

DRAFT

2017 Service Implementation Plan



October 2016

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2017 Service Implementation Plan Executive Summary



October 2016

Executive Summary

2017 Service Implementation Plan

Each year, Sound Transit prepares a Service Implementation Plan that guides delivery of ST Express bus, Sounder commuter rail, and Link light rail services. In coordination with the annual agency budget process, the Service Implementation Plan provides both a forward look at future service plans and a review of existing ridership and performance trends.

Following a significant 2016, where Sound Transit opened three new light rail stations, expanded bus and rail service, and experienced significant ridership growth, the coming year promises continued progress. In 2017, Sound Transit will continue work to expand the regional transit system and carry an estimated 47 million passenger boardings.

More Mobility Delivered in 2016

In 2016 Sound Transit significantly increased transit service in the region. Link light rail opened three new stations along 4.7 miles of new grade-separated alignment reaching Capitol Hill, University of Washington, and Angle Lake. A new round trip on the Sounder south line between Lakewood and Seattle expanded schedule flexibility for customers. An addition of 43,000 bus service hours, or over one hundred new weekday trips, increased passenger capacity and improved schedule reliability.

As of August 2016, the network of rail and express bus generates 153,800 boardings on the average weekday, 73,500 on the average Saturday, and 65,800 on the average Sunday. Total year-to-date system ridership is 20 percent higher than the same period in 2015.





More Service Proposed for 2017

The draft 2017 Service Implementation Plan includes proposals to meet growing demand and deliver voter-approved projects. Two new peak-hour Sounder round trips are proposed on the busy south line. Additional investment in ST Express is proposed to improve schedule reliability and service quality.

Sounder south line

In September 2017, two new Sounder south line round trips will provide additional capacity and flexibility for customers between Lakewood and Seattle. The final schedule for the new round trips will be developed in early 2017 in coordination with BNSF Railway Company and Amtrak. Public release of the final schedule will occur ahead of the September 2017 service change. The two new trips will bring the total number of weekday trains to 13 on the south line.

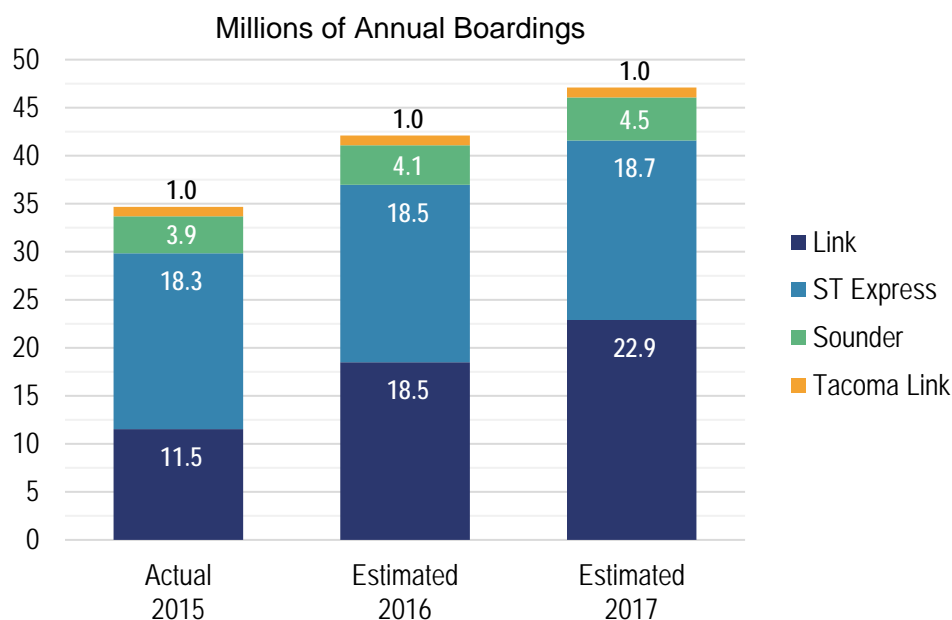
ST Express

Congestion along major highway corridors in Puget Sound continues to increase, leading to reduced travel time reliability. This increased congestion negatively impacts ST Express on-time performance. The 2017 budget includes 15,000 additional annual platform hours for ST Express service to improve schedule reliability and service quality. Additional hours will be implemented across the ST Express system beginning in September 2017.

Record Ridership Expected

Ridership on Sound Transit trains and buses will reach records levels in 2017. Ridership across all modes is estimated to increase by 36 percent over 2015, exceeding 47 million by the end of 2017. With the extensions to the University of Washington and Angle Lake in 2016, Link ridership is projected to almost double from 11.5 million passengers in 2015 to 22.9 million in 2017. New trains on Sounder will drive ridership in 2017 to increase by an estimated 16 percent over 2015. Projections for continued low gas prices temper estimated growth in ST Express to a two percent increase over 2015. Tacoma Link estimates predict ridership growth of about seven percent driven by PSRC growth projections. Figure 1 shows annual boardings by mode, with 2015 actuals and estimates for 2016 and 2017.

FIGURE 1 - ANNUAL BOARDINGS BY MODE 2015-2017





Light Rail Construction & Transit Integration Continues

Between 2016 and 2022, Sound Transit system ridership will grow by an estimated 65 percent driven by regional growth and the benefits of fast, reliable high-capacity transit. Transit integration offers opportunities to maximize the efficient use of transit resources in the region, while also improving customer experience. Sound Transit recognizes that coordination with partner agencies contributes to building an effective regional system. Sound Transit will engage partner agencies and the public to deliver an integrated transit network as build-out of the ST2 network continues. The Service Implementation Plan includes a preliminary service plan for the next five years to document upcoming system opportunities and challenges, informing customers and partner agencies of future service changes Sound Transit may consider.

Opportunities for Public Input

Customers and members of the public are encouraged to comment on the draft plan through email, letter, via telephone, or in-person at a public meeting. For the 2017 Service Implementation Plan an open house will be held on December 1 at Sound Transit's Union Station. Additional opportunities for public comment to the Board of Directors are scheduled for the December 1 Operations & Administration Committee meeting and the Board meeting on December 15.

Review the plan: soundtransit.org/sip

Comment: Fastride@soundtransit.org

Call: 1-866-940-4387



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 **SOUNDTRANSIT**



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INTRODUCTION



Introduction

Each year, Sound Transit prepares a Service Implementation Plan that guides delivery of ST Express bus, Sounder commuter rail, and Link light rail services. In coordination with the annual agency budget process, the Service Implementation Plan provides both a forward look at future service plans and a review of existing ridership and performance trends. This year's Service Implementation Plan features a refreshed look and structure. While information will likely have moved to a new location compared to previous years, the new organization will help readers find information faster with similar elements grouped together.

What is in the Service Implementation Plan?

- **2017 Proposed Changes.** Proposed modifications, increases, or decreases to service planned for implementation in either March or September 2017.
- **Title VI Evaluation.** Assessment of potential impacts resulting from major service changes on minority, low income, and limited English speaking communities.
- **Five-Year Service Outlook & Plan.** A look ahead to upcoming opportunities and challenges; preliminary service plans, ridership estimates, revenues, and operating costs for the years 2018-2022.
- **System Ridership & Performance Analysis.** Assessment of ridership and service effectiveness by mode as defined in the *Service Standards & Performance Measures*.
- **Corridor Ridership & Performance Analysis.** Measurement of ridership in major travel corridors, with a focus on evaluating recent service changes including restructured routes, new routes, newly opened lines, and added trips.
- **Route-Level Performance & Stop-Level Ridership.** Detailed profiles of each route and line in the system. Ridership and service productivity data, stop-level ridership, summary of service levels, and reference maps for each route and line.

AGENCY OVERVIEW

Mission

Sound Transit plans, builds, and operates regional transit systems and service to improve mobility for Central Puget Sound.

Sound Move and ST2

In 1996, voters in Central Puget Sound approved the Sound Move plan with a mandate to build a mass transit system connecting major urban centers in Snohomish, King, and Pierce counties. Covering more than 1,000 square miles, the Sound Transit District serves a population of over 2.9 million people. The Sound Transit District is composed of more than 50 cities, including most of the urban areas of King, Pierce, and Snohomish counties. In 2008, voters approved a second phase of mass transit, Sound Transit 2 (ST2). Under the plans, the regional light rail system will reach over 50 miles by 2023 expanding to Northgate, Lynnwood, Bellevue, Overlake, and Kent/Des Moines, frequent peak service will operate on the 83-mile Sounder commuter rail line from Everett to Lakewood, and ST Express bus will continue to serve major regional travel corridors. Figure 2 shows the existing Sound Transit system and approved ST2 projects.

FIGURE 2: EXISTING SOUND TRANSIT SYSTEM & APPROVED ST2 PROJECTS



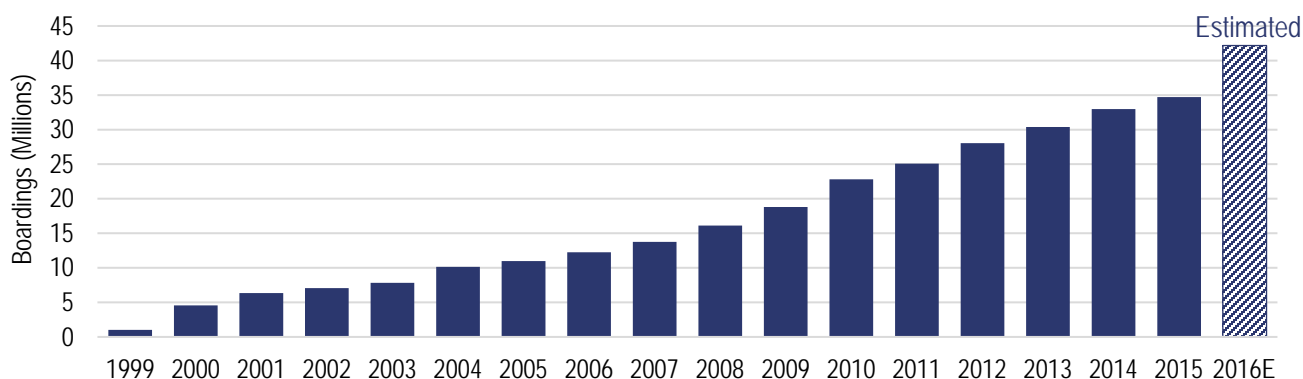
Service Provided & Ridership

Sound Transit operates two light rail lines, two commuter rail lines, and 28 express bus routes which served 34.7 million passengers in 2015. In 2015, Sound Transit provided approximately 648,000 annual trips on ST Express, Link light rail, Sounder commuter rail, and Tacoma Link. Over 824,000 annual platform hours of service were operated throughout 2015.

In 2016 Sound Transit significantly increased transit service to the Central Puget Sound Region. Link light rail opened three new stations along 4.7 miles of new grade-separated alignment. A new round-trip on Sounder expanded schedule flexibility for south line customers with a late morning option from Lakewood to Seattle and an early afternoon departure from Seattle to Lakewood. Finally, in 2016 ST Express bus service added 43,000 additional annualized platform hours, or over one hundred new weekday trips, to increase passenger capacity and improve schedule reliability.

Figure 3 outlines annual system-wide ridership since Sound Transit service began in 1999 through 2016. By the end of 2016, ridership on Sound Transit's network of rail and express bus will reach an estimated 42 million annual passenger boardings.

FIGURE 3: TOTAL ANNUAL ST SYSTEM RIDERSHIP 1999-2016



Sound Transit Services



ST Express: Fast, frequent regional bus service

ST Express offers fast, frequent, two-way service on 28 routes connecting Snohomish, King, and Pierce Counties. Sound Transit provides this bus service via contracts with our transit partners: King County Metro, Pierce Transit, and Community Transit. ST Express provides service to 25 transit centers and 33 park-and-ride lots.



Sounder: High-capacity commuter rail

Sounder commuter rail spans three counties, serving commuters on the north line from Everett to Seattle and on the south line from Lakewood to Seattle. BNSF Railway, owner of the railroad between Tacoma and Everett, operates Sounder service under a contract with Sound Transit. Amtrak provides maintenance for the Sounder fleet of locomotives and passenger cars. Sound Transit owns the railway from BNSF track junction in Tacoma to Lakewood.



Link: Frequent, reliable high-capacity light rail

Link light rail operates on 20 miles of alignment between the University of Washington Station and Angle Lake Station in the city of SeaTac, serving 16 passenger stations, including four stations in the Downtown Seattle Transit Tunnel. King County Metro operates and maintains the system through an intergovernmental agreement with oversight by agency staff. Paratransit service is also operated by King County Metro within the Link service area.



Tacoma Link: Light rail with multimodal connections

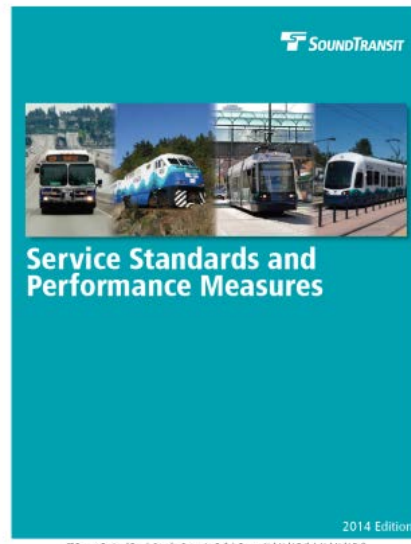
Tacoma Link is a 1.6-mile light rail passenger line that runs through the heart of downtown Tacoma. There are six unique stations complete with artwork that reflects the history and community of Tacoma. Trains run every 12 minutes during peak hours and every 24 minutes at all other times.

SERVICE IMPLEMENTATION PLAN PROCESS

Service Standards

Since 1998, Sound Transit has used its Board adopted *Service Standards and Performance Measures* to plan and manage Sound Transit services. Service standards and performance measures are a set of guidelines that are used to design, evaluate and manage transit service with the objective of maximizing efficiency, effectiveness, and service quality in the system. The document also describes how Sound Transit service should be designed to reflect the characteristics of a high-speed, limited-stop regional system.

Service Planners use the document to guide a multi-step process to identify the level and type of service that should be provided, as well as a process to implement any changes needed to meet established priorities. The agency has updated the original document three times, in 2006, 2010 and most recently in 2014.



Major and Administrative Service Changes

The *Service Standards and Performance Measures* define criteria for making major or administrative service changes. A major service change is any single change in service on an individual bus or rail route that would add or eliminate more than 25 percent of the route's weekly platform service hours, and/or move the location of a stop or station by more than a half mile. All major service changes include public participation and are approved by the Board. An administrative service change is any single change, or cumulative changes, that affects a route's service hours by less than 25 percent or does not move a stop by more than half a mile. Administrative changes are typically implemented to address near-term operational issues of the service. Any change classified as administrative may be made without Board approval, allowing staff to be responsive in addressing service quality issues.

Proposed Service Changes Process

Development of the proposed service changes included in the Service Implementation Plan is driven by five primary guides:

1. Voter-approved *Sound Move and ST2* plans
2. Agency budget
3. Application of the Board adopted *Service Standards and Performance Measures*
4. Service equity analysis (Title VI evaluation)
5. Regional coordination with partner agencies

First, the completion of major capital projects drives service changes including starting new service, opening new alignments and stations, and modifying existing service to maximize the connectivity of the overall regional transit network for the customer.

Second, coordination to ensure that proposed changes are included and funded as part of the annual budget, if funding is available.

Third, on an on-going basis, staff use the *Service Standard and Performance Measures* to manage the performance and service quality of the Sound Transit system. Evaluation of key ridership and service performance indicators identifies investment priorities or opportunities for performance improvement. The results of service analysis guide the development of proposed changes, additions, or reductions to Sound Transit service within available operating budget.

Fourth, staff performs a service equity analysis based on the major service change definitions outlined in the *Service Standards and Performance Measures* to ensure that any of the proposed changes do not cause a disparate impact on Title VI communities. Proposed service changes are modified to minimize and/or mitigate any disparate impacts to these communities.

Finally, staff continually works with partner transit agencies to identify opportunities for increased coordination and integration. Proposed service changes in this category may include scheduled coordination to facilitate transfers or major structural changes to the network to integrate bus and rail services.

Public Process and Board Approval

Each year the Service Implementation Plan is released publicly at least one month before presentation to the Operations and Administration Committee of the Board of Directors. In years with proposed major service changes open house style meetings are held in areas most directly affected by the proposed service changes. Prior to presentation to the Board of Directors, a public hearing is held allowing opportunities for comment on any major service changes. Customers and members of the public are encouraged to comment on the draft plan, through email, letter, telephone, or in-person at a public meeting.

Review the plan: soundtransit.org/sip

Comment: Fastride@soundtransit.org

Call: 1-866-940-4387

Implementing Service Changes

The Service Implementation Plan is implemented through the twice-yearly service change process. These times correspond to the service change dates when transit operators change work assignments. Staff prepares detailed instructions for the operating partners as well as internal staff responsible for carrying out rider communications (e.g., rider alert messages, schedule publication) and small capital tasks (e.g., changes to signage) associated with the service changes. One to two weeks prior to a major service change, staff generally “street-team” on-location to notify customers face-to-face about upcoming changes. Immediately after service changes are implemented, staff works closely with the operating partners to resolve any unanticipated operational issues. In addition, street teams continue into the first week of the service change to assist customers in locating their service.

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2017 PROPOSED SERVICE CHANGES



2017 Proposed Service Changes

The draft 2017 Service Implementation Plan includes proposals to meet growing demand and deliver voter-approved projects. Two new peak-hour Sounder round trips are proposed on the busy south line. Additional investment in ST Express is proposed to improve schedule reliability and service quality. Changes to Link or Tacoma Link are not proposed. All proposed service changes in the 2017 Service Implementation Plan may be implemented administratively, as they do not meet the definition of a major service change. Funding for the additional Sounder and ST Express service is included in the 2017 budget. In addition to a description of both proposed service changes, this section also includes estimated service statistics and estimated ridership by mode for 2017. For ridership and service estimates through 2022, as well as a preliminary service plan, refer to the Five Year Service Outlook & Plan section of this document.

PROPOSED SERVICE CHANGES

Two New Round Trips on Sounder South Line

Two new Sounder south line round trips, part of ST2 Sounder expansion, will provide additional peak capacity and schedule flexibility for customers between Lakewood and Seattle. In agreement with BNSF Railway Company, the operator of the Sounder service, the ST2 plan approved four additional Sounder south line round trips between Seattle and Lakewood. The first trip started in fall 2013, a year after the service expansion to Lakewood. In September 2016, the second of the four round trips was implemented during the midday, marking the first time that Sounder operated regular service during the midday. Sound Transit will implement two peak hour round trips in September 2017.

The final schedule for the new round trips will be developed in early 2017 in coordination with BNSF and Amtrak, with the goal of maximizing efficient operations of the passenger and freight services between Lakewood and Seattle, as well as maintaining schedule reliability for customers on existing Sounder service. Public release of the final schedule will occur ahead of the September 2017 service change.

Increased Investment in ST Express Service Quality

In response to increasingly crowded conditions on ST Express service, additional service was implemented in 2016. Over 43,000 annual platform hours, or approximately 100 new trips each weekday, were added to increase capacity. Since 2015 Sound Transit has invested over 8,000 annual service hours in key corridors to improve on-time performance. Even after the investments, schedule reliability on a number of routes continues to not meet service quality standards as congestion along major highway corridors continues to reduced on-time performance.

The 2017 budget includes 15,000 additional annual platform hours for ST Express service to improve schedule reliability and service quality. In early 2017, Sound Transit service planners will conduct a detailed analysis, using guidelines from the Sound Transit's *Service Standards and Performance Measures* to identify the route specific investments needed throughout the system. The additional hours will be implemented across the ST Express system beginning in September 2017 to improve service quality for customers. In general, the additional 15,000 service hours are planned for implementation by subarea in approximate proportion to each subarea's existing share of ST Express service hours. Table 6 in the next section provides estimated service hours by subarea.

ESTIMATED MODAL SERVICE HOURS & MILES

Based on the proposed 2017 service plan, planners worked closely with finance staff to estimate four key service statistics that drive operating costs included in the 2017 budget:

- **Platform hour:** Any hour a transit vehicle is operating, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total amount of time the transit vehicle is away from the operating base.
- **Revenue hour:** An hour in which a transit vehicle is in revenue service, i.e., picking up, dropping off, and/or carrying passengers. Vehicles are not in revenue service between base and their first stop, between their last stop and base, or when traveling between the last stop on one trip and the first stop on the next trip.
- **Platform Mile:** Any mile a transit vehicle operates, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total distance the transit vehicle travels while away from the operating base.
- **Revenue Mile:** The distance a transit vehicle operates in revenue service, i.e., picking up, dropping off, and/or carrying passengers. Vehicles are not in revenue service between base and their first stop, between their last stop and base, or when traveling between the last stop on one trip and the first stop on the next trip.

Link and Sounder include both train and vehicle statistics to reflect operation of multiple cars within an individual train. For each mode the following section includes hours and miles, actuals and estimates:

- **2015:** as reported to FTA's National Transit Database
- **2016:** estimate of year-end totals based on year-to-date trends and projections for the last few months of the year
- **2017:** estimate based on the proposed service plan

Link

In 2017 Link service statistics increase as a result of a full year of operation on extensions to the University of Washington and Angle Lake. Additionally, in 2017 operation of a mix of 2- and 3-car trains during the peak increases vehicle statistics over previous year's projections. Link service hours and miles through 2017 are presented in Table 1.

TABLE 1: LINK SERVICE HOURS AND MILES 2015-2017

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES	REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
		Train Statistics				Vehicle Statistics			
2015	Actual	73,124	75,805	1,363,485	1,405,035	145,847	151,196	2,719,160	2,796,020
2016	Estimated	88,576	94,289	1,753,805	1,819,769	183,384	188,577	3,631,003	3,639,538
2017	Estimated	95,511	102,281	1,891,118	1,974,023	214,900	230,132	4,255,015	4,441,552

Souder

Souder statistics increase in 2017 due to a full year of operation of the roundtrip added in September 2016 and a partial year of operation of the two new roundtrips planned for September 2017. Souder service hours and miles by line through 2017 are presented in Table 2.

TABLE 2: SOUNDER SERVICE HOURS AND MILES 2015-2017

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES	REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
		Train Statistics				Vehicle Statistics			
	North Line								
2015	Actual	2,684	2,874	69,353	71,505	7,163	7,670	185,521	191,240
2016	Estimated	2,890	3,073	75,070	76,826	7,256	7,683	186,501	192,066
2017	Estimated	2,890	3,073	75,070	76,826	7,225	7,683	187,676	192,066
	South Line								
2015	Actual	7,371	7,941	228,248	235,484	51,597	55,588	1,597,733	1,648,387
2016	Estimated	7,587	8,135	238,730	244,648	52,181	55,661	1,623,389	1,673,623
2017	Estimated	8,584	9,245	271,063	278,204	59,351	63,896	1,873,581	1,922,665
	Souder Total								
2015	Actual	10,055	10,815	297,601	306,989	58,760	63,258	1,783,254	1,839,627
2016	Estimated	10,478	11,208	313,800	321,474	59,437	63,344	1,809,890	1,865,689
2017	Estimated	11,474	12,318	346,133	355,030	66,576	71,578	2,061,257	2,114,731

Tacoma Link

Tacoma Link statistics remain largely consistent in 2017, as service levels are unchanged. Minor variations reflect estimates of additional service on special events and based on which days of the week holidays fall. Since Tacoma Link operates as a one-car train, train and vehicle statistics are identical. Tacoma Link service hours and miles through 2017 are presented in Table 3.

TABLE 3: TACOMA LINK SERVICE HOURS AND MILES 2015-2017

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
		Train & Vehicle Statistics			
2015	Actual	9,814	9,848	75,567	76,842
2016	Estimated	9,749	9,882	75,091	75,368
2017	Estimated	9,900	10,035	76,000	76,280

ST Express

Increases in estimated service statistics for ST Express reflect a full year of operation of 2016 service additions, as well as implementation of additional hours across the system beginning in September 2017. The 2017 service additions are prorated, adding an estimated 6,400 service hours over 2016. ST Express service statistics are presented on Tables 4-6 on three levels: ST Express system total, by operating partner, and by subarea. Table 4 includes total hours and miles for all ST Express routes including scheduled, special event, extra service, and contingency. Next, Table 5 shows the distribution of only scheduled platform hours, the key cost driver for ST Express, by operating partner. Finally, Table 6 lists only scheduled platform hours by subarea. The service hour totals of Tables 5 and 6 differ slightly than the totals of Table 4, as Tables 5 and 6 do not include the budgeted general schedule maintenance and extra service hours.

Route level estimates for ST Express are included in the Appendix.

TABLE 4: ST EXPRESS TOTAL SERVICE HOURS AND MILES 2015-2017

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
2015	Actual	563,414	727,947	11,308,662	15,385,483
2016	Estimated	586,700	756,807	11,695,423	15,911,267
2017	Estimated	602,500	777,448	11,998,600	16,301,575

Estimates include scheduled service, special event, and extra service. All estimated hours are subject to change based on end of year actuals

TABLE 5: ST EXPRESS PLATFORM HOURS BY OPERATING PARTNER 2015-2017

YEAR		COMMUNITY TRANSIT	KING COUNTY METRO	PIERCE TRANSIT	TOTAL
2015	Actual	148,522	256,712	317,583	722,817
2016	Estimated	146,660	278,454	327,193	752,307
2017	Estimated	149,357	291,977	331,614	772,948

Estimates only include scheduled service and do not include special event or extra service. All estimated hours are subject to change based on end of year actuals

TABLE 6: ST EXPRESS SCHEDULED PLATFORM HOURS BY SUBAREA 2015-2017

YEAR		SNOHOMISH COUNTY	EAST KING COUNTY	SOUTH KING COUNTY	PIERCE COUNTY	TOTAL
2015	Actual	125,778	328,102	76,195	192,742	722,817
2016	Estimated	123,839	350,060	78,132	200,276	752,307
2017	Estimated	125,593	365,273	78,388	203,694	772,948

Estimates only include scheduled service and do not include special event or extra service. All estimated hours are subject to change based on end of year actuals

ESTIMATED RIDERSHIP

Sound Transit estimates ridership for all its modes on an annual basis for inclusion in the Service Implementation Plan and the annual agency budget. The modeling process has many inputs that affect anticipated utilization of transit service, including historical ridership data, fuel prices, and employment, among other inputs. Other key inputs include population and employment projections developed by the Puget Sound Regional Council (PSRC) and the previous year's annual and average weekday boardings. Table 7 shows the projected annual boardings by year for each of the Sound Transit modes and Table 8 shows projected weekday boardings for each of the Sound Transit modes.

Ridership on Sound Transit trains and buses will reach records levels in 2017. Ridership across all modes is estimated to increase by 36 percent over 2015 to exceed 47 million by the end of 2017. With the extensions to the University of Washington, Capitol Hill, and Angle Lake in 2016, Link ridership is projected to almost double from 11.5 million passengers in 2015 to 22.9 million in 2017. New trains on Sounder will drive ridership in 2017 to increase by an estimated 16 percent over 2015. Projections for continued low gas prices temper estimated growth in ST Express to a two percent increase over 2015. Tacoma Link estimates predict ridership growth of about seven percent driven by PSRC growth projections. Finally, with an increased Link service area paratransit transit boardings will increase.

TABLE 7: ANNUAL BOARDINGS BY MODE 2015-2017

MODE	2015	2016	2017
	Actual	Estimated	Estimated
ST Express	18,312,624	18,470,000	18,680,000
Sounder	3,851,831	4,120,000	4,480,000
Link	11,530,411	18,500,000	22,900,000
Tacoma Link	973,412	1,010,000	1,040,000
Paratransit	46,033	70,000	80,000
System Total	34,714,311	42,170,000	47,170,000

TABLE 8: AVERAGE WEEKDAY BOARDINGS BY MODE 2015-2017

MODE	2015	2016	2017
	Actual	Estimated	Estimated
ST Express	62,997	64,300	65,000
Sounder	14,775	15,500	16,900
Link	35,429	56,100	69,400
Tacoma Link	3,303	3,400	3,500
Paratransit	126	204	210
System Total	116,600	139,500	155,000

SERVICE EQUITY ANALYSIS (TITLE VI EVALUATION)



Service Equity Analysis (Title VI Evaluation)

INTRODUCTION

As part of the annual Service Implementation Plan, Sound Transit conducts a service equity analysis, also known as a Title VI evaluation analysis, to ensure that changes in transit service are consistent with Title VI policies defined by the Federal Transit Administration (FTA) and policies defined by the Sound Transit Board of Directors.

Two proposed 2017 service changes were analyzed for whether they met the major service change threshold: the investment in on-time performance planned for ST Express in 2017 and the additional service on Sounder commuter rail expected in 2017. Neither change planned for 2017 meets the thresholds of a major service change and a full service equity analysis is not required. The step-by-step process that Sound Transit used to determine that a full service equity analysis for the 2017 changes was not necessary is documented below.

For reference, the subsequent sections provide a description of the process applied to major service changes.

SERVICE EQUITY EVALUATION OF PROPOSED 2017 SERVICE CHANGES

For 2017, both proposed service changes, additional Sounder round trips and additional ST Express service hours, do not meet the threshold of a major service change based on the adopted Sound Transit policy. Both service changes for 2017 will be implemented administratively. Table 9 below provides a summary of the 2017 service changes, with their anticipated implementation date and whether they are a major or minor service change.

TABLE 9: 2017 PROPOSED SERVICE CHANGES

ROUTE	DESCRIPTION	SERVICE CHANGE	SERVICE CHANGE DATE	SERVICE CHANGE TYPE
ST Express	System-wide	Investment in on-time reliability for various ST Express routes. Specific routes to be identified in early 2017.	September	Minor
Sounder	South Line Lakewood-Seattle	Two new peak round-trips (four one-way trips)	September	Minor

ST Express System-Wide Service Quality Investment

Congestion along major highway corridors in the Central Puget Sound region continues to increase leading to reduced travel time reliability. Schedule reliability on a number of routes continues to not meet service quality standards. To improve service quality the 2017 budget includes an additional 15,000 annual service hours. On a system level, the proposed change does not meet the definition of a major service change with an estimated increase of only 2.7 percent between 2016 and 2017 platform hours. Table 10 shows the change in platform hours between 2016 and 2017.

In early 2017, planners will conduct an analysis to identify the route specific investments using guidelines from the Sound Transit's *Service Standards and Performance Measures*. For each route-level change planners will review the investment to identify any major service changes. Any identified major service change will receive a full service equity analysis.

TABLE 10: ST EXPRESS CHANGE IN PLATFORM HOURS 2016-2017

ROUTE	2016 PROJECTED PLATFORM HOURS	2017 ESTIMATED PLATFORM HOURS ¹	PERCENTAGE CHANGE IN PLATFORM HOURS
ST Express	756,807	777,448	2.7%

Sounder South Line Round Trips

As part of the voter approved ST2 package, four additional Sounder south line round trips were approved. In 2016, the second of the four approved south line round trips was implemented during the midday. The third and fourth round trips are scheduled to be implemented in September 2017. As shown in Table 11, the two new south line round trips only changes the line's annual hours by 20 percent, below the threshold for a major service changes.

TABLE 11: SOUNDER SOUTH LINE ROUND TRIPS MAJOR SERVICE CHANGE ANALYSIS

DAY TYPE	ONE-WAY TRIPS PER DAY	PLATFORM HOURS PER DAY	PLATFORM HOURS PER WEEK	PLATFORM HOURS PER YEAR ²
ESTIMATED 2016 SERVICE STATISTICS PRE-ROUND TRIPS				
North Line	8	11	56	2,856
South Line	22	34	168	8,543
System Total	30	45	224	11,399
ESTIMATED 2017 SERVICE STATISTICS POST-ROUND TRIPS				
North Line	8	11	56	2,856
South Line	26	40	201	10,226
System Total	34	51	257	13,082
<i>North Line Total Percent Change</i>			<i>0%</i>	<i>0%</i>
<i>South Line Total Percent Change</i>			<i>20%</i>	<i>20%</i>
<i>System Total % Change</i>			<i>15%</i>	<i>15%</i>

¹ Estimated 2017 platform hours reflect the fully annualized service improvements made in March and September 2016, and a prorated amount for the on-time service improvements anticipated in 2017.

² Annualized on a factor of 255 weekdays.

POLICIES AND DEFINITIONS

The section below describes Sound Transit's approved policies for conducting and identifying major service changes, as well as for assessing their impacts on Title VI populations.

Service Standards and Performance Measures

Service standards and performance measures are a set of guidelines that are used to design, evaluate and modify transit service. The standards and measures establish baselines to obtain optimum efficiency and effectiveness in the system on a short-term basis, while maintaining or improving the quality of service. Planning and day-to-day management of transit service is based on the established service standards and performance measures. The guidelines provide a multi-step process to identify the level and type of service that should be provided, as well as a process to implement any changes needed to meet established priorities.

The *Service Standards and Performance Measures* defines the criteria for making major or administrative service changes, as well as guidelines and driving factors for the type of changes needed to ensure Sound Transit services are meeting the demand for regional transit in the Puget Sound area.

Major Service Change

Resolution R2013-18, adopted by the Sound Transit Board of Directors in 2013, established policies for conducting equity analyses of major service changes and assessing the impacts on minority and low income populations. This policy defines a major service change as follows:

A major service change is any single change in service on an individual bus or rail route that would add or eliminate more than 25 percent of the route's weekly platform service hours, and/or move the location of a stop or station by more than a half mile.

Adverse Effects

The adopted policy, described above, also defines potential adverse effects of major service changes and thresholds for determining whether the proposed service change would have a disparate impact on minority populations and/or a disproportionate burden on low-income populations. The definitions are as follows:

A potential adverse effect is defined as a geographical or time-based addition or reduction in service which includes but is not limited to: span of service changes, frequency of service changes, route segment elimination, and re-routing or route elimination.

A disparate impact occurs when the minority percentage of the population adversely affected by a major service change is greater than the average minority percentage of the population of Sound Transit's service area.

A disproportionate burden occurs when the low income percentage of the population adversely affected by a major service change is greater than the average low income percentage of the population of Sound Transit's service area.

Per Sound Transit's policy, if any disparate impact or disproportionate burden is found during the service equity analysis, Sound Transit will consider steps to avoid, minimize, or mitigate the adverse impacts and reanalyze the modified changes to determine if the impacts are removed or lessened.

Definitions and Data Analysis

The following sections describe the data definitions and methodologies used by Sound Transit to develop estimates for Title VI populations within the Sound Transit service area.

Demographic Analysis Methodology and Title VI Data Definitions

Sound Transit uses census demographic data to identify Title VI communities (Minority, Low Income, & Limited English Proficiency) for service equity analysis and calculates the system-wide or mode specific average representation of these communities within the general population. Sound Transit uses the 2010 designated Census Tracts as the geographic basis for assessing the Title VI populations.

Sound Transit uses the most recent five-year demographic estimates available from American Community Survey (ACS). The ACS dataset identifies Minority, Low Income and Limited English Proficiency (LEP) populations. The following sections describe the methodology for identifying each of the Title VI populations for the purposes of the annual service equity analysis.

Minority

Persons who self-identify as being one or more of the following ethnic groups: American Indian and Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian and Other Pacific Islander.

Low income

Persons whose median household income is below the federal poverty level.

Limited English Proficiency (LEP)

Persons who identify a language other than English as their primary language and are not fluent in English.

Service Area Methodology

Most transit agencies in the United States define their service area as a buffer around each of their transit routes. Given the unique service characteristics of Sound Transit service -- limited stops connecting regional urban and employment centers -- the agency defines its service area based on buffer around the transit stops, rather than the transit route alignment. Table 12 below provides details on Sound Transit's service area by stop type.

TABLE 12: SERVICE AREA DEFINITIONS

TYPE	SERVICE AREA (MILES)
Bus Stop without parking	0.5
Rail station without parking	1.0
Major bus facilities with parking	2.5
Rail station with parking	5.0

Sound Transit Title VI Population Estimates

Using the demographic analysis and Title VI definitions previously outlined in this section, averages for the three Title VI populations for the Sound Transit service area are identified.

The population representation for any Title VI analysis is calculated using the percentage of area that falls within the district or mode's service area to estimate the specific number of people that fall within each of the Title VI categories. For example, if a census tract total is 10 acres and 3 acres are in the service area, based on the previously identified methodologies, then 30 percent of the tract's total population, and in turn the respective Title VI populations, is considered to be within the service area. This methodology assumes an even distribution of population throughout the census tract.

Using 2010-2014 ACS Dataset, as shown in Table 13 below, the Title VI population averages for the Sound Transit service area are: Minority - 36.9 percent, Low Income - 10.4 percent, and LEP - 12.6 percent. These averages serve as a comparison in the service change analysis conducted by Sound Transit.

TABLE 13: TITLE VI POPULATIONS IN SOUND TRANSIT DISTRICT

TITLE VI POPULATIONS	PERCENTAGE OF SOUND TRANSIT DISTRICT POPULATION
Minority	36.9%
Low Income	10.4%
Limited English Proficiency (LEP)	12.6%

SYSTEM RIDERSHIP & PERFORMANCE ANALYSIS



System Ridership & Performance Analysis

Sound Transit operates two light rail lines, two commuter rail lines, and 28 express bus routes which served 34.7 million passengers in 2015. At the end of 2015 Sound Transit provided approximately 853,000 annual hours of service and 648,000 annual trips on ST Express, Link light rail, Sounder commuter rail, and Tacoma Link.

Ridership, service performance, and service quality are presented in three sections of the 2017 Service Implementation Plan based on three distinct levels of analysis: system, corridor, and route.

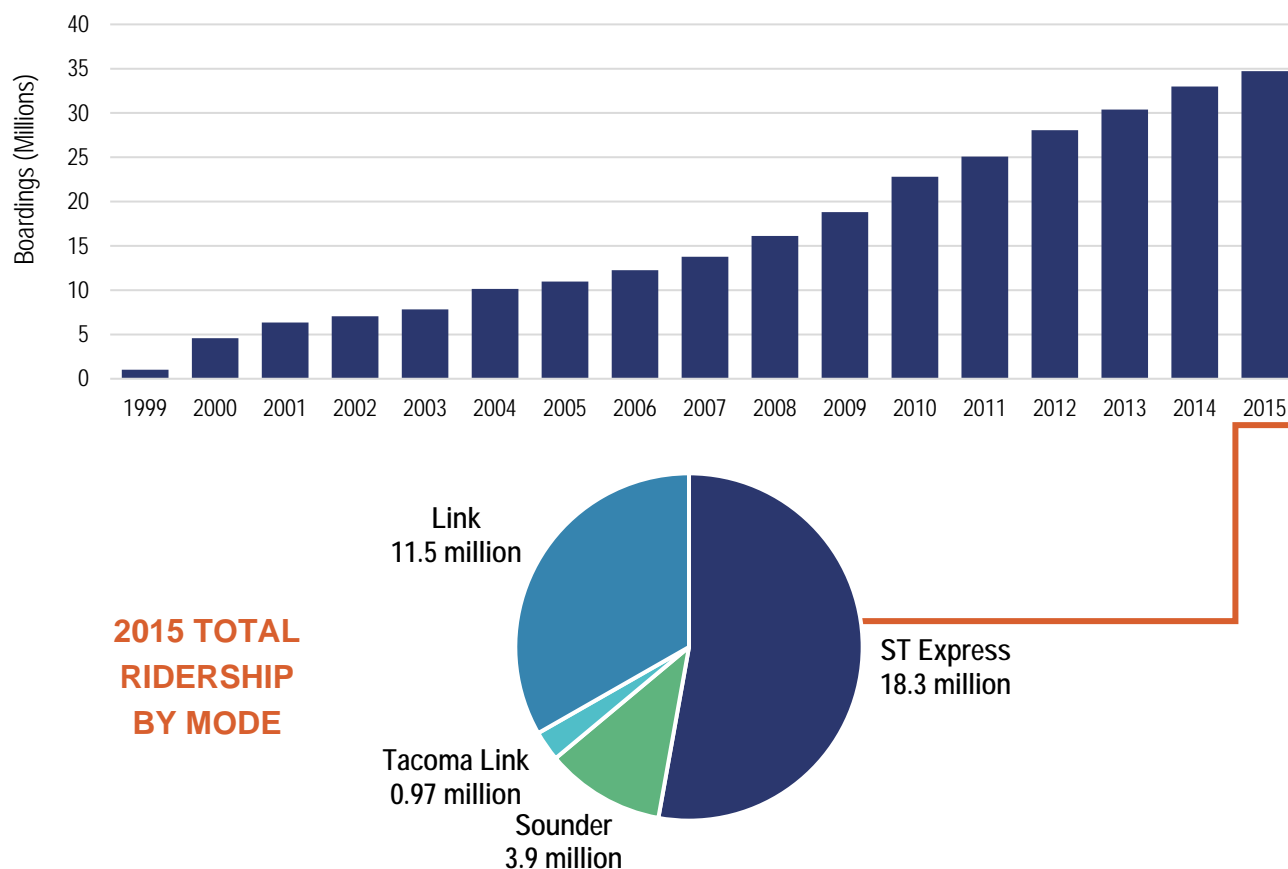
This section includes an assessment of ridership, service effectiveness, and service quality of the overall Sound Transit network by mode.

2015 ANNUAL RIDERSHIP

System

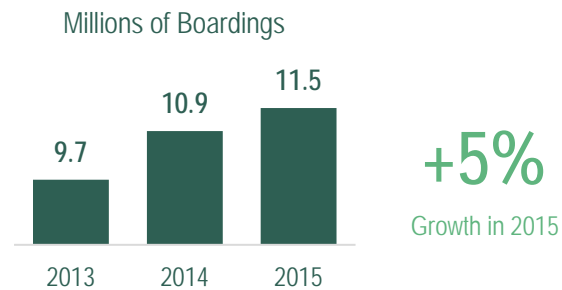
Throughout 2015 Sound Transit continued to add new riders as ridership increased by 5 percent over 2014. Annual boardings on the Sound Transit network of rail and express bus reached 34.7 million in 2015, the 17th consecutive year of annual growth in ridership. Ridership averaged 116,600 on weekdays, 52,000 on Saturdays, and 43,000 on Sundays. By the end of 2015 Sound Transit had carried its 283 millionth passenger since beginning service in 1999. System-wide annual ridership is presented in Figure 4 below.

FIGURE 4: TOTAL ANNUAL ST SYSTEM RIDERSHIP 1999-2015



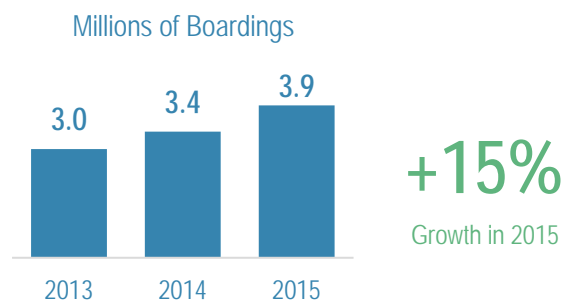
Link

Demand for fast, reliable transit in the region continues to grow with customers responding to travel opportunities provided by new Link service. With the September 2015 service change Link now operates more frequently in the peak period with trains arriving every six minutes. In addition to increasing capacity the more frequent service attracted more riders by reducing wait times between trains.



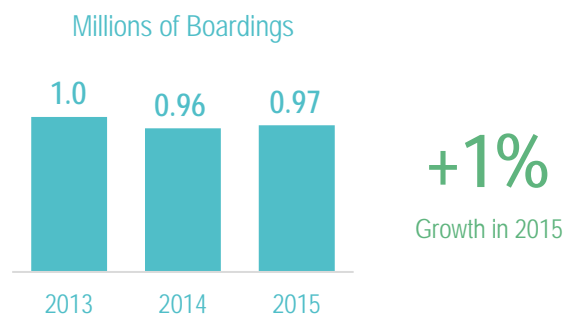
Sounder

Customers seeking an alternative to congested roads increasingly chose Sounder as their commute option with average weekday boardings increasing by 16 percent to over 14,775 by the end of 2015. Ridership grew on both the north line from Everett to Seattle and the south line from Lakewood to Seattle.



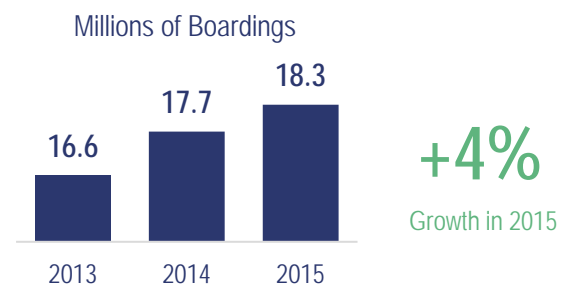
Tacoma Link

Tacoma Link experienced modest growth in total ridership during 2015. Local ridership trends as a whole in downtown Tacoma have suppressed Tacoma Link ridership growth. At the end of 2015, average weekday boardings on Tacoma Link were 3,303.



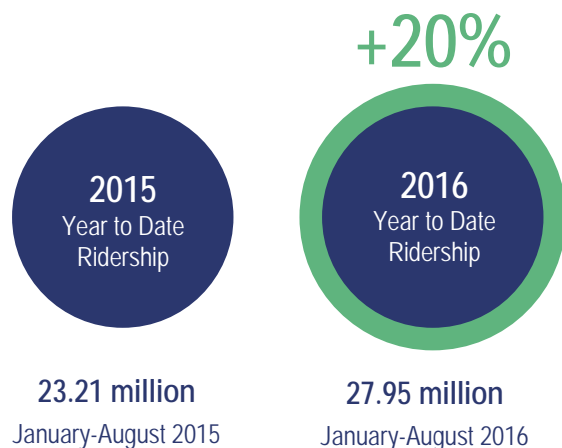
ST Express

ST Express service continued to add riders to an already productive network. Since 2015 the average weekday ST Express trip served 40 customers, with peak trips serving over an average of 50 passengers per trip. On nearly 15 percent of weekday ST Express trips, customers stood for part of the journey.



2016 RIDERSHIP

Traditionally, the Service Implementation Plan evaluates only the previous year of system-level ridership. This year's Service Implementation Plan provides a snapshot of year to date ridership, given the significant changes to the Sound Transit network in 2016, with the opening of the U Link extension and the addition of Route 541 in March 2016. As of August 2016, the network of rail and express bus generates 153,800 boardings on the average weekday, 73,500 on the average Saturday, and 65,800 on the average Sunday. Year-to-date system ridership is 20 percent higher than the same period in 2015.



2016 Service Improvements

New Stations, New Trips

During 2016 Sound Transit delivered an expanded transit network with increased service and strong ridership growth. In response to significant service additions and additional light rail stations, customer travel patterns will continue to evolve in the coming year. During 2017, staff will closely monitor service performance, ridership patterns, and review customer input to identify any proposed changes for 2018.

With the opening of U Link and the new Link stations at University of Washington and Capitol Hill, approximately 30,000 new Link boardings were added to the system on a typical weekday. Preliminary ridership data also indicates a positive reception to new ST Express trips, with an increase of around 1,500 new boardings on the average weekday since the March 2016 trip additions. Ridership data for the services added in September 2016, including the newly opened Angle Lake Station and additional ST Express trips, will be available following the publication of the 2017 Service Implementation Plan. Over the course of 2016 ridership will continue to grow on the newly expanded service.

Bus-Rail Service Integration

With the opening of U Link in March 2016, King County Metro implemented significant changes to its bus network in an effort to increase access to reliable, fast, and frequent Link light rail service. By leveraging the new Link service, King County Metro now provides more frequent transit service to communities in northeast Seattle. King County Metro, Sound Transit, and the community collaboratively developed the revised transit network.

A key objective of the process for Sound Transit and King County Metro was to improve the customer experience when making bus-rail connections. For Sound Transit, the eight-month long process culminated in the addition of new peak only bidirectional ST Express service on the busiest portion of the SR-520 corridor, between Overlake and the University of Washington Station. The new Route 541, implemented in spring 2016, provides additional capacity along the corridor and new connection opportunities to Link. Additionally, new midday service was added to Route 542 (Redmond-U District) as part of the 2016 Service Implementation Plan outreach process. Overall, the new service has increased ridership in the corridor and relieved crowding while providing improved connections.

2016 Service Improvements



University of Washington Station

Since opening, an average of 9,000 customers board trains at the new University of Washington Station each weekday. Improved bus service provided by King County Metro connects northeast Seattle riders to fast, reliable Link service. Total transit ridership has increased by six percent since U Link opening and the local bus network restructure.



Capitol Hill Station

Capitol Hill's new station serves an average of 6,000 customers a typical weekday. Link's reliable two-minute trip to downtown Seattle has changed transit travel patterns in the area. The combination of new Link service and changes in the King County Metro local bus network have driven an overall increase in transit ridership.



ST Express & Link Connections

The March 2016 service change created new opportunities for customers to connect between ST Express and Link at the University of Washington Station. More service between the eastside and the U District on the SR 520 corridor increased weekday ridership by five percent while providing customers the opportunity to transfer to Link to complete trips to downtown Seattle.



ST Express New Trips

In response to growing express bus ridership throughout the Sound Transit district many routes received additional capacity and new trips. Investments were phased, with new service added in March and September. Early results show both less acute crowding on the busiest trips and new riders. On routes which received additional service in March 2016 ridership increased by approximately eleven percent.

SERVICE PERFORMANCE

Sound Transit monitors service performance and productivity on an on-going basis with detailed mode and route-level results published in each year's Service Implementation Plan. As ridership grew in 2015, system-wide service performance and productivity also improved.

Measuring Service Performance

Sound Transit manages and measures service performance using the *Service Standards and Performance Measures*. The Board adopted document defines key performance indicators for each mode, establishes standards of performance and productivity, and provides guidelines to inform proposed changes to service to best utilize operating resources.

Key Performance Indicators

- **Boardings per revenue hour** is the number of passengers boarding a vehicle during one hour of scheduled revenue service, not including vehicle deadhead or layover time.
- **Boardings per trip** are the number of passengers boarding each scheduled one-way trip.
- **Subsidy per boarding** is calculated by dividing the net cost of the service (cost minus fare revenue) by the number of passenger boardings for a full year.
- **Passenger miles per platform vehicle mile** is calculated by dividing passenger miles by the number of vehicle platform miles travelled for a full year.

2015 Key Performance Indicators by Mode

The results of the 2015 assessment of productivity and cost effectiveness by mode are presented in Table 14. The data is only for 2015; changes in performance resulting for the new Link alignments and stations are not reflected.

TABLE 14: KEY PERFORMANCE INDICATORS BY MODE (2015)

	ROUTE	BOARDINGS PER TRIP	BOARDINGS PER REVENUE HOUR	SUBSIDY PER BOARDING	PASSENGER MILES PER PLATFORM MILE
Link					
	Link: SeaTac-Seattle	124	158	\$3.60	63
Sounder					
	North Line: Everett-Seattle	193	146	\$12.16	133
	South Line: Lakewood-Seattle	669	469	\$6.92	346
	Sounder Total	535	383	\$7.45	297
Tacoma Link					
	Tacoma Link	20	99	\$3.68	13
ST Express					
510	Everett-Seattle	46	35	\$2.20	25
511	Lynnwood-Seattle	55	55	\$1.45	19
512	Everett-Seattle	38	28	\$3.24	17
513	Eastmont-Seattle	33	28	\$4.24	13
522	Woodinville-Seattle	47	33	\$4.12	17
532	Everett-Bellevue	49	39	\$1.94	17
535	Lynnwood-Bellevue	28	25	\$3.74	12
540	Kirkland-U. District	18	25	\$6.42	9
542	Redmond-U. District	32	32	\$4.95	15
545	Redmond-Seattle	54	43	\$2.68	27
550	Bellevue-Seattle	54	62	\$3.20	31
554	Issaquah-Seattle	40	35	\$3.44	20
555	Northgate-Issaquah	49	35	\$3.96	18
556	Issaquah-Northgate	51	33	\$3.98	17
560	Westwood Village-Bellevue	27	17	\$7.70	7
566	Auburn-Overlake	30	20	\$7.94	7
567	Kent-Overlake	37	31	\$7.79	8
574	Lakewood-SeaTac	30	21	\$4.82	15
577	Federal Way-Seattle	38	40	\$3.75	16
578	Puyallup-Seattle	36	20	\$4.99	17
580	Lakewood-Puyallup	22	30	\$4.67	2
586	Tacoma-U. District	33	25	\$7.02	12
590	Tacoma-Seattle	34	23	\$5.54	17
592	Olympia-Lakewood-Seattle	33	16	\$9.19	14
594	Lakewood-Seattle	33	18	\$5.79	20
595	Gig Harbor-Seattle	37	19	\$7.46	16
596	Bonney Lake-Sumner	29	64	\$2.53	9
	ST Express Total	40	31	\$3.97	17

ST Express Comparative Evaluation

In order to place the performance of individual ST Express routes in a broader context of the ST Express system as a whole, the *Service Standards and Performance Measures* outline a comparative performance analysis. Using year end ridership and service totals, a rating for each route is developed using the four key performance indicators. In the following section a comparison chart for each individual key performance indicators is shown, as well as an overall summary table displaying a combined ranking for each ST Express route within the network as a whole.

The objective is a quantitative, first level screening process to identify both high performance routes, which may warrant additional investment, and low-performing routes requiring additional monitoring or modification. Route effectiveness ratings represent the initial screening of a detailed service evaluation process. Prior to development of proposed changes to service, planners will conduct more detailed analysis of route ridership and productivity. Additional route-level detail is included in the final section of the 2017 Service Implementation Plan, Route-Level Performance & Stop-Level Ridership.

Productivity Rankings

ST Express routes are sorted and ranked by their performance in each of the four indicators: boardings per revenue hour, boardings per trip, subsidy per boarding, and passenger miles per platform vehicle mile. The 27 routes that were in operation in 2015, receive a ranking of 1-27 based on 2015 year end ridership and service totals. A combination of the four indicators becomes the overall route ranking. Figures 5 through 8 show the results of each of the key performance metrics, with Table 15 providing an overall ranking by route based on the key performance indicators. Given that Route 541 did not begin operations until March 2016, its performance is not included in these productivity rankings.

A route's overall ranking determines where it falls in four quartiles:

- First Quartile – top 25%, candidates for service enhancement
- Second Quartile – within normal operational parameters
- Third Quartile – within normal operational parameters
- Fourth Quartile – bottom 25%, candidates for action to improve performance

Routes in the First Quartile, or top 25 percent, are typically high performers and the most crowded. Top performing routes may be candidates for service enhancements if resources are available, particularly if performance has shown a consistent upward trend. Routes in the Fourth Quartile, or bottom 25 percent, are typically the poorest performers and have the lowest ridership. Lower performing routes may be candidates for actions to improve productivity and cost effectiveness. Types of actions that could be considered include marketing/promotion programs, selective deletion of unproductive route segments or trips, complete restructuring or complete discontinuance of the route. Routes falling in the Second or Third Quartile, or 50 percent of the routes, are typically considered to be operating within normal parameters.

TABLE 15: ST EXPRESS PERFORMANCE SUMMARY

		ROUTE	BOARDINGS PER TRIP	BOARDINGS PER REVENUE HOUR	SUBSIDY PER BOARDING	PASSENGER MILES PER PLATFORM MILE
1st Quartile	511	Lynnwood-Seattle	55	55	\$1.45	19
	550	Bellevue-Seattle	54	62	\$3.20	31
	545	Redmond-Seattle	54	43	\$2.68	27
	510	Everett-Seattle	46	35	\$2.20	25
	532	Everett-Bellevue	49	39	\$1.94	17
	554	Issaquah-Seattle	40	35	\$3.44	20
	555	Northgate-Issaquah	49	35	\$3.96	18
2nd Quartile	522	Woodinville-Seattle	47	33	\$4.12	17
	577	Federal Way-Seattle	38	40	\$3.75	16
	556	Issaquah-Northgate	51	33	\$3.98	17
	512	Everett-Seattle	38	28	\$3.24	17
	596	Bonney Lake-Sumner	29	64	\$2.53	9
	590	Tacoma-Seattle	34	23	\$5.54	17
	513	Eastmont-Seattle	33	28	\$4.24	13
3rd Quartile	578	Puyallup-Seattle	36	20	\$4.99	17
	542	Redmond-U. District	32	32	\$4.95	15
	594	Lakewood-Seattle	33	18	\$5.79	20
	535	Lynnwood-Bellevue	28	25	\$3.74	12
	595	Gig Harbor-Seattle	37	19	\$7.46	16
	574	Lakewood-SeaTac	30	21	\$4.82	15
	567	Kent-Overlake	37	31	\$7.79	8
4th Quartile	586	Tacoma-U. District	33	25	\$7.02	12
	580	Lakewood-Puyallup	22	30	\$4.67	2
	540	Kirkland-U. District	18	25	\$6.42	9
	592	Olympia-Lakewood-Seattle	33	16	\$9.19	14
	566	Auburn-Overlake	30	20	\$7.94	7
	560	Westwood Village-Bellevue	27	17	\$7.70	7
ST Express Average			40	31	\$3.97	17

FIGURE 5: ST EXPRESS BOARDINGS PER TRIP (2015)

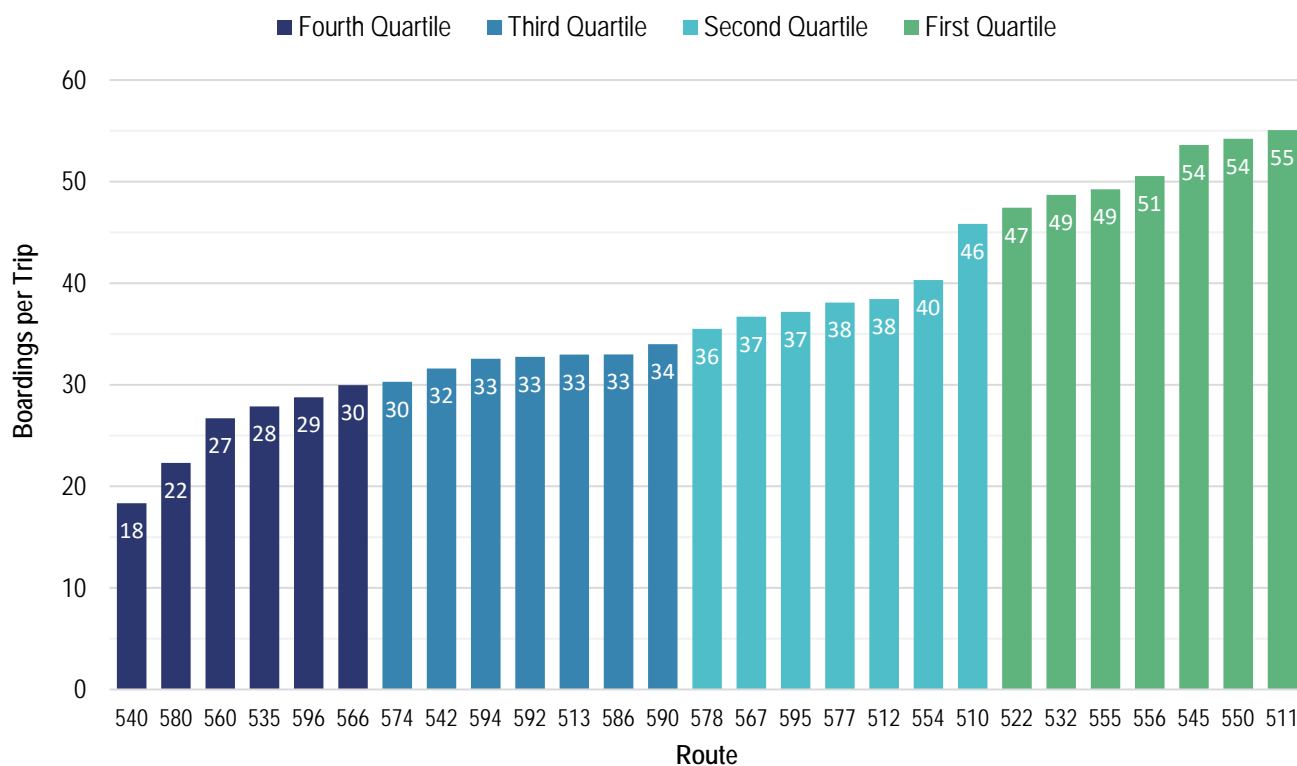


FIGURE 6: ST EXPRESS BOARDINGS PER REVENUE HOUR (2015)

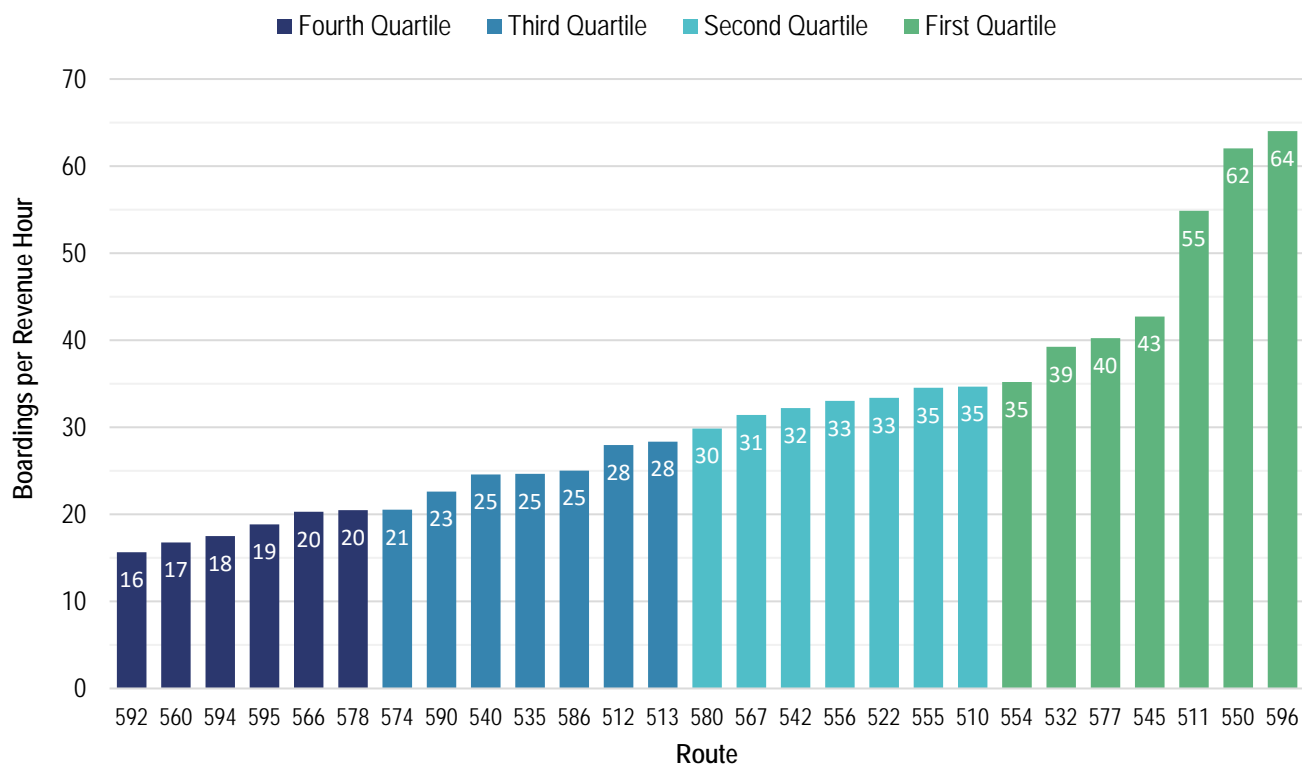


FIGURE 7: ST EXPRESS SUBSIDY PER BOARDING (2015)

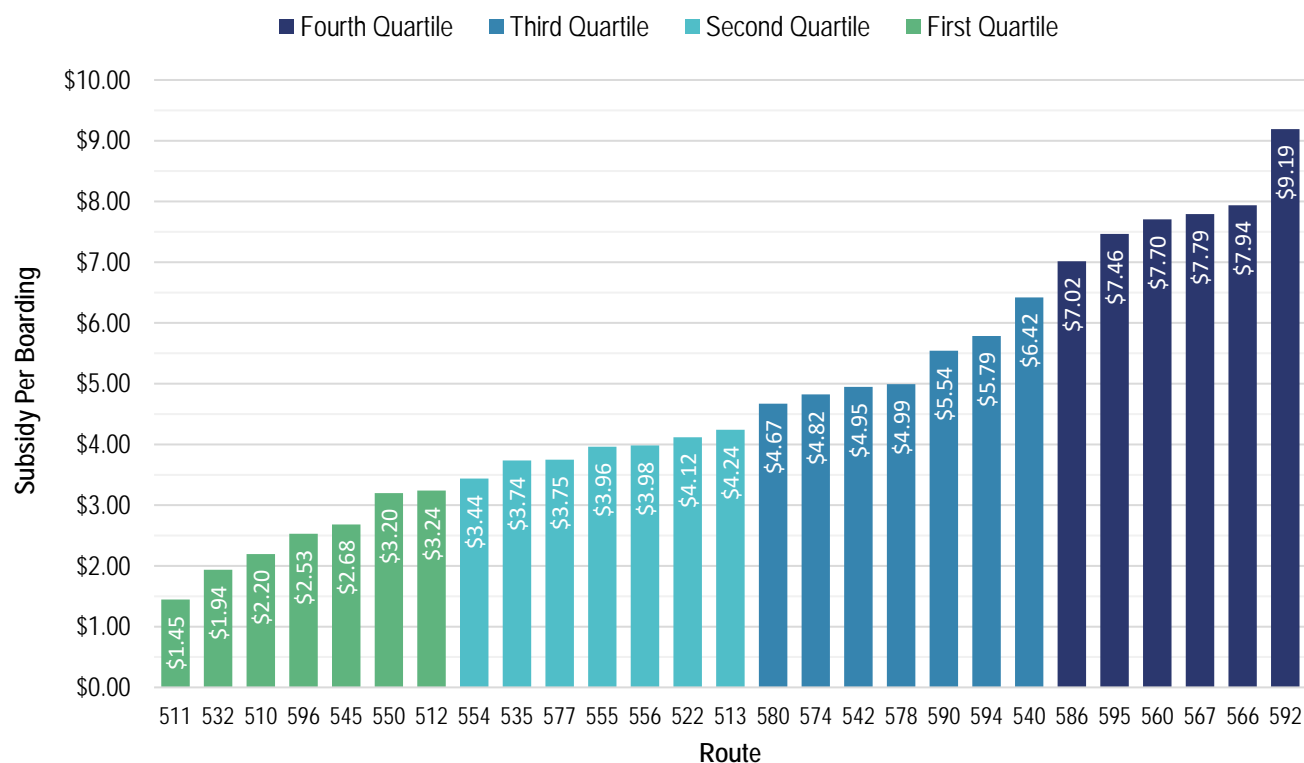
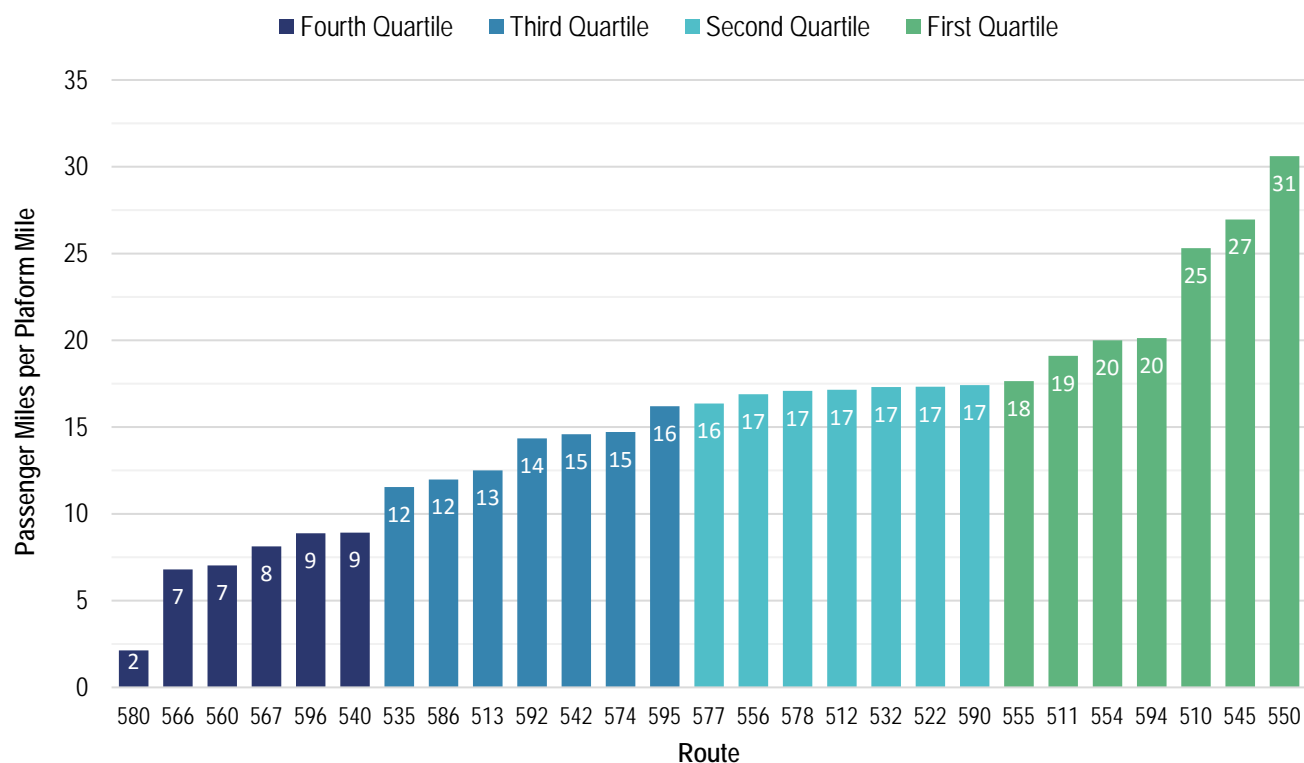


FIGURE 8: ST EXPRESS PASSENGER MILES PER PLATFORM MILE



SERVICE QUALITY

On the whole, the Sound Transit network of rail and express bus continues to meet service standard guidelines for crowding. On-going monitoring and analysis continues to support responsive service changes to provide adequate capacity while balancing cost and fleet availability. ST Express on-time performance, while showing improvement in 2016, continues to perform below standard due largely to increasing traffic congestion.

Measuring Service Quality

The *Service Standards and Performance Measures* define key indicators for measuring service quality including crowding and on-time performance. The *Service Standards and Performance Measures* provide guidance on when action should be considered to maintain and improve service quality for customers.

During peak demand times, passenger load (number of passengers on transit vehicle at a specific point) may exceed seating capacity on individual trips. Standing loads are a normal occurrence on a healthy transit system, including Sound Transit, and is not by itself cause for immediate action. Sound Transit continually monitors service and uses the service standards to identify crowding conditions. The agency uses several service management tools to reduce overcrowding as the budget allows, including: schedule adjustments to balance loads, assigning larger buses or longer train consists, and adding additional trips.

On-time performance is measured monthly for each mode against a specific standard designed to reflect the operating characteristics of the service. Performance is measured at time points for ST Express and the end of the line for Link, Tacoma Link, and Sounder. Operations staff manage on-time performance and take action to address performance falling below standard.

Link

As Link ridership grew faster than expected in 2016, Sound Transit responded by adding cars to peak trains, operating a mix of 2- and 3-car trains during rush hours. While passenger crowding does occur on some trips, overall passenger loads on-board trains remain below the crowding service standard. On the typical weekday 97 percent of Link trips are below the planning standard of a 2.0 load factor (twice the number of seats). Only three percent of trips on the typical weekday meet the service standard definition of crowded, within a normal operating range. All individual trips remain below the 2.0 load factor at least 60 percent of the time, the threshold for evaluating corrective action. Operations staff continue to monitor Link loading conditions, headway reliability, and customer feedback on a monthly basis. Figures 10 and 11 present maximum car level load by direction for the first few months following the U Link extension.

Link on-time performance continues to meet the performance target of 90 percent of trips arriving on-time, as shown in Figure 9.

FIGURE 9: LINK ON TIME PERFORMANCE

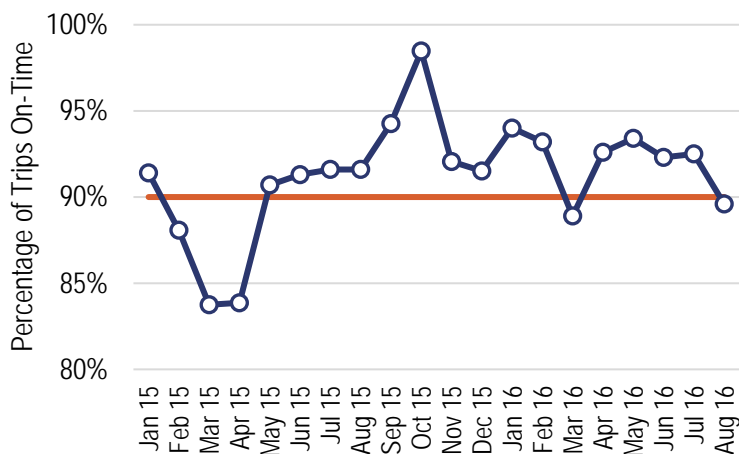


FIGURE 10: LINK SOUTHBOUND MAX CAR LOAD OBSERVATIONS MARCH-JUNE 2016

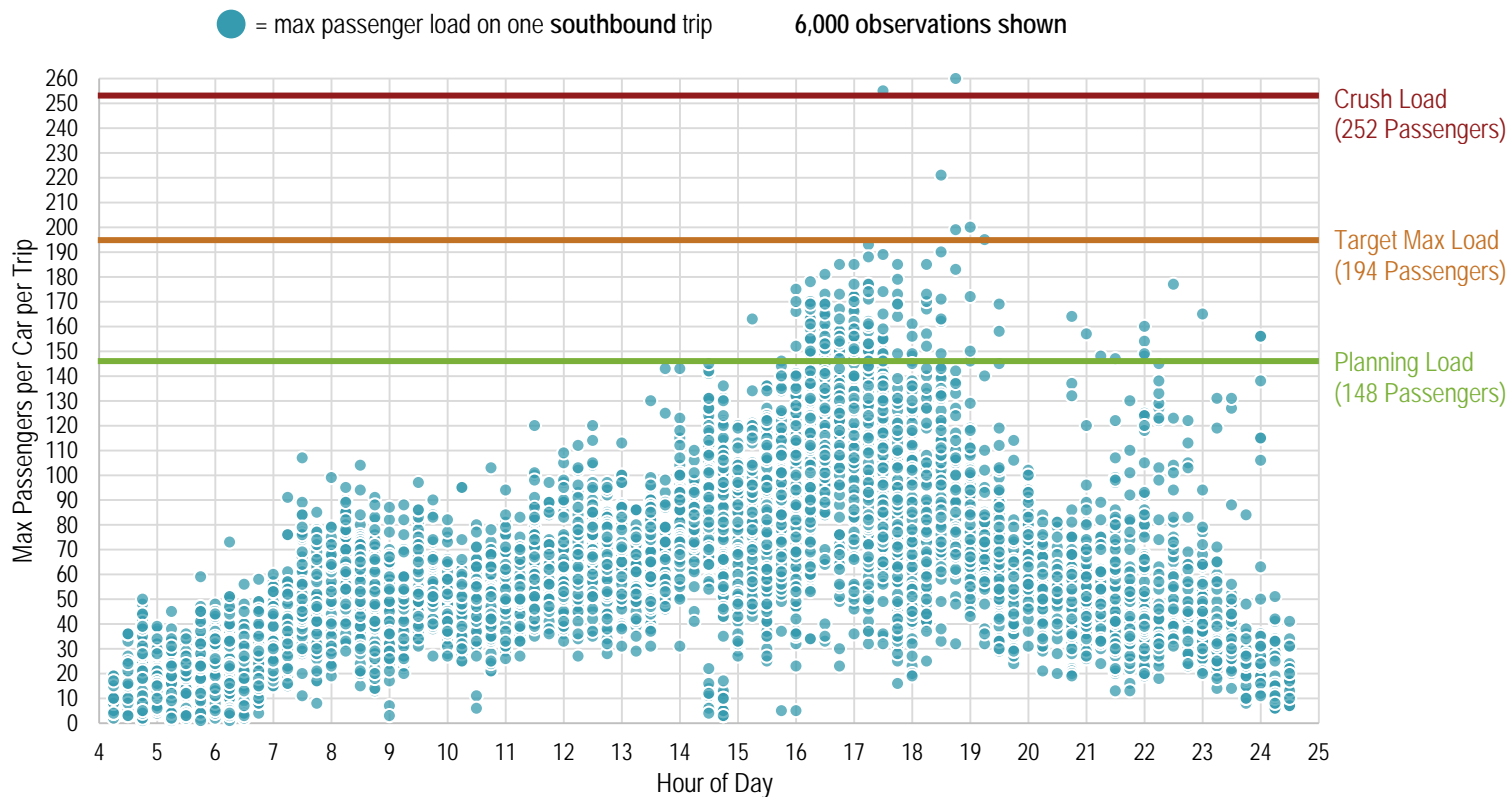
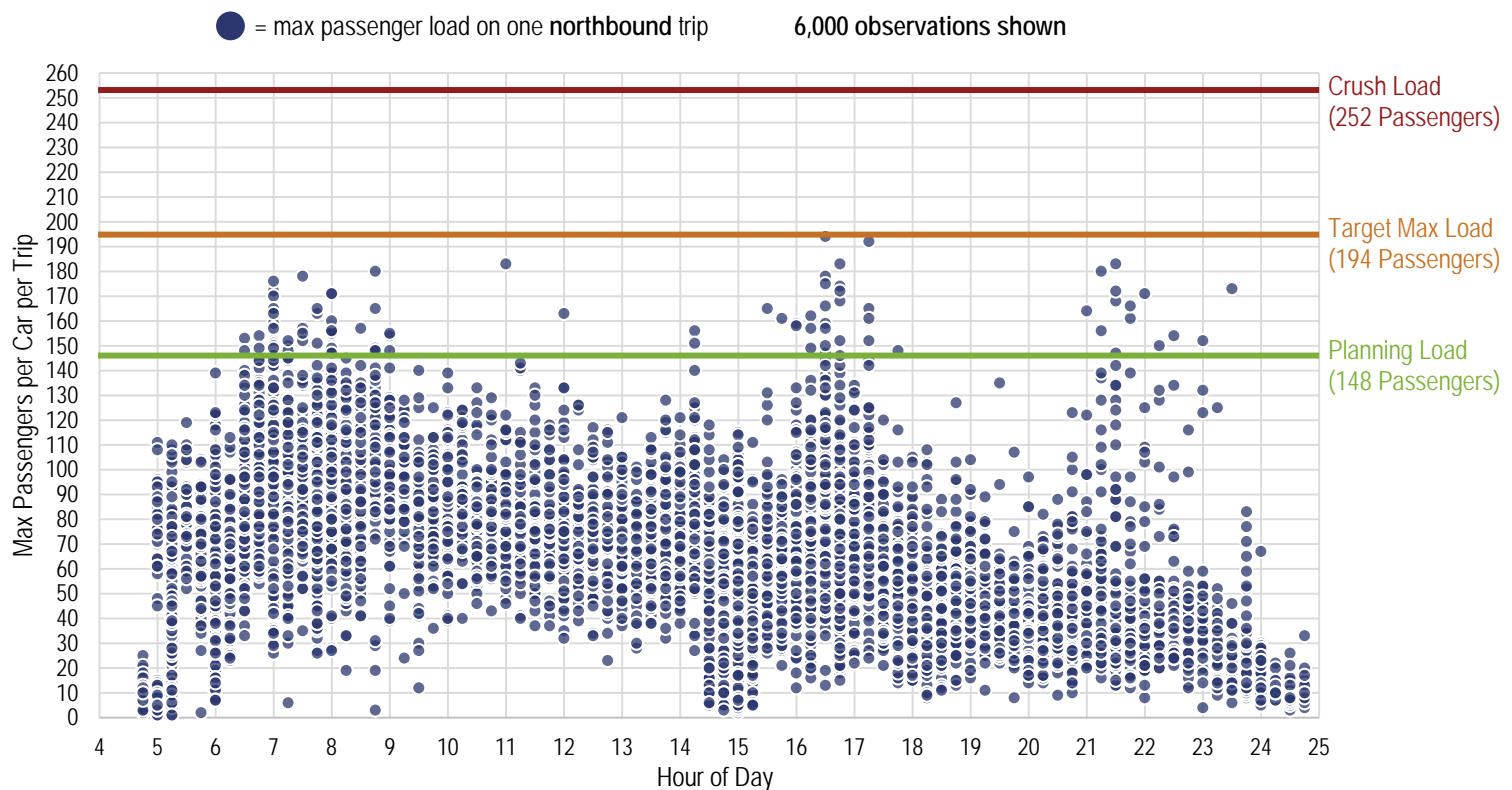


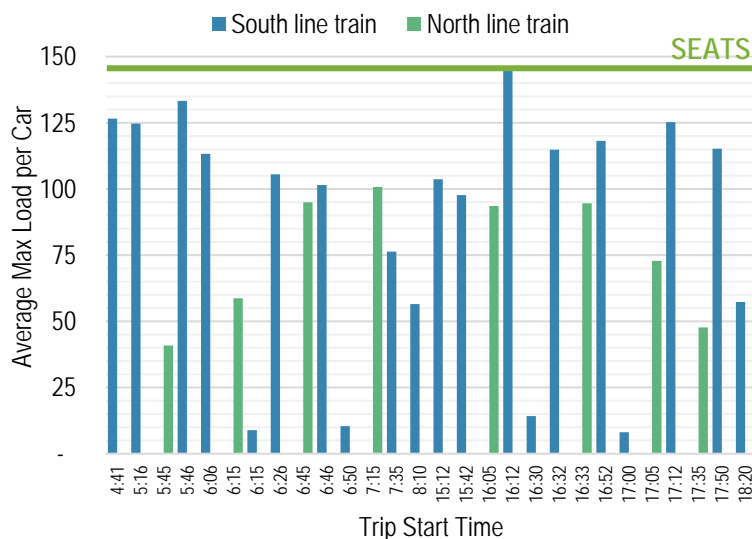
FIGURE 11: LINK NORTHBOUND MAX CAR LOAD OBSERVATIONS MARCH-JUNE 2016



Sounder

Significant growth in Sounder ridership has largely been absorbed by existing available capacity on-board trains. For a majority of Sounder trips, customers will have the opportunity to sit. Although, on some trips passengers do stand for part of the trip. On the south line standing is more likely to occur on individual cars within a train. Often the cars closest to the locomotive or at the rear of the train are more likely to have standing customers, while the middle cars often have available seats. The proposed additional peak round trips for September 2017 implementation will boost capacity on the line and reduce the instances of crowding on individual cars. Figure 12 presents average car level max load for both Sounder lines.

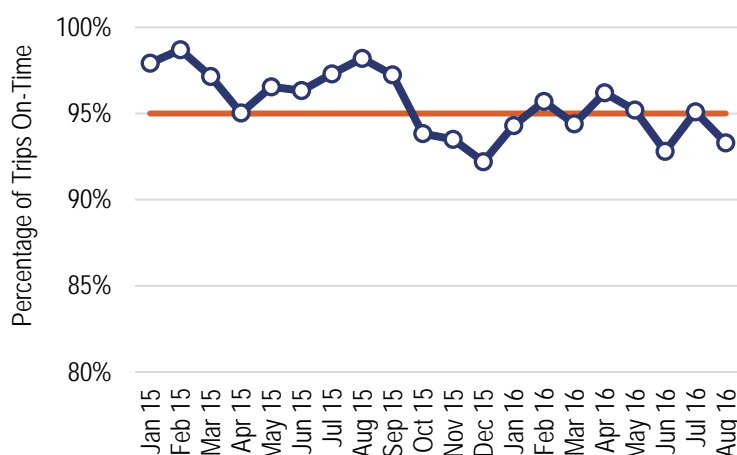
FIGURE 12: SOUNDER AVERAGE MAX LOAD PER CAR



Most months, Sounder meets an on-time performance target of 95 percent of trips arriving at the terminal station within five minutes of schedule. In recent months, construction of corridor upgrades to support the new round trips in 2017 has led to lower on-time performance.

Figure 13 shows Sounder on-time performance statistics since January 2015.

FIGURE 13: SOUNDER ON TIME PERFORMANCE

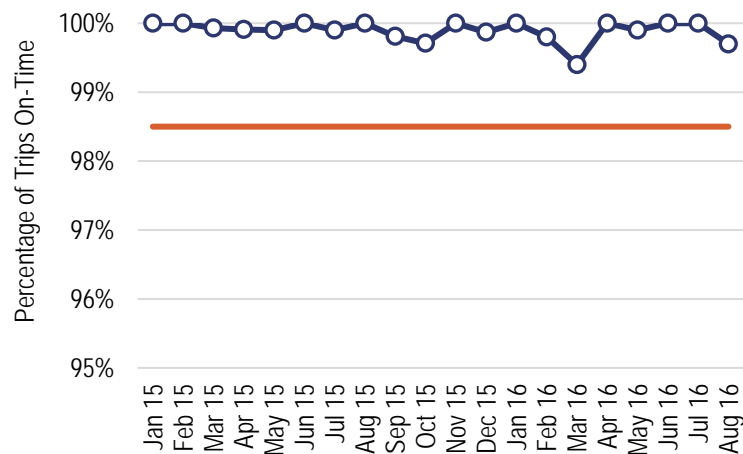


Tacoma Link

Tacoma Link remains within service standards for service quality without crowding concerns and with most months approaching nearly one hundred percent on-time performance.

Figure 14 shows Tacoma Link on-time performance statistics since January 2015.

FIGURE 14: TACOMA LINK ON TIME PERFORMANCE

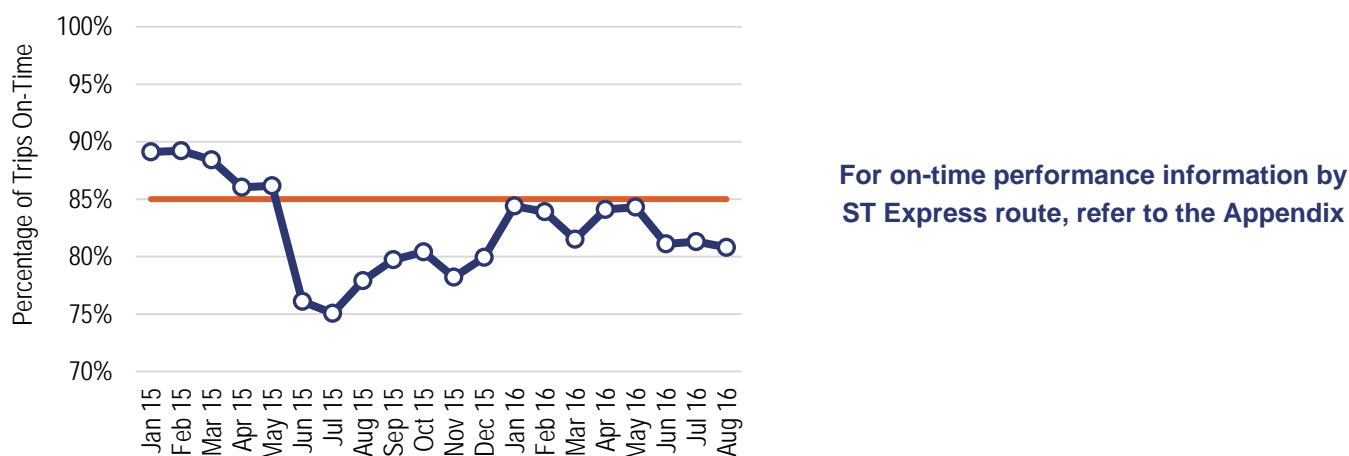


ST Express

Many ST Express trips continue to experience crowding and schedule reliability challenges into 2016. Relief for many of the most chronically overcrowded and late trips was provided by service quality made investments in March and September, nearly 43,000 additional annual service hours. Following the addition of new trips and increased service hours to improve schedule reliability, crowding went down and system wide on-time performance improved.

Despite improvements, traffic congestion continues to reduce reliability and during the spring of 2016 sixteen routes did not meet on-time performance standard of at least 85 percent of trips arriving at time points within five minutes of schedule. In order to improve reliability, the 2017 Service Plan includes a proposed investment of 15,000 additional annual service hours. Figure 15 below shows on-time performance for the ST Express system from January 2015 to August 2016. A change in the on-time performance methodology, to better capture on-time performance of the ST Express system, resulted in the drop in on-time performance during summer 2015. On-time performance has been improving over the past year although the system remains under the 85 percent performance target.

FIGURE 15: ST EXPRESS ON TIME PERFORMANCE



For ST Express, two indicators measure the impact of passenger crowding: the load factor (ratio between seated and standing passengers) and the time passengers have to stand. These two indicators are used to assign priority for action when conditions exceed their defined thresholds. The *Service Standards and Performance Measures* recognize that standing passengers during peak hours are an ongoing reality and lists priorities for corrective action based on the severity of overcrowding and the amount of time passengers have to stand.

Sound Transit owns and operates four main bus types on its ST Express services: 45-foot MCI, 60-foot articulated, 40-foot low floor, and 40-foot high floor. Figures 16 through 19 present the average load factor per trip per bus type for each trip in the system. With the exception of one trip, all individual trips remain below the load factors at least 60 percent of the time, the threshold for evaluating corrective action. The one trip is a Route 545 trip that currently exceeds the threshold for crowding, although additional service added in September 2016 increased capacity on the entire route. Sound Transit will continue to monitor loading conditions on the ST Express system.

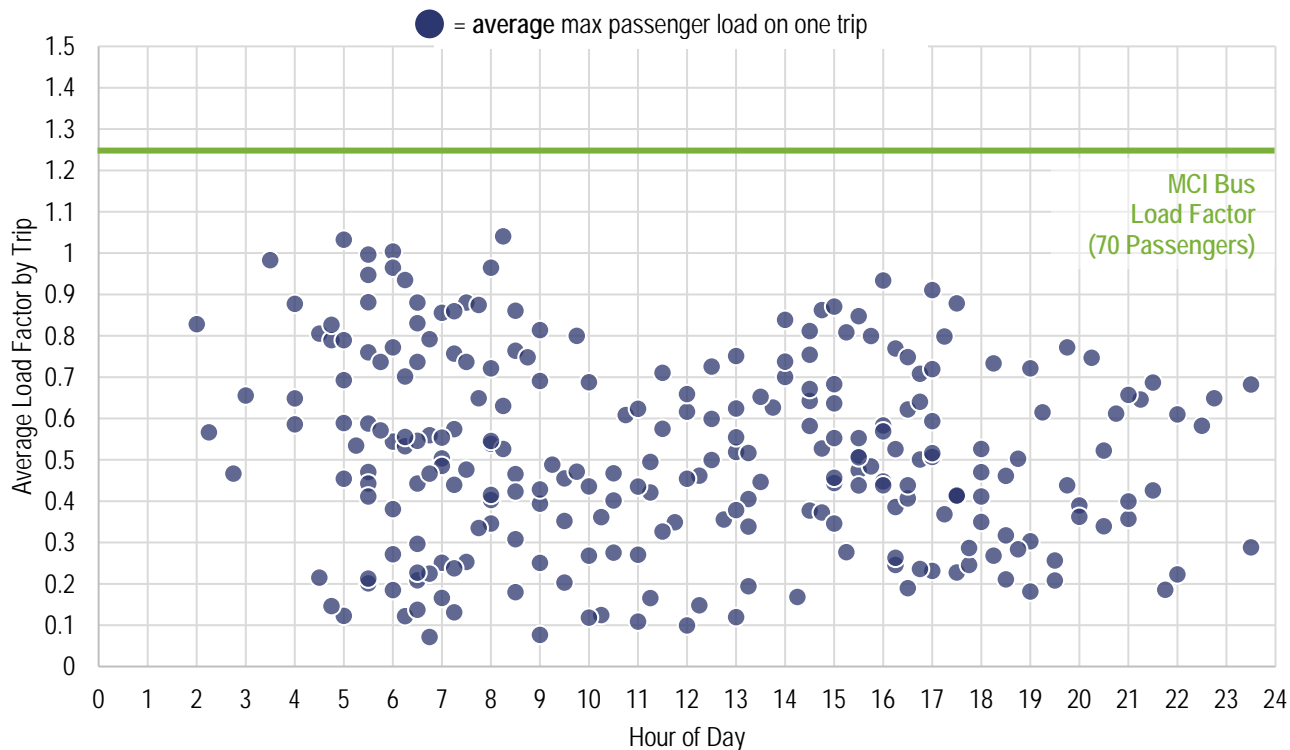
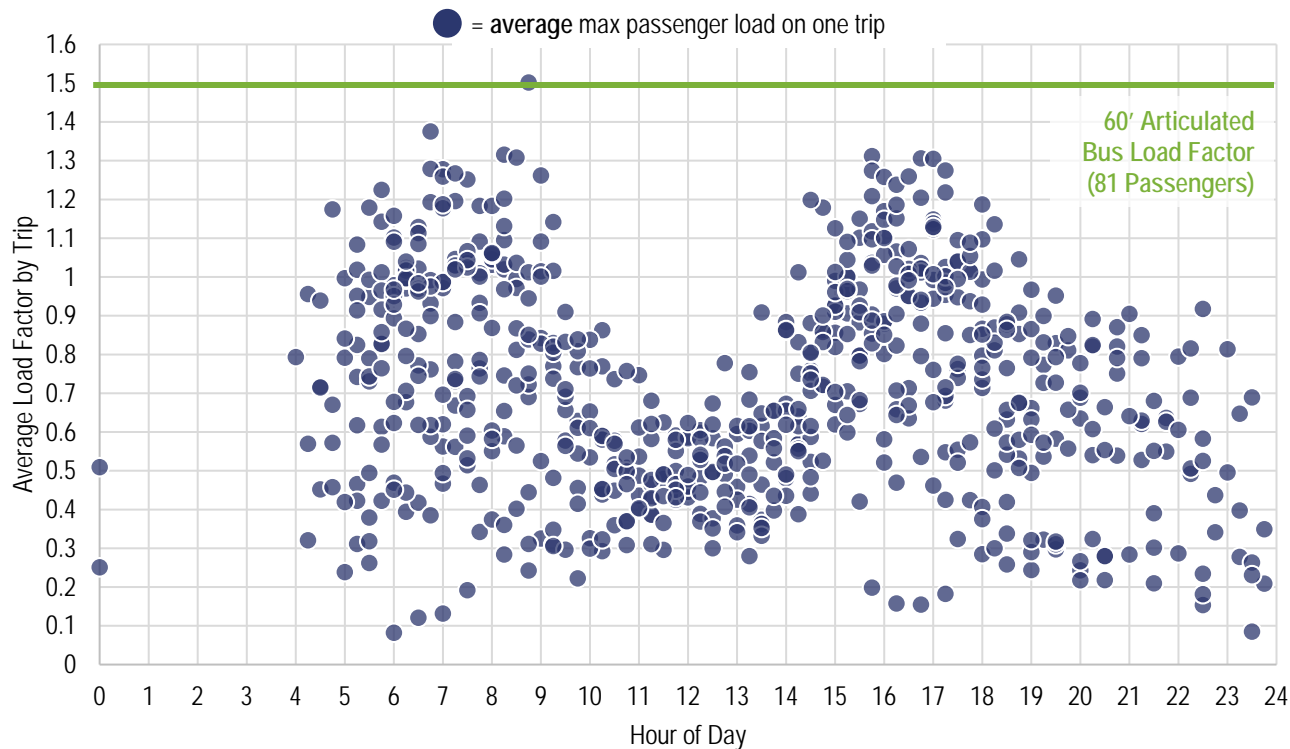
FIGURE 16: ST EXPRESS AVERAGE LOAD FACTOR BY TRIP – SCHEDULED MCI BUS TRIPS**FIGURE 17: ST EXPRESS AVERAGE LOAD FACTOR BY TRIP – SCHEDULED 60' ARTICULATED BUS TRIPS**

FIGURE 18: ST EXPRESS AVERAGE LOAD FACTOR BY TRIP – SCHEDULED 40' HIGH FLOOR BUS TRIPS

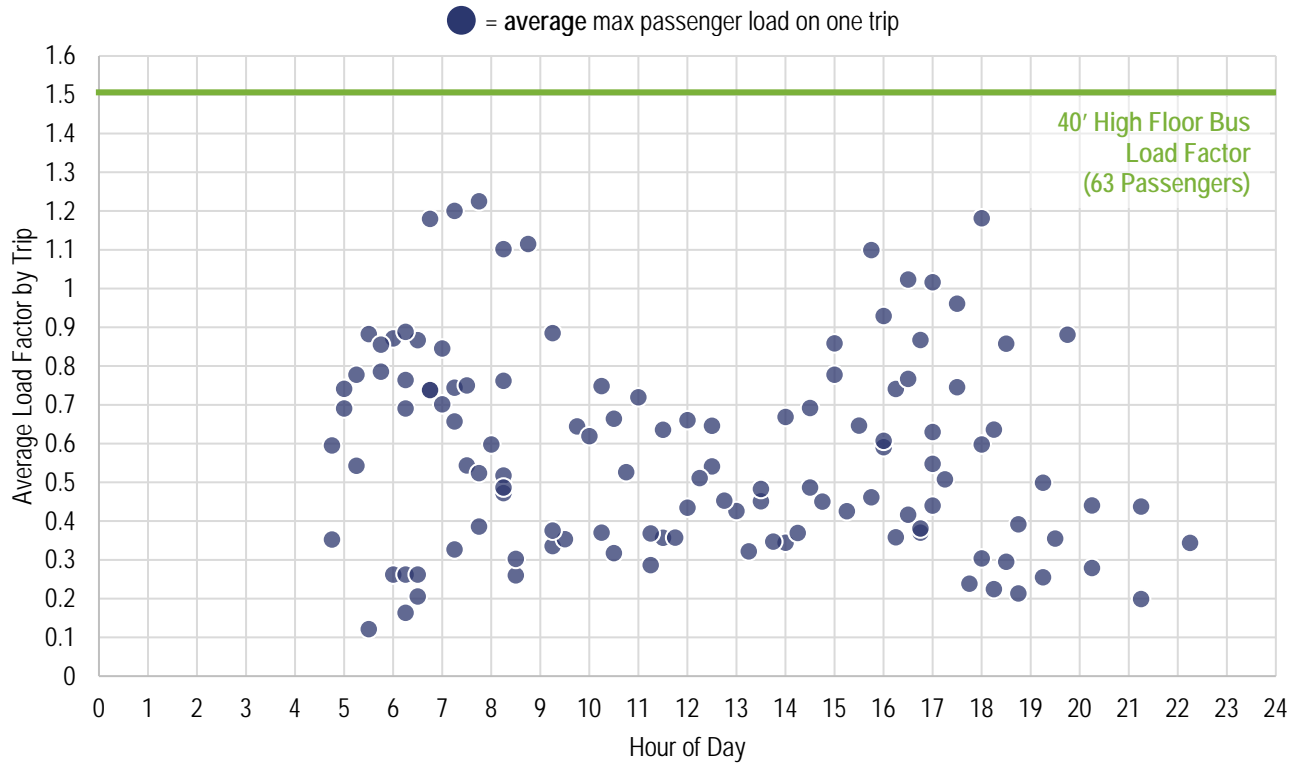
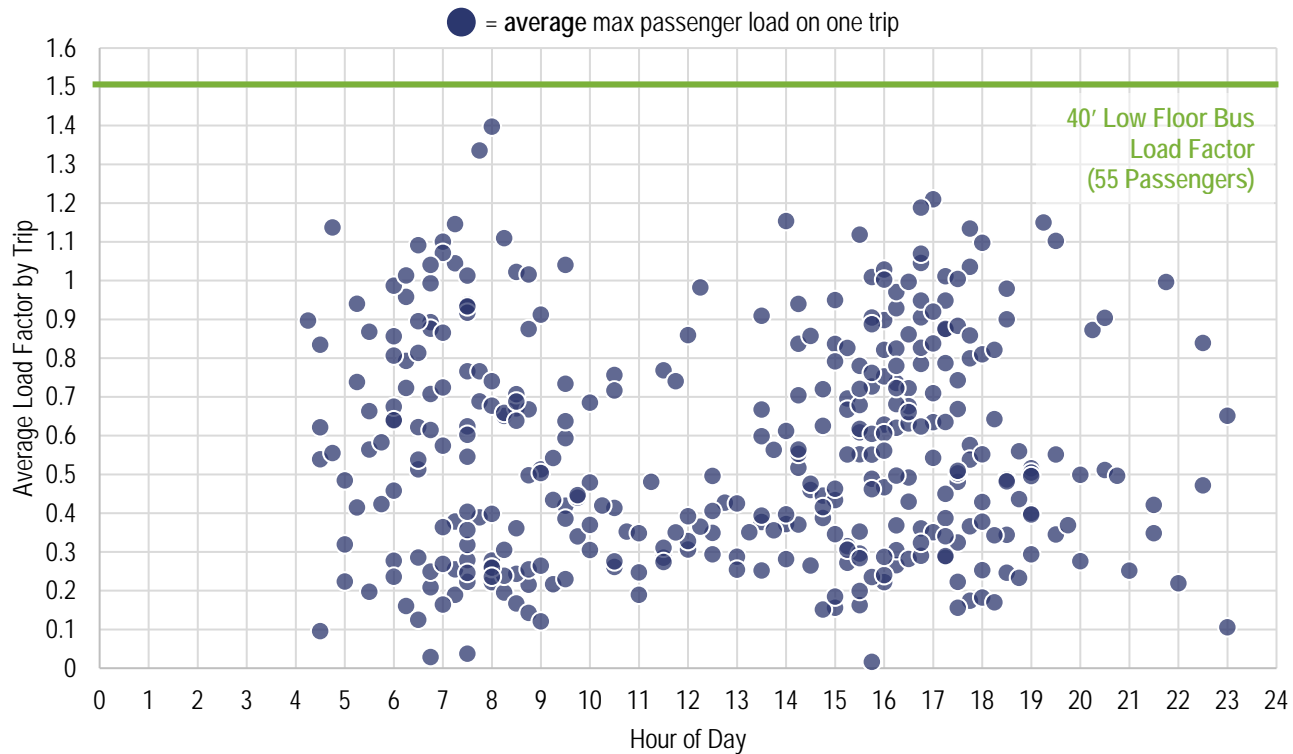


FIGURE 19: ST EXPRESS AVERAGE LOAD FACTOR BY TRIP – SCHEDULED 40' LOW FLOOR BUS TRIPS



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FIVE YEAR SERVICE OUTLOOK & PLAN



Five-Year Service Outlook and Plan

INTRODUCTION

Historically, Sound Transit's preliminary service plan described how upcoming modal projects may impact future service and identified unfunded service needs within a five-year time frame. The 2017 Service Implementation Plan expands the preliminary service plan to include more detail about upcoming planning and capital efforts throughout the Puget Sound Region that are likely to impact Sound Transit service. In addition, for ST Express, this year's Five-Year Service Outlook and Plan also expands on the identified service and capacity needs, presenting them by year, at a corridor, and a route level.

The Five-Year Service Outlook and Plan is divided into three sections:

- **Estimated annual and average weekday ridership** by mode through 2022.
- **General planning:** section that describes key overarching plans and documents, as well as service impact themes that will play a role in planning Sound Transit services over the next five years.
- **Service Impacts:** By mode, a description of projects that will impact service in the coming years. Service and capacity needs for each ST Express corridor are also included.

All elements in the following section are preliminary and subject to revision and refinement in future planning efforts. Beyond 2017, identified ST Express service needs do not necessarily have an identified operating or capital funding source. Any major service change requires a full public engagement and Board adoption process.

ESTIMATED RIDERSHIP

Sound Transit estimates ridership for all its modes on an annual basis for inclusion in the Service Implementation Plan and the annual agency budget. The modeling processes has many inputs that affect anticipated utilization of transit service, including historical ridership data, fuel prices, employment, among other inputs. Key inputs with more weight include projections developed by the Puget Sound Regional Council (PSRC) and the previous year's annual and average weekday boardings. Tables 16 shows the projected annual boardings by year for each of the Sound Transit modes and Table 17 shows projected weekday boardings for each of the Sound Transit modes.

By 2022, Sound Transit expects to carry close to 70 million passengers on an annual basis, doubling the ridership of 2015. On the average weekday nearly 225,000 passengers will board trains and express buses. ST Express ridership is projected to grow by nearly 10 percent over 2015 to 20 million annual passengers by 2022. Average weekday boardings for ST Express are estimated at approximately 70,000 by 2022. With the trips added to Sounder, the commuter rail system is projected to carry over 5.6 million passengers in 2022, growth of over 45 percent since 2015. On a typical weekday Sounder is expected to surpass 21,000 boardings. By 2022, Tacoma Link ridership is projected to grow by over 30 percent, driven by PSRC projection for significant growth in Tacoma, and carry over 1.3 million passengers on an annual basis.

With the extensions to the University of Washington and Angle Lake in 2016, Link ridership is projected to almost double from 11.5 million passengers in 2015 to 22.9 million in 2017. By 2022, ridership on Link is projected to exceed 42 million annual passengers, an 85 percent increase over 2017. By 2022, the Link system will have one full year of operations of the Northgate Link extension. In 2022, Link is projected to carry over 129,000 daily riders, accounting for over half of system ridership. Paratransit ridership is estimated to grow in proportion to the new Link service area to Northgate.

TABLE 16 ANNUAL BOARDINGS 2015-2022

MODE	2015	2016	2017	2018	2019	2020	2021	2022
	Actual	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
ST Express	18,312,624	18,470,000	18,680,000	18,920,000	19,200,000	19,490,000	19,780,000	20,020,000
Sounder	3,851,831	4,120,000	4,480,000	4,740,000	4,990,000	5,230,000	5,440,000	5,600,000
Link	11,530,411	18,500,000	22,900,000	24,400,000	24,700,000	25,100,000	28,700,000	42,600,000
Tacoma Link	973,412	1,010,000	1,040,000	1,070,000	1,100,000	1,140,000	1,180,000	1,350,000
Paratransit	46,033	70,000	80,000	80,000	80,000	80,000	90,000	110,000
System Total	34,714,311	42,170,000	47,170,000	49,210,000	50,080,000	51,040,000	55,190,000	69,680,000

TABLE 17 AVERAGE WEEKDAY BOARDINGS 2015-2022

MODE	2015	2016	2017	2018	2019	2020	2021	2022
	Actual	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
ST Express	62,997	64,300	65,000	65,800	66,800	67,700	68,700	70,500
Sounder	14,775	15,500	16,900	17,800	18,800	19,700	20,400	21,100
Link	35,429	56,100	69,400	73,900	74,800	76,100	87,000	129,100
Tacoma Link	3,303	3,400	3,500	3,600	3,700	3,900	4,000	4,500
Paratransit	126	204	210	216	223	229	248	292
System Total	116,600	139,500	155,000	161,300	164,300	167,600	180,300	225,500

PLANS AND DOCUMENTS

In the coming years, Sound Transit will engage its partner agencies and the public to develop specific plans and documents, which will be the driving factor for short- and long-term changes in Sound Transit service. The following section includes a more detailed description of each of these plans.

Comprehensive Operational Analysis (COA)

A Comprehensive Operational Analysis (COA) is a plan that analyzes the existing transit system with the goal of improving the quality of service for customers and increasing the value of the system for the region. The study includes extensive data collection and analysis of demand for transit service, financial and funding needs, operational deficiencies, and how best to address those deficiencies. A COA also includes analysis of ridership patterns and system operations, running time and schedule adherence for the system, in addition to other items. A COA presents recommendations aiming to increase ridership, connectivity, and productivity throughout the system.

Although, Sound Transit's Service Planning division conducts service assessments described above through the annual Service Implementation Plan, Sound Transit's last major system-wide COA was conducted close to ten years ago. In the coming years, Sound Transit will conduct a major system-wide COA in an effort to improve efficiency and productivity of the system, while at the same time providing the best service for the customer. Results of the COA will inform planning efforts as the ST2 system reaches full build-out in late 2023.

Service Standards and Performance Measures Update

Service standards and performance measures are a set of guidelines that are used to design, evaluate and modify transit service. Since 1998, Sound Transit has used its Board adopted *Service Standards and Performance Measures* to help plan and manage its service. The document provides guidelines for service evaluation and service modification. The document also describes how Sound Transit service should be designed to reflect the characteristics of a high-speed, limited-stop regional system. The agency has updated the original document three times, in 2006, 2010 and most recently in 2014. Since the 2014 update, the Puget Sound Region has experienced tremendous growth and demand for Sound Transit bus and rail services has grown significantly. In the coming years, Sound Transit will update its service standards and performance measures to ensure consistency with the service being provided and ensure the standards and measures are still in line with the goals for service Sound Transit has adopted.

Service and Fare Equity (SAFE) Analysis

Per Federal Transit Administration (FTA) requirement, transit agencies in regions of over 200,000 people and that operate over 50 buses during peak periods are required to conduct a Title VI service and fare equity (SAFE) analysis when implementing a major service change and/or implementing fare changes. An equity analysis assesses the impacts of service and/or fare changes, positive or negative, on minority, low income, and limited English proficiency (LEP) customers. Each SAFE analysis includes a public outreach period to ensure that customers can comment on the impacts and results of the proposed changes.

Sound Transit's adopted policy defines a major service changes as "any single change in service on an individual bus or rail route that would add or eliminate more than 25 percent of the route's weekly platform service hours, and/or move the location of a stop or station by more than a half mile." Sound Transit uses this policy when developing SAFE analysis for a service change. In addition, per FTA Circular 4702.1B, transit agencies that receive

FTA funding are required to perform a SAFE analysis for New Starts and Small Starts projects, as well as other New Fixed Guideway and major capital project. These type of SAFE analyses are required to be conducted six months to a year prior to the project's opening date, whether or not changes to existing service rise to the level of "major service change" as defined by the transit provider.

Table 18 below includes more details on the specific timelines for each of the SAFE analyses that Sound Transit will conduct as part of the Sound Transit 2 (ST2) buildout of the system. The analysis will look at the equity impacts of potential changes to transit service in the respective corridor to be served by the light rail extensions or major facility identified in each SAFE. Sound Transit will engage the public and its partner agencies to develop the respective SAFE analysis. Sound Transit will monitor construction and opening date schedules and work with partner agencies if changes impact the respective SAFE analysis schedule.

TABLE 18: ST2 SAFE TIMELINES

PROJECT	MODE OF SERVICE	PROJECT TYPE	SAFE DEVELOPMENT & PUBLIC ENGAGEMENT PERIOD	SCHEDULED OPENING DATE
OMF: East	Link Light rail	Capital Facility	Summer 2019 to Summer 2020	December 2020
Northgate Link	Link Light rail	Fixed Guideway	Spring 2020 to Spring 2021	Late 2021
OMF Expansion	Tacoma Link	Capital Facility	TBD	TBD
Tacoma Link Expansion	Tacoma Link	Fixed Guideway	Spring 2021 to Spring 2022	2022
Maintenance Base	Sounder	Capital Facility	Spring 2021 to Spring 2022	2022
Lynnwood Link	Link Light rail	Fixed Guideway	Spring 2022 to Spring 2023	Late 2023
East Link	Link Light rail	Fixed Guideway	Spring 2022 to Spring 2023	Late 2023
Kent/Des Moines Extension	Link Light rail	Fixed Guideway	Spring 2022 to Spring 2023	Late 2023

One Center City Plan

The purpose of the One Center City project is to bring together many communities, perspectives and partners to create a long range plan for how move through, connect to, and experience Center City – downtown Seattle. It is a public/private partnership between the City of Seattle, King County, Sound Transit, and the Downtown Seattle Association (DSA). The project will create a 20-year vision and action plan to improve transportation and the public realm for everyone – whether by foot, bike, freight, car or transit.

The plan also includes a near-term vision for the Center City. The near-term vision includes service and capital alternatives to best serve and move costumers through the Center City. The key assumptions for the near-term recommendations being developed under the One Center City plan are: a rail-only Downtown Seattle Transit Tunnel (DSTT), the removal of the Alaskan Way Viaduct and the completion of the Center City Streetcar (connecting the South Lake Union and First Hill Streetcar lines). This fall and throughout 2017, public outreach for the near-term and long-range portions of the One Center City plan will begin. Using the feedback from the public outreach phase, and in collaboration with the partner agencies, the plan will develop near-term recommendations and concepts for regional transit service through downtown Seattle and appropriate capital improvements. In addition to the public input received through the plan's Advisory Group, the near-term recommendations for service concepts will be vetted by the transit agencies with their respective customers and stakeholders starting in spring 2017.

PARTNER AGENCY COORDINATION AND TRANSIT INTEGRATION

As Sound Transit continues building-out ST2 projects, coordination and transit integration will play an important role in shaping transit service for Puget Sound residents. Transit integration offers opportunities to maximize the efficient use of transit resources in the region, while also improving customer experience. Sound Transit recognizes that coordination with partner agencies provides an effective regional system that customers can utilize any time of the day and week.

Sound Transit's partner agencies, including Community Transit, King County Metro, Pierce Transit, Washington State Department of Transportation (WSDOT) Ferries System, and the City of Seattle, have recently adopted, or are in process of updating, their Long Range Plans (LRPs) that include commitments to future transit integration as more ST2 light rail extensions open. As showcased with the U Link Bus-Rail integration process, King County Metro and Sound Transit worked together with key stakeholders in the region to improve reliability and provide new connections to customers with the opening of the Link extension to the University of Washington. Bus-rail transit integration will continue to be an important element of future Link light rail extension openings.

Equally important in the coming years will be transit integration of Sounder, Tacoma Link, and ST Express services with partner agency plans. For Sounder commuter rail, integration with partner agency bus services at each of the Sounder stations, on both the south and north lines, will be critical in the coming years. As Sounder service is expanded, coordination will be necessary to ensure customers are able to have a smooth experience transferring to and from Sounder to the connecting systems. Continued coordination with the WSDOT Ferries System at the Edmonds and Mukilteo Sounder stations will be needed, as the Ferry System provides a critical connection for customers traveling across the Puget Sound. For Tacoma Link, Sound Transit will work with Pierce Transit to better utilize capacity on the Tacoma Link system and ensure the system complements Pierce Transit service in downtown Tacoma, and vice versa. For ST Express, as partner agencies implement additional service and strategies identified in their respective LRPs, and as ST2 projects come online, coordination of bus service improvements will be key to providing seamless connections across modes. This effort will also ensure redundancies in service throughout the region are minimized.

Sound Transit will continue coordinating with partner agencies as new services are implemented or changes are made to existing services. In addition, Sound Transit will work with partner agencies to minimize the impacts of the projects described throughout this plan.

GENERAL PLANNING THEMES

Link Light Rail Extensions

In 2008, voters approved the ST2 plan to expand high-capacity transit and provide Puget Sound residents the ability to move reliably, rapidly, and efficiently throughout the region. The ST2 plan includes a variety of improvements, including the expansion of the Link light rail system by 36 miles. The plan includes expansions north to Northgate in 2021 and to Lynnwood in 2023, east to Bellevue and Overlake in 2023, and south to Kent/Des Moines, also in 2023.

Construction for most of these extensions has ramped up over the past year, with the tunneling for the Northgate Link project being completed in September 2016. Station and track construction work for the Northgate Link project continues in the coming years. Similarly, initial work for the East Link project has begun along the I-90 express lanes and in downtown Bellevue. As construction of the Link light rail extensions continues over the next five years, construction will increasingly impact ST Express and local partner agency bus service. In addition, the extensions will be the catalyst for changes in the bus network around the light rail extension and its stations.

In the Mode Specific Planning section, more details will be provided on the specific light rail construction impacts to ST Express bus service and Link light rail service. The section also includes Sound Transit's plans to minimize the construction impacts on customers, if any have been identified at this point in time. Sound Transit will continue to coordinate with partner agencies, key stakeholders, and the public, to minimize the impacts of construction of all Link projects on the adjacent neighborhoods and the connecting bus services.

Congestion

As the Puget Sound Region continues to grow, congestion on major highways and arterials is expected to increase. Over the past several years, traffic and travel times along key corridors served by ST Express have increased significantly. Since September 2015, Sound Transit has invested over 32,000 annual service hours throughout the ST Express system to provide new connections, provide new capacity to meet growing demand, and address congestion. Of the 32,000 annual service hours, 8,000 service hours were added in direct response to increasing congestion. In September 2015, approximately 4,000 service hours were invested in the I-5 North corridor to improve on-time performance and schedule reliability of Routes 510, 511, 512, and 513. Although the new high-occupancy toll (HOT) lanes have improved travel times along I-405 North corridor, overall on-time performance for Routes 532 and 535 has continued to deteriorate. In September 2016, Sound Transit invested approximately 4,000 service hours in the I-405 North Corridor, Routes 532 and 535, to improve on-time performance and schedule reliability along the corridor.

As congestion continues to increase, Sound Transit will continue to monitor the impacts on ST Express on-time performance and schedule reliability. As funding becomes available, Sound Transit will implement strategies to minimize the impacts of congestion on ST Express service.

Special Event Service Planning

Sound Transit has a rich history of providing service to highly attended events around the region. Sounder has provided special event service for many years to select Seahawks, Sounders FC, and Mariners games in downtown Seattle, in addition to special event service to select weekends of the Washington State Fair in Puyallup. Tacoma Link has been providing extended service to concerts and special events in the Tacoma Dome with anticipated high attendance for many years as well. ST Express operates additional trips after major special events and after Seahawks, Sounders FC, and Mariners games in downtown Seattle. Link light rail has been serving games and concerts in downtown Seattle since its opening, with the International District/Chinatown and Stadium stations providing easy walking access to the Stadium District. Sound Transit has operated special service Link trains after games or concerts in the Stadium District since Link's inception. With the extension of Link service to the University of Washington, Sound Transit has provided additional service for University of Washington football games to meet increased demand for Link service.

Sound Transit will continue to monitor high-attendance special events in the region and provide special service as it deems necessary, and as budget and personnel capacity allow.

LINK PLANNING OUTLOOK

Two- & Three-Car Trains

With the extension of Link light rail service to the University of Washington and Capitol Hill in March 2016, ridership surged by over 76 percent in the second quarter of 2016 (April-June). Average weekday boardings on the Link system have remained around 65,000 throughout the summer months, hovering around 2018 projections.

Prior to extension of service to the University of Washington, Link operated all service (weekday, Saturday, and Sunday) as two-car train sets. With the increased demand on Link service due to the extension, Sound Transit elected to increase the capacity on the line by adding additional cars on train sets during the peak periods. Between April and June 2016, incremental changes to capacity were made by operating select peak period and weekend trains as three-car trains. In July 2016, Sound Transit began operating six of the peak period trains as three-car trains, with the other trains operating as two-car trains. The additional capacity has improved throughput and reduced crowding on the light rail system. With the opening of Angle Lake extension in September 2016, an additional peak period train was added as a three-car train for a total of seven peak period trains operating as three-car trains today.

Sound Transit will continue to monitor ridership levels on the Link light rail system and evaluate system capacity in accordance with the *Service Standards and Performance Measures*, balancing operating cost and maintenance of the light rail vehicle fleet.

Rail-Only Downtown Seattle Transit Tunnel

As part of the ST2 plan, the DSTT was scheduled to become rail only sometime in 2020, prior to the extension of Link service to Northgate, when systems testing needs to be completed. In late 2015, King County reached a deal with the Washington State Convention Center (WSCC) to sell the land where the current Convention Center Tunnel Station sits, for the WSCC expansion plans. The WSCC expansion project will build infrastructure on the current Convention Place Station site and close access to all the buses currently entering and exiting the DSTT at that station. The exact timing of this change of operations has not yet been determined.

A rail-only DSTT will significantly improve Link's travel times through the DSTT, by reducing the system's complexity and service delays experienced today with joint bus-rail operations. On the other hand, a rail-only DSTT means customers using buses currently in the DSTT will need to use the surface streets in downtown Seattle, where currently significant service delays occur. The One Center City Plan, discussed earlier in this document, is looking at the impacts of moving buses from the DSTT to the surface streets in downtown Seattle. To minimize the impacts to customers, the plan explores near-term service and capital alternatives to improve the flow of bus traffic through downtown Seattle. In addition, in the next year, Sound Transit will continue to evaluate opportunities to increase passenger capacity on Link in the DSTT to meet demand.

Sound Transit will continue to coordinate with SDOT, King County Metro, Downtown Seattle Association (DSA), and Community Transit to develop the best outcomes for customers and minimize the customer impacts of a rail-only DSTT.

ST2 Light Rail Build-Out

With the ST2 plan, voters approved approximately 36 miles of new light rail. The system would extend north from the University of Washington to Northgate and Lynnwood, south from Sea-Tac International Airport to the vicinity of the Redondo/Star Lake area near Federal Way (revised due to funding constraints), and east from Seattle to Bellevue and the Overlake Transit Center area of Redmond. In addition, the ST2 Plan includes funding to locate, design, and construct an additional operations and maintenance facility to accommodate future Link light rail fleet requirements. Below are brief descriptions of the light rail extensions and the new operations & maintenance facility funded as part of the ST2 plan. Impacts or changes to ST Express services due to the extensions are described later in this document. Figure 20 provides more details on current service and approved extensions.

Northgate Link

Scheduled for completion in late 2021, Northgate Link extends Link light rail 4.3 miles north from the University of Washington Station to the Northgate Station, adding three stations: U District, Roosevelt, and the Northgate Station. Northgate Link, along with the stations, are currently under construction, with the tunnels connecting Northgate and the University of Washington Stations now complete in both directions. With the extension to Northgate, the Link system is expected to operate four-car trains at all times.

Lynnwood Link

Scheduled for completion in late 2023, Lynnwood Link extends Link light rail 8.5 miles north from the Northgate Station to the Lynnwood Transit Center, adding four stations and infrastructure for two potential future stations. The stations include NE 145th St, NE 185th St, Mountlake Terrace Transit Center, and Lynnwood Transit Center. Lynnwood Link, along with the stations, are currently in final design. With the extension to Lynnwood, Link between Lynnwood and Kent/Des Moines will operate as the Red Line with four-car trains at all times.

East Link

Scheduled for completion in late 2023, East Link extends Link light rail 14 miles east from the International District/Chinatown Station to the Overlake Transit Center via downtown Bellevue, adding ten stations and preliminary engineering for a future extension to downtown Redmond. The stations include Judkins Park (Rainier Ave), Mercer Island, South Bellevue, East Main, Bellevue Downtown, Willburton, Spring District/120th, Bel-Red/130th, Overlake Village, and Redmond Technology Center (Overlake Transit Center). East Link, along with some of the stations, are currently in the initial phases of construction. With the extension to Bellevue and Overlake, Link between Lynnwood and Overlake will operate as the Blue Line with four-car trains at all times.

Kent/Des Moines Extension (Federal Way Link)

Scheduled for completion in late 2023, Kent/Des Moines Link extends Link light rail 2.3 miles and one station south from the Angle Lake Station to the Kent/Des Moines Station. The Kent/Des Moines extension is part of the Federal Way Link project. Due to impacts of the recession, funding is currently only available to extend service to Kent/Des Moines in 2023. The Federal Way Link project is being developed as a shovel-ready plan to reach the Federal Way Transit Center when additional funding becomes available. Kent/Des Moines Extension, along with the station, are currently in final design. With the extension to Kent/Des Moines, the Link line between Lynnwood and Kent/Des Moines is expected to operate as the Red Line with four-car trains at all times.

FIGURE 20: CURRENT SERVICE AND APPROVED EXTENTIONS



ST2 Fleet Expansion

With the extensions of Link light rail service approved under ST2, the fleet requirements will triple, from the current 62 vehicles to 184 vehicles. In the fall of 2016, the Sound Transit Board of Directors approved the purchase of 122 additional light rail vehicles from Siemens Industry, Inc. to meet the needs for the ST2 extensions. Sound Transit will be working with the vendor on the design of the vehicles to ensure the needs of all transit riders are incorporated. The final delivery schedule of the light rail vehicles is currently being negotiated. The figures for years 2019-2022 in Table 19 will be updated for the final version of the Service Implementation Plan, to be released in early 2017.

TABLE 19: LINK FLEET THROUGH 2022

	VEHICLE NUMBER	MANUFACTURER	YEAR IN SERVICE	TYPE	2016	2017	2018	2019	2020	2021	2022
Existing	101-135	Kinkisharyo	2009	95-foot LR	35	35	35	35	35	35	35
Existing	136-162	Kinkisharyo	2011	95-foot LR	27	27	27	27	27	27	27
Planned	TBD	Siemens, Inc.	TBD	TBD	-	-	-	*	*	*	*
Total Assigned Fleet:					62	62	62	62*	62*	62*	62*
Peak Vehicle Requirements (Including Ready Reserve):					42	42	42	42*	42*	42*	42*
Spares:					20	20	20	20*	20*	20*	20*
Spare Ratio (in assigned fleet)					32%	32%	32%	32%*	32%*	32%*	32%*

Operations & Maintenance Facility (OMF): East

The current operations and maintenance facility in the SODO district of the City of Seattle, which can store and maintain up to 104 light rail vehicles, will reach full capacity by 2020 when the new vehicles start being delivered. A new satellite facility in Bellevue will maintain, store and deploy the remainder of the expanded fleet and support efficient light rail operations in 2023. In 2015, after many rounds of outreach and public comments, the Sound Transit Board of Directors selected a site located in the City of Bellevue, bound by the Eastside Rail Corridor on the west and 120th Avenue NE on the east, SR 520 to the north, and NE 12th Street to the south. The OMF: East facility, as it's officially named, is currently in final design and expected to be completed and operational in December 2020.

Sound Transit will continue to coordinate with partner agencies, key stakeholders, and the public, to minimize the impacts of construction of the OMF: East project on the adjacent neighborhoods. In addition, Sound Transit expects to conduct a service and fare equity (SAFE) analysis for the project starting in mid-2019 through mid-2020.

Link Estimated Hours and Miles 2018-2022

Based on the Five-Year Service Outlook, planners worked closely with finance staff to estimate four key service statistics which drive operating costs included in the finance plan:

- **Platform hour:** Any hour a transit vehicle is operating, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total amount of time the transit vehicle is away from the operating base.
- **Revenue hour:** An hour in which a transit vehicle is in revenue service, i.e., picking up, dropping off, and/or carrying passengers. Vehicles are not in revenue service between base and their first stop, between their last stop and base, or when traveling between the last stop on one trip and the first stop on the next trip.
- **Platform Mile:** Any mile a transit vehicle operates, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total distance the transit vehicle travels while away from the operating base.
- **Revenue Mile:** The distance a transit vehicle operates in revenue service, i.e., picking up, dropping off, and/or carrying passengers. Vehicles are not in revenue service between base and their first stop, between their last stop and base, or when traveling between the last stop on one trip and the first stop on the next trip.

Link includes both train and vehicle statistics to reflect operation of multiple cars within an individual train. As a reference, values from 2015, 2016, and 2017 are included in the table.

In 2017 Link service statistics will increase as a result of a full year of operation on extensions to the University of Washington and Angle Lake. Additionally, an operation of a mix of 2- and 3-car trains during the peak increases vehicle statistics over the previous year's projections. Link service statistics stabilize between 2018 and 2020 before increasing in 2021 and 2022 with the anticipated opening of Northgate Link in late 2021. Table 20 provides details on Link train and vehicle level service statistics through 2022.

TABLE 20: LINK SERVICE HOURS AND MILES 2015-2022

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES	REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
		Train Statistics				Vehicle Statistics			
2015	Actual	73,124	75,805	1,363,485	1,405,035	145,847	151,196	2,719,160	2,796,020
2016	Estimated	88,576	94,289	1,753,805	1,819,769	183,384	188,577	3,631,003	3,639,538
2017	Estimated	95,511	102,281	1,891,118	1,974,023	214,900	230,132	4,255,015	4,441,552
2018	Estimated	95,700	102,400	1,894,200	1,975,600	215,300	230,300	4,262,000	4,445,200
2019	Estimated	95,700	102,400	1,894,200	1,975,600	215,300	230,300	4,262,000	4,445,200
2020	Estimated	96,000	102,700	1,899,800	1,981,500	215,900	231,000	4,274,600	4,458,400
2021	Estimated	97,200	104,100	1,925,500	2,008,200	389,000	416,200	7,701,900	8,033,000
2022	Estimated	101,300	108,300	2,004,800	2,091,000	405,000	433,400	8,019,200	8,363,800

SOUNDER PLANNING OUTLOOK

The ST2 plan included Sounder commuter rail service enhancements including additional trains and improved infrastructure. Sound Transit will continue to coordinate internally and externally with partner agencies to minimize the impacts of Sounder projects, including minimizing delay impacts to customers during a project's construction period.

ST2 Service Build-Out

The ST2 plan approved four additional Sounder south line round trips (eight one-way trips) between Seattle and Lakewood. In September 2016, the second of the round trips was implemented during the midday, marking the first time that Sounder operated regular service during the midday. The late morning train leaves Lakewood at 10:18 am arriving in Seattle at 11:31 am and the early afternoon train leaves Seattle at 2:32 pm arriving in Lakewood at 3:45 pm.

In September 2017, the two remaining round trips approved under ST2 will be implemented. The schedule for the new round trips will be finalized in coordination with BNSF and Amtrak over the coming months, with the goal of maximizing efficiency operations of the passenger and freight services between Lakewood and Seattle, as well as minimizing delay impacts to customers on the Sounder service.

Tacoma Trestle

In 2008, voters also approved the Tacoma Trestle Track and Signal project as part of the ST2 ballot measure. The project will replace the existing wooden, single-track railroad trestle east of Freighthouse Square with a new concrete, double-track bridge. The new bridge will support increased passenger and rail capacity along the corridor and improve reliability for Sounder and Amtrak passenger service through the area. The project is currently under construction and is expected to be completed in 2017.

Sounder Yard Expansion (Third Track)

The Sounder Yard Expansion project modifies the existing Lakewood rail yard site to store the additional train sets needed for increased Sounder service beginning late 2016. These improvements will be made within the railroad right of way between Steilacoom Boulevard Southwest and 100th Street, and include construction of a third layover/storage track, as well as additional employee and train crew accommodations. The third layover track was completed in 2016. The crew accommodations are currently under construction with a scheduled completion date of mid-2017.

Sounder Maintenance Base

Sound Transit plans to build an operations and maintenance facility to service Sounder commuter trains, a project approved to accommodate existing and future ridership growth on the Sounder commuter rail system. Currently, maintenance for the Sounder commuter rail system is contracted out to Amtrak and completed in Amtrak's Seattle maintenance facility. The new Sounder maintenance facility would be constructed between Steilacoom Boulevard SW and 100th Street SW in the City of Lakewood, adjacent to the Sound Yard Expansion project identified above. The facility is currently in environmental review, a completion date for the project has not been identified.

Point Defiance Bypass

The Point Defiance Bypass project will reroute Amtrak passenger trains to an inland rail line through DuPont, Lakewood, and Tacoma. The project includes a new Amtrak station in Tacoma's Freighthouse Square, adjacent to the current Tacoma Dome Sounder Station, in addition to upgrades to track and signal systems between DuPont and Tacoma. Sound Transit currently uses the segment between Tacoma and Lakewood for Sounder commuter rail service between those two cities. The project will also add a second track at the current Tacoma Dome Station to accommodate Amtrak service at Tacoma Dome. The project is currently under construction and scheduled to be completed by the end of April 2017.

This bypass project is part of a much larger construction program being delivered by WSDOT throughout western Washington to improve service for the entire intercity passenger rail corridor. When all work is complete, the project will provide more frequent, reliable and faster Amtrak Cascades passenger rail service in Washington. The new inland rail route will create capacity for Amtrak Cascades to add more daily trips between Seattle and Portland, as well as shorten travel times, and reduce delays in the corridor.

Fleet Expansion

With the additional south line round trip added in 2016 and two more south line round trips planned for 2017 the fleet requirements for operating service will increase. Currently Sound Transit owns and operates 58 passenger cars for Sounder service. In 2014, the Sound Transit Board of Directors approved the purchase of nine additional cab cars. Sound Transit worked with the vendor to design the new vehicles to ensure the needs of all transit riders were incorporated. Delivery of the new cab-cars is expected in mid-2017, in time for the implementation of the additional south line round trips. Table 21 provides details on existing and planned Sounder fleet through 2022.

TABLE 21: SOUNDER FLEET THROUGH 2022

	VEHICLE NUMBER	MANUFACTURER	YEAR IN SERVICE	TYPE	2016	2017	2018	2019	2020	2021	2022
Existing	901-911	GM	2000-2001	Locomotive	11	11	11	11	11	11	11
Existing	101-111, 301-307	Bombardier	2000-2003	Cab Car	18	18	18	18	18	18	18
Existing	201-240, 401-410	Bombardier	2000-2003	Coach	40	40	40	40	40	40	40
Existing	921-923	Motive Power	2012	Locomotive	3	3	3	3	3	3	3
Planned	321-329	Bombardier	2017	Cab Car	-	9	9	9	9	9	9
Total Locomotives on Property:					14	14	14	14	14	14	14
Peak Vehicle Requirements (Including Ready Reserve):					12	12	12	12	12	12	12
Spares:					2	2	2	2	2	2	2
Spare Ratio (in assigned fleet):					17%	17%	17%	17%	17%	17%	17%
Total Passenger Cars on Property:					58	67	67	67	67	67	67
Peak Vehicle Requirements (Including Ready Reserve):					55	61	61	61	61	61	61
Spares:					3	6	6	6	6	6	6
Spare Ratio (in assigned fleet):					5%	10%	10%	10%	10%	10%	10%

Sounder Estimated Hours and Miles 2018-2022

Based on the Five-Year Service Outlook, planners worked closely with finance staff to estimate four key service statistics which drive operating costs included in the finance plan:

- **Platform hour:** Any hour a transit vehicle is operating, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total amount of time the transit vehicle is away from the operating base.
- **Revenue hour:** An hour in which a transit vehicle is in revenue service, i.e., picking up, dropping off, and/or carrying passengers. Vehicles are not in revenue service between base and their first stop, between their last stop and base, or when traveling between the last stop on one trip and the first stop on the next trip.
- **Platform Mile:** Any mile a transit vehicle operates, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total distance the transit vehicle travels while away from the operating base.
- **Revenue Mile:** The distance a transit vehicle operates in revenue service, i.e., picking up, dropping off, and/or carrying passengers. Vehicles are not in revenue service between base and their first stop, between their last stop and base, or when traveling between the last stop on one trip and the first stop on the next trip.

Sounder includes both train and vehicle statistics to reflect operation of multiple cars within an individual train. As a reference, values from 2015, 2016, and 2017 are included in the table.

Sounder statistics increase in 2017 due to a full year of operation of the round trip added in September 2016 and a partial year of operation of the two new round trips planned for September 2017. As a note, 2016 and 2017 vehicle statistics reflect the operation of the new 2016 midday train as a two-car train until mid-2017. When the new cab cars are delivered, the train will become a standard seven-car south line trainset. Hours and miles continue to increase in 2018 to reflect the full year of operation of the new trains planned for September 2017 and operation of the 2016 midday train as a full seven-car trainset. Table 22 provides details on Sounder train and vehicle level service statistics through 2022.

TABLE 22: SOUNDER SERVICE HOURS AND MILES 2015-2022

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES	REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
		Train Statistics				Vehicle Statistics			
	North line								
2015	Actual	2,684	2,874	69,353	71,505	7,163	7,670	185,521	191,240
2016	Estimated	2,890	3,073	75,070	76,826	7,256	7,683	186,501	192,066
2017	Estimated	2,890	3,073	75,070	76,826	7,225	7,683	187,676	192,066
2018	Estimated	2,900	3,100	75,100	76,800	7,200	7,700	187,700	192,100
2019	Estimated	2,900	3,100	75,100	76,800	7,200	7,700	187,700	192,100
2020	Estimated	2,900	3,100	75,100	76,800	7,200	7,700	187,700	192,100
2021	Estimated	2,900	3,100	75,100	76,800	7,200	7,700	187,700	192,100
2022	Estimated	2,900	3,100	75,100	76,800	7,200	7,700	187,700	192,100
	South Line								
2015	Actual	7,371	7,941	228,248	235,484	51,597	55,588	1,597,733	1,648,387
2016	Estimated	7,587	8,135	238,730	244,648	52,181	55,661	1,623,389	1,673,623
2017	Estimated	8,584	9,245	271,063	278,204	59,351	63,896	1,873,581	1,922,665
2018	Estimated	9,700	10,400	305,700	314,200	67,600	73,000	2,140,100	2,199,300
2019	Estimated	9,700	10,400	305,700	314,200	67,600	73,000	2,140,100	2,199,300
2020	Estimated	9,700	10,400	305,700	314,200	67,600	73,000	2,140,100	2,199,300
2021	Estimated	9,700	10,400	305,700	314,200	67,600	73,000	2,140,100	2,199,300
2022	Estimated	9,700	10,400	305,700	314,200	67,600	73,000	2,140,100	2,199,300
	Sounder Total								
2015	Actual	10,055	10,815	297,601	306,989	58,760	63,258	1,783,254	1,839,627
2016	Estimated	10,478	11,208	313,800	321,474	59,437	63,344	1,809,890	1,865,689
2017	Estimated	11,474	12,318	346,133	355,030	66,576	71,578	2,061,257	2,114,731
2018	Estimated	12,600	13,500	380,800	391,000	74,800	80,700	2,327,800	2,391,400
2019	Estimated	12,600	13,500	380,800	391,000	74,800	80,700	2,327,800	2,391,400
2020	Estimated	12,600	13,500	380,800	391,000	74,800	80,700	2,327,800	2,391,400
2021	Estimated	12,600	13,500	380,800	391,000	74,800	80,700	2,327,800	2,391,400
2022	Estimated	12,600	13,500	380,800	391,000	74,800	80,700	2,327,800	2,391,400

TACOMA LINK PLANNING OUTLOOK

System Expansion

The ST2 Plan included funding for a project to expand the current Tacoma Link service. In 2013, after extensive community outreach, a preferred alternative for the extension and station locations was selected. The 2.4-mile expansion will extend Tacoma Link service to the Hilltop neighborhood via the Stadium District and Martin Luther King, Jr. Way. The extension will add six additional stations and relocate the current Theater District station one block north. The expansion will also increase frequencies from every 12 minutes to every 10 minutes. In late 2015, the Sound Transit Board of Directors approved the project to be built. The Tacoma Link Expansion is funded through a partnership between Sound Transit and the City of Tacoma, in addition to grants from the U.S. Department of Transportation and the WSDOT. The project is currently in final design, with construction expected to begin in 2018, and scheduled to open in 2022.

Sound Transit will continue to coordinate with partner agencies, key stakeholders, and the public, to minimize the impacts of construction of the Tacoma Link expansion project on the adjacent neighborhoods and the connecting bus services. In addition, Sound Transit expects to conduct a service and fare equity analysis (SAFE) analysis for the project starting in early 2021 through early 2022. The analysis will include the impacts of changes to bus services to Title VI communities as a result of the extension.

Fleet Operations & Maintenance Facility Expansion

With the extension of Tacoma Link service approved in 2015, the fleet requirements for operating service will increase, from the current three vehicles to eight vehicles with the extension. The light rail vehicles are expected to begin being delivered in 2020 through 2021. Sound Transit will be working with the vendor, once selected, in the coming years to design the new vehicles and ensure the needs of all transit riders are incorporated.

The current operations and maintenance facility in downtown Tacoma, which can store and maintain four light rail vehicles, will reach full capacity by 2020. In the coming years, the Sound Transit Board of Directors will select a site for the expansion of the Tacoma Link Operations & Maintenance Facility. The new facility will maintain, store, and deploy the expanded fleet and support efficient light rail operations.

Sound Transit will continue to coordinate with partner agencies, key stakeholders, and the public, to minimize the impacts of construction of the Tacoma Link OMF Expansion project on the adjacent neighborhoods. In addition, Sound Transit expects to conduct a SAFE analysis for the project, exact timeline for the SAFE is still to be determined. Table 23 provides details on existing and planned Tacoma Link fleet through 2022.

TABLE 23: TACOMA LINK FLEET THROUGH 2022

	VEHICLE NUMBER	MANUFACTURER	YEAR IN SERVICE	TYPE	2016	2017	2018	2019	2020	2021	2022
Existing	1001-1003	Skoda	2003	66-foot LR	3	3	3	3	3	3	3
Planned	TBD	TBD	TBD	TBD	-	-	-	-	5	5	5
Total Assigned Fleet:					3	3	3	3	8	8	8
Peak Vehicle Requirements (Including Ready Reserve):					2	2	2	2	6	6	6
Spares:					1	1	1	1	2	2	2
Spare Ratio (in assigned fleet)					50%	50%	50%	50%	25%	25%	25%

Tacoma Link Estimated Hours and Miles 2018-2022

Based on the Five-Year Service Outlook, planners worked closely with finance staff to estimate four key service statistics which drive operating costs included in the finance plan:

- **Platform hour:** Any hour a transit vehicle is operating, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total amount of time the transit vehicle is away from the operating base.
- **Revenue hour:** An hour in which a transit vehicle is in revenue service, i.e., picking up, dropping off, and/or carrying passengers. Vehicles are not in revenue service between base and their first stop, between their last stop and base, or when traveling between the last stop on one trip and the first stop on the next trip.
- **Platform Mile:** Any mile a transit vehicle operates, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total distance the transit vehicle travels while away from the operating base.
- **Revenue Mile:** The distance a transit vehicle operates in revenue service, i.e., picking up, dropping off, and/or carrying passengers. Vehicles are not in revenue service between base and their first stop, between their last stop and base, or when traveling between the last stop on one trip and the first stop on the next trip.

Since Tacoma Link operates as a one-car train, train and vehicle statistics are identical. As a reference, values from 2015, 2016, and 2017 are included in the table.

Tacoma Link service statistics remain stable through 2021, before increasing in 2022 when the extension is scheduled to open. The estimated service statistics for 2022 are subject to change, as they depend on the final alignment, project timeline, and service plan of the Tacoma Link expansion, which are still in development. Table 24 provides details on Tacoma Link train and vehicle level service statistics through 2022.

TABLE 24: TACOMA LINK SERVICE HOURS AND MILES 2015-2022

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
Train & Vehicle Statistics					
2015	Actual	9,857	9,848	76,167	75,842
2016	Estimated	9,749	9,882	75,091	75,368
2017	Estimated	9,900	10,035	76,000	76,280
2018	Estimated	9,900	10,000	76,000	76,300
2019	Estimated	9,900	10,000	76,000	76,300
2020	Estimated	9,900	10,000	76,000	76,300
2021	Estimated	9,900	10,000	76,000	76,300
2022	Estimated	16,400	16,600	125,700	126,200

ST EXPRESS CORRIDOR PLANNING OUTLOOK

Sound Transit's express bus network is structured around key regional travel corridors, typically on freeways or major highways to support the express, limited-stop characteristics of the service. In the 2017 Service Implementation Plan, ST Express routes are grouped into common corridors for analysis. Common corridors allow comparison of routes in similar geographic areas and highlight the service designed to serve the corridor's unique market. Each corridor in the following section will include a discussion of projects that will impact service in that corridor. Although, as projects often span multiple corridors, similar discussions will appear in some sections.

Sound Transit will continue to coordinate with its partner agencies, key stakeholders, and the public, to analyze the best ways to serve the current ST Express markets and provide improved connections to Link light rail and other projects described in this section. The process includes the development of ST Express service plans that could be implemented following the opening of the ST2 Link extensions, in 2021 and 2023. A service and fare equity analysis (SAFE) analysis will be conducted prior to the opening of each Link extension and will include the evaluation of the impacts to Title VI communities of connecting bus service. In addition, Sound Transit will work with partner agencies, key stakeholders, and the public, to fully capture and minimize the construction impacts to local transit service of the projects described below.

ST Express Service & Capacity Needs

Service and capacity needs were identified for ST Express by applying passenger load guidelines included in the *Service Standards and Performance Measures* to ridership data from Spring 2016 and projections for 2017 to 2022. Service and capacity needs were identified if a specific trip in the system exceeds the service standards. Demand for service from 2017 to 2022 was projected using conservative growth factors for peak, off-peak, and weekend periods. Table 25 below provides a summary by year of the identified ST Express service and capacity needs, as well as a summary of the ST Express service that is currently funded. In order to meet growing demand and reduce overcrowding, an investment of over 51,000 annual hours may be necessary by 2022. The identified service and capacity needs for ST Express will be used to prioritize decisions in the annual budget process for potential implementation in the coming years. Sound Transit will also continue to monitor ridership on ST Express and look to implement other cost-neutral strategies to meet demand.

In ST Express corridor section, details are provided on the service and capacity needs identified for that corridor. It is important to note that the identified ST Express service and capacity needs are currently unfunded, and are based on current demand in the current ST Express network. The service and capacity needs in this year's Service Implementation Plan do not incorporate funding to address and/or minimize the construction impacts of the projects described later in the ST Express sections. Although not identified in this plan, to implement additional service during the peak periods, additional buses would need to be purchased.

TABLE 25 - ST EXPRESS SERVICE AND CAPACITY NEEDS

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	1,200	2,400	6,000	10,800	15,000	22,200
Off-Peak	Unfunded	-	1,200	2,400	5,400	12,000	14,400
Weekends	Unfunded	-	600	2,400	5,400	10,800	15,000
Total	Unfunded	1,200	4,200	10,800	21,600	37,800	51,600
Total	Funded	777,448	786,000	786,000	786,000	786,000	786,000
Total	Funded + Unfunded	778,648	790,200	796,800	807,600	823,800	837,600

ST Express - I-5 North

Sound Transit defines the I-5 North corridor as the routes serving the Seattle-Everett and Seattle-Lynnwood markets: current Routes 510, 511, 512, and 513.

Double Deck Buses

In late 2015, Sound Transit received the first five double deck buses of the ST Express fleet. The buses were put into service in early 2016, providing additional capacity on trips on I-5 North routes. Earlier this summer, the Sound Transit Board of Directors approved a purchase of an additional 32 double deck buses, 16 of which will be used to replace existing aging fleet and 16 to expand the fleet. The buses will provide additional capacity on the corridor and relieve crowding on the assigned trips. Delivery of the buses is expected to begin in spring 2017.

At this time, the double deck buses are limited to routes operated by Community Transit, because they are the only Sound Transit operating partner with a maintenance base capable of accommodating double deck buses, and the skills and experience to maintain and operate them. With the delivery of the additional double deck fleet, Sound Transit will monitor crowding conditions on the corridor and deploy the buses on the highest ridership trips.

Lynnwood Link

Construction Impacts

Construction for Lynnwood Link is anticipated to begin in the later part of this decade. During construction of the extension, there will be impacts to ST Express and local partner agency bus service currently serving the future station areas and streets adjacent to the stations. Sound Transit has been working with King County Metro and Community Transit on the project's final design, including station designs to incorporate high quality transfer experience between bus and Link.

ST Express I-5 North Service & Capacity Needs

Table 26 below provides a summary by year of the identified I-5 North corridor's service and capacity needs. Sound Transit estimates needing to invest over 6,000 annual hours by 2022 to meet the projected demand in the corridor.

TABLE 26 - I-5 NORTH SERVICE AND CAPACITY NEEDS

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	-	-	-	-	-
Off-Peak	Unfunded	-	-	-	-	2,400	3,000
Weekends	Unfunded	-	-	600	1,200	3,000	3,600
Total	Unfunded	-	-	600	1,200	5,400	6,600
Total	Funded	104,947	104,900	104,900	104,900	104,900	104,900
Total	Funded + Unfunded	104,947	104,900	105,500	106,100	110,300	111,500

ST Express - I-405 North

Sound Transit defines the I-405 North corridor as the routes serving the Bellevue-Everett and Bellevue-Lynnwood markets: current Routes 532 and 535.

Double Deck Buses

As previously stated, Sound Transit received its first five double deck buses in late 2015 and expects to receive an additional 32 in 2017. Although the double deck buses are anticipated to be used primarily on the I-5 North routes, a potential opportunity to operate double deck buses exists on the I-405 North services, Route 532 and 535.

Due to the low height of the bus bay overhangs at the Bellevue Transit Center, Sound Transit is currently working with King County Metro, Community Transit, and the City of Bellevue to develop a routing pattern that would allow Routes 532 and 535 to serve the downtown Bellevue, without entering the Bellevue Transit Center. Finding an alternative routing pattern for the Routes 532 and 535 would be a faster, simpler, and cheaper solution than modifying the current bus bay infrastructure at the Bellevue Transit Center.

Sound Transit is looking to minimize the impacts to ST Express customers with a potential routing change, by implementing an administrative change on routing, as defined by Sound Transit's *Service Standards and Performance Measures*. An administrative change would not move stops by more than a half mile or change service hours by more than 25 percent. If a potential routing solution that works for all parties is developed, Sound Transit anticipates using double deck buses and implementing the routing change on Routes 532 and 535 in March 2017.

Community Transit - Swift II

Community Transit currently operates a Bus Rapid Transit (BRT) style service called *Swift*. The *Swift* Blue Line runs from Everett Station to the Aurora Village Transit Center in the City of Shoreline in King County. Community Transit is currently planning a *Swift II*, now called the Green Line, which would run from Boeing Field to Canyon Park Park-and-Ride lot in the City of Bothell. Community Transit anticipates construction to begin on the new *Swift* Green Line in 2017, with operations beginning in 2019. Sound Transit will coordinate with Community Transit during the implementation of the *Swift* Green Line to evaluate opportunities for a seamless connection between Community Transit's high capacity *Swift* line and the I-405 North ST Express services.

High-Occupancy Toll (HOT) Lanes

In the fall of 2015, WSDOT finalized the conversion of the high-occupancy vehicle (HOV) lanes to high-occupancy toll (HOT) lanes between the I-405 and I-5 Interchange in Lynnwood, and the I-405 and NE 6th St interchange in downtown Bellevue. The corridor features two HOT lanes in each direction from NE 160th St to NE 6th St, and one HOT lane in each direction between NE 160th St and I-5. Since implementation in fall 2015, Routes 532 and 535, from Lynnwood and Everett respectively, have been utilizing the HOT lanes. Travel times along the HOT segment have decreased for both routes, with ridership increasing during the same period, suggesting customers are taking advantage of the faster travel times in the corridor.

Although Routes 532 and 535 saw a decrease in travel times along the HOT segment of I-405, the routes saw travel time improvements offset by a greater increase in travel time in the segments outside the HOT lanes. Due to the increased congestion and to improve on-time performance and schedule reliability of the routes, Sound Transit invested service hours on Routes 532 and 535 in September 2016. Sound Transit will continue to monitor travel times along the HOT corridors and implement strategies to continue improving services along the I-405 corridor.

ST Express I-405 North Service & Capacity Needs

Table 27 below provides a summary by year of the identified I-405 North corridor's service and capacity needs. Sound Transit estimates needing to invest 1,800 annual hours by 2022 to meet the projected demand in the corridor. Although not identified in this year's Service Implementation Plan, in order to implement service during the peak periods, Sound Transit would need to purchase additional buses.

TABLE 27 - I-405 SERVICE AND CAPACITY NEEDS

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	-	-	-	-	1,200
Off-Peak	Unfunded	-	-	-	-	600	600
Weekends	Unfunded	-	-	-	-	-	-
Total	Unfunded	-	-	-	-	600	1,800
Total	Funded	43,339	43,300	43,300	43,300	43,300	43,300
Total	Funded + Unfunded	43,339	43,300	43,300	43,300	43,900	45,100

ST Express - SR-522

Sound Transit defines the SR-522 corridor as the route serving the downtown Seattle-Woodinville and Bothell market: current Route 522.

WSDOT Regional Mobility Grant

In early 2015, WSDOT awarded King County Metro and Sound Transit a Regional Mobility Grant for funding additional service and capacity along the SR-522 and I-5 South corridors. In September 2016, using funding from the Regional Mobility Grant, Sound Transit implemented additional AM and PM peak period trips on Route 522 from Woodinville to downtown Seattle. The additional trips were strategically added to address overcrowding and to balance loads on the service while coordinating with King County Metro service in the corridors.

The WSDOT Regional Mobility Grant funding is scheduled to end in 2017. In the coming months, Sound Transit, in coordination with King County Metro, will be reviewing the success of the additional trips implemented with the Regional Mobility Grant funding. Sound Transit will use its *Service Standards and Performance Measures* to determine whether or not to continue operating the trips after the Regional Mobility Grant ends.

ST Express SR-522 Service & Capacity Needs

Table 28 below provides a summary by year of the identified SR-522 corridor's service and capacity needs. Sound Transit estimates needing to invest 1,800 annual hours by 2022 to meet the projected demand in the corridor. Although not identified in this year's Service Implementation Plan, in order to implement service during the peak periods, Sound Transit would need to purchase additional buses.

TABLE 28 - SR 522 SERVICE AND CAPACITY NEEDS

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	-	-	1,200	1,200	1,200
Off-Peak	Unfunded	-	-	-	-	600	600
Weekends	Unfunded	-	-	-	-	-	-
Total	Unfunded	-	-	-	1,200	1,800	1,800
Total	Funded	54,755	54,800	54,800	54,800	54,800	54,800
Total	Funded + Unfunded	54,755	54,800	54,800	56,000	56,600	56,600

ST Express - SR-520

Sound Transit defines the SR-520 corridor as the routes serving the U-District-Kirkland, U-District-Redmond/Overlake, Seattle-Redmond, and Northgate-Bellevue-Issaquah markets: current Routes 540, 541, 542, 545, 555, and 556.

East King County Connections

In the summer of 2014, Sound Transit Board Chair and King County Executive, Dow Constantine, announced a new initiative to better integrate the projects and services of the region's transit agencies. Since then, Sound Transit has worked closely with partner agencies to develop better connections between bus and rail services in the region, showcased with the service integration implemented for the opening of the University Link extension in spring 2016.

The service integration plan for the University Link extension included an extensive outreach process with the objective of improving customer experience when making bus-rail connections. The outreach process had three separate phases, with Sound Transit focusing on expanded ST Express connections between East King County and Link. Key stakeholders included representatives from the University of Washington and the cities of Seattle, Redmond, Kirkland and Bellevue. As an outcome of the outreach process, Sound Transit added new peak only bidirectional service along the SR-520 corridor, between Overlake and the University of Washington Station. The new Route 541, implemented in spring 2016, provides additional capacity along the corridor and new connection opportunities to Link. Additionally, new midday service was added to Route 542 (Redmond-U District) as part of the 2016 Service Implementation Plan planning process.

In the spring of 2017, Sound Transit and King County Metro plan to re-engage key stakeholders and the public in East King County to review key outcomes of the changes completed for the opening of the University Link extension. Sound Transit and King County Metro's goal in re-engaging the key stakeholders and the public is to build on the changes already made and to continue to improve connections of East King County residents across Lake Washington to downtown Seattle and the University of Washington.

Northgate Link

Construction Impacts

Construction activities for Northgate Link have been on-going for the last couple of years, with tunneling between Northgate Station and the University of Washington Station completed earlier this year. As construction for the Northgate Station ramps up in the next few months, there will be impacts to customers accessing the existing Northgate Transit Center's park-and-ride lots. Routes 555 and 556 customers should refer to the Northgate Link project page on the Sound Transit website, www.soundtransit.org, for specific details on nearby park-and-ride lots and connecting bus service, and the latest information regarding construction of the Northgate Link project.

WSDOT I-5 & SR-520 Connection – *"Rest of the West"*

In the spring of 2016, WSDOT completed the SR-520 floating bridge segment between Lake Washington Blvd in Seattle and Clyde Hill on the east side of Lake Washington. The completed portion of the floating bridge includes HOV lanes that are used by ST Express services in the corridor. In the coming years, WSDOT will be constructing a new SR-520 connector between Lake Washington Blvd and I-5, now called the *Rest of the West* project. The project secured full funding from the Washington State Legislature in 2015 and is currently in design. Construction for the project is expected to begin in 2018.

East Link

Construction Impacts

Construction activities for East Link have already begun in selected sections of the project corridor. Construction along the SR-520 segment of the project is anticipated to begin in the spring of 2017.

In September 2016, due to the East Link and other construction impacts expected along 112th Ave SE in the coming years, Sound Transit implemented a routing change on Routes 555 and 556. The routes now use Bellevue Way NE to access the Bellevue Transit Center, instead of 112th Ave SE. The routing change is expected to last through the East Link construction period to minimize delays for customers.

One of the other major impacts of construction will be the closure of the Overlake Transit Center Park-and-Ride lot. Sound Transit will use the park-and-ride lot to stage equipment and materials to build the light rail tracks, stations and parking garage along the East Link alignment. The Overlake Transit Center Park-and-Ride lot will be closed for up to six years during that time. Sound Transit, along with King County Metro and other transit providers in the area, will continue to serve Overlake Transit Center while the park-and-ride lot is closed.

The future Overlake Transit Center, or Redmond Technology Center Station as it's now called, will include bus, paratransit and Microsoft Connector service, a bicycle and pedestrian bridge across SR 520, and a 320-stall parking garage. During the closure of the park-and-ride lot, customers will be able to utilize nearby facilities that are served by ST Express and King County Metro to access their destinations. In addition, in March and September 2016, Sound Transit added additional ST Express service on the SR-520 corridor to increase capacity, anticipating an increase in demand with the closure of the park-and-ride lot. Route 541 provides service to the Overlake Village Park-and-Ride lot, which provides customers a nearby alternative parking location during the closure.

Customers should refer to the East Link project page on the Sound Transit website, www.soundtransit.org, for specific details on nearby park-and-ride lots and connecting bus service, and the latest information regarding construction of the East Link project.

ST Express SR-520 Service & Capacity Needs

Table 29 below provides a summary by year of the identified SR-520 corridor's service and capacity needs. Sound Transit estimates needing to invest 12,000 annual hours by 2022 to meet the current and projected demand in the corridor. Although not identified in this year's Service Implementation Plan, in order to implement service during the peak periods, Sound Transit would need to purchase additional buses.

TABLE 29 - SR 520 SERVICE AND CAPACITY NEEDS

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	600	1,200	3,600	4,200	6,600	9,000
Off-Peak	Unfunded	-	600	1,800	1,800	3,000	3,000
Weekends	Unfunded	-	-	-	-	-	-
Total	Unfunded	600	1,800	5,400	6,000	9,600	12,000
Total	Funded	137,028	137,200	137,200	137,200	137,200	137,200
Total	Funded + Unfunded	137,628	139,000	142,600	143,200	146,800	149,200

ST Express - I-90

Sound Transit defines the I-90 corridor as the routes serving the Seattle-Bellevue and Seattle-Issaquah markets: current Routes 550 and 554.

East Link

Construction Impacts

Construction activities for East Link have already begun across a few sections of the project corridor. Heavy construction along the I-90 segment of the project is anticipated to begin in the spring of 2017. Due to the nature of the East Link project, and its alignment replacing current infrastructure used for transit, the I-90 corridor transit services will see significant impacts from construction of the East Link project.

One of the first major impacts of construction will be the closure of the South Bellevue Park-and-Ride lot, scheduled to begin in early 2017. Sound Transit will use the park-and-ride lot site to stage equipment and materials to build the light rail tracks, stations and parking garage along I-90. The South Bellevue Park-and-Ride lot will be closed for up to five years during construction. Sound Transit, along with King County Metro and other transit providers in the area, will continue to serve the South Bellevue bus stops along Bellevue Way SE while the park-and-ride lot is closed. The future South Bellevue Station will include bus and paratransit service and a 1,500-stall parking garage. Sound Transit and the contractor will explore opportunities to open the parking garage sooner if possible. During the closure period of the South Bellevue Park-and-Ride lot, customers will be able to utilize nearby park-and-ride lots that are served by ST Express and King County Metro. In addition, in March and September 2016, Sound Transit added additional ST Express service on I-90 to increase capacity on the corridor, anticipating an increase in demand with the closure of the park-and-ride lot.

In the summer of 2017, WSDOT will be completing the addition of HOV lanes to the I-90 mainline segment between the City of Mercer Island and Rainier Ave in Seattle. Completing the HOV network on I-90 between Issaquah and Seattle, in both directions, is key to beginning the conversion of the current I-90 reversible express lanes to East Link alignment. Impacts to transit service are expected to be minimal during the HOV construction period. Once the HOV lanes are complete, travel times on the reverse peak direction (opposite to busiest traffic flow) will improve, as there is currently no transit priority, between Seattle and Mercer Island, in that direction today. Transit travel time in the peak direction is expected to increase slightly, as the project will only add one HOV in each direction, reducing that from two-high occupancy lanes in the peak direction today. In the coming years, Sound Transit will monitor travel times in the corridor and work with WSDOT, King County Metro, key stakeholders, and the public to minimize the impacts to local transit service, including impacts to ST Express bus services.

In the fall of 2018, two major parts of the East Link project's construction will take place around the same time. In order to build the Rainier Ave & I-90 Link Station, now called Judkins Park Station, the current Rainier Ave Freeway Station will need to be closed. The closure of the current freeway station will mean that ST Express and King County Metro routes will no longer be able to serve the stop. Customers currently using the freeway station to access the Rainier Valley, the International District, the Central District, or other Seattle neighborhoods will be impacted. In addition and around the same timeframe, the I-90 D2 Roadway will be closed to all traffic. The D2 roadway is the segment of I-90 that buses and HOVs use between the Rainier Ave Freeway Station and the International District to access Dearborn St. and the International District/Chinatown Tunnel Station. The closure of the Rainier Ave Freeway Station and the D2 roadway, means that Route 550 (Bellevue-Seattle) and 554 (Issaquah-Seattle), along with King County Metro's I-90 buses, will need an alternative way to access the south end of downtown Seattle. In

the coming years, Sound Transit will work with King County Metro, WSDOT, SDOT, the public, and key stakeholders to develop a short-term service proposal for the I-90 routes impacted by the closures.

Interim Mitigation Funds

As part of the efforts to minimize construction impacts on transit customers along the I-90 corridor, mitigation funds were used to add service to Route 554 during peak periods in March 2016. As construction for East Link wraps up in 2023, Sound Transit will determine whether to make the service improvements permanent by reviewing the overall performance of the additional service in the interim years.

ST Express I-90 Service & Capacity Needs

Table 30 below provides a summary by year of the identified I-90 corridor's service and capacity needs. Sound Transit estimates needing to invest over 13,000 annual hours by 2022 to meet the current and projected demand in the corridor. Although not identified in this year's Service Implementation Plan, in order to implement service during the peak periods, Sound Transit would need to purchase additional buses.

TABLE 30 - I-90 SERVICE AND CAPACITY NEEDS

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	600	1,800	4,800	6,600	9,600
Off-Peak	Unfunded	-	-	-	1,800	1,800	2,400
Weekends	Unfunded	-	600	600	1,200	1,200	1,800
Total	Unfunded	-	1,200	2,400	7,800	9,600	13,800
Total	Funded	98,479	98,500	98,500	98,500	98,500	98,500
Total	Funded + Unfunded	98,479	99,700	100,900	106,300	108,100	112,300

ST Express - I-405 South

Sound Transit defines the I-405 South corridor as the routes serving the Bellevue-West Seattle/Burien, Overlake-Auburn, and Overlake-Kent markets: current Routes 560, 566, and 567.

East Link

Construction Impacts

In September 2016, due to the East Link construction and other construction impacts expected along 112th Ave SE in the City of Bellevue in the coming years, Sound Transit implemented a routing change on Route 560. The route now uses I-405 from Renton to downtown Bellevue, and exits I-405 at NE 6th St to access the Bellevue Transit Center. With the route no longer serving the South Bellevue Park-and-Ride lot and the adjacent neighborhood, customers are anticipated to use other transit services in the area to access their final destination. The routing change is expected to last through the East Link construction period to minimize delays on customers.

I-405 South Sounder Connector Service

ST Express bus service offers a few routes that provide connections to Sounder south line trains. The connector services are an important part of the system, ensuring customers are able to access Sounder commuter rail from nearby park-and-ride lots, as parking at the Sounder stations is full by early morning hours. In September 2017, two additional peak period Sounder south line trips will be added. Sound Transit will implement additional trips on Route 567 to meet the new Sounder south line trains at Kent Station.

ST Express I-405 South Service & Capacity Needs

Table 31 below provides a summary by year of the identified I-405 South corridor's service and capacity needs. Sound Transit estimates needing to invest over 1,000 annual hours by 2022 to meet the current and projected demand in the corridor. Although not identified in this year's Service Implementation Plan, in order to implement service during the peak periods, Sound Transit would need to purchase additional buses.

TABLE 31 - I-405 SOUTH SERVICE AND CAPACITY NEEDS

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	600	600	600	600	600	600
Off-Peak	Unfunded	-	600	600	600	600	600
Weekends	Unfunded	-	-	-	-	-	-
Total	Unfunded	600	1,200	1,200	1,200	1,200	1,200
Total	Funded	79,421	79,400	79,400	79,400	79,400	79,400
Total	Funded + Unfunded	80,021	80,600	80,600	80,600	80,600	80,600

ST Express - I-5 South

Sound Transit defines the I-5 South corridor as the routes serving the Lakewood-SeaTac, Federal Way-Seattle, Puyallup-Seattle, Tacoma/Lakewood-Seattle, Olympia/DuPont-Seattle, Gig Harbor-Seattle markets: current Routes 574, 577, 578, 586, 590, 592, 594, and 595.

Angle Lake Extension

In September 2016, Sound Transit extended Link service to the Angle Lake community in the City of SeaTac. The 1.6-mile extension added one station south of SeaTac/Airport Station. Although no transit service in the area was changed as a result of the extension, an opportunity to modify Route 574 to serve the station will be explored in the near future. Serving the station would mean exiting I-5 sooner at S 200th instead of S 188th. Due to the current WSDOT construction around the S 200th and Military Road to improve access to I-5, Sound Transit deferred making the potential routing change when the station opened. As WSDOT completes the construction of the project in 2017, Sound Transit will engage stakeholders and the public in the area to review the benefits of the potential change to Route 574.

WSDOT Regional Mobility Grant – I-5 South Federal Way-Seattle Funding

In early 2015, WSDOT awarded King County Metro and Sound Transit a Regional Mobility Grant for funding additional service and capacity along the SR-522 and I-5 South corridors. In September 2016, using funding from the Regional Mobility Grant, Sound Transit implemented additional AM and PM peak period trips on Route 577 from Federal Way to downtown Seattle. The additional trips were strategically added to reduce overcrowding to match capacity needs in the Federal Way-Seattle market during the peak periods.

The WSDOT Regional Mobility Grant funding is scheduled to end in 2017. In the coming months, Sound Transit, in coordination with King County Metro, will be reviewing the success of the additional trips implemented with the Regional Mobility Grant funding. Sound Transit will use its *Service Standards and Performance Measures* to determine whether or not to continue operating the trips after the Regional Mobility Grant ends. If so Sound Transit will identify additional resources to meet the demand for service the corridor.

WSDOT Regional Mobility Grant – I-5 South Olympia-DuPont Funding

In early 2015, WSDOT awarded Intercity Transit an extension of a Regional Mobility Grant for funding service and capacity on Route 592 between Olympia and DuPont. Intercity Transit has been contracting with Sound Transit since October 2013 to provide peak service between Olympia and DuPont on Route 592, which runs to downtown Seattle.

The WSDOT Regional Mobility Grant funding is scheduled to end in June 2017. In the coming months, Sound Transit, in coordination with Pierce Transit and Intercity Transit will be reviewing the success of the current service funded by the Regional Mobility Grant. Intercity Transit will determine whether or not to continue the service after the Regional Mobility Grant ends.

Route 586 & Link/Sounder Coordination

With the extension of Link service to the University of Washington earlier this year, Pierce County customers are now able to take advantage of improved access to the University of Washington. The faster peak period travel times to the University of Washington, by using Sounder and connecting to Link in downtown Seattle, are expected to

decrease demand for direct ST Express services between downtown Tacoma and the University of Washington. In the next year, Sound Transit will be monitoring ridership patterns on Route 586. If changes are needed, Sound Transit will work with the public and other key stakeholders to identify opportunities to best use resources among other popular Pierce County ST Express services.

Route 577/578 & Sounder Coordination

With the addition of Sounder midday service between Lakewood and Seattle, customers using Route 578 during the early afternoon period now have a faster connection between Seattle, Auburn, Sumner, and Puyallup. The trip between Seattle and Puyallup would be approximately 50 minutes on Sounder compared to 70-75 minutes on Route 578. As the additional round trips are added on the Sounder south line in fall 2017, Sound Transit will begin to explore the possibility of shifting resources from Route 578 to Route 577. Route 577 currently experiences consistent overcrowding, and shifting additional resources would provide a benefit to customers in that market. In the next two years, Sound Transit will closely monitor ridership on both Route 577 and 578, as well as Sounder and look for ways to build upon the improved connectivity in South King County and Pierce County with the added Sounder south line trips. Sound Transit will also monitor Sounder capacity and ensure that enough capacity is provided if resources are shifted on ST Express. If changes are needed, Sound Transit will work with the public and other key stakeholders to determine opportunities to use resources most effectively on other popular South King County and Pierce County ST Express services.

SR-167 HOT Lanes

WSDOT is currently extending the HOT lanes on SR-167 south from the City of Auburn to the City of Pacific. Construction work began earlier this year with completion of the project expected in spring of 2017. Once the HOT lanes are extended, Route 578 will begin using the new HOT lanes with travel times expected to improve on the corridor. Sound Transit will work with WSDOT to monitor travel times along the new HOT corridor and implement strategies to continue improving services along the SR-167 corridor.

I-5 HOV Lanes - Tacoma

WSDOT is currently building out part of the Tacoma/Pierce County HOV Program through downtown Tacoma. The new HOV lanes on I-5 will allow transit, vanpools, and carpools to move more efficiently through the corridor. The project will widen I-5 to provide four general-purpose lanes and one additional HOV lane in each direction from M Street to near L Street. Construction for the project has been on-going since 2014 with a completion date anticipated in the fall of 2018. While the construction impacts have been significant on routes using the corridor, travel times are expected to improve significantly once the project is complete.

I-5 Expansion – JBLM Corridor

WSDOT is planning building out part of the I-5 Joint-Base Lewis McChord (JBLM) that would provide operational improvements and adds lanes on I-5 through the JBLM corridor in South Pierce County. The project would widen northbound and southbound I-5 and improve several interchanges to provide capacity congestion relief on the corridor and adjacent neighborhoods. Construction for the project is expected to begin in the later part of the decade with a completion date anticipated by 2025.

ST Express I-5 South Service & Capacity Needs

Table 32 below provides a summary by year of the identified I-5 South corridor's service and capacity needs. Sound Transit estimates needing to invest over 14,000 annual hours by 2022 to meet the current and projected demand in the corridor. Although not identified in this year's Service Implementation Plan, in order to implement service during the peak periods, Sound Transit would need to purchase additional buses.

TABLE 32 - I-5 SOUTH SERVICE AND CAPACITY NEEDS

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	-	-	-	-	600
Off-Peak	Unfunded	-	-	-	1,200	3,000	4,200
Weekends	Unfunded	-	-	1,200	3,000	6,600	9,600
Total	Unfunded	-	-	1,200	4,200	9,600	14,400
Total	Funded	238,254	238,200	238,200	238,200	238,200	238,200
Total	Funded + Unfunded	238,254	238,200	239,400	242,400	247,800	252,600

ST Express - Sounder Connectors

Sound Transit defines the Sounder Connector services as the routes providing additional access to the Sounder south line from nearby communities: current Routes 580 and 596.

Additional Connector Service

ST Express commuter bus service offers a few routes that provide connections to Sounder south line trains. The connector services are an important part of the system, ensuring customers are able to access Sounder commuter rail from nearby park-and-rides lots as parking at the Sounder stations is often full by the early morning hours.

In September 2016, with the implementation of the Sounder south line midday round trip, additional trips were added to the Sounder connector routes, Route 580 and Route 596, in addition to trips being added to Route 567. In September 2017, two additional peak period Sounder south line round trips will be added. Sound Transit will implement additional trips on routes designated as Sounder connector service to meet the new Sounder south line trains.

On-Time Performance

Although the ST Express Sounder Connector routes meet the on-time performance standards defined in Sound Transit's *Service Standards and Performance Measures*, a few trips on Route 580 have experienced issues with on-time performance, leading to poor connections with Sounder. Sound Transit has taken steps to address this service quality issue by adjusting the scheduled time of certain trips on Route 580 and investing additional service hours.

Sound Transit will continue to monitor on-time performance and address any potential issues with the schedules to ensure customers are able to reliably access Sounder commuter rail services.

ST Express Sounder Connectors Service & Capacity Needs

Outside of the additional service to meet the new Sounder south line round trips, Sound Transit does not project any service and capacity needs for the ST Express Sounder connector services in the coming years.

ST Express Fleet Plan

Table 33 shows the ST Express fleet plan through 2022. The fleet plan below only presents buses in the current fleet and planned replacements based on the useful life of each bus type. The table doesn't include additional buses that might be needed to implement the service and capacity needs identified earlier in this section. The table below is subject to change based on operational needs. Table 33 provides details on existing and planned ST Express fleet through 2022.

TABLE 33: ST EXPRESS FLEET THROUGH 2022

	MANUFACTURER	YEAR IN SERVICE	TYPE	2016	2017	2018	2019	2020	2021	2022
Leased	Gillig	1999	40-foot	-	5	5	-	-	-	-
Existing	New Flyer	2000	60-foot	3	-	-	-	-	-	-
Existing	New Flyer	2001	40-foot	11	-	-	-	-	-	-
Existing	New Flyer	2003	40-foot	1	1	1	-	-	-	-
Existing	New Flyer	2004	60-foot	38	28	2	-	-	-	-
Existing	Gillig	2005	40-foot	2	2	2	-	-	-	-
Existing	MCI	2005	45-foot	13	13	13	13	13	-	-
Existing	Gillig	2008	40-foot	30	30	30	30	30	-	-
Existing	New Flyer	2008	60-foot	2	2	2	2	2	-	-
Existing	MCI	2008	45-foot	7	7	7	7	7	7	7
Existing	MCI	2009	45-foot	3	3	3	3	3	3	3
Existing	New Flyer	2010	60-foot	37	37	37	37	37	37	0
Existing	MCI	2010	45-foot	16	16	16	16	16	16	16
Existing	New Flyer	2011	60-foot	35	35	35	35	35	35	35
Existing	Gillig	2012	40-foot	24	24	24	24	24	24	24
Existing	New Flyer	2012	60-foot	19	19	19	19	19	19	19
Existing	New Flyer	2015	60-foot	22	22	22	22	22	22	22
Existing	AD	2015	Double Deck	5	5	5	5	5	5	5
Existing	Gillig	2015	40-foot	20	20	20	20	20	20	20
Existing	Gillig	2016	40-foot	5	5	5	5	5	5	5
Existing	MCI	2016	45-foot	12	12	12	12	12	12	12
Planned	TBD	2017	Double Deck	-	32	32	32	32	32	32
Planned	TBD	2018	60-foot	-	-	26	26	26	26	26
Planned	TBD	2018	Double Deck	-	-	-	7	7	7	7
Planned	TBD	2019	40-foot	-	-	-	2	2	2	2
Planned	TBD	2019	60-foot	-	-	-	1	1	1	1
Planned	TBD	2021	42-foot	-	-	-	-	-	13	13
Planned	TBD	2021	40-foot	-	-	-	-	-	30	30
Planned	TBD	2021	60-foot	-	-	-	-	-	2	2
Planned	TBD	2022	60-foot	-	-	-	-	-	-	37
Total Vehicles on Property:				305	318	318	318	318	318	318
Peak Vehicle Requirements:				258	267	267	267	267	267	267
Spares:				47	51	51	51	51	51	51
Spare Ratio (in assigned fleet):				18.22%	19.10%	19.10%	19.10%	19.10%	19.10%	19.10%

ST Express Estimated Hours and Miles 2018-2022

Based on the Five-Year Service Outlook, planners worked closely with finance staff to estimate four key service statistics which drive operating costs included in the finance plan:

- **Platform hour:** Any hour a transit vehicle is operating, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total amount of time the transit vehicle is away from the operating base.
- **Revenue hour:** An hour in which a transit vehicle is in revenue service, i.e., picking up, dropping off, and/or carrying passengers. Vehicles are not in revenue service between base and their first stop, between their last stop and base, or when traveling between the last stop on one trip and the first stop on the next trip.
- **Platform Mile:** Any mile a transit vehicle operates, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total distance the transit vehicle travels while away from the operating base.
- **Revenue Mile:** The distance a transit vehicle operates in revenue service, i.e., picking up, dropping off, and/or carrying passengers. Vehicles are not in revenue service between base and their first stop, between their last stop and base, or when traveling between the last stop on one trip and the first stop on the next trip.

As a reference, values from 2015, 2016, and 2017 are included in the table. Increases in estimated service statistics for ST Express reflect a full year of operation of 2016 service additions. Implementation of additional hours across the system beginning in September 2017 to improve service quality adds a prorated increase of 6,428 service hours to the 2017 estimate. Service hours and miles continue to increase through 2018 as the September 2017 service quality investment operate for a full year. Beyond 2018 service stabilizes to reflect the existing operating and capital funding levels planned for ST Express. All values below do not include the service and capacity needs identified in Table 25 earlier in this section.

ST Express service statistics are presented on three levels and will total slightly differently. Table 34 includes funded total hours and miles for all ST Express routes including scheduled, special event, extra service, and contingency. Table 35 shows the distribution of only scheduled platform hours, the key cost driver for ST Express, by operating partner. Table 36 lists only scheduled platform hours by subarea. Route level estimates for ST Express are included in the Appendix. It is important to note that the tables below only include funded ST Express service.

TABLE 34: ST EXPRESS TOTAL SERVICE HOURS AND MILES 2015-2022 (FUNDED)

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
2015	Actual	563,414	727,947	11,308,662	15,385,483
2016	Estimated	586,700	756,807	11,695,423	15,911,267
2017	Estimated	602,500	777,448	11,998,600	16,301,575
2018	Estimated	609,700	786,000	11,899,200	16,485,700
2019	Estimated	609,700	786,000	11,899,200	16,485,700
2020	Estimated	609,700	786,000	11,899,200	16,485,700
2021	Estimated	609,700	786,000	11,899,200	16,485,700
2022	Estimated	609,700	786,000	11,899,200	16,485,700

Estimates include scheduled service, special event, and extra service. All estimated hours are subject to change based on end of year actuals

TABLE 35: ST EXPRESS PLATFORM HOURS BY OPERATING PARTNER 2015-2017

YEAR		COMMUNITY TRANSIT	KING COUNTY METRO	PIERCE TRANSIT	TOTAL
2015	Actual	148,522	256,712	317,583	722,817
2016	Estimated	146,660	278,454	327,193	752,307
2017	Estimated	148,286	290,263	327,971	766,520
2018	Estimated	150,800	294,300	336,500	781,600
2019	Estimated	150,800	294,300	336,500	781,600
2020	Estimated	150,800	294,300	336,500	781,600
2021	Estimated	150,800	294,300	336,500	781,600
2022	Estimated	150,800	294,300	336,500	781,600

Estimates only include scheduled service and do not include special event or extra service. All estimated hours are subject to change based on end of year actuals

TABLE 36: ST EXPRESS SCHEDULED PLATFORM HOURS BY SUBAREA 2015-2017

YEAR		SNOHOMISH COUNTY	EAST KING COUNTY	SOUTH KING COUNTY	PIERCE COUNTY	TOTAL
2015	Actual	125,778	328,102	76,195	192,742	722,817
2016	Estimated	123,839	350,060	78,132	200,276	752,307
2017	Estimated	125,593	365,273	78,388	203,694	772,948
2018	Estimated	127,000	369,300	79,300	206,000	781,600
2019	Estimated	127,000	369,300	79,300	206,000	781,600
2020	Estimated	127,000	369,300	79,300	206,000	781,600
2021	Estimated	127,000	369,300	79,300	206,000	781,600
2022	Estimated	127,000	369,300	79,300	206,000	781,600

Estimates only include scheduled service and do not include special event or extra service. All estimated hours are subject to change based on end of year actuals

CORRIDOR RIDERSHIP & PERFORMANCE ANALYSIS



Corridor Ridership & Performance Analysis

Sound Transit's express bus network is structured around key regional travel corridors, typically on freeways or major highways to support the express, limited-stop characteristics of service. In the 2017 Service Implementation Plan, ST Express routes are grouped into common corridors for analysis. The corridors allow for an easier comparison of routes serving similar geographic areas and markets.

The following section includes analysis at the corridor level, for each major corridor Sound Transit provides service to. For the four major rail lines Sound Transit operates, Link, Sounder north line, Sounder south line and Tacoma Link, each is considered its own corridor, as they serve distinct markets. For ST Express, routes are grouped into distinct corridors: I-5 North, I-405 North, SR-522, SR-520, I-90, I-405 South, I-5 South *South King*, I-5 South *Pierce*, and the Sounder Connectors.

Each corridor profile includes the following information:

- A **schematic map** that provides an overview of the routes and markets served by the corridor.
- A **brief history** of the service in the corridor and how it has evolved over time, including history of the routes that have served the corridor and the major service changes of routes along the corridor.
- A **historical ridership** chart showing trends in average weekday, average Saturday, and average Sunday boardings from June 2013 through June 2016.

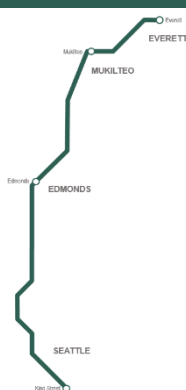
The thumbnails below provide an overview of the different corridors presented throughout this section. Each thumbnail has a snapshot of the corridor map, as well as information on spring 2016 average weekday boardings and boardings per trip on the corridor as a whole.

Link Corridor



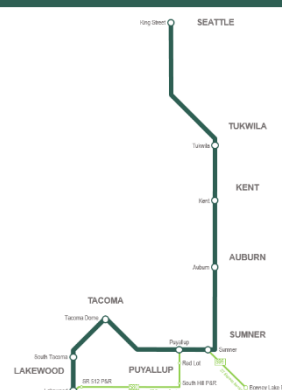
64,000 Average Weekday Boardings
124 Boardings per Trip

Sounder North Line Corridor



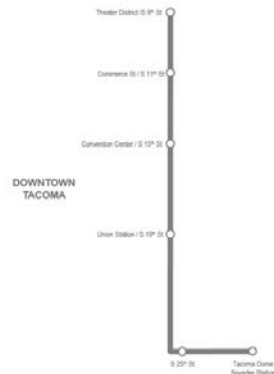
1,600 Average Weekday Boardings
193 Boardings per Trip

Sounder South Line Corridor



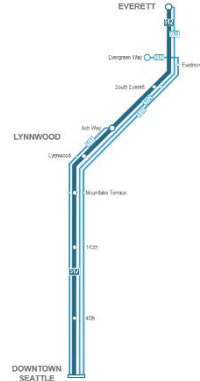
14,600 Average Weekday Boardings
670 Boardings per Trip

Tacoma Link Corridor



3,200 Average Weekday Boardings
20 Boardings per Trip

I-5 North Corridor



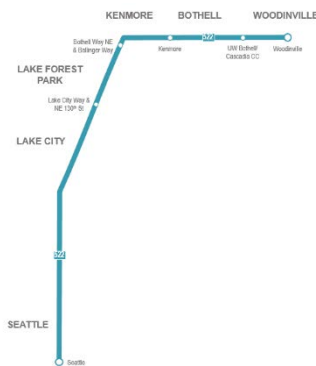
8,900 Average Weekday Boardings
43 Boardings per Trip

I-405 North Corridor



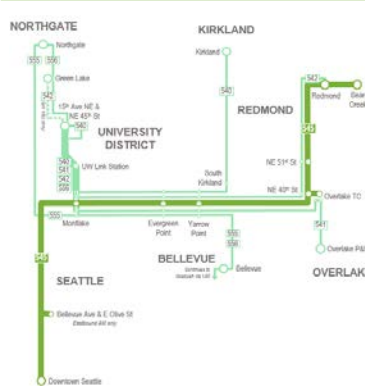
4,100 Average Weekday Boardings
39 Boardings per Trip

SR-522 Corridor



5,300 Average Weekday Boardings
52 Boardings per Trip

SR-520 Corridor



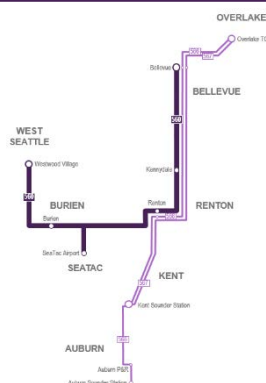
14,700 Average Weekday Boardings
41 Boardings per Trip

I-90 Corridor



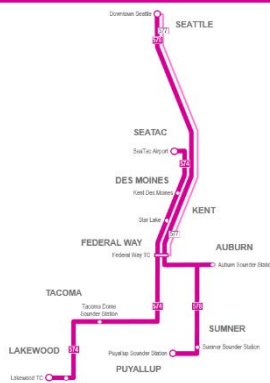
15,100 Average Weekday Boardings
55 Boardings per Trip

I-405 South Corridor



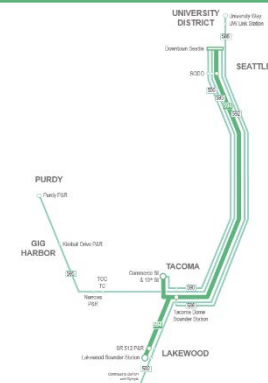
3,900 Average Weekday Boardings
25 Boardings per Trip

I-5 South (South King) Corridor



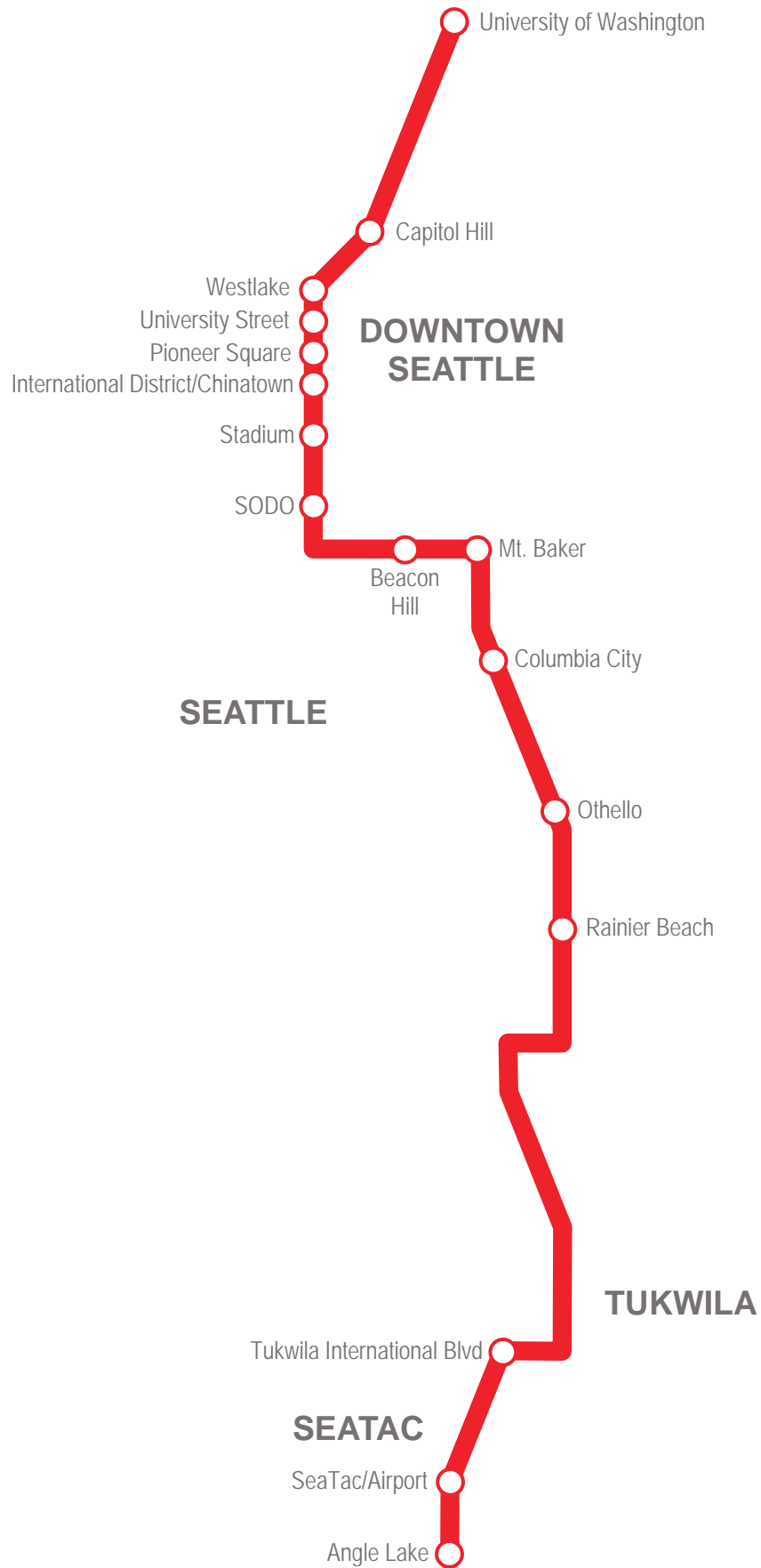
5,900 Average Weekday Boardings
35 Boardings per Trip

I-5 South (Pierce) Corridor



7,100 Average Weekday Boardings
34 Boardings per Trip

LINK CORRIDOR

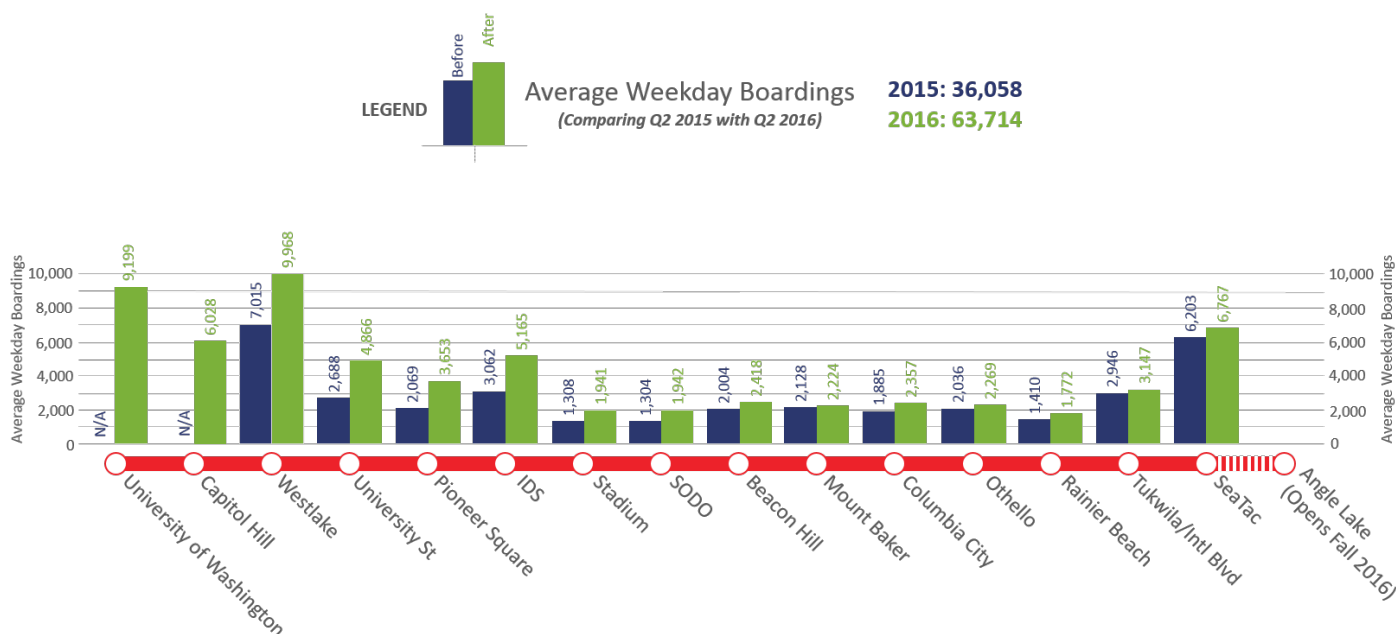


LINK CORRIDOR

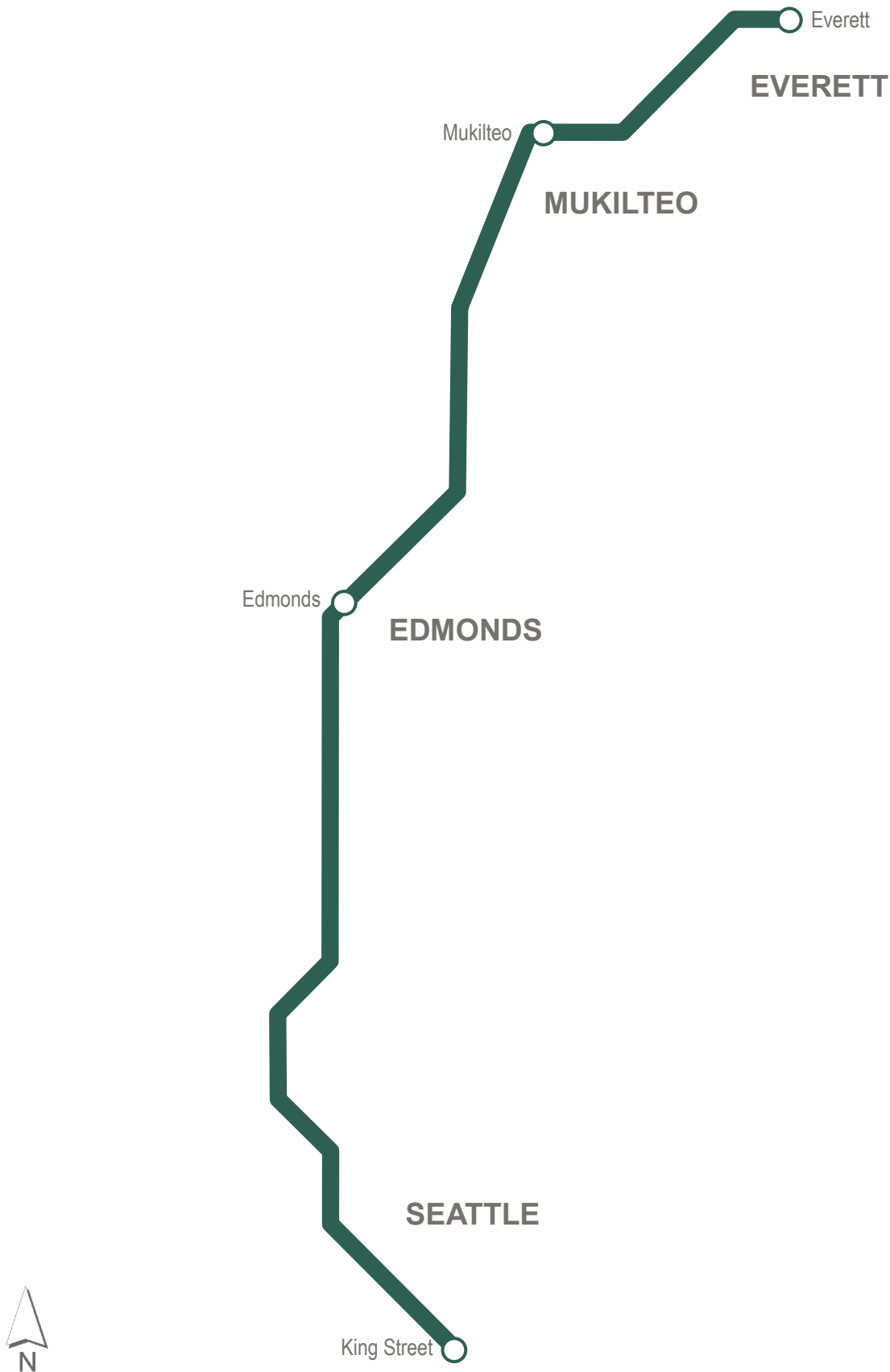
The initial 13.9 mile segment opened in July 2009 operating in passenger service between Westlake Station and Tukwila International Boulevard Station. The following December, the 1.4-mile long segment to SeaTac/Airport Station opened. This line operated between SeaTac/Airport and Westlake Station until March 2016, when the 3.5-mile long extension opened to Capitol Hill and University of Washington. Finally, the latest 1.6-mile extension to Angle Lake Station opened in September 2016. This brought the total length of the alignment to 20 miles with 16 stations.

Figure 21 below shows the station level comparison between 2nd Quarter 2015 and 2nd Quarter 2016, which is the first quarter that Link light rail operated to the University of Washington. Ridership increased by 77 percent in the 2nd Quarter and continues to grow. Approximately 55 percent of new riders come from University of Washington and Capitol Hill Stations. Ridership at the four Downtown Seattle stations increased by nearly 60 percent over 2015 since U Link opening. At the same time ridership grows on the new extension, ridership on the original segment continued to grow with Rainier Valley stations increasing by 16 percent year-over-year.

FIGURE 21: LINK CORRIDOR AVERAGE WEEKDAY BOARDINGS BY STATION



SOUNDER NORTH CORRIDOR

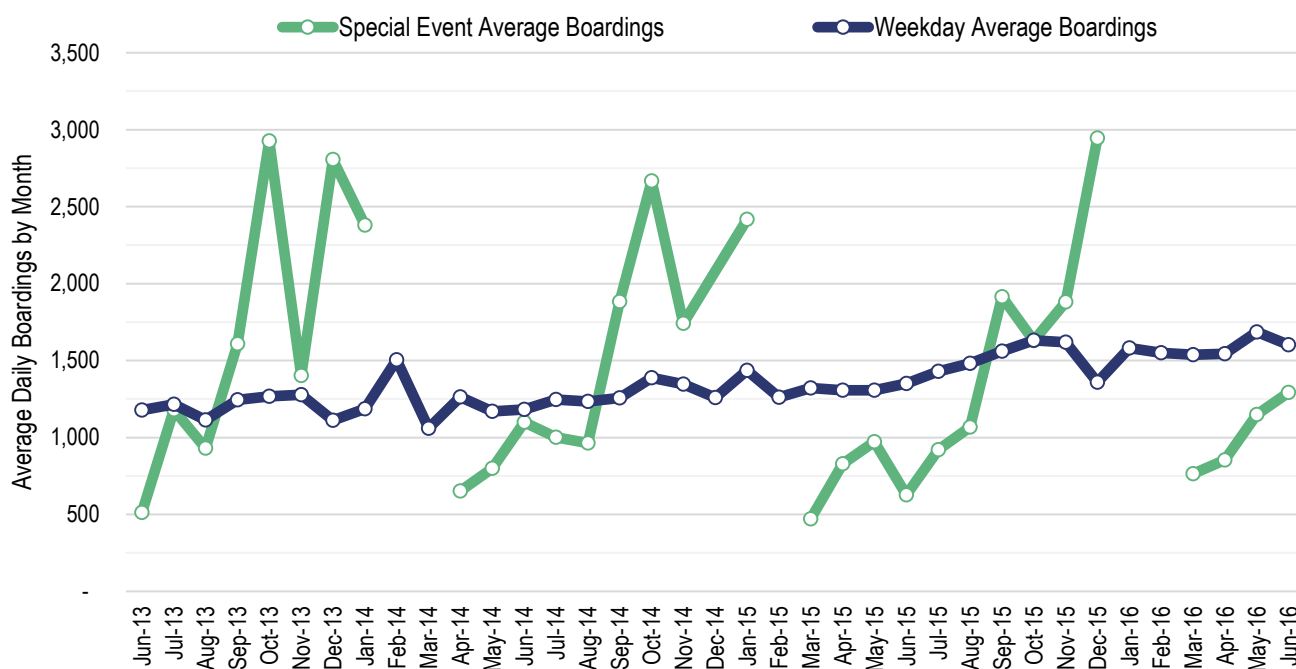


SOUNDER NORTH CORRIDOR

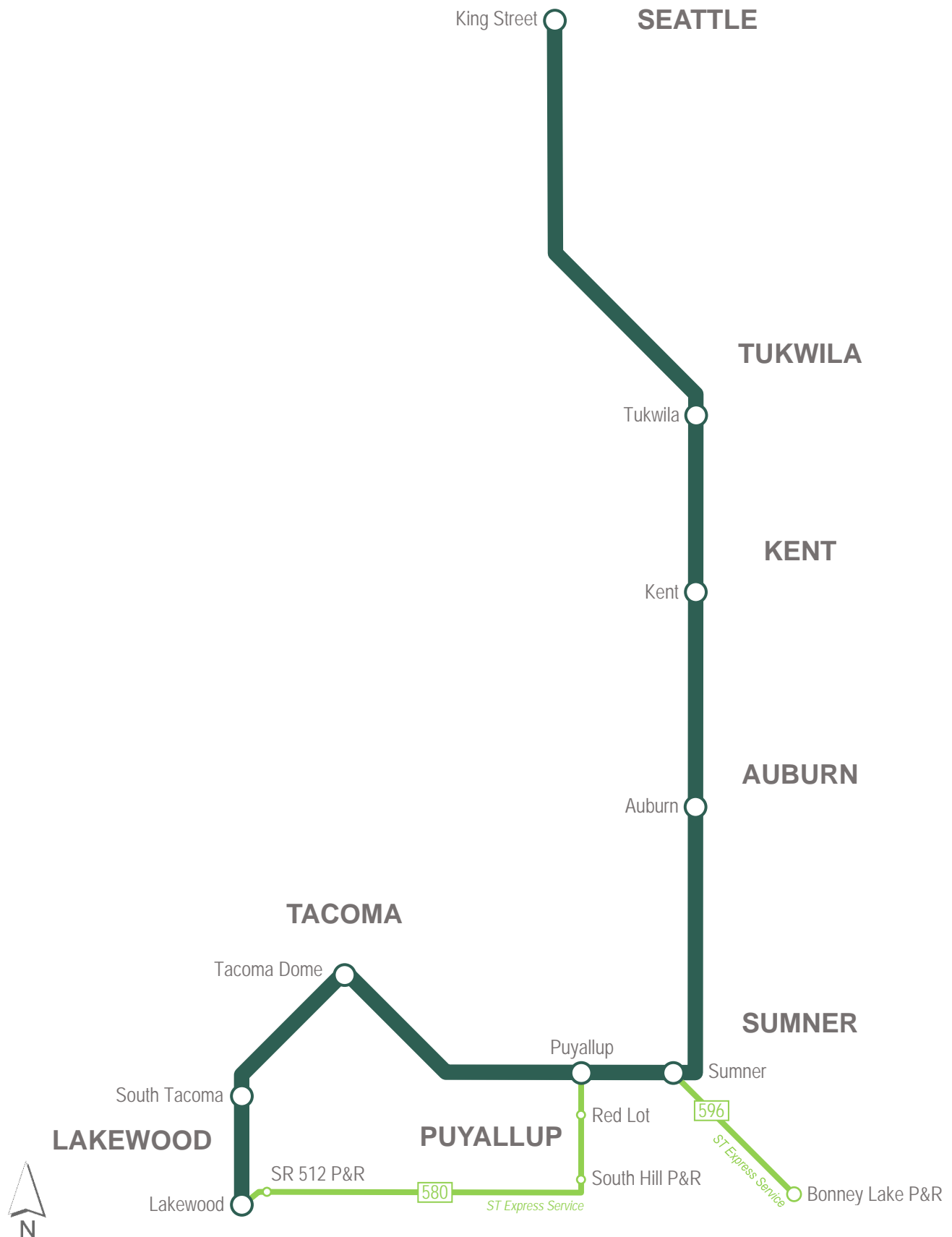
Service on the north line began in December 2003 with one peak period round trip between Everett and Seattle with an intermediate stop in Edmonds. By the opening of Mukilteo Station in May 2008 service had increased to three peak period round trips each weekday. A fourth peak period round trip was added in September 2008.

Average weekday boardings increased by nearly 24 percent from 2013 to 2015 and growth continues in 2016 with weekday boardings about 11 percent over 2015 levels. As of August 2016, the north line is carrying approximately 1,600 passengers per day. Productivity on the line has improved in 2016 with north line trains averaging 200 passengers per trip. Special event service for sporting events in the fall generates ridership above average weekday levels. Figure 22 shows average boardings by day type by month for the Sounder North corridor from mid-2013 through mid-2016.

FIGURE 22: CORRIDOR AVERAGE WEEKDAY & SPECIAL EVENT BOARDINGS BY MONTH 2013-2016



SOUNDER SOUTH LINE CORRIDOR



SOUNDER SOUTH LINE CORRIDOR

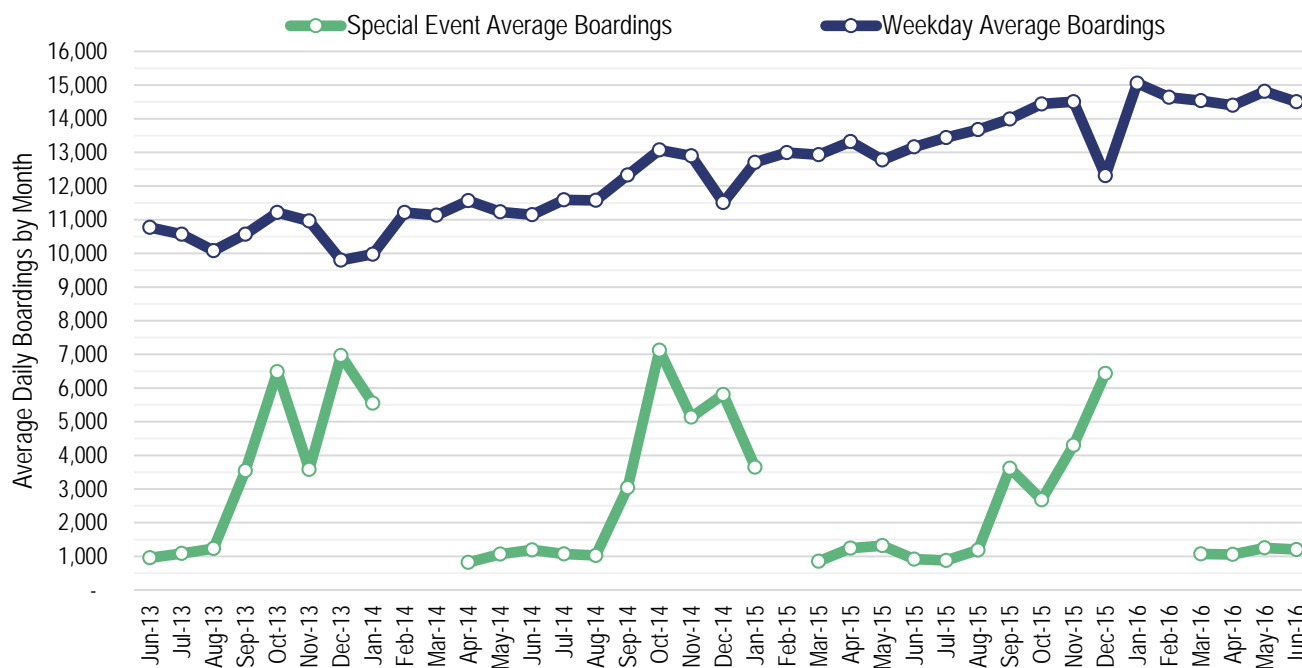
Service on the south line began in September 2000 with two peak period round trips between Tacoma and Seattle with intermediate stops in Sumner and Auburn. Within the next year, the stations in Puyallup, Kent and Tukwila had opened. Sound Transit closely worked with BNSF on service implementation and by June 2009, the ninth round trip approved by Sound Move was implemented. In October 2012, the south line was extended to South Tacoma and Lakewood. At the same time of the extension to Lakewood, the first of four round trips funded by of ST2 was implemented. The second ST2 funded round trip was implemented during the midday in September 2016.

South line ridership grew by 27 percent from 2013 to 2015. The positive ridership trend on the south line has continued into 2016 as average weekday boardings grew by 10 percent over 2015. In 2016, the average south line train carries 735 passengers, with the south line carrying over 14,500 passengers each weekday. Figure 23 shows average boardings by day type by month for the Sounder South corridor from mid-2013 through mid-2016.

Two ST Express routes provide connections to the Sounder south line. ST Express Route 580, implemented in September 2015, connects Lakewood Station and Puyallup Station providing connections to Sounder trains beginning or ending at Tacoma Dome Station. The route also provides service between the South Hill Park-and-Ride and the Puyallup Fairgrounds Red Lot. ST Express Route 596 began service in June 2012. Sound Transit added trips to both routes to meet the new midday trains added to Sounder. The ST Express routes that provide connections from remote park-and-ride lots to Sounder in Puyallup and Sumner connect approximately 475 to 500 passengers to the trains each morning.

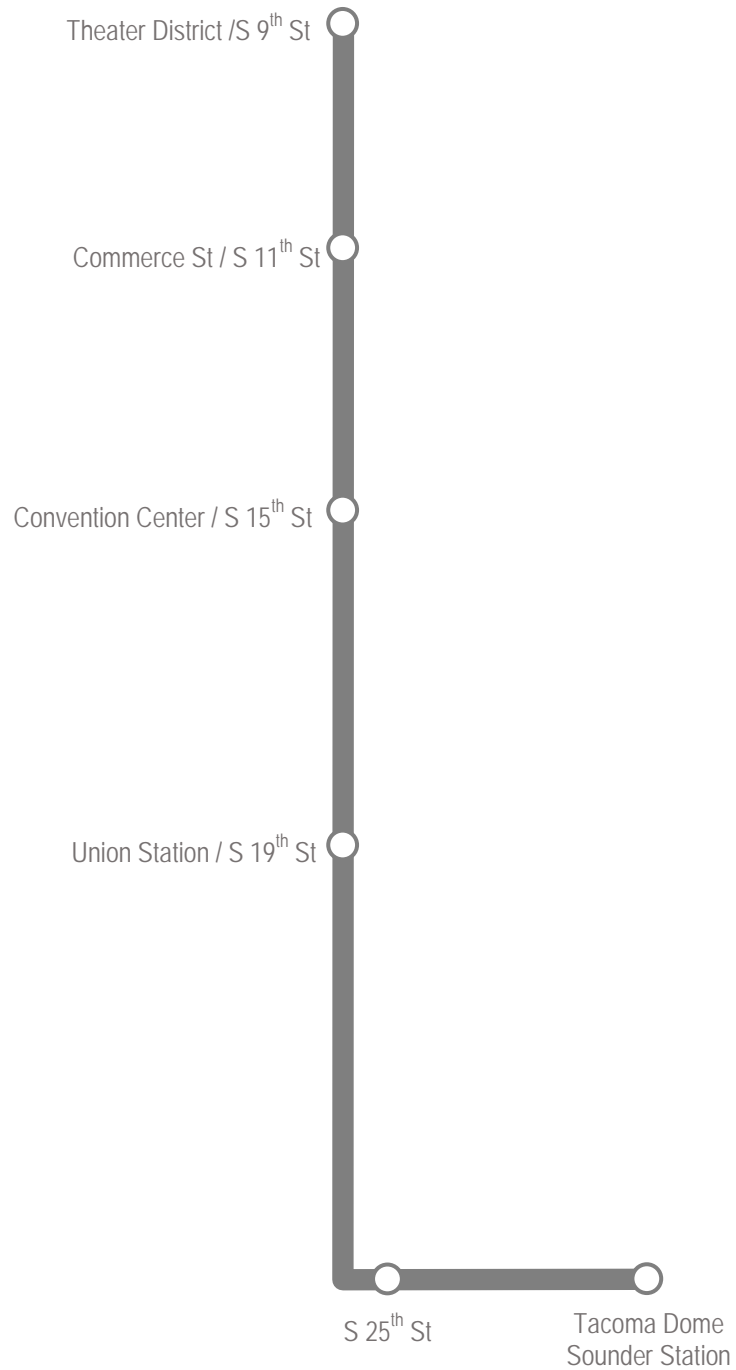
In 2015, ridership averaged 446 boardings per weekday on ST Express Route 580. Approximately 40 percent of the ridership rides eastbound to Puyallup Station while 60 percent of the ridership travels eastbound. Most passengers travel between South Hill Park-and-Ride lot, Red Lot, and Puyallup Station. Route 596 ridership averaged 460 boardings per weekday, which is up 28 percent from 2013. Route 596 averages approximately 30 passengers per trip.

FIGURE 23: CORRIDOR AVERAGE WEEKDAY & SPECIAL EVENT BOARDINGS BY MONTH 2013-2016



TACOMA LINK

DOWNTOWN TACOMA



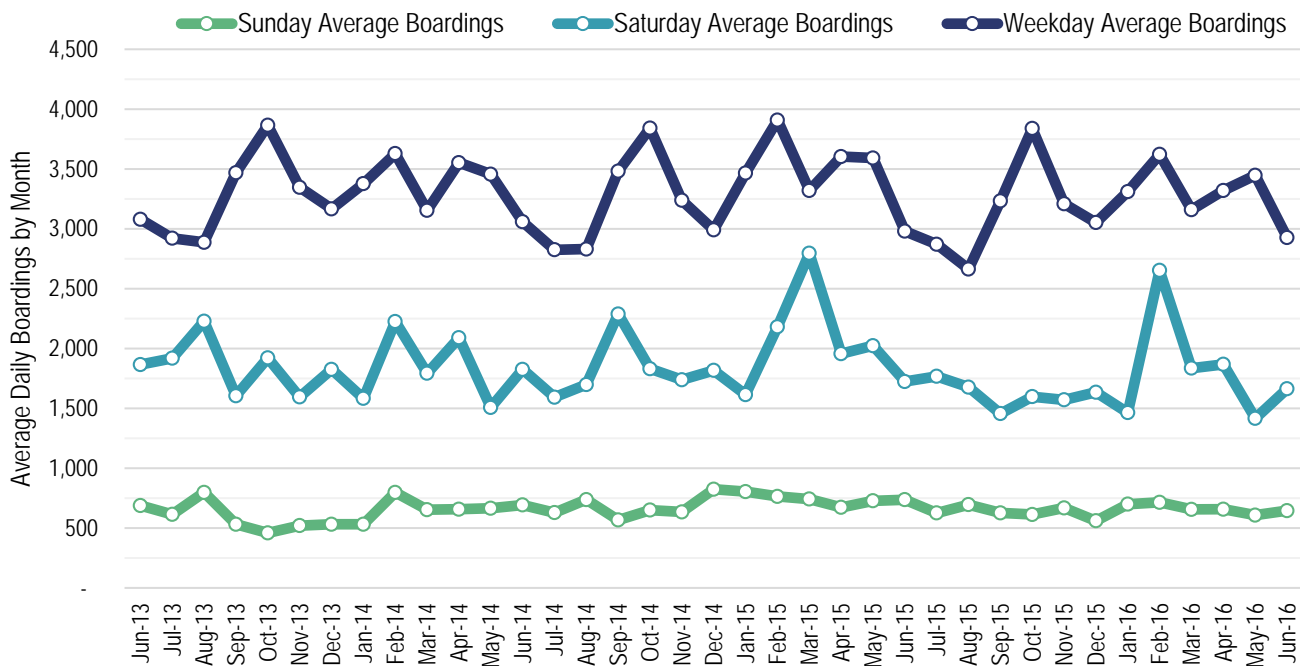
TACOMA LINK

Tacoma Link opened in August 2003 connecting the Tacoma Dome and Theater District in downtown Tacoma with four intermediate stations at S 25th Street, Union Station/S 19th Street, Convention Center/S 15th Street, and Commerce St. Initial service levels operated with 10-minute base frequency with 20-minute service during periods of reduced service. In September 2011, Commerce Street Station was opened and frequency adjusted from 10 minutes base/20 minutes reduced to 12 minutes base/24 minutes reduced.

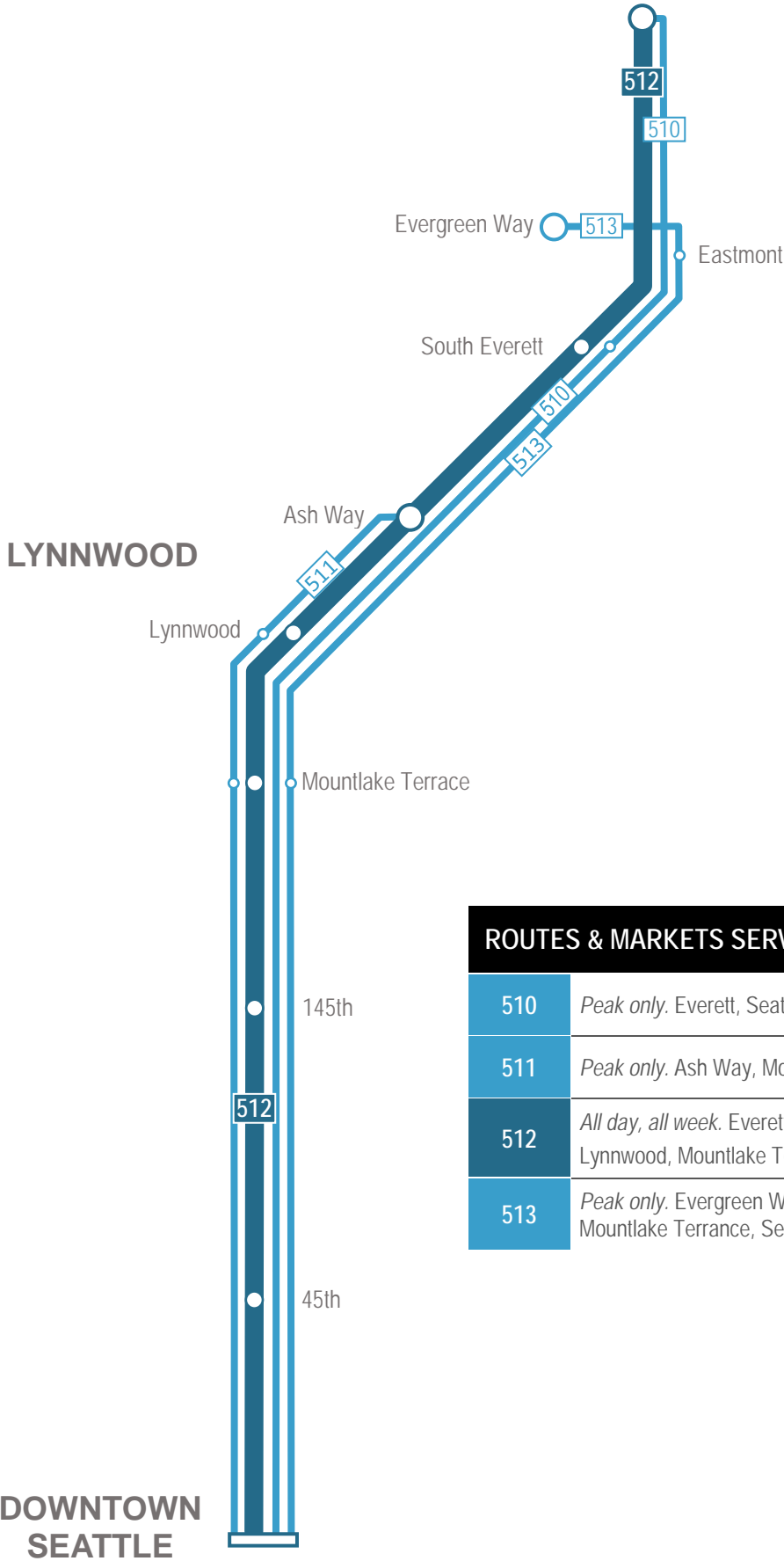
Prior to the opening of Tacoma Link, Sound Transit operated a Downtown Connector that operated from Tacoma Dome Station and then looped through downtown Tacoma during peak periods at a 12 to 15 minute frequency. Pierce Transit had received a grant to operate this service and Sound Transit took over operation of the Downtown Connector in 2000 when grant funding was used up.

Total boardings on Tacoma Link between 2013 and 2015 declined by three percent. Average weekday boardings also decreased by three percent between 2013 and 2015. Daily boardings for 2016 compared to 2015 are about the same on weekdays and down slightly on weekends. Productivity has tracked similar to ridership. Figure 24 shows average boardings by day type by month for Tacoma Link from mid-2013 through mid-2016.

FIGURE 24: TACOMA LINK AVERAGE DAILY BOARDINGS BY MONTH 2013-2016



I-5 NORTH CORRIDOR



ROUTES & MARKETS SERVED

510	Peak only. Everett, Seattle.
511	Peak only. Ash Way, Mountlake Terrace, Seattle.
512	All day, all week. Everett, South Everett, Ash Way, Lynnwood, Mountlake Terrace, 45 th , Seattle.
513	Peak only. Evergreen Way, Eastmont, Mountlake Terrace, Seattle.

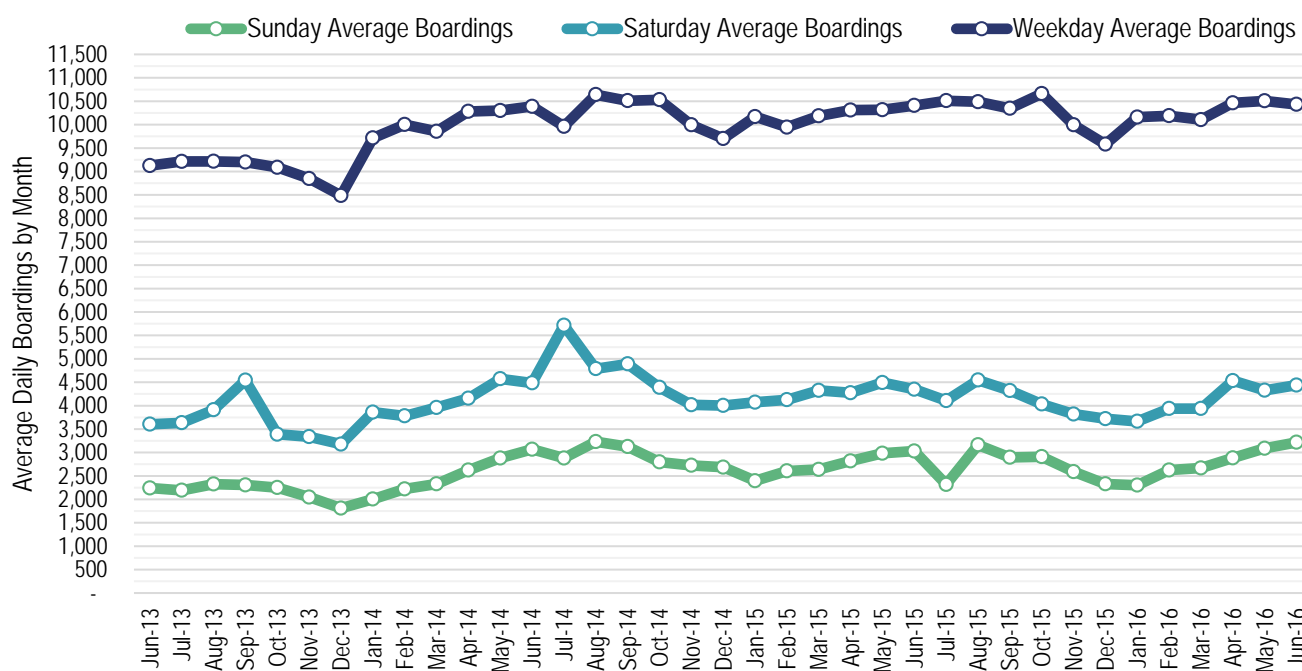
I-5 NORTH CORRIDOR

Service on this corridor began in 1999 and has continued to improve in response to demand. For a majority of the day, service operates every 15 minutes or better with very frequent service provided during rush hours as peak-only overlay routes. The last major restructure on the corridor was in September 2013. The primary reason for the change was that peak hour ridership on Sound Transit services between Seattle and Snohomish County had increased significantly prior to the restructure to the point that all the trips in the peak hour, peak direction operated at or above seated capacity. In September 2013, off-peak service on Route 510 and 511 were combined to operate as Route 512 trips. The savings from these changes funded additional trips on Route 510 and 513 during the morning and afternoon peak periods. The additional trips on Route 513 provided increased opportunities for people to use Eastmont Park-and-Ride lot as an alternative to the overcrowded South Everett Freeway Station.

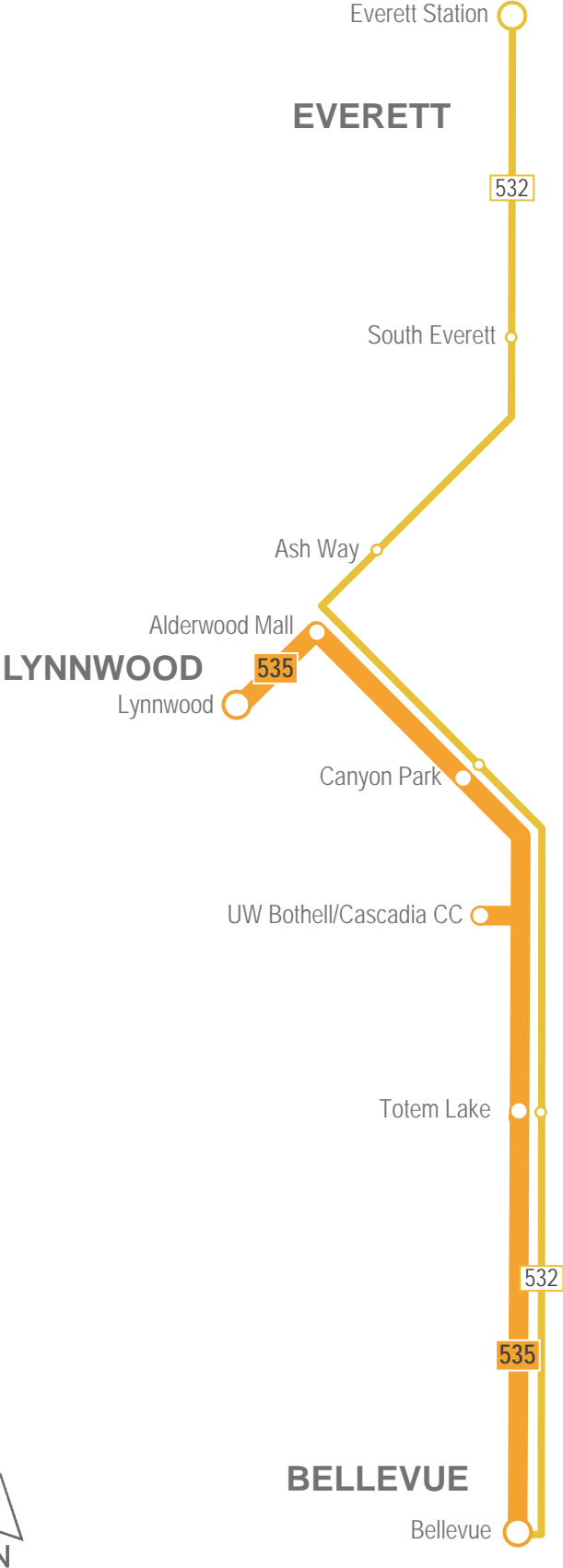
Within months of the I-5 restructure in 2013, there was a 5 percent increase in ridership. Total boardings were up 14 percent in 2015 over total boardings in 2013 on the corridor. Weekday ridership grew by 12 percent. Saturday boardings on the corridor was up 23 percent. Sunday boardings on the corridor increased by 33 percent. Figure 25 shows average boardings by day type by month for the I-5 North corridor from mid-2013 through mid-2016.

Increasing congestion on the corridor has increased the cost and resources needed to serve the corridor. In-service time, the actual time the bus takes to complete a trip, has increased. Increasing congestion not only impacts the scheduled service, but it also impacts the amount of time the bus needs to travel from the base, located in southwest Everett, to the beginning of the route. Due to the increased congestion in the corridor, in September 2015, Sound Transit invested additional hours and one additional bus to maintain the schedule reliability in this corridor.

FIGURE 25: I-5 NORTH CORRIDOR AVERAGE DAILY BOARDINGS BY MONTH 2013-2016



I-405 NORTH CORRIDOR



ROUTES & MARKETS SERVED

532	<i>Peak only.</i> Everett, South Everett, Ash Way, Canyon Park, Totem Lake, Bellevue
535	<i>All day, not Sunday.</i> Lynnwood, Alderwood Mall, Canyon Park, UW Bothell/Cascadia CC, Totem Lake, Bellevue

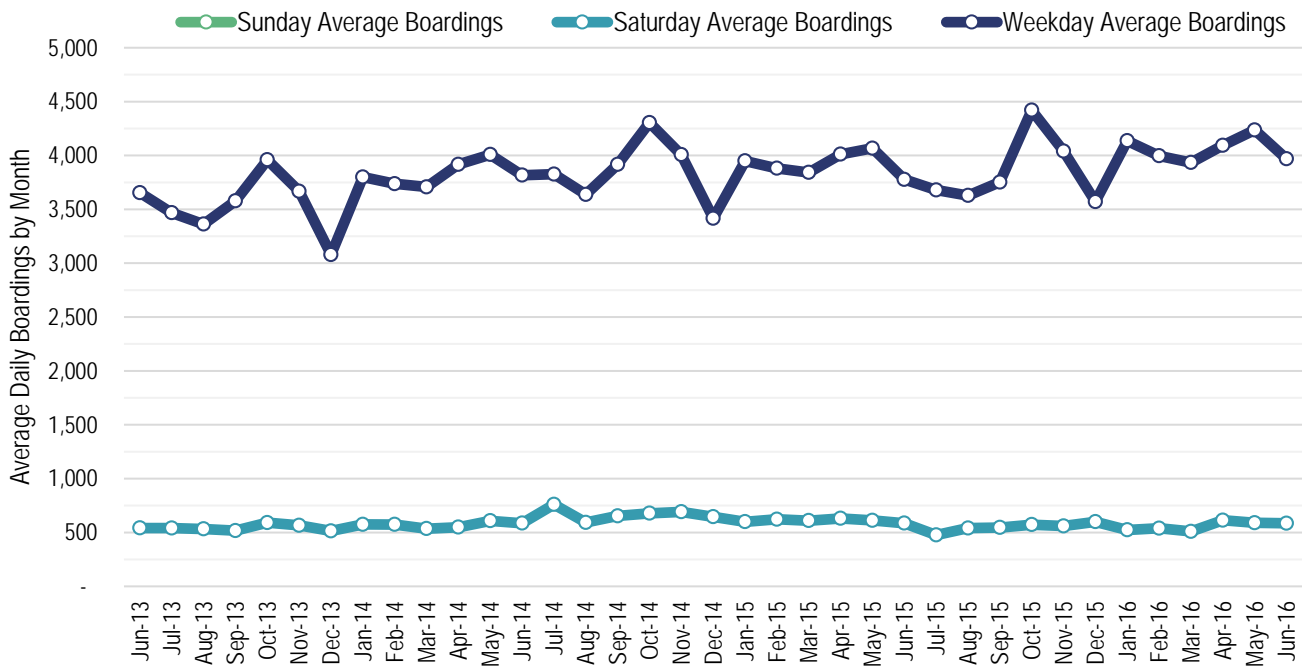
I-405 NORTH CORRIDOR

Service on this corridor began in September 1999 with all-day weekday service Lynnwood to Bellevue and Everett to Bellevue. Due to low ridership, night and weekend service between Everett and Bellevue was replaced with service between Lynnwood and Bellevue in 2001. The last major route restructure on the corridor was in September 2006 when weekday midday service between Everett and Bellevue was replaced with 30-minute service between Lynnwood and Bellevue. Prior to this date, midday service was operated hourly on Route 530 (operating between Everett and Bellevue) and Route 535, with a 30-minute combined frequency between Canyon Park and downtown Bellevue. In 2007, the Canyon Park and Totem Lake freeway stations opened, which allowed some streamlining on the corridor. The last major schedule change was in June 2011 when Sunday service was discontinued as a part of the 2011 SIP efficiency initiative.

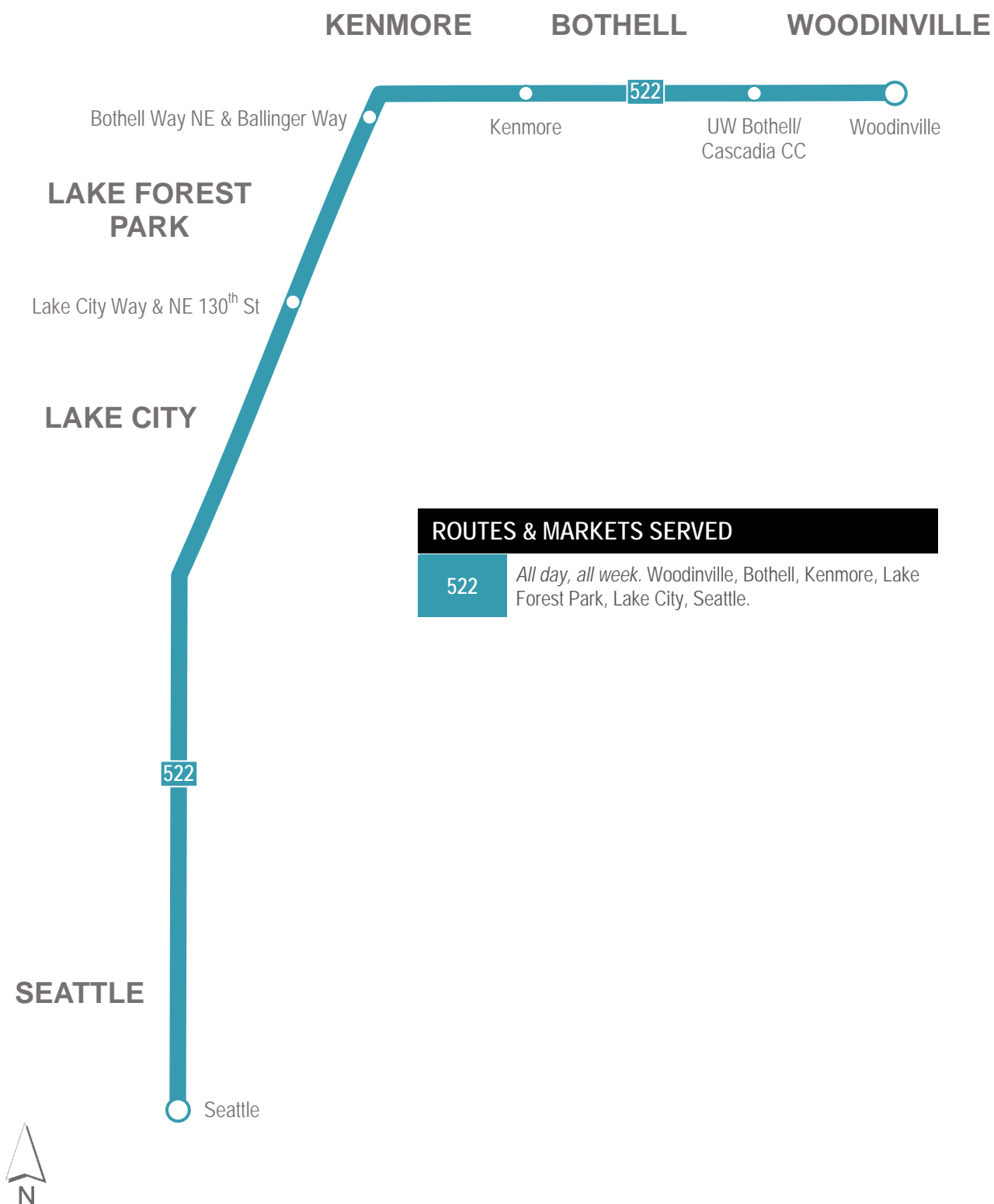
Total boardings were up 10 percent in 2015 over total boardings in 2013 on the corridor. Weekday ridership on Route 535 (Lynnwood-Bellevue) was up 11 percent while ridership on Route 532 (Everett-Bellevue) was up nine percent for the same time period. Saturday boardings on Route 535 were up 10 percent. Figure 26 shows average boardings by day type by month for the I-405 North corridor from mid-2013 through mid-2016.

Most trips exceed the capacity of a 40-foot coach during the peak period. In fact, most trips on the Everett-Bellevue service are near or above the seated capacity of an articulated coach. In the peak hour, peak direction of travel the average trip carries 62 passengers. The seated capacity of the articulated buses that operate on this corridor is 56 passengers. In the reverse-peak direction, ridership is lower averaging 25 passengers per trip.

FIGURE 26: I-405 CORRIDOR AVERAGE DAILY BOARDINGS BY MONTH 2013-2016



SR 522 CORRIDOR



SR 522 CORRIDOR

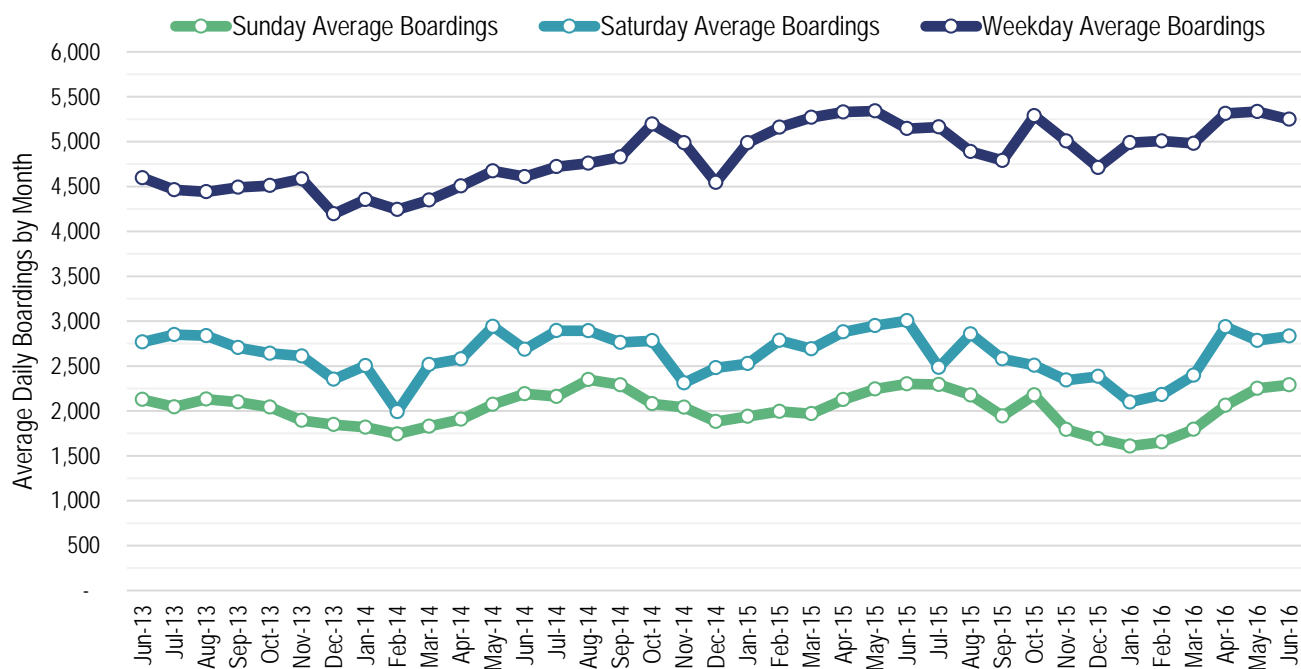
Service on this corridor began in September 2002 when Sound Transit implemented ST Express Route 522 replacing King County Metro Route 307. Prior to implementation of the service, Sound Transit and King County Metro conducted an extensive public outreach process to develop a coordinated service on the corridor. Service on Route 41 was expanded to operate seven days a week and the route extended to the Lake City business district where connections would be made with ST Express Route 522. Service on Route 372 was expanded to operate in both directions all day on weekdays and was revised to serve the UW Bothell/Cascadia Community College campus, and the North Creek area of Bothell.

In September 2015, Sound Transit, in partnership with King County Metro, applied for Regional Mobility Grant funding for the addition of three trips on ST Express Route 522 to relieve overcrowding. Likewise, King County Metro added trips on their service along the SR-522 corridor.

In March 2016, King County Metro significantly enhanced Route 372 to operate every 15 minutes between the University District and UW Bothell/Cascadia Community College on weekdays as a part of the Link light rail extension to University of Washington Station. A new stop was added to ST Express Route 522 in the Maple Leaf neighborhood to replace local service that was removed as a part of the service restructure.

Total boardings were up 11 percent in 2015 over total boardings in 2013 on the corridor. Weekday ridership grew by 13 percent, Saturday boardings on the corridor remained flat, Sunday boardings on the corridor increased by three percent. During the peak hour on weekdays the average trip carries 64 passengers. Even with the three added trips, buses on weekdays are still averaging approximately 90 percent of capacity. This indicates that trips operating in the peak direction still has standing loads and that the additional capacity added on this corridor was filled by latent demand. Figure 27 shows average boardings by day type by month for the SR-522 corridor from mid-2013 through mid-2016.

FIGURE 27: SR 522 CORRIDOR AVERAGE DAILY BOARDINGS BY MONTH 2013-2016

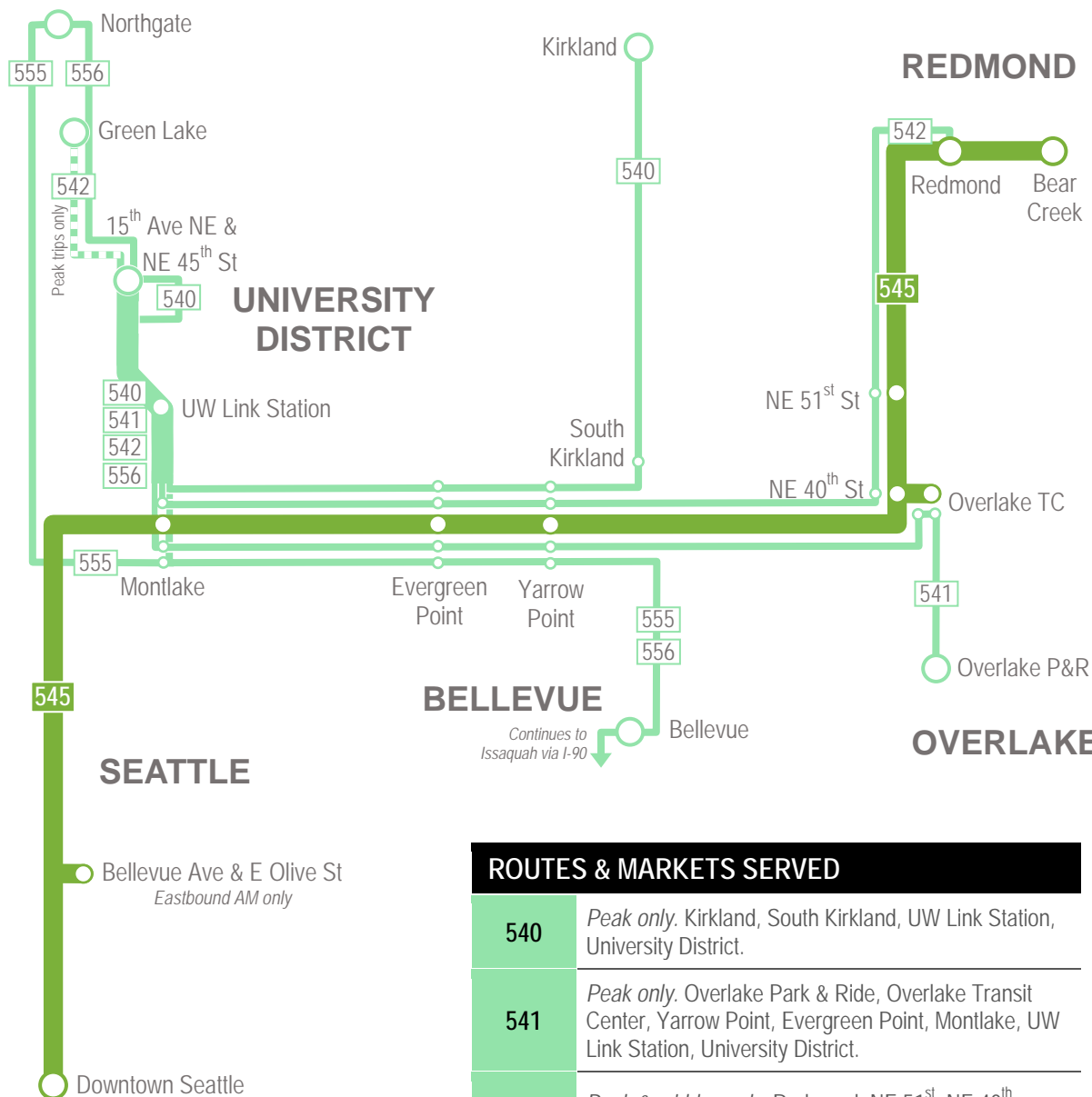


SR 520 CORRIDOR

NORTHGATE

KIRKLAND

REDMOND



ROUTES & MARKETS SERVED

540	Peak only. Kirkland, South Kirkland, UW Link Station, University District.
541	Peak only. Overlake Park & Ride, Overlake Transit Center, Yarrow Point, Evergreen Point, Montlake, UW Link Station, University District.
542	Peak & midday only. Redmond, NE 51 st , NE 40 th , Overlake Transit Center, Yarrow Point, Evergreen Point, Montlake, UW Link Station, University District, Green Lake.
545	All day, all week. Bear Creek, Redmond, NE 51 st , NE 40 th , Overlake Transit Center, Yarrow Point, Evergreen Point, Montlake, Downtown Seattle.
555	Peak only. Northgate, Montlake, Evergreen Point, Yarrow Point, Bellevue, Issaquah.
556	Peak only. Northgate, University District, UW Link Station, Evergreen Point, Yarrow Point, Bellevue, Issaquah.



SR 520 CORRIDOR

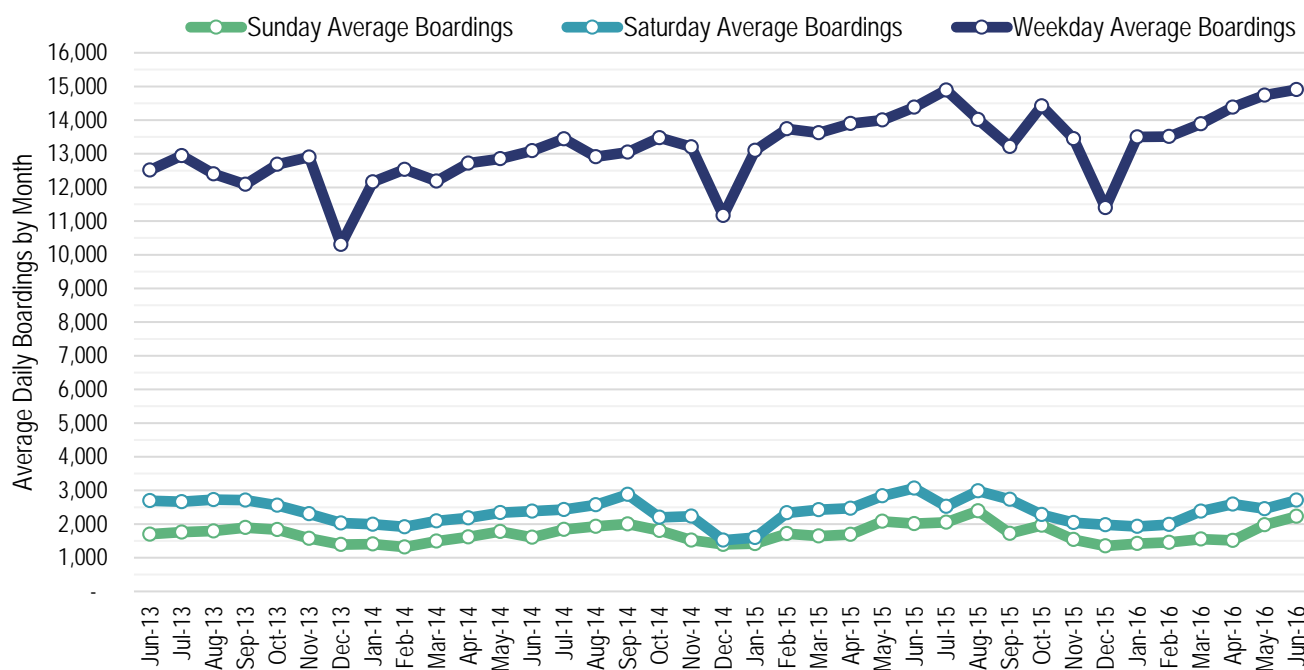
Service on this corridor began in September 2000 when Sound Transit implemented Routes 540, 545 and 546. Route 546 was discontinued when the Overlake Transit Center opened in February 2002.

Saturday service was added to Route 545 in September 2003 and Sunday service began in September 2004. The following year, peak period service was enhanced to every 10 minutes and the stop on the west slope of Capitol Hill was added. Demand for service on the route has remained high since then. In February 2008, Route 545 began operating 15 minute midday service. The last major service enhancement for Route 545 happened in September 2016, as 15 peak hour trips were added to provide additional capacity and reduce overcrowding on the route.

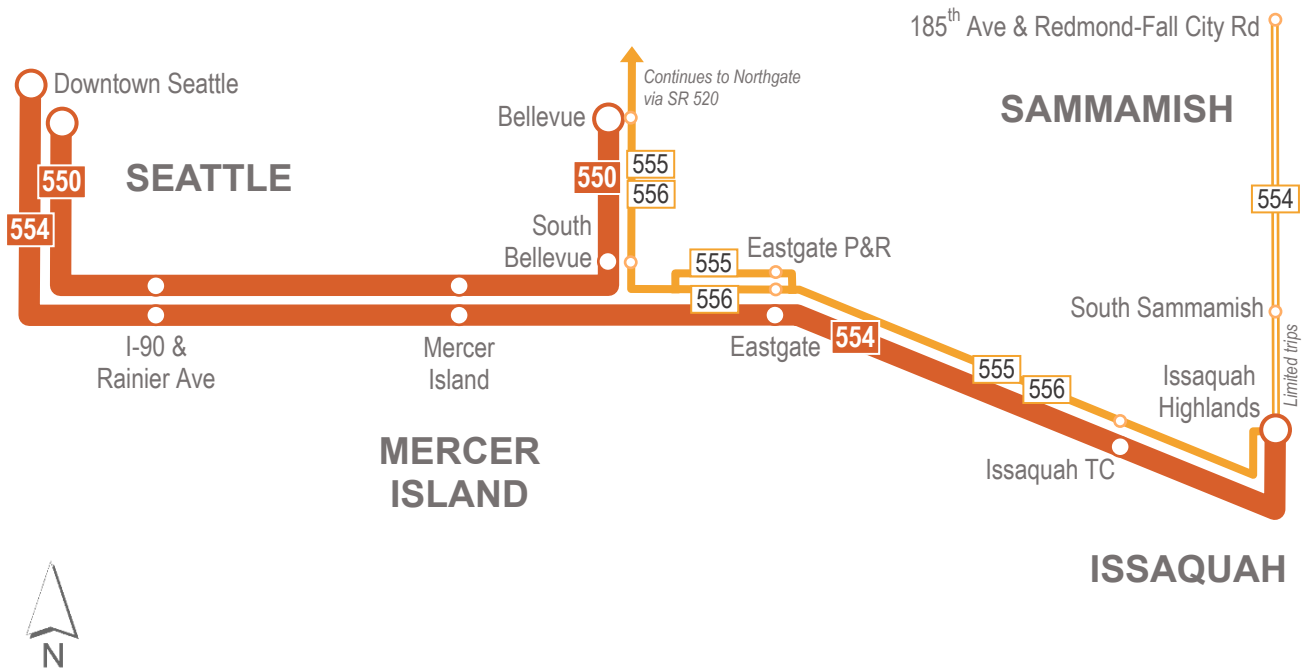
Meanwhile, 540 ridership had been declining, especially since King County Metro made significant enhancements to Route 255 that operated between Kirkland and downtown Seattle. In February 2008, the portion of the route between Redmond and Kirkland was discontinued. Midday service was discontinued in June 2011 to address budget concerns with the recession. Direct service between Redmond and the University District was reinstated on weekdays during the peak periods in October 2010 on Route 542. In March 2016, midday service was added to provide a connection between the University District and Evergreen Point Freeway Station. Finally, Route 541 was implemented as a peak-hour, two-way service between Overlake and the University District to improve connections between Link and the Overlake area.

Between 2013 and mid-2016, average weekday boardings on the SR-520 corridor increased by 18 percent. During peak travel times buses remain crowded on the corridor with the average bus carrying 50 passengers. The implementation of Route 541 and the addition of 15 one-way trips on Route 545 in September 2016 increased capacity in the corridor, the additional trips will also accommodate future ridership growth. Figure 28 shows average boardings by day type by month for the SR-520 corridor from mid-2013 through mid-2016.

FIGURE 28: SR 520 CORRIDOR AVERAGE DAILY BOARDINGS BY MONTH 2013-2016



I-90 CORRIDOR



ROUTES & MARKETS SERVED

550	<i>All day, all week.</i> Downtown Seattle, Rainer Ave, Mercer Island, South Bellevue, Bellevue.
554	<i>All day, all week.</i> Downtown Seattle, Rainer Ave, Mercer Island, Eastgate, Issaquah TC, Issaquah Highlands, South Sammamish.
555	<i>Peak only.</i> Northgate, Montlake, Evergreen Point, Yarrow Point, Bellevue, South Bellevue, Eastgate P&R, Issaquah TC, Issaquah Highlands.
556	<i>Peak only.</i> Northgate, University District, UW Link Station, Evergreen Point, Yarrow Point, Bellevue, South Bellevue, Eastgate, Issaquah TC, Issaquah Highlands.

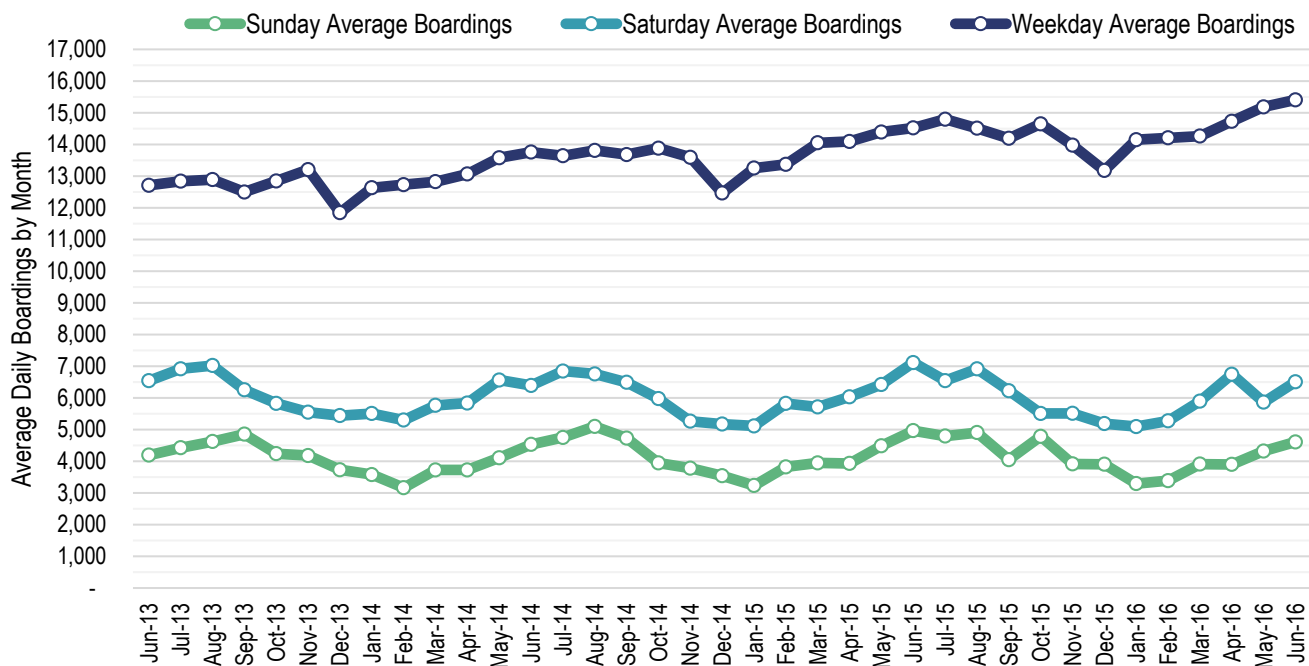
I-90 CORRIDOR

Service on this corridor began in 1999 when Sound Transit implemented Route 550 replacing King County Metro Route 226. Significant improvements to this route were made in September 2009 when 15-minute service was implemented on Saturdays. In September 2013, peak period, peak direction service was improved to operate every five minutes.

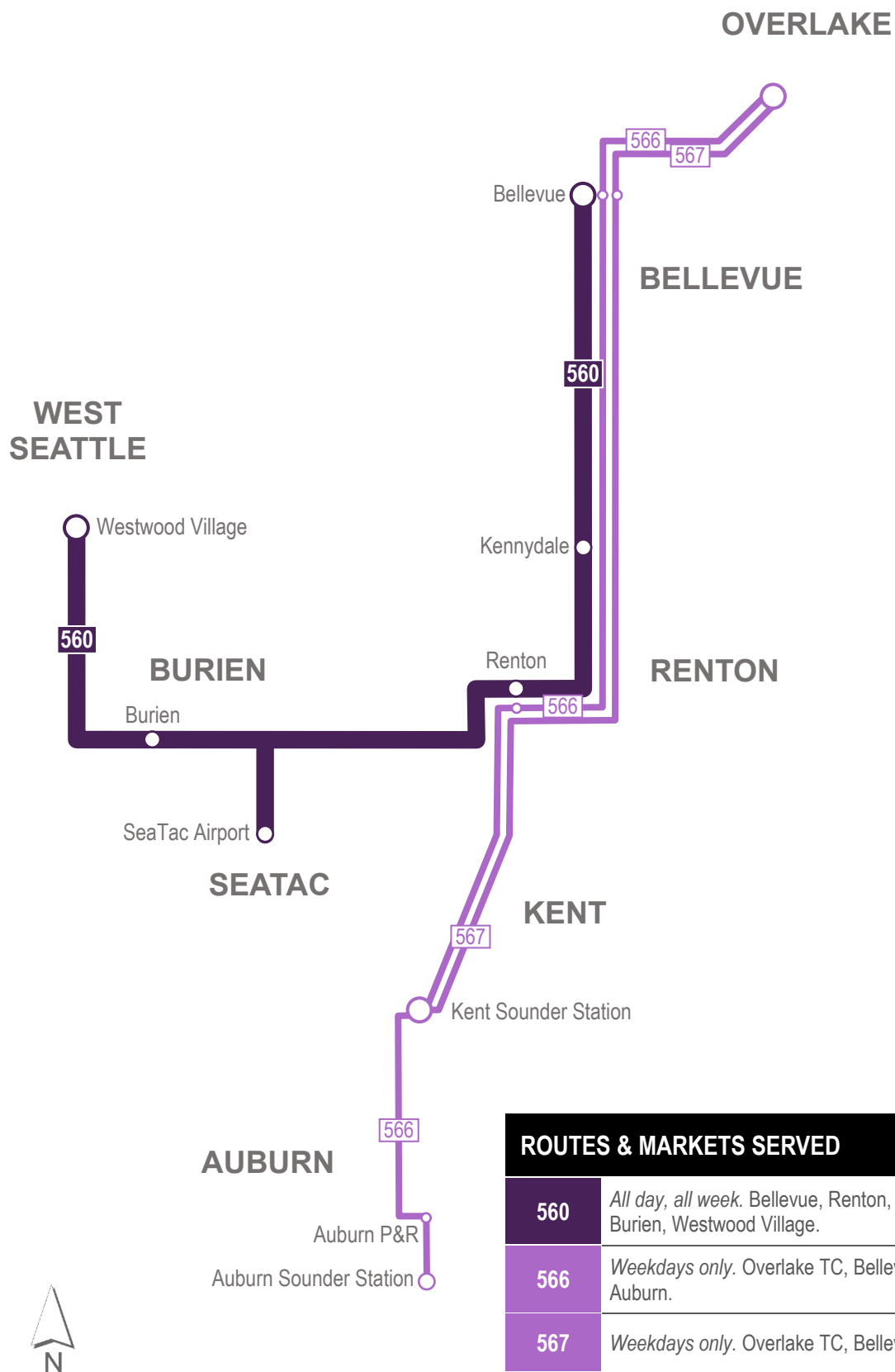
Service on I-90 between downtown Seattle and Issaquah was not included in the original *Sound Move* plan. The 554 proposal came about as a result of discussions with King County Metro and local jurisdictions in the East King County subarea. Based on overwhelming public support for a Sound Transit route to operate from Issaquah to downtown Seattle, the 2001 Service Implementation Plan called for starting Route 554 as an all-day service that operated seven days a week, replacing King County Metro service on the corridor. The public outreach effort also resulted in the addition of a two-way peak-hour service on Route 555 between Northgate and Issaquah. This service began in September 2001. Service to Issaquah Highlands was implemented in September 2003 on Route 554. In June 2011, midday service was reduced on Route 554 due to the recession.

Total boardings were up 11 percent in 2015 over total boardings in 2013 on the corridor. Weekday ridership grew by 13 percent. Saturday boardings on the corridor decreased slightly by one percent. Sunday boardings on the corridor increased by two percent. Riders per trip are very high on this corridor, average 76 per trip in the peak and up to 81 in the eastbound peak direction. Ridership continues to climb in the corridor. Route 550 now regularly averages over 10,500 boardings per day. In September 2015, twelve one-way peak trips were added to Route 554 as part of the mitigation for the closure of the South Bellevue Park-and-Ride lot that will occur in spring 2017. Ridership data does not include Routes 555 and 556 since the peak load point is on the SR-520 Bridge and is included in the SR-520 corridor. Figure 29 shows average boardings by day type by month for the I-90 corridor from mid-2013 through mid-2016.

FIGURE 29: I-90 CORRIDOR AVERAGE DAILY BOARDINGS BY MONTH 2013-2016



I-405 SOUTH CORRIDOR



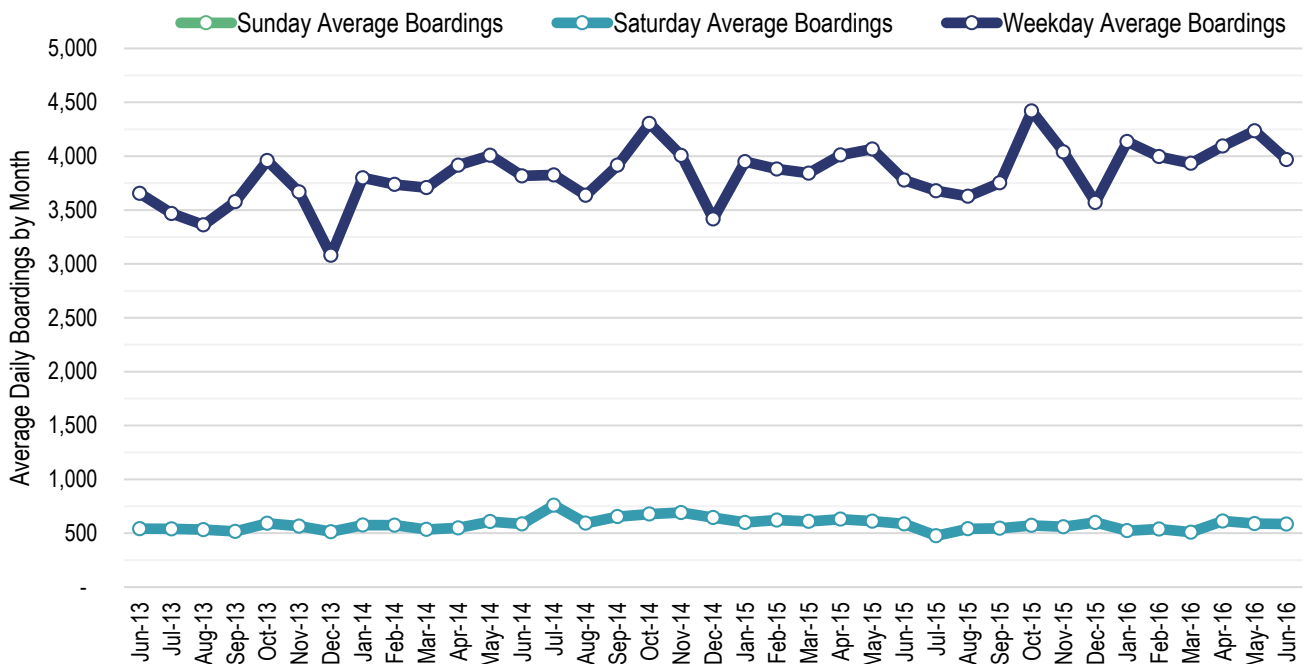
I-405 SOUTH CORRIDOR

Service on this corridor began in September 1999 with the implementation of Route 565 between Federal Way and Bellevue with intermediate stops in Auburn, Kent and Renton. Peak hour demand exceeded the capacity of the service in September 2003, leading to the implementation of Route 564 between Auburn and Bellevue providing 15-minute service on the corridor. Service was extended to the Overlake Transit Center two years later in 2005. Four years later, in February 2010, service along the corridor was consolidated into ST Express Route 566. In June 2013, select trips on Route 566 were converted to operate as Route 567 connecting with Sounder commuter rail at Kent Station. In June 2015, a travel time analysis was completed on Routes 566 and 567 that required significant resources to address on-time performance; this was funded by discontinuing weekday night service.

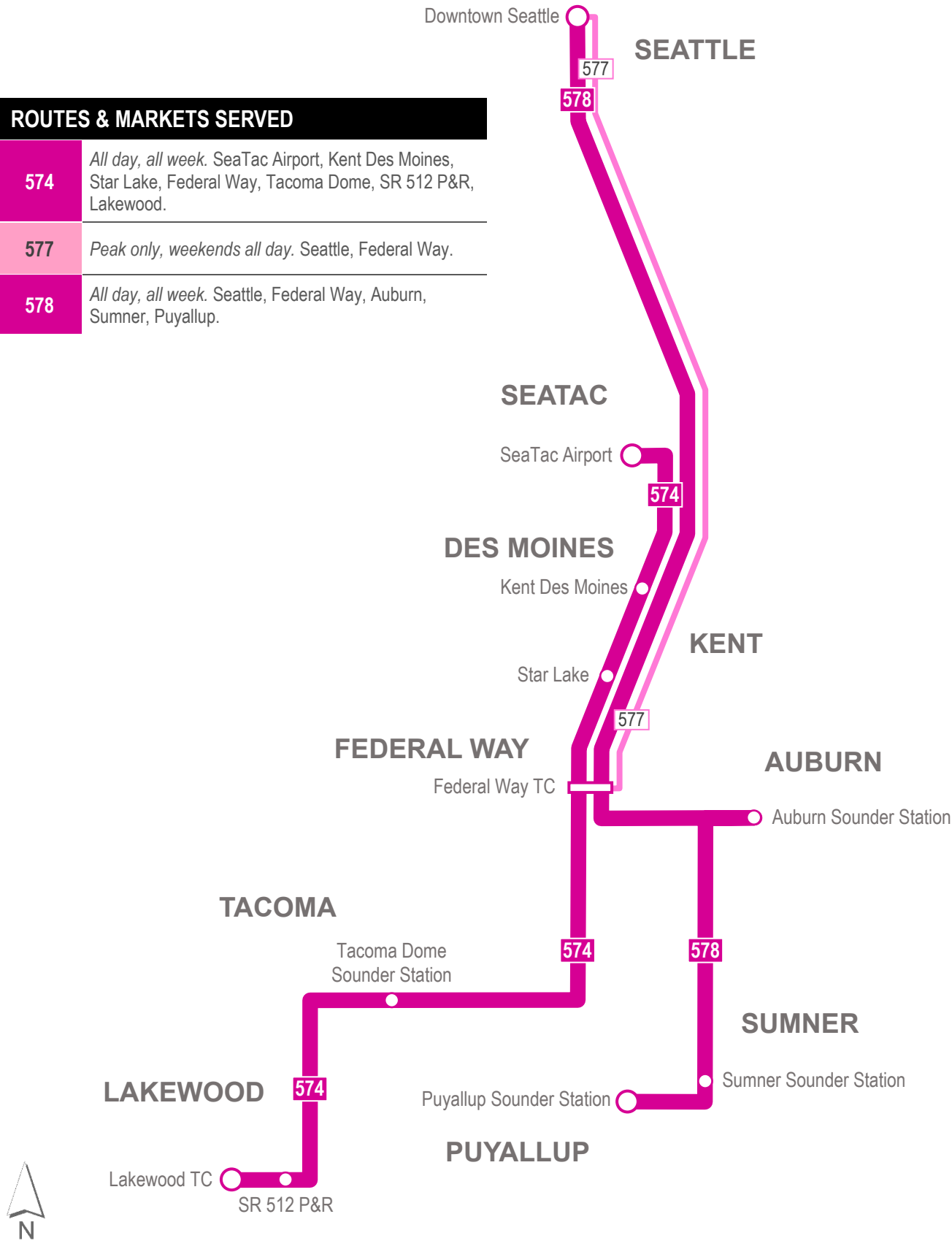
Service on Route 560 began in September 2000, which replaced King County Metro Route 340 that operated from Aurora Village to Burien by way of SR-104, SR-522, I-405, Renton, Tukwila and SeaTac. The portion of Route 560 that operates west of Sea-Tac Airport began service in September 1999 with the implementation of the Route 570. In September 2003, the two routes were merged to operate as one route between Bellevue and West Seattle. In February 2010, midday service between Burien and West Seattle was reduced to hourly service and then midday service was discontinued in June 2011.

Total boardings on the corridor remained relatively constant between 2013 and 2015 increasing by less than one percent. Ridership on Route 560 increased slightly in that time, however, overall ridership on the services from Kent to Bellevue and Overlake decreased by approximately four percent as a result of service reductions. During the peak period the average trip continues to serve around 34 passengers. Figure 30 shows average boardings by day type by month for the I-405 South corridor from mid-2013 through mid-2016.

FIGURE 30: I-405 SOUTH CORRIDOR AVERAGE DAILY BOARDINGS BY MONTH 2013-2016



ROUTES & MARKETS SERVED	
574	All day, all week. SeaTac Airport, Kent Des Moines, Star Lake, Federal Way, Tacoma Dome, SR 512 P&R, Lakewood.
577	Peak only, weekends all day. Seattle, Federal Way.
578	All day, all week. Seattle, Federal Way, Auburn, Sumner, Puyallup.



I-5 SOUTH CORRIDOR | South King County Service

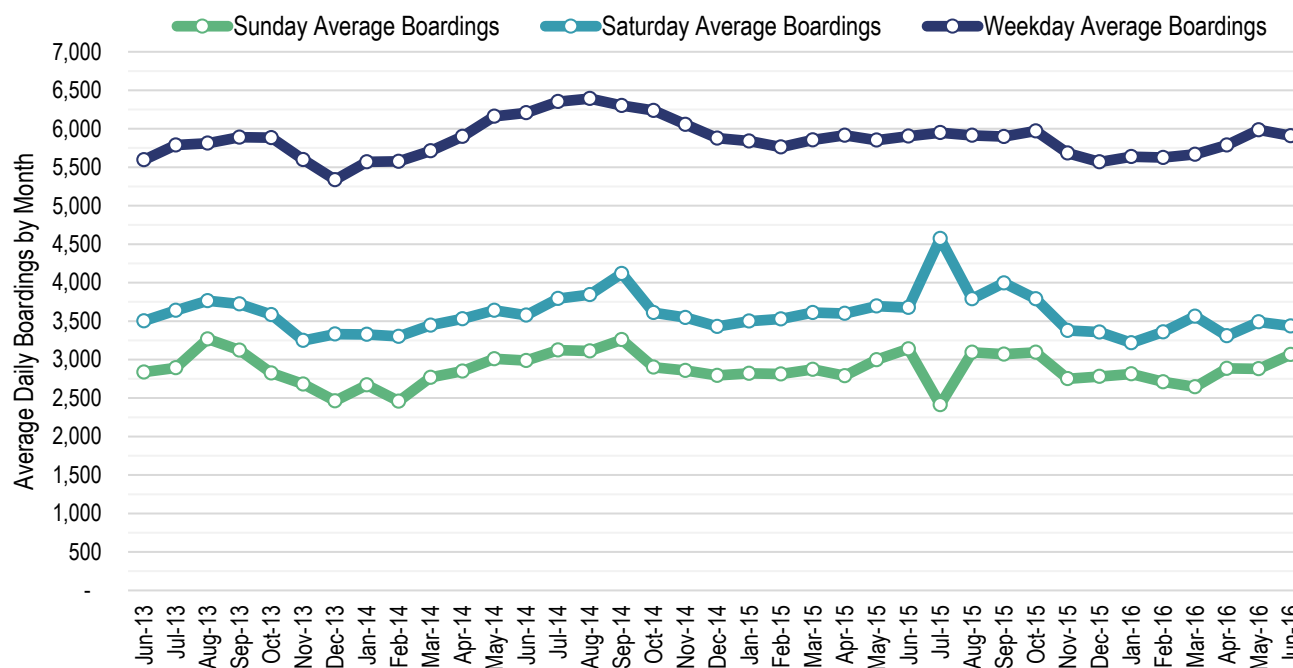
Service on this corridor began in 2006 with the opening of Federal Way Transit Center with peak-hour, peak-directional service as Route 577. In June 2009, the Sounder schedule was adjusted and one Route 578 trip was implemented to provide service to Auburn, Sumner and Puyallup stations to replace the Sounder commuter rail trip that was shifted from 6:45 p.m. to 6:15 p.m.

The next significant change involved a service restructure with King County Metro in February 2010. Prior to February 2010, King County Metro operated Route 194 between downtown Seattle, Sea-Tac Airport and Federal Way. The extension of Link light rail to SeaTac/Airport Station in December 2009 allowed a coordinated restructure with King County Metro redeploying Route 194. In doing so, Sound Transit began full-time service between Federal Way and Seattle on routes 577 and 578. Also as a part of the February 2010 restructure, Route 574 was revised to make connections to Link light rail for passengers who boarded the buses at Star Lake and Kent-Des Moines freeway stations.

Since September 2015, ten one-way trips have been added to the corridor with three trips added to Route 577 in September 2015; then four trips added to Route 578 in March 2016; and finally, three additional trips added to Route 577 in September 2016. The trips added in September 2015 were part of a joint regional mobility grant with King County Metro that provided for a total of 15 additional trips on the corridor.

Total boardings were up six percent in 2015 over total boardings in 2013 on the corridor. Weekday ridership grew by six percent. Saturday boardings on the corridor were up almost ten percent. Sunday boardings on the corridor increased by seven percent. During the peak hour the average trip carries 38 passengers. Figure 31 shows average boardings by day type by month for the I-5 South South King corridor from mid-2013 through mid-2016.

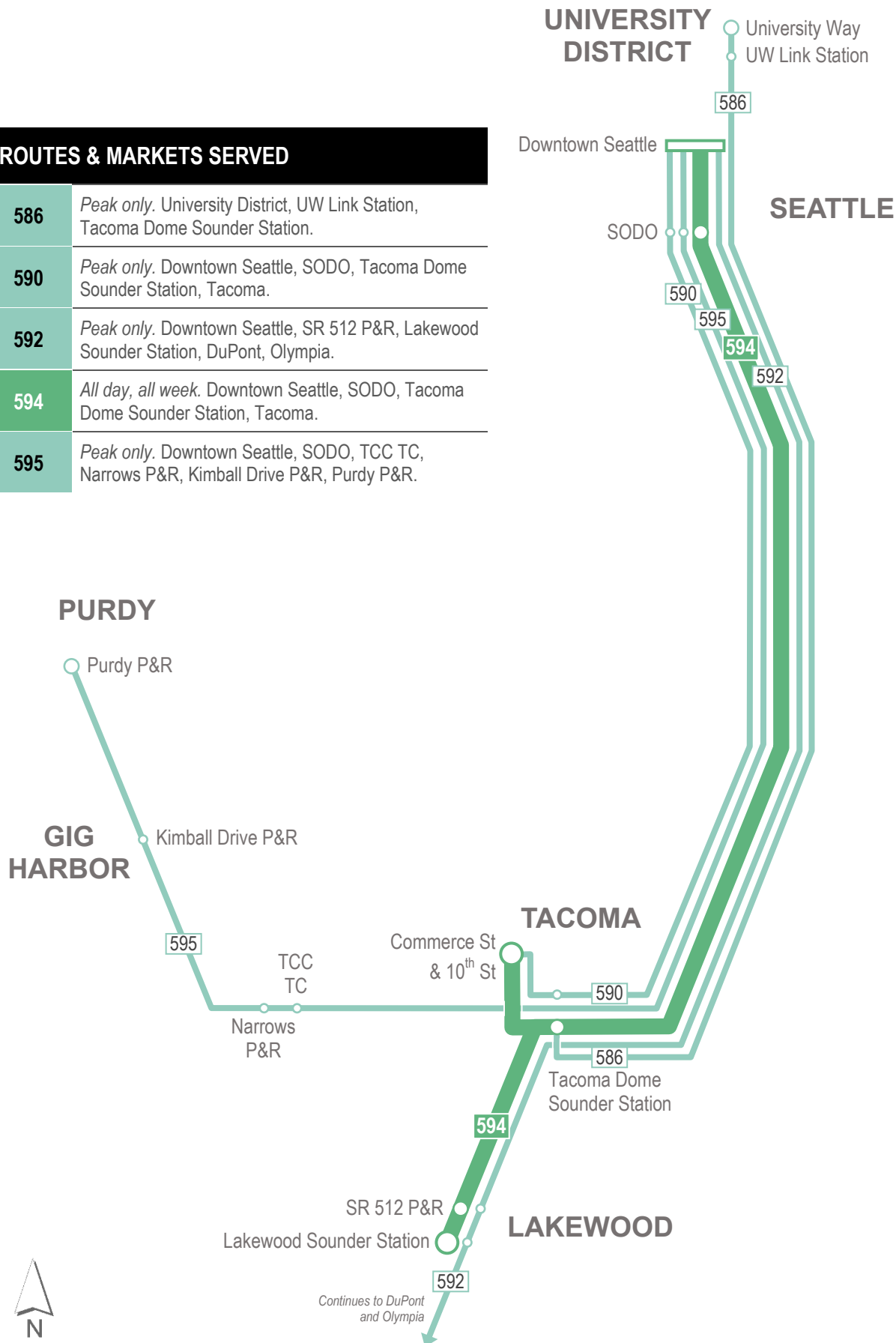
FIGURE 31: I-5 SOUTH SOUTH KING CORRIDOR AVERAGE DAILY BOARDINGS BY MONTH 2013-2016



I-5 SOUTH CORRIDOR | Pierce County Service

ROUTES & MARKETS SERVED

586	<i>Peak only.</i> University District, UW Link Station, Tacoma Dome Sounder Station.
590	<i>Peak only.</i> Downtown Seattle, SODO, Tacoma Dome Sounder Station, Tacoma.
592	<i>Peak only.</i> Downtown Seattle, SR 512 P&R, Lakewood Sounder Station, DuPont, Olympia.
594	<i>All day, all week.</i> Downtown Seattle, SODO, Tacoma Dome Sounder Station, Tacoma.
595	<i>Peak only.</i> Downtown Seattle, SODO, TCC TC, Narrows P&R, Kimball Drive P&R, Purdy P&R.



I-5 SOUTH CORRIDOR | Pierce County Service

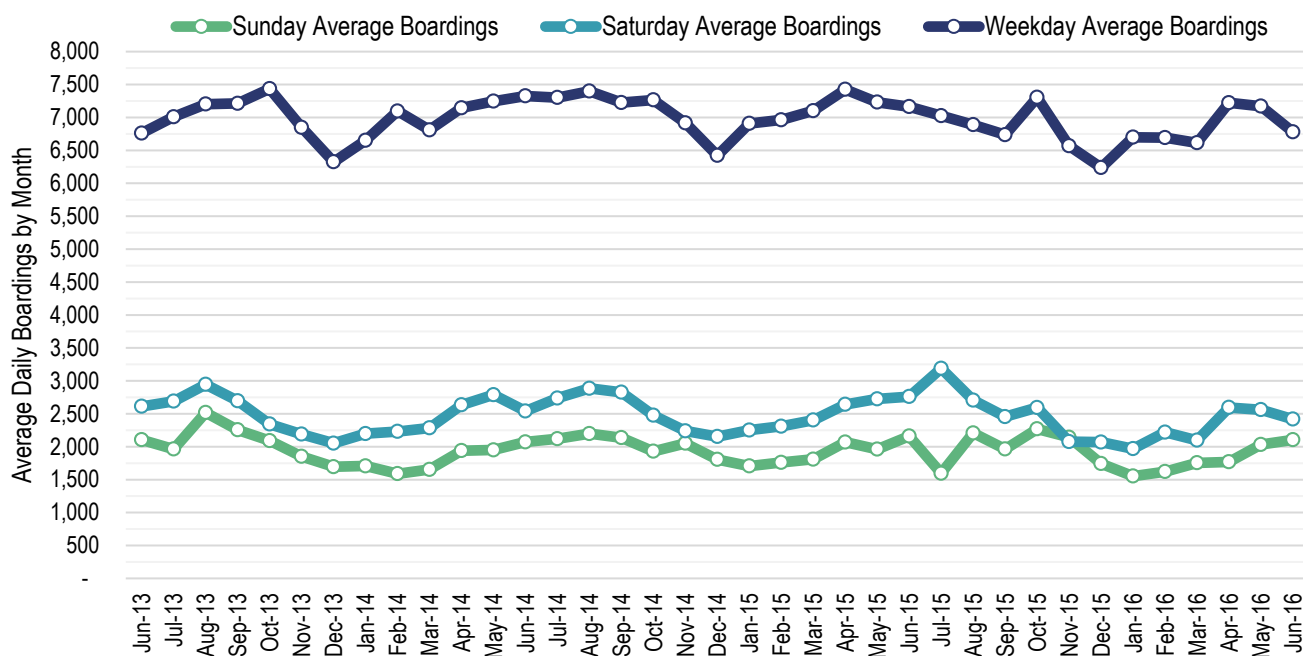
Sound Transit assumed operation of service in this corridor in September 1999. Most changes in this corridor were made when new facilities opened. The first major change was in February 2002, when Route 592 was extended to south to service the new DuPont Station.

In September 2008, Lakewood Station opened and Route 594 was extended to serve the station. In addition, the station was added as a stop on Route 592. Also at this time, peak period, peak directional service was streamlined into two distinct markets. Prior to this time, Route 591 operated via the SR-512 Park-and-Ride lot, Tacoma Dome and downtown Seattle and operated when there was not enough demand for a bus that operated solely from Lakewood. Route 591 was replaced with an appropriate number of trips on Route 592 and Route 590, in October 2012 when Sounder commuter rail service was extended to Lakewood Station. To support Sounder service, a new Sounder connector service between Lakewood Station and Tacoma Dome Station, Route 599, was implemented; the route was cancelled in June 2011 due to low ridership.

In September 2013, Sound Transit entered into an agreement with Intercity Transit to extend service to Lacey and Olympia. This service was funded by a Regional Mobility Grant from WSDOT and the service is currently funded through June 2017.

Total boardings in the corridor increased slightly, by two percent, between 2013 and 2015. Weekday boardings increased by nearly two percent. Saturday ridership increased by six percent during that time while Sunday ridership increased by three percent. The majority of the increase of ridership on weekdays occurred on Route 594, which increased by 13 percent between 2013 and 2015, mostly due to service improvements during the shoulder peaks where trips operate every 20 minutes or more frequently. In the peak hour boardings per trip average 29 passengers. Figure 32 shows average boardings by day type by month for the I-5 South Pierce County corridor from mid-2013 through mid-2016.

FIGURE 32: I-5 SOUTH PIERCE CORRIDOR AVERAGE DAILY BOARDINGS BY MONTH 2013-2016



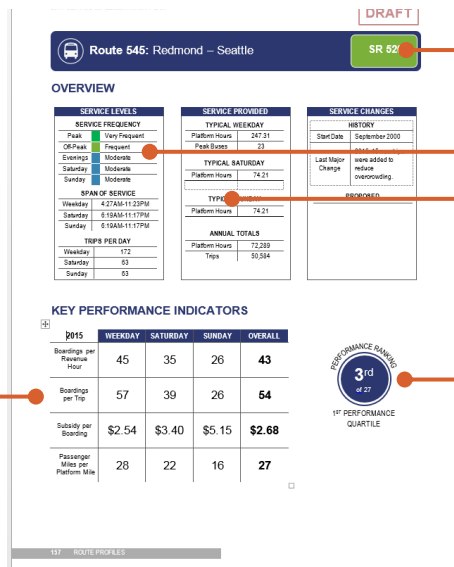
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ROUTE-LEVEL PERFORMANCE & STOP-LEVEL RIDERSHIP



READING ROUTE PROFILES

OVERVIEW & KEY PERFORMANCE INDICATORS

**Corridor**

Identifies the corridor in which the route operates.

Service Levels

Includes a description by day of the week of how often buses and trains arrive, when the service operates, and many trips run each day.

Service frequency, how often service arrives, is grouped into four categories defined in the table below. Generally, the more often transit arrives the more spontaneously customers will use the service without referencing a schedule. Frequent service also reduces wait times for customers.

SERVICE FREQUENCY

Buses and trains arrive every:

Very Frequent	Less than 10 minutes
Frequent	10 to 20 minutes
Moderate	21 to 30 minutes
Minimum	31 to 60 minutes

Key Performance Indicators

Sound Transit manages and measures service performance using the *Service Standards and Performance Measures*. The Board adopted document defines key performance indicators for each mode, establishes standards of performance and productivity, and provides guidelines to inform proposed changes to service to best utilize operating resources.

- **Boardings per revenue hour** is the number of passengers boarding a vehicle during one hour of scheduled revenue service, not including vehicle deadhead or layover time.
- **Boardings per trip** are the number of passengers boarding each scheduled one-way trip.
- **Subsidy per boarding** is calculated by dividing the net cost of the service (cost minus fare revenue) by the number of passenger boardings for a full year.
- **Passenger miles per platform vehicle mile** is calculated by dividing passenger miles by the number of vehicle platform miles travelled for a full year.

Service Provided

Sound Transit budgets service based on platform hours operated. A platform hour is any hour a transit vehicle is operating, which includes in-service hours, deadhead hours and layover hours. Typically, this is the total amount of time the transit vehicle is away from the operating base.

Peak buses are the number of vehicles needed to operate the route when service is the most intense.

Annual totals for platform hours and trips are provided.

Combined Performance Ranking

ST Express routes are sorted and ranked by their performance in each of the four key performance indicators to assign an overall productivity ranking. See *System Ridership & Performance Analysis* for more information. Top performing routes may be candidates for service enhancements if resources are available, particularly if performance has shown a consistent upward trend. Lower performing routes may be candidates for actions to improve productivity and cost effectiveness.

READING ROUTE PROFILES

AVERAGE RIDERSHIP TRENDS

**Average Daily Ridership**

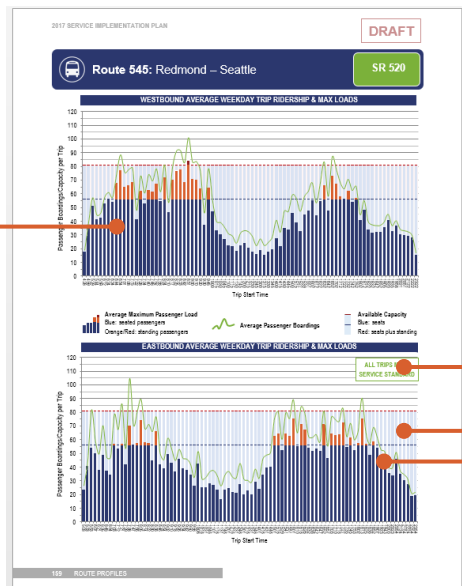
Includes by day of the week how many passengers board each service on average. Calculated by dividing the sum of all boardings by the number of days operated.

Three-Year Ridership Trends

Graphs displays average boardings on weekday, Saturdays, and Sundays for each month of the past three years. The illustration reveals long-term ridership trends resulting from service modifications or changes in demand. Additionally, seasonal fluctuations in ridership appear.

READING ROUTE PROFILES

TRIP LEVEL RIDERSHIP & PASSENGER LOADS



Individual Trip Ridership & Passenger Load Graphs

Each graph illustrates the average ridership and maximum passenger load by trip for both directions of the service.

Service Standards

ALL TRIPS MEET SERVICE STANDARD

The load factor (ratio between seated and standing passengers) of individual trips is used to measure the impact of crowding. The threshold for corrective action is when the maximum load exceeds the standard load factor at least 60 percent of the time for any individual trip. Each graph includes an indication if any trips exceed the service standards.

Average Maximum Passenger Load



Average Maximum Passenger Load
Blue: seated passengers
Orange/Red: standing passengers

Colored bars show the **Average Maximum Passenger Load** for each trip. This is the point in the trip where the number of passengers on transit vehicle at a specific point was the highest. Blue are seated passengers, while orange and red show standing passengers.

Standing loads are a normal occurrence on a healthy transit system, including Sound Transit, and is not by itself cause for immediate action. Sound Transit continually monitors service and uses the service standards to identify crowding conditions. The agency uses several service management tools to reduce overcrowding as the budget allows, including: schedule adjustments to balance loads, assigning larger buses or longer train consists, and adding additional trips.

Available Capacity



Available Capacity
Blue: seats
Red: seats plus standing

The light blue bars show total available capacity for each trip, both seated and standing passengers. The capacity shown is based on the vehicle time scheduled to operate the individual trip and the number of standing passengers is defined based on the service standards.

Average Ridership by Trip



Average Passenger Boardings

The green line shows the **Average Passenger Boardings** for each trip. This is the total number of passengers who boarded the bus during the entire trip and may be higher than the maximum passenger load.

READING ROUTE PROFILES

STOP LEVEL RIDERSHIP



Route Map

Illustrates the primary alignment of the route and calls-out timepoint stops. Many routes have more stops, although for clarity only timepoints are shown.

Stop-Level Ridership

For each direction of the route average weekday boardings and alightings are shown for each stop. Timepoint stops are in bold and correspond with the stops shown on the route map above.

**Link Light Rail****LINK**

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Very Frequent
Off-Peak	Frequent
Evenings	Frequent
Saturday	Frequent
Sunday	Frequent
SPAN OF SERVICE	
Weekday	4:22AM-12:42PM
Saturday	4:22AM-12:42PM
Sunday	5:21AM-11:42PM
TRIPS PER DAY	
Weekday	302
Saturday	233
Sunday	214

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	280.63
Peak Trains	19
TYPICAL SATURDAY	
Platform Hours	214.83
Peak Trains	11
TYPICAL SUNDAY	
Platform Hours	198.93
Peak Trains	11
ANNUAL TOTALS	
Platform Hours	75,808
Trips	92,780

SERVICE CHANGES	
HISTORY	
Start Date	July 2009
Last Major Change	2016: Capitol Hill and UW Stations open in March. Angle Lake Station open in September.
PROPOSED	

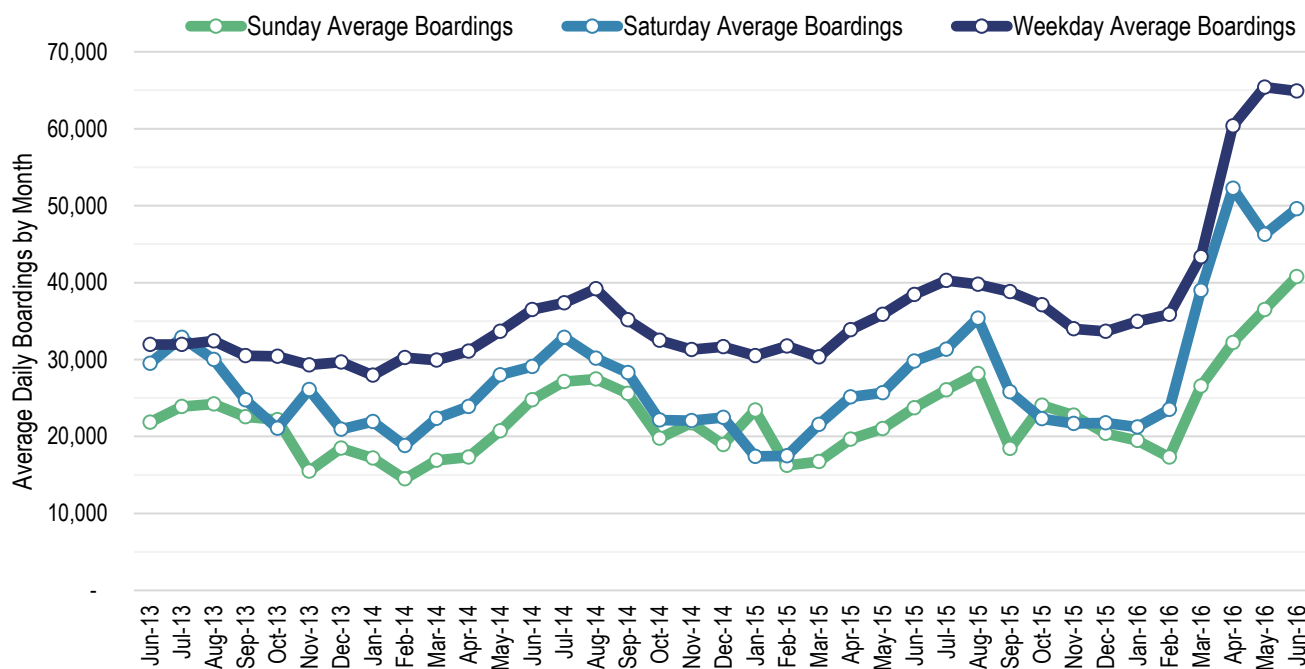
KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	165	141	131	158
Boardings per Trip	130	112	105	124
Subsidy per Boarding	\$3.38	\$4.15	\$4.63	\$3.60
Passenger Miles per Platform Mile	82	60	53	63



RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	28,839	32,925	35,429	63,577
Average Saturday Boardings	23,843	25,704	24,341	49,588
Average Sunday Boardings	18,752	20,854	21,783	36,485

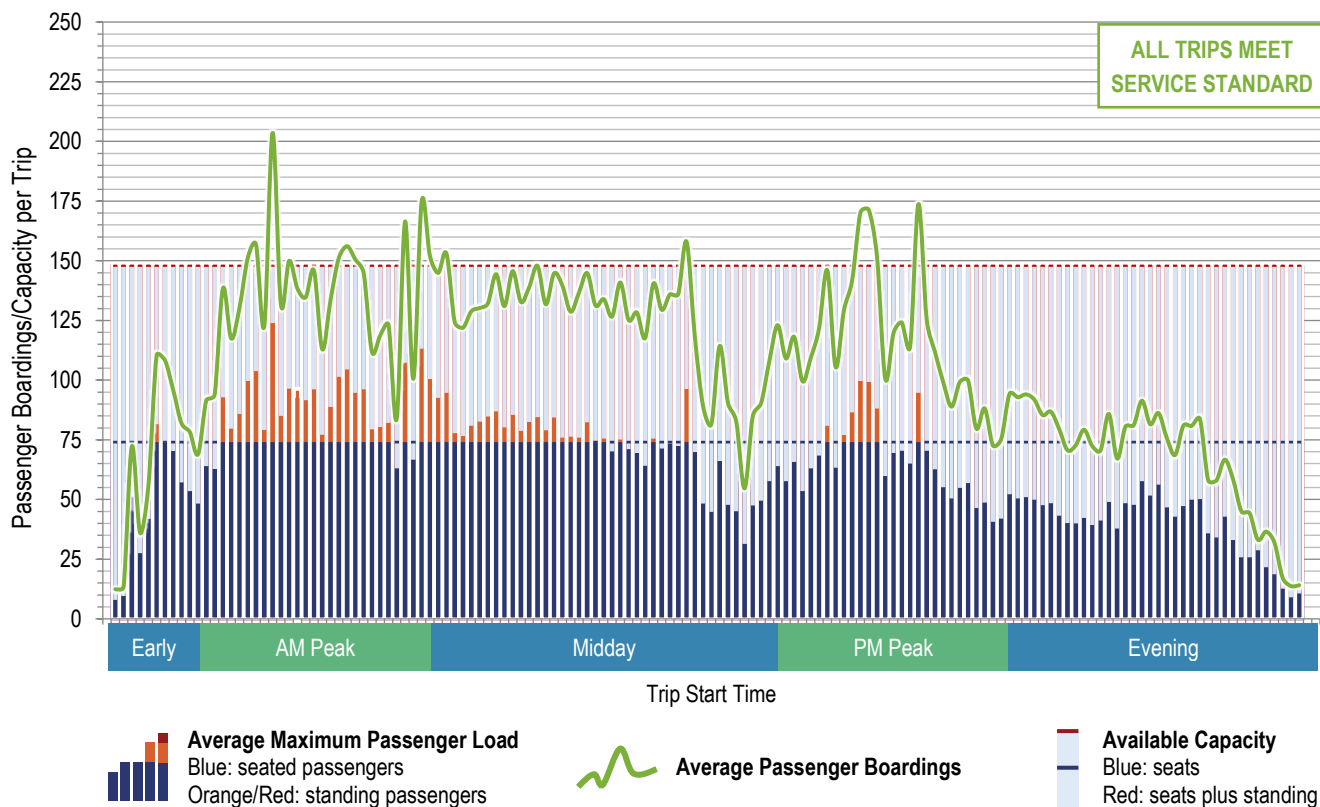




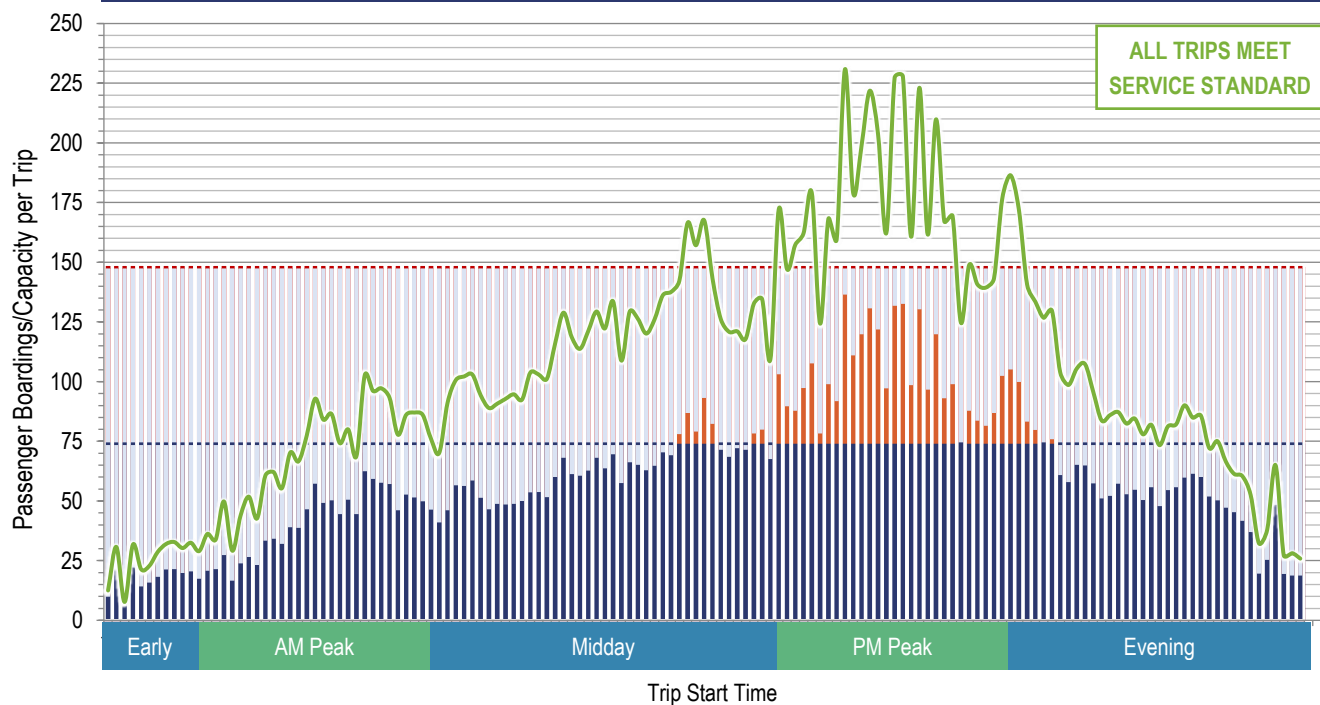
Link Light Rail

LINK

NORTHBOUND AVERAGE WEEKDAY CAR LEVEL BY TRIP RIDERSHIP & MAX LOADS



SOUTHBOUND AVERAGE WEEKDAY CAR LEVEL BY TRIP RIDERSHIP & MAX LOADS





Link Light Rail

[LINK](#)


NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
SeaTac/Airport	6,743	0
Tukwila International Blvd	2,637	513
Rainier Beach	1,384	409
Othello	1,709	520
Columbia City	1,873	457
Mount Baker	1,372	728
Beacon Hill	1,718	701
SODO	1,223	649
Stadium	1,061	832
International District/Chinatown	3,130	2,127
Pioneer Square	1,765	2,112
University Street	2,116	3,043
Westlake	3,594	6,185
Capitol Hill	1,903	5,075
University of Washington	0	8,875
Northbound Total	32,227	32,227
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
University of Washington	9,193	0
Capitol Hill	4,115	2,227
Westlake	6,346	3,340
University Street	2,740	1,765
Pioneer Square	1,878	1,578
International District/Chinatown	2,023	2,991
Stadium	875	1,251
SODO	715	1,090
Beacon Hill	696	1,865
Mount Baker	846	1,286
Columbia City	479	1,781
Othello	556	1,724
Rainier Beach	384	1,317
Tukwila International Blvd	502	2,942
SeaTac/Airport	0	6,192
Southbound Total	31,349	31,349
Total	63,577	63,577



Sounder Commuter Rail: North Line

SOUNDER

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	No Service
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	5:45 a.m.-5:35 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	8
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	12.94
ANNUAL TOTALS	
Platform Hours	2,874
Trips	2,029

SERVICE CHANGES	
HISTORY	
Start Date	December 2003
Last Major Change	2008: Fourth roundtrip added.
PROPOSED	

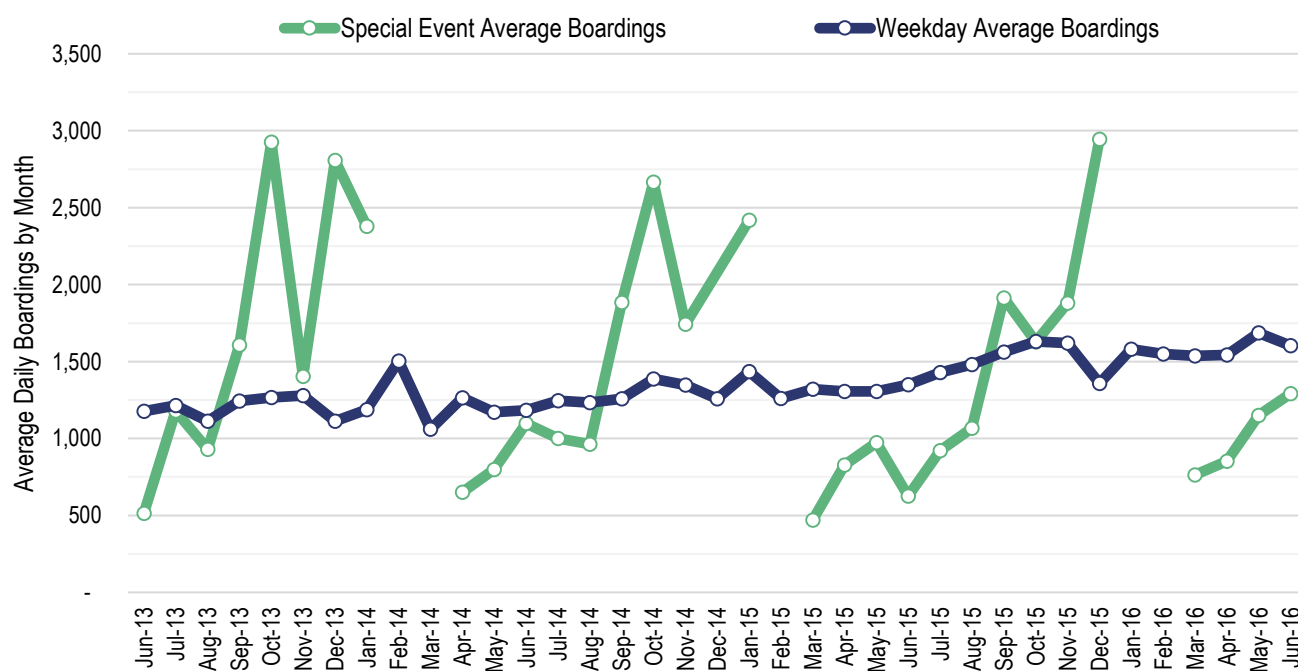
KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	146	No Weekend Service		146
Boardings per Trip	193			193
Subsidy per Boarding	\$12.16			\$12.16
Passenger Miles per Platform Mile	133			133



RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	1,149	1,262	1,425	1,611
Average Saturday Boardings	No Scheduled Weekend Service			
Average Sunday Boardings				

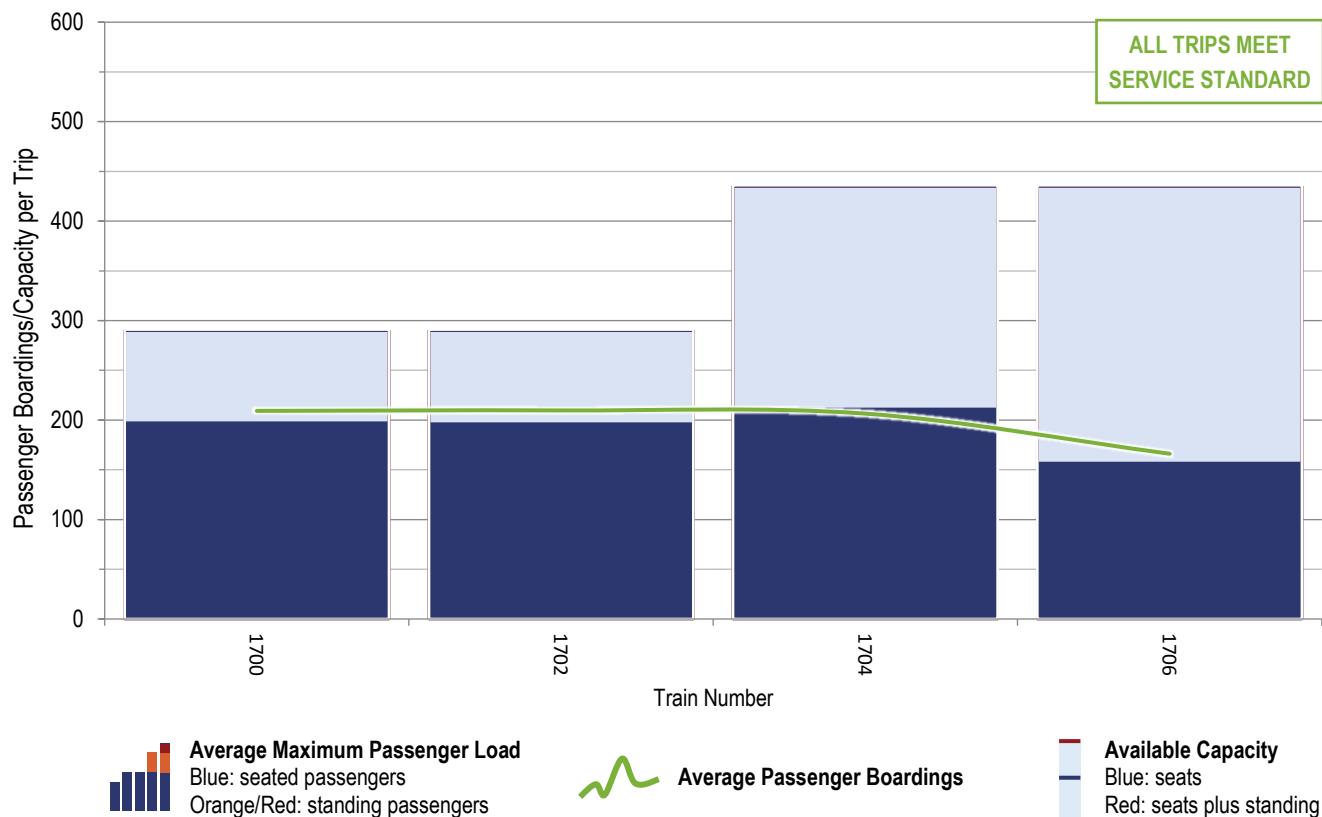




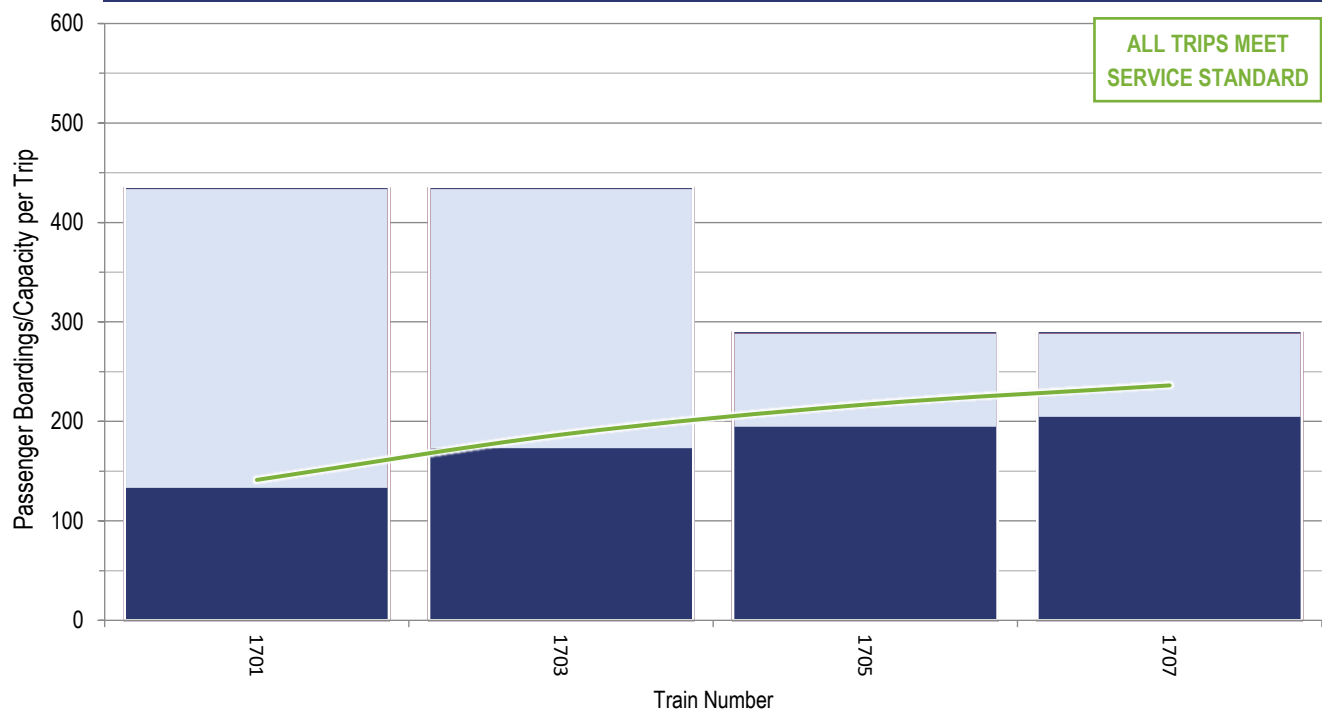
Sounder Commuter Rail: North Line

SOUNDER

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

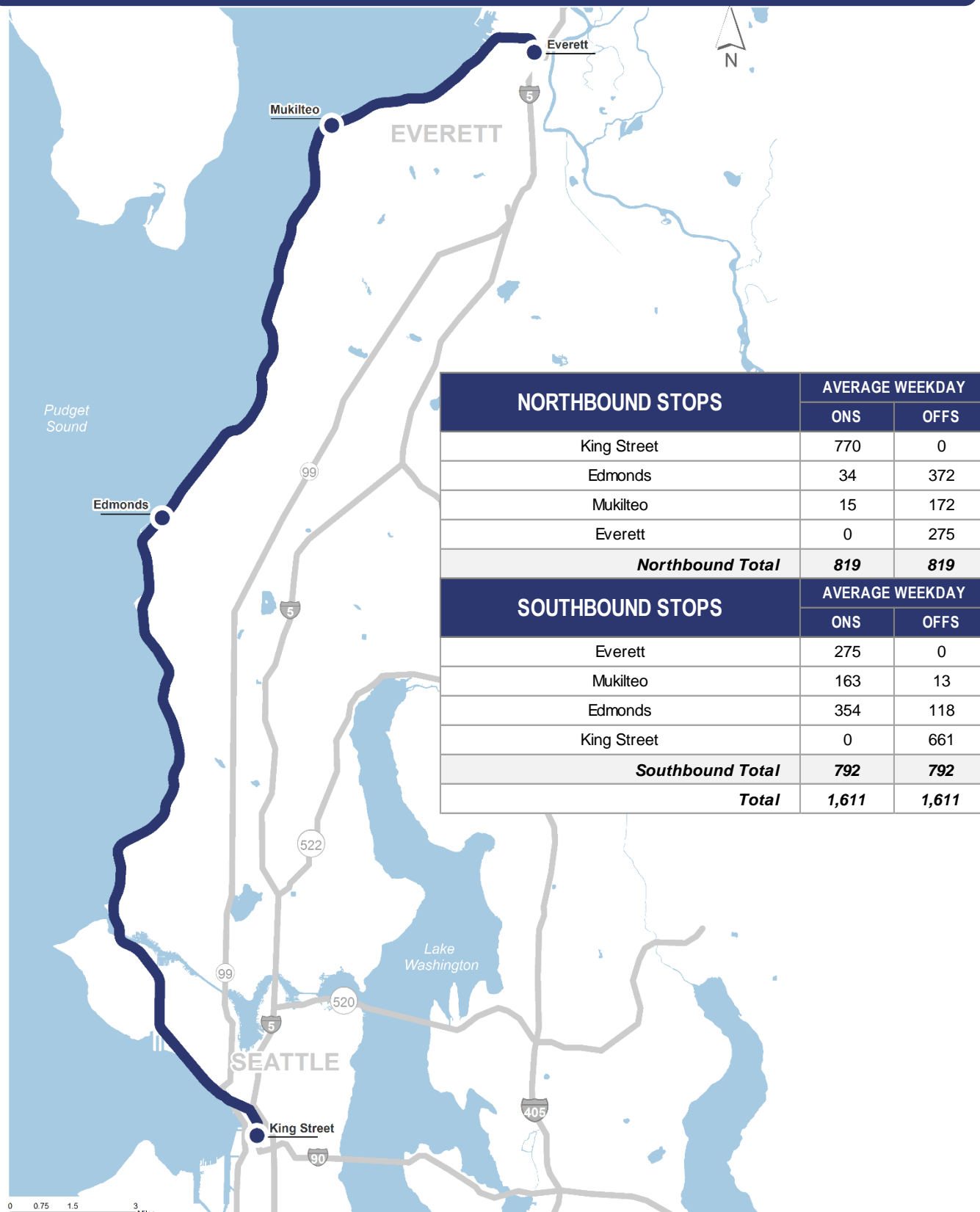


SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Sounder Commuter Rail: North Line

SOUNDER




Sounder Commuter Rail: South Line

SOUNDER

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	No Service
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:41 a.m.-6:20 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	20
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	30.18
ANNUAL TOTALS	
Platform Hours	7,941
Trips	5,171

SERVICE CHANGES	
HISTORY	
Start Date	September 2000
Last Major Change	2016: Off-peak roundtrip is added.
PROPOSED	
Two South line Peak-period round-trips (four one-way trips)	

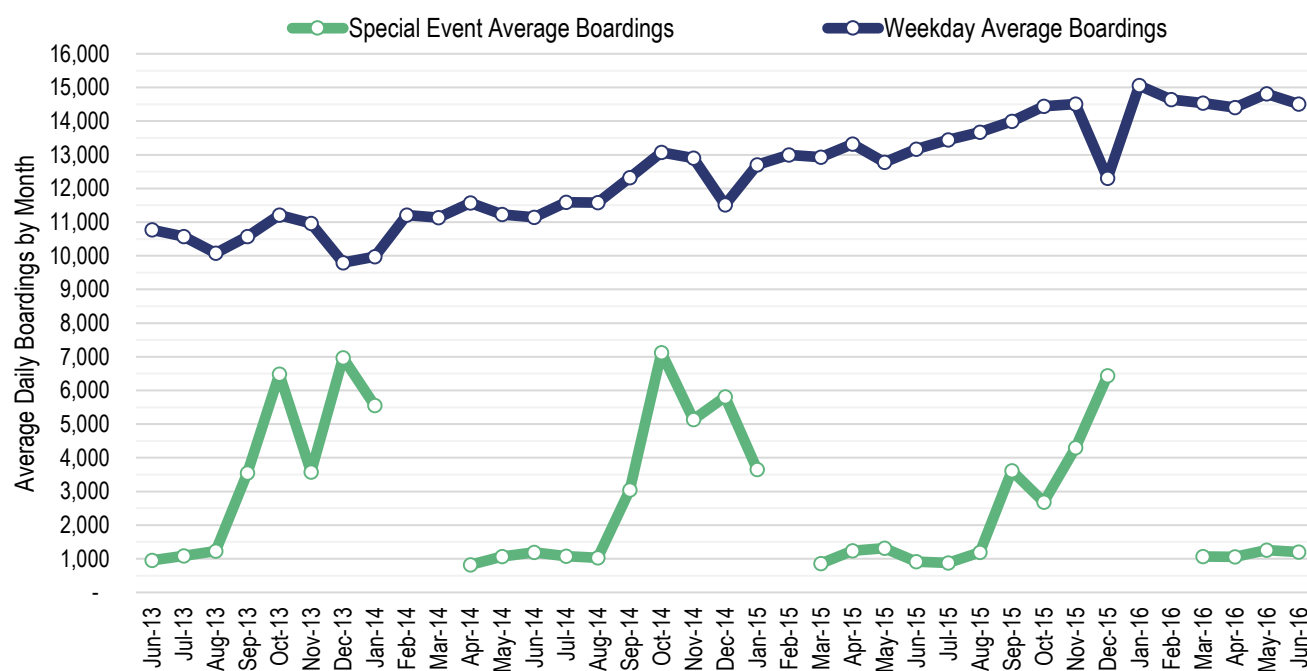
KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	469	No Weekend Service		469
Boardings per Trip	670			670
Subsidy per Boarding	\$6.92			\$6.92
Passenger Miles per Platform Mile	346			346



RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	10,499	11,549	13,346	14,570
Average Saturday Boardings	No Scheduled Weekend Service			
Average Sunday Boardings				

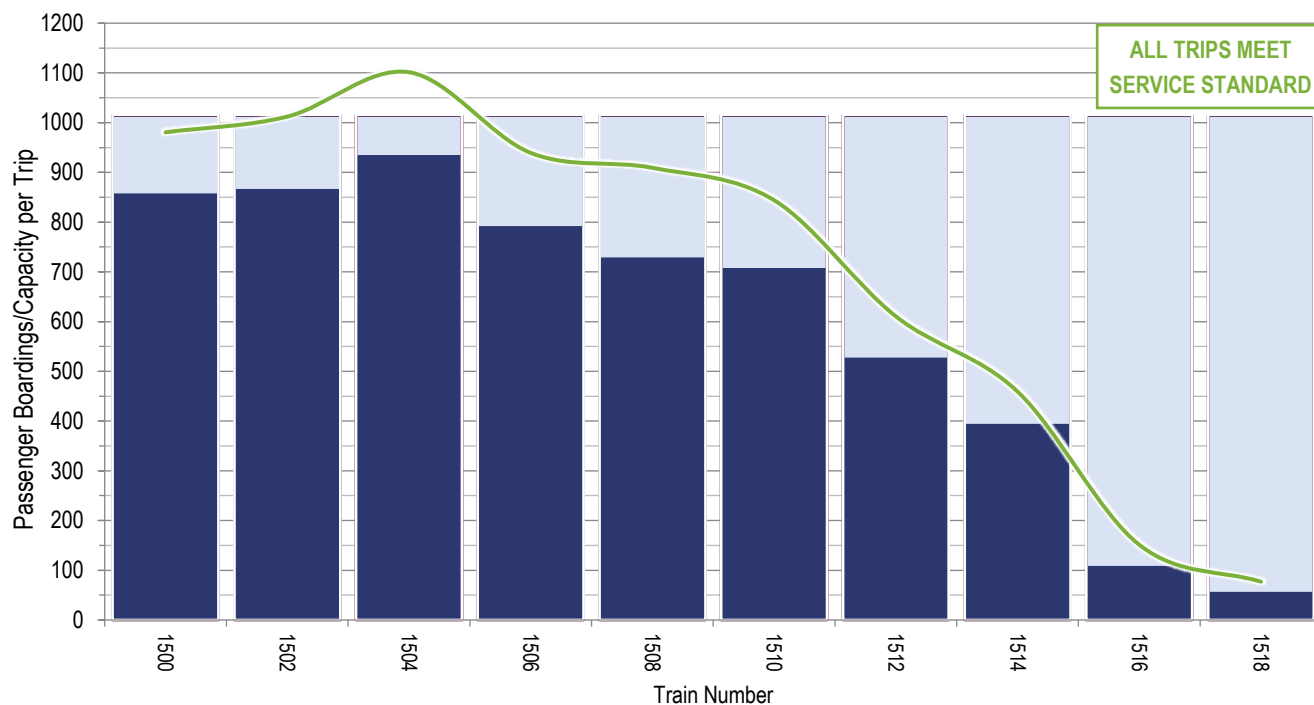




Sounder Commuter Rail: South Line

SOUNDER

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

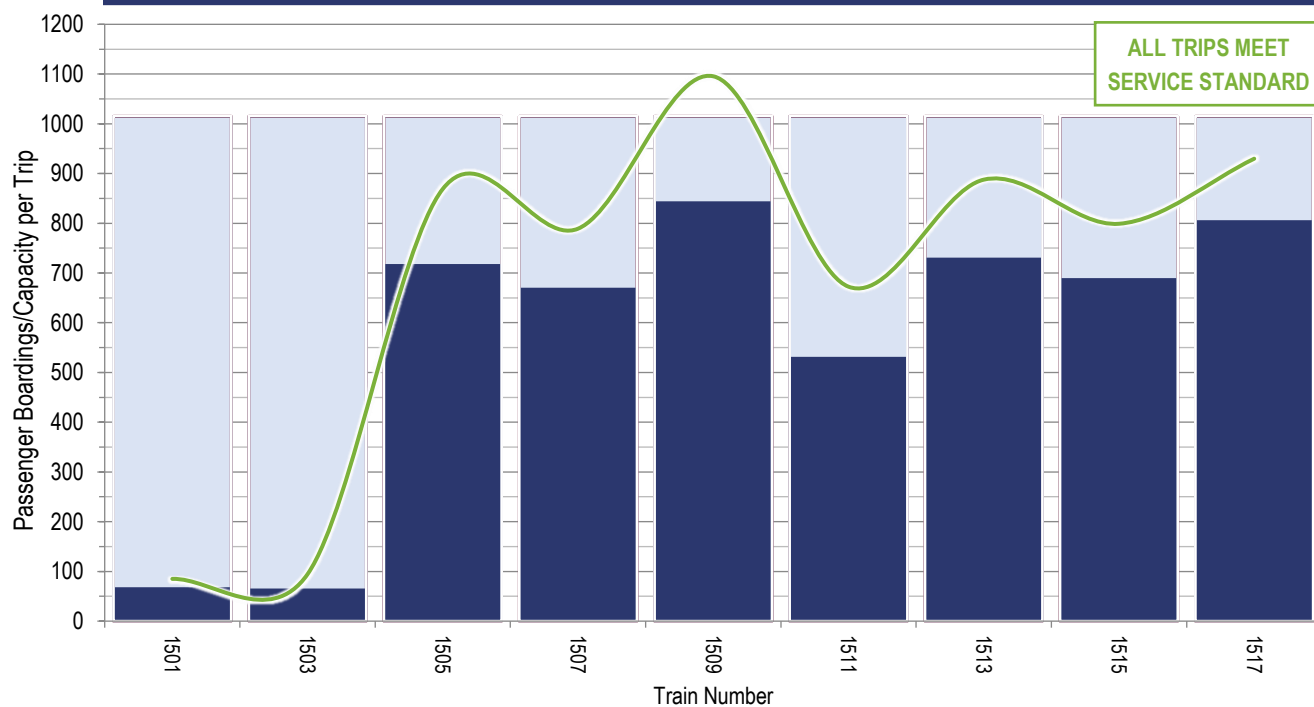


Average Maximum Passenger Load
 Blue: seated passengers
 Orange/Red: standing passengers

Average Passenger Boardings

Available Capacity
 Blue: seats
 Red: seats plus standing

SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

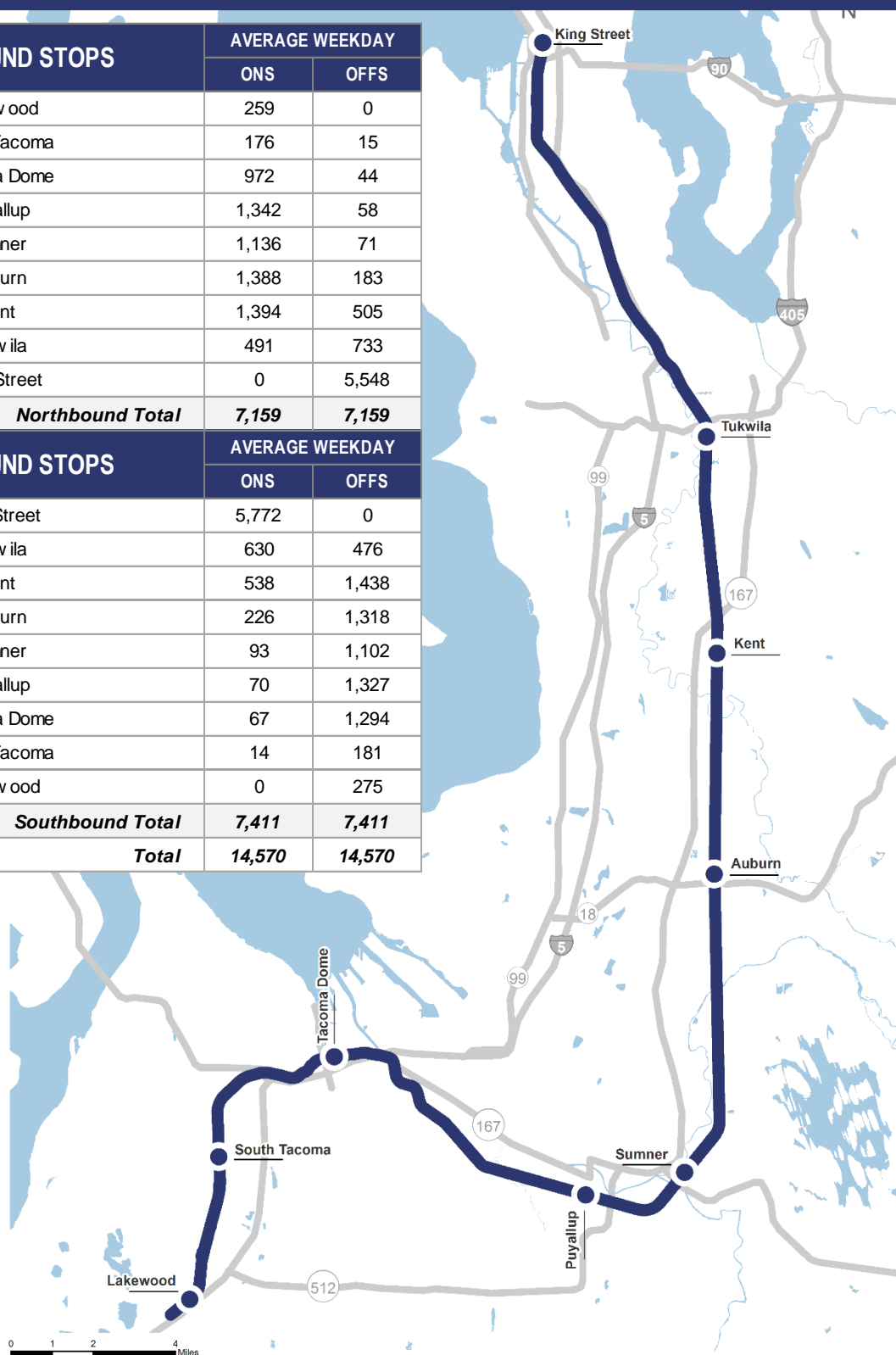




Sounder Commuter Rail: South Line

SOUNDER

NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Lakewood	259	0
South Tacoma	176	15
Tacoma Dome	972	44
Puyallup	1,342	58
Sumner	1,136	71
Auburn	1,388	183
Kent	1,394	505
Tukwila	491	733
King Street	0	5,548
Northbound Total	7,159	7,159
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
King Street	5,772	0
Tukwila	630	476
Kent	538	1,438
Auburn	226	1,318
Sumner	93	1,102
Puyallup	70	1,327
Tacoma Dome	67	1,294
South Tacoma	14	181
Lakewood	0	275
Southbound Total	7,411	7,411
Total	14,570	14,570





Tacoma Link Light Rail

[LINK](#)

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	<div></div> Frequent
Off-Peak	<div></div> Frequent
Evenings	<div></div> Moderate
Saturday	<div></div> Frequent
Sunday	<div></div> Moderate
SPAN OF SERVICE	
Weekday	5:00 a.m.-10:12 p.m.
Saturday	7:48 a.m.-10:12 p.m.
Sunday	9:48 a.m.-6:00 p.m.
TRIPS PER DAY	
Weekday	154
Saturday	144
Sunday	42

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	30.90
Peak Trains	2
TYPICAL SATURDAY	
Platform Hours	28.90
Peak Trains	2
TYPICAL SUNDAY	
Platform Hours	8.50
Peak Trains	1
ANNUAL TOTALS	
Platform Hours	9,848
Trips	49,073

SERVICE CHANGES	
HISTORY	
Start Date	August 2003
Last Major Change	2011: Commerce Street Station opens and frequency of service adjusted.
PROPOSED	

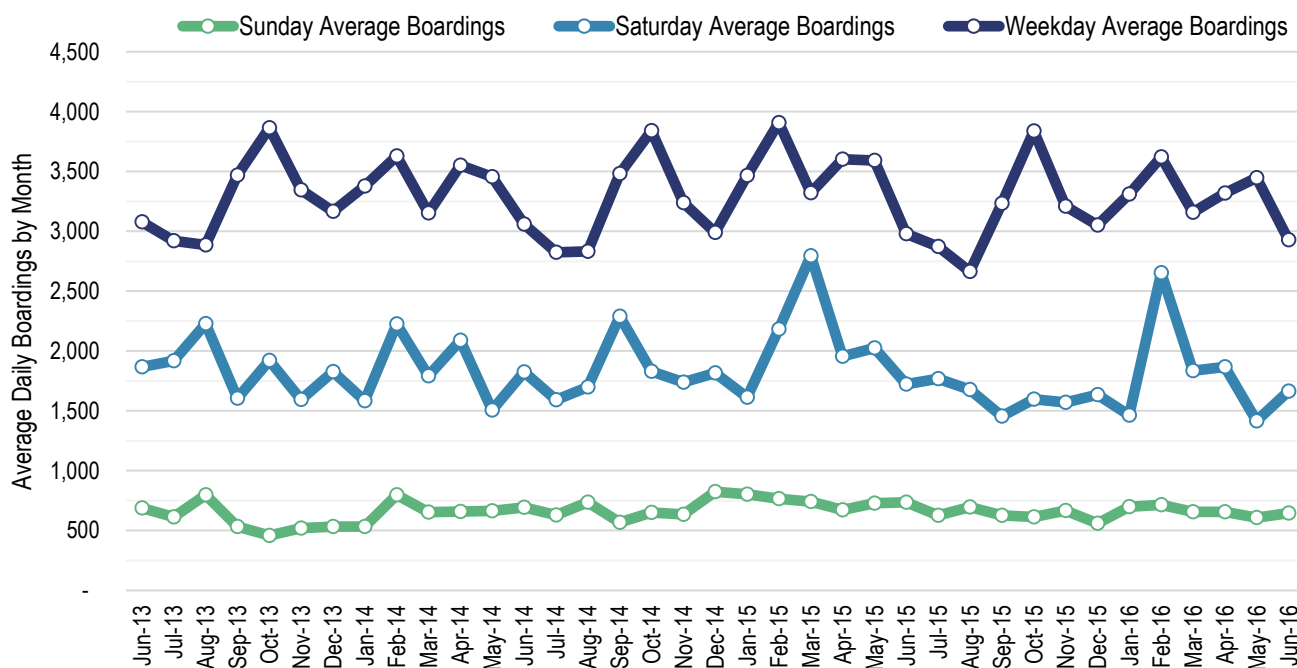
KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	106	63	82	99
Boardings per Trip	21	13	16	20
Subsidy per Boarding	\$3.36	\$6.18	\$4.61	\$3.68
Passenger Miles per Platform Mile	14	8	11	13



RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	3,418	3,286	3,303	3,227
Average Saturday Boardings	1,866	1,813	1,826	1,666
Average Sunday Boardings	643	666	689	633

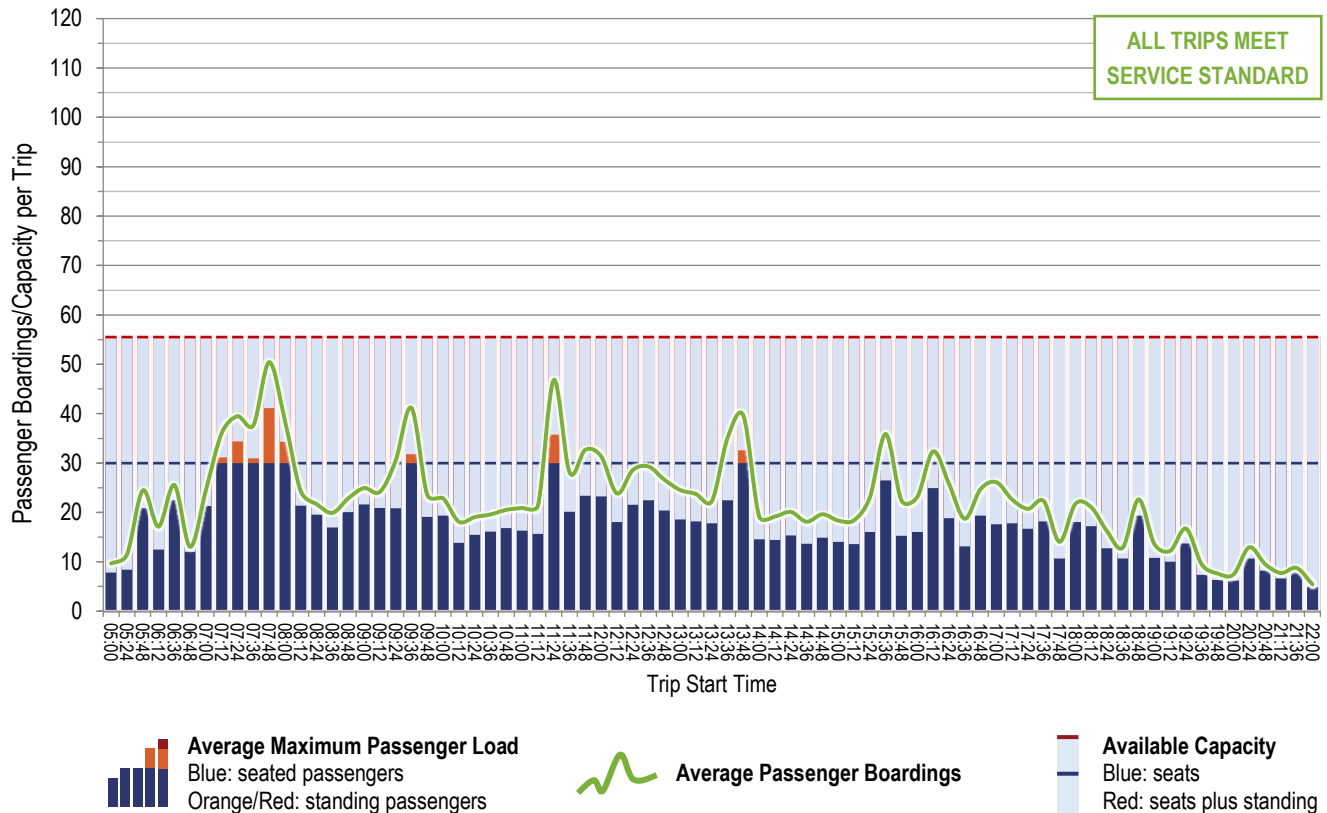




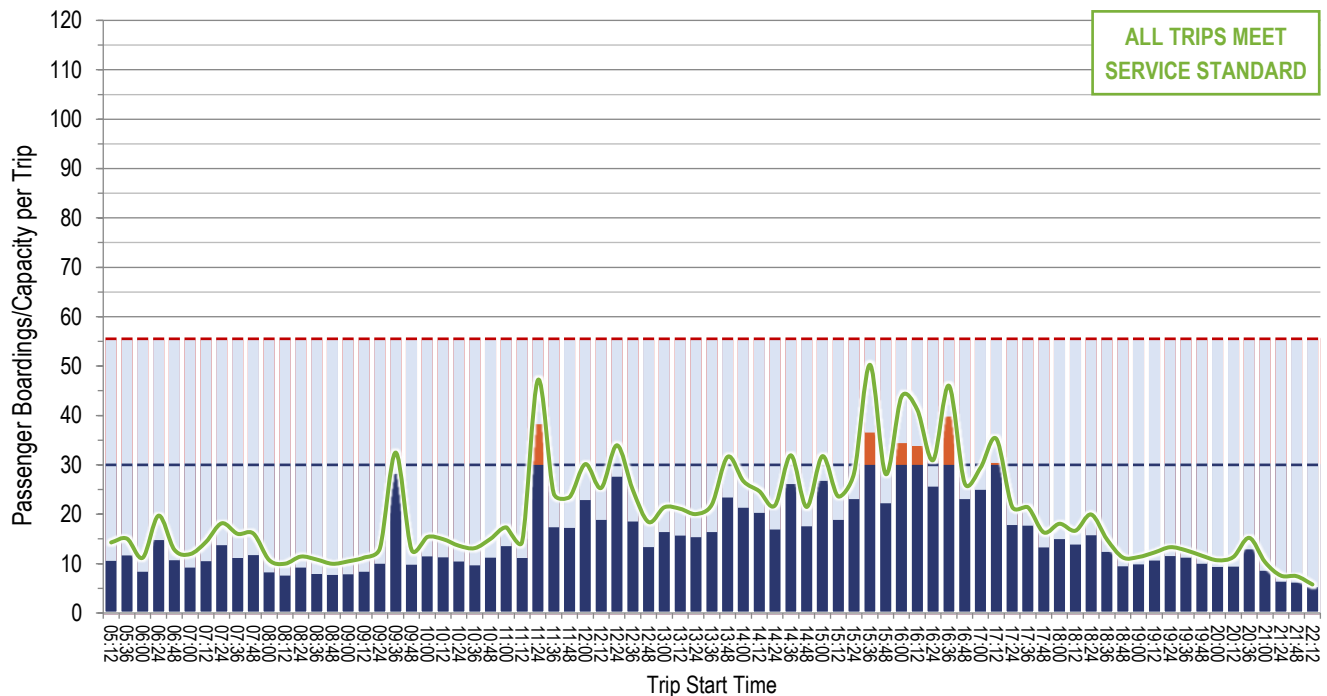
Tacoma Link Light Rail

[LINK](#)

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

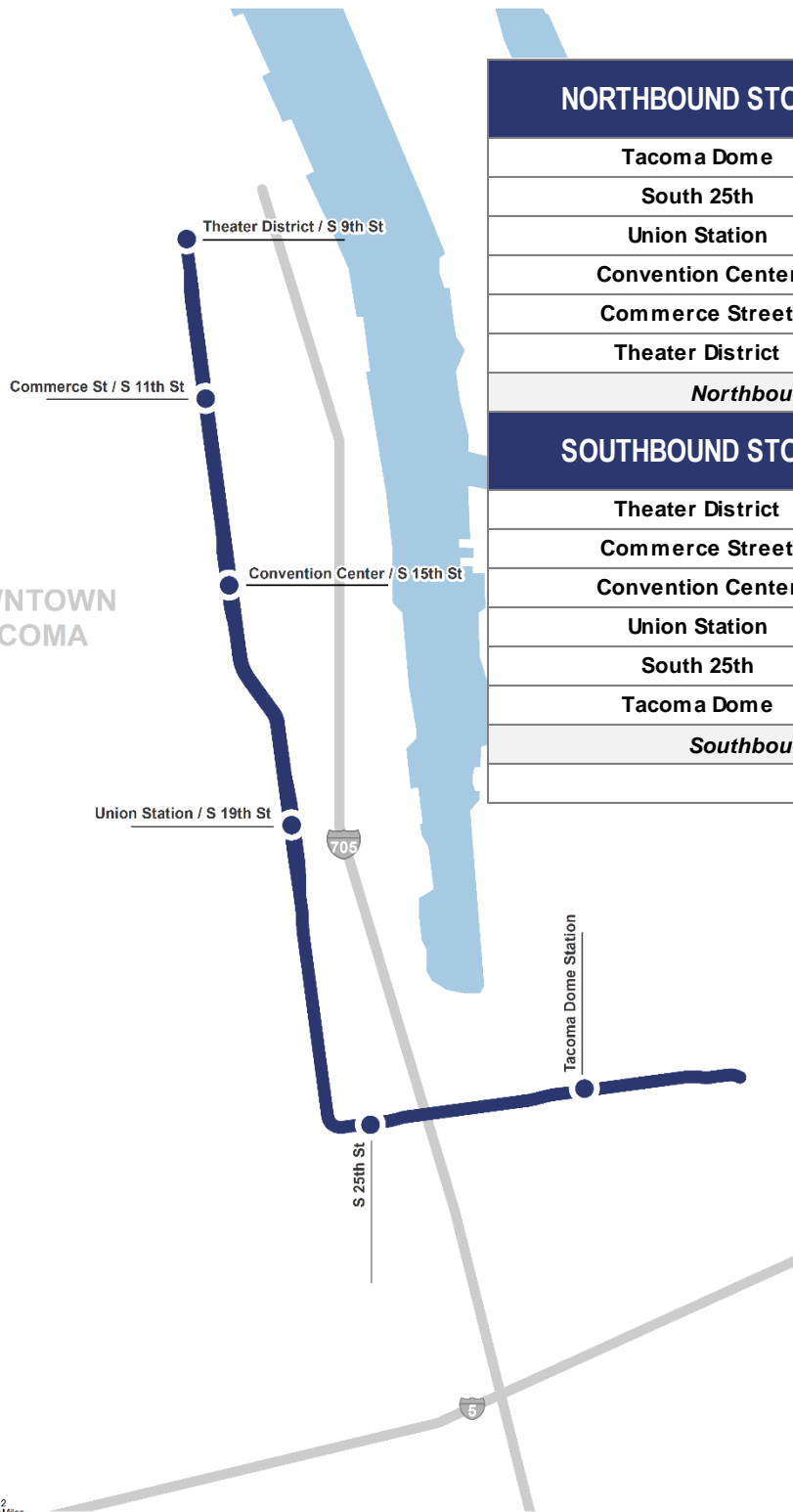




Tacoma Link Light Rail

[LINK](#)


DOWNTOWN
TACOMA



0 0.05 0.1 0.2 Miles

NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Tacoma Dome	1,004	0
South 25th	238	96
Union Station	277	390
Convention Center	65	232
Commerce Street	95	473
Theater District	0	489
Northbound Total	1,680	1,680
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Theater District	420	0
Commerce Street	354	25
Convention Center	220	32
Union Station	376	260
South 25th	178	311
Tacoma Dome	0	919
Southbound Total	1,547	1,547
Total	3,227	3,227

**Route 510: Everett - Seattle****I-5 N****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	No Service
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:13 a.m.-6:50 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	42
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	77.62
Peak Buses	10
ANNUAL TOTALS	
Platform Hours	19,504
Trips	10,780

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2013: Service on I-5 restructured to current operation
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	35	No Weekend Service		35
Boardings per Trip	46			46
Subsidy per Boarding	\$2.20			\$2.20
Passenger Miles per Platform Mile	25			25



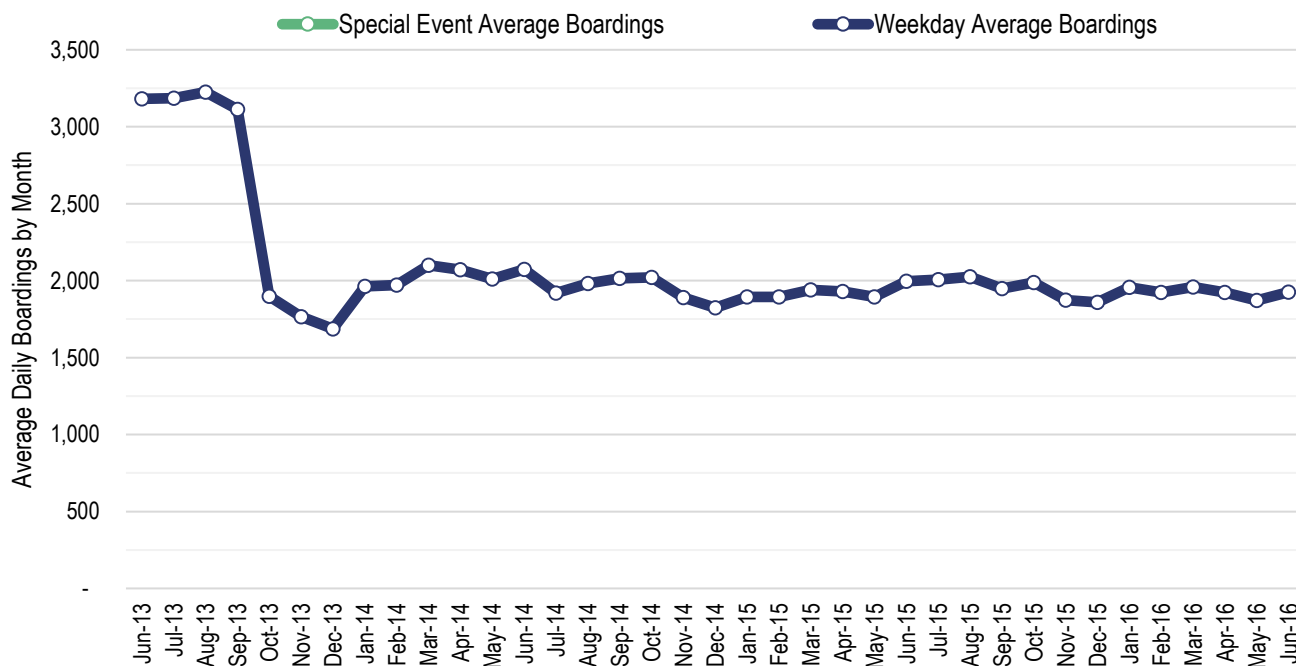


Route 510: Everett – Seattle

I-5 N

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	2,835	1,987	1,938	1,907
Average Saturday Boardings	1,392	No Weekend Service		
Average Sunday Boardings	-			

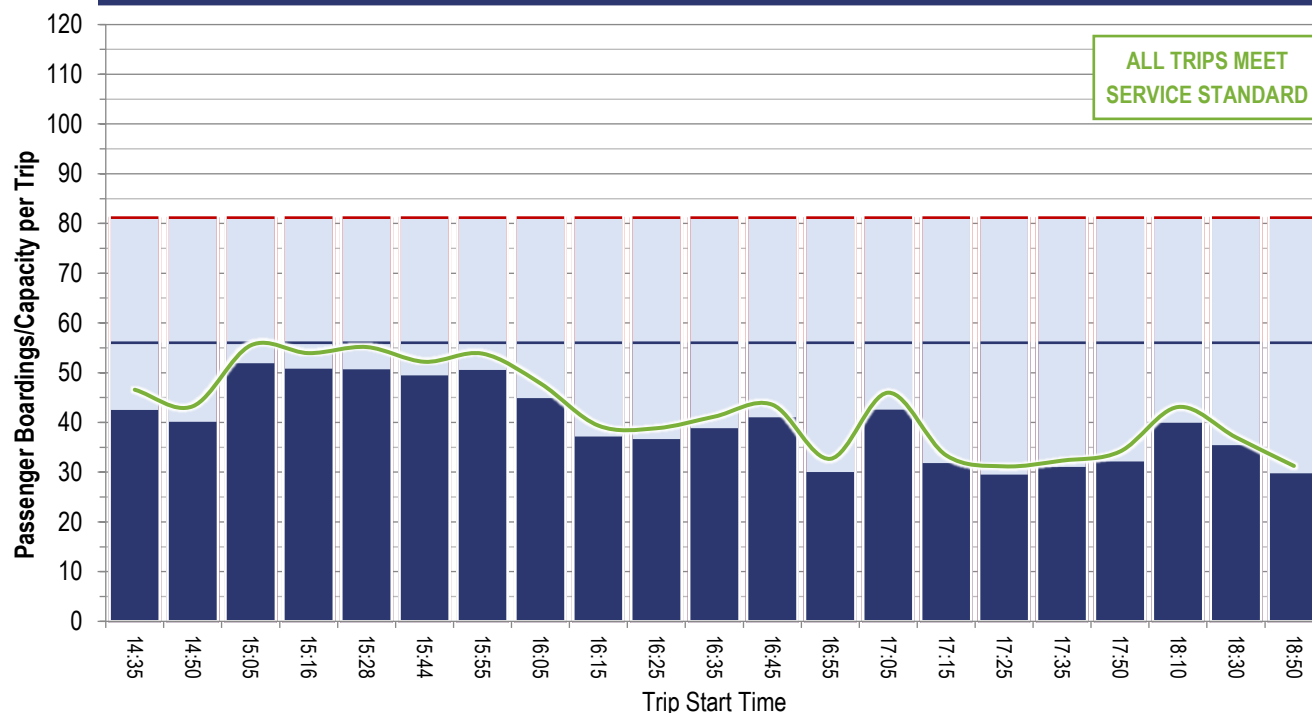




Route 510: Everett – Seattle

I-5 N

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



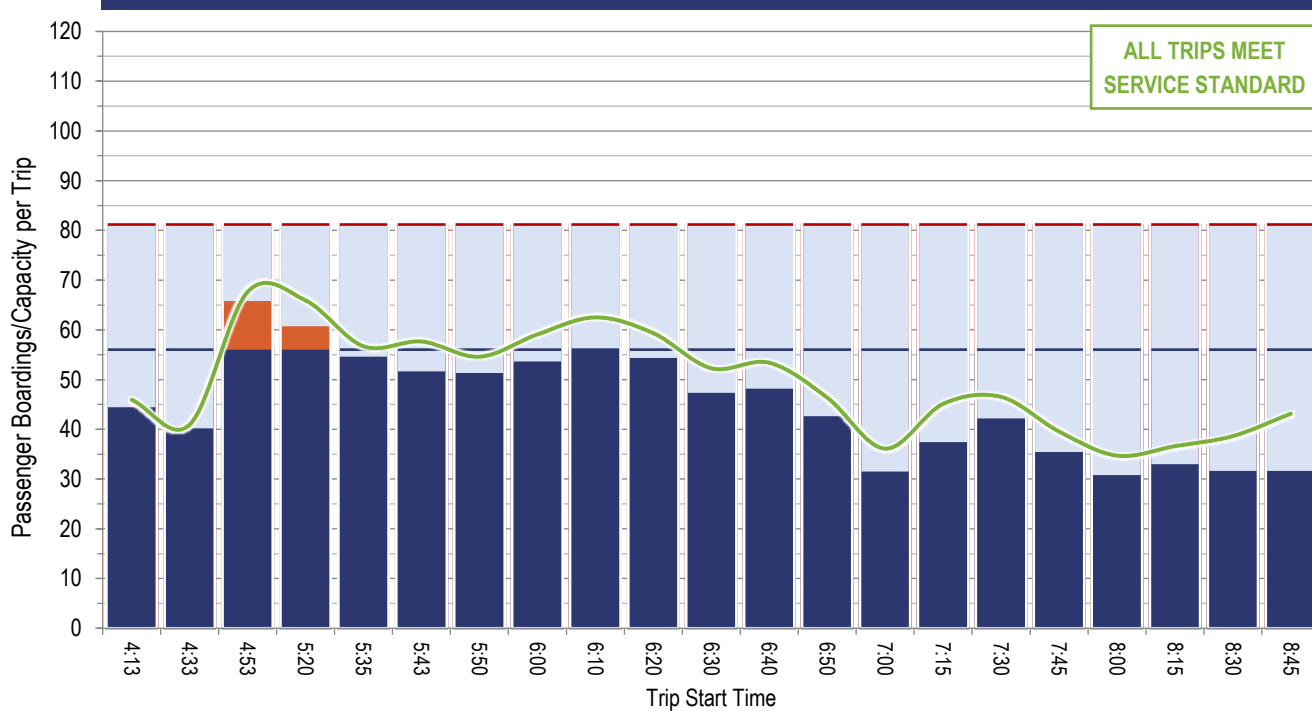
Average Maximum Passenger Load
 Blue: seated passengers
 Orange/Red: standing passengers

Average Passenger Boardings

Available Capacity

Blue: seats
 Red: seats plus standing

SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 510: Everett - Seattle

I-5 N



NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
4th Ave & S Jackson St	121	0
4th Ave & Washington St	24	0
4th Ave & Cherry St	118	3
4th Ave & Seneca St	158	5
4th Ave & Pike St	213	15
Olive Way & 6th Ave	124	8
Howell St & 9th Ave	100	6
South Everett Fwy Station	18	351
Broadway Ave & 34th St	1	69
Everett Station	0	420
Northbound Total	877	877
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Hewitt Ave & Fulton St	12	0
Hewitt Ave & Lombard Ave	1	0
Wetmore Ave & Wall St	3	0
Pacific Ave & Rockefeller Ave	3	0
Everett Station	577	21
Broadway Ave & 34th St	51	1
South Everett Fwy Station	309	6
Stewart St & Yale Ave	15	147
Stewart St & 9th Ave	7	70
Stewart St & 7th Ave	6	110
5th Ave & Pine St	16	241
5th Ave & Seneca St	17	175
5th Ave & Cherry St	1	99
5th Ave & Jefferson St	11	51
5th Ave & S Jackson St	0	109
Southbound Total	1,030	1,030
Total	1,907	1,907

Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 511: Lynnwood - Seattle

I-5 N

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	No Service
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:21 a.m.-7:02 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	37
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	67.37
Peak Buses	9
ANNUAL TOTALS	
Platform Hours	17,506
Trips	9,494

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2013: Service on I-5 restructured to current operation
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	55	No Weekend Service		55
Boardings per Trip	55			55
Subsidy per Boarding	\$1.45			\$1.45
Passenger Miles per Platform Mile	19			19



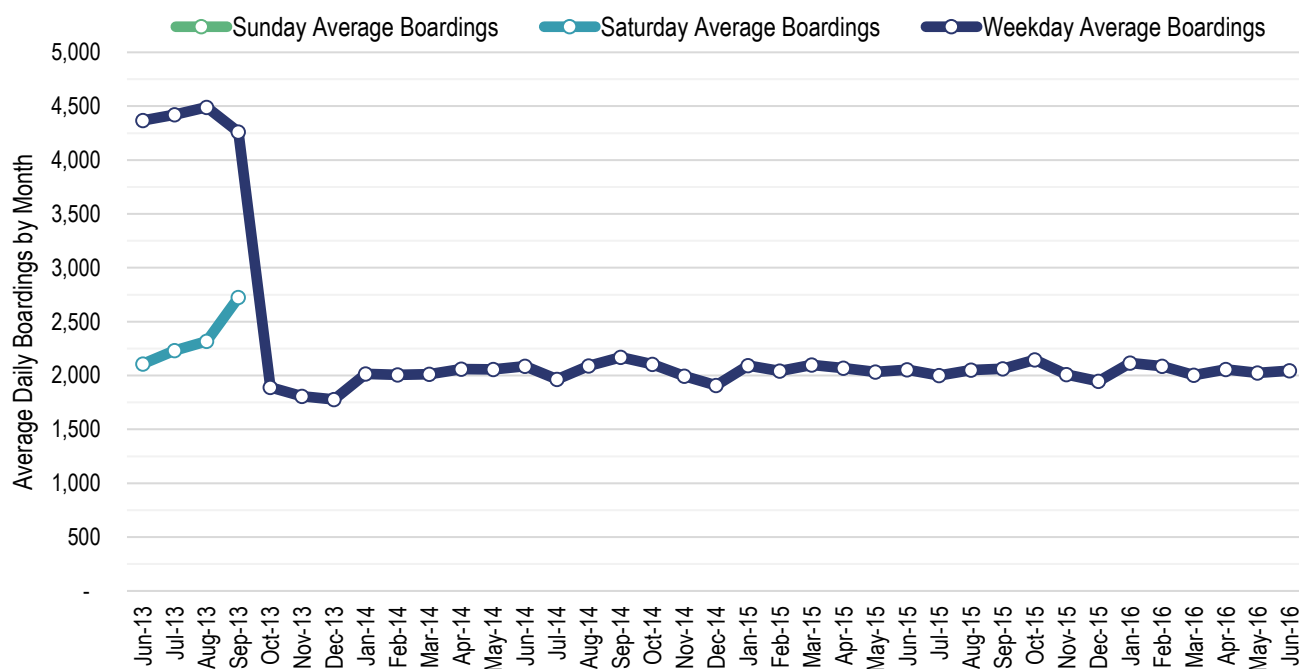


Route 511: Lynnwood - Seattle

I-5 N

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	3,709	2,038	2,050	2,042
Average Saturday Boardings	1,545	No Weekend Service		
Average Sunday Boardings	-			

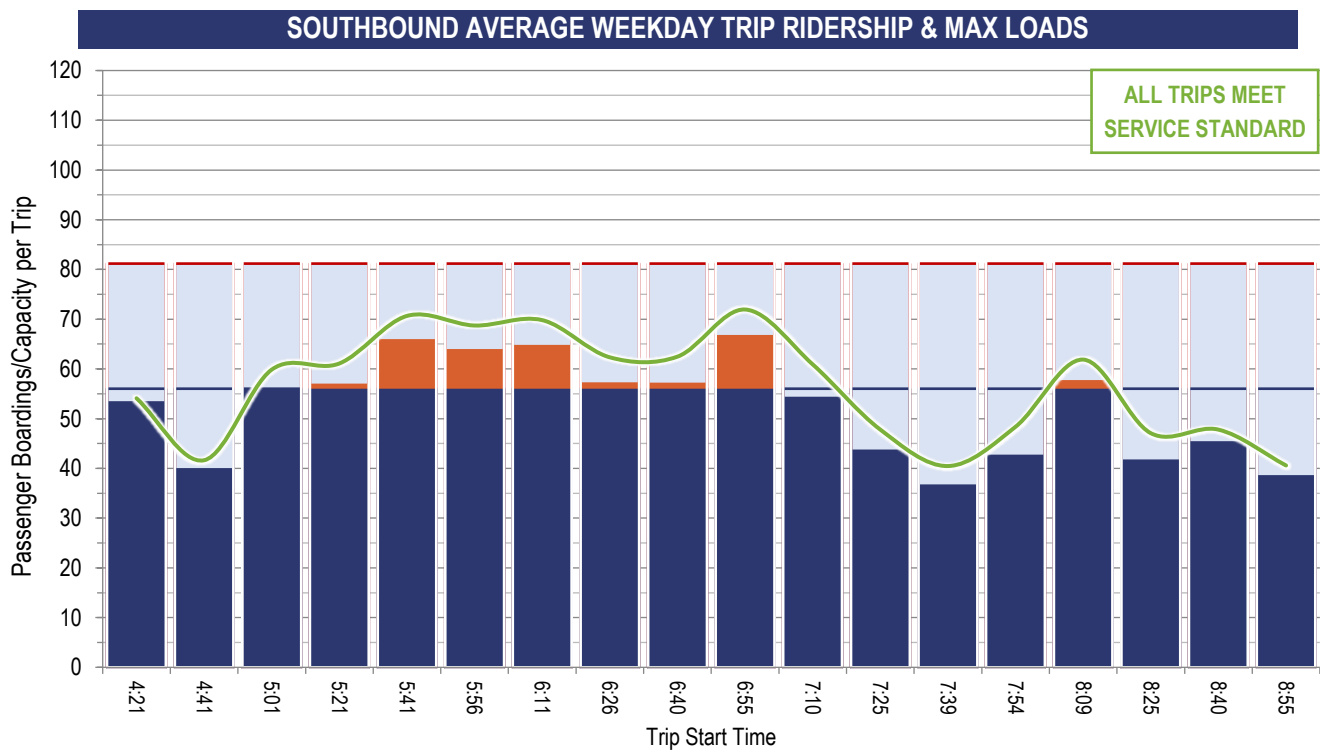
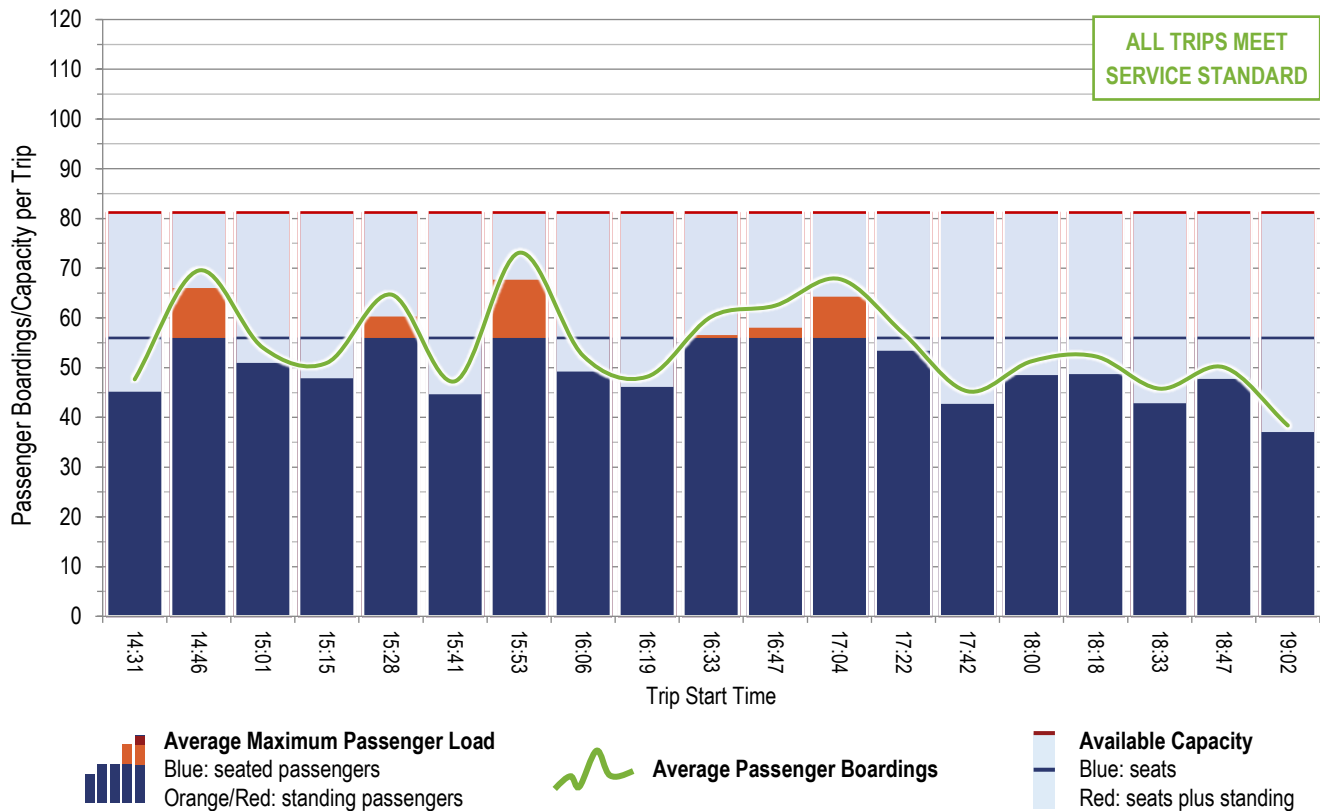




Route 511: Lynnwood - Seattle

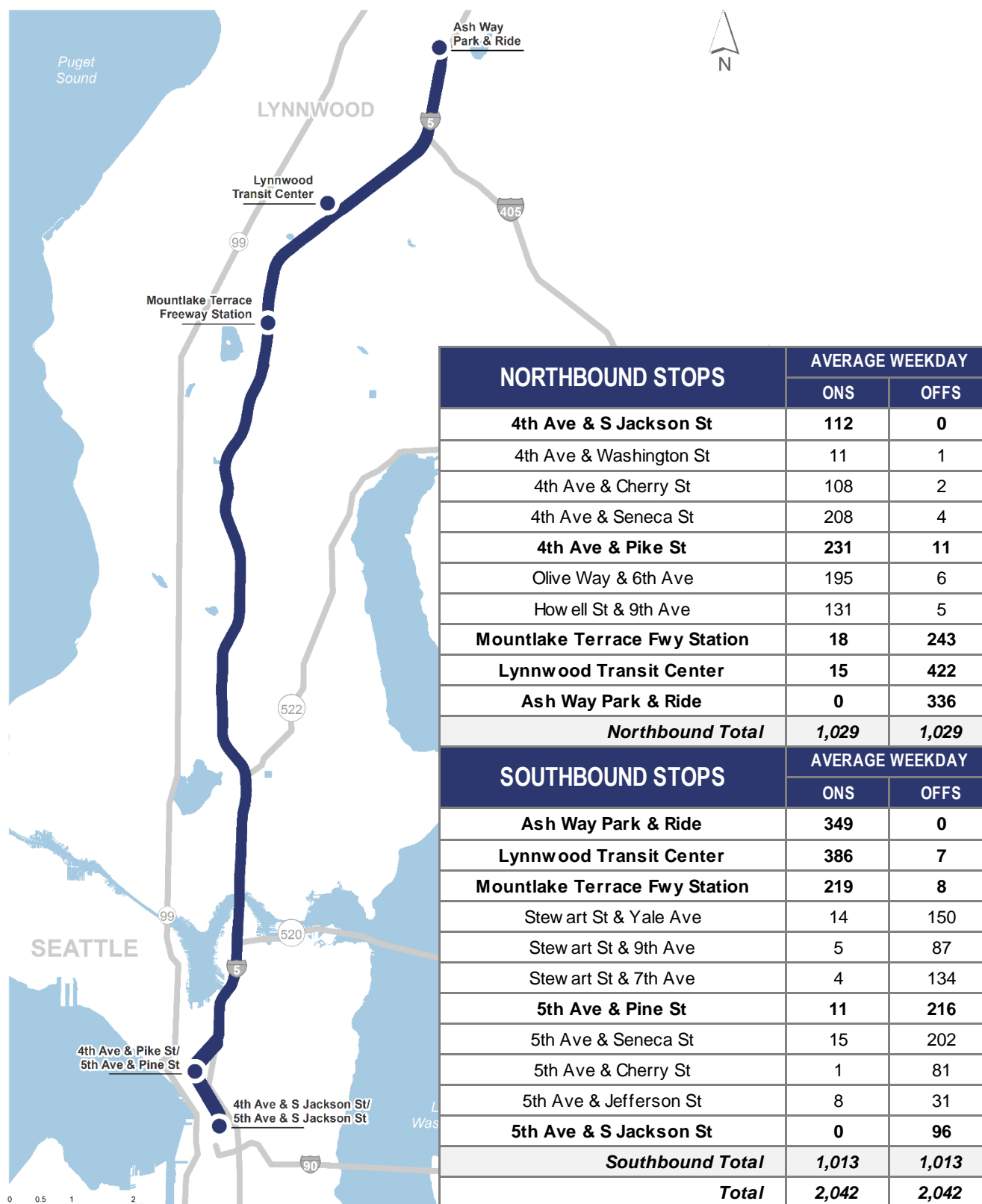
I-5 N

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 511: Lynnwood - Seattle

I-5 N


Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 512: Everett - Seattle

I-5 N

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	Frequent
Evenings	Frequent
Saturday	Frequent
Sunday	Moderate
SPAN OF SERVICE	
Weekday	5:23 a.m.-12:08 a.m.
Saturday	5:00 a.m.-12:08 a.m.
Sunday	5:30 a.m.-12:08 a.m.
TRIPS PER DAY	
Weekday	107
Saturday	106
Sunday	73

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	168.73
Peak Buses	5
TYPICAL SATURDAY	
Platform Hours	154.37
TYPICAL SUNDAY	
Platform Hours	99.85
ANNUAL TOTALS	
Platform Hours	59,775
Trips	37,241

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2013: Service on I-5 restructured to current operation
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	27	30	30	28
Boardings per Trip	38	39	38	38
Subsidy per Boarding	\$3.43	\$2.75	\$2.60	\$3.24
Passenger Miles per Platform Mile	17	18	18	17



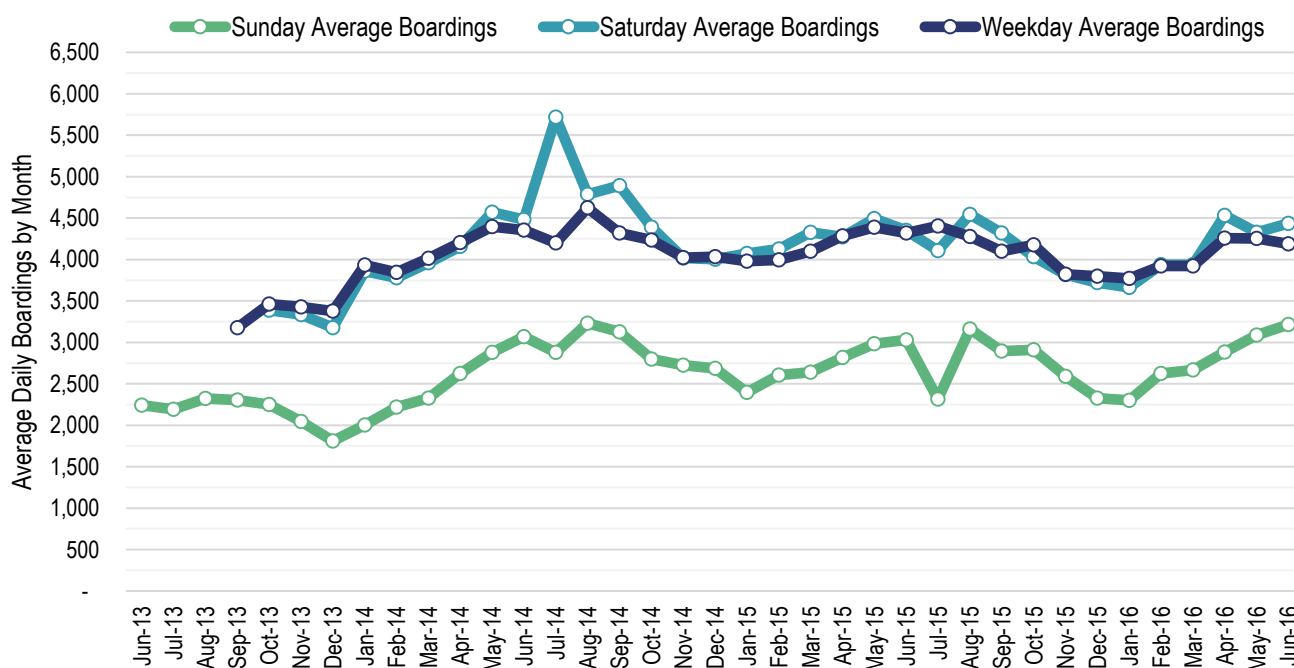


Route 512: Everett - Seattle

I-5 N

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	3,420	4,184	4,140	4,228
Average Saturday Boardings	3,304	4,381	4,190	4,440
Average Sunday Boardings	2,039	2,723	2,717	3,030

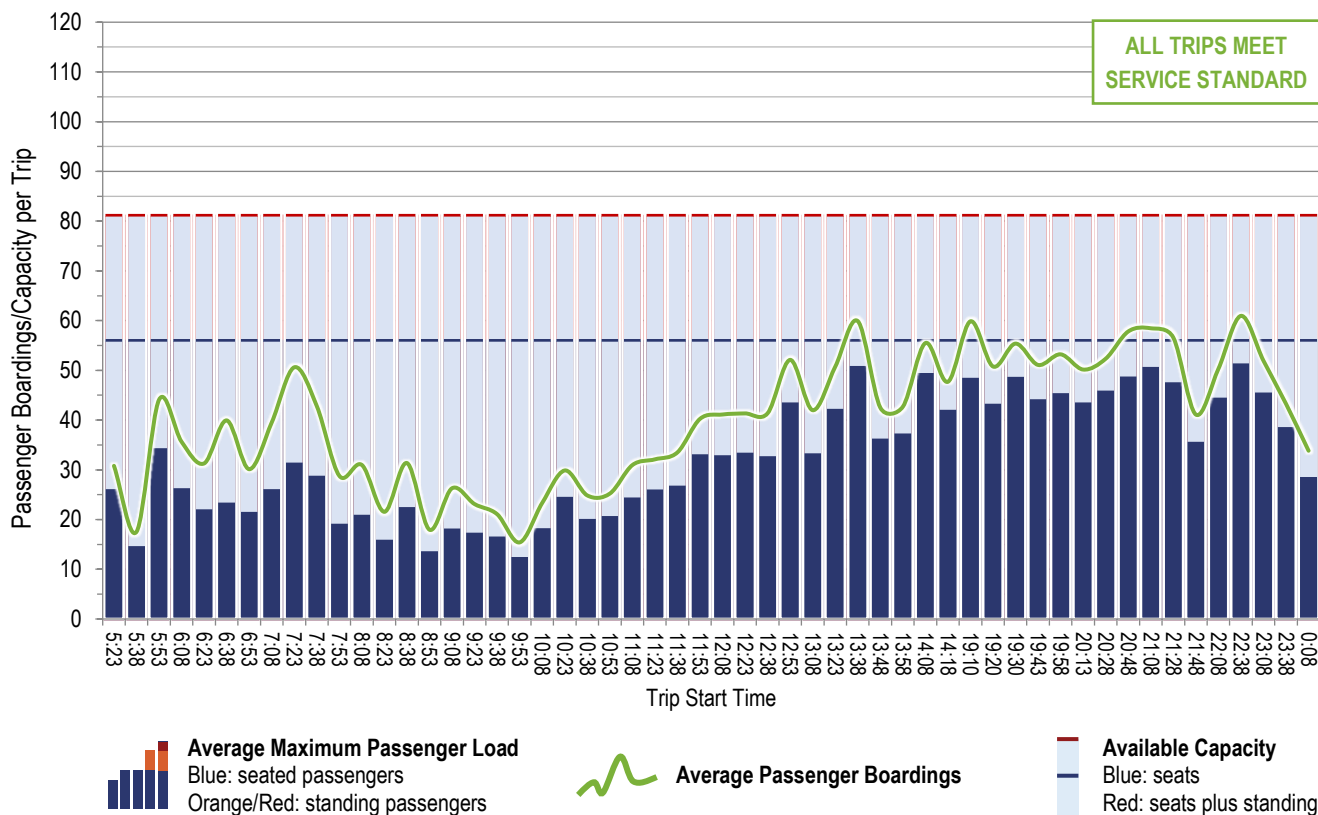




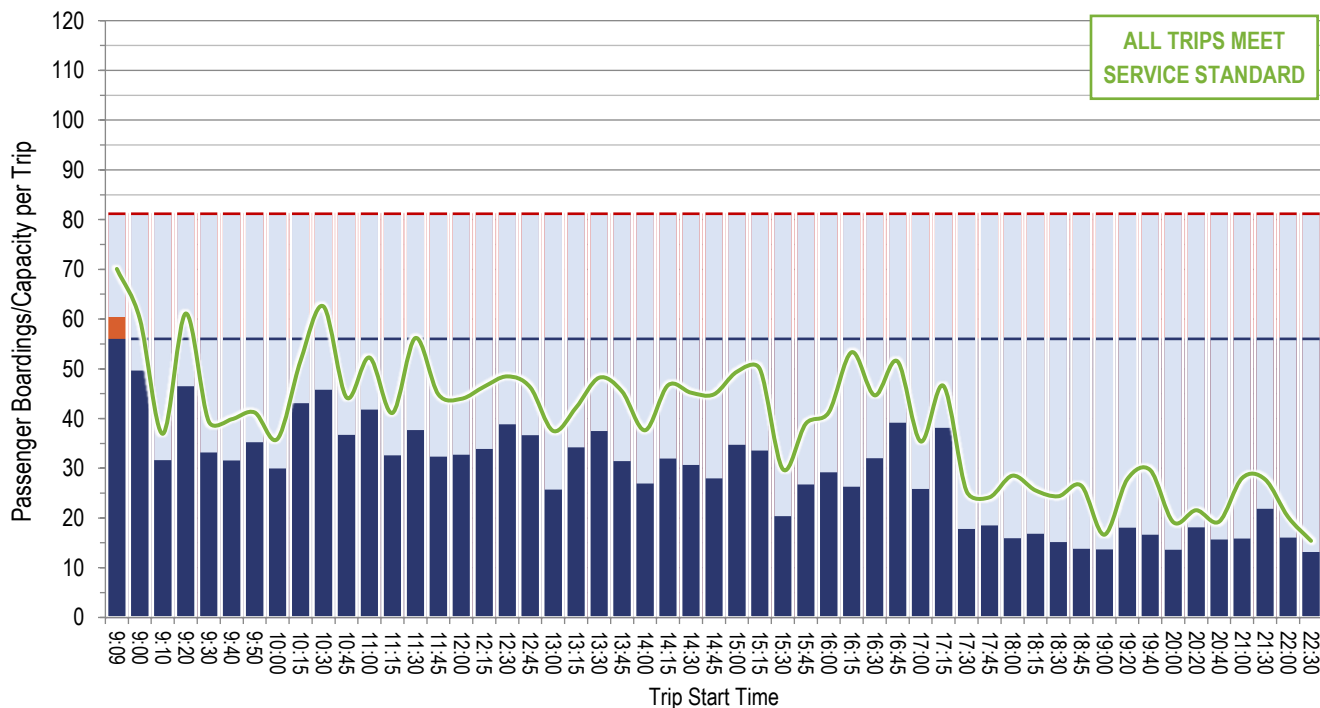
Route 512: Everett - Seattle

I-5 N

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



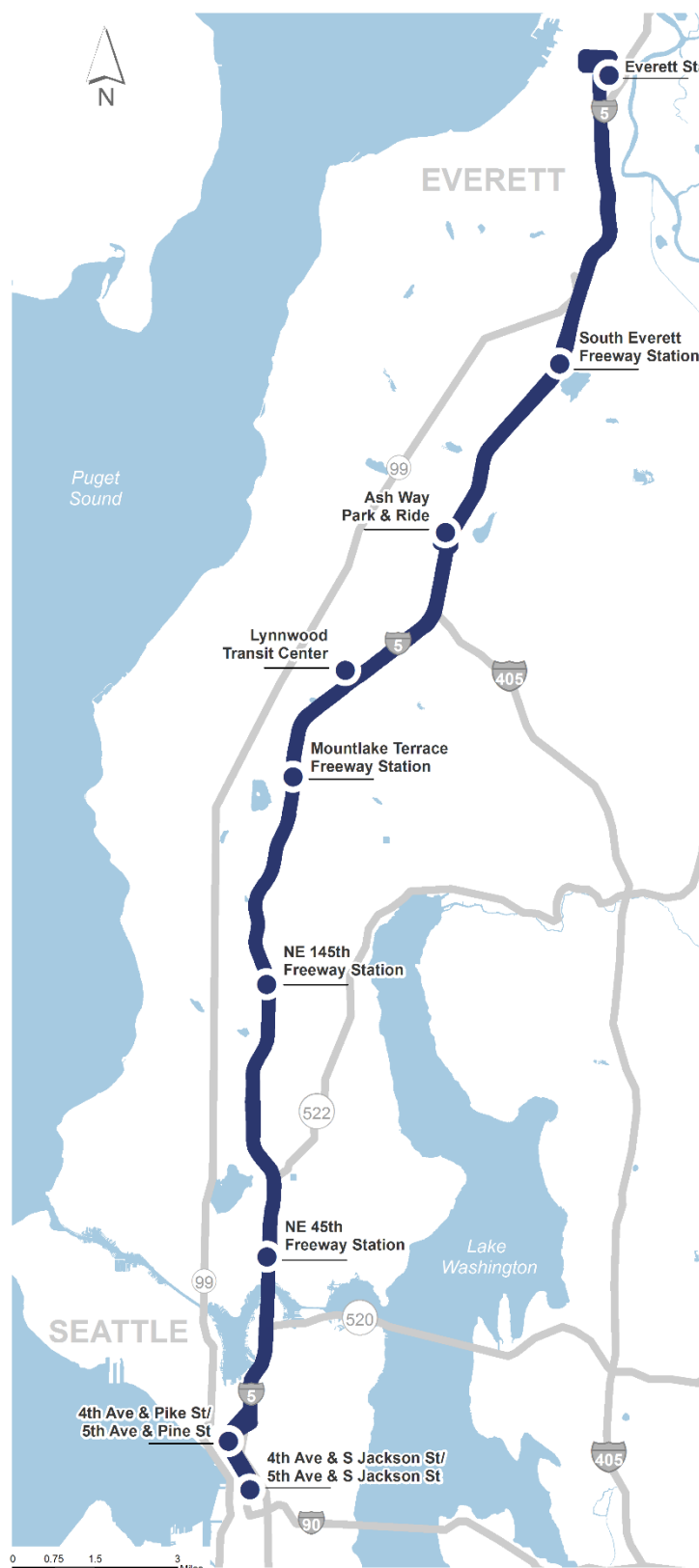
SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 512: Everett - Seattle

I-5 N



NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
4th Ave & S Jackson St	448	0
4th Ave & Washington St	41	9
4th Ave & Cherry St	163	70
4th Ave & Seneca St	208	40
4th Ave & Pike St	462	42
Olive Way & 6th Ave	241	23
Howell St & 9th Ave	189	22
I-5 & NE 45th St Fwy Station	265	143
I-5 & NE 145th St Fwy Station	45	53
Mountlake Terrace Fwy Station	24	194
Lynnwood Transit Center	67	593
Ash Way Park & Ride	29	340
South Everett Fwy Station	17	176
Broadway Ave & 34th St	1	63
Everett Station	2	407
Pacific Ave & Rockefeller Ave	0	6
Wetmore Ave & Wall St	0	9
Hewitt Ave & Lombard Ave	1	8
Hewitt Ave & Virginia Ave	0	8
Northbound Total	2,206	2,206
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Everett Station	535	0
Broadway & 34th St	42	2
South Everett Fwy Station	147	27
Ash Way Park & Ride	306	33
Lynnwood Transit Center	540	70
Mountlake Terrace Fwy Station	142	31
I-5 & NE 145th St Fwy Station	40	46
I-5 & NE 45th St Fwy Station	85	267
Stewart St & Yale Ave	31	172
Stewart St & 9th Ave	16	109
Stewart St & 7th Ave	13	101
5th Ave & Pine St	53	559
5th Ave & Seneca St	26	148
5th Ave & Cherry St	31	97
5th Ave & Jefferson St	17	51
5th Ave & S Jackson St	0	309
Southbound Total	2,023	2,023
Total	4,228	4,228

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 513: Everett – Seattle****I-5 N****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	No Service
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	5:03 a.m.-6:35 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	21
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	39.88
Peak Buses	5
ANNUAL TOTALS	
Platform Hours	10,184
One-Way Trips	5,384

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2013: Service on I-5 restructured to current operation
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	28	No Weekend Service		28
Boardings per Trip	33			33
Subsidy per Boarding	\$4.24			\$4.24
Passenger Miles per Platform Mile	13			13



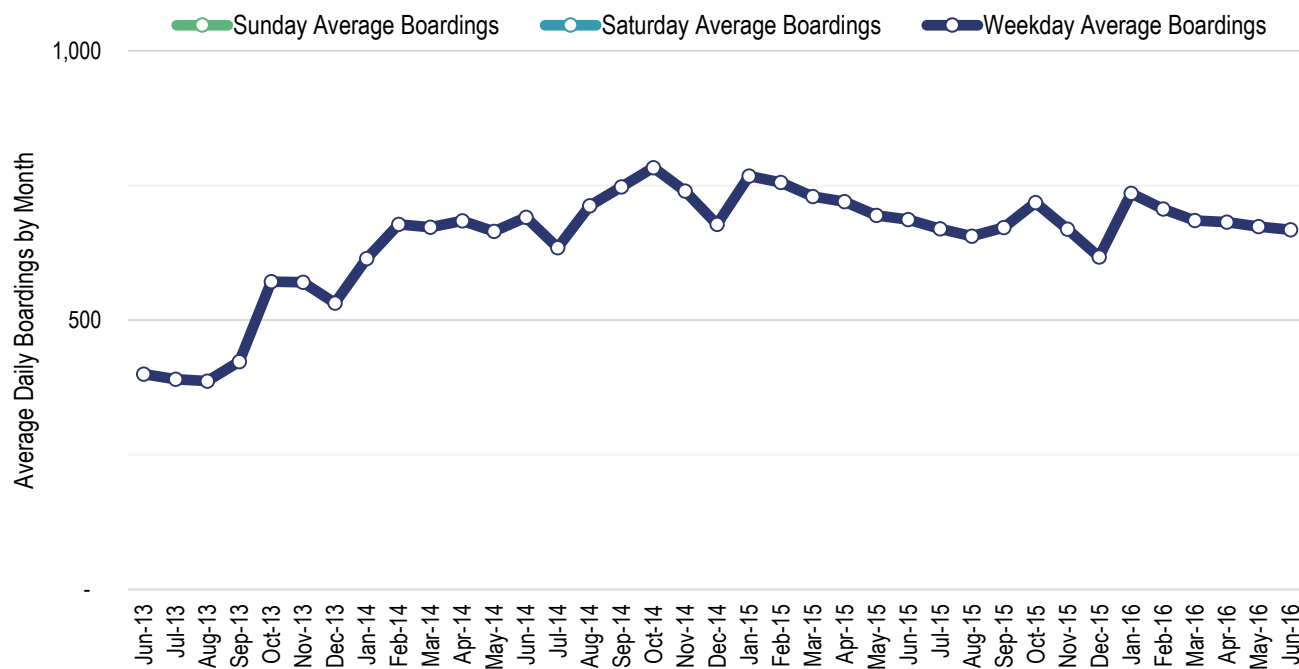


Route 513: Everett – Seattle

I-5 N

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	437	691	696	674
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

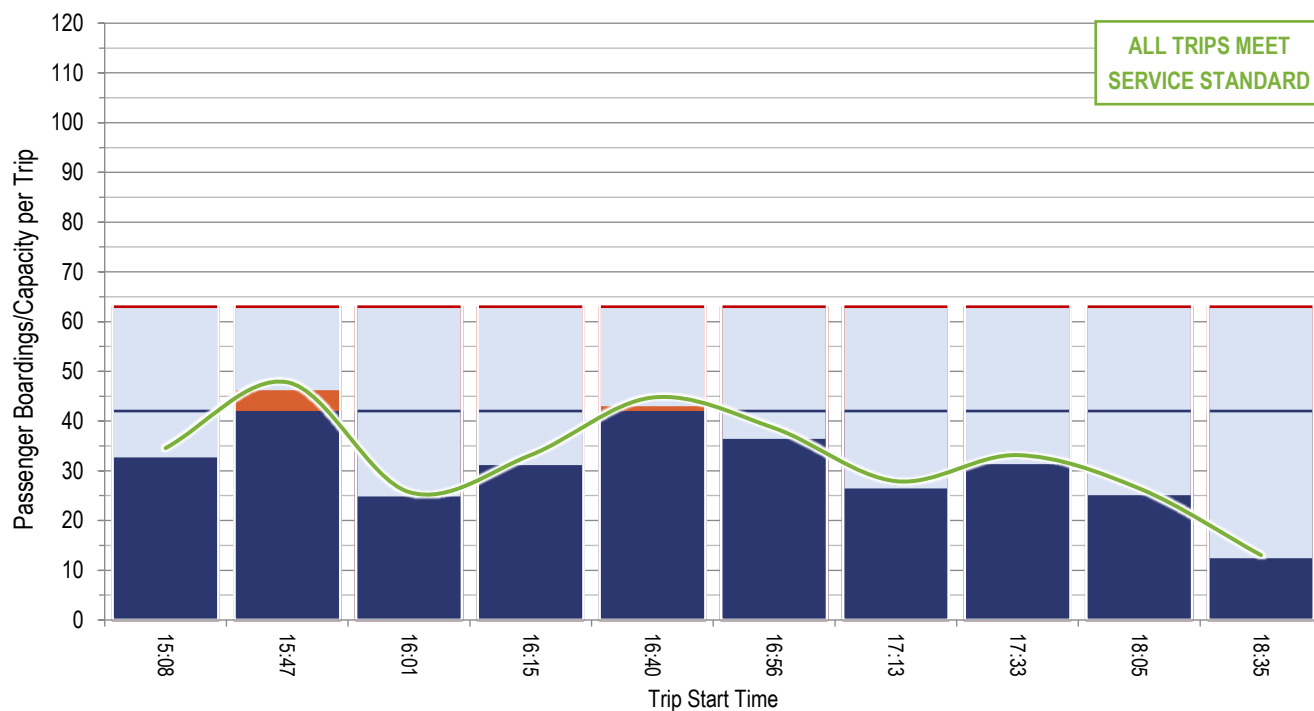




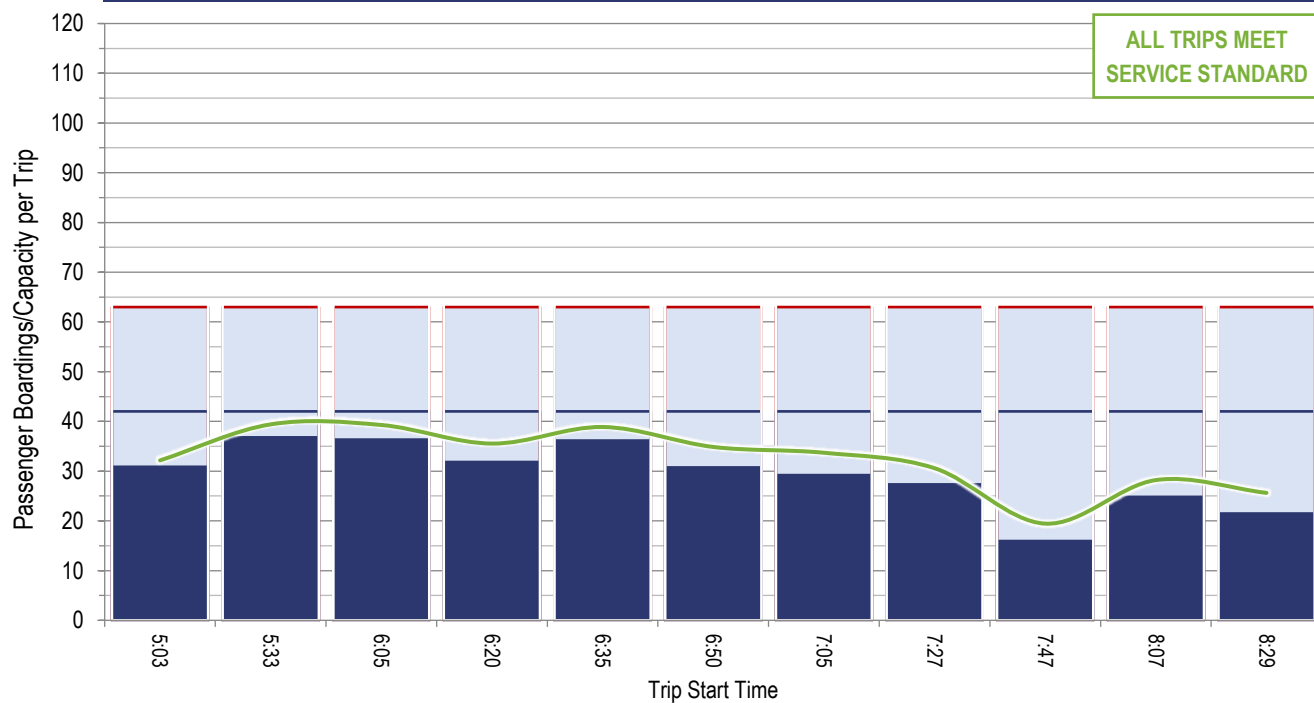
Route 513: Everett – Seattle

I-5 N

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



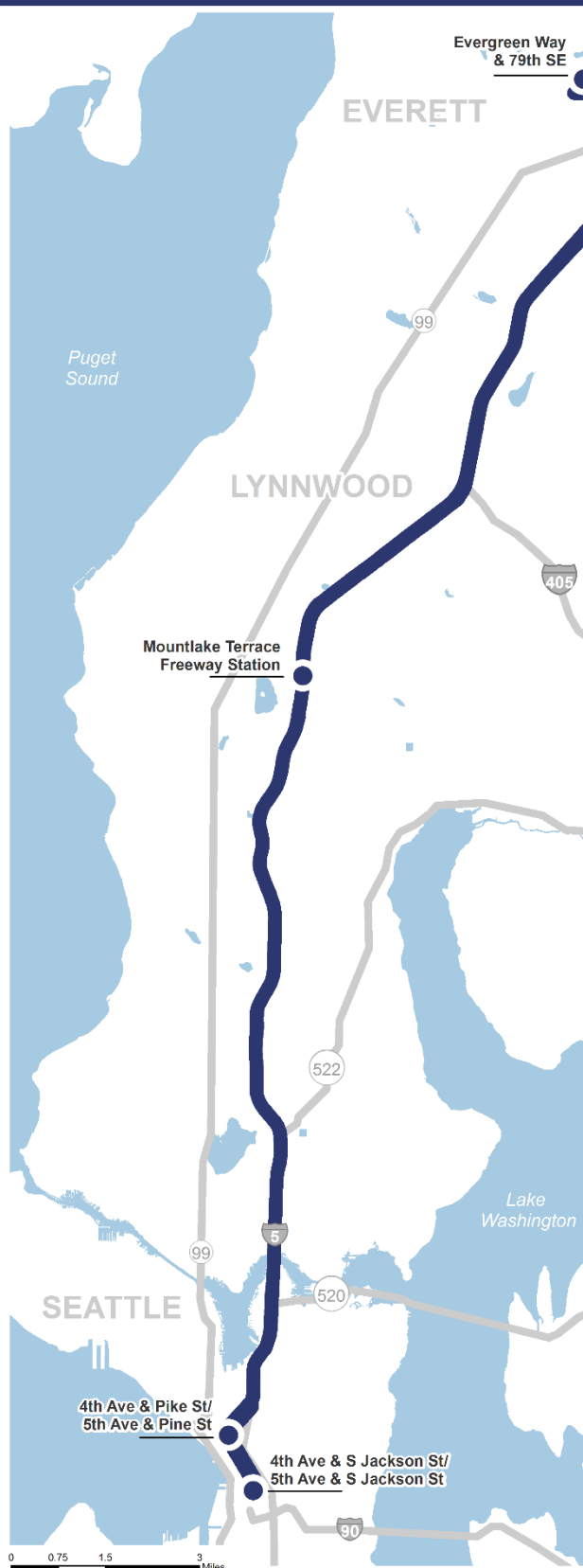
SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 513: Everett - Seattle

I-5 N



NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
4th Ave & S Jackson St	25	0
4th Ave & Washington St	3	0
4th Ave & Cherry St	36	1
4th Ave & Seneca St	59	2
4th Ave & Pike St	67	4
Olive Way & 6th Ave	60	1
Howell St & 9th Ave	43	1
Howell St & Yale Ave	23	1
Mountlake Terrace Fwy Station	5	143
Eastmont Park & Ride	1	132
Evergreen Wy & 79th PI SE	0	35
Northbound Total	321	321
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Evergreen Wy & 79th PI SE	31	0
Eastmont Park & Ride	140	1
Mountlake Terrace Fwy Station	151	2
Stewart St & Yale Ave	7	57
Stewart St & 9th Ave	3	31
Stewart St & 7th Ave	2	55
5th Ave & Pine St	7	70
5th Ave & Seneca St	7	65
5th Ave & Cherry St	1	34
5th Ave & Jefferson St	4	12
5th Ave & S Jackson St	0	26
Southbound Total	353	353
Total	674	674

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 522: Woodinville - Seattle****SR 522****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	Moderate
Evenings	Minimum
Saturday	Moderate
Sunday	Moderate
SPAN OF SERVICE	
Weekday	4:45 a.m.-11:39 p.m.
Saturday	5:39 a.m.-11:33 p.m.
Sunday	5:39 a.m.-11:33 p.m.
TRIPS PER DAY	
Weekday	103
Saturday	66
Sunday	66

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	168.28
Peak Buses	17
TYPICAL SATURDAY	
Platform Hours	97.85
TYPICAL SUNDAY	
Platform Hours	97.45
ANNUAL TOTALS	
Platform Hours	54,256
Trips	32,799

SERVICE CHANGES	
HISTORY	
Start Date	September 2002
Last Major Change	2012: Service shifted from 3rd Avenue to 4th Avenue in downtown Seattle
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	36	29	22	33
Boardings per Trip	51	41	32	47
Subsidy per Boarding	\$3.88	\$4.52	\$6.29	\$4.12
Passenger Miles per Platform Mile	18	16	13	17



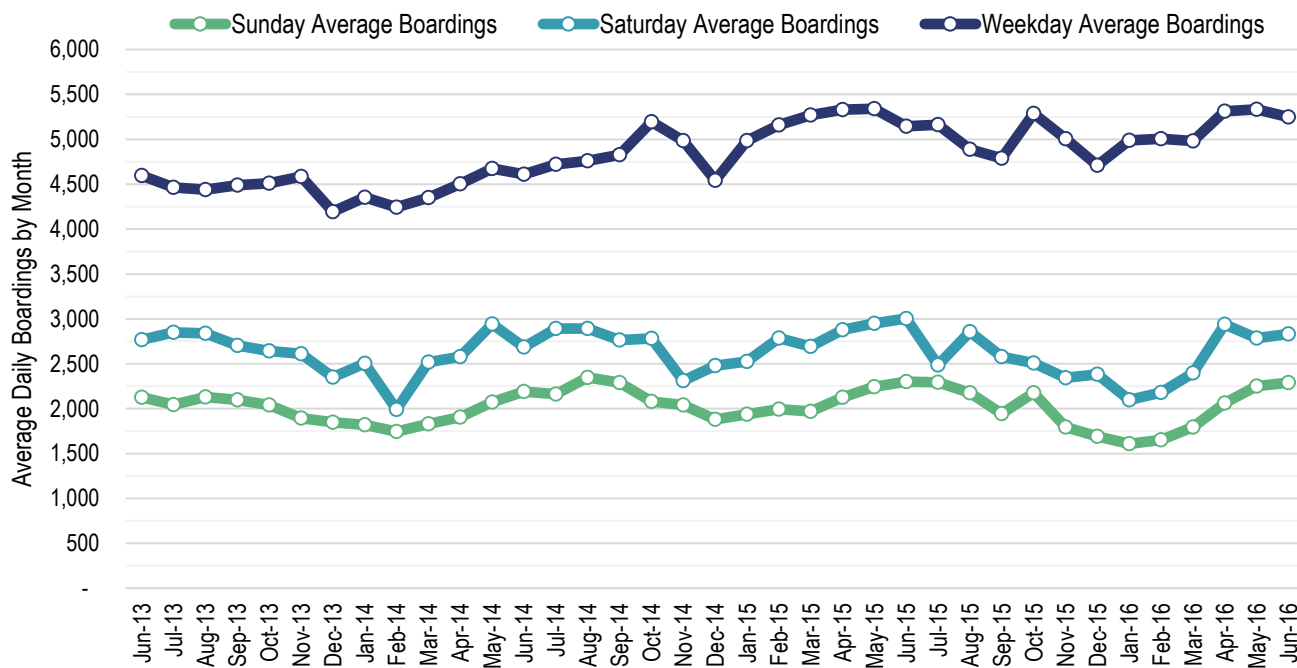


Route 522: Woodinville - Seattle

SR 522

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	4,492	4,649	5,090	5,298
Average Saturday Boardings	2,667	2,616	2,669	2,858
Average Sunday Boardings	1,986	2,073	2,046	2,208

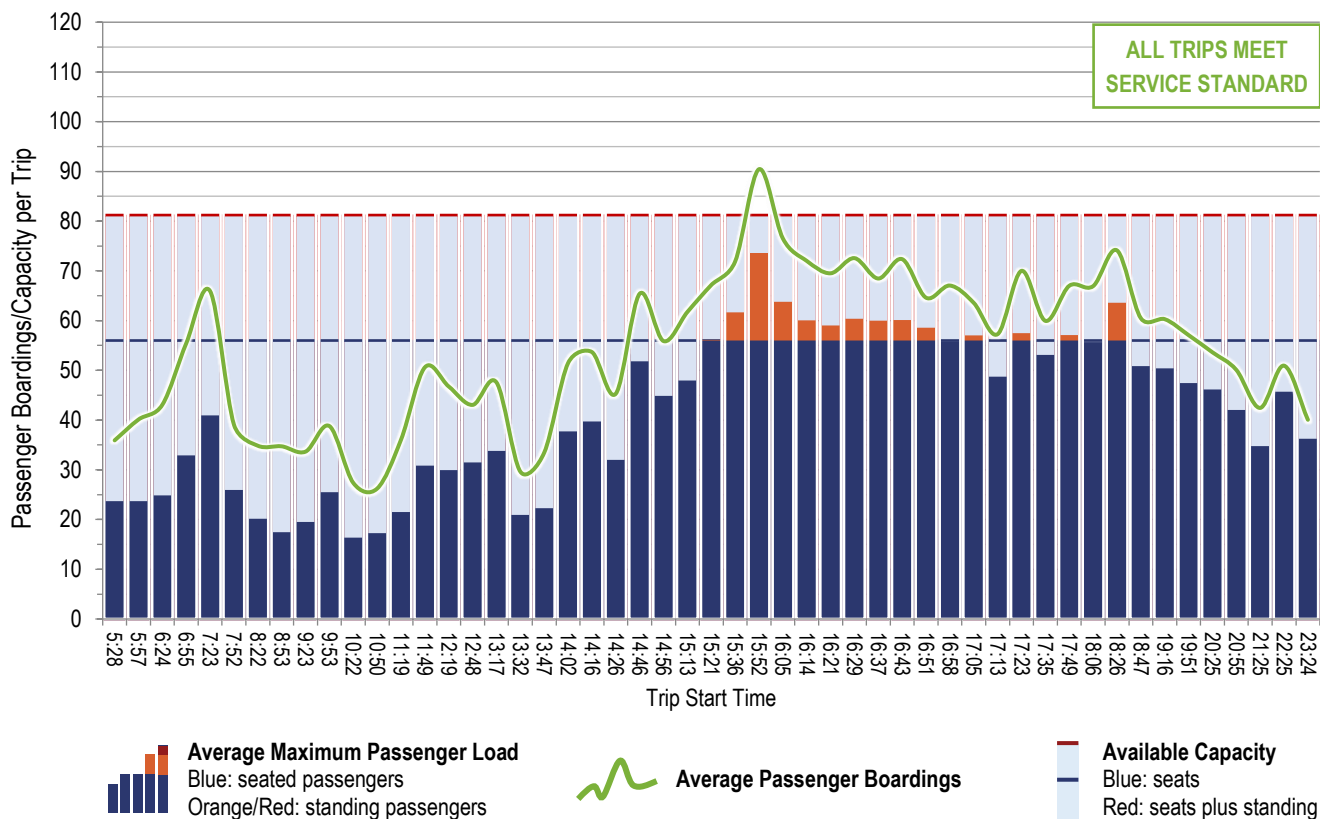




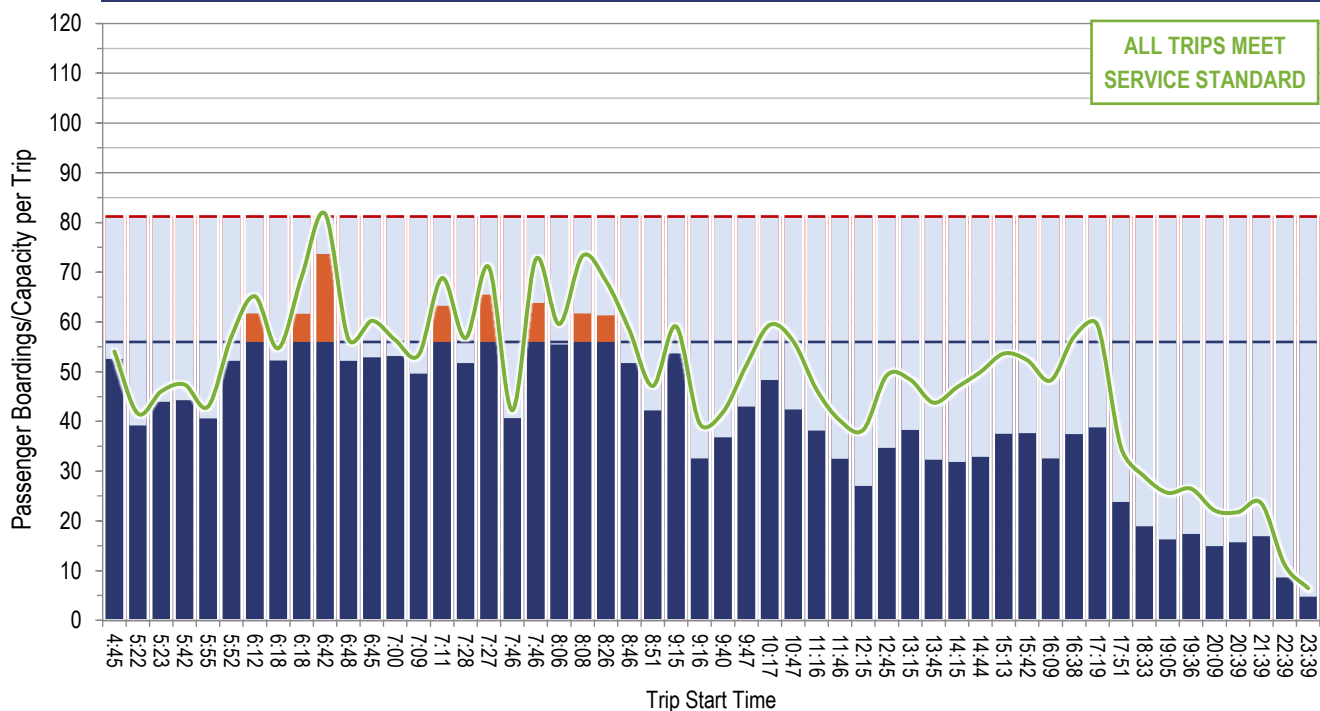
Route 522: Woodinville - Seattle

SR 522

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



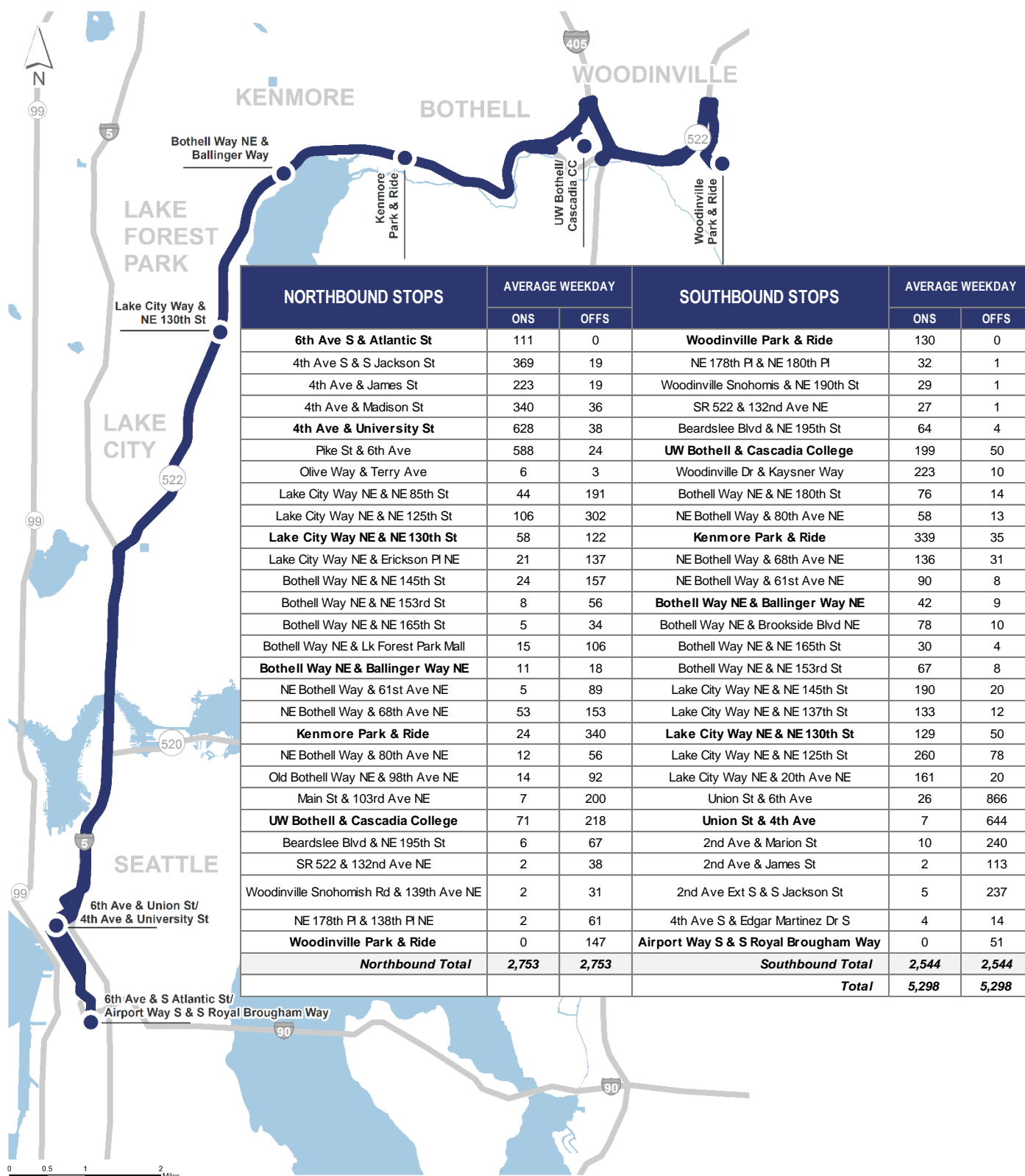
SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 522: Woodinville - Seattle

SR 522



Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 532: Everett – Bellevue****I-405 N****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	Moderate
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:30 a.m.-6:43 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	41
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	69.68
Peak Buses	10
ANNUAL TOTALS	
Platform Hours	18,074
Trips	10,512

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2008: Route restructured to serve South Everett Freeway Station
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	39	No Weekend Service		39
Boardings per Trip	49			49
Subsidy per Boarding	\$1.94			\$1.94
Passenger Miles per Platform Mile	17			17



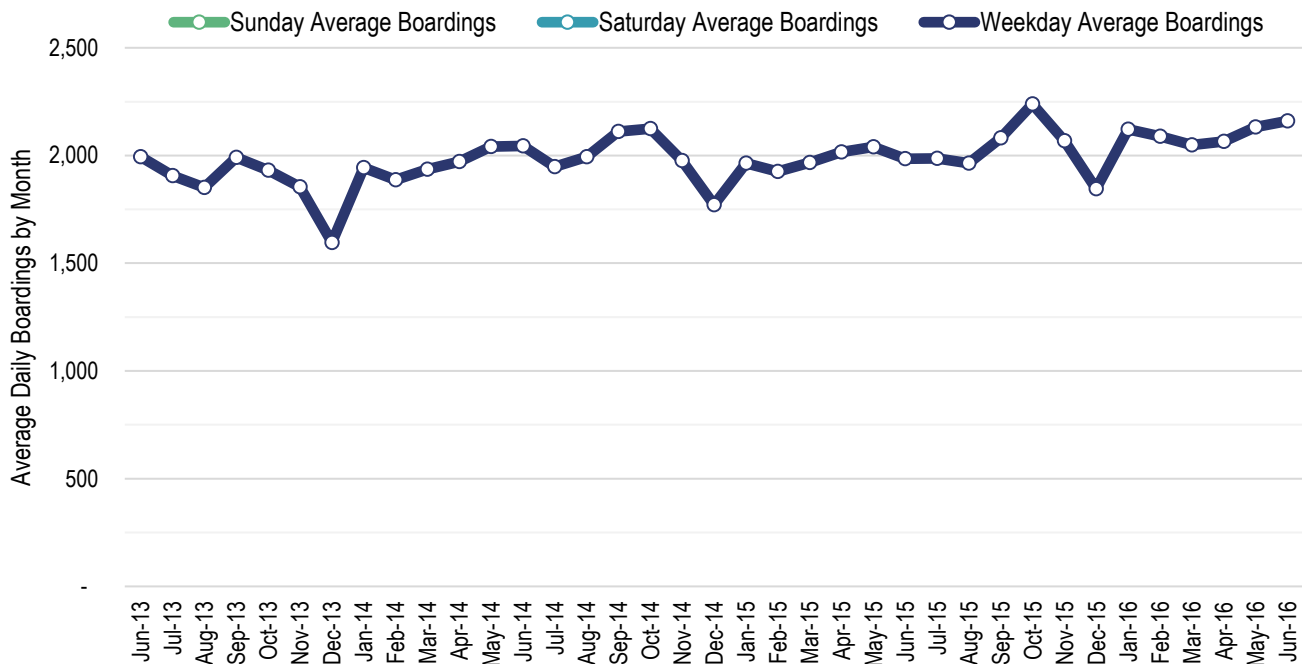


Route 532: Everett – Bellevue

I-405 N

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	1,843	1,980	2,007	2,120
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

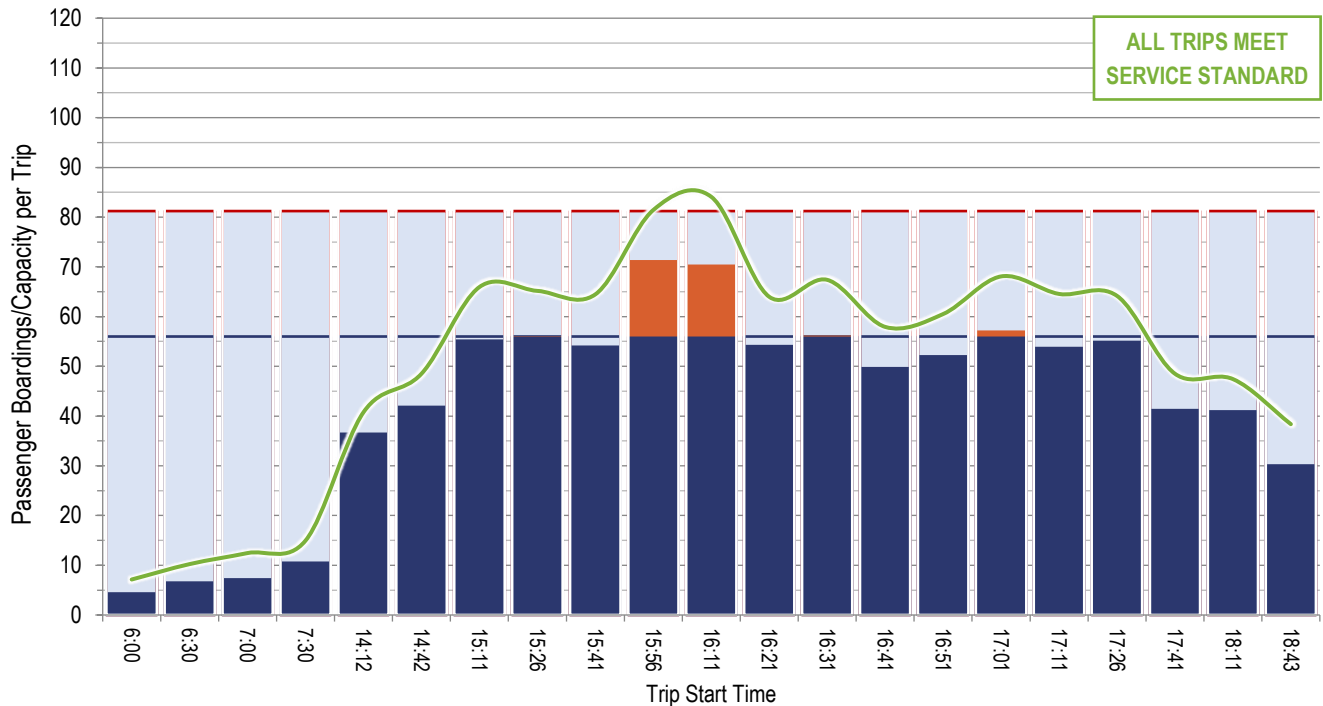




Route 532: Everett - Bellevue

I-405 N

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

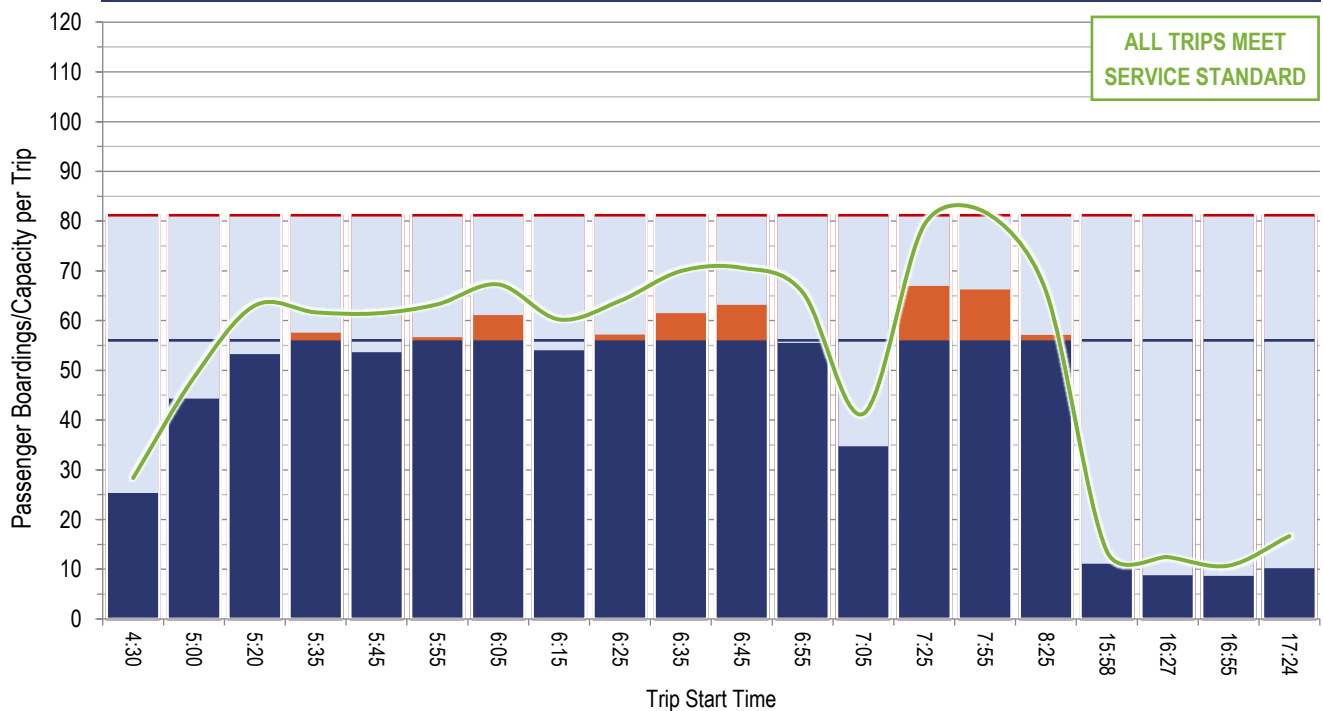


Average Maximum Passenger Load
 Blue: seated passengers
 Orange/Red: standing passengers

Average Passenger Boardings

Available Capacity
 Blue: seats
 Red: seats plus standing

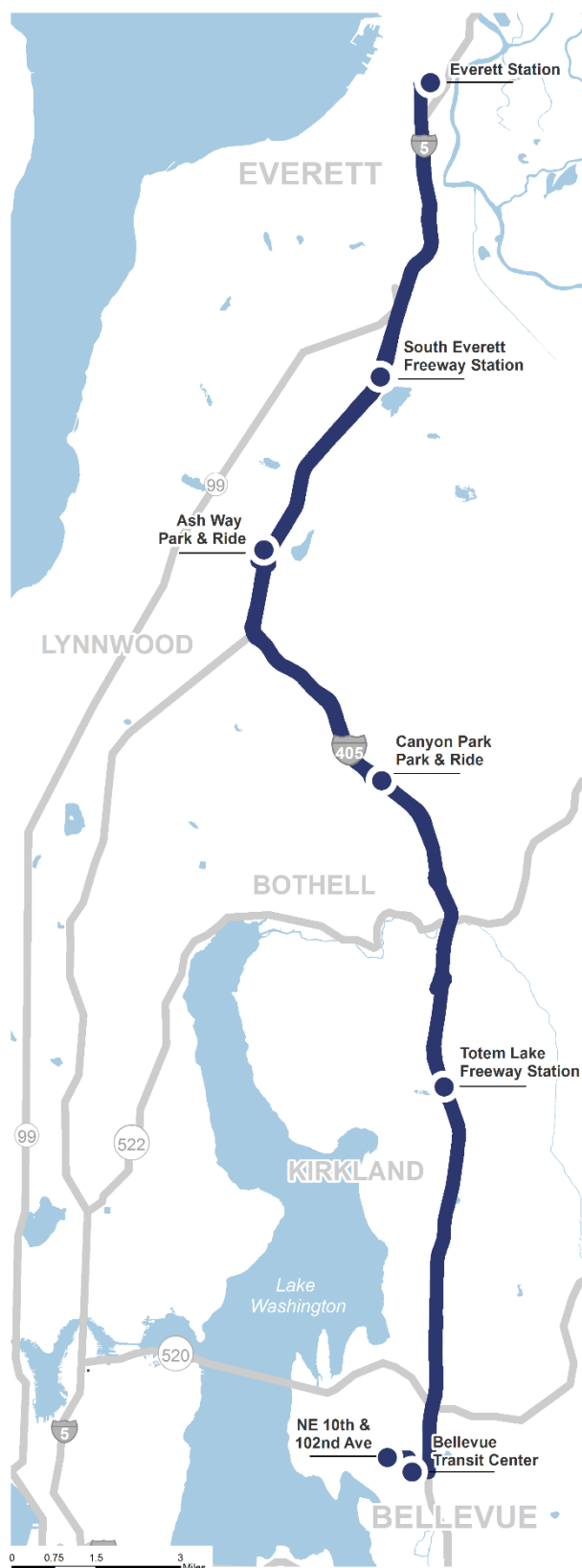
SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 532: Everett - Bellevue

I-405 N



NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
NE 10th St & 102nd Ave NE	55	0
NE 10th St & 108th Ave NE	56	0
Bellevue Transit Center	790	8
Totem Lake Fwy Station	90	176
Brickyard Fwy Station	1	0
NE 195th St Flyer Stop	0	4
Canyon Park Park & Ride	41	295
Ash Way Park & Ride	39	299
South Everett Fwy Station	4	120
Broadway & 34th St	0	25
Everett Station	0	149
Northbound Total	1,076	1,076
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Everett Station	151	0
Broadway & 34th St	24	1
South Everett Fwy Station	132	4
Ash Way Park & Ride	314	25
Canyon Park Fwy Station	272	33
NE 195th St Flyer Stop	4	2
Brickyard Fwy Station	1	2
Totem Lake Fwy Station	144	81
Bellevue Transit Center	3	823
NE 8th St & 106th Ave NE	0	45
NE 8th St & 102nd Ave NE	0	11
NE 10th St & 102nd Ave NE	0	18
Southbound Total	1,044	1,044
Total	2,120	2,120

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 535: Lynnwood – Bellevue****I-405 N****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	Moderate
Evenings	Minimum
Saturday	Minimum
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:48 a.m.-10:15 p.m.
Saturday	7:18 a.m.-10:14 p.m.
Sunday	-
TRIPS PER DAY	
Weekday	65
Saturday	30
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	83.65
Peak Buses	6
TYPICAL SATURDAY	
Platform Hours	37.00
ANNUAL TOTALS	
Platform Hours	23,479
Trips	18,255

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2011: Sunday service discontinued as part of the 2011 SIP efficiency initiative.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	25	18	No Sunday Service	25
Boardings per Trip	28	19		28
Subsidy per Boarding	\$3.59	\$6.08		\$3.74
Passenger Miles per Platform Mile	12	9		12



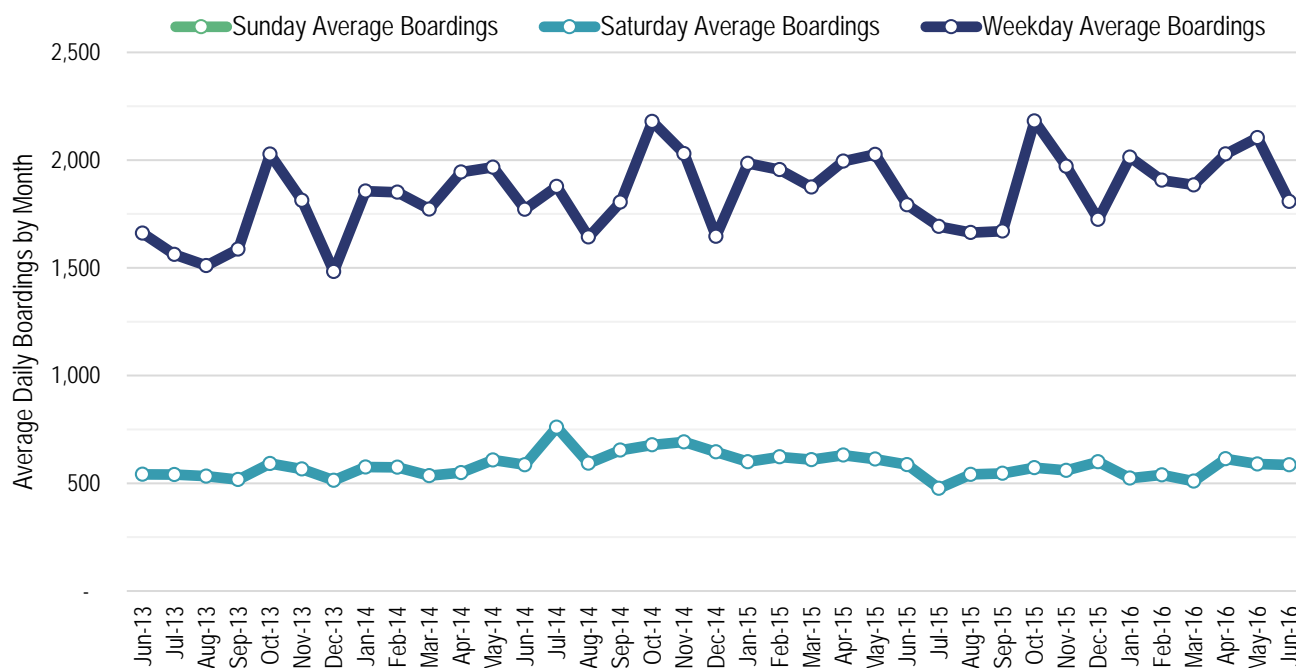


Route 535: Lynnwood – Bellevue

I-405 N

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	1,688	1,863	1,876	1,962
Average Saturday Boardings	527	620	580	597
Average Sunday Boardings	No Sunday Service			

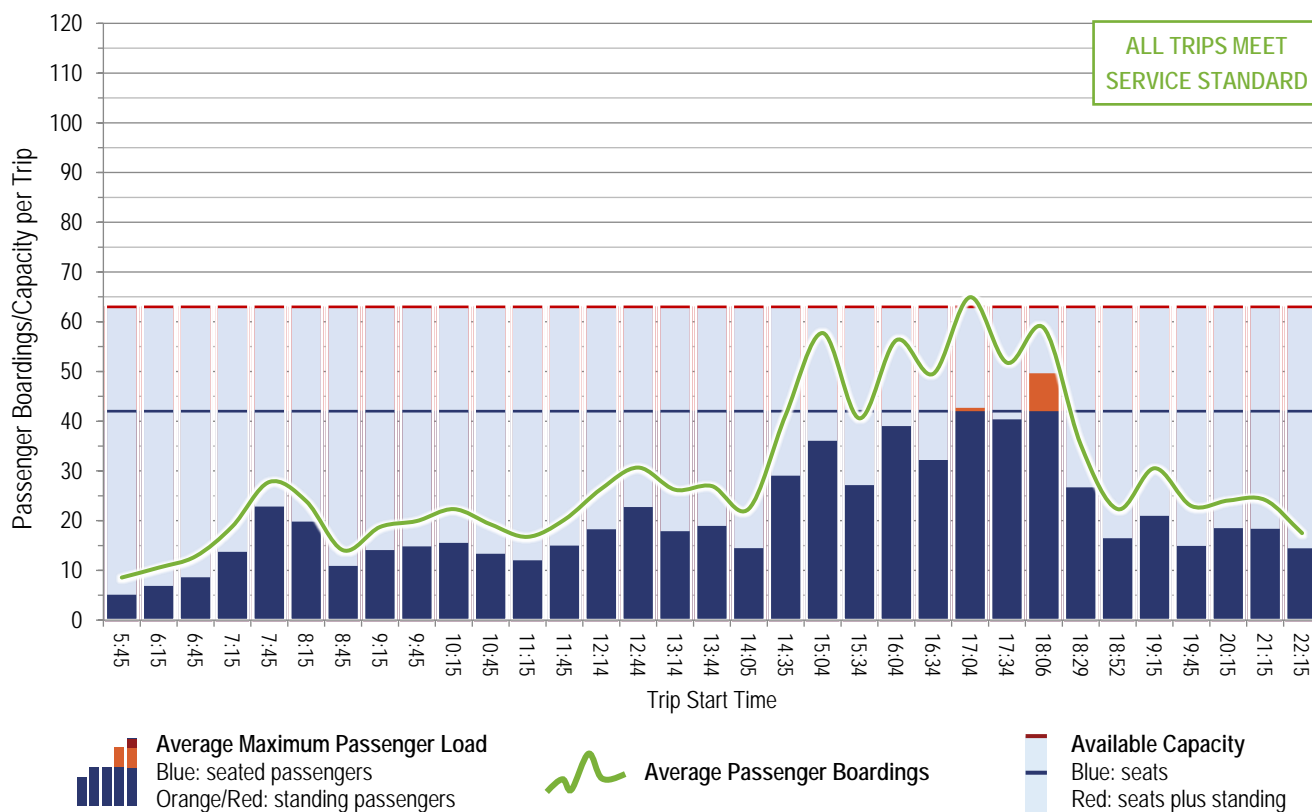




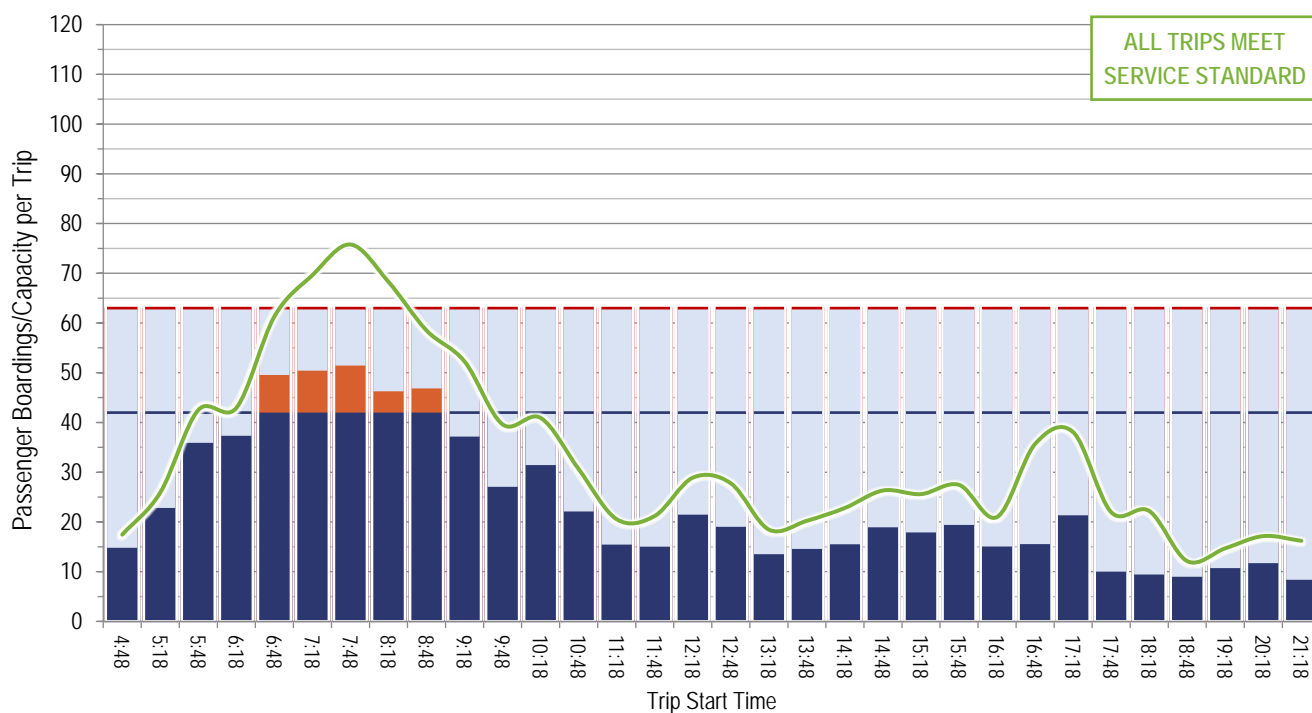
Route 535: Lynnwood - Bellevue

I-405 N

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

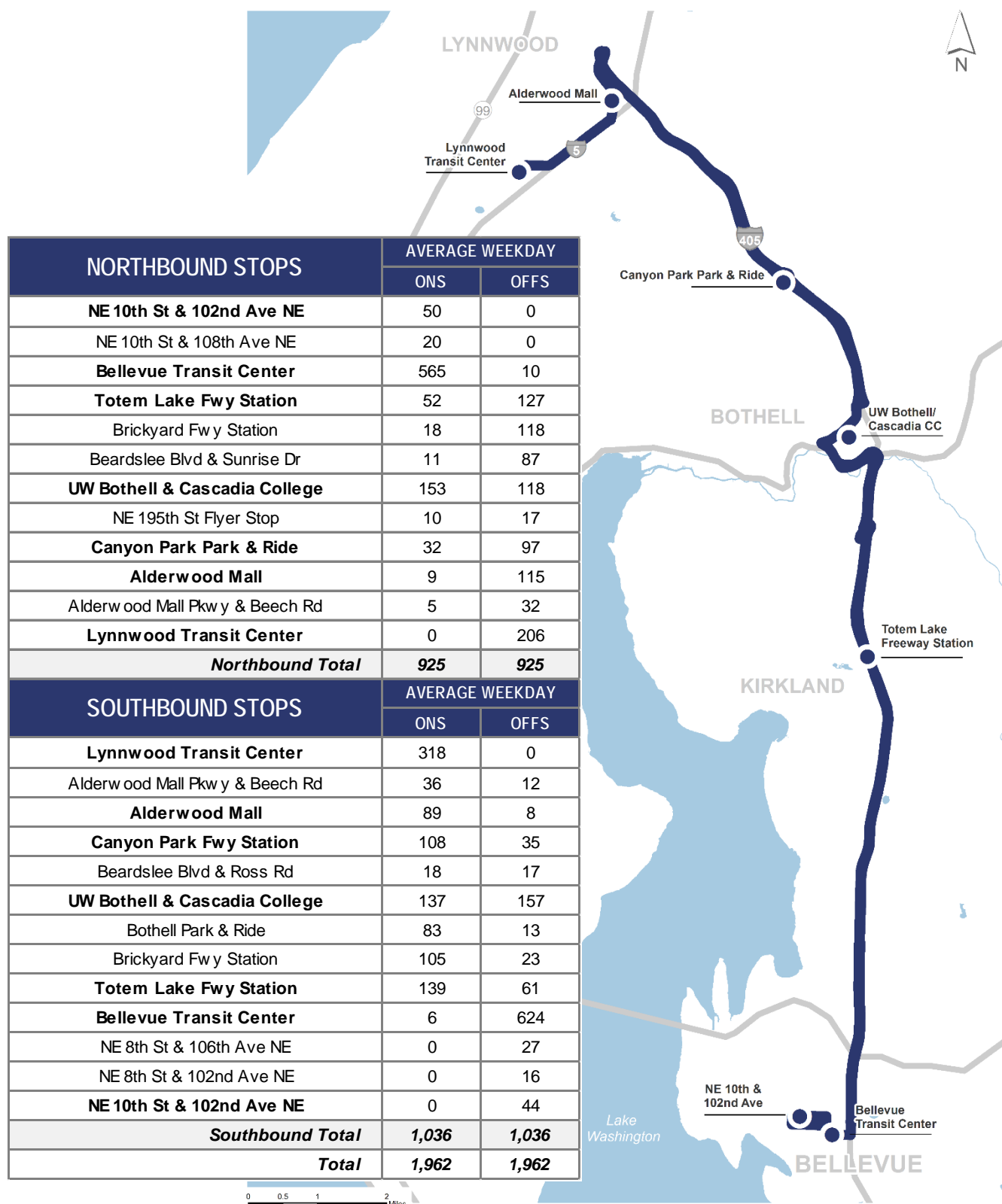


SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 535: Lynnwood – Bellevue

I-405 N


Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 540: Kirkland – U. District****SR 520****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	Moderate
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	6:04 a.m.-6:34 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	36
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	32.20
Peak Buses	4
ANNUAL TOTALS	
Platform Hours	8,341
Trips	9,176

SERVICE CHANGES	
HISTORY	
Start Date	September 2000
Last Major Change	2011: Midday Service discontinued.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	25	No Weekend Service		25
Boardings per Trip	18			18
Subsidy per Boarding	\$6.42			\$6.42
Passenger Miles per Platform Mile	9			9



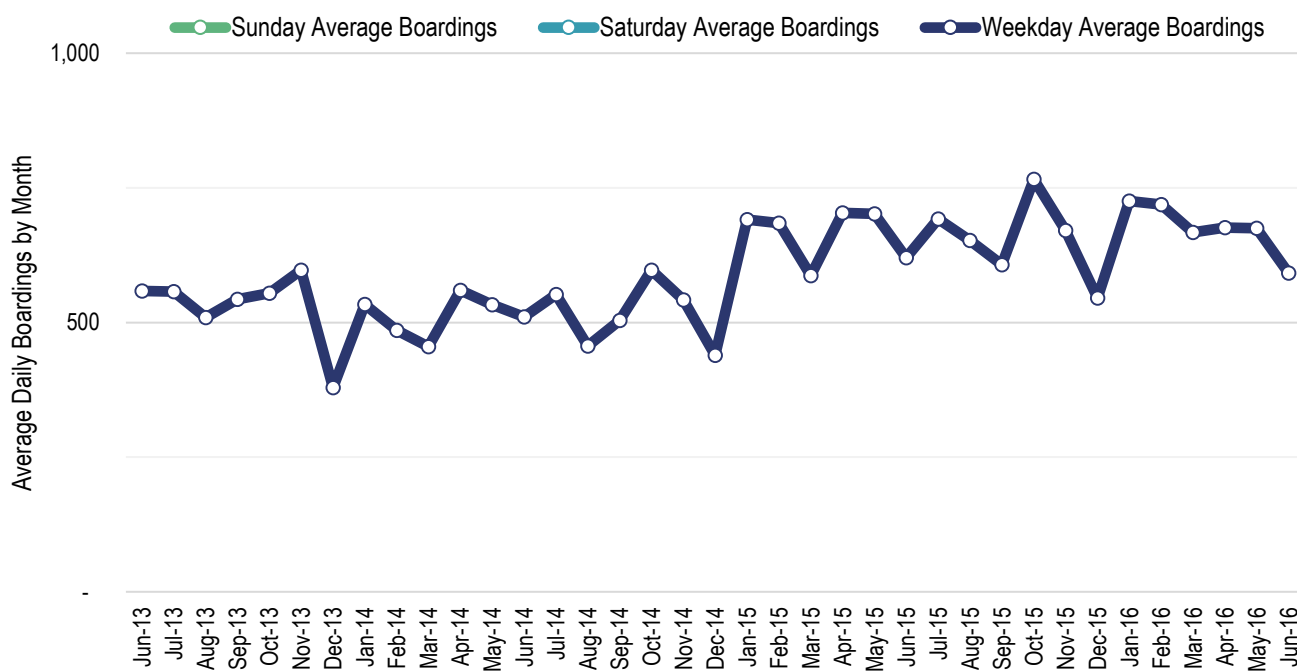


Route 540: Kirkland – U. District

SR 520

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	567	515	660	647
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

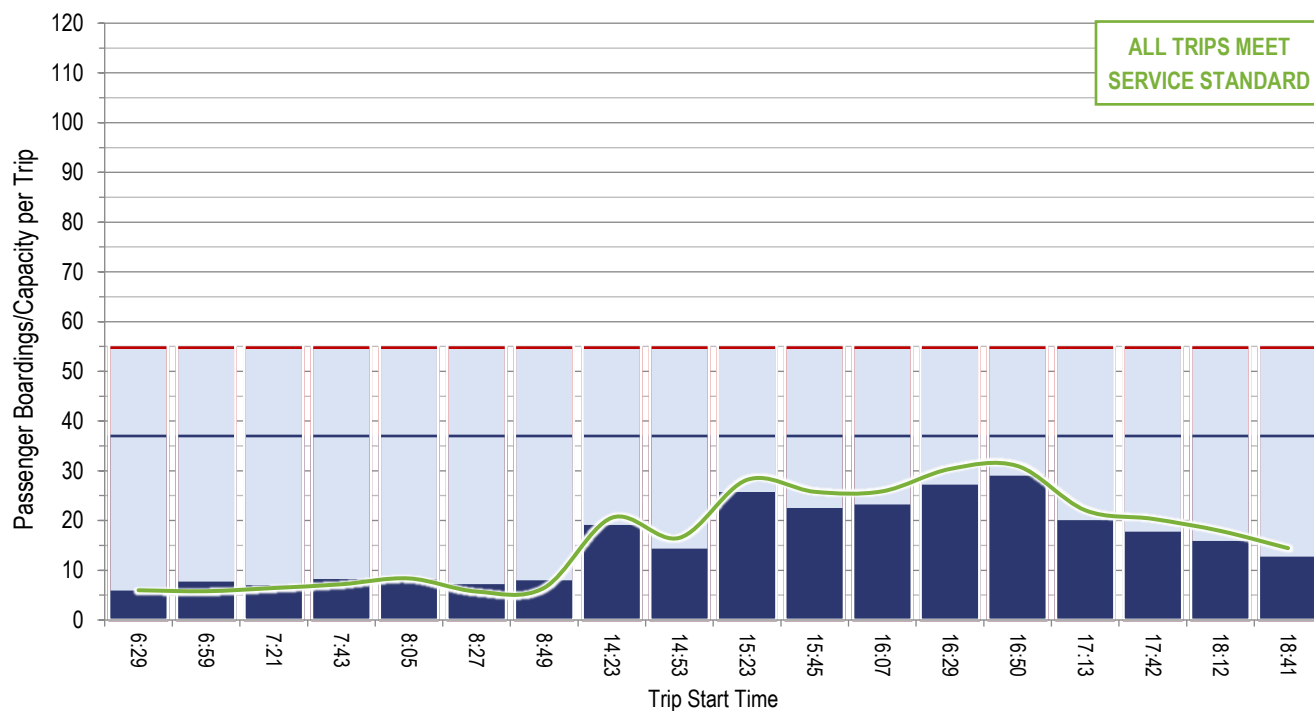




Route 540: Kirkland – U. District

SR 520

WESTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

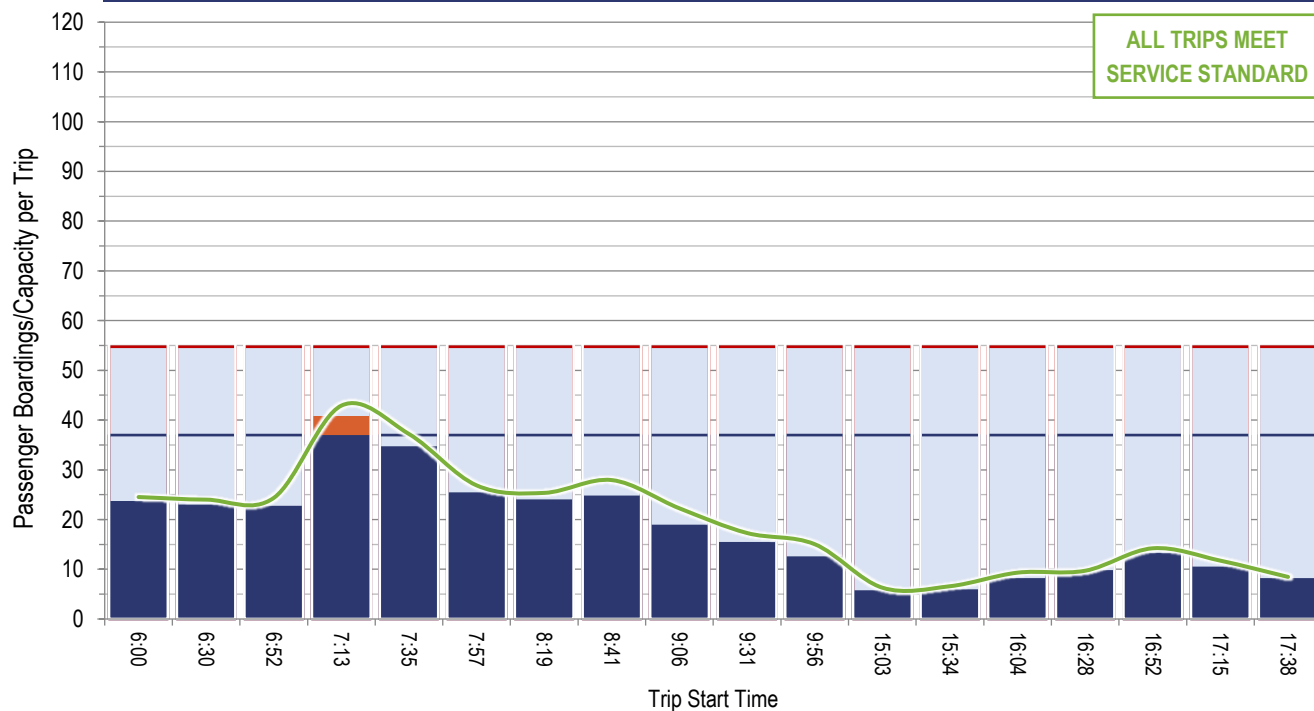


Average Maximum Passenger Load
 Blue: seated passengers
 Orange/Red: standing passengers

Average Passenger Boardings

Available Capacity
 Blue: seats
 Red: seats plus standing

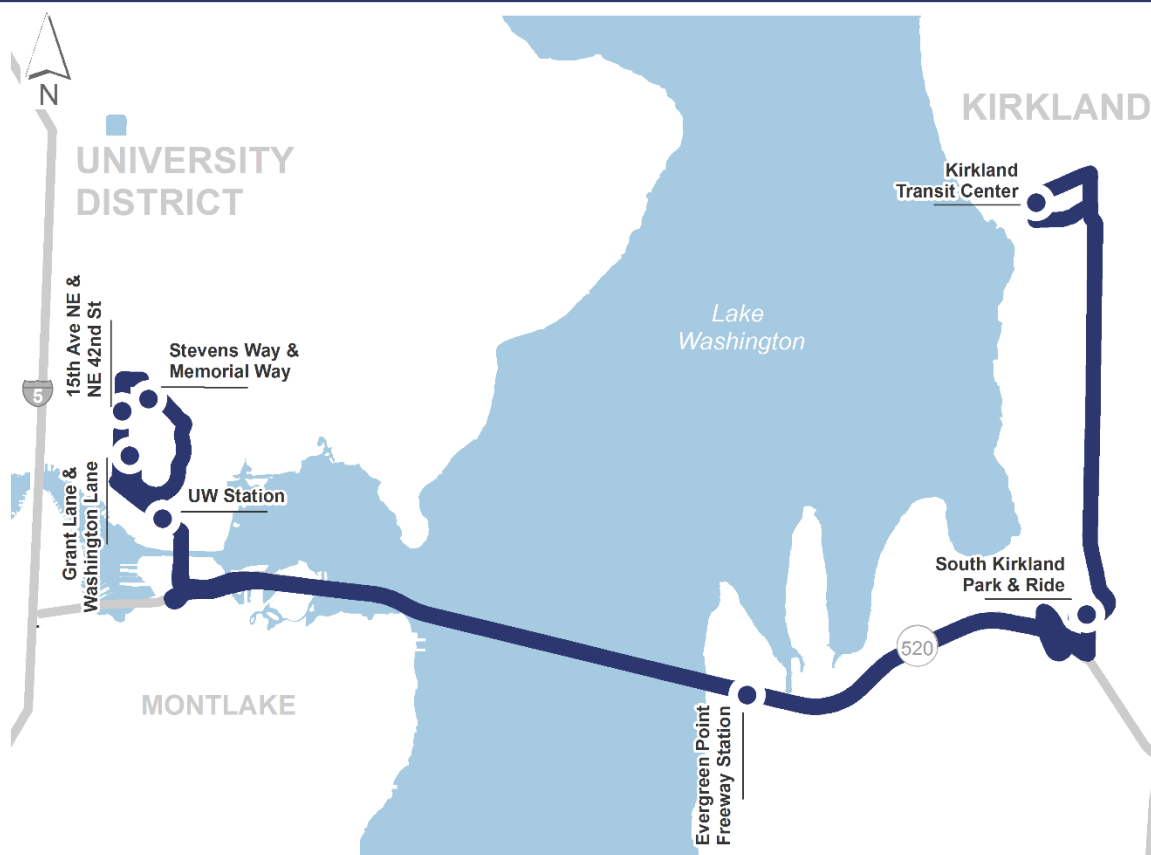
EASTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 540: Kirkland – U. District

SR 520



EASTBOUND STOPS	AVERAGE WEEKDAY		WESTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS		ONS	OFFS
15th Ave NE & NE 42nd St	1	0	Kirkland Transit Center	67	0
Stevens Way & Memorial Way	18	9	6th St S & 9th Ave S	36	1
Stevens Way & Pend Oreille Rd	19	6	108th Ave NE & NE 58th St	5	0
Stevens Way & Benton Ln	28	7	South Kirkland Park & Ride	186	2
Stevens Way & Rainier Vis	6	2	SR 520 & 92nd Ave NE	10	11
Stevens Way & Garfield Ln	8	2	SR 520 & Evergreen Point Rd	5	2
Grant Ln & Stevens Way	28	5	Montlake Blvd E & E Shelby St	4	11
15th Ave NE & NE 40th St	55	3	University of Washington Link Station	18	146
NE Pacific St & 15th Ave NE	35	1	15th Ave NE & NE Pacific St	2	23
University of Washington Link Station	79	5	15th Ave NE & NE 40th St	2	67
Montlake Blvd E & E Lake Washington Bl	8	3	15th Ave NE & NE 42nd St	1	58
SR 520 & Evergreen Point Rd	10	7	Stevens Way & Memorial Way	1	5
SR 520 & 92nd Ave NE	6	5	Stevens Way & Pend Oreille Rd	2	5
South Kirkland Park & Ride	4	150	Stevens Way & Benton Ln	1	5
108th Ave NE & NE 58th St	0	6	Stevens Way & Rainier Vis	0	1
6th St S & NE 68th St	1	29	Stevens Way & Garfield Ln	0	2
Kirkland Transit Center	0	67	Grant Ln & Stevens Way	0	1
Eastbound Total	307	307	Westbound Total	340	340
			Total	647	647

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 542: Redmond – U. District****SR 520****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	Moderate
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	5:25 a.m.-7:07 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	54
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	68.02
Peak Buses	9
ANNUAL TOTALS	
Platform Hours	17,889
Trips	13,751

SERVICE CHANGES	
HISTORY	
Start Date	October 2010
Last Major Change	2016: Added 30min frequency during the midday.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	32	No Weekend Service		32
Boardings per Trip	32			32
Subsidy per Boarding	\$4.95			\$4.95
Passenger Miles per Platform Mile	15			15



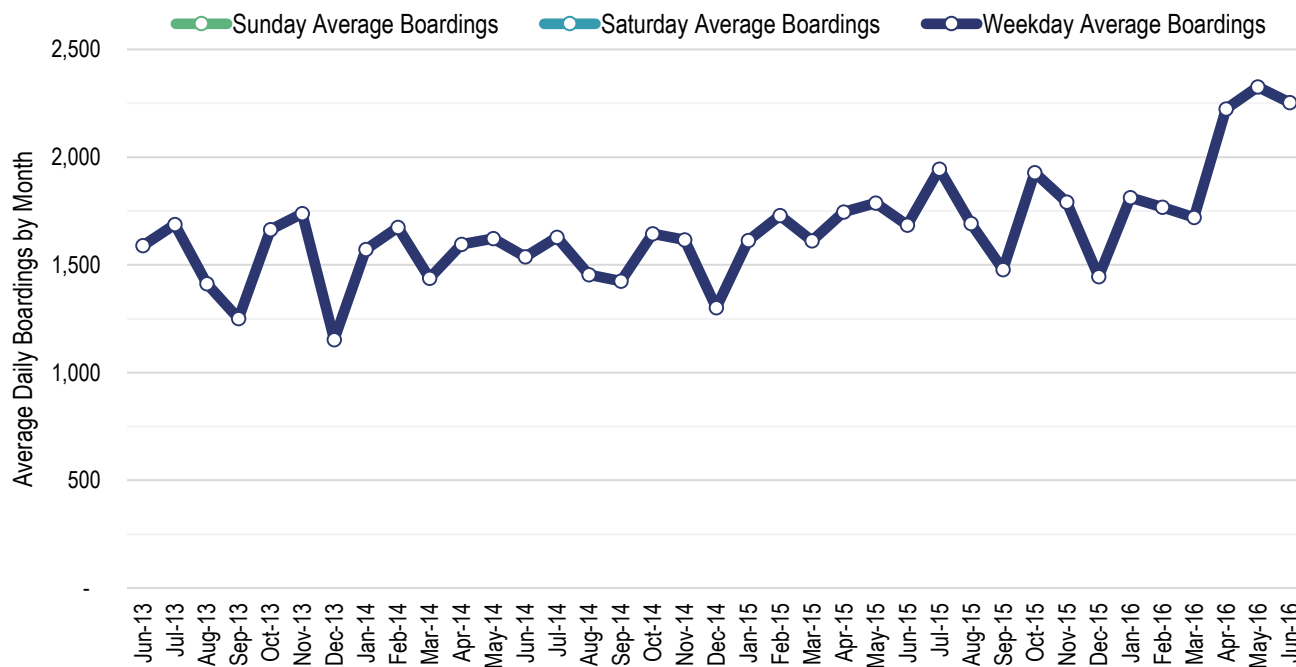


Route 542: Redmond – U. District

SR 520

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	1,517	1,542	1,704	2,267
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

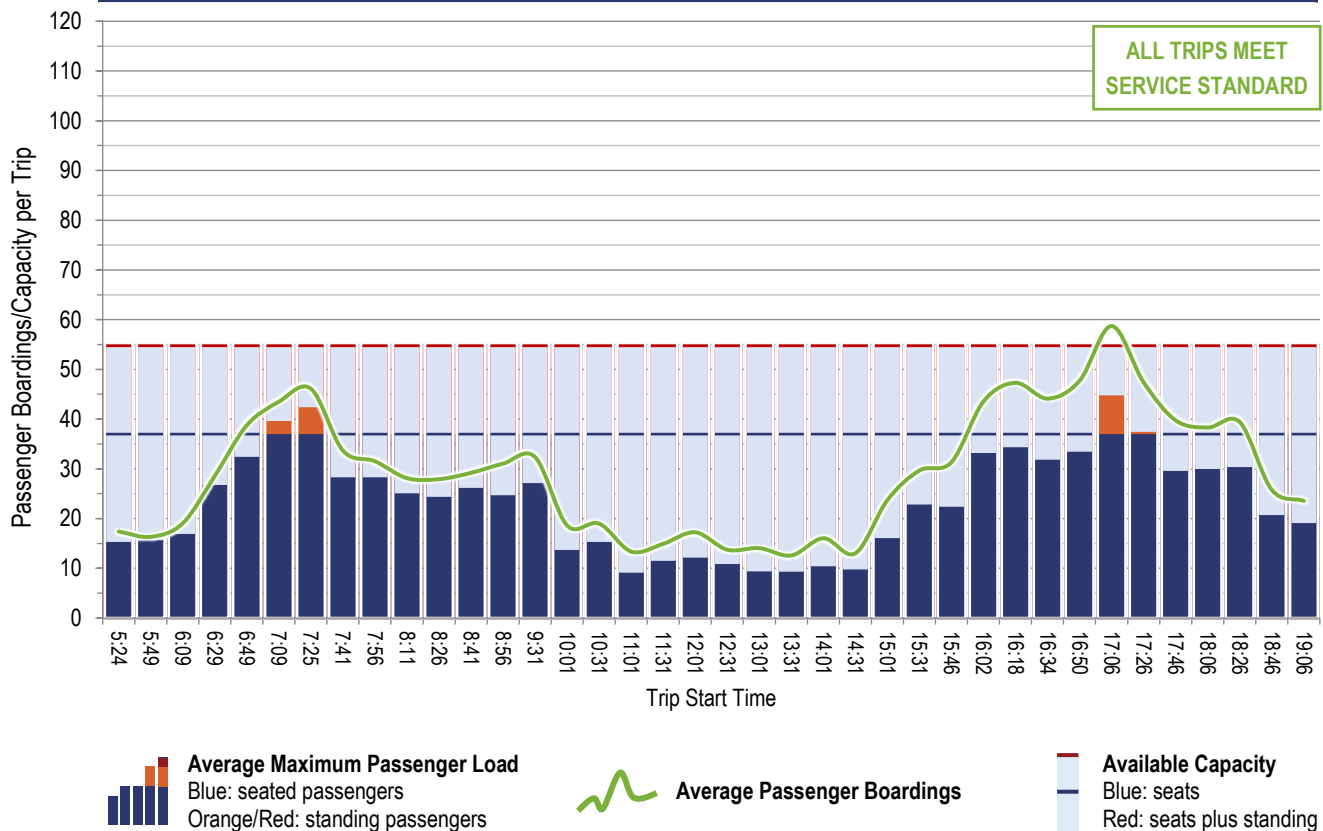




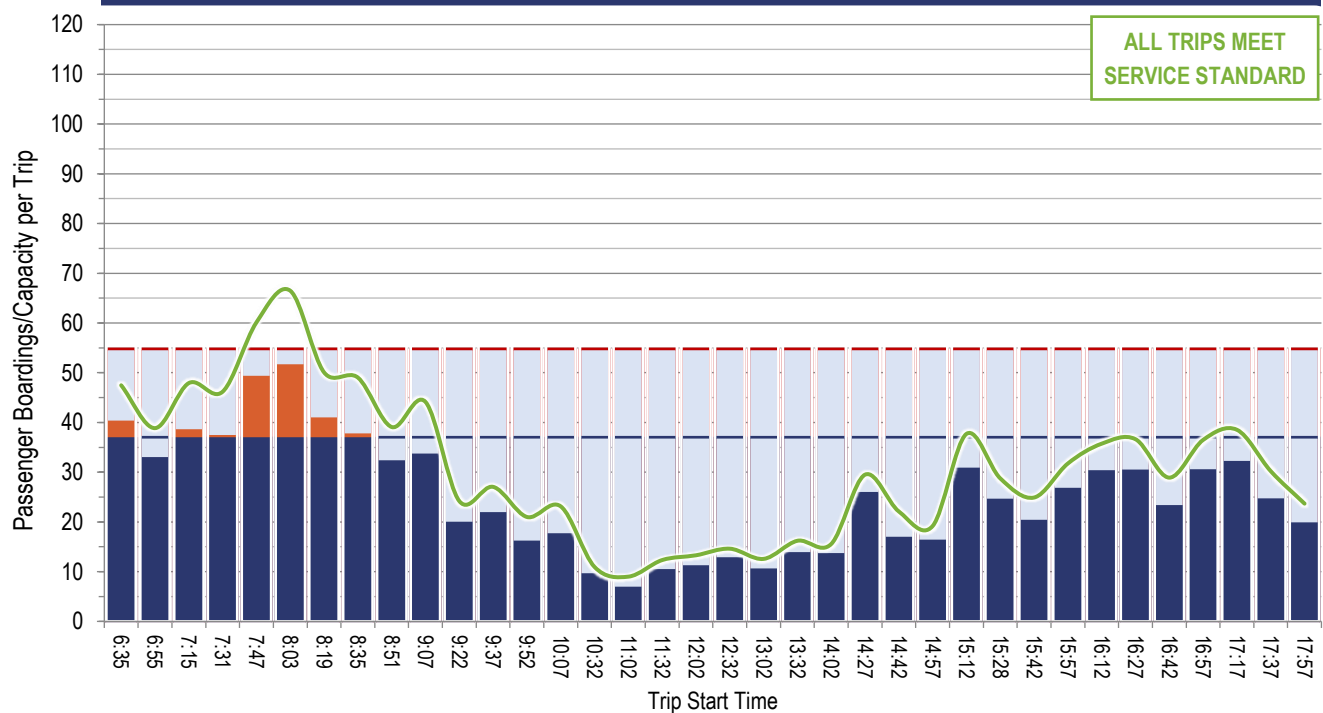
Route 542: Redmond – U. District

SR 520

WESTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



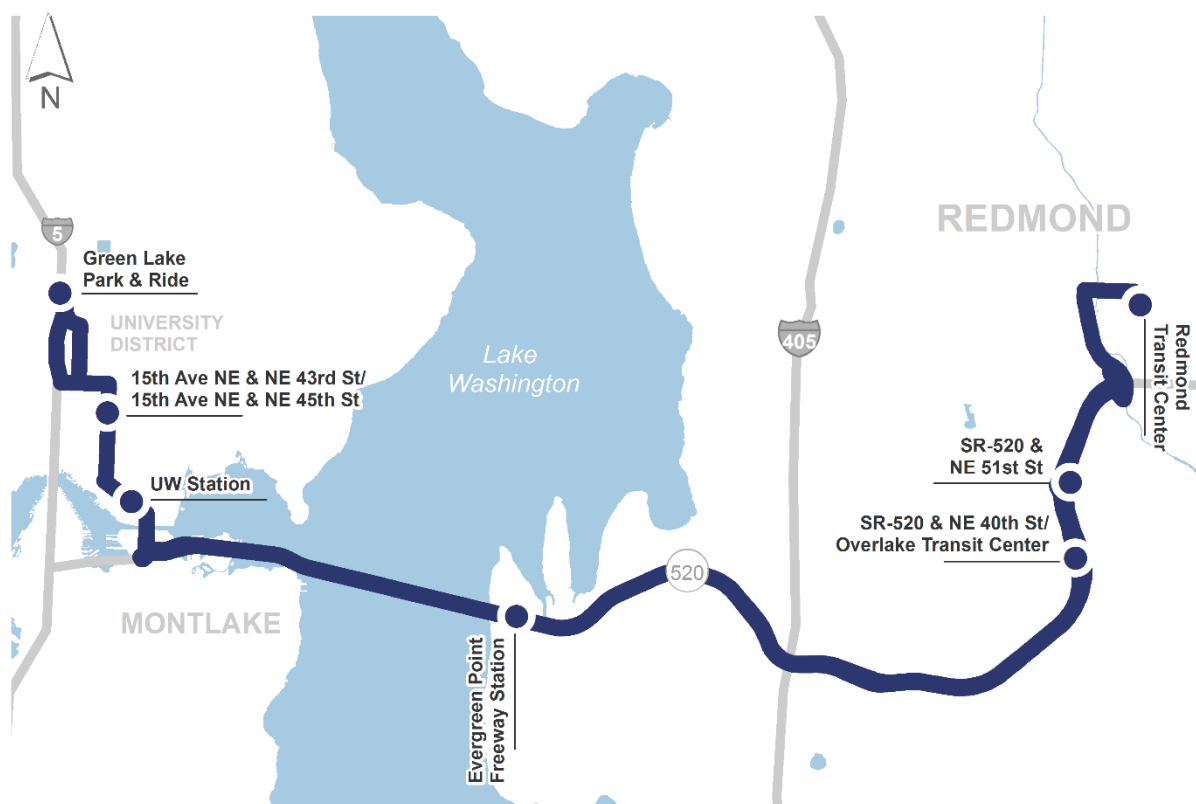
EASTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 542: Redmond – U. District

SR 520



EASTBOUND STOPS	AVERAGE WEEKDAY		WESTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS		ONS	OFFS
Green Lake Park & Ride	230	0	Redmond Transit Center	214	0
NE 50th St & University Way NE	85	1	NE 85th St & 160th Ave NE	114	9
15th Ave NE & NE 45th St	74	4	154th Ave NE & NE 85th St	33	3
15th Ave NE & NE 43rd St	112	14	West Lake Sammamish & Leary Way	52	4
15th Ave NE & NE Campus Pkwy	145	16	SR 520 & NE 51st St	168	16
15th Ave NE & NE 40th St	93	10	SR 520 & NE 40th St	295	43
NE Pacific St & 15th Ave NE	61	37	Yarrow Pt Freeway Station	38	13
University of Washington Link Station	191	72	SR 520 & Evergreen Point Rd	13	3
Montlake Blvd E & E Lake Washington Bl	67	16	Montlake Blvd E & E Shelby St	12	53
SR 520 & Evergreen Point Rd	9	19	University of Washington Link Station	99	277
Yarrow Pt Freeway Station	10	24	15th Ave NE & NE Pacific St	32	50
SR 520 & NE 40th St	34	421	15th Ave NE & NE 40th St	42	194
SR 520 & NE 51st St	5	121	15th Ave NE & NE 42nd St	20	93
West Lake Sammamish & Leary Way	1	36	15th Ave NE & NE 45th St	4	87
NE 85th St & 154th Ave NE	0	45	NE 50th St & University Way NE	11	109
NE 85th St & 161st Ave NE	1	95	Green Lake Park & Ride	0	197
Redmond Transit Center	0	185			
Eastbound Total	1,118	1,118	Westbound Total	1,149	1,149
			Totals	2,267	2,267

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 545: Redmond – Seattle****SR 520****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Very Frequent
Off-Peak	Frequent
Evenings	Moderate
Saturday	Moderate
Sunday	Moderate
SPAN OF SERVICE	
Weekday	4:27 a.m.-11:55 p.m.
Saturday	6:19 a.m.-11:17 p.m.
Sunday	6:19 a.m.-11:17 p.m.
TRIPS PER DAY	
Weekday	172
Saturday	63
Sunday	63

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	247.28
Peak Buses	23
TYPICAL SATURDAY	
Platform Hours	74.22
TYPICAL SUNDAY	
Platform Hours	74.22
ANNUAL TOTALS	
Platform Hours	72,289
Trips	50,584

SERVICE CHANGES	
HISTORY	
Start Date	September 2000
Last Major Change	2016: 15 new trips were added to reduce overcrowding.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	45	35	26	43
Boardings per Trip	57	39	26	54
Subsidy per Boarding	\$2.54	\$3.40	\$5.15	\$2.68
Passenger Miles per Platform Mile	28	22	16	27

1ST PERFORMANCE QUARTILE

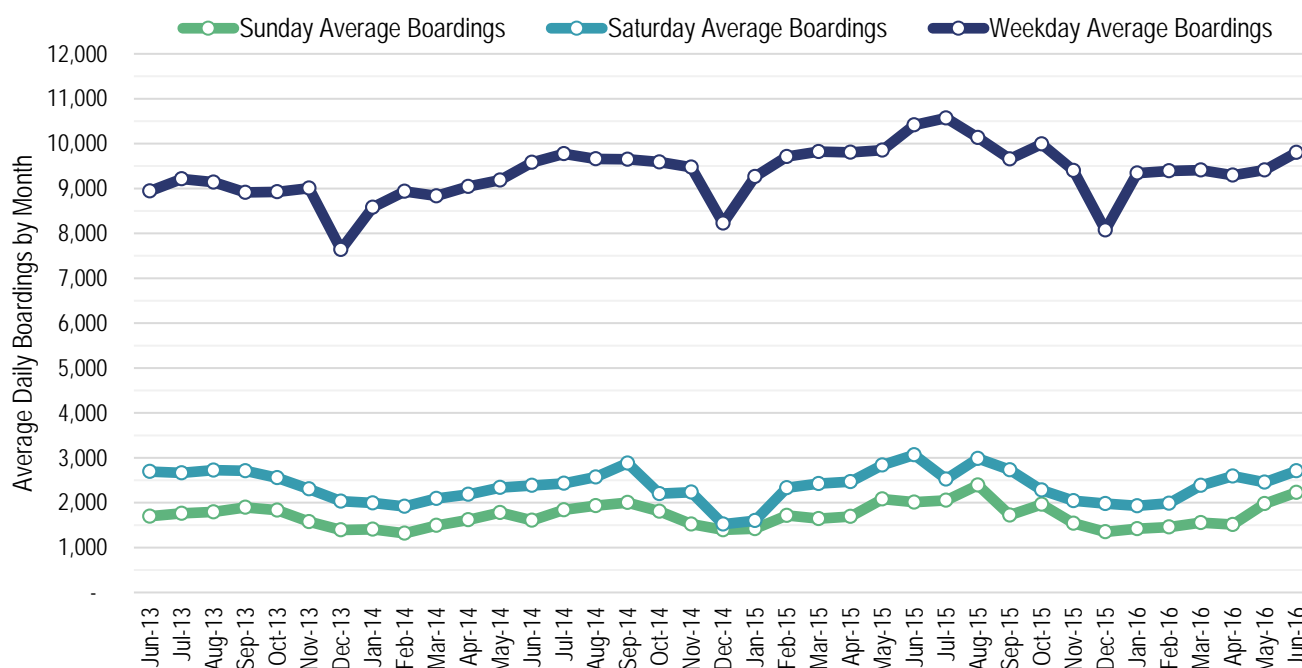


Route 545: Redmond – Seattle

SR 520

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	8,617	9,208	9,727	9,508
Average Saturday Boardings	2,367	2,235	2,438	2,585
Average Sunday Boardings	1,674	1,645	1,796	1,916

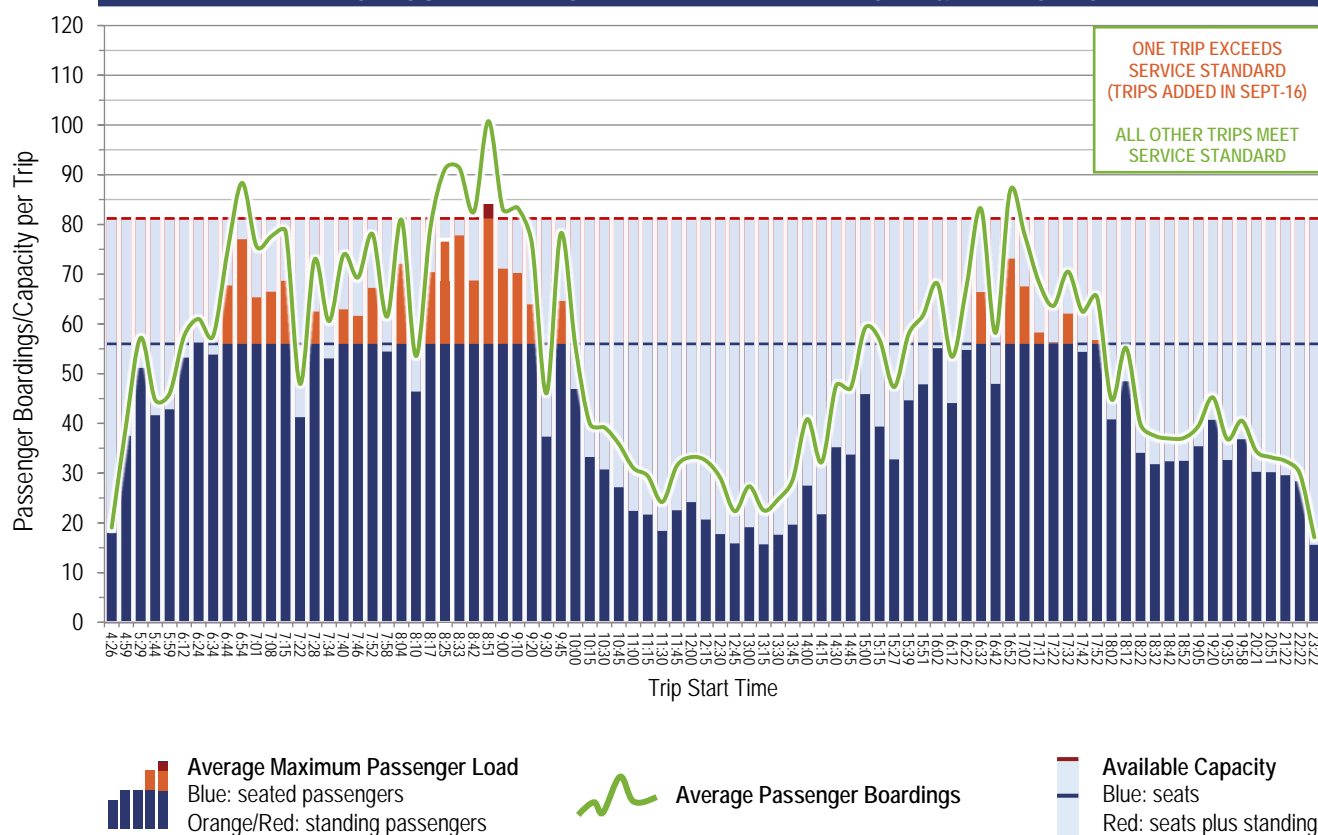




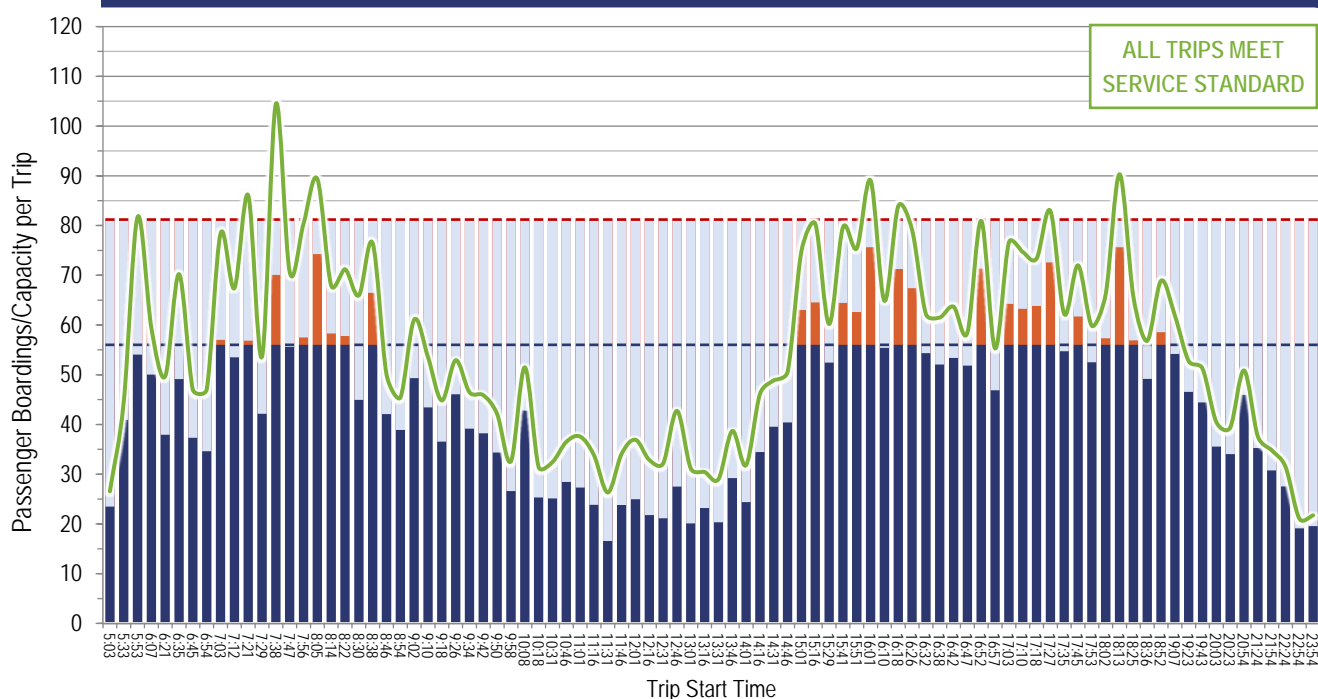
Route 545: Redmond – Seattle

SR 520

WESTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

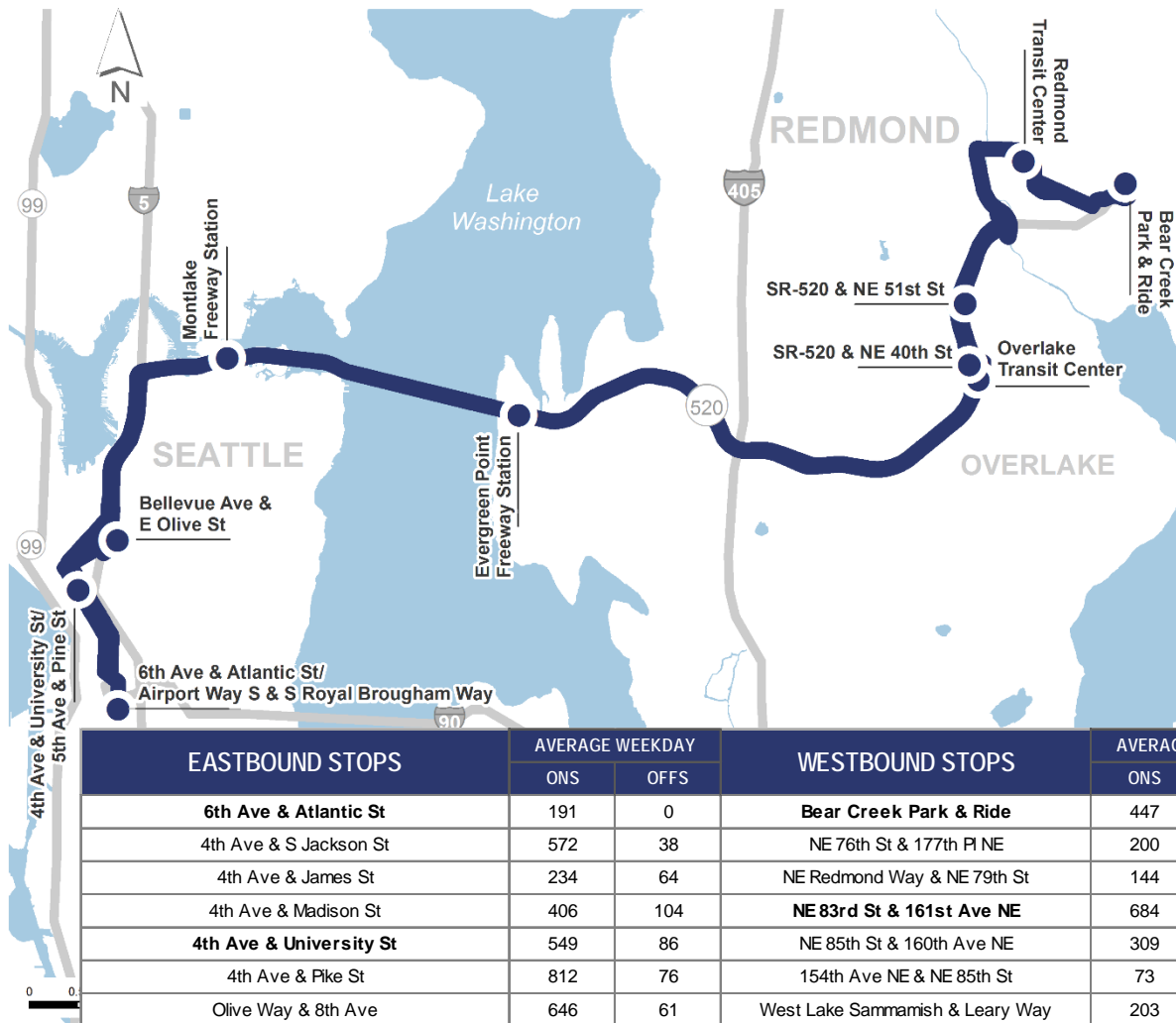


EASTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 545: Redmond – Seattle

SR 520


EASTBOUND STOPS	AVERAGE WEEKDAY		WESTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS		ONS	OFFS
6th Ave & Atlantic St	191	0	Bear Creek Park & Ride	447	0
4th Ave & S Jackson St	572	38	NE 76th St & 177th Pl NE	200	4
4th Ave & James St	234	64	NE Redmond Way & NE 79th St	144	9
4th Ave & Madison St	406	104	NE 83rd St & 161st Ave NE	684	63
4th Ave & University St	549	86	NE 85th St & 160th Ave NE	309	19
4th Ave & Pike St	812	76	154th Ave NE & NE 85th St	73	1
Olive Way & 8th Ave	646	61	West Lake Sammamish & Leary Way	203	9
Olive Way & Terry Ave	361	42	SR 520 Ramp & NE 51st St	438	35
Bellevue Ave & Olive St	484	11	Overlake Transit Center	681	53
Montlake Freeway Station	319	62	SR 520 & NE 40th St	857	91
Evergreen Point Freeway Station	19	45	SR 520 & 92nd Ave NE	67	30
Yarrow Pt Freeway Station	34	66	Evergreen Point Freeway Station	29	7
SR-520 & NE 40th St	173	1,922	Montlake Freeway Station	50	351
SR-520 & NE 51st St	28	340	Stewart St & Yale Ave	95	813
W. Lake Sammamish Pkwy & Leary Way	7	202	Stewart St & 9th Ave	39	413
NE 85th St & 154th Ave	3	138	Stewart St & 7th Ave	35	470
NE 85th St & 161st Ave	15	314	5th Ave & Pine St	81	888
Redmond Transit Center	71	594	5th Ave & Seneca St	53	518
Cleveland St & 166th Ave	9	138	5th Ave & Spring St	2	29
NE 76th St & 177th Pl	4	242	5th Ave & Cherry St	41	240
Bear Creek Park & Ride	0	393	5th Ave & Jefferson St	28	110
			5th Ave S & S Jackson St	14	373
			Airport Way S & S Royal Brougham Way	0	43
Eastbound Total	4,937	4,937	Westbound Total	4,571	4,571
			Totals	9,508	9,508

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 550: Bellevue – Seattle****I-90****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Very Frequent
Off-Peak	Frequent
Evenings	Moderate
Saturday	Frequent
Sunday	Moderate
SPAN OF SERVICE	
Weekday	4:52 a.m.-12:12 a.m.
Saturday	6:01 a.m.-12:12 a.m.
Sunday	6:07 a.m.-12:12 a.m.
TRIPS PER DAY	
Weekday	181
Saturday	114
Sunday	72

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	181.30
Peak Buses	20
TYPICAL SATURDAY	
Platform Hours	100.05
TYPICAL SUNDAY	
Platform Hours	65.87
ANNUAL TOTALS	
Platform Hours	55,638
Trips	56,151

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2013: Weekday peak period service improved to every five minutes
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	65	47	45	62
Boardings per Trip	57	39	41	54
Subsidy per Boarding	\$3.01	\$4.37	\$4.56	\$3.20
Passenger Miles per Platform Mile	32	24	25	31



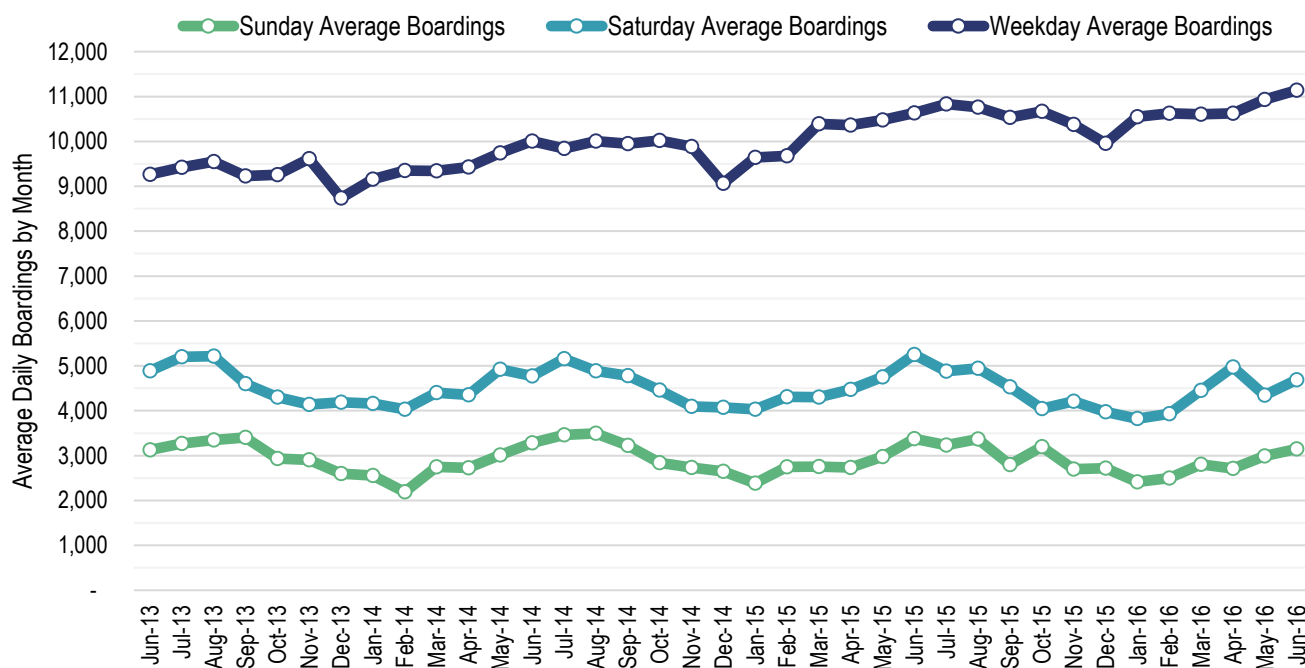


Route 550: Bellevue – Seattle

I-90

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	9,050	9,648	10,365	10,900
Average Saturday Boardings	4,493	4,514	4,473	4,671
Average Sunday Boardings	2,970	2,924	2,907	2,957

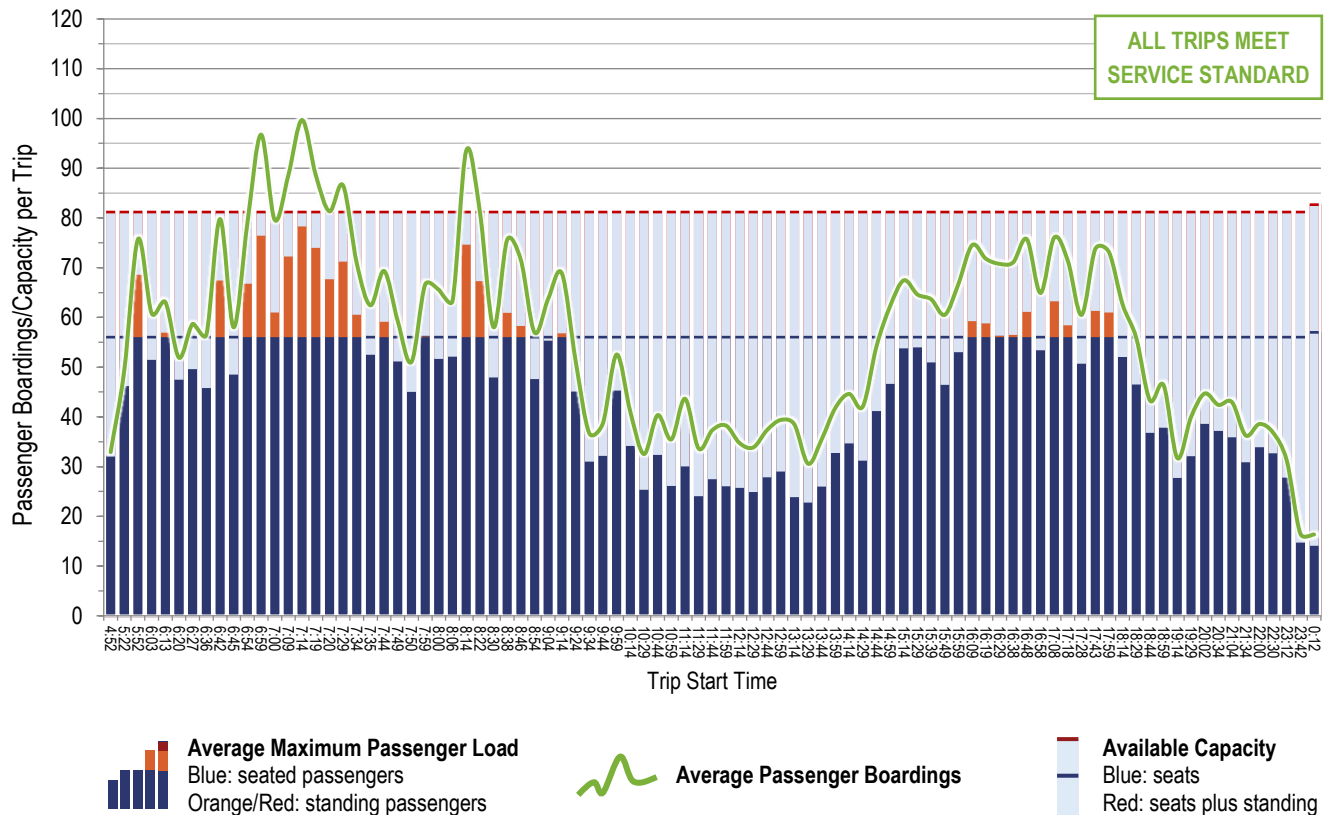




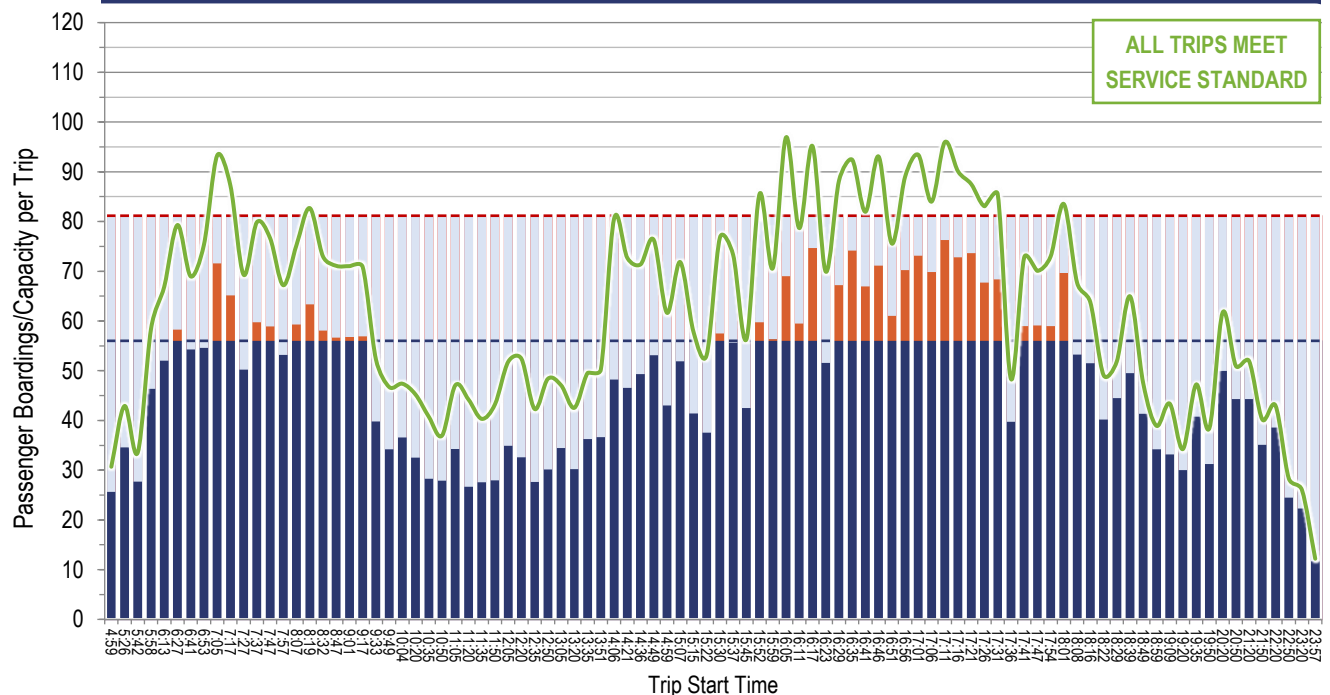
Route 550: Bellevue – Seattle

I-90

WESTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

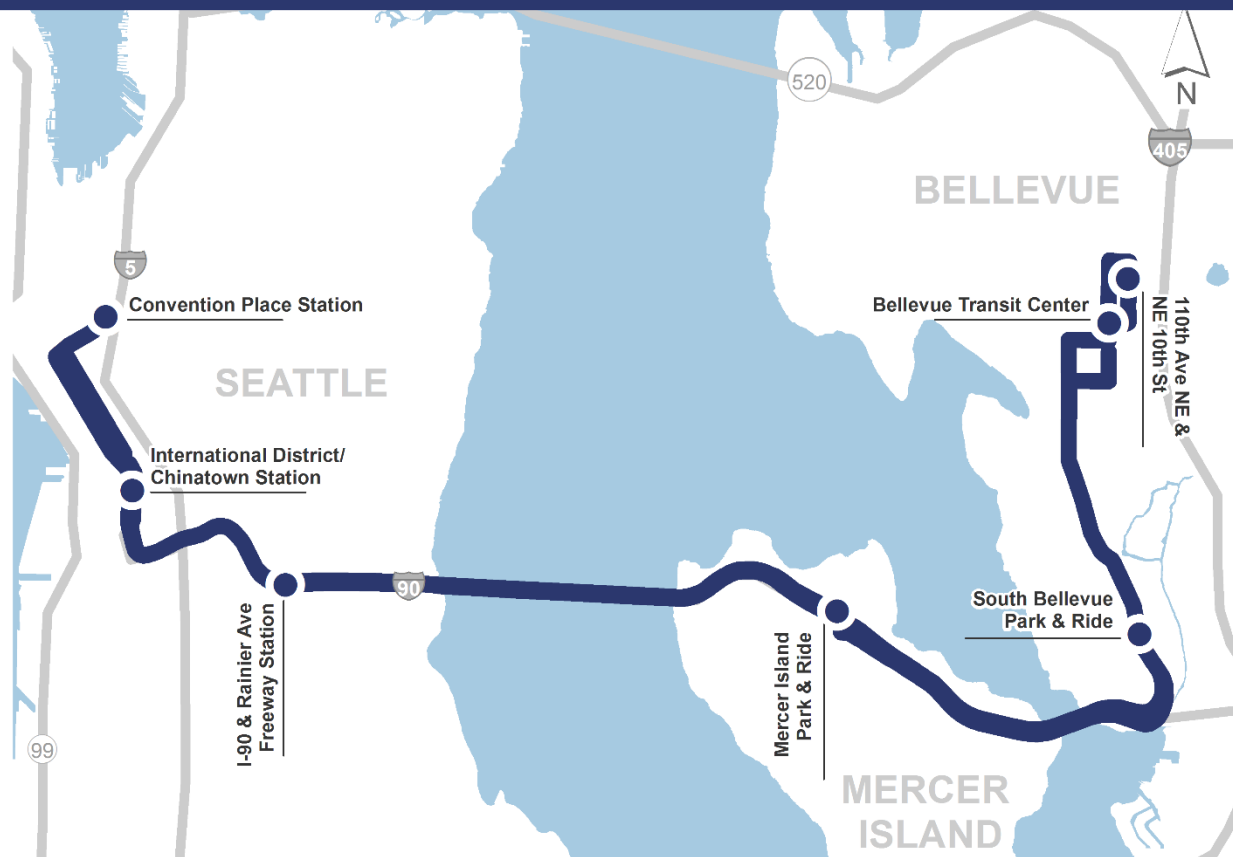


EASTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 550: Bellevue – Seattle

I-90


EASTBOUND STOPS	AVERAGE WEEKDAY		WESTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS		ONS	OFFS
Convention Place Station	907	0	110th Ave & NE 10th St	313	0
Westlake Station	1,539	42	Bellevue Transit Center	1,802	69
University St Station	1,074	41	NE 4th St & 108th Ave	228	14
Pioneer Square Station	563	71	Bellevue Way & NE 4th St	10	2
International District/Chinatown Station	839	384	Bellevue Way & NE 1st St	7	1
Rainier Avenue Freeway Station	239	152	Bellevue Way & Main St	342	40
Mercer Island Park & Ride	211	1,071	Bellevue Way & SE 3rd St	124	44
South Bellevue Park & Ride	86	751	Bellevue Way & SE 11th St	40	10
Bellevue Way & SE 16th St	19	93	Bellevue Way & SE 16th St	88	16
Bellevue Way & SE 10th St	13	57	South Bellevue Park & Ride	782	92
Bellevue Way & SE 3rd St	90	134	Mercer Island Park & Ride	913	162
Bellevue Way & Main St	29	235	Rainier Avenue Freeway Station	87	233
NE 4th St & 105th Ave	33	576	International District/Chinatown Station	307	1,017
Bellevue Transit Center	34	1,568	Pioneer Square Station	97	646
110th Ave & NE 10th St	0	501	University St Station	52	1,078
			Westlake Station	33	1,212
			Convention Place Station	0	588
Eastbound Total	5,677	5,677	Westbound Total	5,224	5,224
			Total	10,900	10,900

Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 554: Issaquah – Seattle

I-90

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	Frequent
Evenings	Minimum
Saturday	Minimum
Sunday	Minimum
SPAN OF SERVICE	
Weekday	4:26 a.m.-11:38 p.m.
Saturday	6:24 a.m.-11:26 p.m.
Sunday	6:24 a.m.-11:26 p.m.
TRIPS PER DAY	
Weekday	85
Saturday	53
Sunday	53

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	107.32
Peak Buses	6
TYPICAL SATURDAY	
Platform Hours	65.58
TYPICAL SUNDAY	
Platform Hours	65.50
ANNUAL TOTALS	
Platform Hours	33,668
Trips	27,413

SERVICE CHANGES	
HISTORY	
Start Date	September 2001
Last Major Change	2016: 15-minute peak-service added between Issaquah and Seattle.
PROPOSED	
Text	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	37	28	24	35
Boardings per Trip	44	29	25	40
Subsidy per Boarding	\$3.12	\$4.88	\$5.92	\$3.44
Passenger Miles per Platform Mile	22	14	12	20

1ST PERFORMANCE QUARTILE

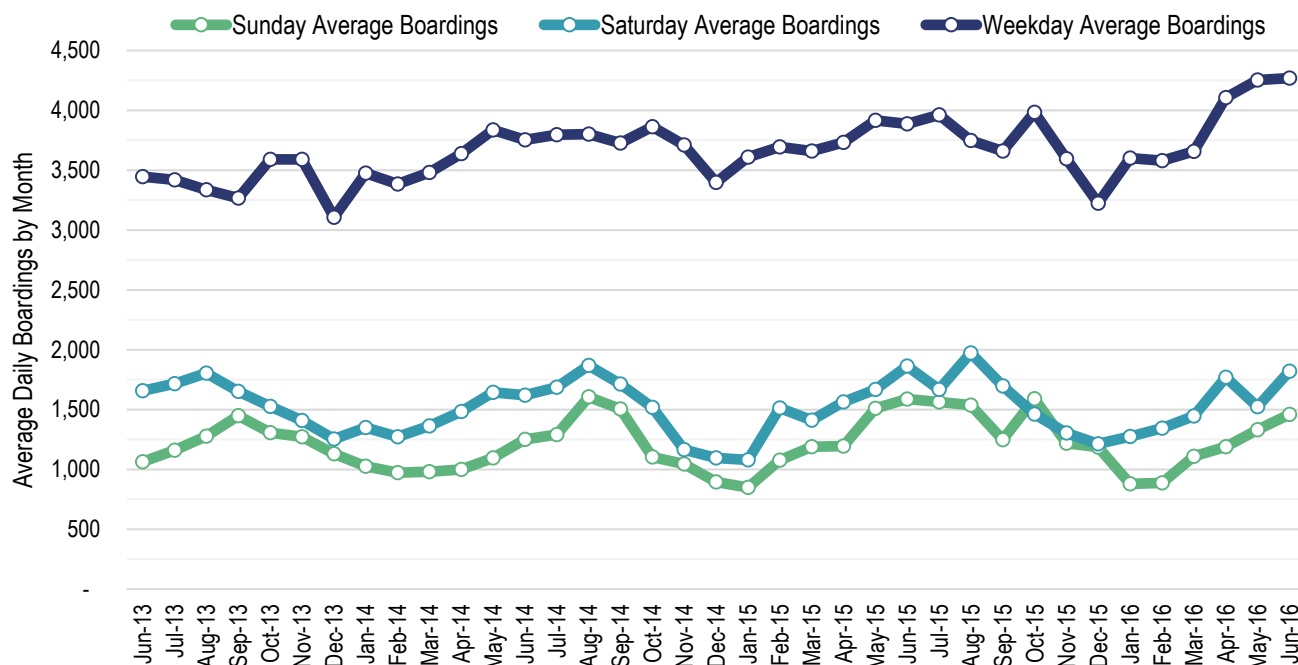


Route 554: Issaquah – Seattle

I-90

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	3,358	3,656	3,722	4,207
Average Saturday Boardings	1,549	1,483	1,533	1,709
Average Sunday Boardings	1,151	1,152	1,310	1,327

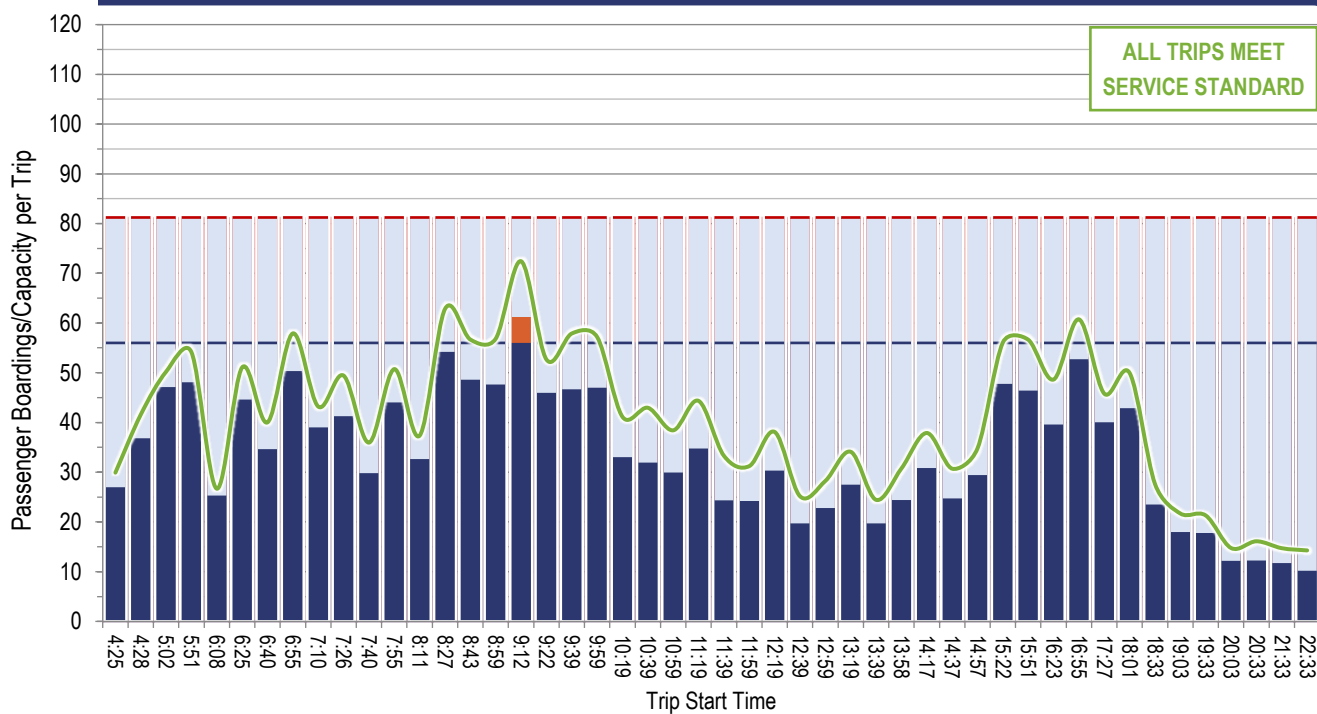




Route 554: Issaquah – Seattle

I-90

WESTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

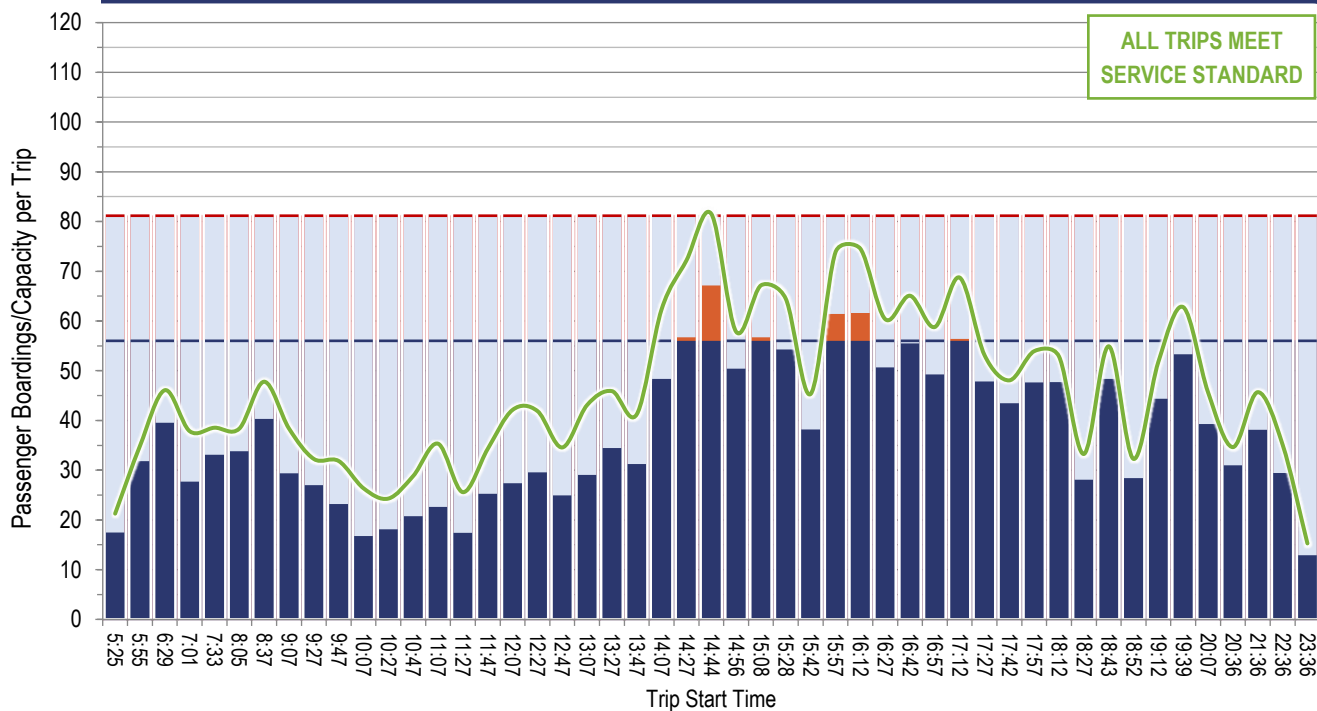


Average Maximum Passenger Load
 Blue: seated passengers
 Orange/Red: standing passengers

Average Passenger Boardings

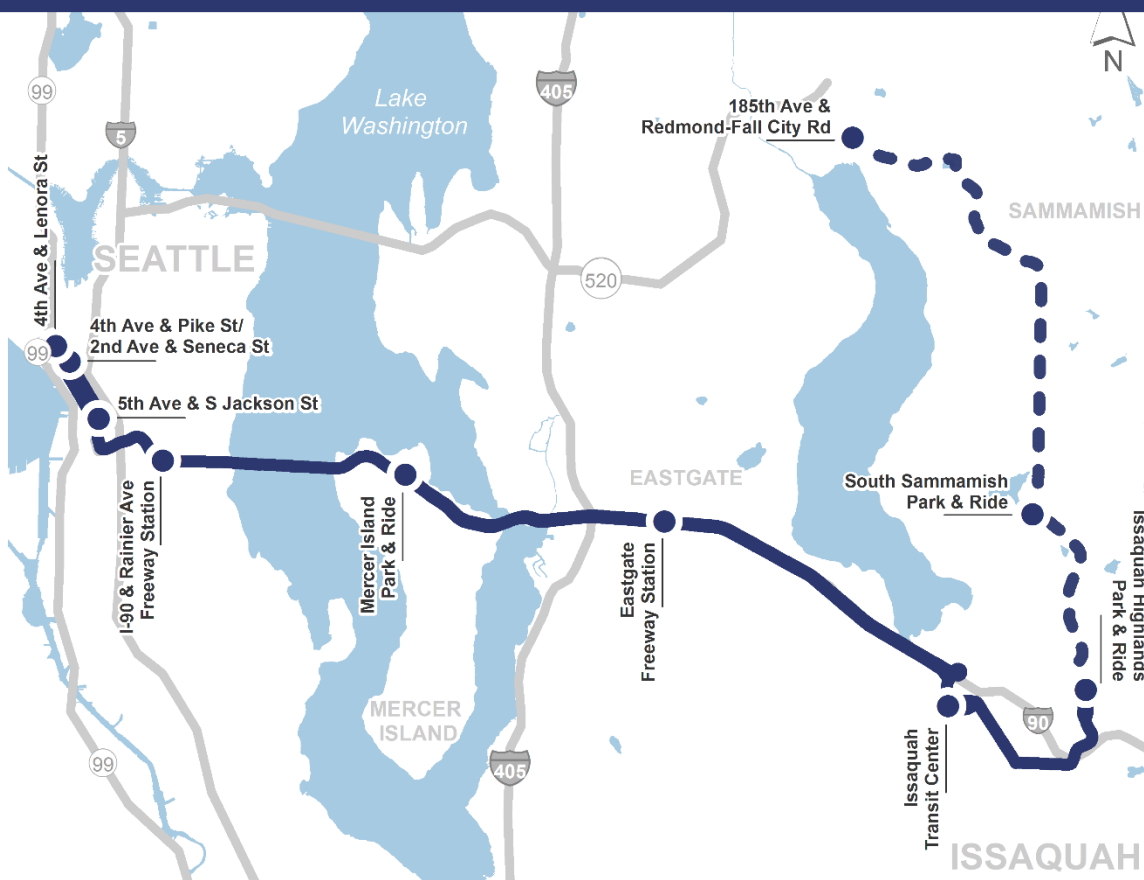
Available Capacity
 Blue: seats
 Red: seats plus standing

EASTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 554: Issaquah – Seattle

I-90


EASTBOUND STOPS	AVERAGE WEEKDAY		WESTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS		ONS	OFFS
Lenora St & 4th Ave	249	0	Redmond Way & 185th Ave	2	0
2nd Ave & Stewart St	296	6	229th Ave & NE 25th Way	2	0
2nd Ave & Seneca St	484	8	228th Ave & NE 8th St	4	0
2nd Ave & Cherry St	243	8	228th Ave & SE 8th St	2	0
S Washington St & 4th Ave S	63	8	South Sammamish Park & Ride	4	0
5th Ave S & S Jackson St	448	17	Issaquah Pine Lake Rd & SE 37th Pl	2	0
Rainier Avenue Freeway Station	92	11	Issaquah Highlands Park & Ride	221	13
Mercer Island Park & Ride	79	113	9th Ave & NE Ellis Dr	61	1
Eastgate Freeway Station	179	891	Sunset Way & 1st Ave	188	17
Issaquah Transit Center	33	588	Issaquah Transit Center	497	28
Sunset Way & Rainier Blvd	25	189	Eastgate Freeway Station	663	132
Highlands Dr & NE Ellis Dr	2	108	Mercer Island Park & Ride	230	60
Issaquah Highlands Park & Ride	53	270	Rainier Avenue Freeway Station	24	71
Issaquah Pine Lake Rd & Issaquah Fall City Rd	0	3	5th Ave & S Jackson St	18	449
Issaquah Pine Lake Rd & SE 40th Pl	0	3	4th Ave & Washington St	8	45
Issaquah Pine Lake Rd & SE 37th Pl	0	6	4th Ave & Cherry St	15	247
South Sammamish Park & Ride	0	5	4th Ave & Seneca St	5	300
228th Ave NE & NE 8th St	0	5	4th Ave & Pike St	5	331
228th Ave NE & NE 25th Way	0	2	4th Ave & Stewart St	10	165
NE Redmond Fall City & 185th Ave NE	0	3	4th Ave & Lenora St	0	102
Redmond Way & 185th Ave					
Eastbound Total	2,246	2,246	Westbound Total	1,961	1,961
			Total	4,207	4,207

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 555: Northgate – Issaquah****SR 520****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	No Service
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	5:34 a.m.-6:02 p.m.
Saturday	-
Sunday	-
ONE-WAY TRIPS PER DAY	
Weekday	15
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	23.82
Peak Buses	3
ANNUAL TOTALS	
Platform Hours	6,451
Trips	3,782

SERVICE CHANGES	
HISTORY	
Start Date	September 2001
Last Major Change	2016: Re-route from 112 th to Bellevue Way SE and NE 4 th to/from the Bellevue Transit Center.
PROPOSED	

KEY PERFORMANCE INDICATORS

A2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	35	No Weekend Service		35
Boardings per Trip	49			49
Subsidy per Boarding	\$3.96			\$3.96
Passenger Miles per Platform Mile	18			18



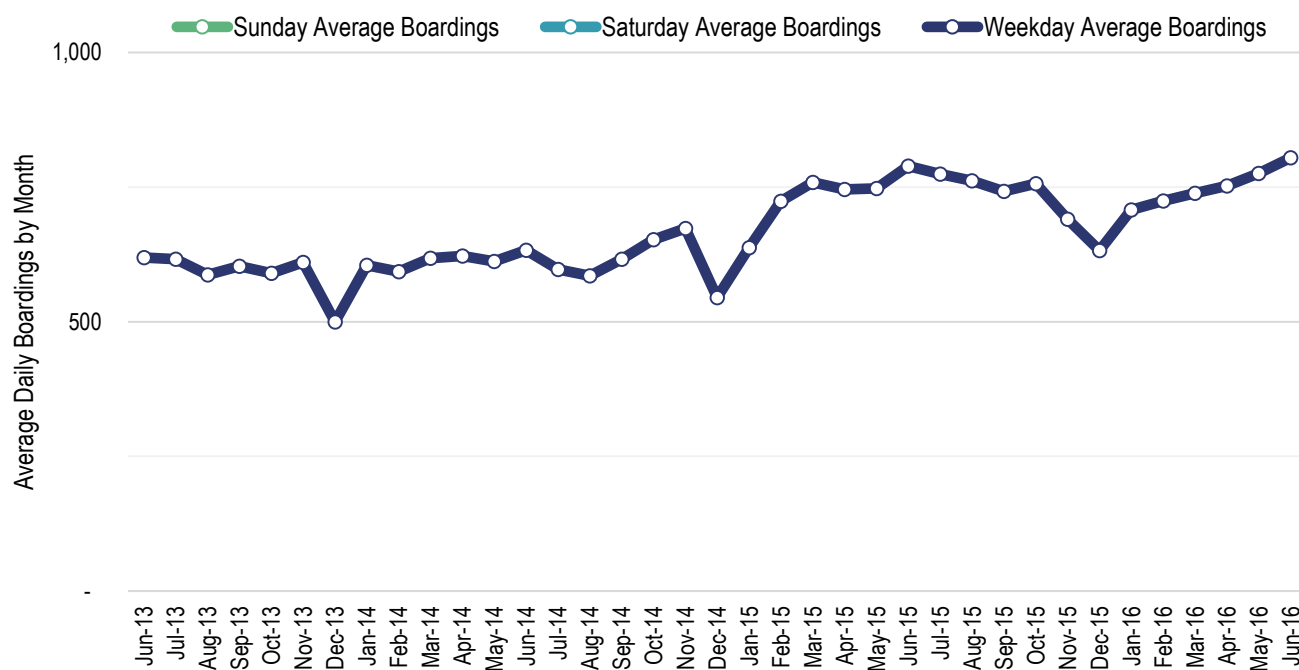


Route 555: Northgate – Issaquah

SR 520

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	582	612	730	778
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

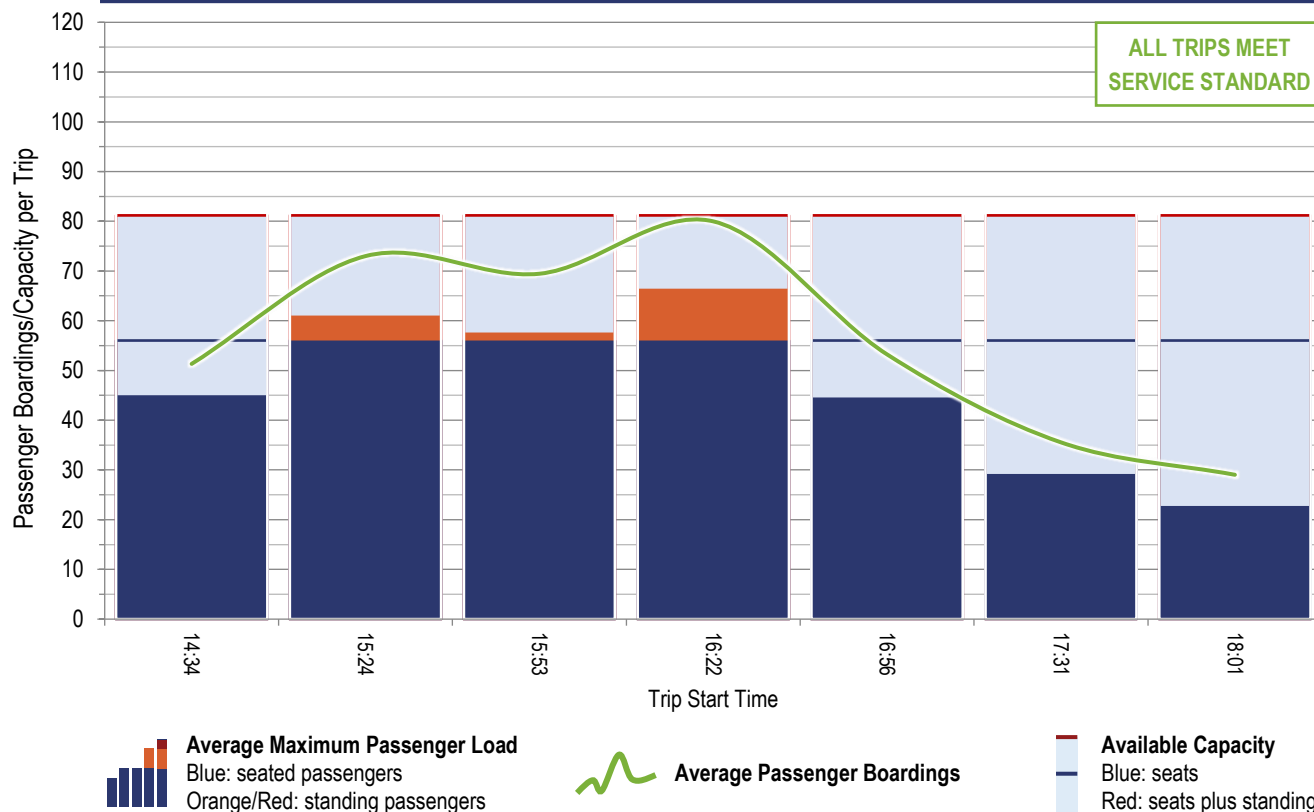




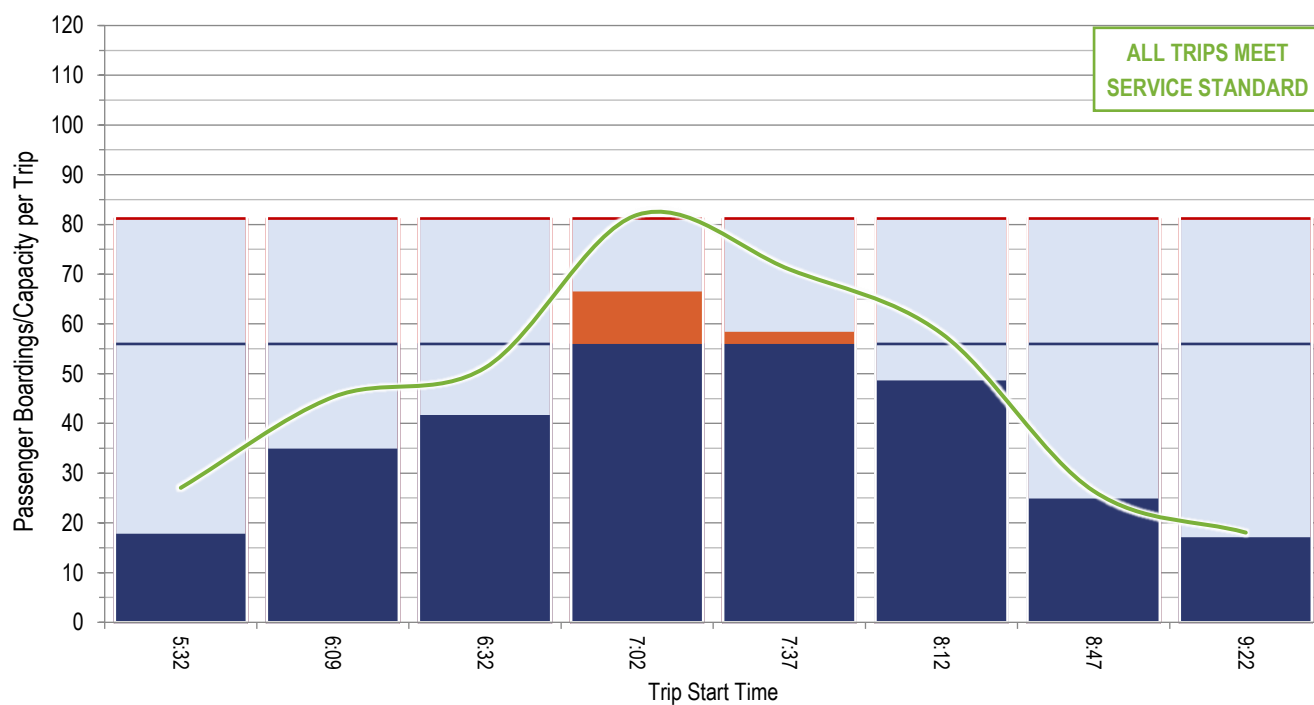
Route 555: Northgate – Issaquah

SR 520

WESTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



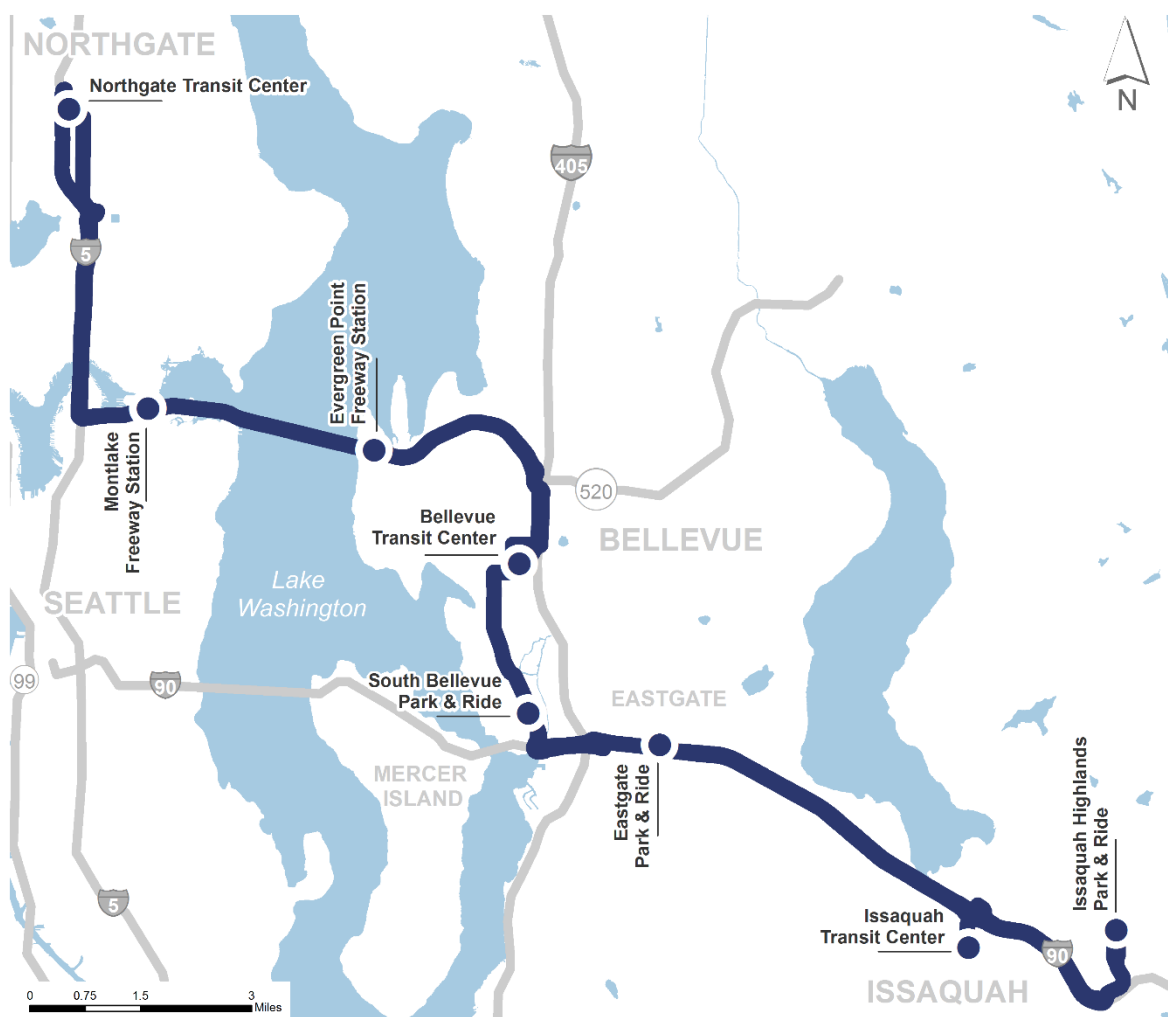
EASTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 555: Northgate – Issaquah

SR 520



EASTBOUND STOPS	AVERAGE WEEKDAY		WESTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS		ONS	OFFS
Northgate Transit Center	291	0	Issaquah Highlands Park & Ride	9	0
Montlake Freeway Station	37	15	9th Ave & NE Ellis Dr	2	0
Evergreen Point Freeway Station	3	6	Issaquah Transit Center	17	1
Yarrow Pt Freeway Station	4	9	142nd Pl & SE 32nd St	3	2
Bellevue Transit Center	29	270	Eastgate Park & Ride	19	5
112th Ave & SE 4th St	1	7	I-90 & Richards Rd	18	2
112th Ave & SE 15th St	1	12	South Bellevue Park & Ride	1	5
South Bellevue Park & Ride	6	2	112th Ave & SE 15th St	11	1
Eastgate Way & Richards Rd	2	17	112th Ave & SE 4th St	8	1
Eastgate Park & Ride	5	15	Bellevue Transit Center	271	30
142nd Pl & SE 32nd St	2	3	Yarrow Pt Freeway Station	21	5
Issaquah Transit Center	1	12	Evergreen Point Freeway Station	3	1
Highlands Dr & NE Ellis Dr	1	4	Montlake Freeway Station	9	47
Issaquah Highlands Park & Ride	0	13	Northgate Transit Center	0	294
Eastbound Total	383	383	Westbound Total	395	394
			Total	778	777

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 556: Issaquah – Northgate****SR 520****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	Moderate
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	5:13 a.m.-6:04 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	17
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	30.20
Peak Buses	4
ANNUAL TOTALS	
Platform Hours	8,332
Trips	4,332

SERVICE CHANGES	
HISTORY	
Start Date	September 2001
Last Major Change	2016: Re-route from 112 th to Bellevue Way SE and NE 4 th to/from the Bellevue Transit Center.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	33	No Weekend Service		33
Boardings per Trip	51			51
Subsidy per Boarding	\$3.98			\$3.98
Passenger Miles per Platform Mile	17			17



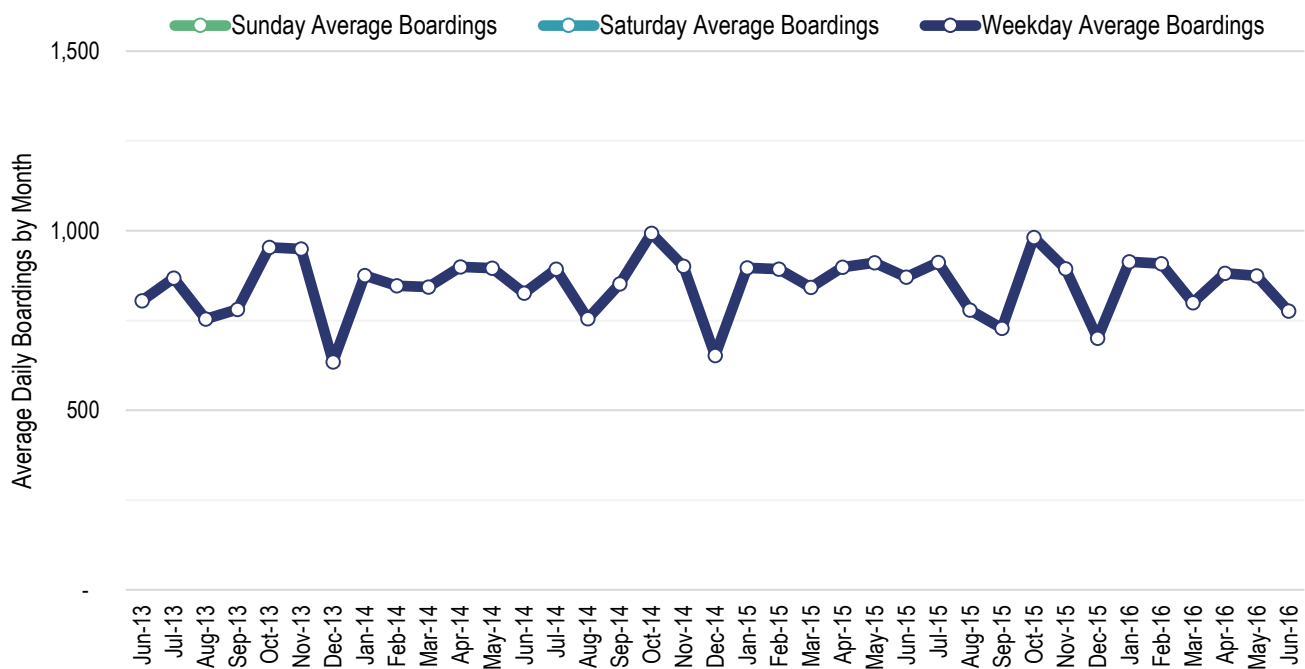


Route 556: Issaquah – Northgate

SR 520

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	839	853	859	843
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

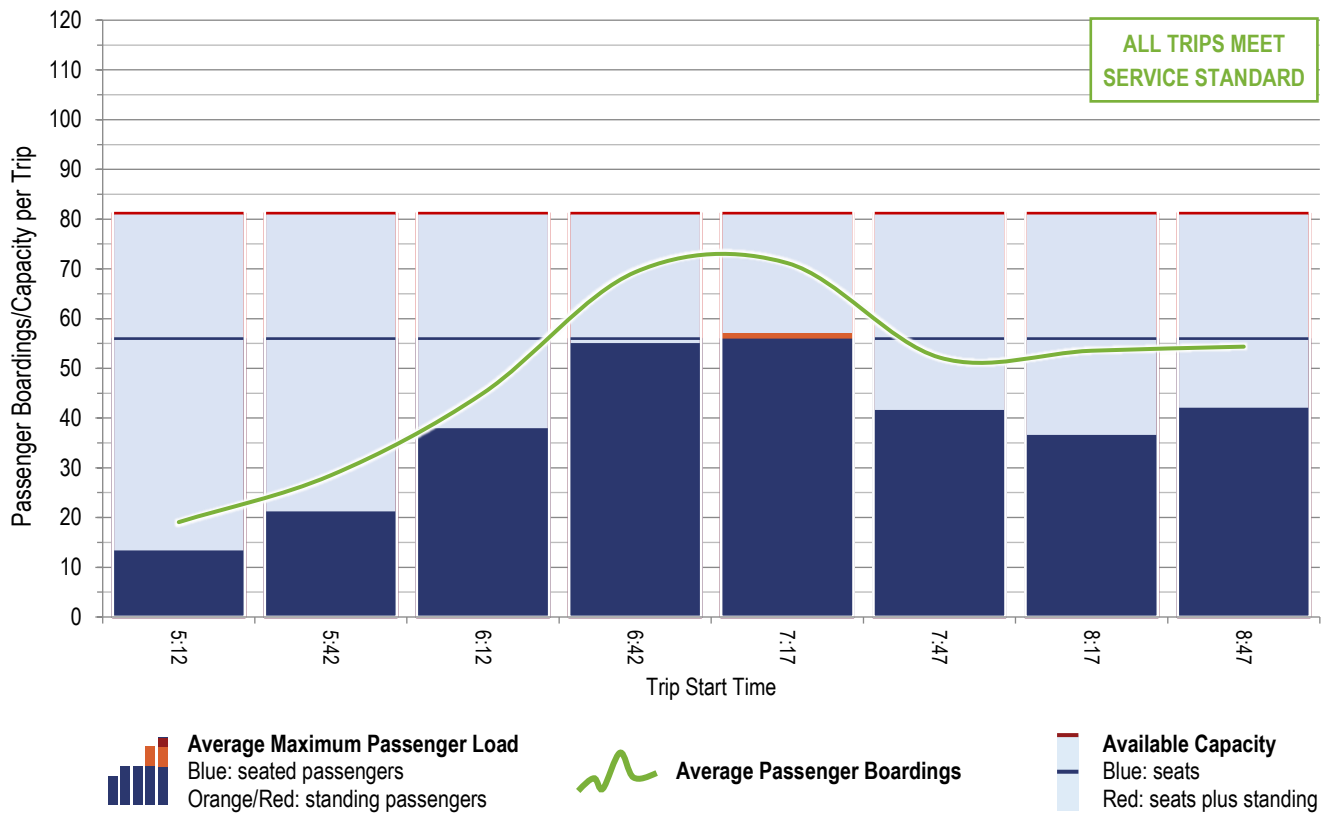




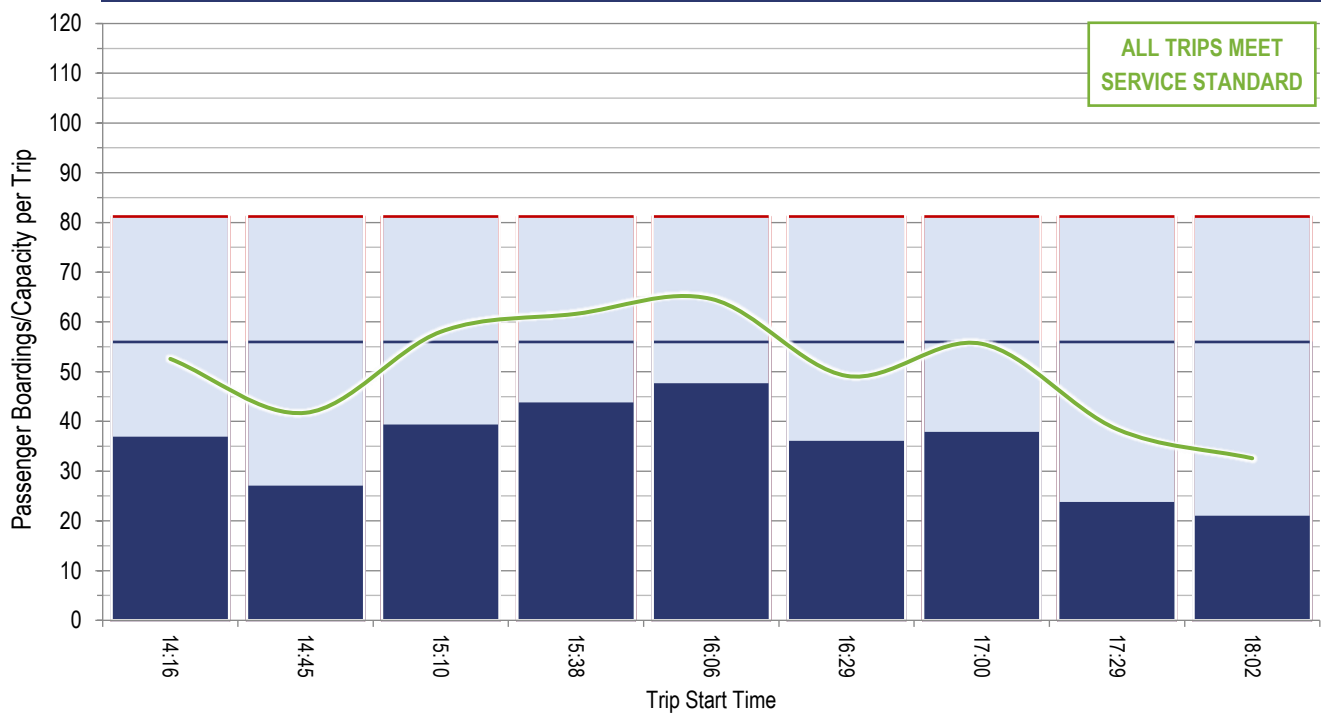
Route 556: Issaquah – Northgate

SR 520

WESTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



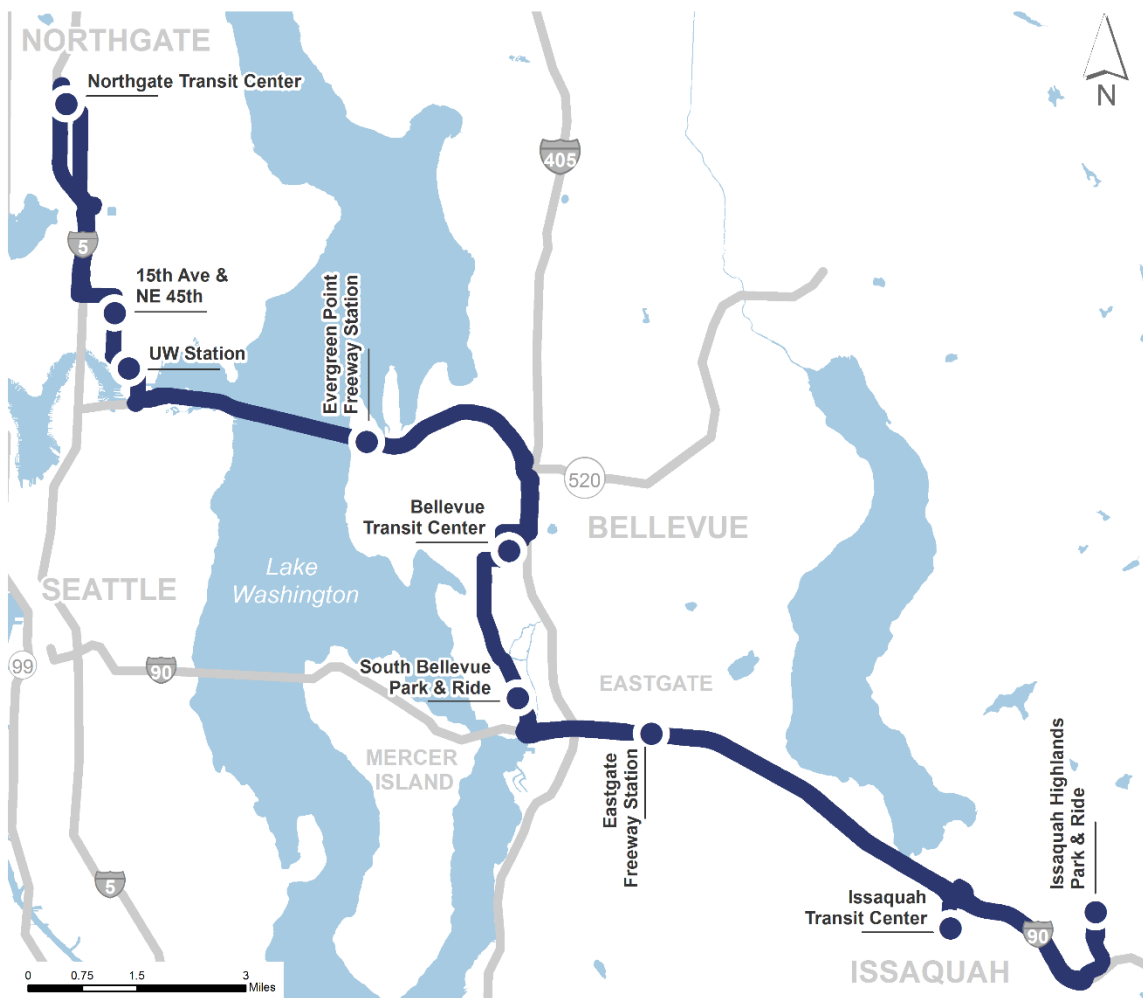
EASTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 556: Issaquah – Northgate

SR 520



EASTBOUND STOPS	AVERAGE WEEKDAY		WESTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS		ONS	OFFS
Northgate Transit Center	37	0	Issaquah Highlands Park & Ride	98	0
NE 50th St & University Way	7	3	9th Ave & NE Ellis Dr	15	0
15th Ave & NE 45th St	20	3	Issaquah Transit Center	125	1
15th Ave & NE 43rd St	34	2	Eastgate Freeway Station	48	8
15th Ave & NE Campus Pkwy	53	3	South Bellevue Park & Ride	27	2
15th Ave & NE 40th St	28	1	112th Ave & SE 15th St	1	2
Pacific St & 15th Ave	30	2	112th Ave & SE 4th St	3	3
University of Washington Link Station	56	22	Bellevue Transit Center	41	154
Montlake Freeway Station	5	4	Yarrow Pt Freeway Station	9	1
Evergreen Point Freeway Station	1	8	Evergreen Point Freeway Station	2	0
Yarrow Pt Freeway Station	2	8	Montlake Blvd & Shelby St	2	3
Bellevue Transit Center	148	56	University of Washington Link Station	9	67
112th Ave & SE 4th St	4	3	Pacific St & 15th Ave	1	22
112th Ave & SE 15th St	2	1	15th Ave & NE 40th St	2	52
South Bellevue Park & Ride	4	21	15th Ave & NE 42nd St	3	26
Eastgate Freeway Station	17	50	15th Ave & NE 45th St	2	17
Issaquah Transit Center	4	117	NE 50th St & University Way	3	4
Highlands Dr & NE Ellis Dr	1	37	Northgate Transit Center	0	29
Issaquah Highlands Park & Ride	0	111			
Eastbound Total	452	452	Westbound Total	391	391
			Total	843	843

Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 560: Westwood Village– Bellevue

I-405 S

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	Moderate
Evenings	Minimum
Saturday	Minimum
Sunday	Minimum
SPAN OF SERVICE	
Weekday	4:37 a.m.-11:08 p.m.
Saturday	5:19 a.m.-10:52 p.m.
Sunday	5:19 a.m.-10:52 p.m.
TRIPS PER DAY	
Weekday	66
Saturday	36
Sunday	36

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	126.80
Peak Buses	7
TYPICAL SATURDAY	
Platform Hours	59.33
TYPICAL SUNDAY	
Platform Hours	59.33
ANNUAL TOTALS	
Platform Hours	38,923
Trips	20,878

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2016: Route restructured to exit NE 6 th St. to access the Bellevue Transit Center.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	17	17	14	17
Boardings per Trip	28	24	21	27
Subsidy per Boarding	\$7.61	\$7.52	\$8.96	\$7.70
Passenger Miles per Platform Mile	7	7	6	7



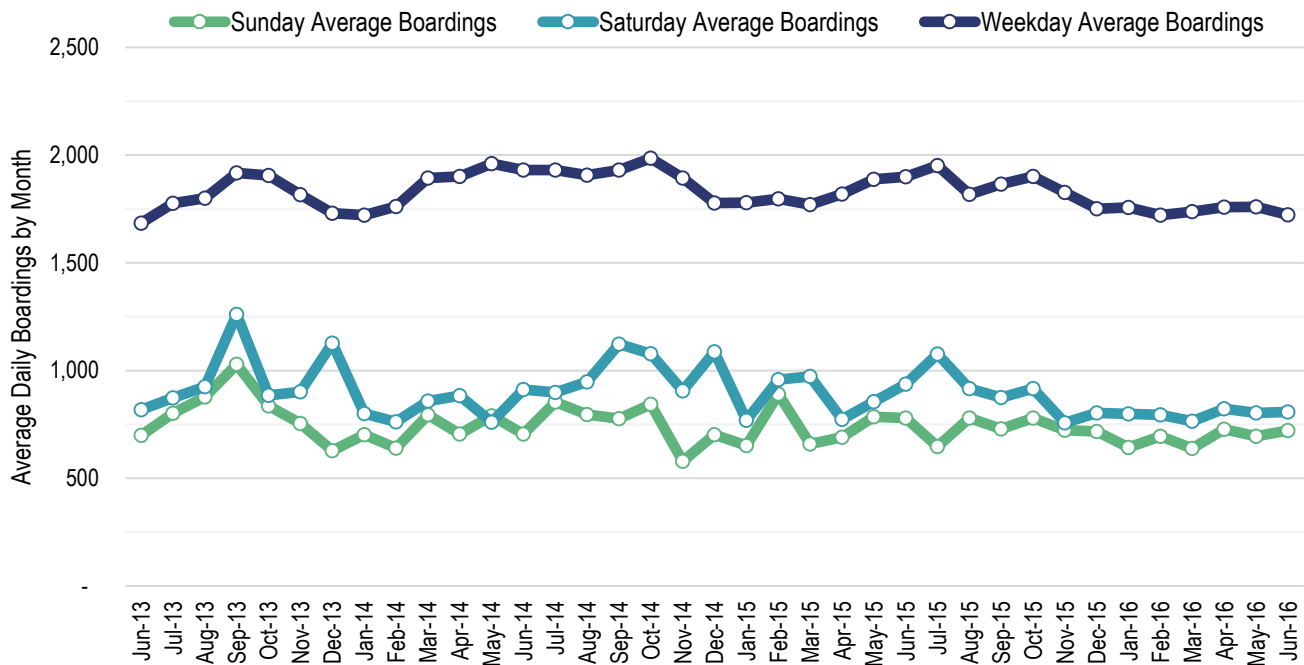


Route 560: Westwood Village – Bellevue

I-405 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	1,703	1,883	1,839	1,747
Average Saturday Boardings	889	914	883	812
Average Sunday Boardings	760	739	734	712

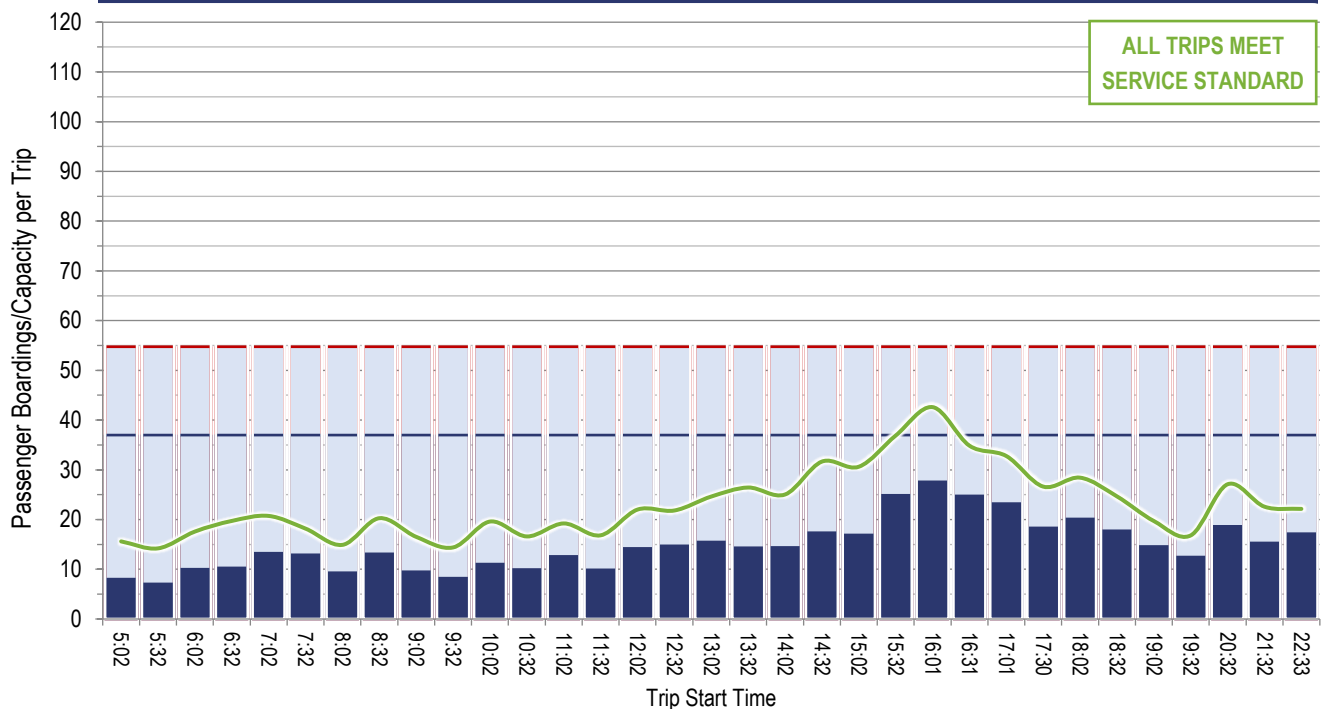




Route 560: Westwood Village – Bellevue

I-405 S

WESTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

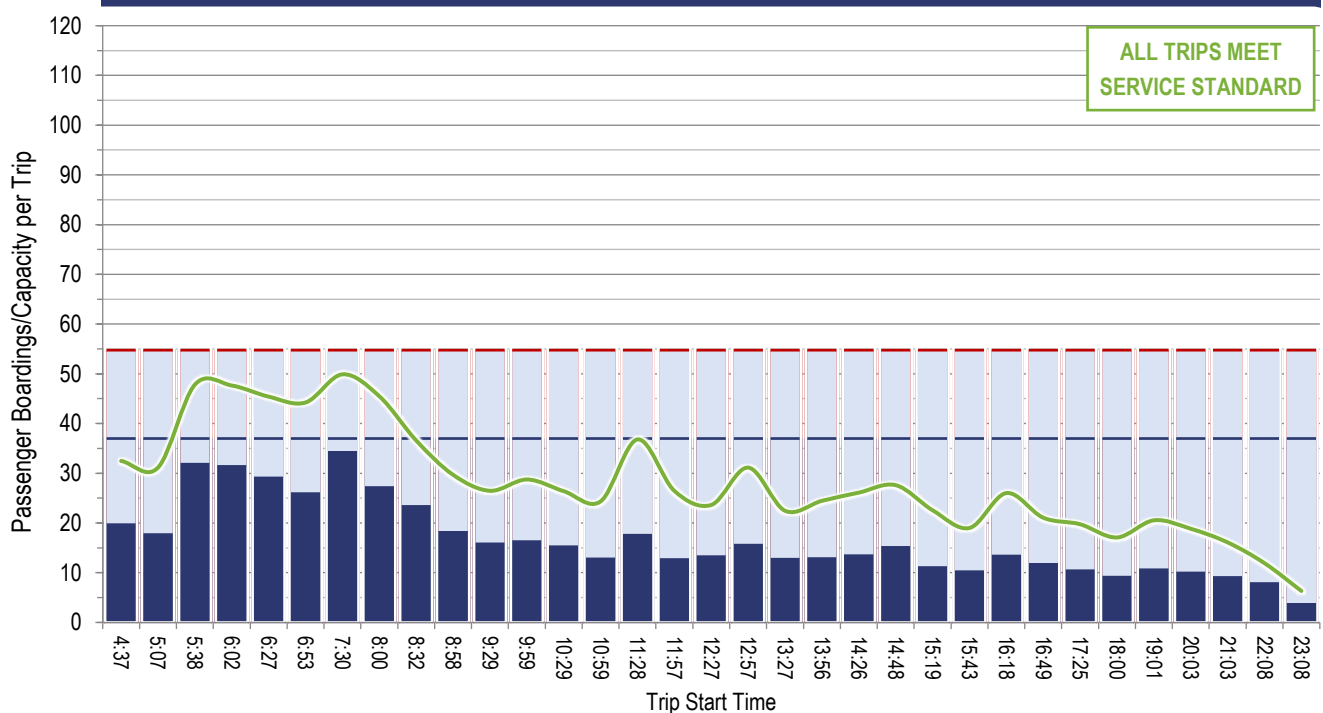


Average Maximum Passenger Load
 Blue: seated passengers
 Orange/Red: standing passengers

Average Passenger Boardings

Available Capacity
 Blue: seats
 Red: seats plus standing

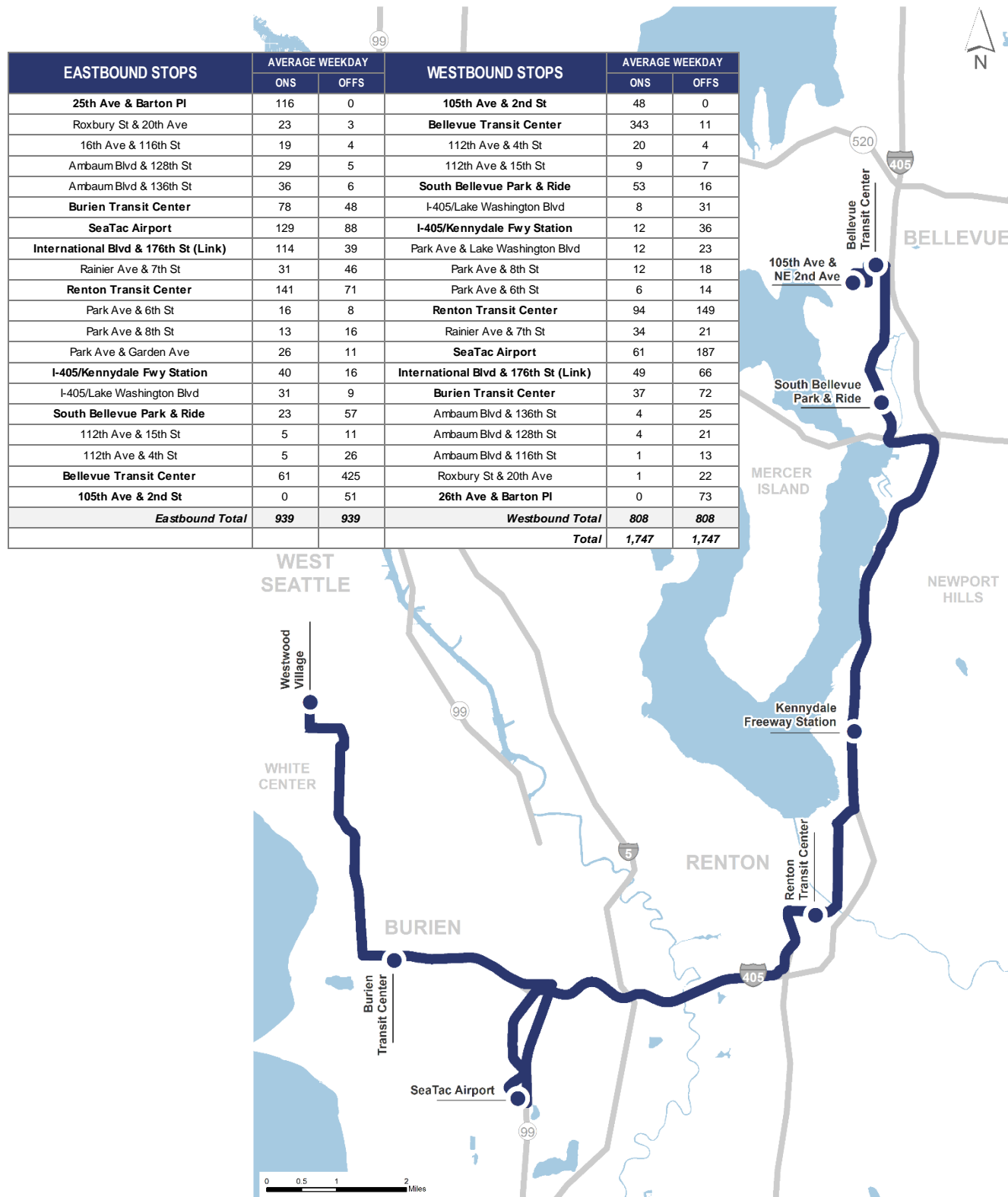
EASTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 560: Westwood Village – Bellevue

I-405 S



Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 566: Auburn – Overlake

I-405 S

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	Minimum
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:45 a.m.-7:50 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	54
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	118.47
Peak Buses	11
ANNUAL TOTALS	
Platform Hours	30,901
Trips	14,076

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2015: Travel time analysis completed and evening trips discontinued
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	20	No Weekend Service		20
Boardings per Trip	30			30
Subsidy per Boarding	\$7.94			\$7.94
Passenger Miles per Platform Mile	7			7



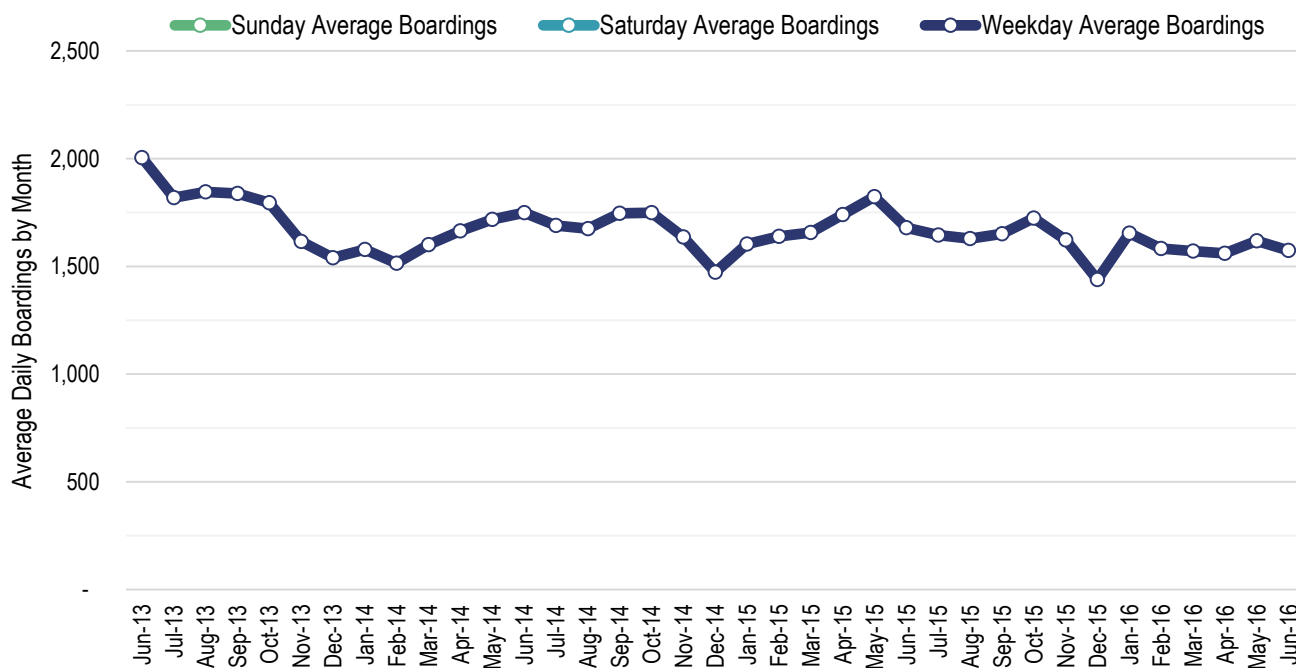


Route 566: Auburn – Overlake

I-405 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	2,051	1,650	1,653	1,584
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

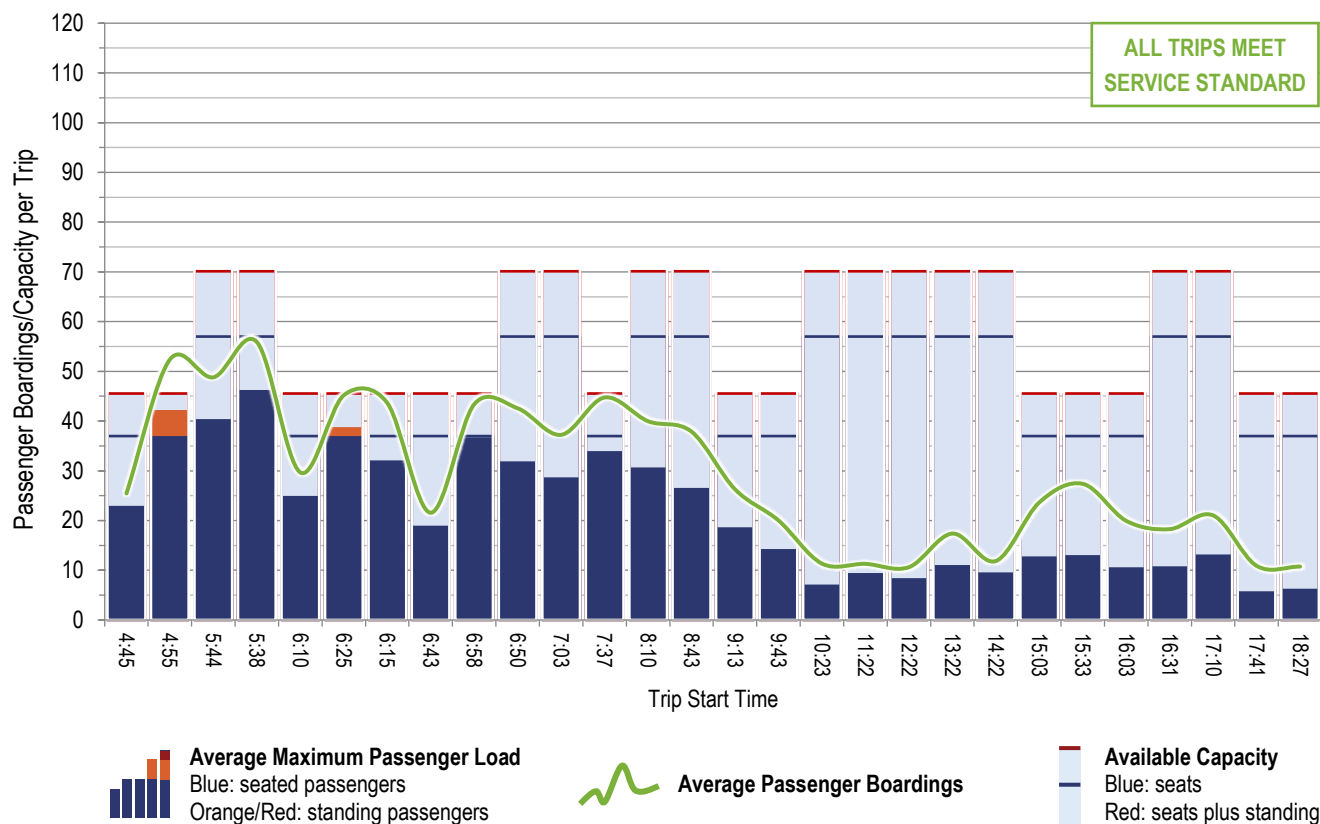




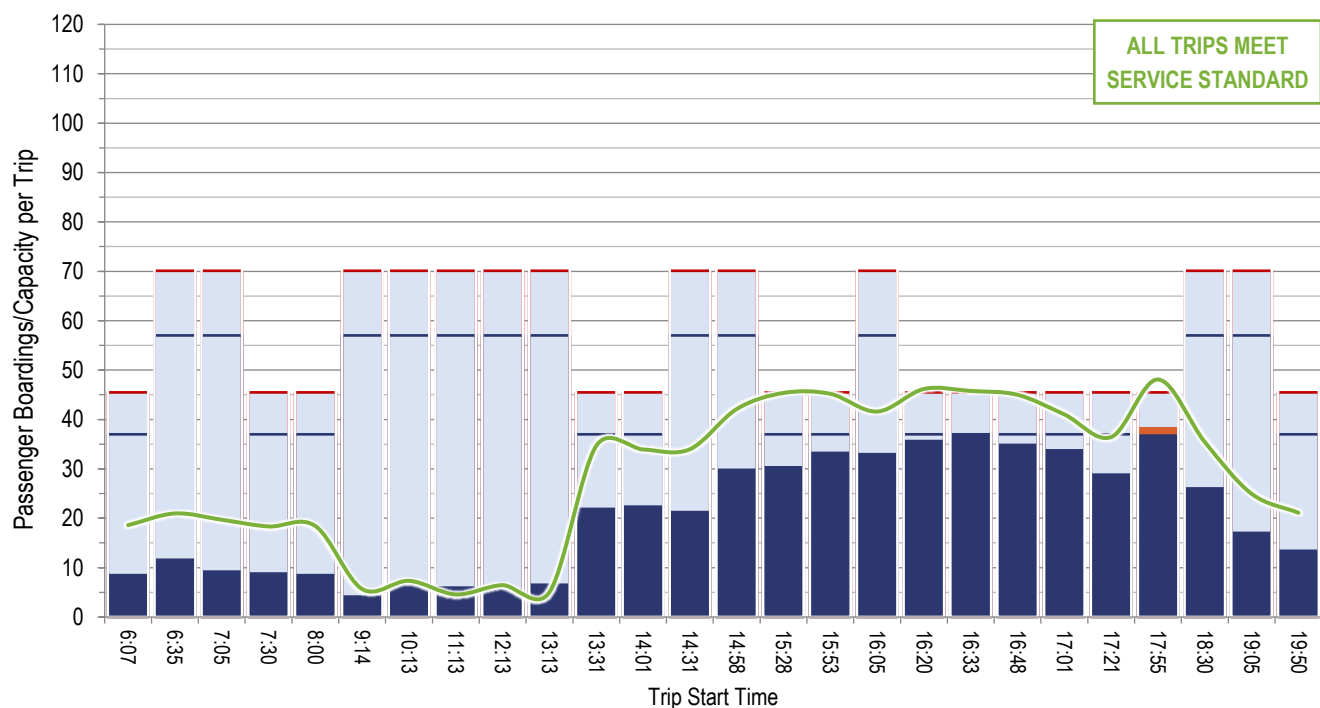
Route 566: Auburn – Overlake

I-405 S

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



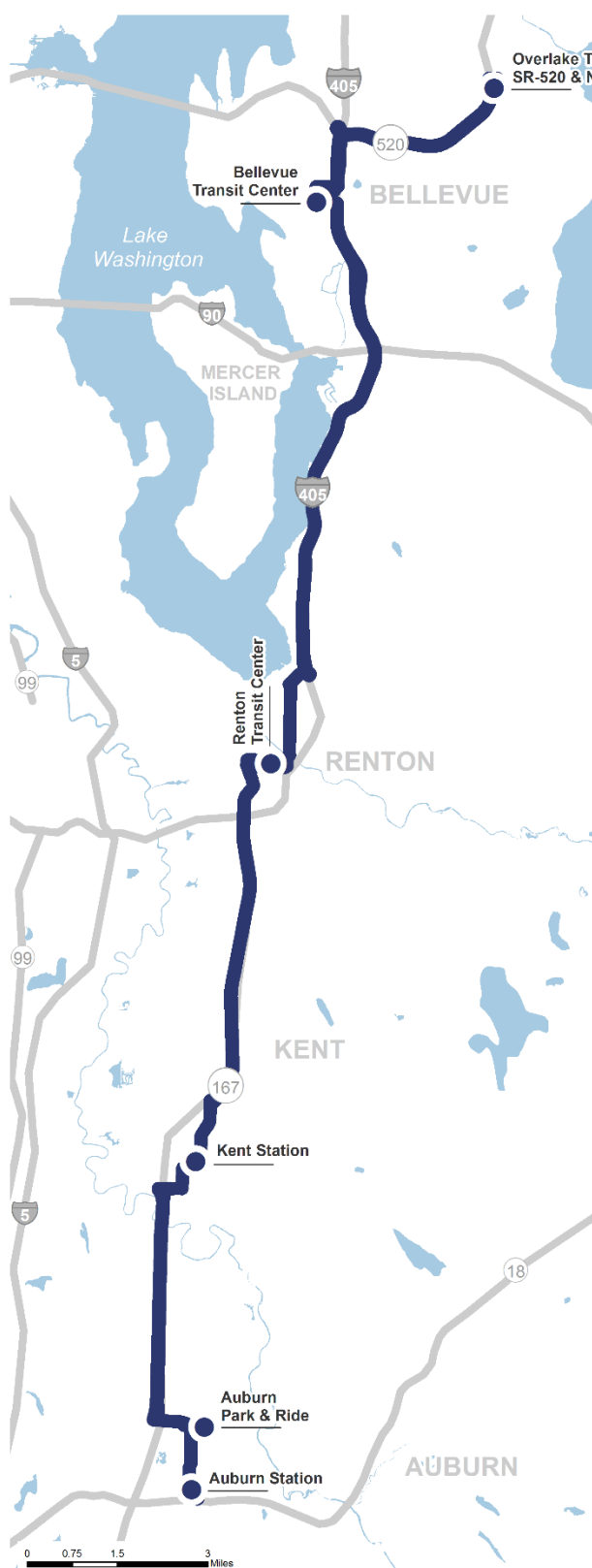
SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 566: Auburn – Overlake

I-405 S



NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Auburn Station	103	0
Auburn Park & Ride	44	9
Smith St & 4th Ave	6	11
Kent Station	210	24
Central Ave & 228th St	31	15
Rainier Ave & 7th St	63	30
Renton Transit Center	214	96
Park Ave & 6th St	29	14
Park Ave & 8th St	17	14
Park Ave & Garden Ave	29	6
Bellevue Transit Center	60	423
SR 520 & 40th St	0	164
Northbound Total	806	806
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Overlake Transit Center	118	0
SR 520 & 40th St	59	4
Bellevue Transit Center	399	65
Park Ave & Lake Washington Blvd	8	33
Park Ave & 8th St	12	27
Park Ave & 6th St	11	22
Renton Transit Center	94	234
Rainier Ave & 7th St	23	32
Central Ave & 228th St	13	25
Kent Station	28	181
Smith St & 4th Ave	6	13
Auburn Park & Ride	8	44
Auburn Station	0	97
Southbound Total	778	778
Total	1,584	1,584

Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 567: Kent – Overlake

I-405 S

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	No Service
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	5:30 a.m.-5:19 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	16
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	42.55
Peak Buses	5
ANNUAL TOTALS	
Platform Hours	10,802
Trips	4,069

SERVICE CHANGES	
HISTORY	
Start Date	June 2013
Last Major Change	2016: Two new Sounder connector trips are added.
PROPOSED	
Additional trips to meet the new Sounder South Line round-trips.	

KEY PERFORMANCE INDICATORS

A2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	31	No Weekend Service		31
Boardings per Trip	37			37
Subsidy per Boarding	\$7.79			\$7.79
Passenger Miles per Platform Mile	8			8



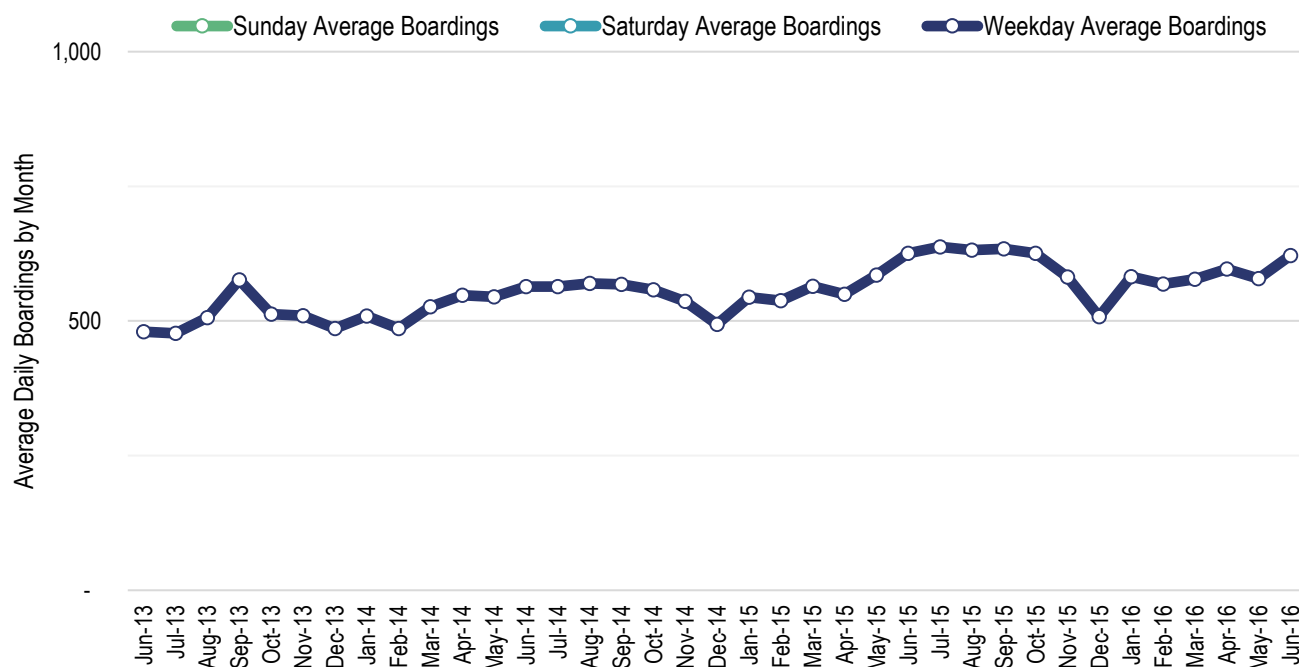


Route 567: Kent – Overlake

I-405 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	507	539	586	599
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

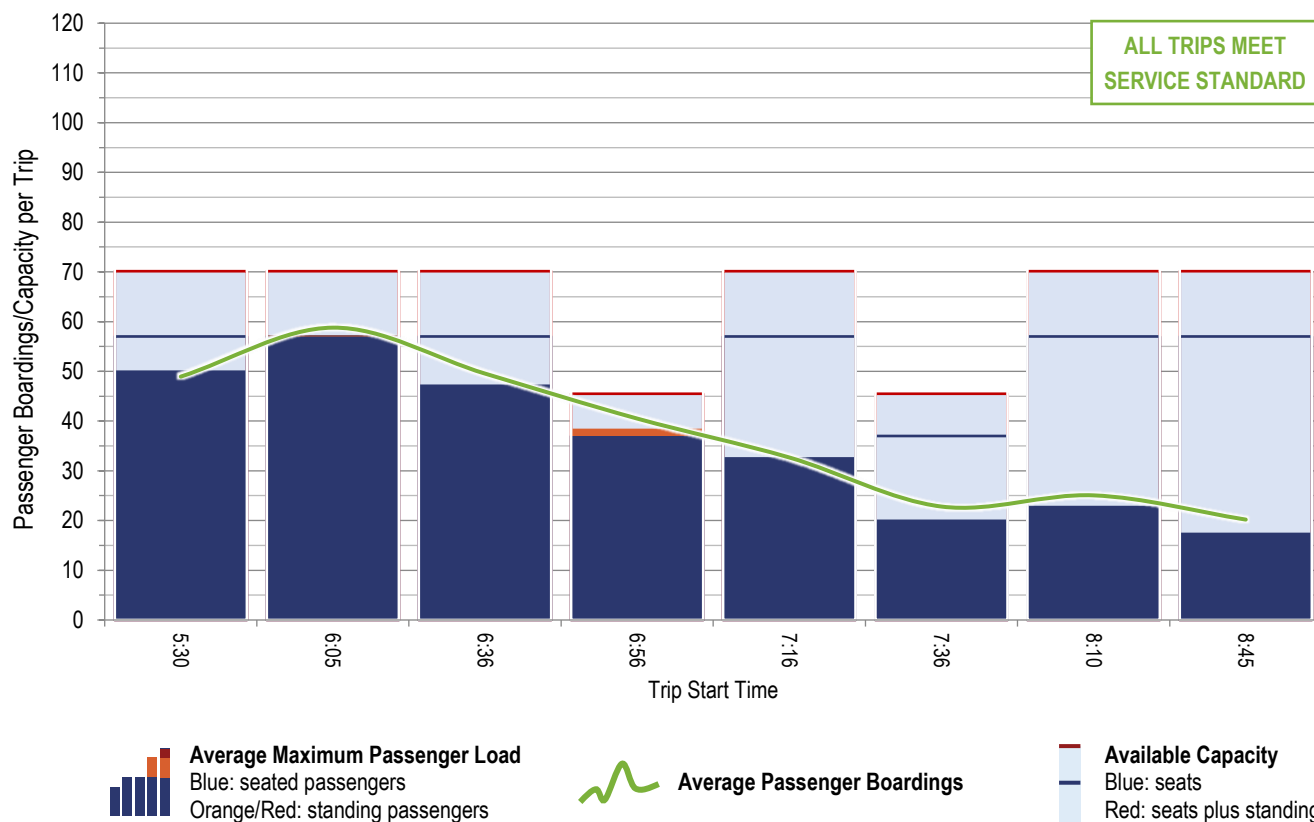




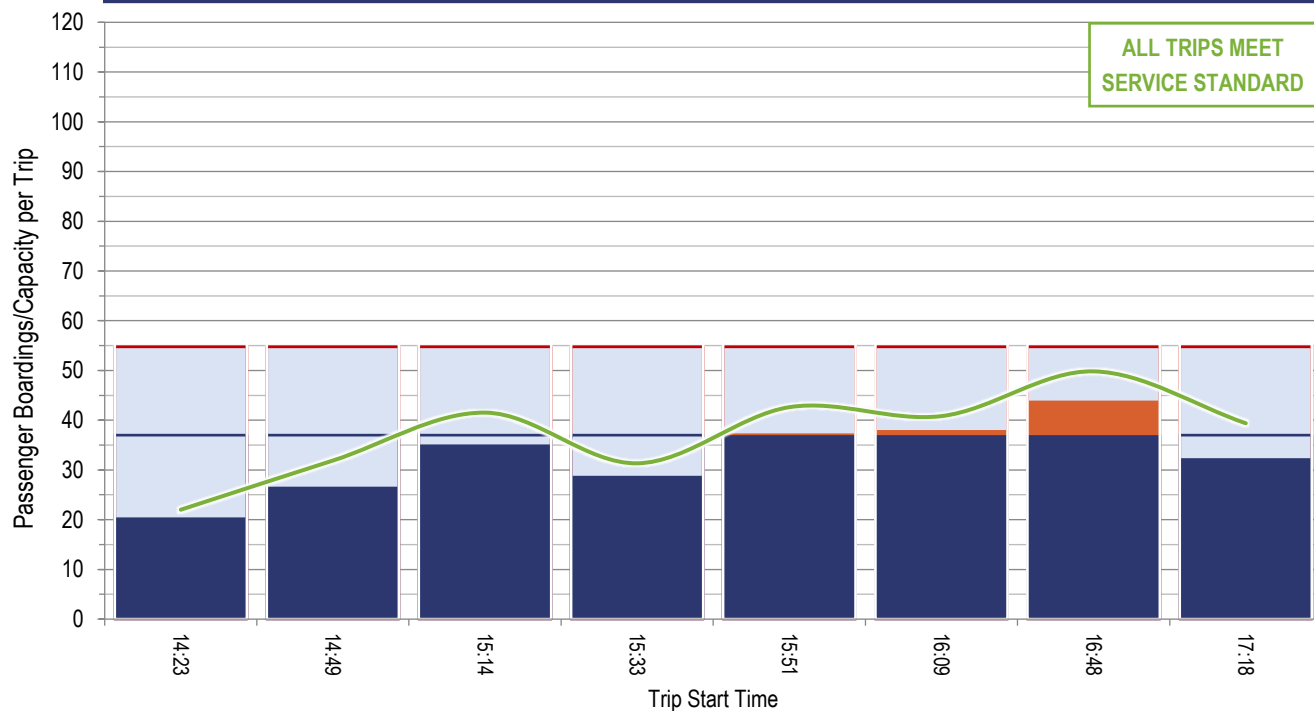
Route 567: Kent – Overlake

I-405 S

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



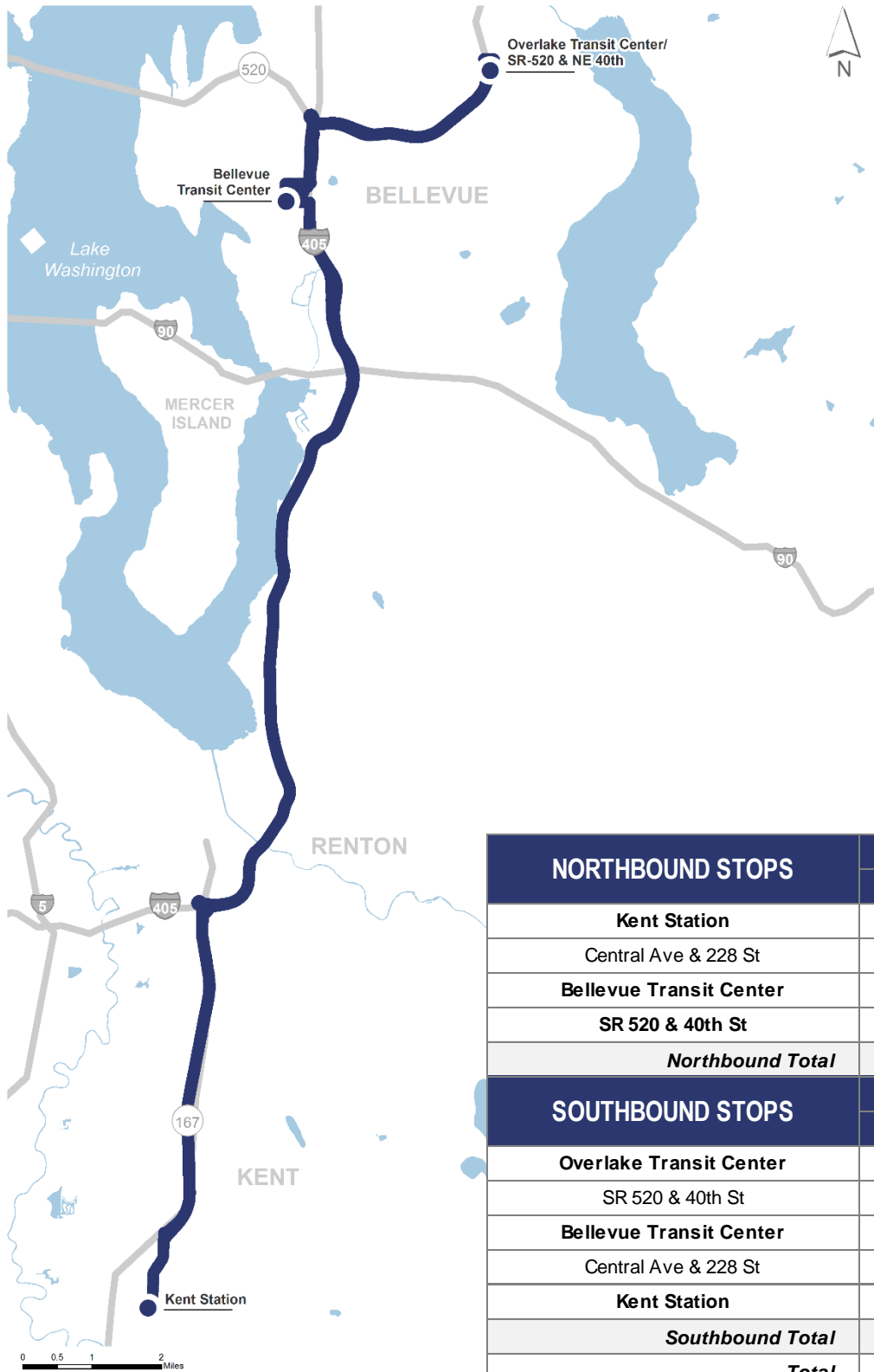
SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 567: Kent – Overlake

I-405 S



NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Kent Station	263	0
Central Ave & 228 St	17	8
Bellevue Transit Center	18	219
SR 520 & 40th St	0	71
Northbound Total	298	298
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Overlake Transit Center	51	0
SR 520 & 40th St	31	2
Bellevue Transit Center	215	24
Central Ave & 228 St	4	20
Kent Station	0	255
Southbound Total	301	301
Total	599	599

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 574: Lakewood – SeaTac****I-5 S****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	Moderate
Evenings	Minimum
Saturday	Moderate
Sunday	Moderate
SPAN OF SERVICE	
Weekday	2:13 a.m.-11:34 p.m.
Saturday	2:13 a.m.-11:33 p.m.
Sunday	2:13 a.m.-11:33 p.m.
TRIPS PER DAY	
Weekday	77
Saturday	59
Sunday	59

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	128.97
Peak Buses	7
TYPICAL SATURDAY	
Platform Hours	94.12
TYPICAL SUNDAY	
Platform Hours	94.70
ANNUAL TOTALS	
Platform Hours	43,675
Trips	26,123

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2010: Route serves the Airport Station and gains 30 min frequency on weekdays.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	21	21	19	21
Boardings per Trip	31	29	26	30
Subsidy per Boarding	\$4.72	\$4.75	\$5.63	\$4.82
Passenger Miles per Platform Mile	15	14	13	15



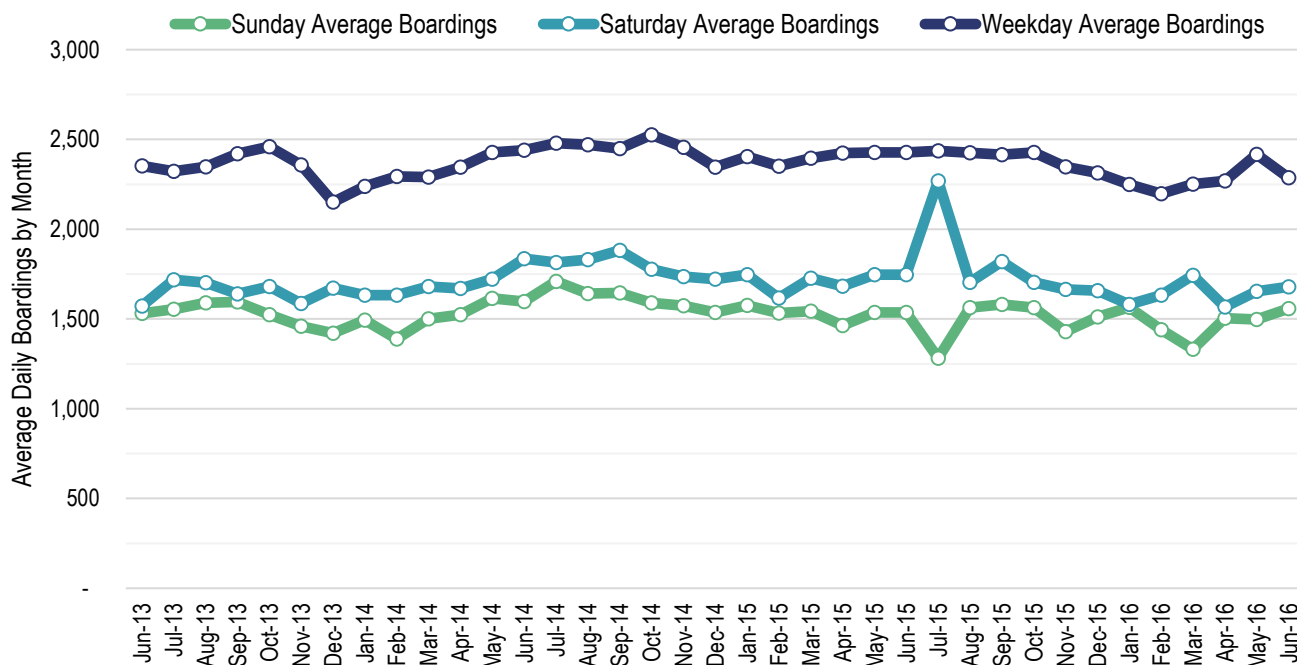


Route 574: Lakewood – SeaTac

I-5 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	2,289	2,397	2,402	2,324
Average Saturday Boardings	1,605	1,744	1,755	1,628
Average Sunday Boardings	1,455	1,571	1,511	1,517

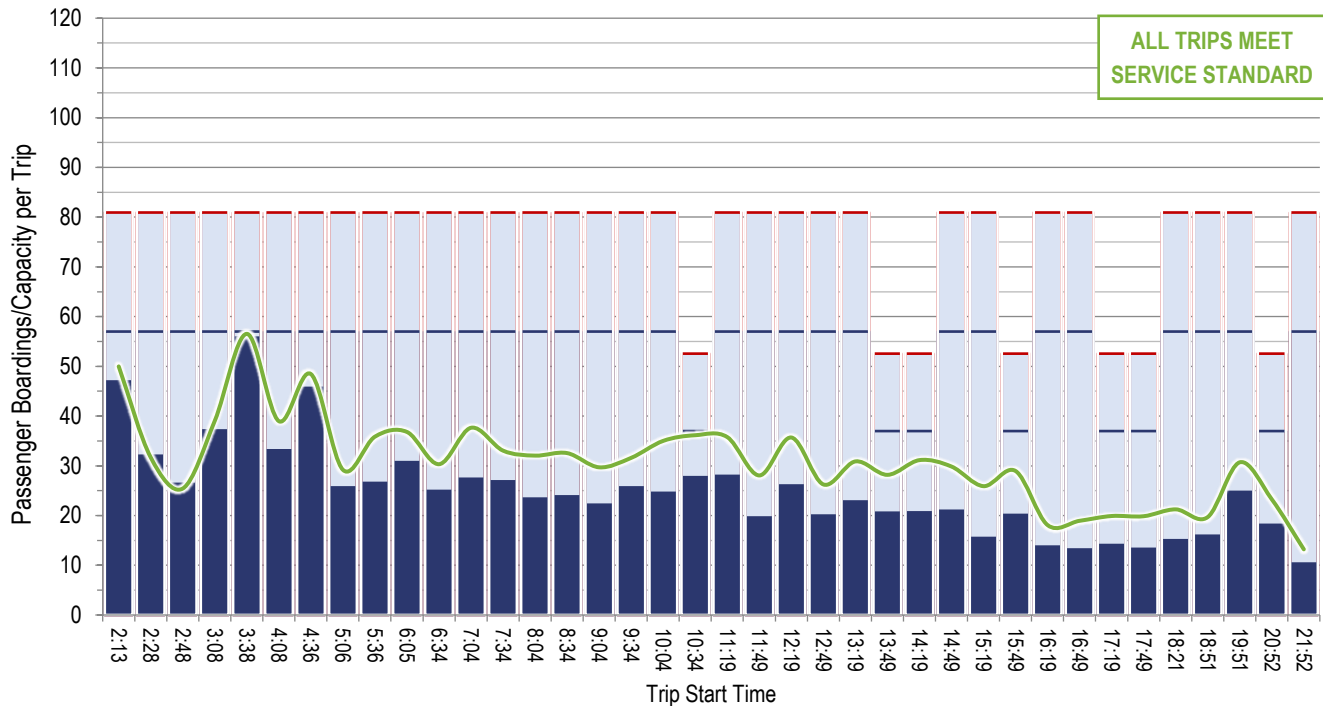




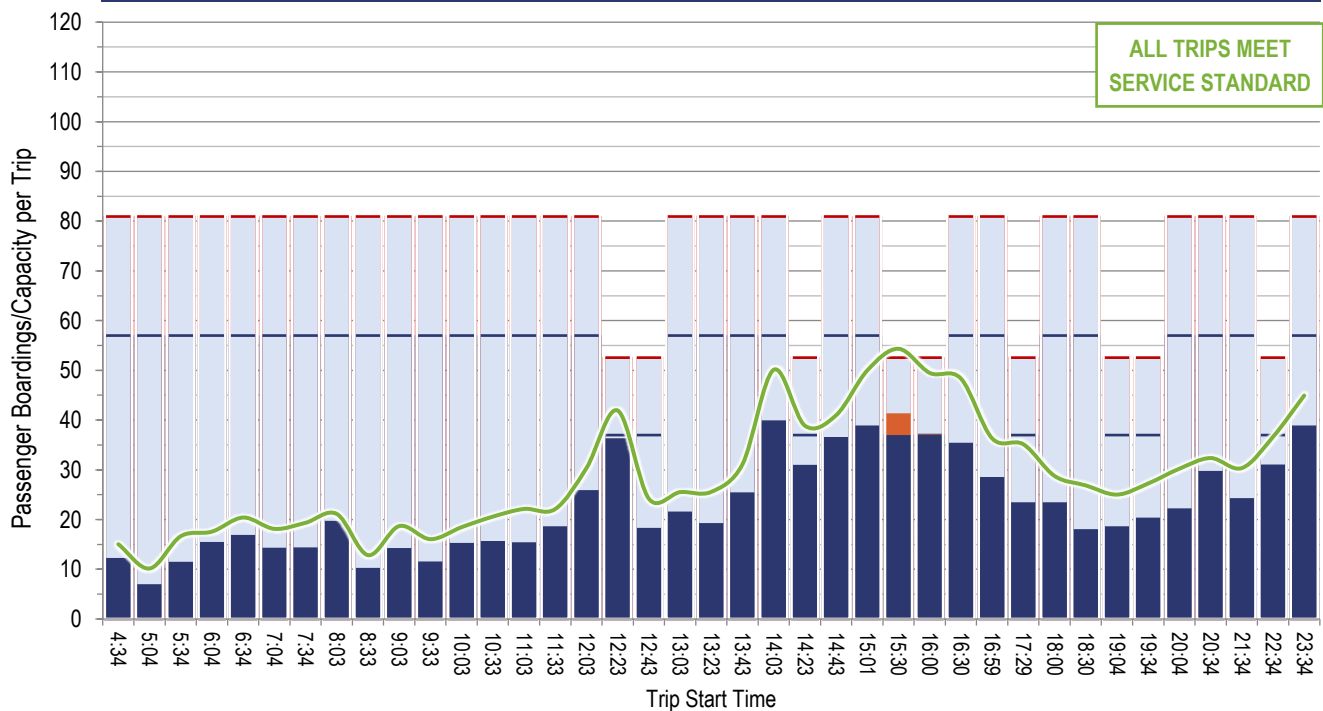
Route 574: Lakwood – SeaTac

I-5 S

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

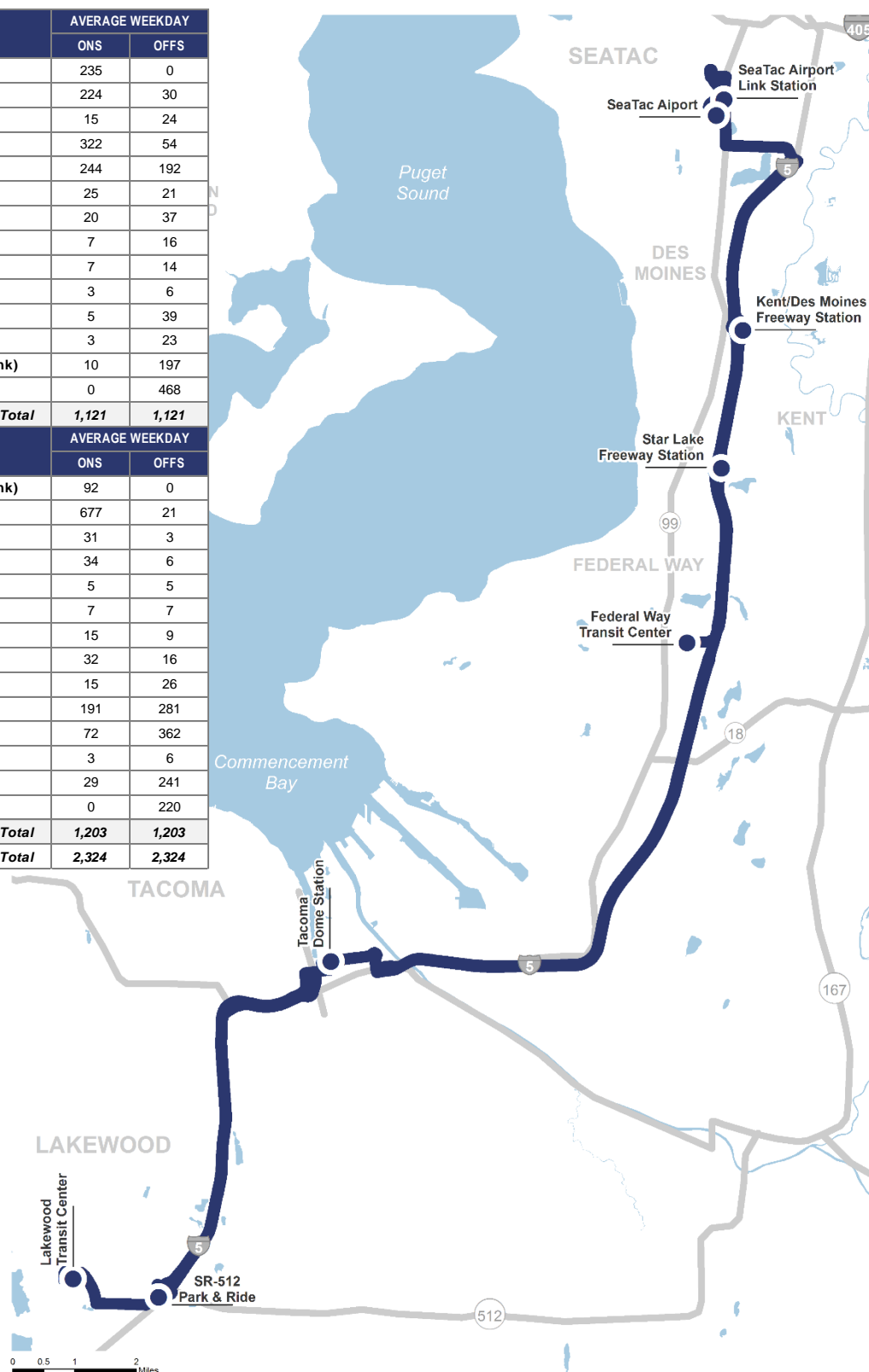




Route 574: Lakewood – SeaTac

I-5 S

NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Lakewood Transit Center	235	0
SR-512 Park & Ride	224	30
D St & 25th St	15	24
Tacoma Dome Station	322	54
Federal Way Transit Center	244	192
Star Lake Park & Ride	25	21
I-5/Kent Des Moines Rd	20	37
S 188th St & Military Rd	7	16
S 188th St & 42nd Ave	7	14
S 188th St & 36th Ave	3	6
International Blvd & S 188th St	5	39
International Blvd & S 180th St	3	23
International Blvd & S 176th St (Link)	10	197
SeaTac Airport	0	468
Northbound Total	1,121	1,121
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
International Blvd & S 176th St (Link)	92	0
SeaTac Airport	677	21
International Blvd & S 182nd St	31	3
International Blvd & S 188th St	34	6
S 188th St & 36th Ave	5	5
S 188th St & 42nd Ave	7	7
S 188th St & 46th Ave	15	9
I-5/Kent Des Moines Rd	32	16
Star Lake Park & Ride	15	26
Federal Way Transit Center	191	281
Tacoma Dome Station	72	362
E St & 26th St	3	6
SR-512 Park & Ride	29	241
Lakewood Transit Center	0	220
Southbound Total	1,203	1,203
Total	2,324	2,324



Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 577: Federal Way – Seattle

I-5 S

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	No Service
Evenings	No Service
Saturday	Minimum
Sunday	Minimum
SPAN OF SERVICE	
Weekday	5:00 a.m.-5:49 p.m.
Saturday	6:15 a.m.-9:43 p.m.
Sunday	6:15 a.m.-7:43 p.m.
TRIPS PER DAY	
Weekday	38
Saturday	32
Sunday	28

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	73.73
Peak Buses	10
TYPICAL SATURDAY	
Platform Hours	32.12
TYPICAL SUNDAY	
Platform Hours	28.12
ANNUAL TOTALS	
Platform Hours	20,630
Trips	12,410

SERVICE CHANGES	
HISTORY	
Start Date	February 2006
Last Major Change	2016: Additional trips were added.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	46	23	17	40
Boardings per Trip	46	20	17	38
Subsidy per Boarding	\$3.49	\$4.71	\$6.96	\$3.75
Passenger Miles per Platform Mile	17	15	12	16



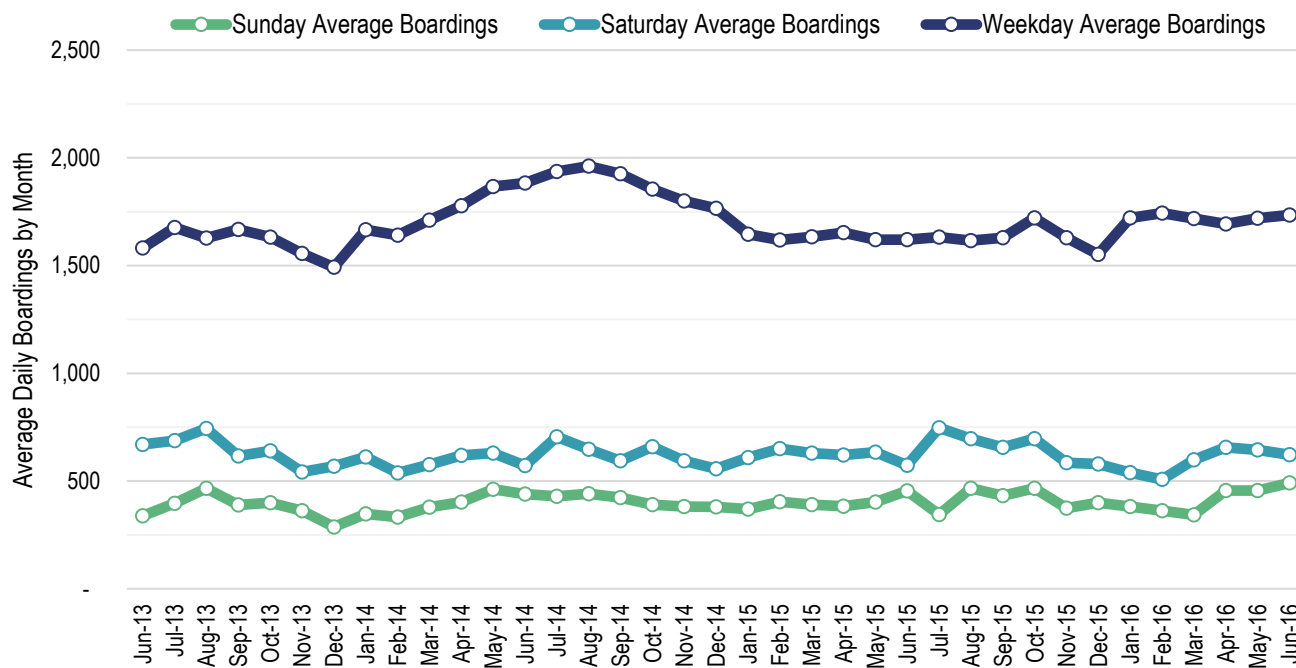


Route 577: Federal Way – Seattle

I-5 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	1,549	1,623	1,631	1,716
Average Saturday Boardings	605	609	641	642
Average Sunday Boardings	363	402	405	466

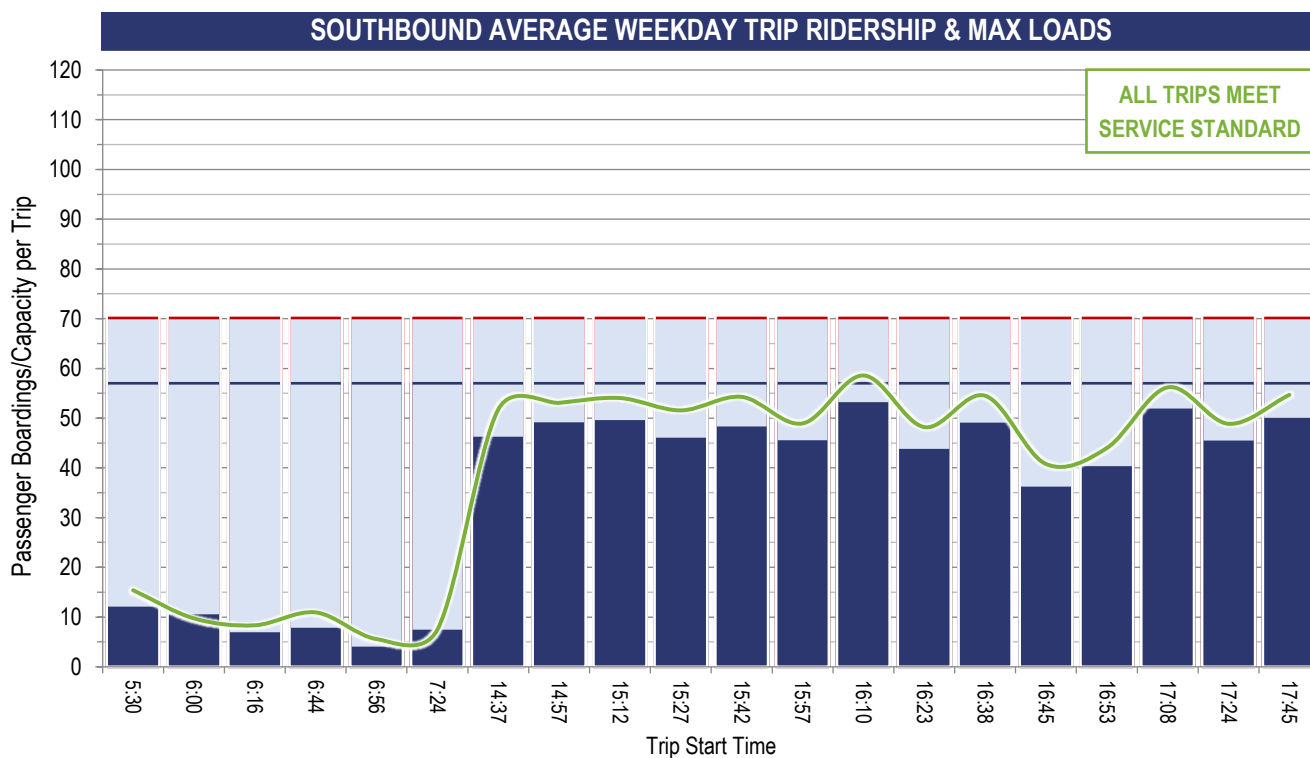
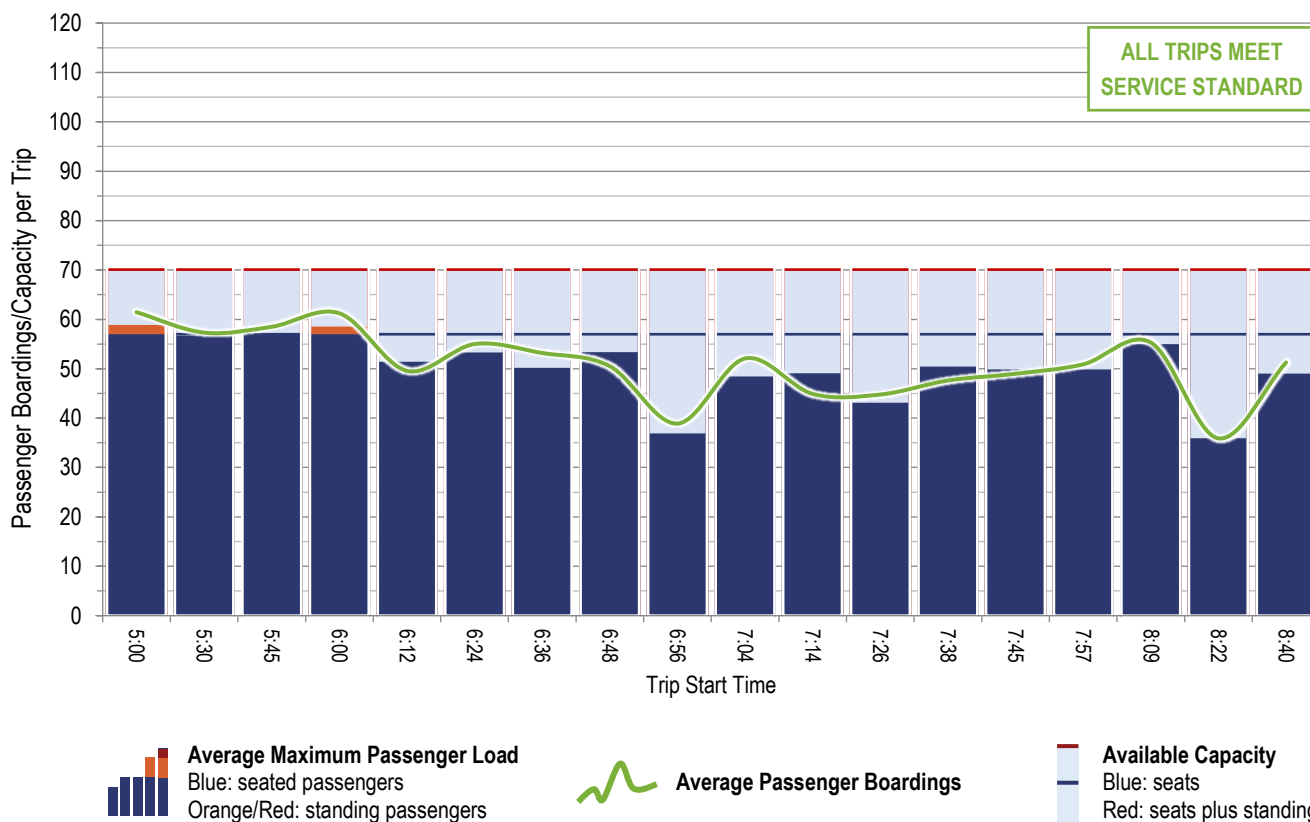




Route 577: Federal Way – Seattle

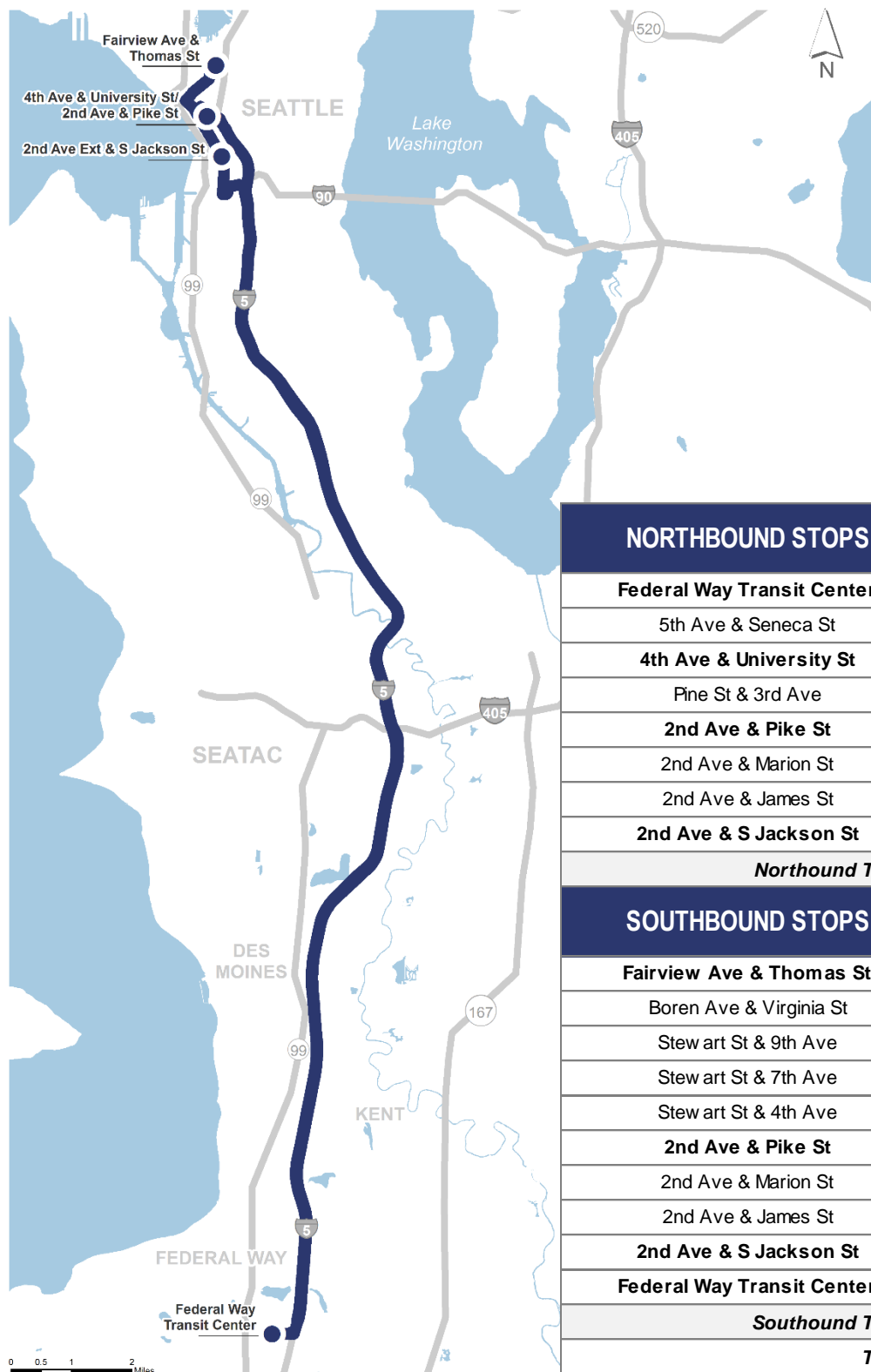
I-5 S

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 577: Federal Way – Seattle

I-5 S


NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Federal Way Transit Center	913	0
5th Ave & Seneca St	5	383
4th Ave & University St	1	175
Pine St & 3rd Ave	3	262
2nd Ave & Pike St	2	46
2nd Ave & Marion St	1	31
2nd Ave & James St	1	12
2nd Ave & S Jackson St	0	17
Northbound Total	926	926
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Fairview Ave & Thomas St	58	0
Boren Ave & Virginia St	13	2
Stewart St & 9th Ave	91	4
Stewart St & 7th Ave	78	3
Stewart St & 4th Ave	91	7
2nd Ave & Pike St	245	11
2nd Ave & Marion St	120	29
2nd Ave & James St	42	12
2nd Ave & S Jackson St	51	50
Federal Way Transit Center	0	673
Southbound Total	790	790
Total	1,716	1,716

Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 578: Puyallup – Seattle

I-5 S

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	Moderate
Evenings	Moderate
Saturday	Minimum
Sunday	Minimum
SPAN OF SERVICE	
Weekday	4:56 a.m.-10:50 p.m.
Saturday	6:01 a.m.-10:03 p.m.
Sunday	6:01 a.m.-10:03 p.m.
TRIPS PER DAY	
Weekday	52
Saturday	30
Sunday	30

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	95.52
Peak Buses	5
TYPICAL SATURDAY	
Platform Hours	56.78
TYPICAL SUNDAY	
Platform Hours	57.43
ANNUAL TOTALS	
Platform Hours	31,107
Trips	16,519

SERVICE CHANGES	
HISTORY	
Start Date	June 2009
Last Major Change	2016: Four new trips are added.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	20	25	19	20
Boardings per Trip	35	43	33	36
Subsidy per Boarding	\$5.08	\$3.87	\$5.67	\$4.99
Passenger Miles per Platform Mile	17	20	16	17



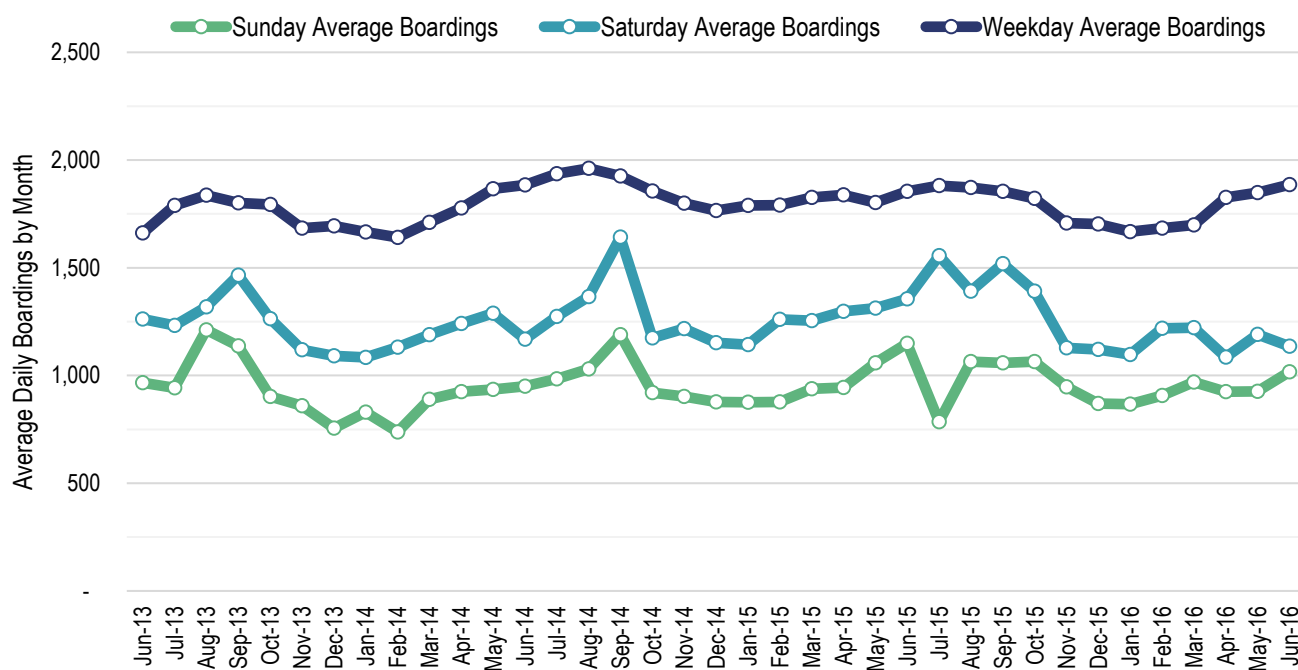


Route 578: Puyallup – Seattle

I-5 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	1,693	1,817	1,813	1,854
Average Saturday Boardings	1,170	1,245	1,311	1,133
Average Sunday Boardings	867	934	968	952

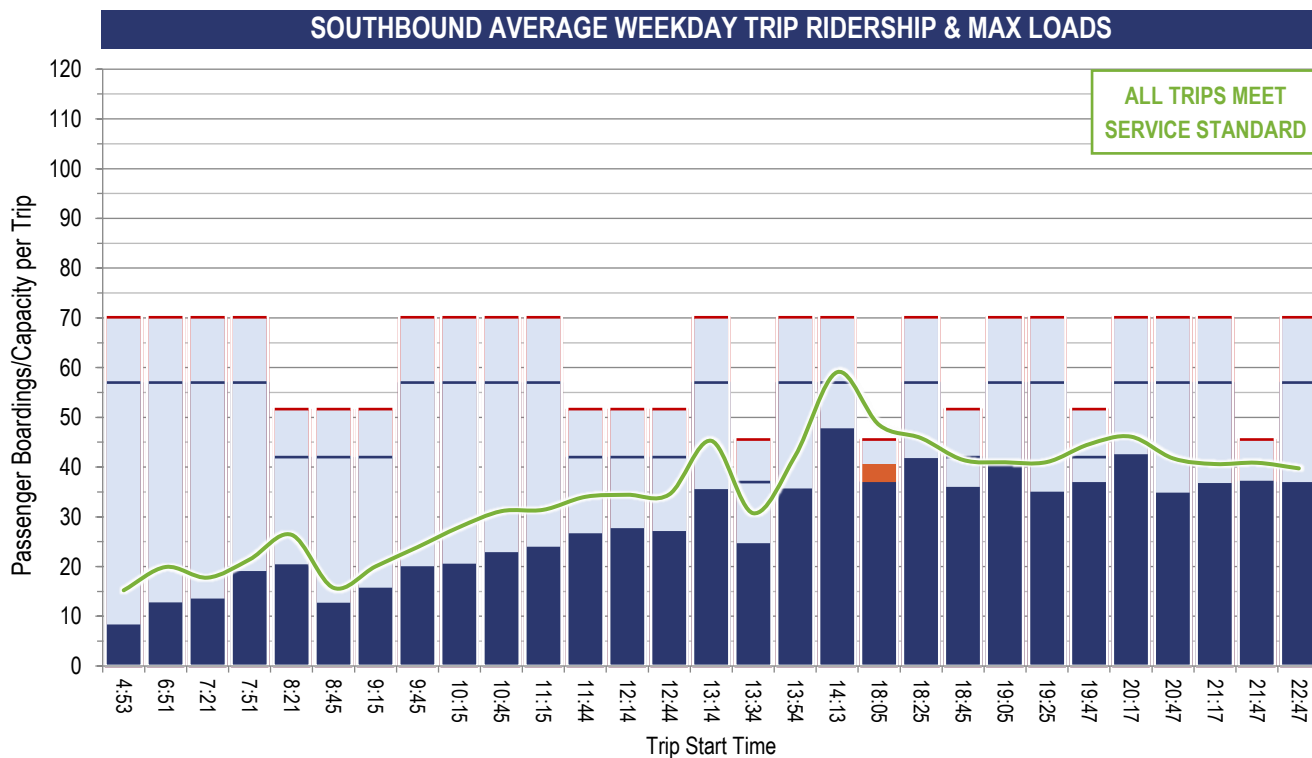
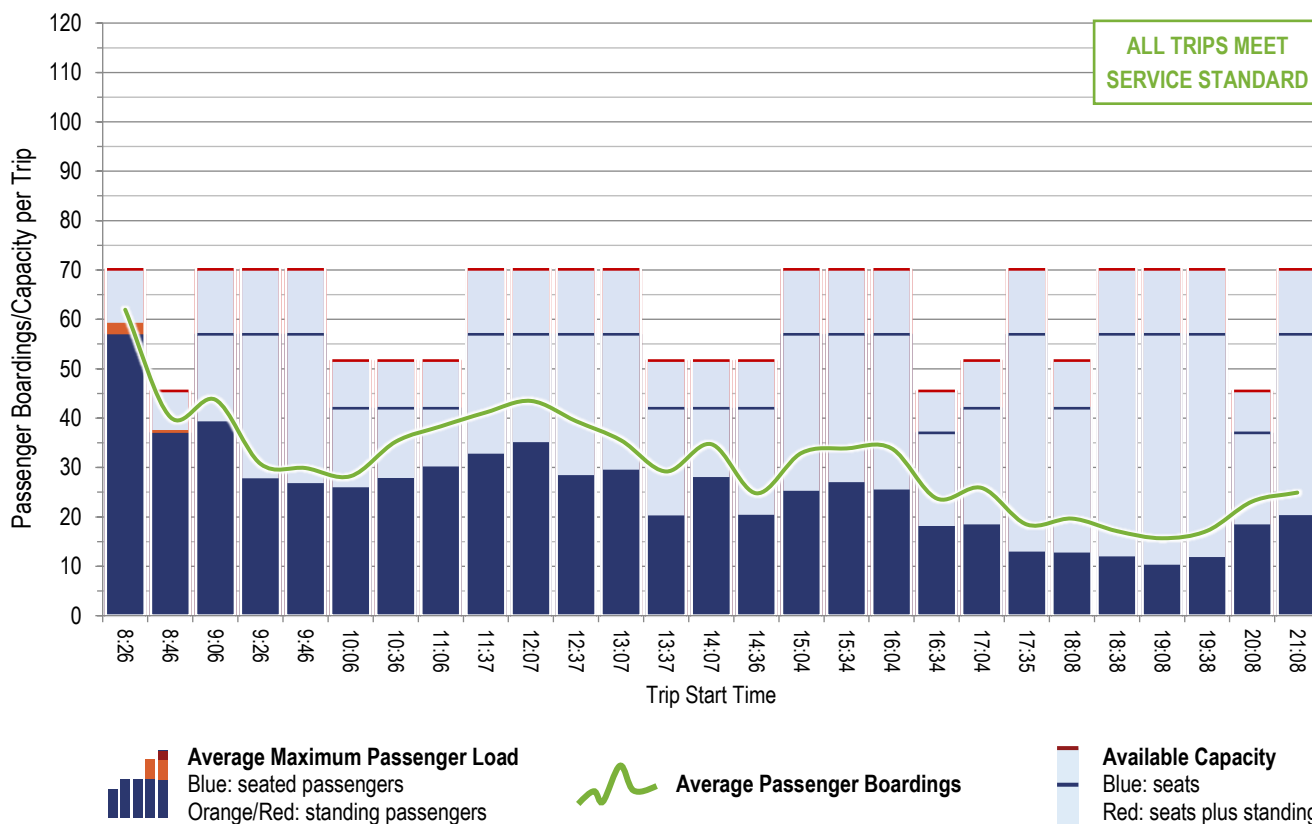




Route 578: Puyallup – Seattle

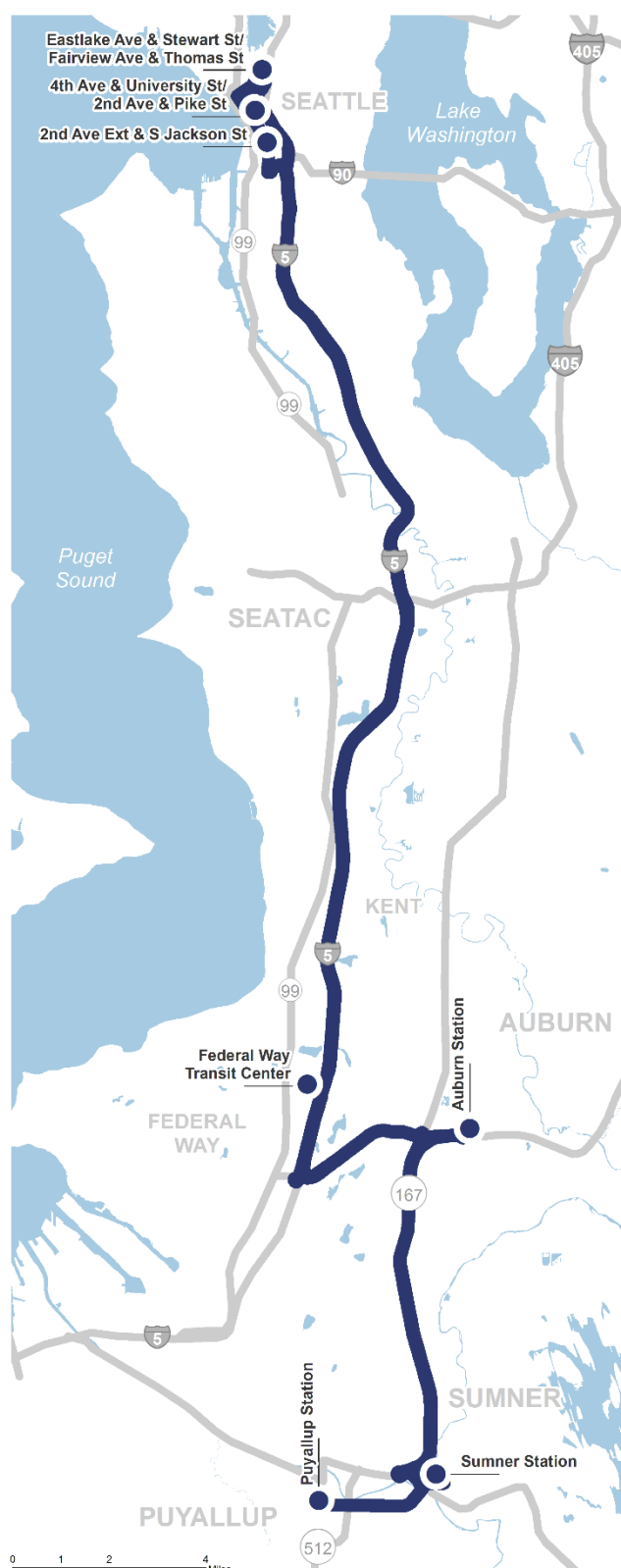
I-5 S

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 578: Puyallup – Seattle

I-5 S


NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Puyallup Station	116	0
Sumner Station	55	35
Auburn Station	174	51
Federal Way Transit Center	471	88
4th Ave & University St	11	498
Olive Way & 6th Ave	4	90
Howell St & 9th Ave	2	28
Howell St & Yale Ave	1	19
Eastlake Ave & Stewart St	0	26
Northbound Total	834	834
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Fairview Ave & Thomas St	59	0
Boren Ave & Virginia St	7	4
Stewart St & 9th Ave	68	7
Stewart St & 7th Ave	71	5
Stewart St & 4th Ave	71	10
2nd Ave & Pike St	312	14
2nd Ave & Marion St	97	9
2nd Ave & James St	51	7
2nd Ave & S Jackson St	138	14
Federal Way Transit Center	78	589
Auburn Station	42	186
Sumner Station	25	76
Puyallup Station	0	98
Southbound Total	1,020	1,020
Total	1,854	1,854

Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 580: Lakewood – Puyallup

**SOUNDER
CONNECTOR**

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	No Service
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:31 a.m.-7:04 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	20
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	20.72
Peak Buses	3
ANNUAL TOTALS	
Platform Hours	1,410
Trips	1,340

SERVICE CHANGES	
HISTORY	
Start Date	September 2015
Last Major Change	2016: Two new trips were added in September.
PROPOSED	
Additional trips to meet the new Sounder South Line round-trips.	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	30	No Weekend Service		30
Boardings per Trip	22			22
Subsidy per Boarding	\$4.67			\$4.67
Passenger Miles per Platform Mile	2			2



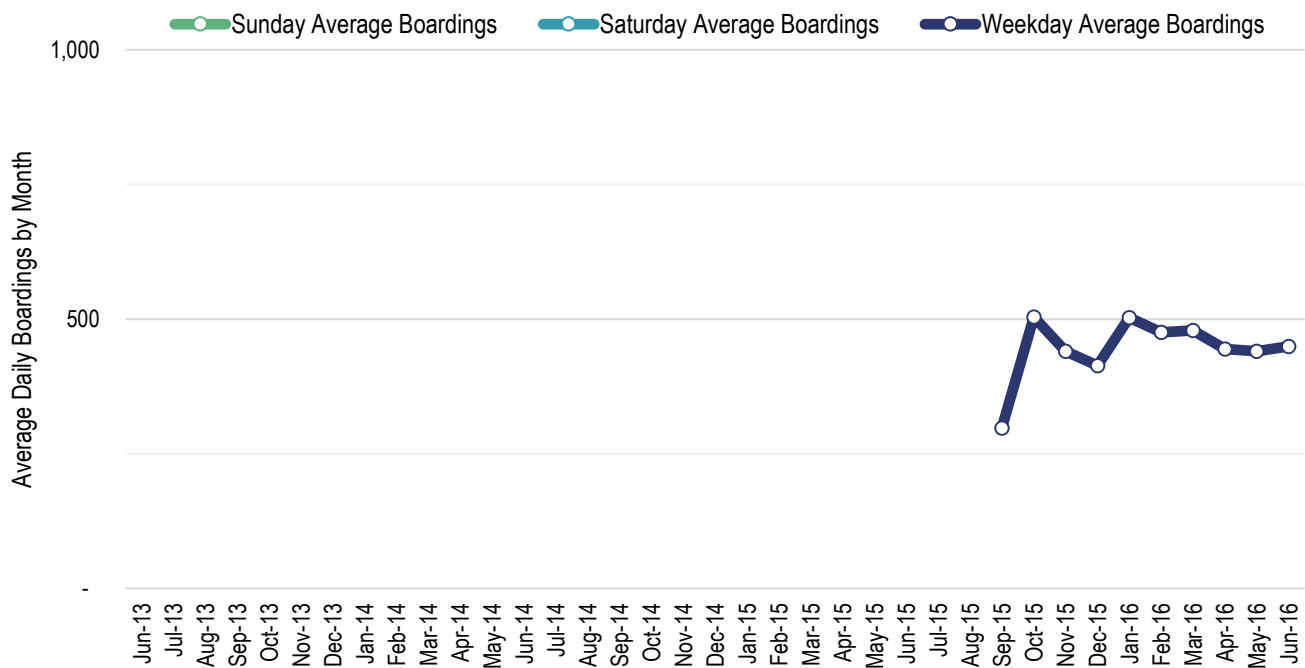


Route 580: Lakewood – Puyallup

**SOUNDER
CONNECTOR**

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	-	-	446	445
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

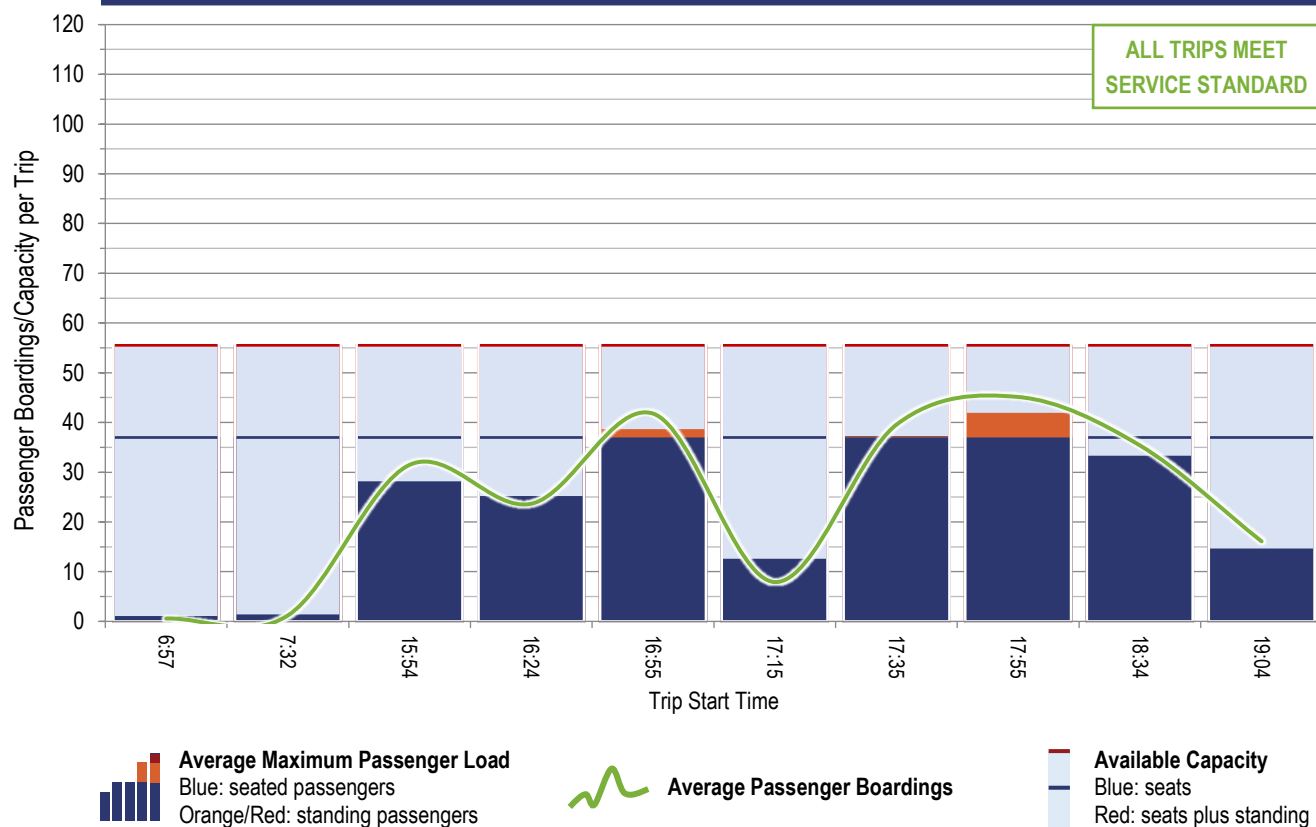




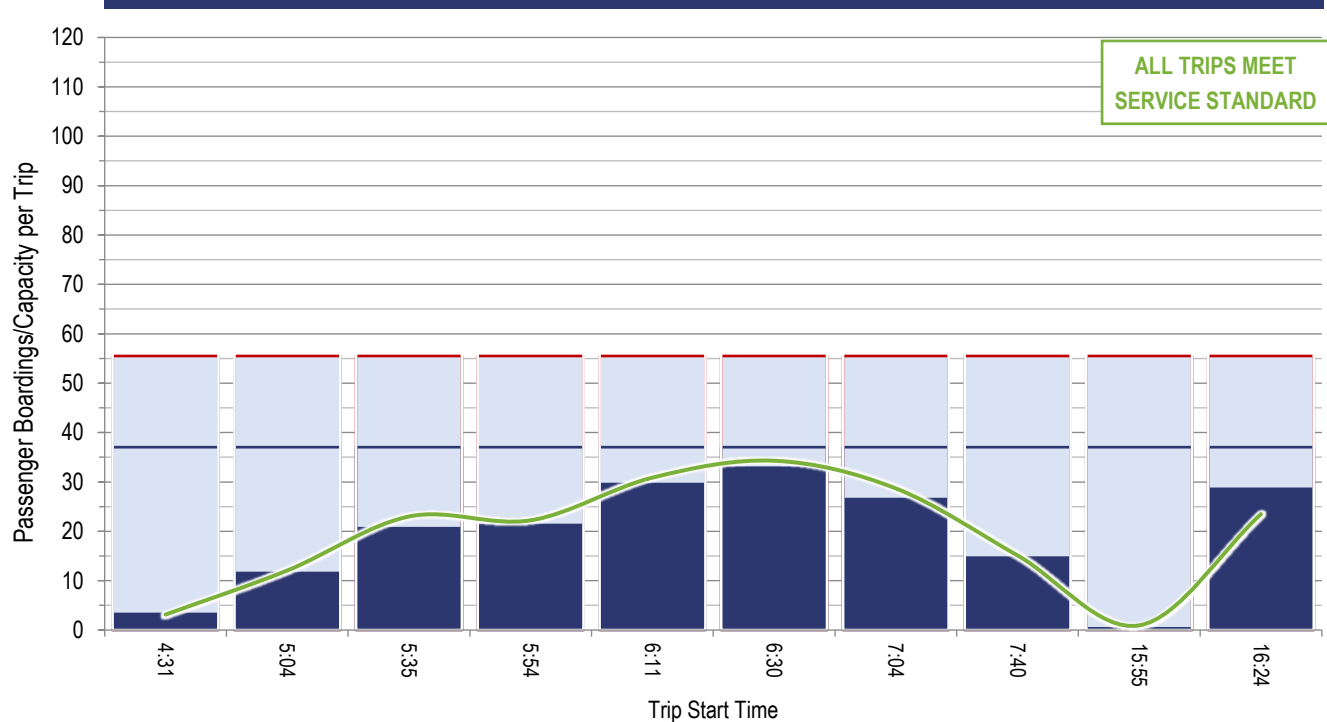
Route 580: Lakewood – Puyallup

**SOUNDER
CONNECTOR**

WESTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



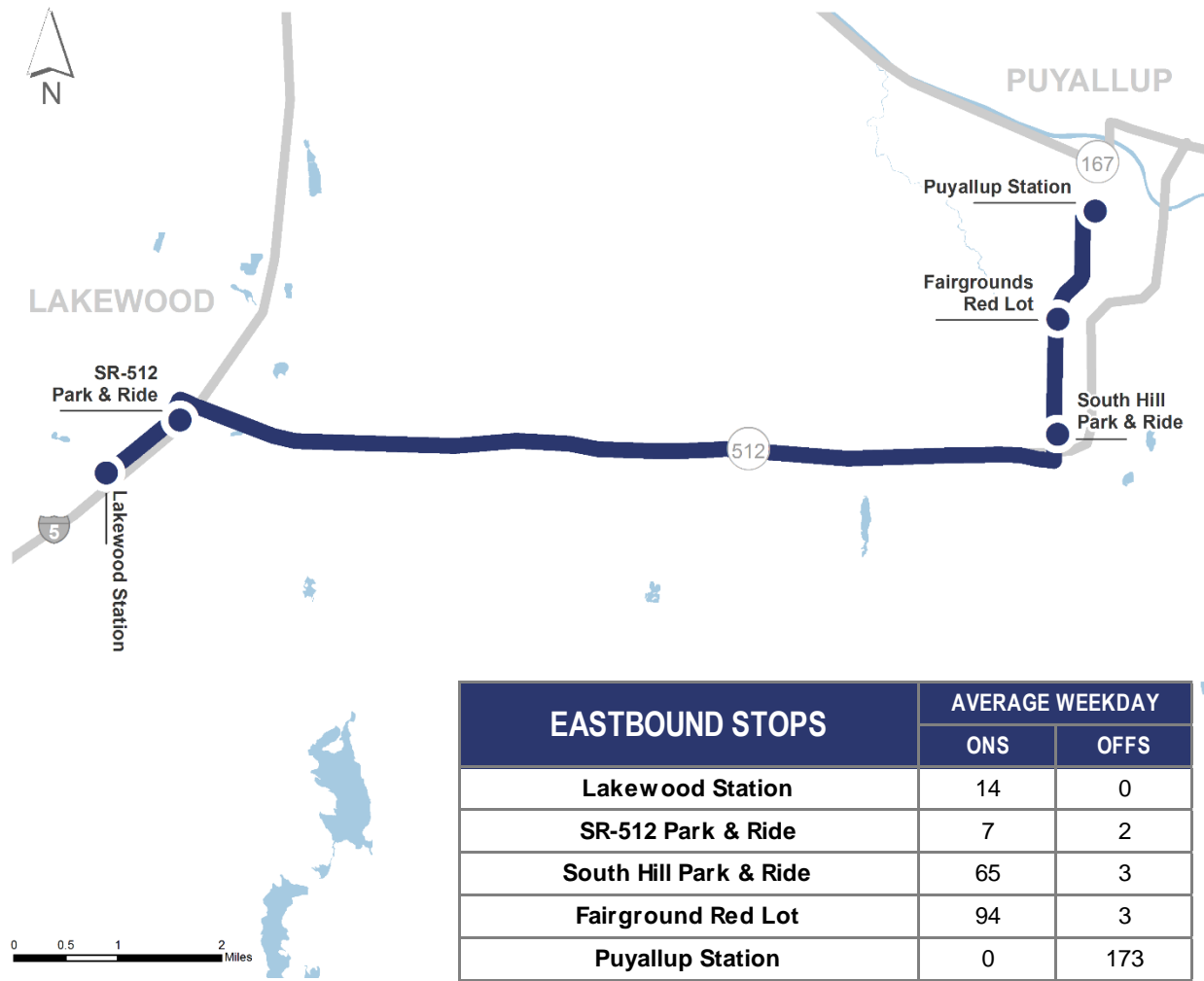
EASTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 580: Lakewood – Puyallup

SOUNDER
CONNECTOR



EASTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Lakewood Station	14	0
SR-512 Park & Ride	7	2
South Hill Park & Ride	65	3
Fairground Red Lot	94	3
Puyallup Station	0	173
Eastbound Total	181	181
WESTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Puyallup Station	253	0
Fairground Red Lot	4	79
South Hill Park & Ride	4	110
SR-512 Park & Ride	3	29
Lakewood Station	0	45
Westbound Total	264	264
Total	445	445

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 586: Tacoma – U. District****I-5 S****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	No Service
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	5:46 a.m.-6:20 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	16
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	41.07
Peak Buses	6
ANNUAL TOTALS	
Platform Hours	11,152
Trips	4,323

SERVICE CHANGES	
HISTORY	
Start Date	September 2002
Last Major Change	2015: Midday trips discontinued.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	25	No Weekend Service		25
Boardings per Trip	33			33
Subsidy per Boarding	\$7.02			\$7.02
Passenger Miles per Platform Mile	12			12



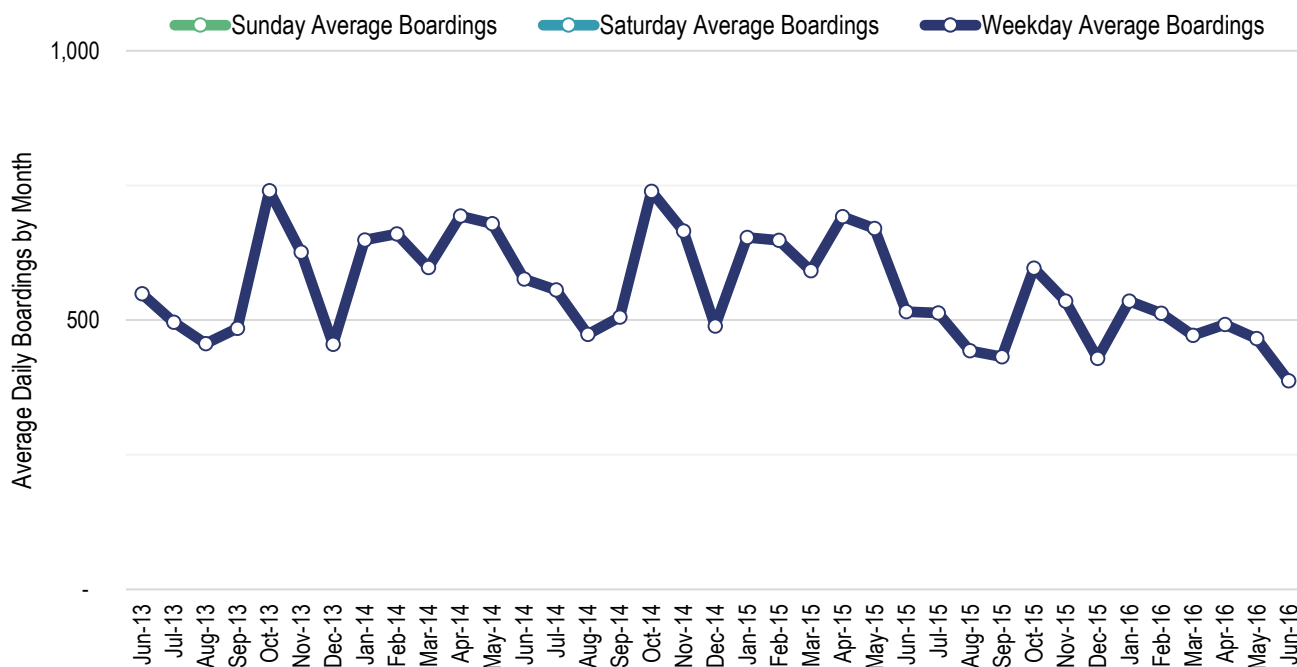


Route 586: Tacoma – U. District

I-5 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	582	607	559	447
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

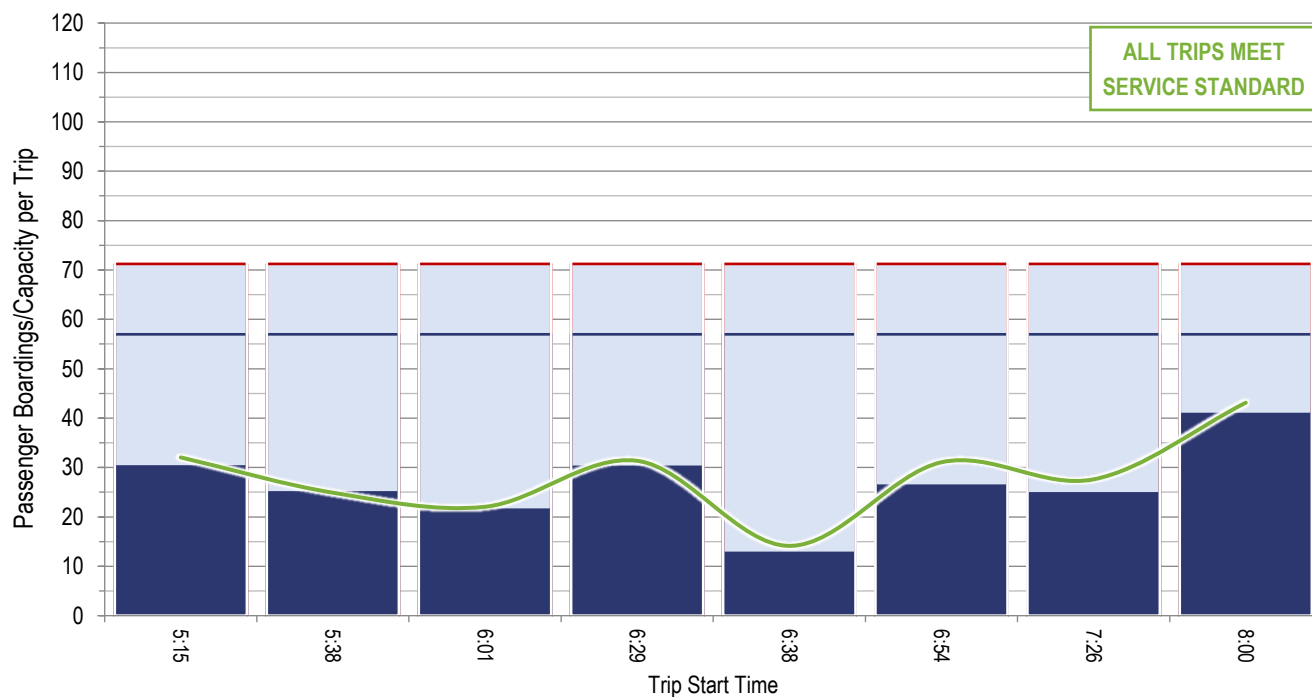




Route 586: Tacoma – U. District

I-5 S

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

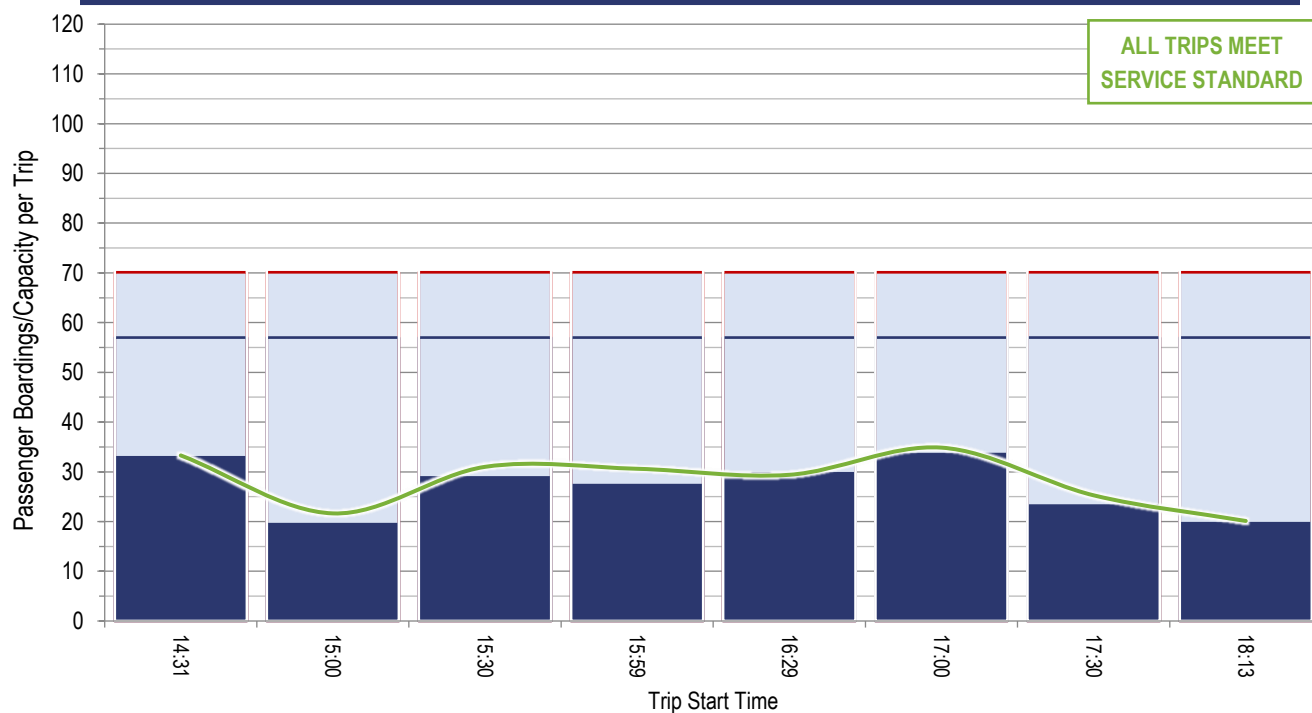


Average Maximum Passenger Load
 Blue: seated passengers
 Orange/Red: standing passengers

Average Passenger Boardings

Available Capacity
 Blue: seats
 Red: seats plus standing

SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

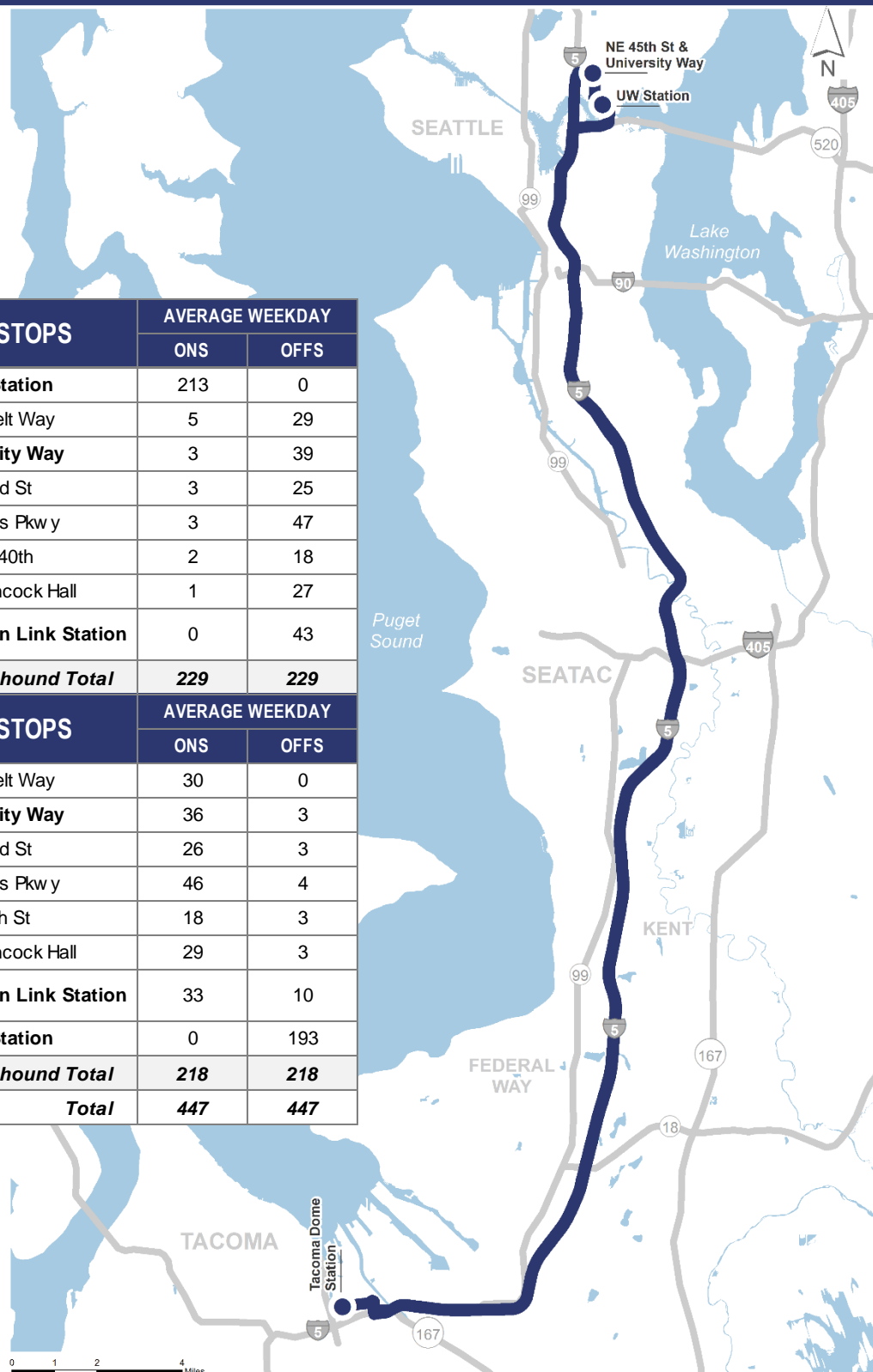




Route 586: Tacoma – U. District

I-5 S

NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Tacoma Dome Station	213	0
45th St & Roosevelt Way	5	29
45th St & University Way	3	39
15th Ave & 43rd St	3	25
15th Ave & Campus Pkwy	3	47
15th Ave & NE 40th	2	18
Pacific St & UW Hitchcock Hall	1	27
University of Washington Link Station	0	43
Northbound Total	229	229
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
45th St & Roosevelt Way	30	0
45th St & University Way	36	3
15th Ave & 43rd St	26	3
15th Ave & Campus Pkwy	46	4
15th Ave & 40th St	18	3
Pacific St & UW Hitchcock Hall	29	3
University of Washington Link Station	33	10
Tacoma Dome Station	0	193
Northbound Total	218	218
Total	447	447



Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 590: Tacoma – Seattle****I-5 S****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Very Frequent
Off-Peak	Moderate
Evenings	Moderate
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:08 a.m.-6:24 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	82
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	176.50
Peak Buses	25
ANNUAL TOTALS	
Platform Hours	46,893
Trips	21,521

SERVICE CHANGES	
HISTORY	
Start Date	September 1991
Last Major Change	1999: Sound Transit assumes operation from Pierce Transit.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	23	No Weekend Service		23
Boardings per Trip	34			34
Subsidy per Boarding	\$5.54			\$5.54
Passenger Miles per Platform Mile	17			17



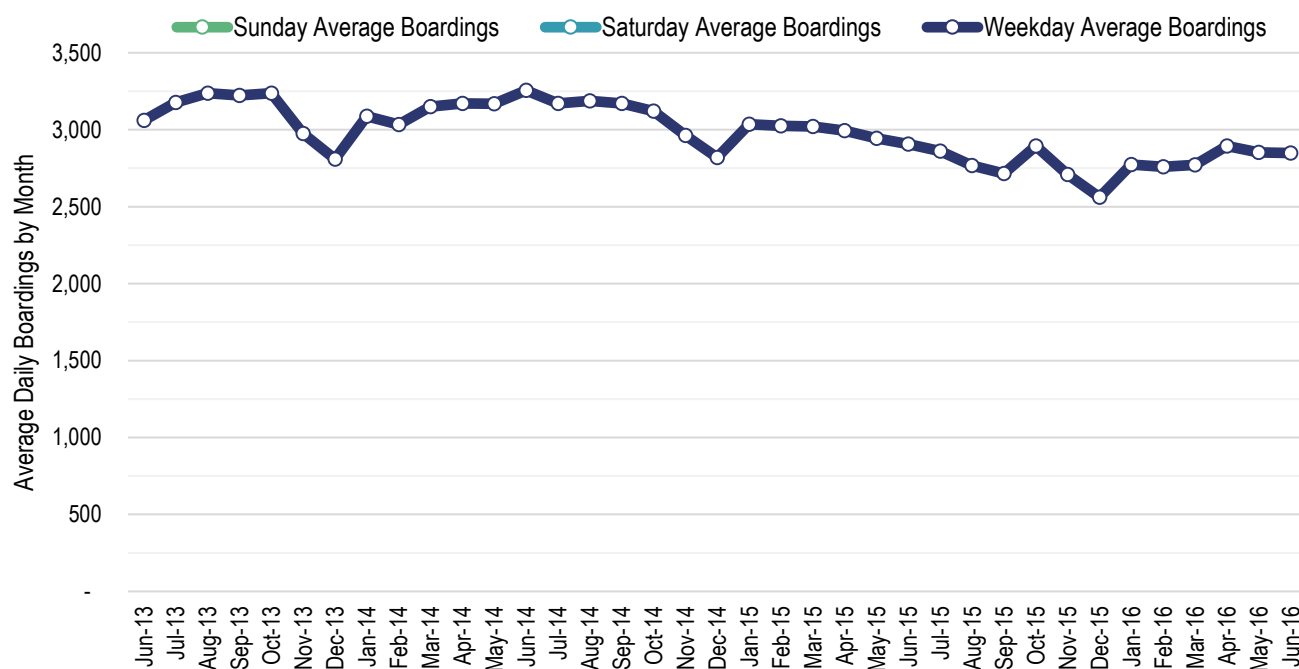


Route 590: Tacoma – Seattle

I-5 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	3,011	3,109	2,870	2,865
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

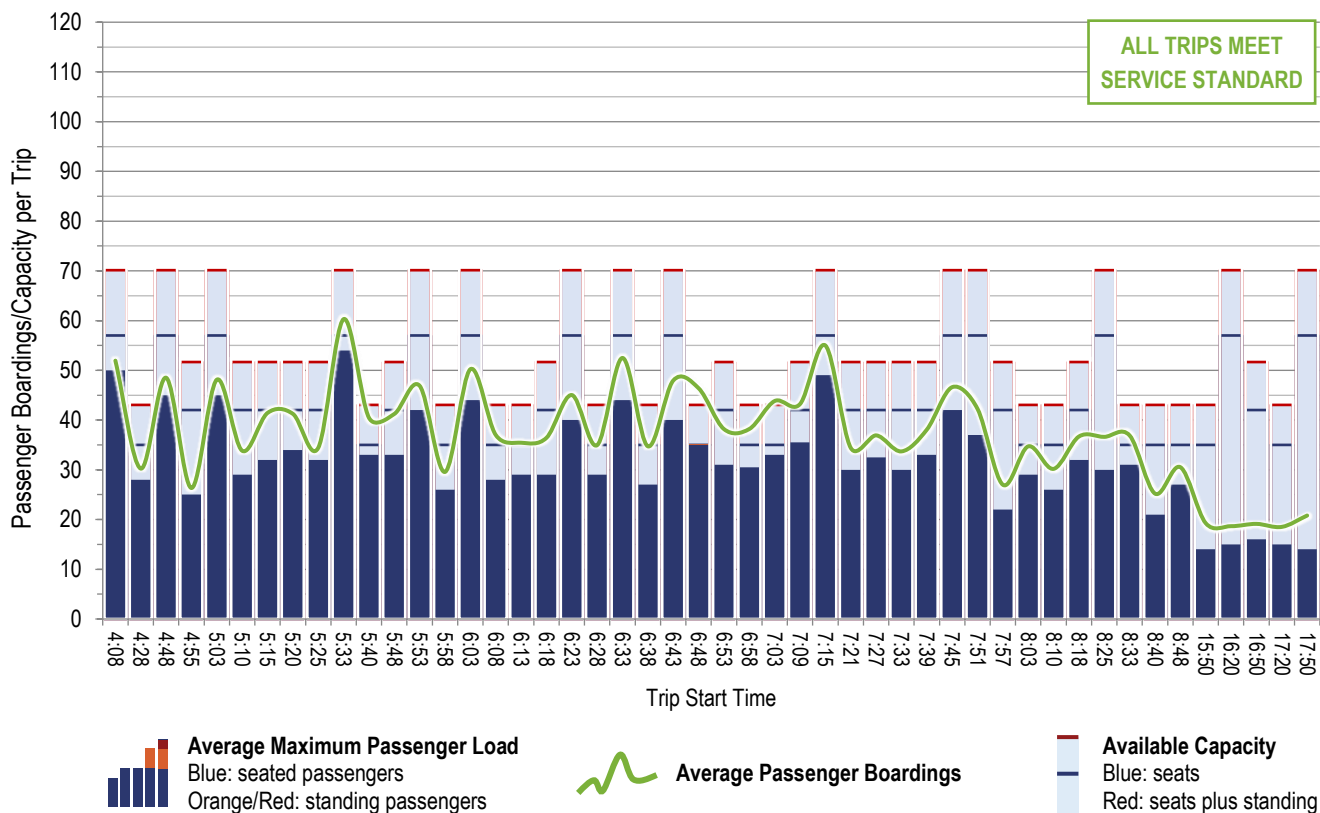




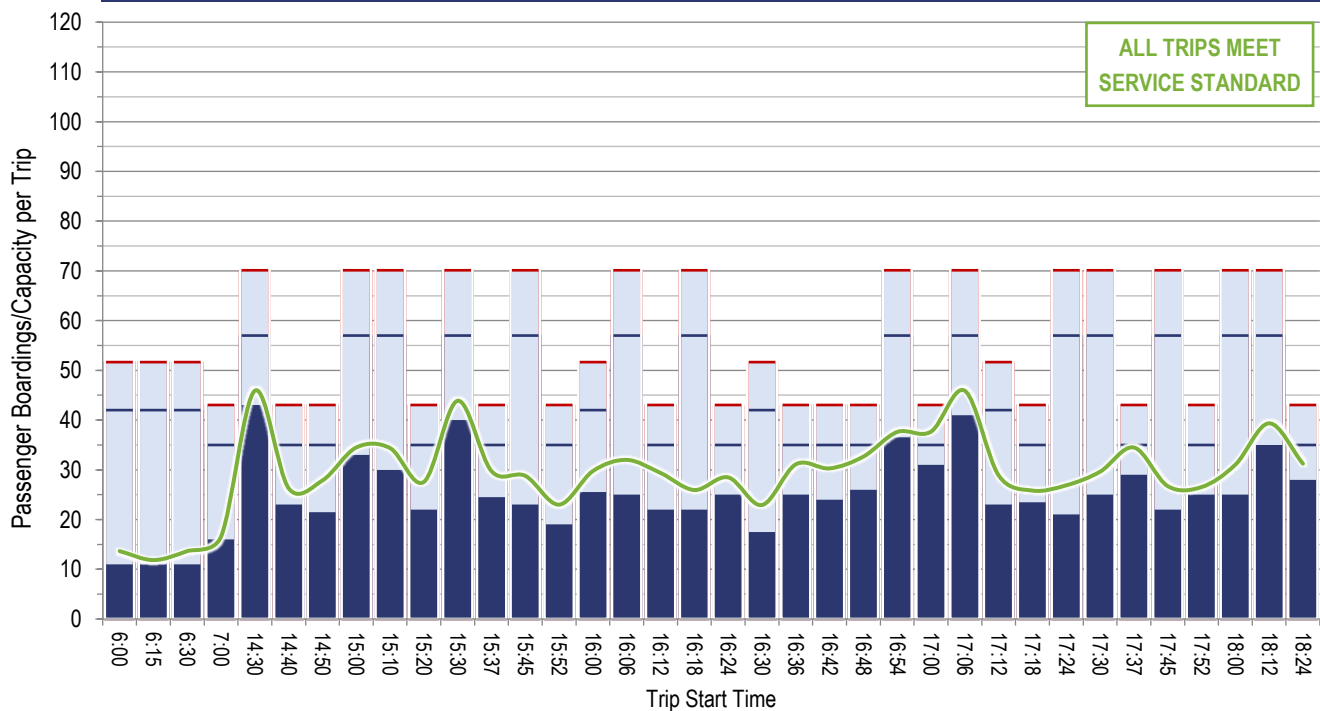
Route 590: Tacoma – Seattle

I-5 S

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 590: Tacoma – Seattle

I-5 S

NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Commerce St & 10th St	130	0
Pacific Ave & 14th St	44	3
Pacific Ave & 19th St	57	4
Pacific Ave & 24th St	64	5
Tacoma Dome Station	1,227	66
SODO Busway & Spokane St	20	82
SODO Busway & Lander St	26	101
SODO Busway & Holgate St	11	26
SODO Busway & Royal Brougham Way	7	42
4th Ave & S Jackson St	161	199
4th Ave & Washington St	9	49
4th Ave & Cherry St	17	366
4th Ave & Seneca St	14	288
4th Ave & Pike St	14	252
Olive Way & 6th Ave	12	133
Howell St & 9th Ave	3	66
Howell St & Yale Ave	2	45
Eastlake Ave & Stewart St	0	92
Northbound Total	1,818	1,818
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Eastlake Ave & Stewart St	68	0
Stewart St & Yale Ave	57	4
Stewart St & 9th Ave	75	6
Stewart St & 7th Ave	59	5
Stewart St & 4th Ave	71	13
2nd Ave & Stewart St	143	21
2nd Ave & Seneca St	206	14
2nd Ave & Cherry St	95	10
2nd Ave & Yesler Way	55	14
SODO Busway & Royal Brougham Way	38	10
SODO Busway & Holgate St	22	7
SODO Busway & Lander St	52	7
SODO Busway & Spokane St	58	8
Tacoma Dome Station	43	768
Pacific Ave & 24th St	2	23
Pacific Ave & 19th St	2	33
Pacific Ave & 14th St	2	34
Commerce St & 10th St	0	70
Southbound Total	1,047	1,047
Total	2,865	2,865



Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 592: Olympia – Lakewood – Seattle

I-5 S

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Frequent
Off-Peak	Moderate
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:05 a.m.-6:22 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	31
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	86.90
Peak Buses	11
ANNUAL TOTALS	
Platform Hours	23,698
Trips	7,951

SERVICE CHANGES	
HISTORY	
Start Date	September 1991
Last Major Change	2013: Route extended to Lacey and Olympia
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	16	No Weekend Service		16
Boardings per Trip	33			33
Subsidy per Boarding	\$9.19			\$9.19
Passenger Miles per Platform Mile	14			14



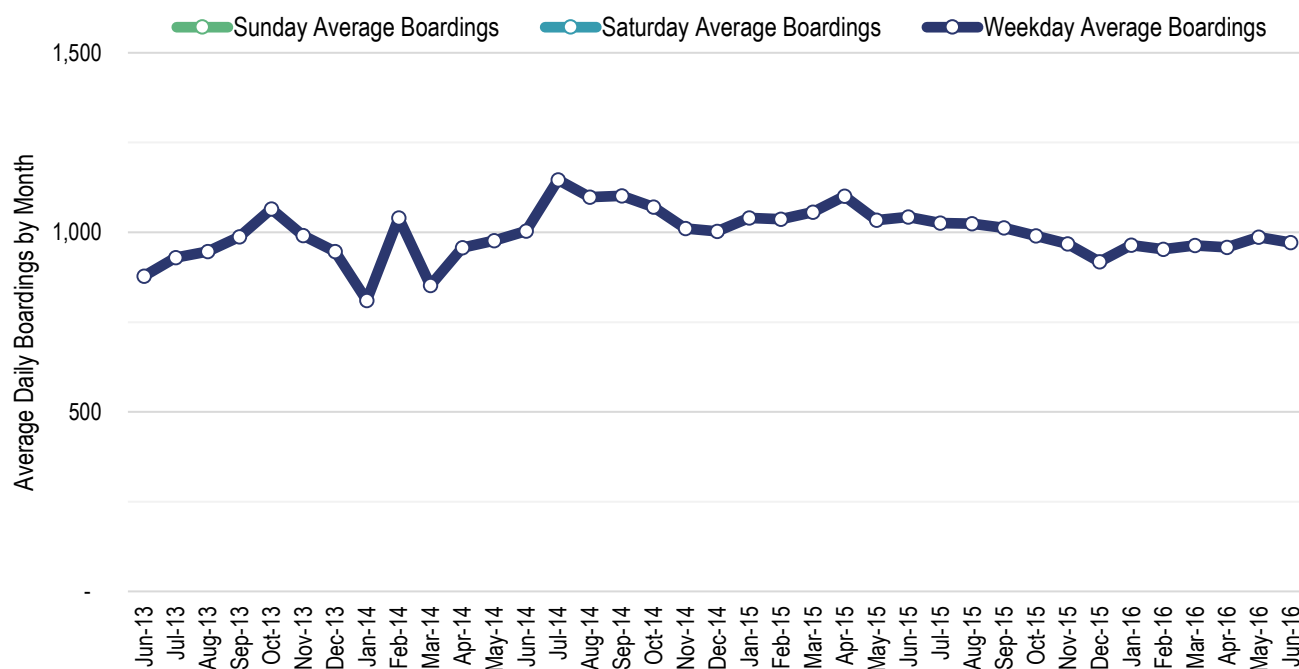


Route 592: Olympia – Lakewood – Seattle

I-5 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	947	1,006	1,021	972
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

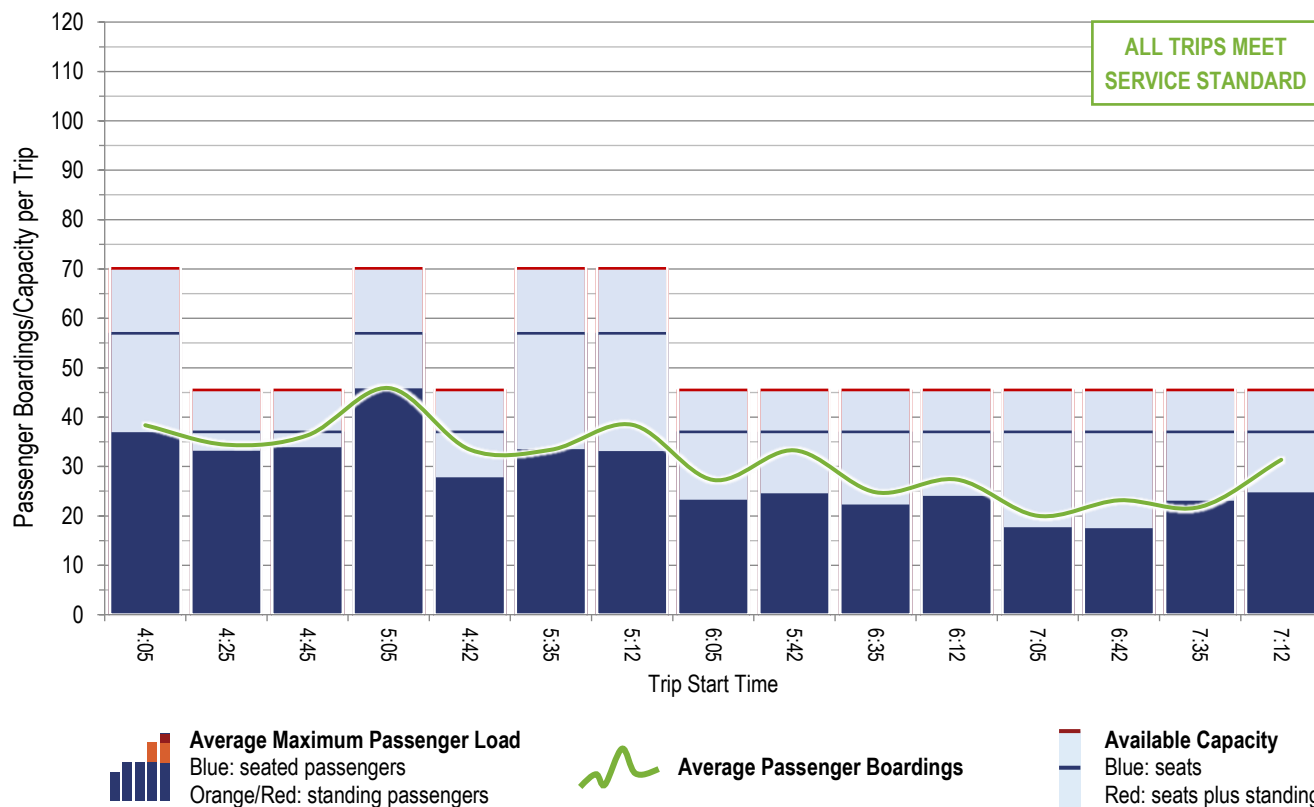




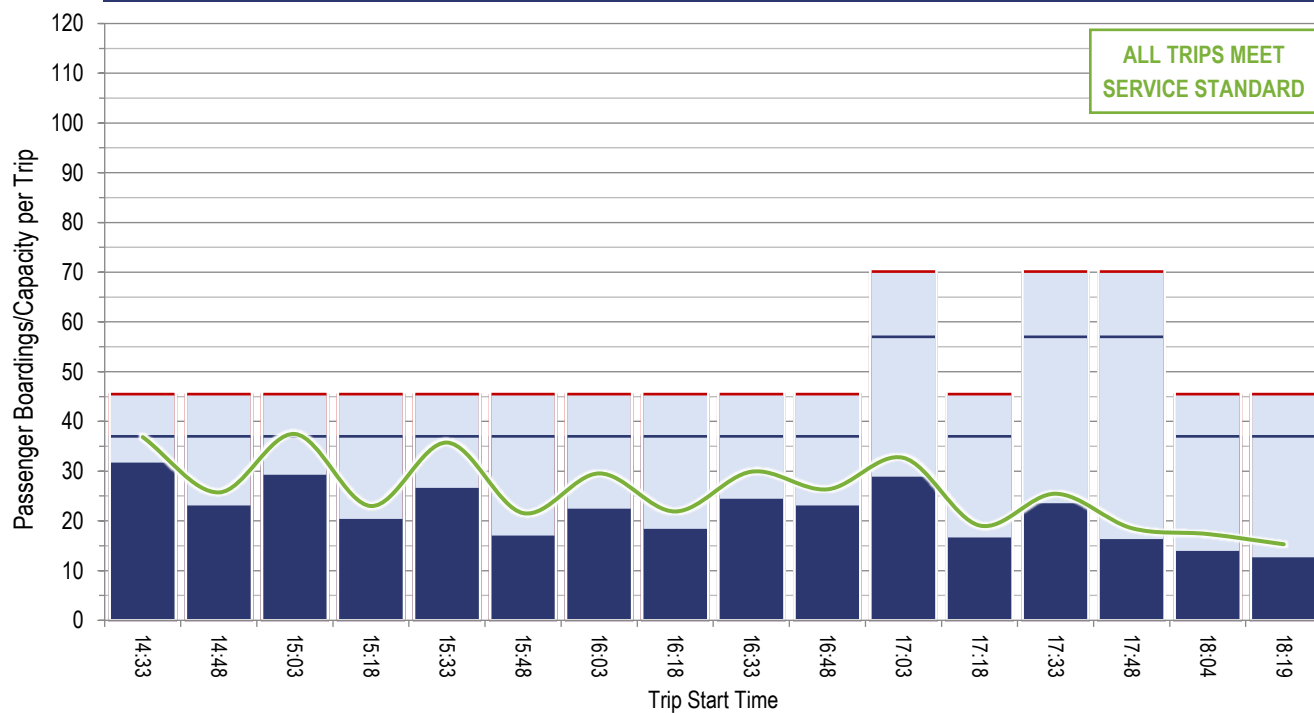
Route 592: Olympia – Lakewood – Seattle

I-5 S

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

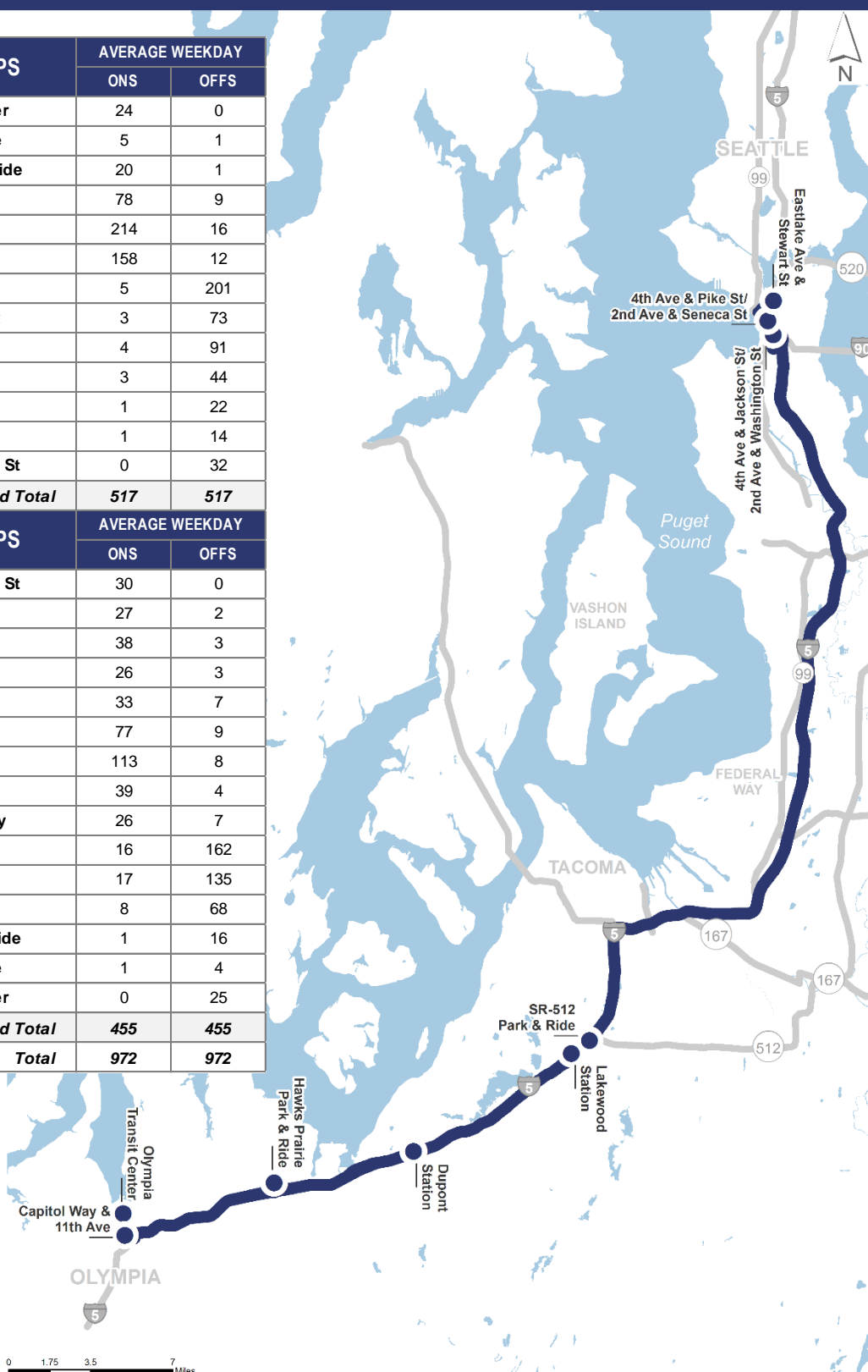




Route 592: Tacoma – Seattle

I-5 S

NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Olympia Transit Center	24	0
Capitol Way & 11th Ave	5	1
Hawk's Prairie Park & Ride	20	1
DuPont Station	78	9
Lakewood Station	214	16
SR-512 Park & Ride	158	12
5th Ave & Seneca St	5	201
4th Ave & University St	3	73
4th Ave & Pike St	4	91
Olive Way & 6th Ave	3	44
Howell St & 9th Ave	1	22
Howell St & Yale Ave	1	14
Eastlake Ave & Stewart St	0	32
Northbound Total	517	517
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Eastlake Ave & Stewart St	30	0
Stewart St & Yale Ave	27	2
Stewart St & 9th Ave	38	3
Stewart St & 7th Ave	26	3
Stewart St & 4th Ave	33	7
2nd Ave & Stewart St	77	9
2nd Ave & Seneca St	113	8
2nd Ave & Cherry St	39	4
2nd Ave & Yesler Way	26	7
SR-512 Park & Ride	16	162
Lakewood Station	17	135
DuPont Station	8	68
Hawks Prairie Park & Ride	1	16
Capitol Way & 11th Ave	1	4
Olympia Transit Center	0	25
Southbound Total	455	455
Total	972	972



Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 594: Lakewood – Seattle****I-5 S****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	Moderate
Evenings	Moderate
Saturday	Moderate
Sunday	Moderate
SPAN OF SERVICE	
Weekday	5:30 a.m.-11:45 p.m.
Saturday	5:00 a.m.-11:42 p.m.
Sunday	5:00 a.m.-11:42 p.m.
TRIPS PER DAY	
Weekday	65
Saturday	68
Sunday	68

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	130.17
Peak Buses	6
TYPICAL SATURDAY	
Platform Hours	124.87
TYPICAL SUNDAY	
Platform Hours	124.28
ANNUAL TOTALS	
Platform Hours	49,597
Trips	24,280

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	2015: Shoulder peak service improved to every 20 minutes.
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	17	20	16	18
Boardings per Trip	33	36	28	33
Subsidy per Boarding	\$5.89	\$4.71	\$6.53	\$5.79
Passenger Miles per Platform Mile	20	23	19	20



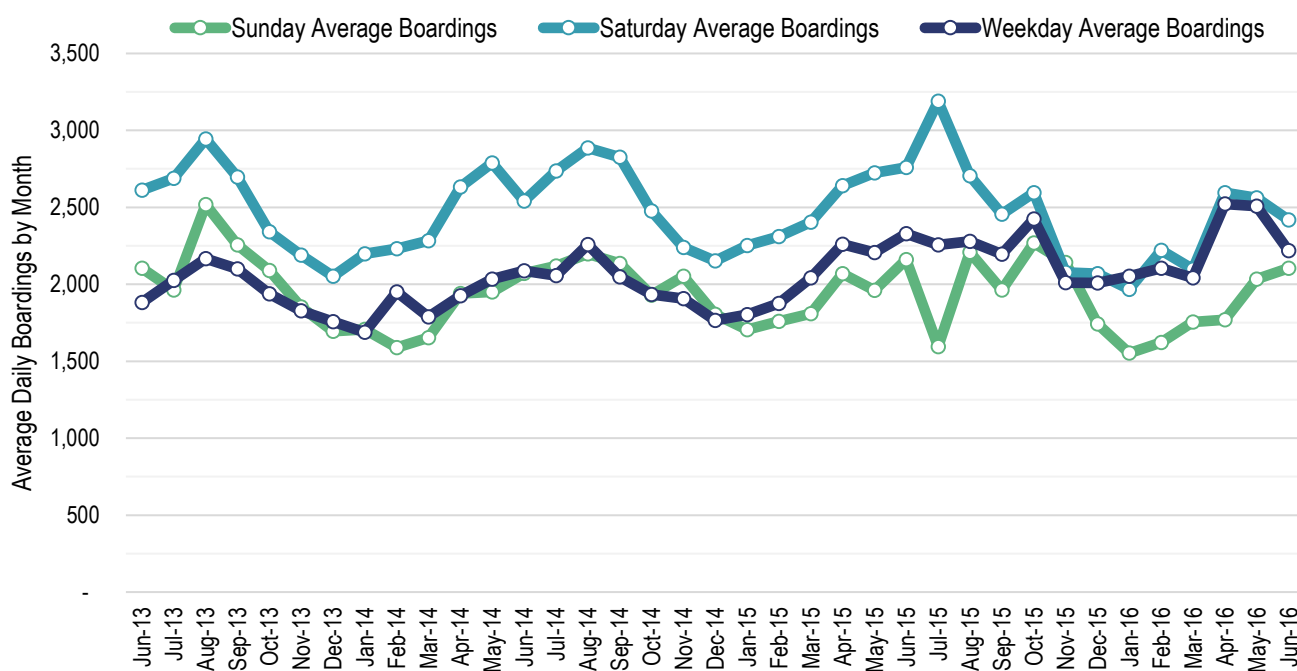


Route 594: Lakewood – Seattle

I-5 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	1,879	1,952	2,144	2,378
Average Saturday Boardings	2,386	2,503	2,519	2,457
Average Sunday Boardings	1,885	1,937	1,944	1,900

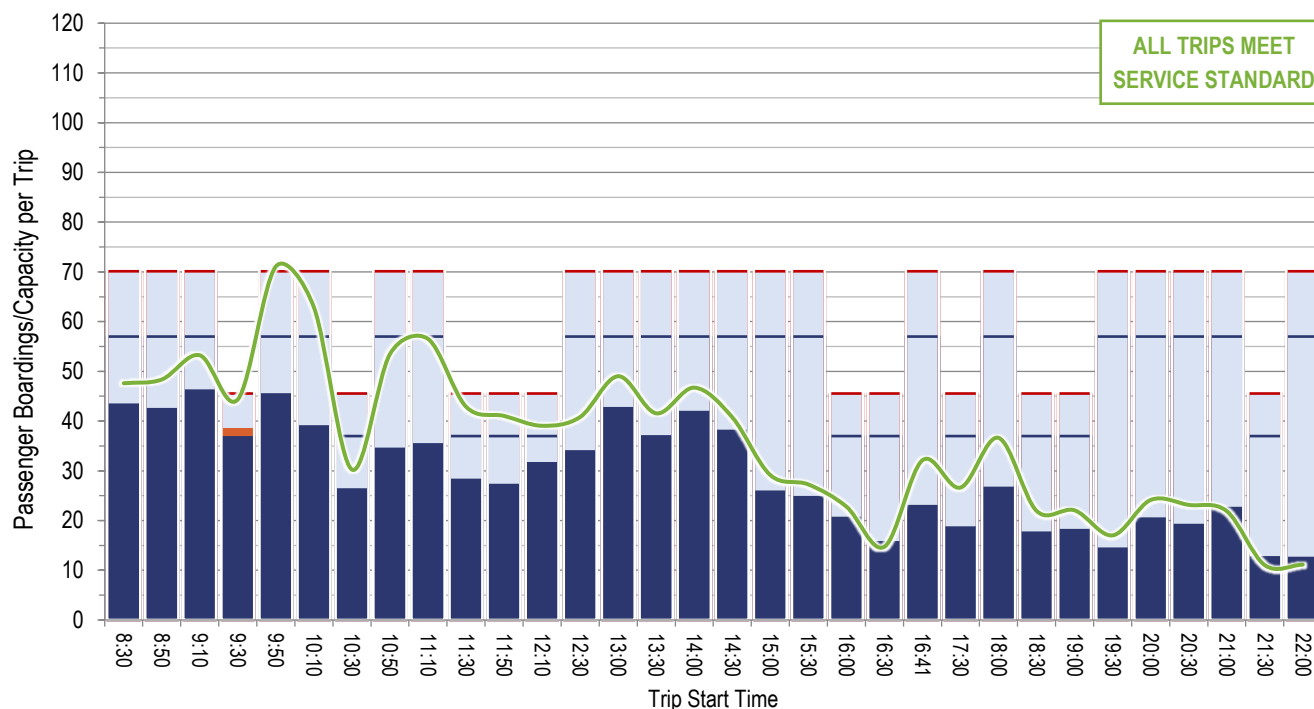




Route 594: Lakewood – Seattle

I-5 S

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

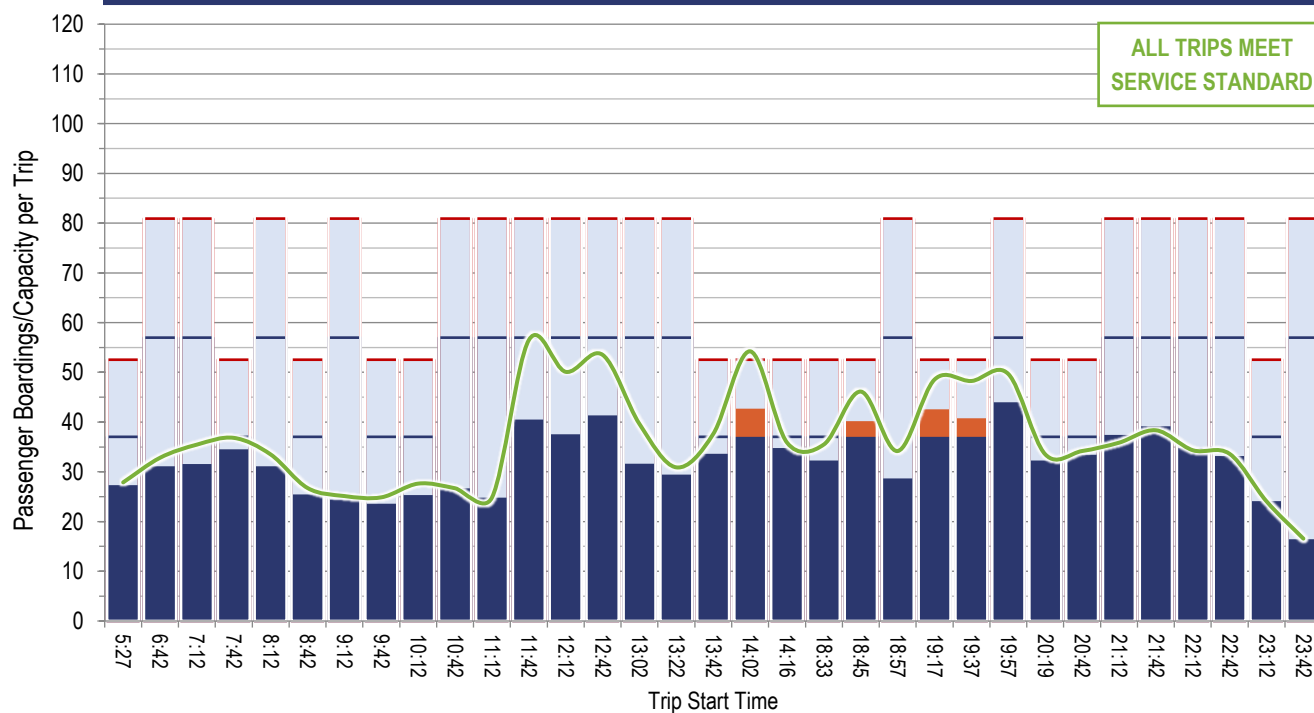


Average Maximum Passenger Load
 Blue: seated passengers
 Orange/Red: standing passengers

Average Passenger Boardings

Available Capacity
 Blue: seats
 Red: seats plus standing

SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

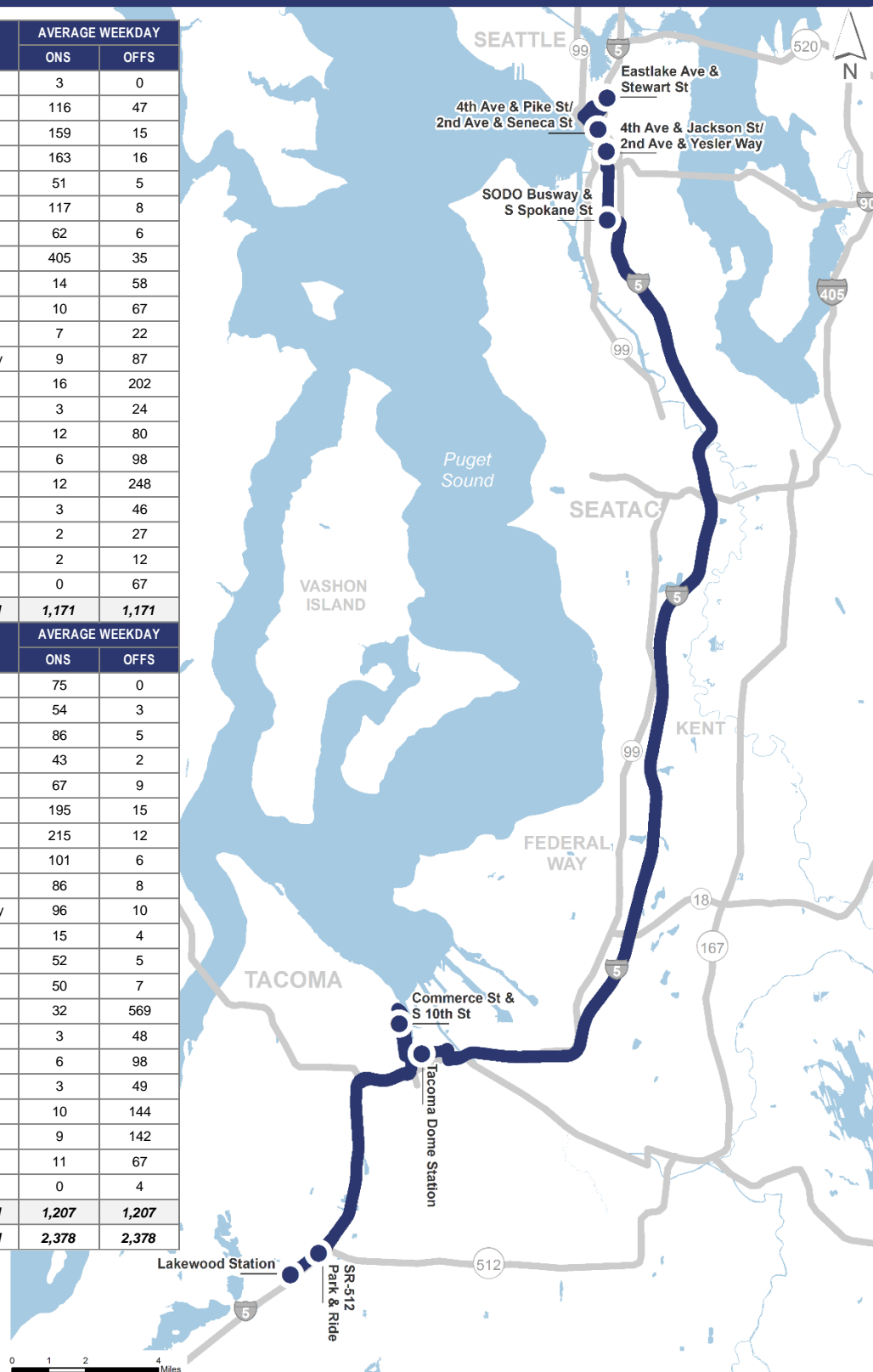




Route 594: Lakewood – Seattle

I-5 S

NORTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
DuPont Station	3	0
Lakewood Station	116	47
SR-512 Park & Ride	159	15
Commerce St & 10th St	163	16
Pacific Ave & 14th St	51	5
Pacific Ave & 19th St	117	8
24th St & Pacific Ave	62	6
Tacoma Dome Station	405	35
SODO Busway & Spokane St	14	58
SODO Busway & Lander St	10	67
SODO Busway & Holgate St	7	22
SODO Busway & Royal Brougham Way	9	87
4th Ave & S Jackson St	16	202
4th Ave & Washington St	3	24
4th Ave & Cherry St	12	80
4th Ave & Seneca St	6	98
4th Ave & Pike St	12	248
Olive Way & 6th Ave	3	46
Howell St & 9th Ave	2	27
Howell St & Yale Ave	2	12
Eastlake Ave & Stewart St	0	67
Northbound Total	1,171	1,171
SOUTHBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Eastlake Ave & Stewart St	75	0
Stewart St & Yale Ave	54	3
Stewart St & 9th Ave	86	5
Stewart St & 7th Ave	43	2
Stewart St & 4th Ave	67	9
2nd Ave & Stewart St	195	15
2nd Ave & Seneca St	215	12
2nd Ave & Cherry St	101	6
2nd Ave & Yesler Way	86	8
SODO Busway & Royal Brougham Way	96	10
SODO Busway & Holgate St	15	4
SODO Busway & Lander St	52	5
SODO Busway & Spokane St	50	7
Tacoma Dome Station	32	569
Pacific Ave & 24th St	3	48
Pacific Ave & 19th St	6	98
Pacific Ave & 14th St	3	49
Commerce St & 10th St	10	144
SR-512 Park & Ride	9	142
Lakewood Station	11	67
DuPont Station	0	4
Southbound Total	1,207	1,207
Total	2,378	2,378



Map only includes timepoint stops, table includes full list of stops with timepoints in bold

**Route 595: Gig Harbor – Seattle****I-5 S****OVERVIEW**

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	Moderate
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:50 a.m.-5:06 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	10
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	28.02
Peak Buses	4
ANNUAL TOTALS	
Platform Hours	7,649
One-Way Trips	2,545

SERVICE CHANGES	
HISTORY	
Start Date	September 1999
Last Major Change	N/A
PROPOSED	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	19	No Weekend Service		19
Boardings per Trip	37			37
Subsidy per Boarding	\$7.46			\$7.46
Passenger Miles per Platform Mile	16			16



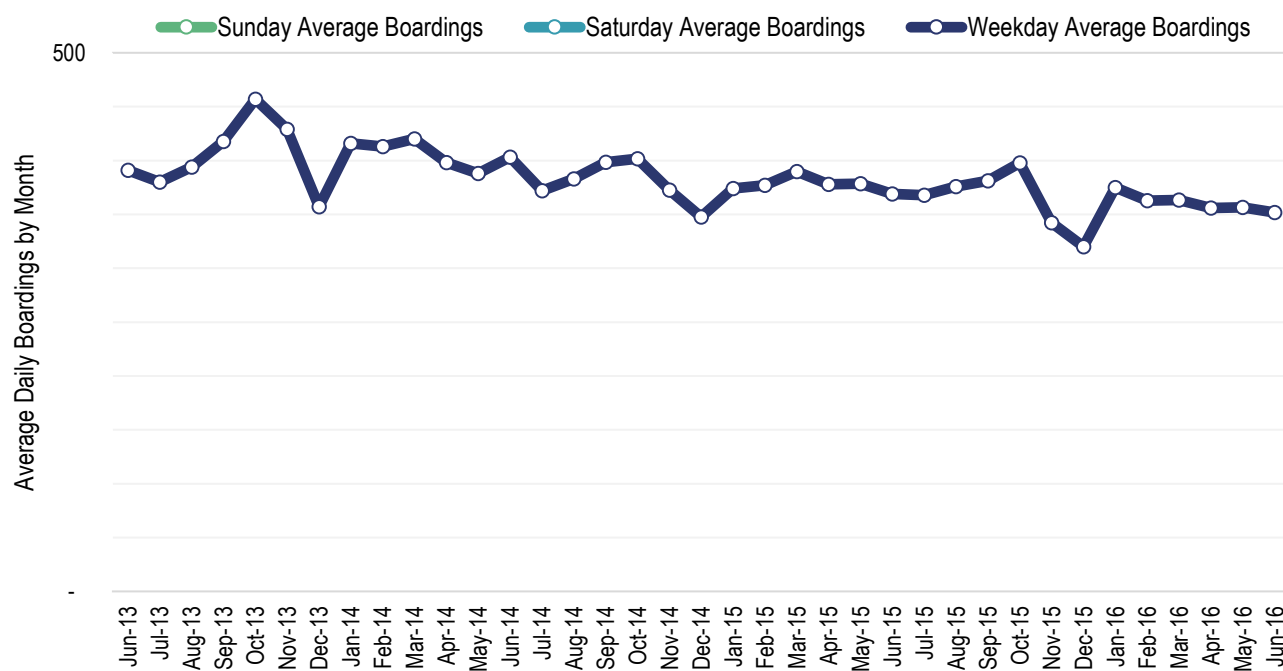


Route 595: Gig Harbor – Seattle

I-5 S

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	404	393	371	355
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

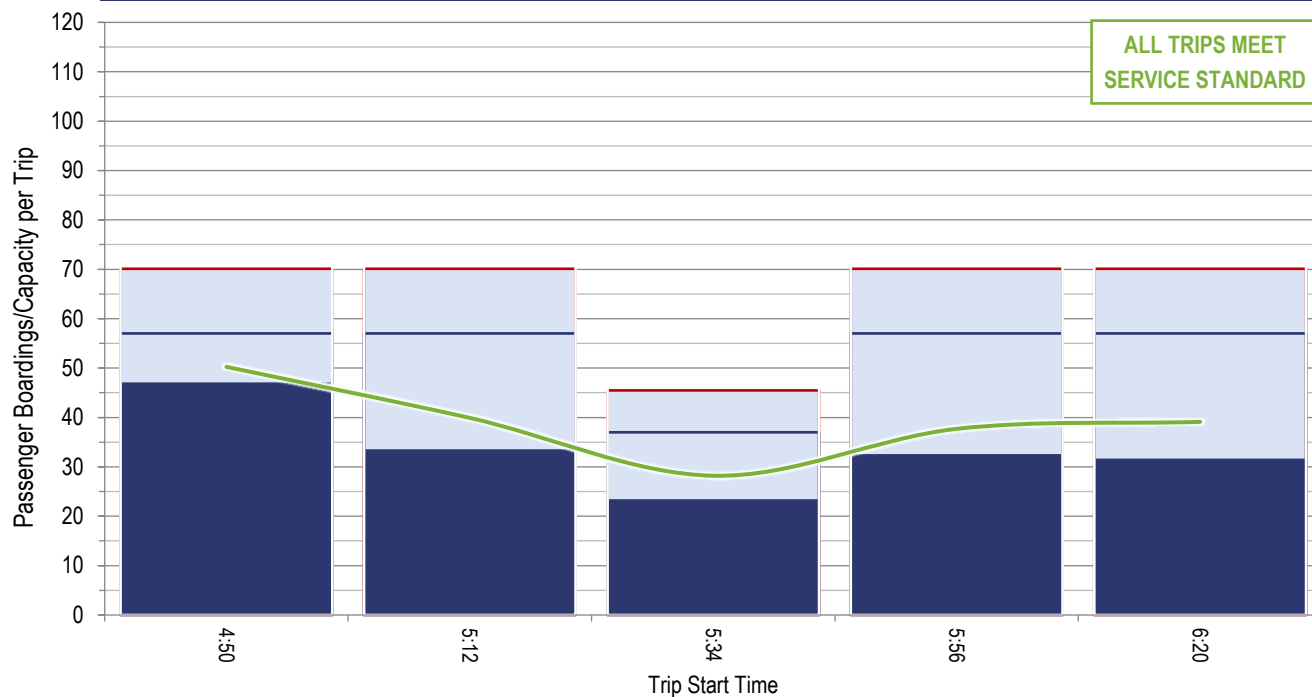




Route 595: Gig Harbor – Seattle

I-5 S

NORTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS

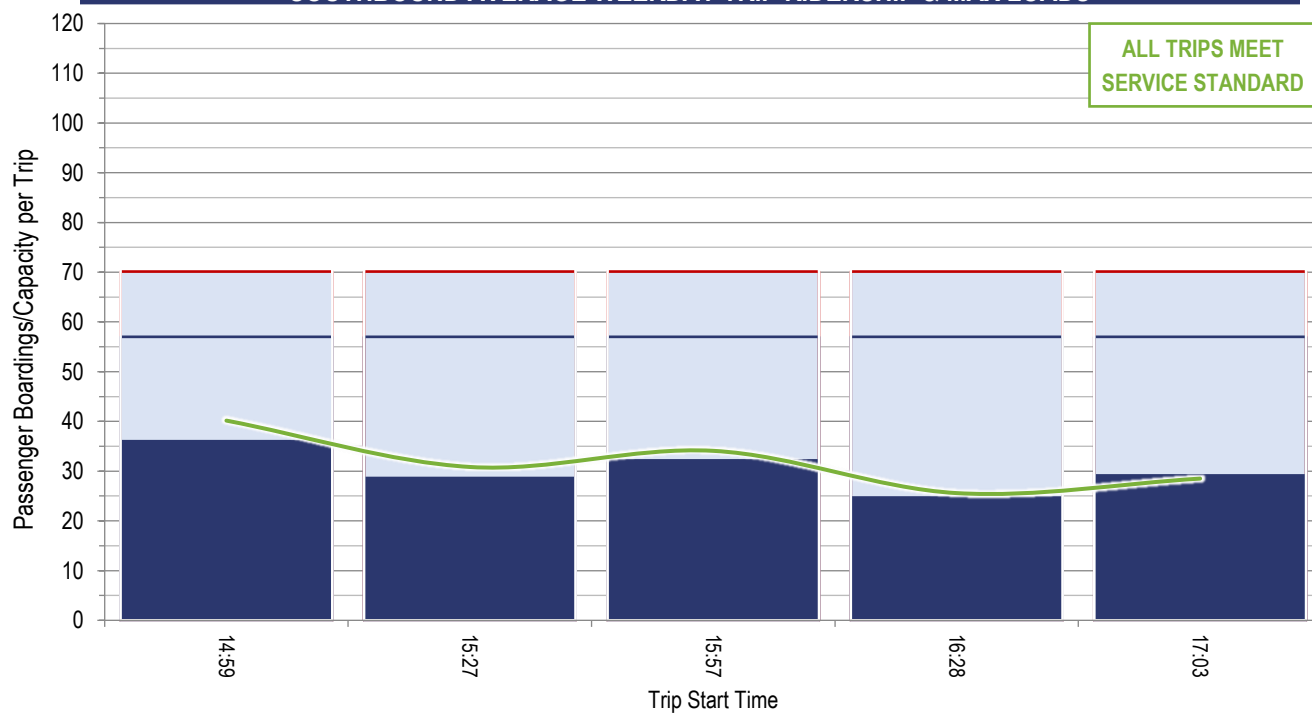


Average Maximum Passenger Load
 Blue: seated passengers
 Orange/Red: standing passengers

Average Passenger Boardings

Available Capacity
 Blue: seats
 Red: seats plus standing

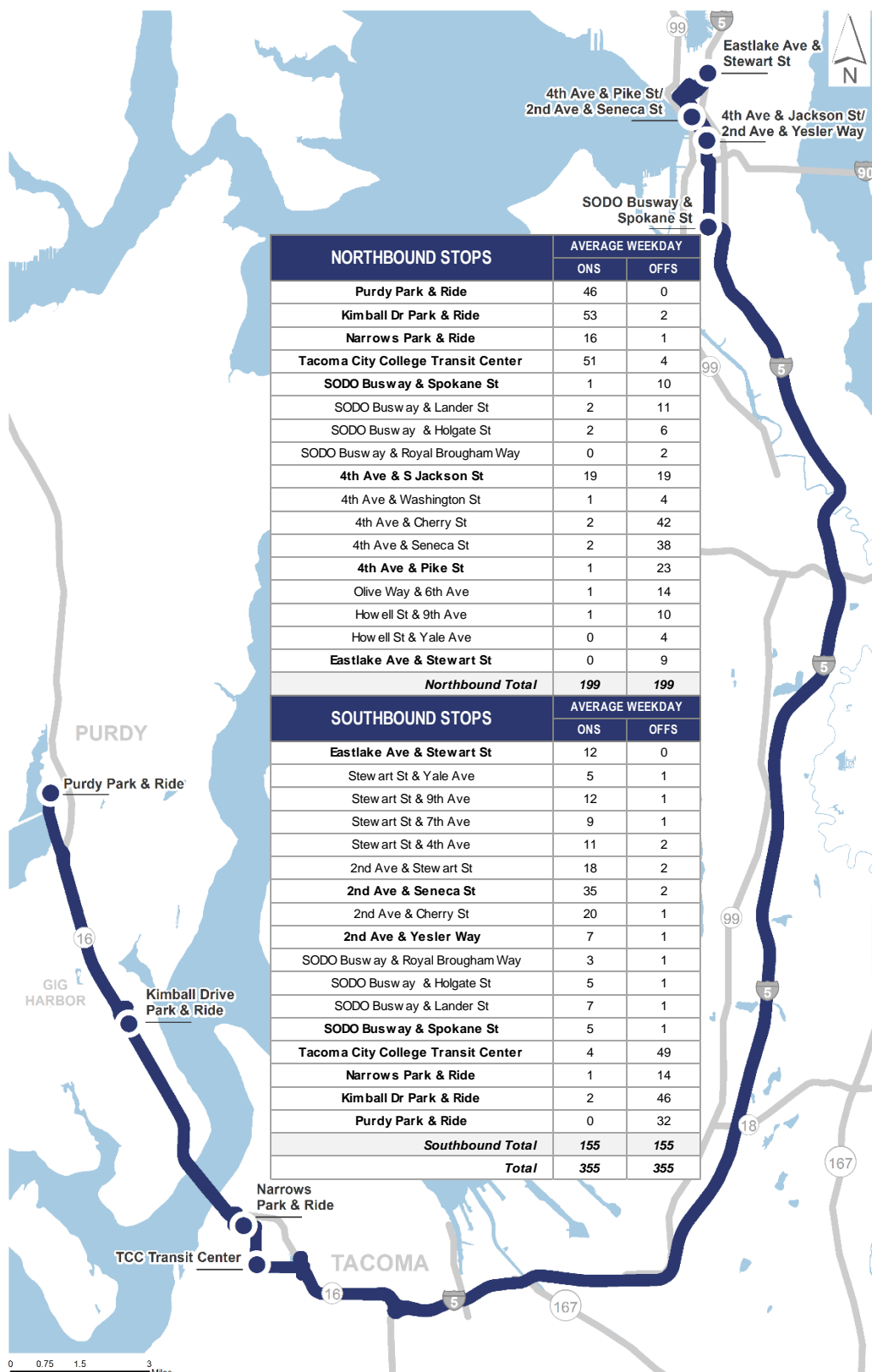
SOUTHBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 595: Gig Harbor – Seattle

I-5 S



Map only includes timepoint stops, table includes full list of stops with timepoints in bold



Route 596: Bonney Lake – Sumner

**SOUNDER
CONNECTOR**

OVERVIEW

SERVICE LEVELS	
SERVICE FREQUENCY	
Peak	Moderate
Off-Peak	Moderate
Evenings	No Service
Saturday	No Service
Sunday	No Service
SPAN OF SERVICE	
Weekday	4:54 a.m.-6:58 p.m.
Saturday	-
Sunday	-
TRIPS PER DAY	
Weekday	16
Saturday	-
Sunday	-

SERVICE PROVIDED	
TYPICAL WEEKDAY	
Platform Hours	13.43
Peak Buses	2
ANNUAL TOTALS	
Platform Hours	3,431
Trips	4,078

SERVICE CHANGES	
HISTORY	
Start Date	June 2012
Last Major Change	N/A
PROPOSED	
Additional trips to meet the new Sounder South Line round-trips.	

KEY PERFORMANCE INDICATORS

2015	WEEKDAY	SATURDAY	SUNDAY	OVERALL
Boardings per Revenue Hour	64	No Weekend Service		64
Boardings per Trip	29			29
Subsidy per Boarding	\$2.53			\$2.53
Passenger Miles per Platform Mile	9			9



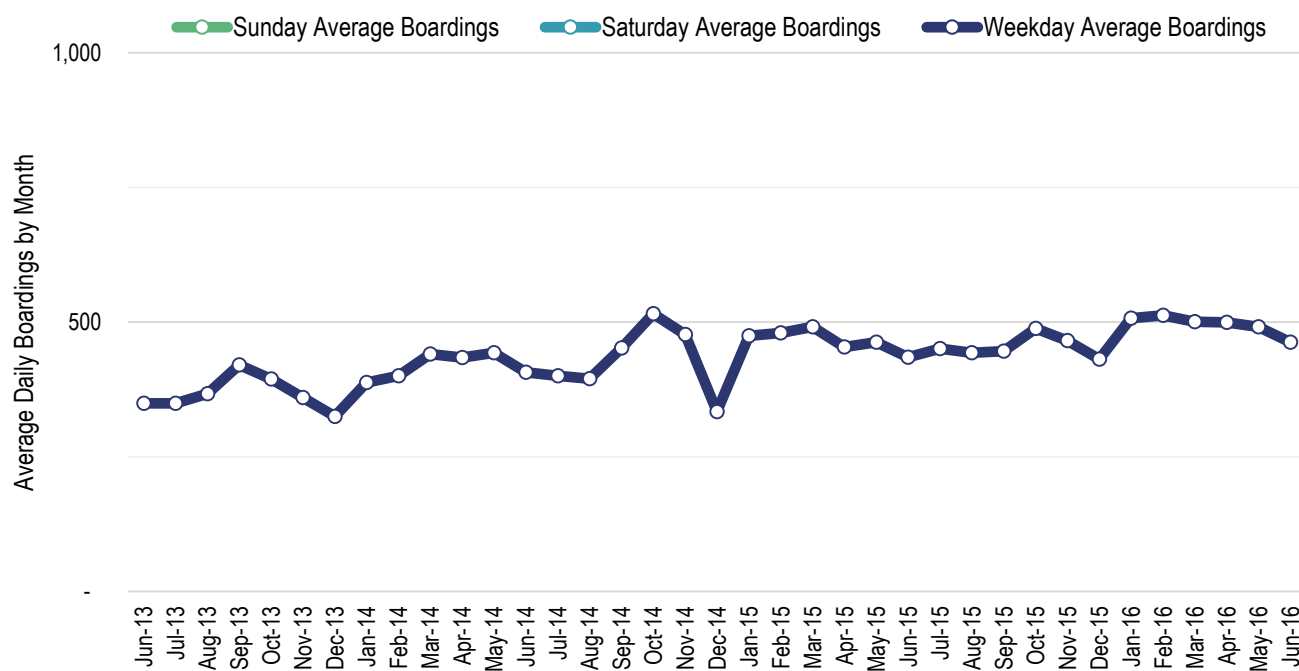


Route 596: Bonney Lake – Sumner

**SOUNDER
CONNECTOR**

RIDERSHIP

	2013	2014	2015	SPRING 2016
Average Weekday Boardings	358	424	460	484
Average Saturday Boardings	No Weekend Service			
Average Sunday Boardings				

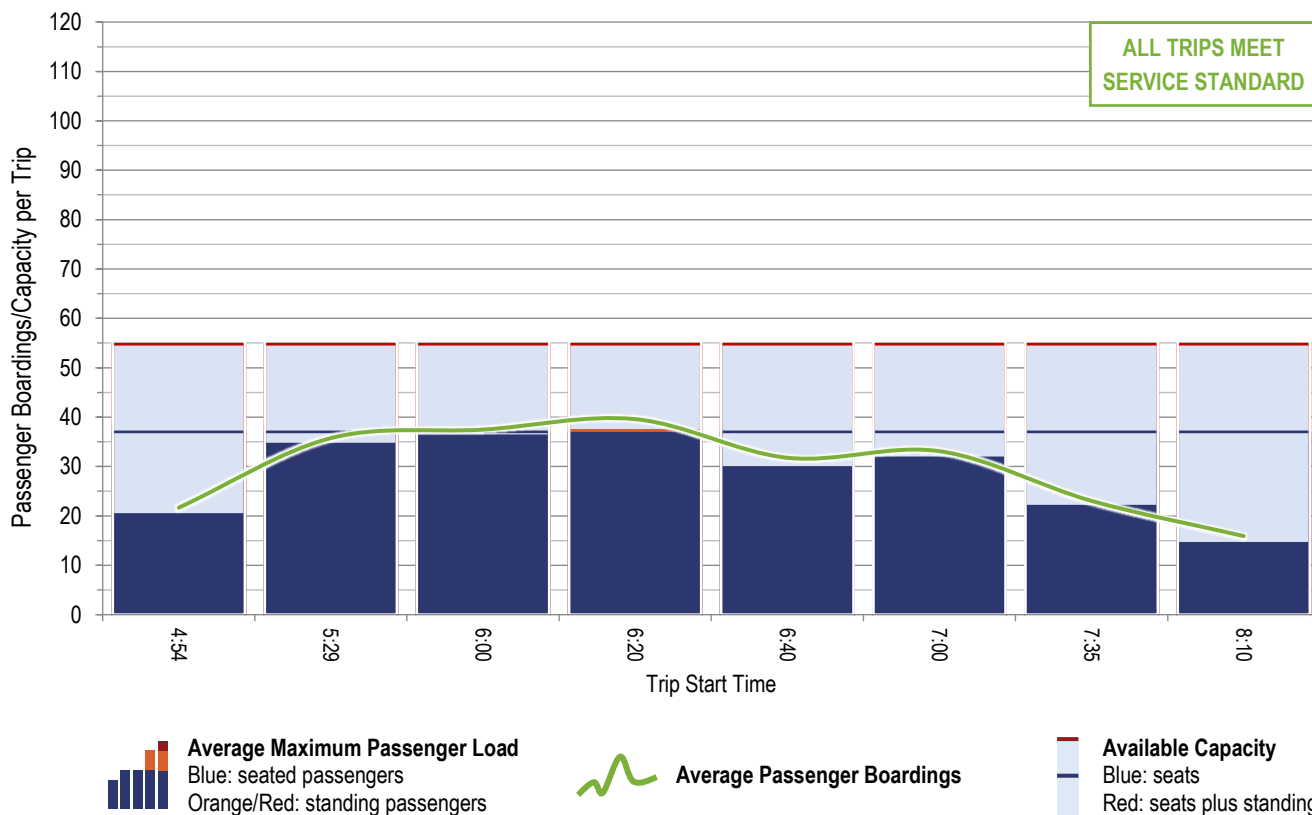




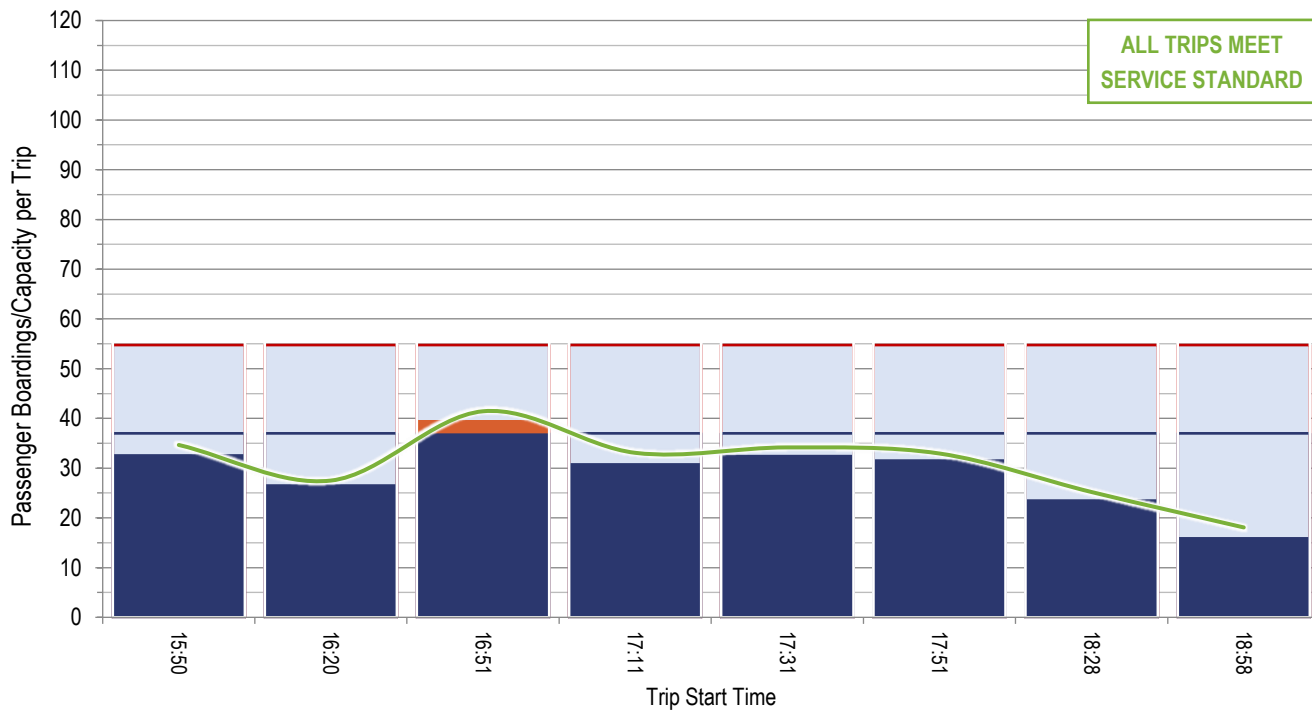
Route 596: Bonney Lake – Sumner

**SOUNDER
CONNECTOR**

WESTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS



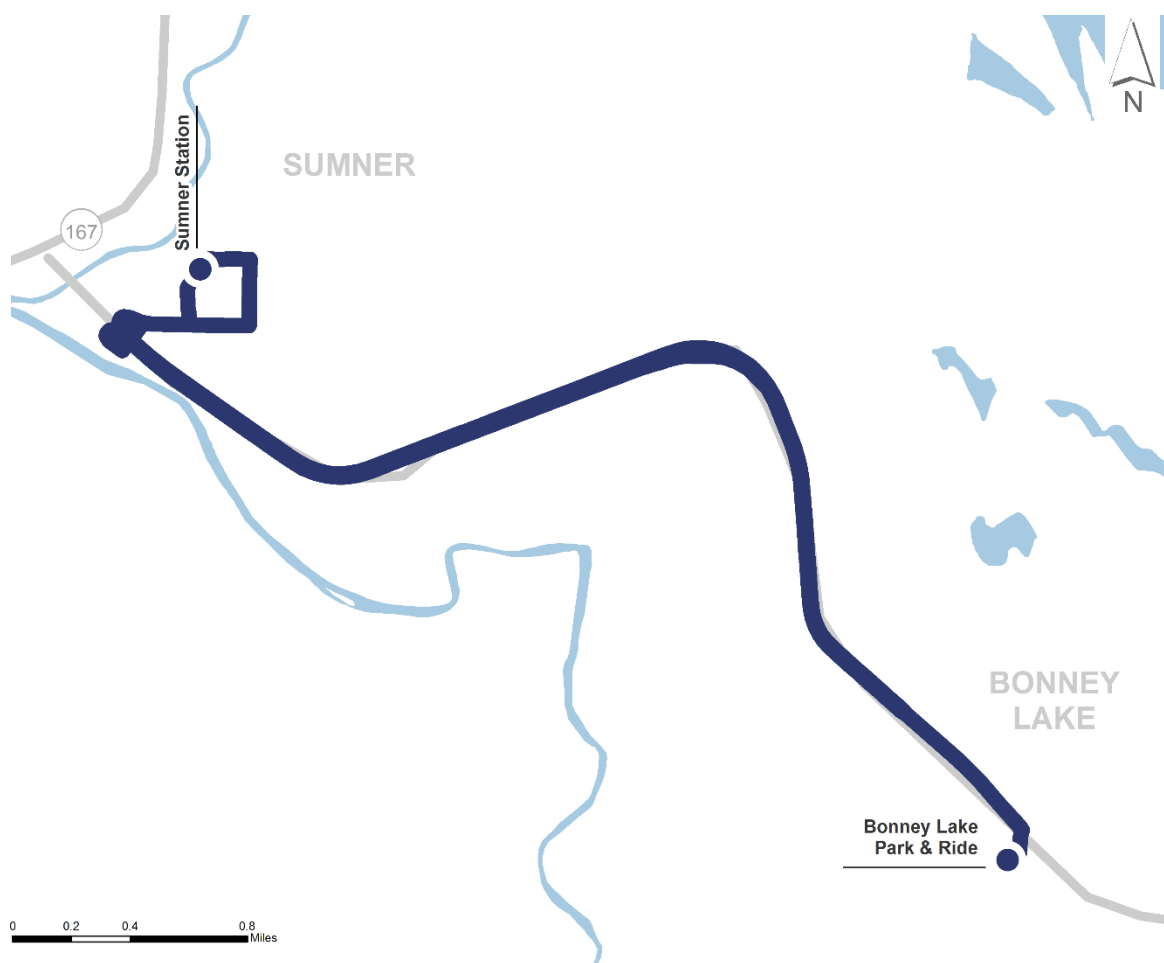
EASTBOUND AVERAGE WEEKDAY TRIP RIDERSHIP & MAX LOADS





Route 596: Bonney Lake – Sumner

SOUNDER
CONNECTOR



EASTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Sumner Station	251	0
Bonney Lake Park & Ride	0	251
Eastbound Total	251	251
WESTBOUND STOPS	AVERAGE WEEKDAY	
	ONS	OFFS
Bonney Lake Park & Ride	233	0
Sumner Station	0	233
Westbound Total	233	233
Total	484	484

Map only includes timepoint stops, table includes full list of stops with timepoints in bold

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APPENDIX



Appendix

ST EXPRESS ON-TIME PERFORMANCE BY ROUTE

TABLE 37: ST EXPRESS ON TIME PERFORMANCE BY ROUTE – WEEKDAYS (2016)

Bold: Performance below budget standard of >85%.

ROUTE	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
510	89%	88%	85%	86%	88%	80%	79%	79%	85%
511	85%	87%	83%	85%	82%	77%	79%	76%	83%
512	91%	95%	90%	90%	91%	85%	84%	82%	88%
513	85%	84%	79%	84%	83%	76%	76%	73%	82%
532	98%	97%	95%	94%	97%	96%	95%	94%	96%
535	97%	98%	98%	98%	97%	97%	95%	94%	96%
522	87%	88%	87%	87%	87%	85%	85%	84%	82%
540	76%	77%	79%	74%	74%	74%	76%	77%	70%
541	-	-	-	85%	84%	80%	76%	83%	83%
542	95%	92%	92%	88%	88%	85%	84%	86%	82%
545	86%	87%	85%	88%	88%	87%	87%	84%	85%
550	83%	83%	83%	86%	86%	86%	88%	87%	87%
554	89%	89%	88%	89%	89%	86%	88%	86%	86%
555	65%	64%	67%	71%	71%	71%	74%	71%	70%
556	73%	69%	68%	70%	70%	67%	64%	68%	70%
560	82%	83%	81%	84%	79%	74%	81%	79%	75%
566	83%	83%	82%	86%	82%	79%	81%	82%	78%
567	91%	92%	91%	91%	92%	79%	84%	85%	87%
574	80%	79%	77%	80%	79%	71%	67%	70%	72%
577	68%	67%	58%	66%	61%	50%	65%	69%	70%
578	64%	67%	63%	79%	76%	69%	70%	70%	70%
580	71%	70%	72%	75%	75%	69%	72%	70%	68%
586	86%	83%	84%	82%	82%	80%	79%	84%	85%
590	81%	81%	79%	80%	78%	68%	69%	70%	68%
592	81%	85%	80%	71%	68%	62%	62%	65%	65%
594	80%	81%	78%	86%	83%	79%	80%	81%	78%
595	77%	83%	83%	85%	86%	77%	77%	76%	75%
596	87%	92%	89%	92%	89%	78%	83%	85%	83%

SYSTEM-WIDE ESTIMATED RIDERSHIP 2015-2022

TABLE 38 ESTIMATED ANNUAL BOARDINGS BY MODE 2015-2022

MODE	2015	2016	2017	2018	2019	2020	2021	2022
	Actual	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
ST Express	18,312,624	18,470,000	18,680,000	18,920,000	19,200,000	19,490,000	19,780,000	20,020,000
Sounder	3,851,831	4,120,000	4,480,000	4,740,000	4,990,000	5,230,000	5,440,000	5,600,000
Link	11,530,411	18,500,000	22,900,000	24,400,000	24,700,000	25,100,000	28,700,000	42,600,000
Tacoma Link	973,412	1,010,000	1,040,000	1,070,000	1,100,000	1,140,000	1,180,000	1,350,000
Paratransit	46,033	70,000	80,000	80,000	80,000	80,000	90,000	110,000
System Total	34,714,311	42,170,000	47,170,000	49,210,000	50,080,000	51,040,000	55,190,000	69,680,000

TABLE 39 ESTIMATED AVERAGE WEEKDAY BOARDINGS BY MODE 2015-2022

MODE	2015	2016	2017	2018	2019	2020	2021	2022
	Actual	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
ST Express	62,997	64,300	65,000	65,800	66,800	67,700	68,700	70,500
Sounder	14,775	15,500	16,900	17,800	18,800	19,700	20,400	21,100
Link	35,429	56,100	69,400	73,900	74,800	76,100	87,000	129,100
Tacoma Link	3,303	3,400	3,500	3,600	3,700	3,900	4,000	4,500
Paratransit	126	204	210	216	223	229	248	292
System Total	116,600	139,500	155,000	161,300	164,300	167,600	180,300	225,500

ESTIMATED HOURS AND MILES BY MODE 2015-2022

Link Estimated Hours and Miles 2015-2022

Link includes both train and vehicle statistics to reflect operation of multiple cars within an individual train. As a reference, values from 2015, 2016, and 2017 are included in the table. In 2017 Link service statistics increase as a result of a full year of operation on extensions to the University of Washington and Angle Lake. Additionally, in 2017 operation of a mix of 2- and 3-car trains during the peak increases vehicle statistics over previous year's projections. Link service statistics stabilize between 2018 and 2020 before increasing in 2021 and 2022 with the anticipated opening of Northgate Link in late 2021.

TABLE 40: LINK SERVICE HOURS AND MILES 2015-2022

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES	REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
		Train Statistics				Vehicle Statistics			
2015	Actual	73,124	75,805	1,363,485	1,405,035	145,847	151,196	2,719,160	2,796,020
2016	Estimated	88,576	94,289	1,753,805	1,819,769	183,384	188,577	3,631,003	3,639,538
2017	Estimated	95,511	102,281	1,891,118	1,974,023	214,900	230,132	4,255,015	4,441,552
2018	Estimated	95,700	102,400	1,894,200	1,975,600	215,300	230,300	4,262,000	4,445,200
2019	Estimated	95,700	102,400	1,894,200	1,975,600	215,300	230,300	4,262,000	4,445,200
2020	Estimated	96,000	102,700	1,899,800	1,981,500	215,900	231,000	4,274,600	4,458,400
2021	Estimated	97,200	104,100	1,925,500	2,008,200	389,000	416,200	7,701,900	8,033,000
2022	Estimated	101,300	108,300	2,004,800	2,091,000	405,000	433,400	8,019,200	8,363,800

Tacoma Link Estimated Hours and Miles by Route 2015-2022

Since Tacoma Link operates as a one-car train, train and vehicle statistics are identical. As a reference, values from 2015, 2016, and 2017 are included in the table. Tacoma Link service statistics remain stable through 2021, before increasing in 2022 when the extension is scheduled to open. The estimated service statistics for 2022 are subject to change, as they depend on the final alignment, project timeline, and service plan of the Tacoma Link expansion, which are still in development.

TABLE 41: TACOMA LINK SERVICE HOURS AND MILES 2015-2022

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
		Train & Vehicle Statistics			
2015	Actual	9,814	9,848	75,567	76,842
2016	Estimated	9,749	9,882	75,091	75,368
2017	Estimated	9,900	10,035	76,000	76,280
2018	Estimated	9,900	10,000	76,000	76,300
2019	Estimated	9,900	10,000	76,000	76,300
2020	Estimated	9,900	10,000	76,000	76,300
2021	Estimated	9,900	10,000	76,000	76,300
2022	Estimated	16,400	16,600	125,700	126,200

Sounder Estimated Hours and Miles by Route 2015-2022

Sounder statistics increase in 2017 due to a full year of operation of the roundtrip added in September 2016 and a partial year of operation of the two new roundtrips planned for September 2017. As a note, 2016 and 2017 vehicle statistics reflect the operation of the new 2016 midday train as a two-car train until mid-2017. When the new cab cars are delivered, the train will become a standard seven-car south line trainset. Hours and miles continue to increase in 2018 to reflect the full year of operation of the new trains planned for September 2017 and operation of the 2016 midday train as a full seven-car trainset.

TABLE 42: SOUNDER SERVICE HOURS AND MILES 2015-2022

YEAR		REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES	REVENUE HOURS	PLATFORM HOURS	REVENUE MILES	PLATFORM MILES
		Train Statistics				Vehicle Statistics			
	North line								
2015	Actual	2,684	2,874	69,353	71,505	7,163	7,670	185,521	191,240
2016	Estimated	2,890	3,073	75,070	76,826	7,256	7,683	186,501	192,066
2017	Estimated	2,890	3,073	75,070	76,826	7,225	7,683	187,676	192,066
2018	Estimated	2,900	3,100	75,100	76,800	7,200	7,700	187,700	192,100
2019	Estimated	2,900	3,100	75,100	76,800	7,200	7,700	187,700	192,100
2020	Estimated	2,900	3,100	75,100	76,800	7,200	7,700	187,700	192,100
2021	Estimated	2,900	3,100	75,100	76,800	7,200	7,700	187,700	192,100
2022	Estimated	2,900	3,100	75,100	76,800	7,200	7,700	187,700	192,100
	South Line								
2015	Actual	7,371	7,941	228,248	235,484	51,597	55,588	1,597,733	1,648,387
2016	Estimated	7,587	8,135	238,730	244,648	52,181	55,661	1,623,389	1,673,623
2017	Estimated	8,584	9,245	271,063	278,204	59,351	63,896	1,873,581	1,922,665
2018	Estimated	9,700	10,400	305,700	314,200	67,600	73,000	2,140,100	2,199,300
2019	Estimated	9,700	10,400	305,700	314,200	67,600	73,000	2,140,100	2,199,300
2020	Estimated	9,700	10,400	305,700	314,200	67,600	73,000	2,140,100	2,199,300
2021	Estimated	9,700	10,400	305,700	314,200	67,600	73,000	2,140,100	2,199,300
2022	Estimated	9,700	10,400	305,700	314,200	67,600	73,000	2,140,100	2,199,300
	Sounder Total								
2015	Actual	10,055	10,815	297,601	306,989	58,760	63,258	1,783,254	1,839,627
2016	Estimated	10,478	11,208	313,800	321,474	59,437	63,344	1,809,890	1,865,689
2017	Estimated	11,474	12,318	346,133	355,030	66,576	71,578	2,061,257	2,114,731
2018	Estimated	12,600	13,500	380,800	391,000	74,800	80,700	2,327,800	2,391,400
2019	Estimated	12,600	13,500	380,800	391,000	74,800	80,700	2,327,800	2,391,400
2020	Estimated	12,600	13,500	380,800	391,000	74,800	80,700	2,327,800	2,391,400
2021	Estimated	12,600	13,500	380,800	391,000	74,800	80,700	2,327,800	2,391,400
2022	Estimated	12,600	13,500	380,800	391,000	74,800	80,700	2,327,800	2,391,400

ST Express Estimated Hours and Miles by Route 2015-2022

Increases in estimated service statistics for ST Express reflect a full year of operation of 2016 service additions. Implementation of additional hours across the system beginning in September 2017 to improve service quality add prorated increase of 6,428 service hours to the 2017 estimate. Service hours and miles continue to increase through 2018 as the September 2017 service quality investment operate for a full year. Beyond 2018 service stabilizes to reflect the existing operating and capital funding levels planned for ST Express.

TABLE 43: ST EXPRESS PLATFORM HOURS 2015-2022

ROUTE	2015	2016	2017	2018	2019	2020	2021	2022
	Actual	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
510	Everett-Seattle	19,504	19,632	19,602	19,600	19,600	19,600	19,600
511	Lynnwood-Seattle	17,506	17,420	17,434	17,400	17,400	17,400	17,400
512	Everett-Lynnwood-Seattle	59,775	57,532	57,509	57,500	57,500	57,500	57,500
513	Eastmont-Seattle	10,184	10,433	10,401	10,400	10,400	10,400	10,400
522	Lynnwood-Bellevue	54,256	55,002	54,755	54,800	54,800	54,800	54,800
532	Woodinville-Seattle	18,074	17,967	18,700	18,700	18,700	18,700	18,700
535	Everett-Bellevue	23,479	23,675	24,640	24,600	24,600	24,600	24,600
540	Kirkland-U. District	8,341	8,429	8,465	8,500	8,500	8,500	8,500
541	Overlake-U. District	-	8,026	10,591	10,600	10,600	10,600	10,600
542	Redmond-U. District	17,889	21,414	22,654	22,700	22,700	22,700	22,700
545	Redmond-Seattle	72,289	74,268	79,190	79,200	79,200	79,200	79,200
550	Bellevue-Seattle	55,514	56,837	57,257	57,300	57,300	57,300	57,300
554	Issaquah-Seattle	33,641	39,567	41,223	41,200	41,200	41,200	41,200
555	Northgate-Issaquah	6,451	6,552	7,168	7,200	7,200	7,200	7,200
556	Issaquah-Northgate	8,332	8,359	8,960	9,000	9,000	9,000	9,000
560	West Seattle-Airport-Seattle	38,923	38,264	36,691	36,700	36,700	36,700	36,700
566	Auburn-Overlake	30,901	31,026	31,082	31,100	31,100	31,100	31,100
567	Kent-Overlake	10,802	11,303	11,648	11,600	11,600	11,600	11,600
574	Lakewood-Sea-Tac	43,675	43,763	43,822	43,800	43,800	43,800	43,800
577	Federal Way-Seattle	20,630	22,691	22,903	22,900	22,900	22,900	22,900
578	Puyallup-Seattle	31,107	33,390	34,172	34,200	34,200	34,200	34,200
580	Lakewood-Puyallup	1,410	5,803	6,246	6,200	6,200	6,200	6,200
586	Tacoma-U. District	11,152	11,143	11,325	11,300	11,300	11,300	11,300
590	Tacoma-Seattle	46,893	47,191	46,828	46,800	46,800	46,800	46,800
592	DuPont-Tacoma-Seattle	23,698	23,273	23,395	23,400	23,400	23,400	23,400
594	Lakewood-Tacoma-Seattle	47,312	48,213	48,366	48,400	48,400	48,400	48,400
595	Gig Harbor	7,649	7,439	7,444	7,400	7,400	7,400	7,400
596	Bonney Lake-Sumner	3,431	3,694	4,050	4,000	4,000	4,000	4,000
2017 SIP Investments		-	-	6,428	15,000	15,000	15,000	15,000
Regular Service Total		722,817	752,307	772,948	781,500	781,500	781,500	781,500
Schedule Maintenance & Extra		5,130	4,500	4,500	4,500	4,500	4,500	4,500
Total Budgeted		727,947	756,807	777,448	786,000	786,000	786,000	786,000

TABLE 44: ST EXPRESS REVENUE HOURS 2015-2022

ROUTE		2015	2016	2017	2018	2019	2020	2021	2022
		Actual	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
510	Everett-Seattle	11,959	12,038	12,020	12,000	12,000	12,000	12,000	12,000
511	Lynnwood-Seattle	8,573	8,531	8,538	8,500	8,500	8,500	8,500	8,500
512	Everett-Lynnwood-Seattle	43,977	42,327	42,310	42,300	42,300	42,300	42,300	42,300
513	Eastmont-Seattle	6,121	6,271	6,252	6,300	6,300	6,300	6,300	6,300
522	Lynnwood-Bellevue	45,069	45,689	45,484	45,500	45,500	45,500	45,500	45,500
532	Woodinville-Seattle	11,100	11,034	11,484	11,500	11,500	11,500	11,500	11,500
535	Everett-Bellevue	16,932	17,073	17,769	17,800	17,800	17,800	17,800	17,800
540	Kirkland-U. District	6,818	6,889	6,919	6,900	6,900	6,900	6,900	6,900
541	Overlake-U. District	-	6,546	8,638	8,600	8,600	8,600	8,600	8,600
542	Redmond-U. District	14,759	17,667	18,690	18,700	18,700	18,700	18,700	18,700
545	Redmond-Seattle	63,738	65,484	69,823	69,800	69,800	69,800	69,800	69,800
550	Bellevue-Seattle	48,278	49,429	49,794	49,800	49,800	49,800	49,800	49,800
554	Issaquah-Seattle	29,163	34,301	35,736	35,700	35,700	35,700	35,700	35,700
555	Northgate-Issaquah	5,525	5,611	6,139	6,100	6,100	6,100	6,100	6,100
556	Issaquah-Northgate	6,650	6,671	7,151	7,200	7,200	7,200	7,200	7,200
560	West Seattle-Airport-Seattle	33,292	32,729	31,383	31,400	31,400	31,400	31,400	31,400
566	Auburn-Overlake	20,802	20,886	20,924	20,900	20,900	20,900	20,900	20,900
567	Kent-Overlake	4,739	4,959	5,110	5,100	5,100	5,100	5,100	5,100
574	Lakewood-Sea-Tac	38,166	38,243	38,294	38,300	38,300	38,300	38,300	38,300
577	Federal Way-Seattle	10,233	11,256	11,361	11,400	11,400	11,400	11,400	11,400
578	Puyallup-Seattle	27,791	29,831	30,530	30,500	30,500	30,500	30,500	30,500
580	Lakewood-Puyallup	1,048	4,312	4,642	4,600	4,600	4,600	4,600	4,600
586	Tacoma-U. District	5,981	5,976	6,073	6,100	6,100	6,100	6,100	6,100
590	Tacoma-Seattle	31,532	31,732	31,488	31,500	31,500	31,500	31,500	31,500
592	DuPont-Tacoma-Seattle	16,566	16,270	16,355	16,400	16,400	16,400	16,400	16,400
594	Lakewood-Tacoma-Seattle	43,705	44,537	44,678	44,700	44,700	44,700	44,700	44,700
595	Gig Harbor	5,165	5,023	5,026	5,000	5,000	5,000	5,000	5,000
596	Bonney Lake-Sumner	1,797	1,934	2,121	2,100	2,100	2,100	2,100	2,100
2017 SIP Investments		-	-	4,317	11,500	11,500	11,500	11,500	11,500
Regular Service Total		559,478	583,248	599,048	606,200	606,200	606,200	606,200	606,200
Schedule Maintenance & Extra		3,936	3,452	3,452	3,500	3,500	3,500	3,500	3,500
Total Budgeted		563,414	586,700	602,500	609,700	609,700	609,700	609,700	609,700

TABLE 45: ST EXPRESS PLATFORM MILES 2015-2022

ROUTE		2015	2016	2017	2018	2019	2020	2021	2022
		Actual	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
510	Everett-Seattle	501,234	504,530	503,760	503,800	503,800	503,800	503,800	503,800
511	Lynnwood-Seattle	427,759	425,667	425,990	426,000	426,000	426,000	426,000	426,000
512	Everett-Lynnwood-Seattle	1,401,890	1,349,286	1,348,756	1,348,800	1,348,800	1,348,800	1,348,800	1,348,800
513	Eastmont-Seattle	251,698	257,856	257,069	257,100	257,100	257,100	257,100	257,100
522	Lynnwood-Bellevue	934,983	947,840	943,580	943,600	943,600	943,600	943,600	943,600
532	Woodinville-Seattle	311,464	309,621	322,247	322,200	322,200	322,200	322,200	322,200
535	Everett-Bellevue	404,607	407,991	424,607	424,600	424,600	424,600	424,600	424,600
540	Kirkland-U. District	132,618	134,007	134,589	134,600	134,600	134,600	134,600	134,600
541	Overlake-U. District	-	132,886	175,355	175,400	175,400	175,400	175,400	175,400
542	Redmond-U. District	286,172	342,570	362,408	362,400	362,400	362,400	362,400	362,400
545	Redmond-Seattle	1,167,115	1,199,073	1,278,532	1,278,500	1,278,500	1,278,500	1,278,500	1,278,500
550	Bellevue-Seattle	801,044	820,139	826,198	826,200	826,200	826,200	826,200	826,200
554	Issaquah-Seattle	628,429	739,140	770,066	770,100	770,100	770,100	770,100	770,100
555	Northgate-Issaquah	126,535	128,518	140,605	140,600	140,600	140,600	140,600	140,600
556	Issaquah-Northgate	170,423	170,965	183,267	183,300	183,300	183,300	183,300	183,300
560	West Seattle-Airport-Seattle	772,227	759,157	727,938	727,900	727,900	727,900	727,900	727,900
566	Auburn-Overlake	726,496	729,435	730,761	730,800	730,800	730,800	730,800	730,800
567	Kent-Overlake	303,740	317,825	327,518	327,500	327,500	327,500	327,500	327,500
574	Lakewood-Sea-Tac	946,089	947,995	949,275	949,300	949,300	949,300	949,300	949,300
577	Federal Way-Seattle	585,123	643,599	649,612	649,600	649,600	649,600	649,600	649,600
578	Puyallup-Seattle	785,280	842,907	862,660	862,700	862,700	862,700	862,700	862,700
580	Lakewood-Puyallup	24,809	102,106	109,911	109,900	109,900	109,900	109,900	109,900
586	Tacoma-U. District	341,174	340,892	346,456	346,500	346,500	346,500	346,500	346,500
590	Tacoma-Seattle	1,170,262	1,177,694	1,168,633	1,168,600	1,168,600	1,168,600	1,168,600	1,168,600
592	DuPont-Tacoma-Seattle	663,209	651,339	654,731	654,700	654,700	654,700	654,700	654,700
594	Lakewood-Tacoma-Seattle	1,127,892	1,149,359	1,153,006	1,153,000	1,153,000	1,153,000	1,153,000	1,153,000
595	Gig Harbor	215,964	210,041	210,176	210,200	210,200	210,200	210,200	210,200
596	Bonney Lake-Sumner	67,041	72,164	79,126	79,100	79,100	79,100	79,100	79,100
2017 SIP Investments		-	-	138,082	322,200	322,200	322,200	322,200	322,200
Regular Service Total		15,275,275	15,814,603	16,204,911	16,389,000	16,389,000	16,389,000	16,389,000	16,389,000
Schedule Maintenance & Extra		110,208	96,665	96,665	96,700	96,700	96,700	96,700	96,700
Total Budgeted		15,385,483	15,911,267	16,301,575	16,485,700	16,485,700	16,485,700	16,485,700	16,485,700

TABLE 46: ST EXPRESS REVENUE MILES 2015-2022

ROUTE		2015	2016	2017	2018	2019	2020	2021	2022
		Actual	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
510	Everett-Seattle	310,572	312,615	312,138	312,100	312,100	312,100	312,100	312,100
511	Lynnwood-Seattle	193,319	192,374	192,520	192,500	192,500	192,500	192,500	192,500
512	Everett-Lynnwood-Seattle	1,151,810	1,108,590	1,108,154	1,108,200	1,108,200	1,108,200	1,108,200	1,108,200
513	Eastmont-Seattle	142,280	145,761	145,316	145,300	145,300	145,300	145,300	145,300
522	Lynnwood-Bellevue	690,245	699,736	696,591	696,600	696,600	696,600	696,600	696,600
532	Woodinville-Seattle	323,181	321,268	334,369	334,400	334,400	334,400	334,400	334,400
535	Everett-Bellevue	424,946	428,501	445,952	446,000	446,000	446,000	446,000	446,000
540	Kirkland-U. District	101,284	102,345	102,789	102,800	102,800	102,800	102,800	102,800
541	Overlake-U. District	-	107,652	142,056	142,100	142,100	142,100	142,100	142,100
542	Redmond-U. District	229,121	274,276	290,159	290,200	290,200	290,200	290,200	290,200
545	Redmond-Seattle	965,865	992,313	1,058,070	1,058,100	1,058,100	1,058,100	1,058,100	1,058,100
550	Bellevue-Seattle	659,783	675,512	680,502	680,500	680,500	680,500	680,500	680,500
554	Issaquah-Seattle	513,780	604,294	629,577	629,600	629,600	629,600	629,600	629,600
555	Northgate-Issaquah	104,811	106,453	116,465	116,500	116,500	116,500	116,500	116,500
556	Issaquah-Northgate	125,752	126,152	135,230	135,200	135,200	135,200	135,200	135,200
560	West Seattle-Airport-Seattle	557,877	548,435	525,881	525,900	525,900	525,900	525,900	525,900
566	Auburn-Overlake	371,631	373,135	373,813	373,800	373,800	373,800	373,800	373,800
567	Kent-Overlake	89,466	93,614	96,469	96,500	96,500	96,500	96,500	96,500
574	Lakewood-Sea-Tac	840,292	841,985	843,121	843,100	843,100	843,100	843,100	843,100
577	Federal Way-Seattle	241,705	265,861	268,345	268,300	268,300	268,300	268,300	268,300
578	Puyallup-Seattle	698,167	749,401	766,962	767,000	767,000	767,000	767,000	767,000
580	Lakewood-Puyallup	15,625	64,308	69,224	69,200	69,200	69,200	69,200	69,200
586	Tacoma-U. District	148,882	148,759	151,187	151,200	151,200	151,200	151,200	151,200
590	Tacoma-Seattle	705,036	709,513	704,055	704,100	704,100	704,100	704,100	704,100
592	DuPont-Tacoma-Seattle	454,913	446,770	449,097	449,100	449,100	449,100	449,100	449,100
594	Lakewood-Tacoma-Seattle	1,015,075	1,034,396	1,037,677	1,037,700	1,037,700	1,037,700	1,037,700	1,037,700
595	Gig Harbor	135,261	131,552	131,636	131,600	131,600	131,600	131,600	131,600
596	Bonney Lake-Sumner	19,634	21,134	23,173	23,200	23,200	23,200	23,200	23,200
2017 SIP Investments		-	-	99,352	229,100	229,100	229,100	229,100	229,100
Regular Service Total		11,230,314	11,626,704	11,929,882	11,830,500	11,830,500	11,830,500	11,830,500	11,830,500
Schedule Maintenance & Extra		78,347	68,719	68,719	68,700	68,700	68,700	68,700	68,700
Total Budgeted		11,308,662	11,695,423	11,998,600	11,899,200	11,899,200	11,899,200	11,899,200	11,899,200

ST EXPRESS SERVICE & CAPACITY NEEDS 2017-2022

In each of ST Express corridor sections, details are provided on the service and capacity needs identified for that corridor. It is important to note that the identified ST Express service and capacity needs are currently unfunded, and are based on current demand in the current ST Express network. The service and capacity needs in this year's Service Implementation Plan do not incorporate needs to address, and/or minimize the construction and congestion impacts of the projects described in the ST Express sections of this plan. Although not identified in this plan, to implement additional service during the peak periods, additional buses would need to be purchased.

TABLE 47: ST EXPRESS SERVICE AND CAPACITY NEEDS BY CORRIDOR (FUNDED + UNFUNDED)

I-5 NORTH							
TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	-	-	-	-	-
Off-Peak	Unfunded	-	-	-	-	2,400	3,000
Weekends	Unfunded	-	-	600	1,200	3,000	3,600
Total	Unfunded	-	-	600	1,200	5,400	6,600
Total	Funded	104,947	104,900	104,900	104,900	104,900	104,900
Total	Funded+Unfunded	104,947	104,900	105,500	106,100	110,300	111,500
I-405 NORTH							
TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	-	-	-	-	1,200
Off-Peak	Unfunded	-	-	-	-	600	600
Weekends	Unfunded	-	-	-	-	-	-
Total	Unfunded	-	-	-	-	600	1,800
Total	Funded	43,339	43,300	43,300	43,300	43,300	43,300
Total	Funded+Unfunded	43,339	43,300	43,300	43,300	43,900	45,100
SR-522							
TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	-	-	1,200	1,200	1,200
Off-Peak	Unfunded	-	-	-	-	600	600
Weekends	Unfunded	-	-	-	-	-	-
Total	Unfunded	-	-	-	1,200	1,800	1,800
Total	Funded	54,755	54,800	54,800	54,800	54,800	54,800
Total	Funded+Unfunded	54,755	54,800	54,800	56,000	56,600	56,600
SR-520							
TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	600	1,200	3,600	4,200	6,600	9,000
Off-Peak	Unfunded	-	600	1,800	1,800	3,000	3,000
Weekends	Unfunded	-	-	-	-	-	-
Total	Unfunded	600	1,800	5,400	6,000	9,600	12,000
Total	Funded	137,028	137,200	137,200	137,200	137,200	137,200
Total	Funded+Unfunded	137,628	139,000	142,600	143,200	146,800	149,200

I-90

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	600	1,800	4,800	6,600	9,600
Off-Peak	Unfunded	-	-	-	1,800	1,800	2,400
Weekends	Unfunded	-	600	600	1,200	1,200	1,800
Total	Unfunded	-	1,200	2,400	7,800	9,600	13,800
Total	Funded	98,479	98,500	98,500	98,500	98,500	98,500
Total	Funded+Unfunded	98,479	99,700	100,900	106,300	108,100	112,300

I-405 SOUTH

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	600	600	600	600	600	600
Off-Peak	Unfunded	-	600	600	600	600	600
Weekends	Unfunded	-	-	-	-	-	-
Total	Unfunded	600	1,200	1,200	1,200	1,200	1,200
Total	Funded	79,421	79,400	79,400	79,400	79,400	79,400
Total	Funded+Unfunded	80,021	80,600	80,600	80,600	80,600	80,600

I-5 SOUTH

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	-	-	-	-	600
Off-Peak	Unfunded	-	-	-	1,200	3,000	4,200
Weekends	Unfunded	-	-	1,200	3,000	6,600	9,600
Total	Unfunded	-	-	1,200	4,200	9,600	14,400
Total	Funded	238,254	238,200	238,200	238,200	238,200	238,200
Total	Funded+Unfunded	238,254	238,200	239,400	242,400	247,800	252,600

SOUNDER CONNECTORS

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	-	-	-	-	-	-
Off-Peak	Unfunded	-	-	-	-	-	-
Weekends	Unfunded	-	-	-	-	-	-
Total	Unfunded	-	-	-	-	-	-
Total	Funded	10,296	10,200	10,200	10,200	10,200	10,200
Total	Funded+Unfunded	10,296	10,200	10,200	10,200	10,200	10,200

ST EXPRESS SYSTEM TOTAL

TIME	FUNDING	2017	2018	2019	2020	2021	2022
Peak	Unfunded	1,200	2,400	6,000	10,800	15,000	22,200
Off-Peak	Unfunded	-	1,200	2,400	5,400	12,000	14,400
Weekends	Unfunded	-	600	2,400	5,400	10,800	15,000
Total	Unfunded	1,200	4,200	10,800	21,600	37,800	51,600
Total	Funded	777,448	786,000	786,000	786,000	786,000	786,000
Total	Funded+Unfunded	778,648	790,200	796,800	807,600	823,800	837,600

FLEET TABLES BY MODE

Link Fleet 2016-2022

Once the exact delivery schedule of the new light rail vehicles is finalized, Table 48 will be updated for the final Service Implementation Plan, anticipated to be published early next year. The final delivery schedule will likely impact the figures in 2019-2022.

TABLE 48: LINK FLEET THROUGH 2022

	VEHICLE NUMBER	MANUFACTURER	YEAR IN SERVICE	TYPE	2016	2017	2018	2019	2020	2021	2022
Existing	101-135	Kinkisharyo	2009	95-foot LR	35	35	35	35	35	35	35
Existing	136-162	Kinkisharyo	2011	95-foot LR	27	27	27	27	27	27	27
Planned	TBD	Siemens, Inc.	TBD	TBD	-	-	-	*	*	*	*
Total Assigned Fleet:					62	62	62	62*	62*	62*	62*
Peak Vehicle Requirements (Including Ready Reserve):					42	42	42	42*	42*	42*	42*
Spares:					20	20	20	20*	20*	20*	20*
Spare Ratio (in assigned fleet)					32%	32%	32%	32%*	32%*	32%*	32%*

Sounder Fleet 2016-2022

With the additional south line round trip added in 2016, and two more south line round trips planned for 2017, the fleet requirements for operating service will increase. Currently Sound Transit owns and operates 58 passenger cars for Sounder service. In 2014, the Sound Transit Board of Directors approved the purchase of nine additional cab cars. Sound Transit worked with the vendor to design the new vehicles to ensure the needs of all transit riders were incorporated. Delivery of the new cab-cars is expected in mid-2017, in time for the implementation of the additional south line round trips.

TABLE 49: SOUNDER FLEET THROUGH 2022

	VEHICLE NUMBER	MANUFACTURER	YEAR IN SERVICE	TYPE	2016	2017	2018	2019	2020	2021	2022
Existing	901-911	GM	2000-2001	Locomotive	11	11	11	11	11	11	11
Existing	101-111, 301-307	Bombardier	2000-2003	Cab Car	18	18	18	18	18	18	18
Existing	201-240, 401-410	Bombardier	2000-2003	Coach	40	40	40	40	40	40	40
Existing	921-923	Motive Power	2012	Locomotive	3	3	3	3	3	3	3
Planned	321-329	Bombardier	2017	Cab Car	-	9	9	9	9	9	9
Total Locomotives on Property:					14	14	14	14	14	14	14
Peak Vehicle Requirements (Including Ready Reserve):					12	12	12	12	12	12	12
Spares:					2	2	2	2	2	2	2
Spare Ratio (in assigned fleet):					17%	17%	17%	17%	17%	17%	17%
Total Passenger Cars on Property:					58	67	67	67	67	67	67
Peak Vehicle Requirements (Including Ready Reserve):					55	61	61	61	61	61	61
Spares:					3	6	6	6	6	6	6
Spare Ratio (in assigned fleet):					5%	10%	10%	10%	10%	10%	10%

Tacoma Link Fleet 2016-2022

With the extension of Tacoma Link service approved in 2015, the fleet requirements for operating service will increase, from the current three vehicles to eight vehicles with the extension. The light rail vehicles are expected to begin being delivered in 2020 through 2021. Sound Transit will be working with the vendor, once selected, in the coming years to design the new vehicles and ensure the needs of all transit riders are incorporated.

TABLE 50: TACOMA LINK FLEET THROUGH 2022

	VEHICLE NUMBER	MANUFACTURER	YEAR IN SERVICE	TYPE	2016	2017	2018	2019	2020	2021	2022
Existing	1001-1003	Skoda	2003	66-foot LR	3	3	3	3	3	3	3
Planned	TBD	TBD	TBD	TBD	-	-	-	-	5	5	5
Total Assigned Fleet:					3	3	3	3	8	8	8
Peak Vehicle Requirements (Including Ready Reserve):					2	2	2	2	6	6	6
Spares:					1	1	1	1	2	2	2
Spare Ratio (in assigned fleet)					50%	50%	50%	50%	25%	25%	25%

ST Express Fleet 2016-2022

Table 51 shows the ST Express fleet plan through 2022. The fleet plan below only presents buses in the current fleet and planned replacements based on the useful life of each bus type. The table doesn't include additional buses that might be needed to implement the service and capacity needs identified earlier in this section. The table below is subject to change based on operational needs.

TABLE 51: ST EXPRESS FLEET THROUGH 2022

	MANUFACTURER	YEAR IN SERVICE	TYPE	2016	2017	2018	2019	2020	2021	2022
Leased	Gillig	1999	40-foot	-	5	5	-	-	-	-
Existing	New Flyer	2000	60-foot	3	-	-	-	-	-	-
Existing	New Flyer	2001	40-foot	11	-	-	-	-	-	-
Existing	New Flyer	2003	40-foot	1	1	1	-	-	-	-
Existing	New Flyer	2004	60-foot	38	28	2	-	-	-	-
Existing	Gillig	2005	40-foot	2	2	2	-	-	-	-
Existing	MCI	2005	45-foot	13	13	13	13	13	-	-
Existing	Gillig	2008	40-foot	30	30	30	30	30	-	-
Existing	New Flyer	2008	60-foot	2	2	2	2	2	-	-
Existing	MCI	2008	45-foot	7	7	7	7	7	7	7
Existing	MCI	2009	45-foot	3	3	3	3	3	3	3
Existing	New Flyer	2010	60-foot	37	37	37	37	37	37	0
Existing	MCI	2010	45-foot	16	16	16	16	16	16	16
Existing	New Flyer	2011	60-foot	35	35	35	35	35	35	35
Existing	Gillig	2012	40-foot	24	24	24	24	24	24	24
Existing	New Flyer	2012	60-foot	19	19	19	19	19	19	19
Existing	New Flyer	2015	60-foot	22	22	22	22	22	22	22
Existing	AD	2015	Double Deck	5	5	5	5	5	5	5
Existing	Gillig	2015	40-foot	20	20	20	20	20	20	20
Existing	Gillig	2016	40-foot	5	5	5	5	5	5	5
Existing	MCI	2016	45-foot	12	12	12	12	12	12	12
Planned	TBD	2017	Double Deck	-	32	32	32	32	32	32
Planned	TBD	2018	60-foot	-	-	26	26	26	26	26
Planned	TBD	2018	Double Deck	-	-	-	7	7	7	7
Planned	TBD	2019	40-foot	-	-	-	2	2	2	2
Planned	TBD	2019	60-foot	-	-	-	1	1	1	1
Planned	TBD	2021	42-foot	-	-	-	-	-	13	13
Planned	TBD	2021	40-foot	-	-	-	-	-	30	30
Planned	TBD	2021	60-foot	-	-	-	-	-	2	2
Planned	TBD	2022	60-foot	-	-	-	-	-	-	37
Total Vehicles on Property:				305	318	318	318	318	318	318
Peak Vehicle Requirements:				258	267	267	267	267	267	267
Spares:				47	51	51	51	51	51	51
Spare Ratio (in assigned fleet):				18.22%	19.10%	19.10%	19.10%	19.10%	19.10%	19.10%

MAJOR FACILITY ROUTE LEVEL RIDERSHIP

ROUTES		WEEKDAY BOARDINGS	WEEKDAY ALIGHTINGS
Ash Way Park-and-Ride			
511	Lynnwood-Seattle	349	336
512	Everett-Lynnwood-Seattle	335	373
532	Everett-Bellevue	353	323
	Total	1,037	1,033
Auburn Station			
566	Auburn-Overlake	103	97
578	Puyallup-Seattle	216	237
	Sounder South Line	1,615	1,501
	Total	1,934	1,834
Bellevue Transit Center			
532	Everett-Bellevue	792	830
535	Lynnwood-Bellevue	571	634
550	Bellevue-Seattle	1,836	1,636
555	Northgate-Issaquah	300	300
556	Issaquah-Northgate	189	209
560	West Seattle-Airport-Seattle	404	436
566	Auburn-Overlake	459	488
567	Kent-Overlake	233	243
	Total	4,785	4,776
Bothell Park-and-Ride			
522	Woodinville-Seattle	230	211
535	Lynnwood-Bellevue	94	100
	Total	323	310
Brickyard Park-and-Ride			
532	Everett-Bellevue	2	2
535	Lynnwood-Bellevue	122	141
	Total	125	143
Canyon Park Freeway Station			
532	Everett-Bellevue	313	328
535	Lynnwood-Bellevue	139	132
	Total	452	460
Eastgate Freeway Station/Eastgate Park-and-Ride			
554	Issaquah-Seattle	841	1,023
555	Northgate-Issaquah	24	20
556	Issaquah-Northgate	65	58
	Total	930	1,102

ROUTES		WEEKDAY BOARDINGS	WEEKDAY ALIGHTINGS
Everett Station			
510	Everett-Seattle	577	441
512	Everett-Lynnwood-Seattle	537	407
532	Everett-Bellevue	151	149
	Sounder North Line	275	275
	Total	1,539	1,272
Evergreen Point Freeway Station			
540	Kirkland-U. District	15	9
541	Overlake-U. District	10	18
542	Redmond-U. District	22	23
545	Redmond-Seattle	48	52
555	Northgate-Issaquah	6	8
556	Issaquah-Northgate	4	8
	Total	105	117
Federal Way Transit Center			
574	Lakewood-Sea-Tac	435	473
577	Federal Way-Seattle	913	673
578	Puyallup-Seattle	550	678
	Total	1,898	1,823
I-90/Rainier Ave Freeway Station			
550	Bellevue-Seattle	325	385
554	Issaquah-Seattle	116	82
	Total	441	468
Issaquah Highlands Park-and-Ride			
554	Issaquah-Seattle	273	283
555	Northgate-Issaquah	9	13
556	Issaquah-Northgate	98	111
	Total	381	407
Issaquah Transit Center			
554	Issaquah-Seattle	530	616
555	Northgate-Issaquah	18	13
556	Issaquah-Northgate	130	118
	Total	678	748
Kent Station			
566	Auburn-Overlake	237	205
567	Kent-Overlake	263	255
	Sounder South Line	1,932	1,943
	Total	2,433	2,403

ROUTES		WEEKDAY BOARDINGS	WEEKDAY ALIGHTINGS
King Street/International District Hub			
510	Everett-Seattle	121	109
511	Lynnwood-Seattle	112	96
512	Everett-Lynnwood-Seattle	448	309
513	Eastmont-Seattle	25	26
522	Woodinville-Seattle	374	256
545	Redmond-Seattle	586	412
550	Bellevue-Seattle	1,146	1,402
554	Issaquah-Seattle	467	466
577	Federal Way-Seattle	51	67
578	Puyallup-Seattle	138	14
590	Tacoma-Seattle	215	213
592	DuPont-Tacoma-Seattle	26	7
594	Lakewood-Tacoma-Seattle	102	210
595	Gig Harbor	27	20
	Link	5,153	5,117
	Sounder North Line	770	661
	Sounder South Line	5,772	5,548
	Total	15,535	14,934
Lakewood Station			
580	Lakewood-Puyallup	253	173
592	DuPont-Tacoma-Seattle	231	151
594	Lakewood-Tacoma-Seattle	127	114
	Sounder South Line	259	275
	Total	870	714
Lynnwood Transit Center			
511	Lynnwood-Seattle	402	429
512	Everett-Lynnwood-Seattle	607	664
535	Lynnwood-Bellevue	318	206
	Total	1,327	1,299
Mercer Island Park-and-Ride			
550	Bellevue-Seattle	1,124	1,232
554	Issaquah-Seattle	309	173
	Total	1,433	1,405

ROUTES		WEEKDAY BOARDINGS	WEEKDAY ALIGHTINGS
Montlake Freeway Station			
540	Kirkland-U. District	12	14
541	Overlake-U. District	28	40
542	Redmond-U. District	80	69
545	Redmond-Seattle	369	413
555	Northgate-Issaquah	46	62
556	Issaquah-Northgate	6	8
Total		541	605
Mountlake Terrace Freeway Station			
511	Lynnwood-Seattle	237	251
512	Everett-Lynnwood-Seattle	166	224
513	Eastmont-Seattle	156	145
Total		558	621
Overlake Transit Center			
541	Overlake-U. District	265	168
542	Redmond-U. District	329	464
545	Redmond-Seattle	1,711	2,066
566	Auburn-Overlake	178	168
567	Kent-Overlake	82	74
Total		2,564	2,939
Pioneer Square Station			
550	Bellevue-Seattle	661	717
	Link	3,643	3,690
Total		4,304	4,407
Puyallup Station			
578	Puyallup-Seattle	116	98
580	Lakewood-Puyallup	14	45
	Sounder South Line	1,412	1,385
Total		1,542	1,528
Renton Transit Center			
560	West Seattle-Airport-Seattle	235	220
566	Auburn-Overlake	309	330
Total		544	550
SeaTac/Airport Station			
560	West Seattle-Airport-Seattle	163	105
574	Lakewood-Sea-Tac	102	197
	Link	6,743	6,192
Total		7,008	6,493

ROUTES		WEEKDAY BOARDINGS	WEEKDAY ALIGHTINGS
Sea-Tac Airport Terminal			
560	West Seattle-Airport-Seattle	190	274
574	Lakewood-Sea-Tac	677	489
	Total	867	764
SODO Station			
590	Tacoma-Seattle	78	107
594	Lakewood-Tacoma-Seattle	62	72
595	Gig Harbor	9	12
	Link	1,938	1,739
	Total	2,087	1,930
South Bellevue Park-and-Ride			
550	Bellevue-Seattle	867	844
555	Northgate-Issaquah	7	6
556	Issaquah-Northgate	32	22
560	West Seattle-Airport-Seattle	76	73
	Total	982	945
South Everett Freeway Station			
510	Everett-Seattle	327	357
512	Everett-Lynnwood-Seattle	163	203
532	Everett-Bellevue	136	123
	Total	627	683
SR-512 Park-and-Ride			
574	Lakewood-Sea-Tac	254	270
580	Lakewood-Puyallup	10	31
592	DuPont-Tacoma-Seattle	174	174
594	Lakewood-Tacoma-Seattle	167	158
	Total	605	633
Stadium Station			
522	Woodinville-Seattle	111	51
545	Redmond-Seattle	191	43
590	Tacoma-Seattle	44	52
594	Lakewood-Tacoma-Seattle	105	97
595	Gig Harbor	4	3
	Link	1,937	2,083
	Total	2,392	2,329

ROUTES		WEEKDAY BOARDINGS	WEEKDAY ALIGHTINGS
University of Washington Station			
540	Kirkland-U. District	98	151
541	Overlake-U. District	114	168
542	Redmond-U. District	290	349
556	Issaquah-Northgate	65	89
586	Tacoma-U. District	33	52
	Link	9,193	8,875
	Total	9,793	9,686
University Street Station			
550	Bellevue-Seattle	1,125	1,119
	Link	4,855	4,808
	Total	5,980	5,927
Sumner Station			
578	Puyallup-Seattle	80	111
596	Bonney Lake-Sumner	251	233
	Souder South Line	1,229	1,174
	Total	1,560	1,518
Tacoma Dome Station			
574	Lakewood-Sea-Tac	394	416
586	Tacoma-U. District	213	193
590	Tacoma-Seattle	1,270	833
594	Lakewood-Tacoma-Seattle	437	604
	Souder South Line	1,040	1,338
	Tacoma Link	1,004	919
	Total	4,358	4,304
Union Station/S 19th St (UW-Tacoma)			
590	Tacoma-Seattle	59	37
594	Lakewood-Tacoma-Seattle	123	107
	Tacoma Link	653	651
	Total	836	795
UW-Bothell/Cascadia Community College			
522	Woodinville-Seattle	270	268
535	Lynnwood-Bellevue	290	275
	Total	560	543

ROUTES		WEEKDAY BOARDINGS	WEEKDAY ALIGHTINGS
Westlake Hub			
510	Everett-Seattle	359	374
511	Lynnwood-Seattle	441	366
512	Everett-Lynnwood-Seattle	770	725
513	Eastmont-Seattle	136	131
522	Woodinville-Seattle	621	1,534
545	Redmond-Seattle	928	1,434
550	Bellevue-Seattle	1,572	1,254
554	Issaquah-Seattle	489	339
577	Federal Way-Seattle	420	504
578	Puyallup-Seattle	398	611
590	Tacoma-Seattle	240	419
592	DuPont-Tacoma-Seattle	118	151
594	Lakewood-Tacoma-Seattle	277	317
595	Gig Harbor	31	41
	Link	9,940	9,525
	Total	16,742	17,727
Yarrow Point/Clyde Hill Freeway Station			
540	Kirkland-U. District	16	16
541	Overlake-U. District	29	17
542	Redmond-U. District	48	38
545	Redmond-Seattle	101	96
555	Northgate-Issaquah	24	14
556	Issaquah-Northgate	11	9
	Total	230	189