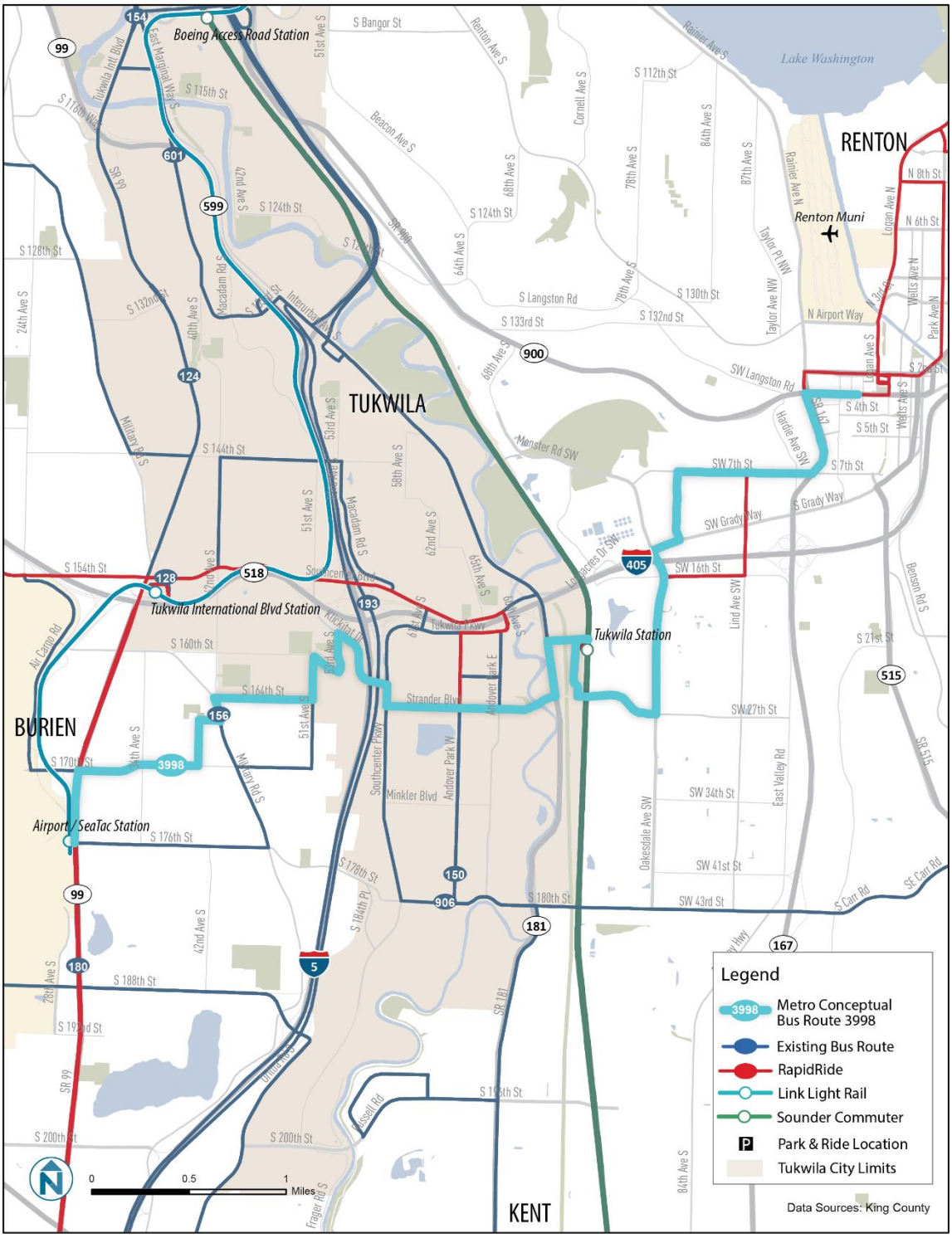


Figure 95 King County Metro Conceptual Route 3998



Sounder Service

The draft Sound Transit 3 plan includes a variety of improvements that may be considered for South Sounder service, such as expanded parking capacity, capacity increases, access improvements, and track and signal upgrades. In the future, Sounder will continue to be an important component of Tukwila's transit system, and future investments should allow for improved access and quality of service for Tukwila residents and employees. From the perspective of Tukwila, the following improvements would provide the greatest benefit:

- **Improve frequency and capacity** – Improved frequency in both the north and south directions will make Sounder service more attractive both for peak commute trips and trips at other times of day. Increased frequency will also increase capacity, and adequate capacity on Sounder will be necessary to ensure that it remains an attractive option for Tukwila residents in the future. As the last stop before Seattle King Street Station in the northbound direction, overcrowded conditions on Sounder could lead to crowded trains. As ridership grows, increasing capacity to accommodate that growth through increased frequency or longer trains will be necessary.
- **Connectivity to destinations surrounding Tukwila Station** – Improved frequency will also enhance the ability for residents of Pierce County and South King County to access jobs in Tukwila. Effective connectivity mechanisms, including fixed-route service, employee shuttle services, or community vanpools should continue to grow as Sounder ridership at Tukwila Stations grows.
- **Increased parking capacity at Tukwila Station** – Parking at Tukwila Station is currently at capacity, and increasing the number of stalls is important to improve accessibility for Tukwila residents. This is described further in the next chapter.
- **TOD** – There may be opportunities to create TOD near Tukwila Station. These opportunities should be explored further to determine if TOD or expanded parking (or a combination of both) would provide the most benefits at this location. A key question relates to whether a market for housing exists at this location close to freight rail lines, and the potential for residents to use Sounder service for transportation.
- **Boeing Access Road Station** – The proposed construction of a Boeing Access Road Link Station provides the opportunity for multimodal connections between Sounder and Link service. Although a new Sounder stop has not been included in the latest ST3 proposal, the City should be prepared to work with Sound Transit to identify additional funding sources to leverage this station coming online.

TRANSIT PRIORITY CORRIDORS

Existing Corridor Definitions

The City of Tukwila Comprehensive Plan includes a map of Transit Priority Corridors within the city (see Figure 4 on page 2-4). There are several corridor classifications, including:

- Transit Way
- Principal Corridor
- Minor Corridor
- Local Access

- Potential Transit

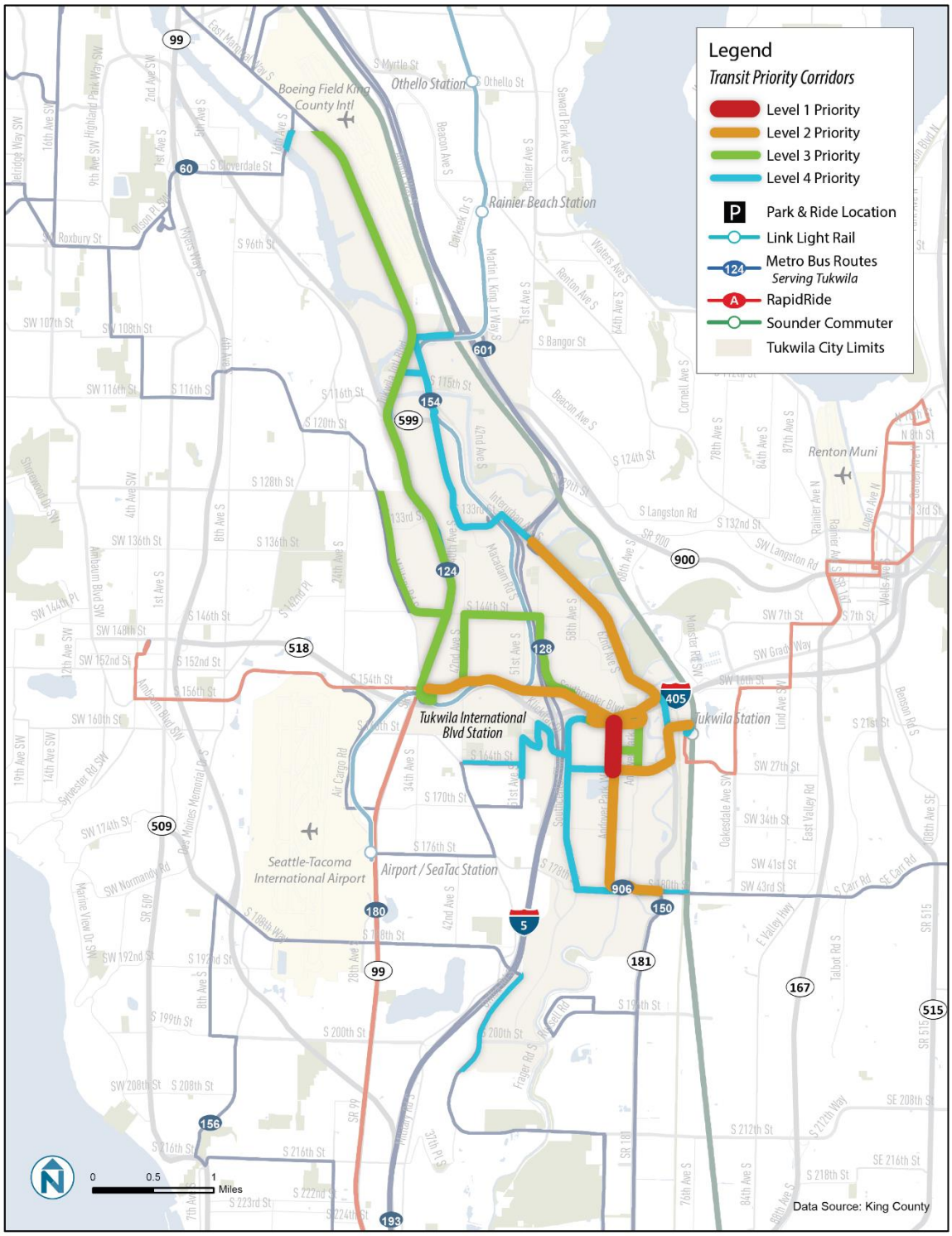
Proposed Definitions

It is recommended that the Transit Priority Corridor classifications be updated based on the current transit network in Tukwila and King County Metro target service levels, which indicate the future level of service on a route. This Transit Priority classification is intended to be used as an input when the City of Tukwila is determining modal priorities by corridor when updating its Transportation Master Plan. In addition, the priority classifications can be used to prioritize investments to benefit transit, such as transit signal priority.

A four level classification system is recommended, which is illustrated in Figure 96.

- **Level 1** – Streets that are served by at least two routes operating every 15 minutes or better. Currently, the street meeting this level is Andover Park W between Tukwila Pkwy and Strander Blvd, which includes the Tukwila Transit Center. Transit should be the highest priority mode along this corridor due to its level of service and the presence of the Transit Center.
- **Level 2** – Streets that currently have 15 minute service during peak and midday periods. Currently, this includes the streets utilized by Route 150 and RapidRide F. Given the high level of service on these routes, transit should be among the most prioritized modes on these streets. On some segments, transit will be the highest priority, while on others it may be second or third priority, depending on the needs of other modes such as autos, freight, and bicycles.
- **Level 3** – This level consists of streets that presently have routes operating every 15-30 minutes in the peak, but that have King County Metro target service levels every 15 minutes, meaning that they will eventually operate at that frequency. As routes are upgraded to every 15 minute service during the peak and midday, the streets on which they operate should be upgraded to Level 2 status.
- **Level 4 –** Streets that have routes with 30-60 minute service occupy the lowest level. Transit should be considered when determining which mode has priority on these corridors, but due to the low level of service, transit will not likely be the highest priority.

Figure 96 Proposed Transit Priority Corridors



Transit-Supportive Actions for Corridors

Designating a corridor as a Transit Priority Corridor can serve as a tool to develop the transit market along the corridor in the long-term, thereby increasing ridership and associated benefits. The components of corridors can be divided into two groups: land use and transportation. In any community, transportation and land use patterns interact, each shaping the other's ability to function effectively. Both are essential for effective transit priority corridors.

Figure 97 Transit-Supportive Land Use Components

Land Use Components	
Density	Relatively high population and employment densities are required to support frequent transit service. Research has shown that transit demand tends to increase most dramatically between about 7 and 15 dwelling units per acre. Below 7 dwelling units per acre, it is usually difficult to operate productive transit services. Density also leads to increased bicycling and walking, as the destinations that people need to travel tend to be closer to one another.
Diversity of land uses	A mix of development types reduces the need for longer-distance trips. When shopping, schools, and community centers are located close to residents' homes, cars become less necessary than when residential subdivisions are built in isolation away from other land use types, and alternative modes become more competitive.
Accessible design	Design matters, because even at high densities, people will not use transit if it is uncomfortable, difficult, or dangerous to access a bus stop. Some streets in the Tukwila service area have the combination of high densities of jobs or housing but poor pedestrian connectivity. This combination leads to 'inaccessible density,' where there is enough density to support transit, but the density is difficult to access by walking, bicycling, or riding transit.

Figure 98 Transit-Supportive Transportation Components

Transportation Components	
Transit service	When there is appropriate density and accessible design, transit priority corridors should be served by frequent transit service. A common minimum service frequency threshold is 15 minutes during peak and midday periods.
Transit priority features	Features such as curb bulb outs, traffic signal queue jumps, business access and transit (BAT) lanes, transit only lanes, and transit signal priority allow buses to operate more quickly, making them more time-competitive with automobiles.
Pedestrian facilities	This includes continuous sidewalks, absence of barriers, direct connections with bus stops, direct connections with destinations (or direct path to building entrance from sidewalk), safe crosswalks, frequent street crossings (e.g. every 0.25 mile), low vehicular speeds, pedestrian refuges when crossing multi-lane streets, and appropriate scale aesthetics.
Bicycle facilities	On some corridors, right-of-way space may be present for bike lanes or bike paths. On others, sharrows can be used to remind drivers that cyclists are present on the street and to make cyclists more comfortable. Wayfinding signage identifying bicycle facility connections makes traveling by bicycle easier. Also, bike racks or parking in commercial areas or other large buildings make cycling a convenient option.

Parking fees or restrictions such as max requirements	Nothing encourages the use of alternative modes more than reducing parking supply through zoning regulation and charging a fee for auto parking. This is mostly applicable to downtown or commercial district areas, but it is also a tool to make residential developments and neighborhood retail developments more attractive by reducing parking requirements and allowing developers to build more residential units and more square footage.
Traffic calming features	Some traffic calming features are appropriate on transit priority corridors to reduce traffic speeds and create a more pedestrian and bicycle friendly environment while still allowing for good bus operating conditions. These can include lower speed limits, medians, pedestrian refuge islands, and raised intersections. These features are appropriate in areas where transit speed is a lesser concern.

TRANSPORTATION DEMAND MANAGEMENT AND OUTREACH TO DIVERSE COMMUNITIES

In order for someone to use transit on a regular basis, he or she must be able to understand it and be comfortable using it. Stakeholder and public input during the planning process indicated that many people do not understand how to use transit and what services are available. This is particularly true for immigrants, who are unfamiliar with how transit works in the United States and who may not speak and read English well enough to understand transit signs and informational materials, such as schedules.

Targeted outreach to individuals and groups in Tukwila can help overcome cultural and language barriers and provide information to people about how to use transit. The City of Tukwila TDM program is currently undertaking a project called *TDM for Diverse Communities*, which is funded through a Washington State Department of Transportation (WSDOT) grant. Strategies for the project include:

- Providing travel options training for Tukwila residents and/or users of facilities in urban centers. Travel training provides education and resources on public transit and other transportation options.
- Assisting individuals who are eligible for ORCA RRFP or ORCA LIFT cards to ensure that individuals are enrolled and able to use these products.
- Incentives including transit fare and pedestrian/bicycle visibility items.
- Creation of individualized transportation/mobility plans that include non-SOV options.
- Coordinating other TDM efforts to ensure that diverse communities are participating in additional incentives available through RideshareOnline.com.
- Implementing additional TDM approaches based on findings and recommendations in the community mobility assessment.

The project is targeting both commute and non-commute trips made by the following populations:

- Immigrants and refugees
- Individuals with Limited English Proficiency (LEP)
- Low-income individuals and families
- Older adults
- People with disabilities

- Veterans

Programs like this can have a very positive impact on the ability of people to try and use transit, thus increasing transit ridership. Given that Tukwila is continually receiving recent immigrants and refugees, maintaining programs like this may be necessary for success over the long-term. With turnover in the population, there will be a constant stream of newcomers who are unfamiliar with the transit system, and it will be necessary to provide them with information to make sure they know how to use transit.

9 CAPITAL RECOMMENDATIONS

BOEING ACCESS ROAD STATION

Throughout the public outreach process, stakeholders and community members alike expressed interest in the construction of Boeing Access Road Station along the current Central Link light rail line. There are many potential benefits associated with this new station. The development of this station, included in the original Sound Transit plans, would increase transit accessibility in an underserved area and have the potential to spur TOD, attract employment, address demand for additional park-and-rides, and provide the potential for multimodal connections to Sounder service. Moreover, these benefits would be possible with a comparatively marginal cost increase (i.e., constructing an infill station vs. extending the current light rail line).

The Draft Sound Transit 3 plan proposes building this station in 2036, which is outside of this plan's 10-year horizon. However, it may be possible to speed up the timing to construct this station, making it operational sooner. In either case, the station is very important for Tukwila, and the City should start planning for it once funding is secured.

In order to make a station at Boeing Access Road successful, there are several challenges that need to be addressed in order to ensure successful implementation. These include: limited pedestrian and bicycle infrastructure, limited opportunity for residential expansion, creating opportunities for both park & ride spaces and TOD, and a lack of connectivity for all modes (which should be partially addressed through proposed routes in Metro's Long Range Plan).

Benefits and Opportunities

Increased Transit Accessibility

A new Boeing Access Road Station would improve transit accessibility and regional mobility for north Tukwila and south Seattle, both of which are home to diverse populations with high shares of low income households. According to Sound Transit, it is projected that the new station would attract 2,000 – 3,000 daily riders by 2040. The placement of this station also may allow for the opportunity for intermodal connections between Link and Sounder Commuter Rail.

Transit-Oriented Development

With increased ridership activity, a Boeing Access Road Station would support TOD opportunities for the City of Tukwila. While there are currently a handful of major employers within the vicinity, the light-industrial, low-density nature of the area would allow for some infill development. Successful TOD implementation will require strong coordination between the City, Sound Transit, and potential developers, and would require market demand for new development in the area. Additionally, the City may need to consider measures to attract a more diverse mix of uses that will support TOD (discussed below).

Employment Generator

Employer stakeholders in the area have expressed strong approval for a Boeing Access Road Station, with some indicating support for funding local shuttles for their employees. Employers recognize that access to rapid transit is becoming more and more of an important factor for job seekers. The potential for infill development is a prime opportunity to bring new employers to the area who want to remain competitive in attracting a skilled workforce. Currently, there are approximately 11,600 jobs within a one-mile radius of the proposed station.

Increase Parking Supply for Transit Commuters

In addition to requests for a Boeing Access Road Station, stakeholders and community members in Tukwila were likely to express desire for new park-and-rides or additional park-and-ride capacity to accommodate long-distance commuters who take transit. An additional Link station would partially address this demand with the construction of an adjacent park-and-ride. Current plans call for a 300 stall park-and-ride lot to be constructed at the facility. Given the high utilization of existing park & rides in Tukwila, there is likely latent demand for more parking, and 300 stalls may not be enough to meet the demand. The City of Tukwila should work with Sound Transit to evaluate the need for more parking capacity at the facility and increase the number of parking stalls if necessary.

Opportunity to Construct a Multimodal Transit Center

The construction of Boeing Access Road Station is assumed in the King County Metro 2040 Long Range Plan network, and the station can serve as a focus of bus service in the area to create a multimodal transit center. The 2040 network assumes service by an extension of RapidRide A along Tukwila International Boulevard as well as a revised version of Route 150 that would terminate at Boeing Access Road station. Additionally, a new Boeing Access Road station presents the opportunity for integration with Sounder service. However, a new Sounder Station is not included in current ST3 plans.

Challenges

Lack of Connectivity

One of the key challenges to successfully attracting substantial ridership is a lack of nearby connectivity for all modes of transportation. This is especially true for major east-west connections, of which there is only Boeing Access Road to the east. As previously mentioned, routes proposed in Metro's Long Range Plan 2040 network would substantially improve transit serving the proposed station.

Limited Bicycle and Pedestrian Infrastructure

In order to improve connectivity for cyclists and pedestrians accessing transit, the City will need to address the lack of bike and pedestrian infrastructure within the vicinity. Recommended improvements include bicycle connectivity to the Green River Trail and connections to the planned sidewalk on Boeing Access Road (crossing I-5).

Few Opportunities for Residential Expansion

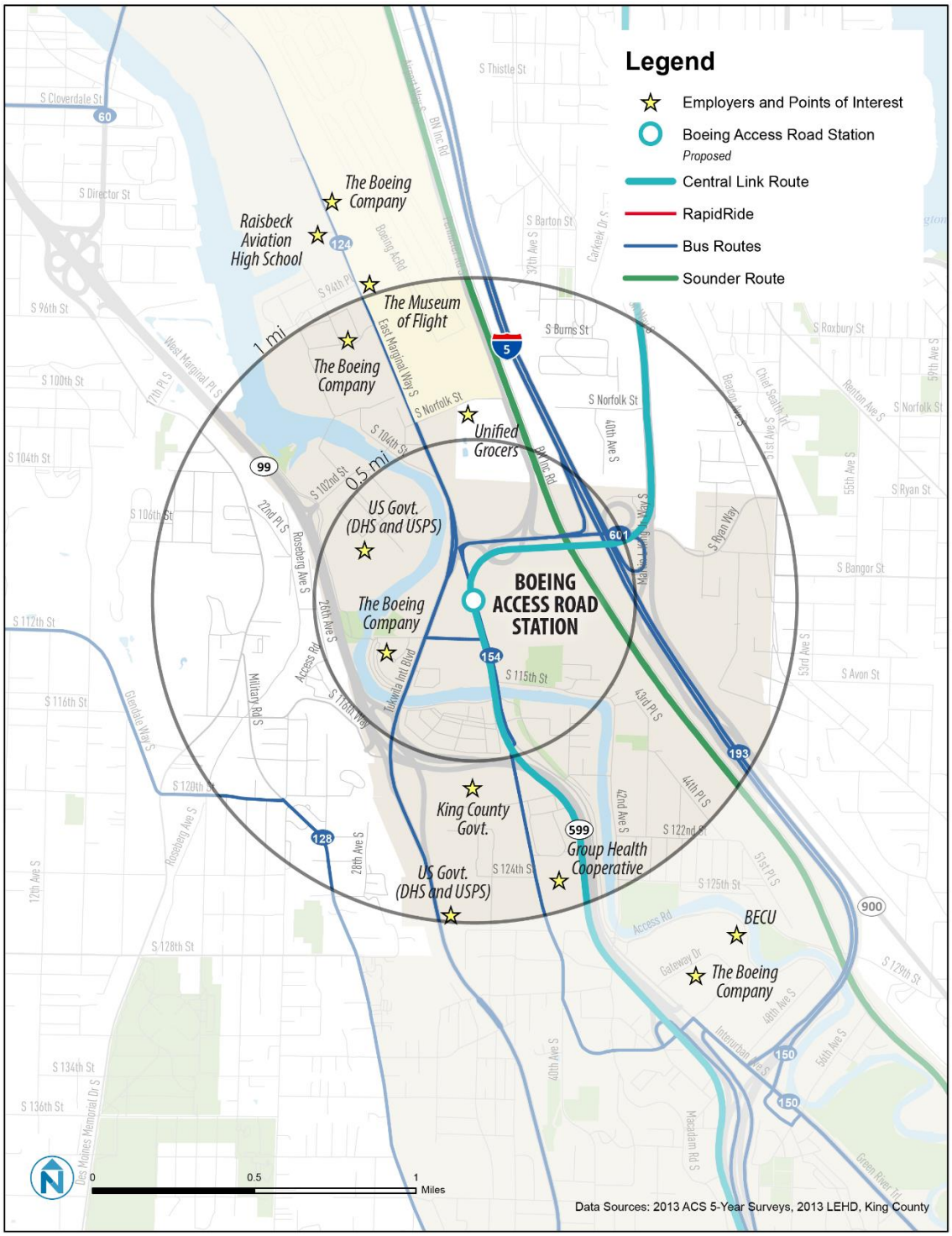
Under current zoning laws, there are limited opportunities for expanding residential density within the vicinity of Boeing Access Road Station. While an infill of employment development will certainly increase ridership, industry standards suggest that a truly successful TOD requires a dense mix of uses.

If the City does not wish to make changes to the permitted uses within adjacent zoning districts, it can still encourage an infill of permitted, diverse uses that will support the success of a TOD in the area. The half-mile radius around the proposed station area includes districts that are zoned as Light Industrial, Manufacturing Industrial Center/Light (MIC/L), and Manufacturing Industrial Center/Heavy (MIC/H). Light Industrial districts permit hotels, motels, offices, shopping centers, and restaurants. MIC/L and MIC/H districts both permit restaurants and conditional uses of motels, hotels, offices, and retail. Increasing TOD-supportive uses through coordination with developers and employers is an important step toward supporting transit and will improve the chances of attracting jobs and residents to the area.

Creating Opportunities for Both Parking and TOD

Creating both successful TOD and a park & ride lot at rapid transit stations can be difficult, but is possible. Naturally, parking will take away space that could be used by TOD. However, by designing parking in such a way that not much land is used, such as in a structure, parking can take up less land and provide more space for TOD. When funding is secured for Boeing Access Road station, a station area plan should be created to identify ways to make TOD and parking compatible while ensuring good access to the station via multiple modes.

Figure 99 Proposed Boeing Access Road Station and Surroundings



PARK-AND-RIDES

As previously mentioned, stakeholders and community members from the outreach process were likely to express demand for new park-and-rides or additional park-and-ride capacity to accommodate long-distance commuters who take transit. As described below, all major park & rides in Tukwila are heavily utilized. The City's strategy will largely depend on the completion date and capacity of Boeing Access Road Station (also dependent on passage of the Sound Transit 3 plan). Once in place, the new station may make a sizeable dent in park-and-ride demand. Additionally, increased parking supply from the upcoming opening of Angle Lake Station (1,050 stalls) may offset a sizable amount of demand from drivers who currently commute from south of Tukwila. However, there will remain an ongoing need for medium- and long-term solutions to meet the demand of drivers who wish to connect to express service to Seattle.

Tradeoffs of Park-and-Rides and Transit-Oriented Development

Park-and-Ride - Increasing parking capacity improves transit station access for riders who choose to drive to access transit or who must drive because they cannot access the station by walking, biking, or taking the bus. By allowing people to drive to access transit rather than driving all the way to their destination, park-and-rides can reduce vehicle-miles traveled and emissions. One drawback of park-and-rides is that they do not generate any tax revenue. By locating a park-and-ride within the City of Tukwila, the City is drawing more automobile trips to city streets to access the park-and-ride, but not generating any revenue.

Transit-Oriented Development – A TOD is likely to generate tax revenue for the City, something that a park-and-ride does not do. A TOD may also attract more ridership than a park-and-ride through improved pedestrian accessibility and placing residents very close to transit. Additionally, a TOD can generate trips due to riders accessing the TOD's mix of uses (housing, jobs, retail, etc.). The main drawback of prioritizing TOD is that it limits station access opportunities who cannot easily access the station using other modes. An additional consideration is that real estate market conditions play a role in the success of a TOD. If there is low demand for additional development due to market conditions, a TOD will not be successful.

Tukwila International Boulevard Station

Parking at TIBS is currently at capacity, with 99% utilization in 2015. The S 200th St Link extension, with 1,050 parking stalls at Angle Lake Station, will likely reduce utilization at TIBS in the short-term. However, parking at TIBS will likely remain popular in the future, and in the long-term it is likely that utilization will remain very high if parking capacity does not increase or feeder services into the station are not improved. In the future, Sound Transit may construct additional parking spaces at TIBS, pending evaluation of parking demand once Angle Lake Station opens.

One potential strategy is to expand parking at or near TIBS. However, there are several factors to consider when determining the need for (and quantity of) additional parking at TIBS. As previously mentioned, a station and park-and-ride at Boeing Access Road may offset some of the demand for parking at TIBS. In addition, TOD at TIBS may be more appropriate in the long-term than parking. Provided there is enough land, it should also be noted that parking and TOD are not mutually exclusive alternatives. There are many examples around the county of transit stations with both park-and-ride garages and high-density development close to the station.

Tukwila Station

Parking at Tukwila Station, served by Sounder and Amtrak Cascades service, was at 97% utilization in 2015, indicating the need for additional parking stalls. The City of Tukwila should work with Sound Transit to construct additional parking stalls to the south of the existing lot. Additional Sounder service is likely in the future, and improving access to Tukwila Station by expanding parking opportunities will allow more Tukwila residents to utilize this service. Additionally, as Tukwila looks to build out development within the Tukwila Urban Center (per the Southcenter Subarea Plan), it should consider working with private developers around the station to identify shared parking strategies.

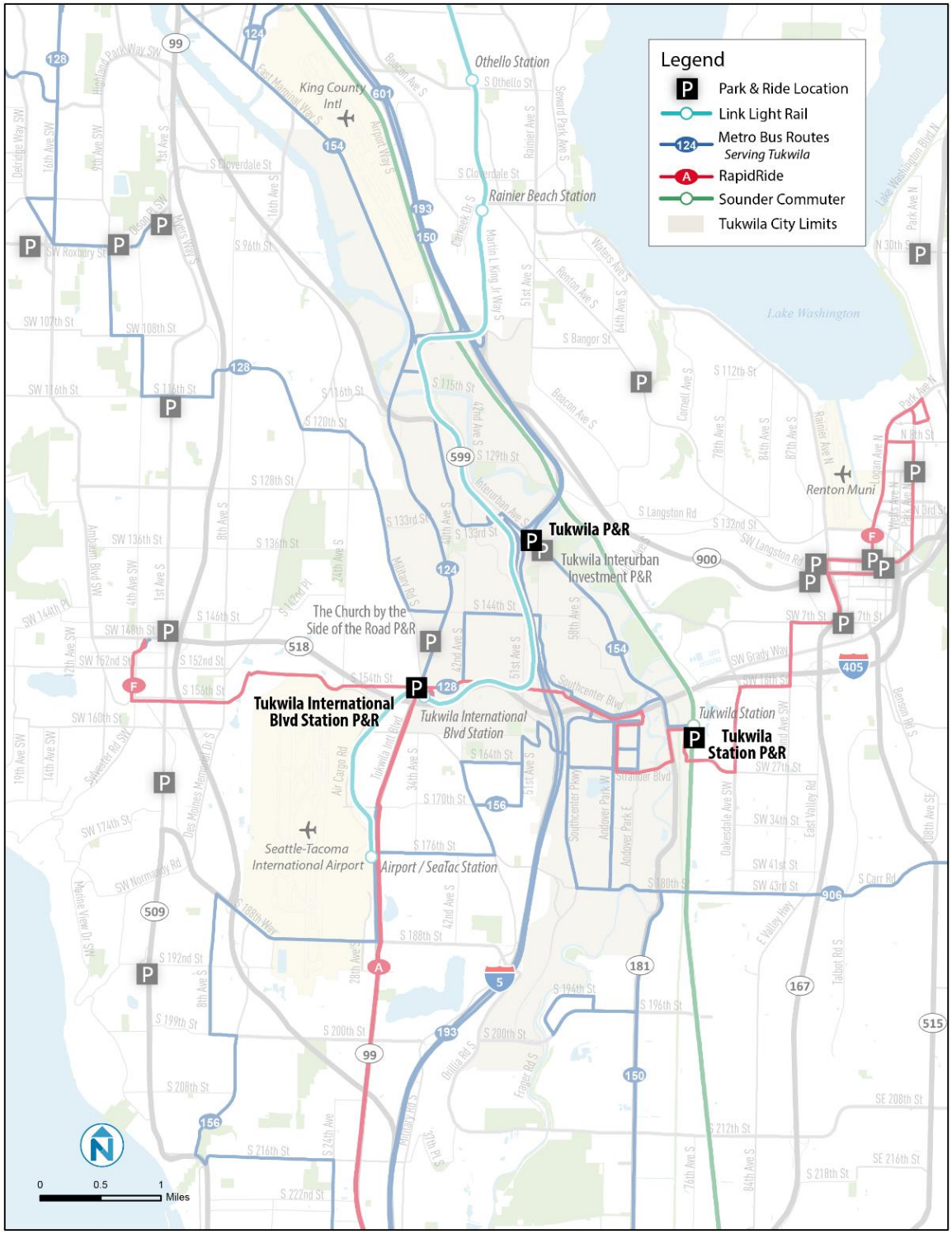
Interurban Ave. S. Park-and-Ride

King County Metro's Interurban Ave. S. Park-and-Ride is served by Routes 150, 154, and 193. Like other park & ride facilities in Tukwila, it is very well utilized, with 99% utilization in 2015. Staff from King County Metro and the City of Tukwila have searched for additional lots to increase parking capacity, but no alternatives have been located. The City of Tukwila should continue to look for opportunities, especially considering that Metro has indicated short-term plans to increase frequency on Route 150, the most significant route serving the facility, as described in the Service and Policy Recommendations chapter. Frequency improvements will attract even more potential riders if they have a place to park. In the long-term, demand for the facility may be reduced if Boeing Access Road Station is built.

General Park-and-Ride Management

In addition to strategies described above that would increase the supply of parking spaces, the City should also support Sound Transit and Metro with more effective management at park-and-ride lots that would allow more people to make use of existing supply. One potential strategy is to include designated spaces for vanpools and carpools, which would incentivize ridesharing. However, it should be noted that this strategy would likely require extra staff for enforcement. A third strategy, restriping, is a practice already employed by Metro that can provide additional supply when existing space allows. Finally, and as mentioned above, the City should continue to explore options to lease lots or portions of lots in large commercial centers.

Figure 100 Park and Ride Locations



CUSTOMER AMENITIES

Bus Shelters

Many of the existing bus stops in Tukwila have shelters, which provide protection from rain, wind, sun, and other weather conditions. Some shelters are owned and maintained by King County Metro, while others are owned by the City of Tukwila, which installed shelters with a distinctive style at several stops in the city.

Figure 101 Tukwila Bus Shelter

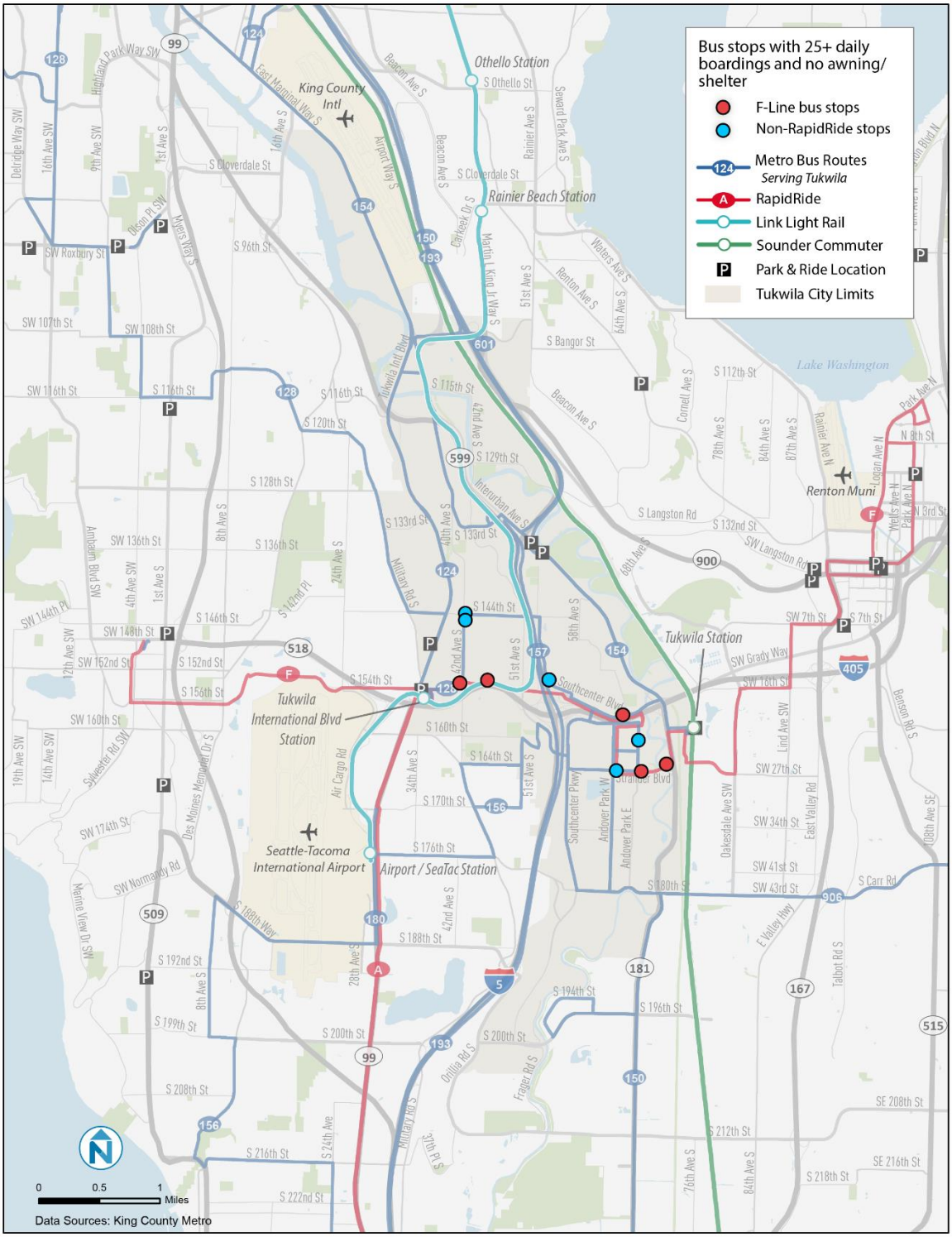
Source: Nelson\Nygaard

Additional shelters should be installed at Tukwila bus stops, as they improve comfort when waiting for transit and can increase transit ridership. The installation of shelters should be prioritized based on ridership, and King County Metro defines the minimum threshold for shelter installation as 25 boardings a day.

A geographic information systems (GIS) based analysis was conducted to identify stops with at least 25 boardings a day but no shelter (see Figure 102 below). These stops are mainly concentrated along Tukwila International Boulevard, Southcenter Blvd, and the Southcenter area. There are several RapidRide stops (indicated with red circles in the map below) that have over 25 boardings but no shelters, and adding shelters to these stops would help maintain RapidRide's strong brand.

The City of Tukwila should advocate to King County Metro to install stops at these locations which meet Metro's standards for installing shelters. The City can facilitate the installation of shelters by streamlining the City's permitting process.

Figure 102 Stops in Tukwila with no Awning/Shelter



Upgrade Amenities at RapidRide Stops

The RapidRide F line was launched in 2014 with amenities at many stops in Tukwila. The line includes four "station stops" in Tukwila, which include amenities beyond what is typically offered at bus stops, such as the following:

- **Real-time information** – electronic signs list predicted arrival times for upcoming buses
- **Larger shelters** - shield riders from the weather and accommodate more people than traditional bus shelters
- **ORCA card readers** – allow riders to tap ORCA cards prior to boarding the bus, which decreases boarding time and improves transit travel speeds.
- **Improved lighting** – compared to traditional bus stops
- **Maps showing connecting transit routes**

As ridership increases on the F Line, the City of Tukwila should advocate to King County Metro to increase the level of amenities at RapidRide stations in Tukwila. Of particular importance is real-time information, which scored very highly on the Tukwila Transit Plan online survey.

Figure 103 RapidRide Station

Source: King County Metro

OTHER CAPITAL IMPROVEMENTS

Non-Motorized Access to Transit

Non-motorized access to transit is an important aspect of maximizing transit ridership. A lack of sidewalks, a disconnected street network, and a lack of bicycle facilities can deter or prevent potential riders from accessing transit due to unsafe walking and biking conditions or long distances. Capital improvements to increase sidewalk connectivity[4] and bicycle connectivity near stops is critical to improving the transit experience for riders.

Sidewalk Connectivity near Transit Stops

The Tukwila Walk & Roll Plan (2009) outlined a method for prioritizing sidewalk improvements in the city. The method accounts for several characteristics of a location, including street type and land use, pedestrian generators (e.g. schools, transit stops/stations, major employment centers, hospitals, community facilities such as parks), and whether or not the sidewalk would fill a missing link or extends the existing sidewalk network. The transit component of the method distinguishes between high capacity transit stations/stops (rail, light rail, bus rapid transit) and regular bus stops, but it does not take into account ridership at those stops.

A GIS-based method was developed for this plan to identify stops with relatively high ridership (at least 25 daily boardings) with poor sidewalk connectivity. Whether or not a stop has high ridership should be taken into account when prioritizing future sidewalk investments. The GIS-based analysis of the 45 stops in Tukwila with at least 25 daily boardings found that 9 (20%) have a high level of connectivity; 25 (56%) have a medium level of connectivity, and the remaining 11 (24%) have a low level of connectivity. Figure 104 displays the sidewalk connectivity for stops with 25 or more daily boardings.

Low connectivity stops are found at the following locations:

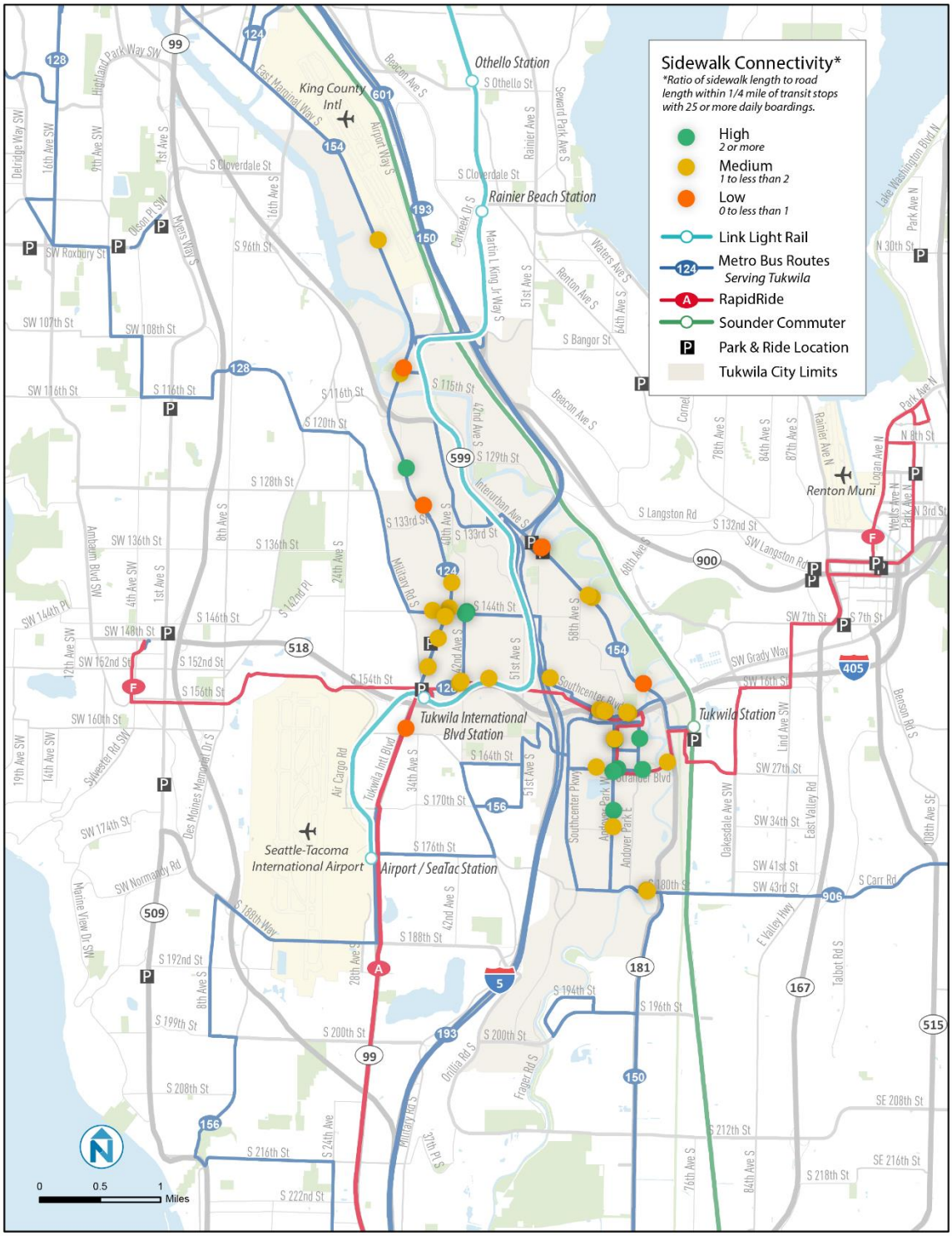
- Tukwila International Boulevard at three locations: (1) north of South 160th Street (stop number 52800); (2) north of South 133rd Street (stop number 60980); and (3) north of South 112th Street (stop number 31610).
- Interurban Avenue South at two locations: just north of Southcenter Boulevard (80680), and immediately south of I-5 (stop numbers 80710 and 80720).

High connectivity stops are clustered on Strander Boulevard as well as Andover Park East and West. A few other stops are located elsewhere in Tukwila.

Medium connectivity stops are primarily scattered along Tukwila International Boulevard and Southcenter Boulevard, with a few additional stops elsewhere in the city.

[4] In this document, sidewalk connectivity relates to the ratio of sidewalk length to roadway length within one-quarter mile of a transit stop. Where a street has sidewalks on both sides, this ratio should be approximately 2. For low connectivity stops, the ratio is less than 1. For medium connectivity stops, the ratio is between 1 and 2. For high connectivity stops, the ratio is 2 or more.

Figure 104 Sidewalk Connectivity for High Ridership Bus Stops



Bicycle Connectivity

The City of Tukwila is making substantial investments in bicycle infrastructure as it develops a safe, connected bicycle network. Many people are not comfortable biking in traffic but will consider biking on an off-street path or a bike lane, and as these facilities are developed, more people will be attracted to biking and may ride their bicycle to a transit stop. As the City continues to develop its bicycle network, it should do so in coordination with King County Metro to create facilities that encourage bicycle access to transit. This type of coordination is supported by the King County Metro Long-Range Plan.

Previous Planning Work

In 2014, King County Metro and Sound Transit completed a Non-Motorized Connectivity Study to understand how bicycle and pedestrian access affect transit ridership. A GIS-based tool was developed to evaluate potential projects to improve non-motorized connectivity, and several projects were analyzed to determine their effects on transit ridership. Analysis of potential projects in Tukwila focused on new streets proposed in the Southcenter Subarea Plan (see Figure 105). By breaking up the superblocks in the Southcenter area and building a more fine-grained street grid, walking distances to transit stops can be minimized, making it easier to access transit. As the Southcenter area and other parts of Tukwila are remade and new streets are constructed, their relationship to transit stops and how they can positively impact nonmotorized access to transit should be considered.

Figure 105 Southcenter Subarea Plan Proposed Street Network

FIG.1.7. EXISTING STREET NETWORK FIG.1.8. PROPOSED STREET NETWORK

Source: City of Tukwila Southcenter Subarea Plan

Transit Priority Features

The City of Tukwila is currently collaborating on a project with King County Metro to improve speed & reliability on Route 150. This grant-funded project includes stop amenities, operational improvements, and signal timing changes. As previously mentioned, Metro has proposed several short-term improvements to increase service on additional routes (including Route 124, Route 128, and RapidRide F) that serve major Tukwila corridors. Corridors that stand to see service frequency increases (15 minutes or better) include Tukwila International Boulevard (Routes 124 and 128) and Andover Park West (Route 150, Route 128, and RapidRide F).

As service is expanded along these corridors, the City should work with Metro to ensure that frequent routes are given priority treatments when necessary. However, the needs of other modes such as automobiles and trucks must be considered when determining where transit priority features are appropriate. Regardless of the City's current intentions to deploy transit priority features on a given corridor, the City should ensure that all new traffic signal equipment on transit routes allows for future deployment of transit signal priority.

Security

Passenger security was cited as a barrier to using transit during stakeholder interviews and the pop-up open house. Additionally, improved public security at transit facilities scored well on the Build Your System online survey, with 30% of respondents selecting it as a preferred investment on the survey. The appearance and condition of bus stops, particularly at night, has an impact on safety and the perception of safety at those locations. Recommendations to improve security at transit facilities include the following:

- **Provide adequate lighting at bus stops.** Adequate lighting is one of the most important factors for making riders feel safe and secure when waiting for a bus at night.
- **Maintain bus stop facilities in satisfactory condition.** Perceptions of safety and security can be strongly influenced by the cleanliness and maintenance of a bus stop. Riders may associate evidence of neglect at a bus stop (e.g., broken bus shelter windows or excessive litter) with an area where crime is more likely to occur.
- **Provide real-time information signs at additional bus stops.** Riders will feel more secure (and thus more willing to wait for a bus at night) if they can reliably determine when their bus will arrive.