



# 2018 System Evaluation







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# Executive Summary

This report presents Metro Transit’s annual assessment of its transit network as required by King County Ordinances 17143 and 18413 and Motion 13736. The report includes information about fixed-route, Dial-A-Ride Transit (DART), Water Taxi, and Community Connections services, all part of Metro’s expanding portfolio of mobility solutions.

Our analysis found that service improved where we invested to relieve crowding and improve reliability. Our investments also brought several corridors around the county up to their target service levels. However, despite our investments, we continue to see bus reliability degrade. Sustained improvements in reliability will require additional service hours as well as infrastructure investments to keep buses moving.

## Our Findings

Our 2018 data analysis found that an investment of about 479,650 annual service hours is needed to meet target service levels and improve service quality—a slight decrease from last year’s number. The analysis reflects recent investments, growth in jobs and population, and increasing congestion on our roadways.

Metro currently operates about 4.1 million annual hours of Metro service. Making the investments identified in this report would reduce crowding, improve reliability, and grow our service network. To achieve our METRO CONNECTS long-range vision and meet the demands of the Puget Sound Regional Council’s Transportation 2040 plan, we will need to provide about two million more annual hours of service.

## Investment

In fall 2017 and spring 2018, Metro invested about 158,000 annual service hours in our system to meet needs identified in previous reports. These investments include the following:

- » 12,600 hours to relieve crowding (Priority 1)
- » 23,800 hours to improve reliability (Priority 2) and operator access to comfort stations
- » 77,500 hours in service growth on major transit corridors (Priority 3)

- » Metro’s Community Connections investments in Vashon Island Community Van, Bothell/Woodinville Community Van, Des Moines Community Shuttle, and Trailhead Direct – Issaquah Alps
- » Other targeted investments in fixed-route service to respond to construction projects and to improve Night Owl service

## Seattle Investments

Metro and Seattle work together to plan and implement new service funded by the Seattle Transportation Benefit District (approved by voters in November 2014). In fall 2017 and spring 2018, Seattle invested 38,400 annual service hours. In accordance with the contract between Metro and Seattle, Metro assumes funding for some of Seattle’s investments as we expand service. More information about the services funded through the Seattle Transportation Benefit District is available on the City of Seattle website ([www.seattle.gov/council/committees/transportation/seattle-transportation-benefit-district](http://www.seattle.gov/council/committees/transportation/seattle-transportation-benefit-district)).

## Metro’s Community Connections

This report includes performance data for pilot services created under Metro’s Community Connections program that were in the evaluation stage between September 2017 and March 2018. This program works with local governments and community partners to develop innovative and cost-efficient transportation solutions in areas of King County that do not have the infrastructure, density, or land use to support regular, fixed-route bus service. Over time, this program will grow to include a broad and diverse set of mobility services.

**2018 Investment Needs**

Priority	Investment
Priority 1 (Reduce Crowding)	7,800 bus hours
Priority 2 (Improve Reliability)	19,250 bus hours
Priority 3 (Service Growth)	452,600 bus hours





## Marine Division

In accordance with King County Ordinance 18413, we include data on the King County Water Taxi service in this report. With two routes that connect Colman Dock in downtown Seattle with Vashon Island and West Seattle, the Water Taxi provides waterborne transit services that complement Metro's transit service. Information about Water Taxi services is included in the Fixed-Route Service Evaluation and in the tables in appendices C, E, F, and G. The Water Taxi will become a division of Metro in 2019.

## Our Future

As this report was finalized, we were preparing to add some 87,000 hours of new service in September 2018. Some of these new hours will address the priority investment needs identified in this System Evaluation, while others will respond to major construction projects in the region. Future investments will be included in the county's biennial budget process. The King County Marine Division is exploring opportunities to partner with other agencies to provide more Water Taxi service, but in the near term, the division plans to maintain current service on its two existing routes and evaluate changing needs in West Seattle.

The needs identified in this report are only part of the 2 million service hours needed to nearly double our ridership and achieve the METRO CONNECTS vision. As we move toward achieving this vision, we aim to improve coordination with external agencies and jurisdictions to identify opportunities to deliver the plan efficiently and effectively. More work is underway to align our Service Guidelines with METRO CONNECTS and to incorporate all of our mobility services in a common framework for evaluation.

# Introduction

## What is the System Evaluation?

This report is a snapshot of the health of our transit system: our fixed-route bus services, the Community Connections program, and the King County Water Taxis. It is based on our Service Guidelines, which established criteria and processes that we use to analyze and plan changes to our transit system. The guidelines were adopted by the King County Council (Ordinances 18301 and 18413 and Motion 13736). The report contains the following:

- » Fixed-route service evaluation
- » Community Connections evaluation
- » METRO CONNECTS progress report
- » Potential changes to the Service Guidelines and Strategic Plan for Public Transportation.

Reducing crowding and improving reliability—our service quality indicators—are Metro’s top two investment priorities, as they directly affect the quality of our service. Improvements in these areas help us keep the riders we have and attract new ones. Growing our service is our third investment priority. More service lets us provide better mobility options and helps us meet existing demand, reach climate action goals, and help the region’s economy to continue growing without expanding roadways. Highly productive routes are our fourth investment priority. Much of the growth envisioned by METRO CONNECTS is on highly productive routes.



## Why produce the report?

Metro analyzes transit system data to inform decision-making and continuous improvement. We publish the report to show the public the basis for our decisions about adding, reducing, or changing service.

## How does Metro use the report?

We analyze data to learn where problems exist in our system and where we are not providing enough service. We combine this information with what we hear from customers, operators, and partners to develop proposals to change service. We take these proposals to the public, gather and incorporate feedback, and submit final plans for approval by the King County Council. After we make the approved service changes, the cycle begins again.

Our data analysis and the policies embedded in our Service Guidelines give us guidance on how to add, reduce, and restructure service. Future updates will align the Service Guidelines to the forward-looking goals of METRO CONNECTS.

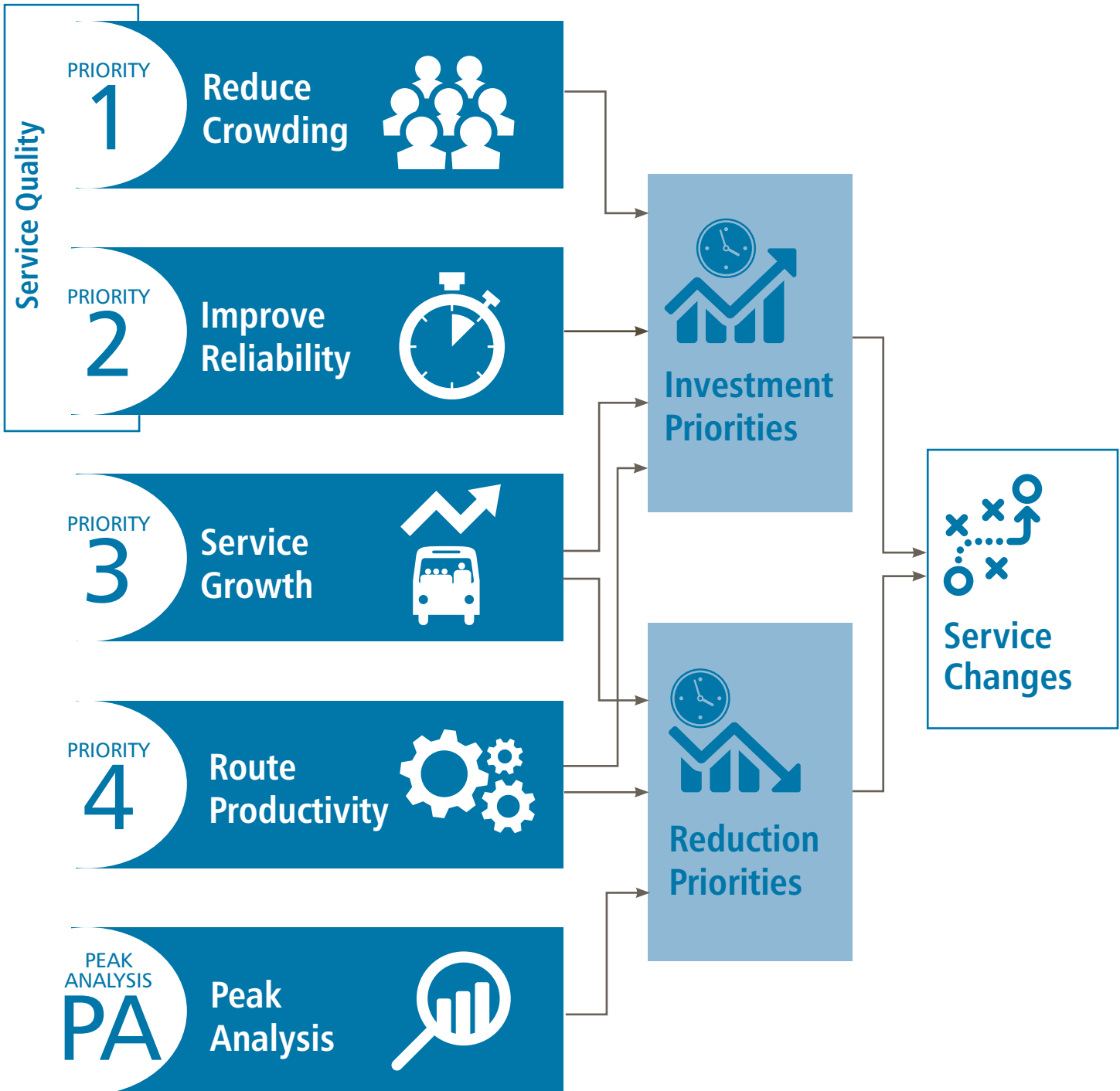
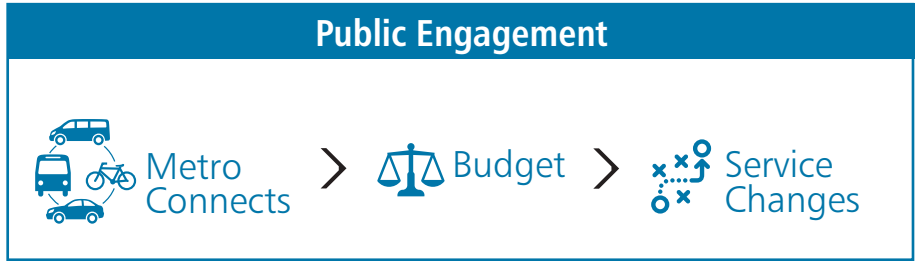
## How can you use the report?

You can find your route(s) on the maps throughout this report and in the appendix tables and see how they compare to other routes in the system. You will be able to tell at a glance if we have identified problems on your route (like crowding), and what we believe we need to do to fix them. Keep in mind that this report provides a snapshot in time; some problems come and go, and we use the latest available data to make investment proposals.



### King County Water Taxi Information

We evaluated King County Water Taxi services for crowding, reliability, and productivity and conducted the peak analysis as well. See the Fixed-Route Service Evaluation section and the tables in appendices C, E, F, and G.





**7,800  
bus hours**

# Fixed-Route Service Evaluation

## Crowding (Priority 1)

### What is Crowding?

Reducing crowding is our highest investment priority. A trip is crowded if:

- » Its average maximum load is more than the crowding threshold for its type of bus
- » Its average passenger load is more than the number of seats for 20 consecutive minutes

Trips must be consistently crowded for several months to be identified for investment.

### What We Found

After accounting for planned September 2018 investments, we identified 18 routes with chronically crowded trips, an increase from last year's 13. This change from last year reflects increases in both ridership and traffic congestion, which makes bus trips take more time. Fourteen of these 18 routes are new to the list. Only two meet the first condition listed above; the rest have 20-minute standing passenger loads.

Most crowding happens during peak periods. For the near-term, our ability to add new service during these times will remain constrained. New peak service requires more buses, and our ability to increase the size of our fleet is limited by the space available at our seven bases. We are taking steps to increase available space at these bases and we also plan to build a new base.

### What We've Done

Between fall 2017 and spring 2018, approximately 12,600 hours were added to our transit system to reduce crowding. These investments were based on our 2017 System Evaluation and the latest available data.

### What's Next?

As we were preparing this report, 2,700 new service hours were slated to be added in September 2018, using Metro funds to address the most pressing crowding problems we have identified. Additional new service hours to reduce crowding were planned to be funded through partnership programs. We have proposed more hours to address crowding in our budget submission for 2019-2020, in accordance with our Service Guidelines. The specific investments we make will be informed by the latest data available at the time and the previously-mentioned constraints on adding service in peak periods.

Of the 10 routes that received investments in March 2018



**7** are no longer chronically crowded



**3** saw a decrease in crowding (but still need more investment)

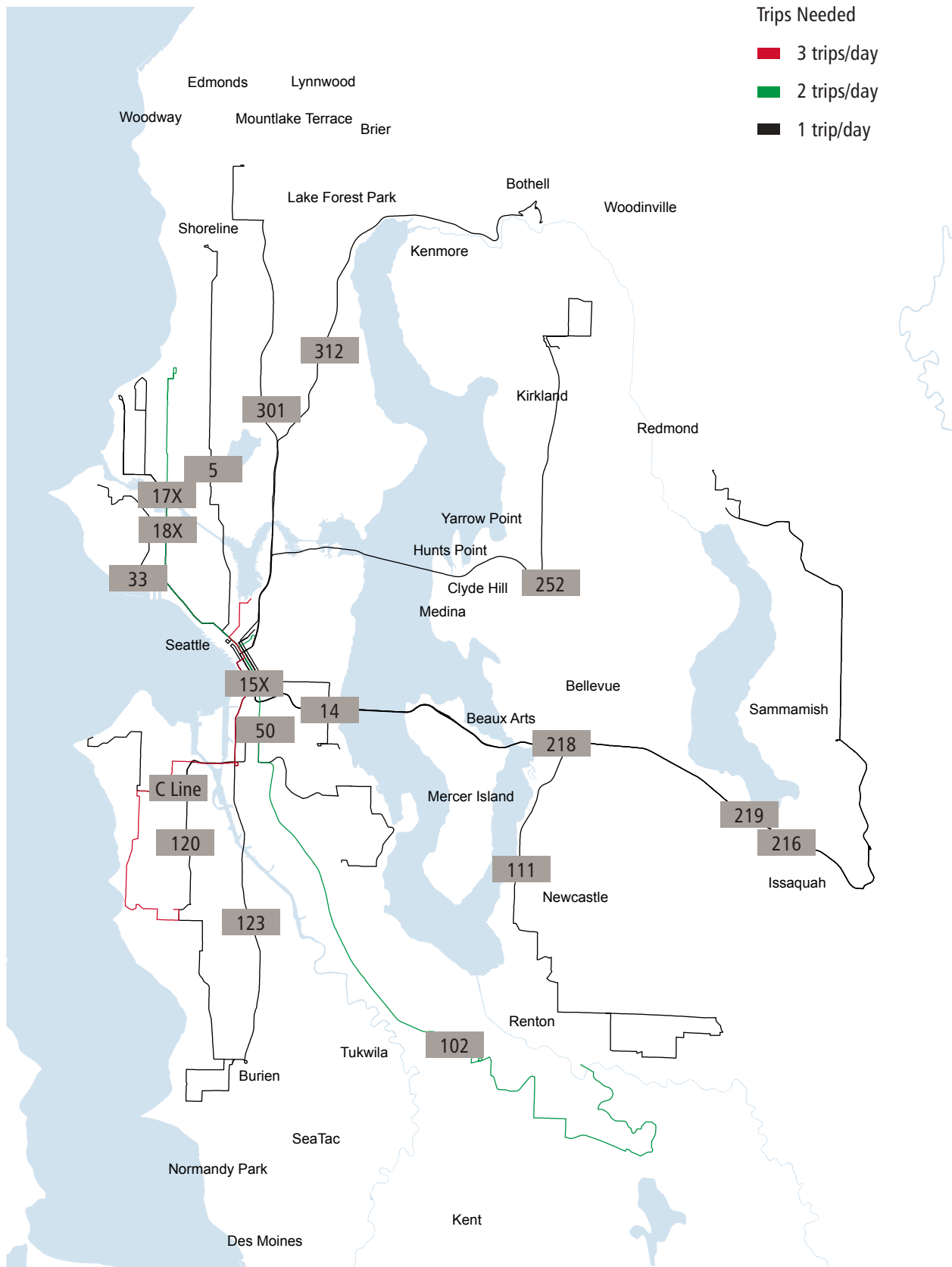


### King County Water Taxi

The capacity of Water Taxi vessels is capped by maritime regulations. From October 2017 to March 2018, no trips on either the West Seattle or Vashon Island Water Taxi routes were at capacity (278 passengers). The West Seattle schedule was adjusted to accommodate the Seattle terminal move from Pier 50 to Pier 52. This reduced service by one trip per day during commute hours. We expect upcoming transportation changes to affect West Seattle commute routes and increase the demand for waterborne transit in the near future. We've begun planning to analyze and develop future service and facility changes to meet this demand.



Figure 1. Metro Fixed Routes Needing Investment to Reduce Crowding per the Service Guidelines



## Reliability (Priority 2)

### What is Reliability?

In a transit context, reliability refers to whether buses arrive when they are supposed to. We consider routes whose buses arrive late more than 20 percent of the time all day, or more than 35 percent of the time during the afternoon peak period, to be candidates for investment. We can invest by adding running time to schedules, but we also partner with cities on infrastructure improvements. These improvements help buses move faster and more reliably, saving money and providing a better customer experience.

### What We Found

Despite aggressive recent investments in reliability, new challenges have emerged. These new issues, along with increased traffic congestion and high ridership, have increased our investment need over last year's figure by about 2,250 annual hours. We list 61 routes needing investment—36 of them are new. Ten routes that were on last year's list are now within standards, but the rest have new or outstanding needs. See Appendix F for route-by-route reliability numbers.

- » **South county routes.** Routes 105, 106, 107, 111, 113, 114, 116, 122, 124, 132, 143, 148, 150, 157, 158, 159, 169, 177, 182, and 192 are new to the list. Most of them slipped just out of standard this year, so their investment needs are relatively small. Routes that travel on I-5 south of Seattle have increasing reliability problems.
- » **East county routes.** Routes 208, 214, 235, 236, 238, 240, and 244 are new to the list, most of them just out of standard. Other routes that use I-90, including routes 111, 114, 212, 216, 218, and 219, still have reliability problems despite previous investments—likely due to the closure of express lanes on I-90.
- » **Other routes.** Routes 1, 5X, 17, 18, 21, 24, 27, 33, and 56 are new to the list. One RapidRide line, the E Line, also slipped out of standard on weekdays.

- » **Weekends.** The system-wide investment need for Saturday service (2,700 hours of the Priority 2 investment need) nearly doubled over last year, indicating worsening weekend traffic.

### What We've Done

In March, we invested about 8,000 hours directly in service schedules to improve reliability. Taken as a whole, the routes we invested in saw weekday lateness decrease by about 19 percent overall, and by about 34 percent in the morning peak period. We invested another 13,700 hours in schedules in the summer to mitigate the impacts of the closure of Convention Place Station at the north end of the Downtown Seattle Transit Tunnel.

We also continued or expanded our partnerships with Seattle, Kent, Bothell, Redmond, Bellevue, Kirkland, Shoreline, and Union Pacific Railroad to implement infrastructure-related spot improvements in 18 places. These improvements helped keep 47,500 daily riders moving on 38 bus routes.

### What's Next?

- Major construction projects will significantly affect Metro's service over the next year. While preparing this report, we planned to do the following:
- » In September, add 3,500 hours for reliability (Priority 2 investments).

Investment need



19,250  
bus hours

- » In September, add 25,500 hours to reduce the effects on reliability of major construction projects associated with the expansion of Link light rail and the closure of the Alaskan Way Viaduct.
- » In spring 2019, add about 34,000 hours to reduce the effects on reliability of moving buses out of the Downtown Seattle Transit Tunnel and construction on SR-520 and SR-99.
- » Also in spring 2019, implement off-board fare payment and all-door boarding in the Third Avenue transit corridor in downtown Seattle. These changes will help keep riders moving through the busiest bus corridor in the system.

Our findings continue to reinforce the idea that adding running time to schedules to deal with increased congestion is not always the best way to improve reliability—it just acknowledges that it takes longer than before to make the same trip. We've already implemented other ways to keep buses moving, including simplifying fares, increasing opportunities for off-board fare payment, improving signage, and consolidating stops. As we seek to expand our infrastructure work to improve bus speed and reliability, we highly value partnerships with jurisdictions to help us make these improvements.





## Service Growth (Priority 3)

### What is Service Growth?

Our Service Guidelines set policies that determine how often buses should come throughout the day on major transit corridors in our existing system. This is referred to in the Service Guidelines as target service levels. This analysis is based on a combination of land use productivity, social equity factors, and how well each corridor connects centers in our county. The gap between how much service we currently provide and how much service is needed constitutes the investment needed to meet target service levels. For this year’s analysis, we used data from September 2017 through March 2018. A summary of the analysis and the investment need for each corridor are in appendices I and J.

Investment need



**452,600  
bus hours**

### What We Found

Service needs to grow on 54 corridors, fewer than last year’s 58. Our total Priority 3 investment need decreased by about 33,000 hours from last year. While we invested about 46,500 new service hours in Priority 3 needs since last year’s System Evaluation, growth in jobs, population, and ridership have created higher target service levels for some corridors this year. See the maps on the following pages for depictions of needs by time period.

### What We’ve Done

In March, we invested about 46,500 hours to grow service on corridors identified in last year’s report and assumed funding for nearly 22,000 partner-funded hours that were consistent with Priority 3 needs. Before this, in September 2017, we invested about 31,000 hours in corridors. (These investments were accounted for in last year’s Priority 3 investment need.) Together, these hours grew service on routes 24, 60, 74, 101, 131, 153, 169, 183, 240, 269, and 930.

### What’s Next?

As we prepared this report, we planned to make our third and final phase of Priority 3 investments for the current biennium, totaling 27,200 hours, in September 2018. This brings total Priority 3 investments in new service over the last two years to over 100,000 hours. The investments this fall will benefit routes 5, 5X, 31, 32, 75, 150, 180, 240, 331, 345, and the F Line. Some of these routes do not appear in this year’s Priority 3 investment list because the planned investments (per the biennial budget) will fulfill their Priority 3 investment needs.

Over the next few years, we expect to continue growing the system, but at a slower rate than over the past two years. As we look at future projects and investments, we will use the analysis of Priority 3 needs to inform service proposals. We also plan to work with public and private partners to expand mobility where possible. Our bus base capacity, which is currently stretched, will limit our ability to expand service, particularly in the peak periods. We are investing in increased bus storage and maintenance capacity to alleviate this constraint.

Table 1: Summary of Typical Service Levels

Service Level	Service Level: Frequency (minutes) and Time Period			Days of Service	Hours of Service
	Peak	Off-peak	Night		
Very frequent	15 or better	15 or better	30 or better	7 days	16–24 hours
Frequent	15 or better	30	30	7 days	16–24 hours
Local	30	30–60	--*	5–7 days	12–16 hours
Hourly	60	60	--	5 days	8–12 hours
Peak-only	8 trips/day minimum	--	--	5 days	Peak
Community Connections	Determined by demand and community collaboration process				

\* Night service on local corridors is determined by ridership and connections made



## The Complete Network: Integration with Sound Transit

Metro and Sound Transit continue joint planning to ensure we create an integrated network with the best possible transfer environments when Link light rail is extended to Northgate and Overlake, maximizing the total regional investment in transit service. We have also been working with Sound Transit, the University of Washington, and the Seattle Department of Transportation to review several ideas for improving transfers at the Montlake Triangle / University of Washington Station area as part of the North Eastside Mobility project. The goals of the project are to make transfers better and enable Metro to extend mobility benefits in line with our long-range plan, METRO CONNECTS. The results of this review, together with public feedback, will inform future decision-making about transfer environment improvements and service revisions.

Table 2 lists key corridors in King County where Sound Transit is the primary provider of two-way, all-day transit service. In many of these corridors, Metro operates mainly peak service that complements Sound Transit's all-day service.

*Table 2. Corridors Served Primarily by Sound Transit*

Between	And	Via	Major Route
Woodinville	Downtown Seattle	Bothell, Kenmore, Lake Forest Park, Lake City	522
UW Bothell	Bellevue	Totem Lake	535
Redmond	Downtown Seattle	Overlake	545
Bellevue	Downtown Seattle	Mercer Island	550
Issaquah	Downtown Seattle	Eastgate, Mercer Island	554
Burien	Bellevue	SeaTac, Renton	560
Auburn	Overlake	Kent, Renton, Bellevue	566
SeaTac	Federal Way	I-5	574
Federal Way	Downtown Seattle	I-5	577/578
Angle Lake	University District	SeaTac, Rainier Valley, downtown Seattle, Capitol Hill	Link light rail

As Link service continues to expand, Sound Transit will become the backbone provider in more corridors, such as Northgate to downtown Seattle. As services are introduced and modified, Metro and Sound Transit will integrate services to maximize mobility.

As part of the multi-agency One Center City effort ([onecentercity.org](http://onecentercity.org)), we have begun to implement strategies that will help people cope with the confluence of major construction projects scheduled to take place in the coming months in downtown Seattle. These strategies include making major improvements on Third, Fifth, and Sixth Avenues in downtown Seattle.





Figure 4. Metro Corridors Needing Investment per the Service Guidelines (Off-Peak Period, 9 a.m.–3 p.m.)

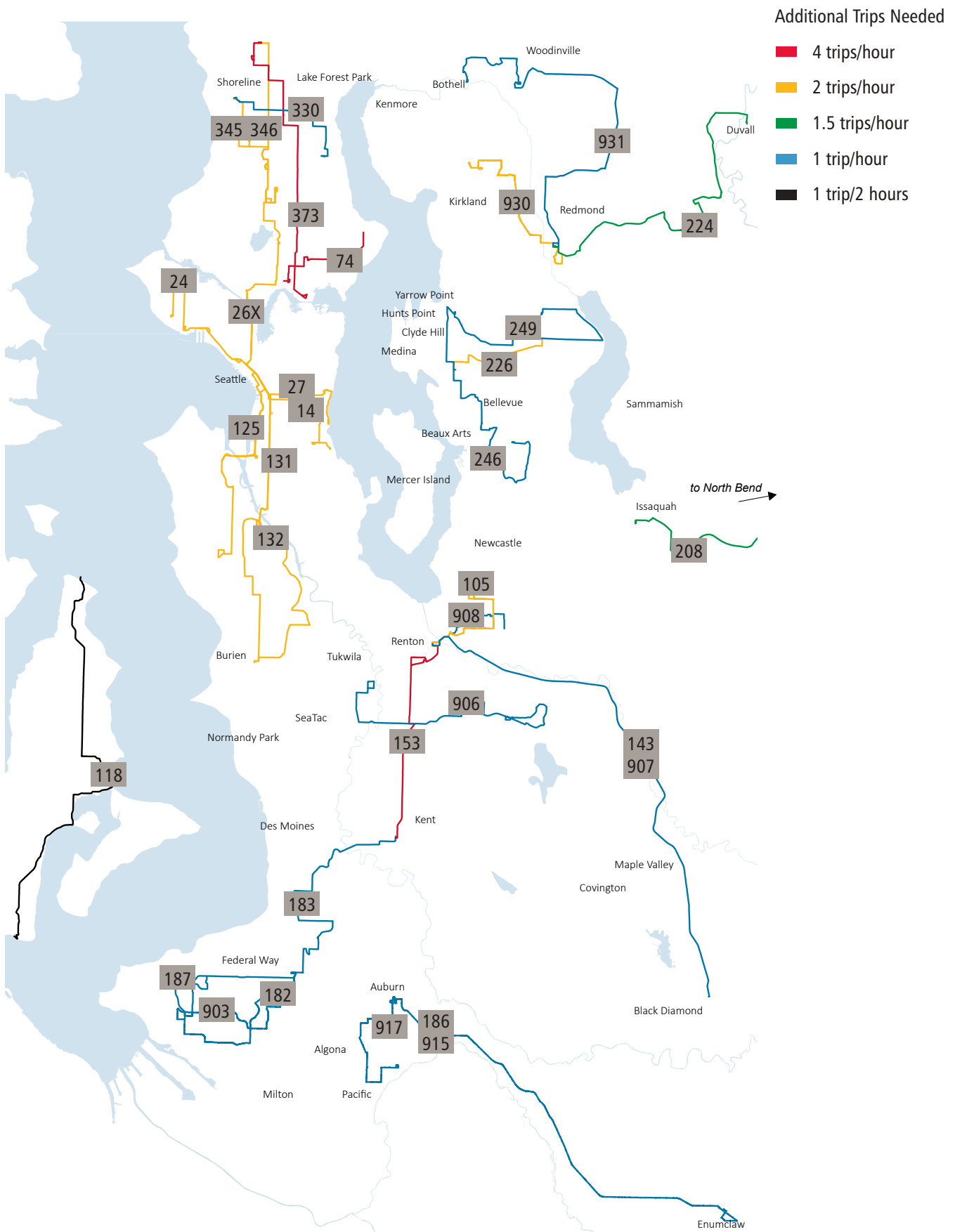
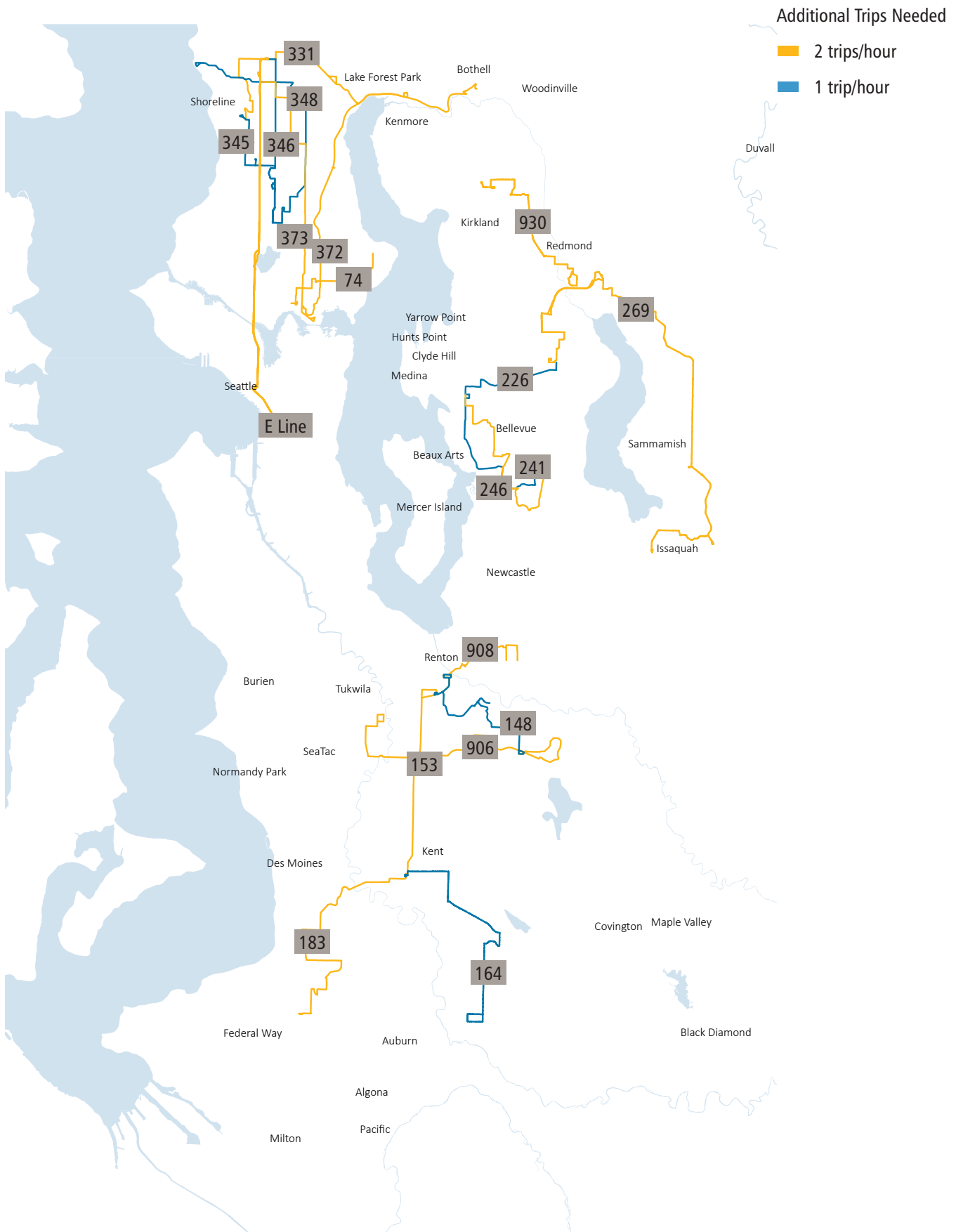


Figure 5. Metro Corridors Needing Investment per the Service Guidelines (Night Period, after 7 p.m.)



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## Route Productivity (Priority 4)

### What is Productivity?

Productivity is a measure of efficiency and an indicator of how much demand there is for service. High productivity indicates high demand for transit, so the region has an interest in meeting that demand and helping it grow even more. Much of the transit service growth envisioned by METRO CONNECTS will happen on routes and in areas that are highly productive. See Appendix A for more about how we measure productivity.



Route productivity statistics (Appendix C) inform our decisions about service investments, restructures, and reductions. Routes in the top 25 percent are eligible for investment, and routes in the bottom 25 percent are eligible for reduction<sup>1</sup> when the budget requires service reductions. The fixed-route system is divided into three service types (Urban, Suburban, and DART/Shuttles), and each route is compared only to other routes of the same service type. (See Appendix A for definitions of these categories.)

From March through June 2018, we generally saw a continuation of the recent trend of decreasing productivity, although this year's results were more mixed than last year's. This is expected in periods of growth, as it can take some time for ridership to build after adding service hours to the system.

- » Suburban routes remained generally flat, though we do see indications of strengthening productivity. Notably, productivity increased at night.
- » Urban routes also saw increases in productivity at night, though not to the same extent as Suburban routes. Metro and Seattle invested in midday service over the past year, so midday productivity declined as expected.

See Appendix C for route-by-route productivity data and Appendix D for changes to the thresholds designating the top and bottom 25 percent of routes by service type.

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## Peak Analysis

### What is Peak Analysis?

Peak-only services are routes, including express variants of local routes, that run only during the morning and afternoon peak periods on weekdays. Peak-only services add to the all-day network and provide more service at times of peak demand, usually in one direction.

In addition to their evaluation for crowding and reliability, peak-only routes undergo an additional analysis called the peak analysis. It compares each route that operates only in the peak period to an underlying local alternative, if one exists. Routes are measured in two metrics:

- » **Travel time:** Is the peak-only route  $\geq 20$  percent faster than the local alternative?
- » **Ridership:** Does the peak-only route have  $\geq 90$  percent of the local alternative's ridership during the peak hours?

Peak-only routes incur additional operating costs, as they require an increase in the size of our fleet and spend a higher-than-average amount of time deadheading (traveling without passengers from the base to the first bus stop, and from the last bus stop back to the base). To justify these additional costs and avoid being assigned top priority for reduction when Metro must reduce service, low-performing peak-only routes must meet at least one of the criteria above. (Note: high-performing peak-only routes are excluded from the top priority for reduction, like all other high-performing routes.) Our Service Guidelines provide more information about how we use peak-only metrics when reducing service.

This year, we found that 56 of the 64 peak-only routes we analyzed met at least one of the criteria, leaving only eight routes that failed both. See Appendix E for the complete results of our peak analysis.



<sup>1</sup> Other criteria must also be met for a service reduction to occur.





## Community Connections Annual Report

Metro’s Community Connections program (formerly Alternative Services) was created in response to growing demand for mobility in the face of fluctuating funding. Its purposes are to support growing communities, right-size and complement existing services, and develop innovative alternatives to fixed-route service in communities that lack the land use, density, or topography to support a productive fixed-route transit network.

The alternative services concept became a four-year demonstration program with dedicated funding in King County’s 2015–2016 biennial budget (Ordinance 17941). Work on the demonstration program has been guided by the priorities established by the funding ordinance: reducing the impact of service reductions, delivering the priorities laid out in the Five-Year Implementation Plan for Alternatives to Transit Service Delivery, and developing complementary services. It will continue as a regular Metro program in 2019–2020. The program will manage pilot projects already underway and manage the conversion of successful pilot services to operational services.

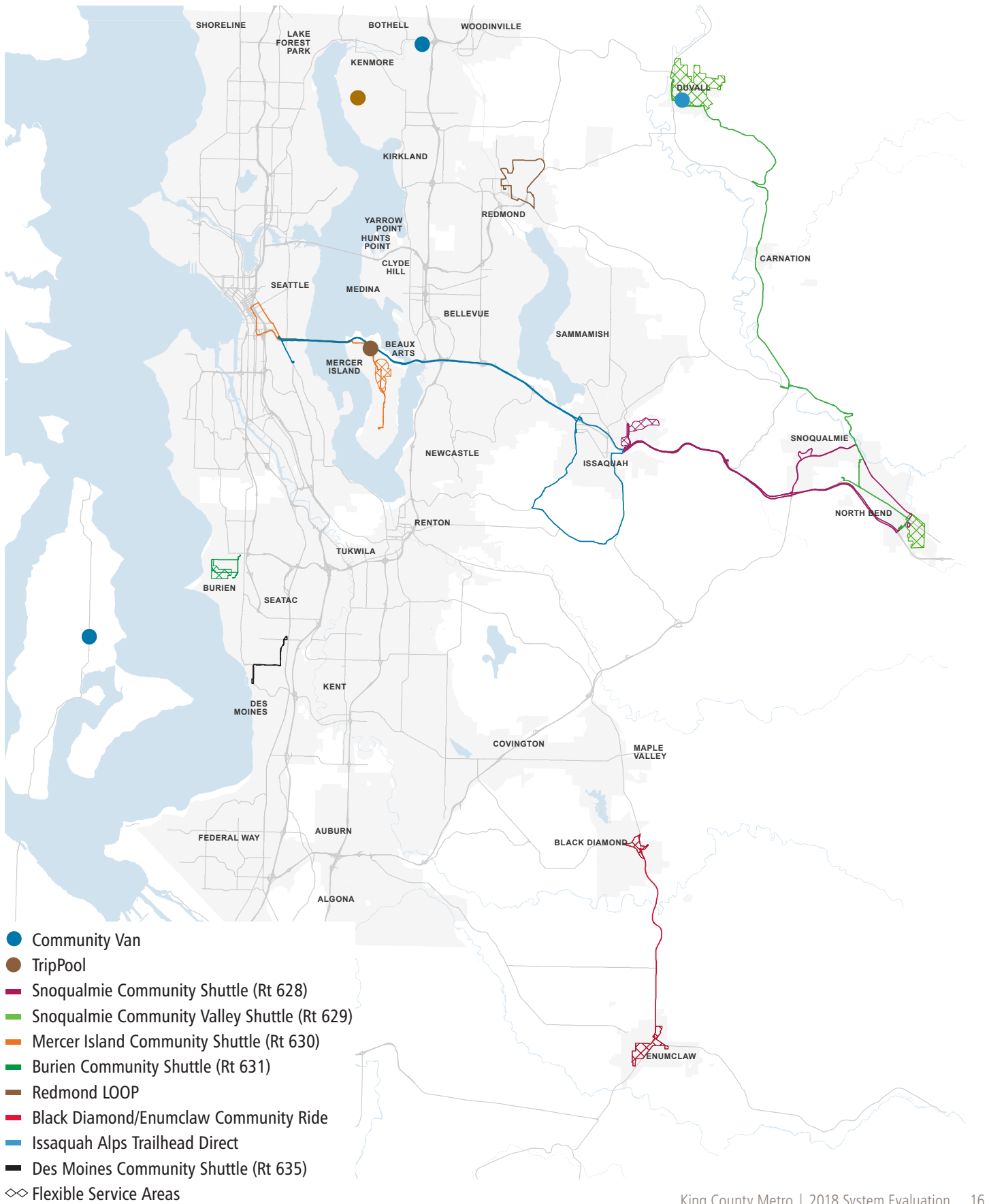
One of the defining features of the Community Connections program is the ability to launch, test, and refine innovative service solutions in partnership with communities. These services leverage Metro’s long-standing success in both DART and ridesharing services in combination with emerging mobility technologies. In addition to our current services (described below), we are also considering new ideas that include vehicles that respond to requests in real-time, promotional partnerships with taxi and transportation network companies, and “space-available open door” access to eligibility-based services. As we continue to work with communities on our pilot projects, we expect to develop other ideas for innovative, customized services.

- » **Community Ride:** Reservation-based services for appointments, errands, and other local trips.
- » **Community Shuttle:** Metro routes with flexible service areas, provided through community partnerships.
- » **Community Van:** Metro vans for local group trips scheduled by a community transportation coordinator to meet local needs.
- » **Flex VanPool:** Through a mobile app, allows VanPool drivers to make temporarily empty seats available to drop-in riders interested in sharing the ride for one-way trips.
- » **On-Demand Ride:** Users can hail trips to and from a transit center or park-and-ride, on-demand, using a phone or mobile app. Provided through partnership with a private company.
- » **Midday Your Way:** Provides midday transportation options for workers who commute by transit or VanPool. Users can check out Metro vehicles at their work sites during designated hours.
- » **Real-Time Rideshare:** Promotes the use of mobile apps for private carpool ridematching in real-time.
- » **TripPool:** Real-time ridesharing between users’ home neighborhoods and transit centers.
- » **Neighborhood Connections:** Designated gathering points for catching shared rides, and pathway improvements that make it safer to reach transportation options.

## Pilot Services

The map in Figure 6 shows the 13 pilot services operating during the September 2017 to March 2018 service period.

Figure 6: Metro Community Connections services as of March 2018



## Product Performance

Metro collects and analyzes ridership data for pilot services deployed through the Community Connections program. Pilot services that were in their performance evaluation phase during September 2017 to March 2018 include the Snoqualmie Community Shuttle (Route 628), Snoqualmie Valley Community Shuttle (Route 629), Mercer Island Community Shuttle (Route 630), Burien Community Shuttle (Route 631), Redmond LOOP, Black Diamond Enumclaw Community Ride, and Mercer Island TripPool. Please see Appendix A for the method we used to develop performance measures.

Operational pilot services shown in Figure 6 that were not in their performance evaluation phase during the September 2017-March 2018 service period include Bothell-Woodinville Community Van, Vashon Community Van, Trailhead Direct-Issaquah Alps, and Des Moines Community Shuttle; these services were in their baseline data collection phase as of March 2018. Note: The 2017 System Evaluation included Redmond Real-Time Rideshare as an operational pilot service; due to a lack of ridership, this pilot was discontinued in November 2017 prior to reaching the performance evaluation phase.

Table 3: Data for Pilot Services in Evaluation Phase, September 2017–March 2018

Route	Daily Ridership	Cost/Boarding	Vehicle Utilization	Customer Satisfaction
Snoqualmie Community Shuttle (Route 628)	57.4	\$20.78	37%	90%
Snoqualmie Valley Community Shuttle (Route 629)	69.1	\$18.66	59%	100%
Mercer Island Community Shuttle (Route 630)	166.4	\$4.15	76%	100%
Burien Community Shuttle (Route 631)	79.3	\$6.38	36%	100%
Redmond LOOP	19.8	\$19.51	44%	95%
Black Diamond Enumclaw Community Ride	10.8	\$36.66	13%	100%

Route	Monthly Passenger Trips	Cost/Boarding	Vehicle Utilization	Customer Satisfaction
Mercer Island TripPool*	52	\$2.67	22%	TBD

\* Discontinued in July 2018 due to poor performance

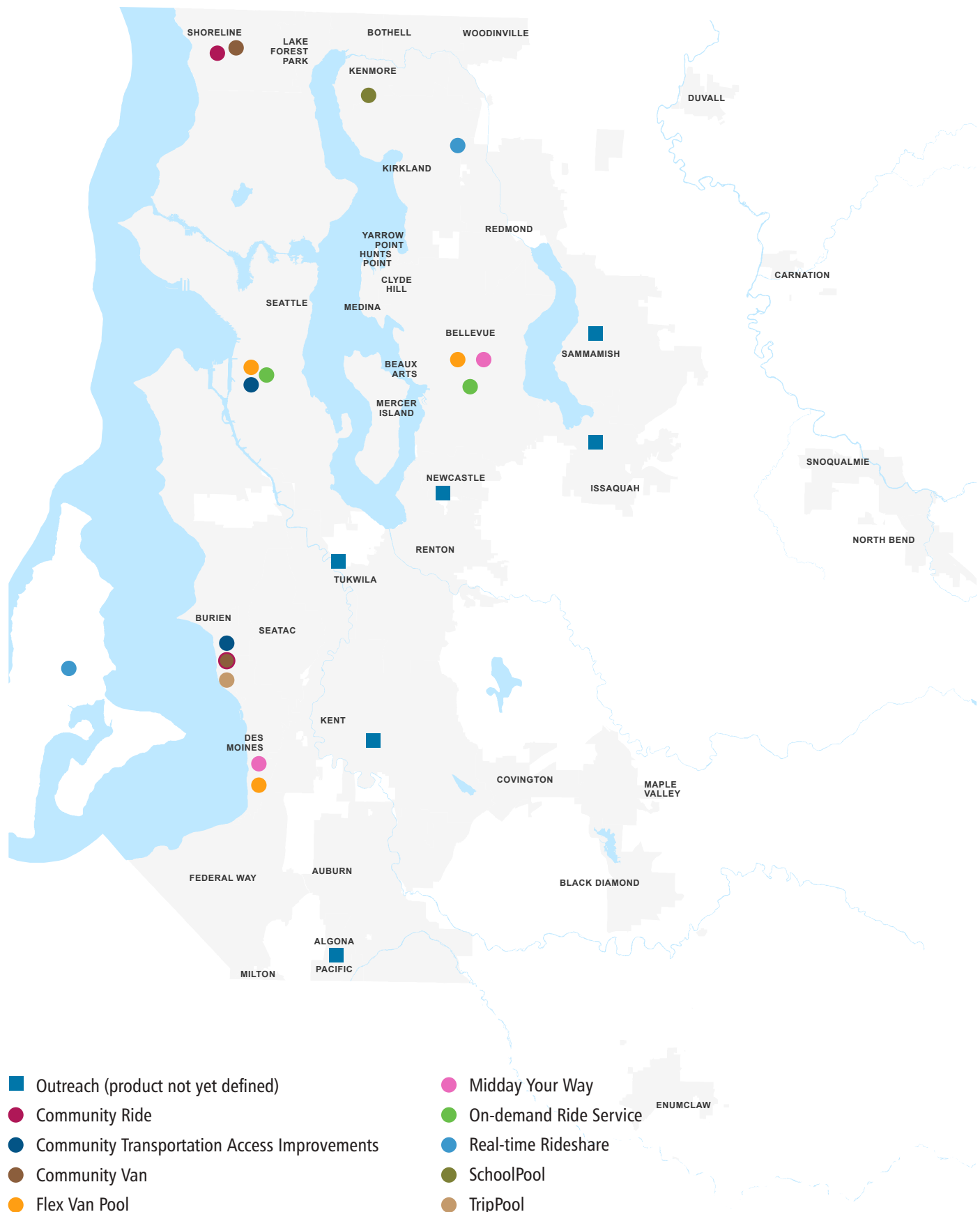
## Projects in Planning

Figure 7 shows pilot services that were in the planning stage at the end of the assessment period (March 2018). This stage includes needs assessment, concept preference analysis, and implementation planning.





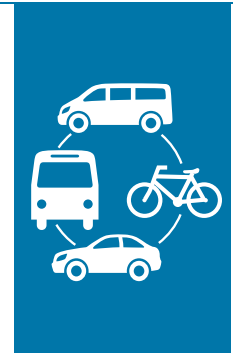
Figure 7: Metro Community Connections Projects in Planning Phases as of March 2018



# METRO CONNECTS Progress Report

## Overview

This section reports on Metro’s progress toward the METRO CONNECTS long-range vision: to bring more and better transit service to King County to meet the growing demand and needs of the region over the next 25 years. This is the second installment of this report and represents Metro’s first step in the long-term monitoring of performance metrics associated with METRO CONNECTS.



## Measuring Progress

METRO CONNECTS envisions major changes to the King County transit network that would increase access to transit, how much transit is used, and how efficient it is. The plan outlines key performance metrics intended to show progress toward our 2040 vision (see Figure 9 on p. 27 of METRO CONNECTS). Table 4 below compares our current performance on some of these metrics to our goals for 2040. These metrics are intended to measure:

- » **Transit access.** Walkable access to frequent transit service, including for historically disadvantaged populations, and how people are getting to transit
- » **Transit use.** Use of Metro and Metro-operated transit systems, and transit use during the busiest travel times
- » **Transit efficiency.** The productivity and cost-efficiency of our system

Annual monitoring of these metrics allows us to track our progress toward our desired 2040 outcomes. As outlined in METRO CONNECTS, full implementation of the vision will require additional resources beyond what our current revenue sources will be able to provide. In future System Evaluations, we intend to include METRO CONNECTS metrics for accessibility and all-day service. Over the coming year, we will adapt and refine the first round of accessibility analysis published in our 2017 Strategic Plan Progress Report to better align with the metrics outlined in METRO CONNECTS.

Table 4. METRO CONNECTS Performance Metrics

METRO CONNECTS Performance Metrics	2017	2040
<b>Transit access (fixed-route)</b>		
Proximity of households to transit stops: percentage of households within half a mile of frequent service	53%	73%
Equity of access: percentage of minority households with access to frequent service	54%	77%
Equity of access: percentage of low-income households with access to frequent service	61%	87%
Proximity of jobs to transit stops: percentage of jobs within half a mile of frequent service	68%	87%
Access to transit: percentage of people who bike and walk to transit	78%	84%
<b>Transit use (all transit)</b>		
Ridership: daily boardings	507,000	1,026,000
Mode share: percentage of all commute trips taken on transit (2016 one-year American Community Survey estimates, Table B08101)	13.1%	23%
<b>Transit efficiency</b>		
Cost per boarding (Metro fixed-route bus and DART service only) *2015 dollars	\$4.73	\$3.95
Productivity: boardings per hour (Metro fixed-route bus and DART service only)	30.7	36.7



## Potential Changes to the Service Guidelines and Strategic Plan Integration with METRO CONNECTS

We are developing updates to integrate METRO CONNECTS into our Service Guidelines. A policy report issued to the King County Council last year identified two major areas of the guidelines that should be updated:

- » **Partnerships.** Clarify the definition, process, prioritization, and support needed, including the development of a strategy for smaller cities.
- » **Service network.** Revise guidance for prioritizing investments in the future network, incorporating speed and reliability, fleet, layover, access, passenger facilities, bases, and other capital projects into the decision-making process.

Metro will collaborate with the King County Council, Regional Transit Committee, and stakeholders in 2019 to develop proposed policy changes to better align the Service Guidelines with METRO CONNECTS.

# Appendices

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## Appendix A: Methodologies and Process Descriptions

### Crowding (Priority 1)

Data is processed for two metrics: crowding and 20-minute standing loads.

**Crowding.** Data from Automated Passenger Counters (APCs) are collected, validated, cleaned, and compiled for each unique trip in the system (for example, the Route 5 trip that leaves Shoreline Community College at 5:15 a.m. on weekdays). We use several months of data to determine the average maximum load on each trip. We compare this figure to the crowding threshold of the scheduled coach assignment. Each coach type Metro operates has its own crowding threshold. This threshold is determined by adding the number of seats on the coach to the number of standing passengers the coach can accommodate if each passenger has at least 4 square feet of floor space. For example, a coach with 50 seats and 100 square feet of floor space available for passengers to stand would have a crowding threshold of  $50 + 100/4 = 75$ . If a trip's average maximum load is greater than its crowding threshold, we then determine if other trips that arrive within 15 minutes have the capacity to take the excess load without being overcrowded themselves. If excess capacity does not exist, the route is identified as needing investment. This process prevents Metro from adding too much capacity where it already exists. We estimate investment need based on the number of hours it takes to provide a trip on the identified route in the identified time period.

**20-minute standing loads.** We compile data from APCs for each unique trip in the system. We use several months of data to determine the average departing load from each bus stop served by the trip. We also use the data to determine the average time when buses leave each stop (known as the "passing minute"). We process these data to determine whether the passenger load exceeded the number of seats on the scheduled coach assignment for a period of at least 20 consecutive minutes. Where this happens, we check whether other trips that arrive within 15 minutes have the capacity to take those standing passengers without having standing loads themselves. If we don't find excess capacity, we identify the route as needing investment. Note that this measure does not determine if any individual passengers were standing for more than 20 minutes, as Metro is unable to collect such data. Investment need is estimated as above.

### Reliability (Priority 2)

On-time performance is measured by comparing actual arrival times at time stops to scheduled arrival times. Buses that arrive at time stops up to 1.5 minutes before the scheduled time and up to 5.5 minutes after the scheduled time are considered to be on time. This allows for random variations resulting from operating in mixed traffic without prompting an unnecessary allocation of resources. All arrivals at time stops are recorded by systems on the bus. This data is then validated and cleaned. For the System Evaluation, we analyze late arrivals by route and by time period. The four time periods we use are weekdays all day, weekday PM peak, Saturdays all day, and Sundays all day. For each route and each time period, we calculate the percentage of recorded arrivals at time stops that are late (more than 5.5 minutes after the scheduled arrival time). For all-day measures, routes that arrive late more than 20 percent of the time are identified for investment. For the weekday PM peak period, routes that arrive late more than 35 percent of the time are identified for investment. Investment need is estimated based on how much time must be added to schedules to ensure the route meets the 20 percent or 35 percent goal.

## Methodologies and Process Descriptions continued

### Service Growth (Priority 3)

Target service levels are determined for corridors, which are major transit pathways throughout the county. A combination of productivity, geographic value, and social equity factors are used to determine how much service each corridor should have.

**Productivity.** The productivity measure includes two primary factors:

**Housing.** We calculate the number of housing units that fall within a quarter-mile network-based walkshed of each stop served by the corridor. Housing unit information is maintained by the King County Assessor. We add the number of park-and-ride stalls within the same walkshed, multiplied by a factor of 1.1 (representing average occupancy), to this figure. Park-and-ride data is maintained by Metro. A graduated scale establishes the points assigned to each corridor (see the Service Guidelines for more information).

**Employment.** We calculate the number of jobs that fall within the same walkshed. This proprietary information is provided by the Puget Sound Regional Council. To this number we add the number of in-person students at campuses of degree-conferring institutes of higher learning that fall within the same walkshed. This data is collected from each institute of higher learning. A graduated scale establishes the points assigned to each corridor (see the Service Guidelines for more information).

**Geographic Value.** This measure determines the value of connections made between centers. A primary connection between each distinct pair of Regional Growth Centers, Manufacturing/Industrial Centers, and Transit Activity Centers is determined based on two factors: ridership and travel time. These two factors are designed to determine which corridor a typical rider would choose when traveling between two centers. We evaluate each corridor serving each pair of centers on these factors; the best corridor is determined to be the primary connection and scores points as outlined in the Service Guidelines.

**Social Equity.** This measure includes two primary factors:

- » Boardings from low-income census tracts
- » Boardings from minority census tracts

First, census tracts in King County are divided into two groups: low-income or not low-income. Low-income tracts are those where a greater percentage of the population than the countywide average has low incomes (less than 200 percent of the federal poverty level depending on household size). This data is from the latest American Community Survey 5-year estimates, or decennial census data when it is the most up-to-date and accurate. Second, we compare each corridor's proportion of inbound boardings that happen in low-income tracts to the systemwide average of boardings in low-income tracts. Corridors above the systemwide average receive the greatest numbers of points, while corridors just below the systemwide average receive fewer. See the Service Guidelines for more details.

We use this same process to measure boardings from minority census tracts.

**Initial target and final target.** The aggregate score of the three measures above determines each corridor's initial service level. We then conduct an analysis that measures how crowded buses would be, given current ridership, if only that level of service were provided. If the initial level of service is not sufficient to handle current ridership, we adjust final target service levels upward to ensure the target at least matches current demand. We apply additional policy considerations for night service to arrive at target service levels for peak, off-peak, and night time periods. Then we compare the target to current service levels in each time period. We estimate investment need corridor by corridor based on this gap, if one exists, by determining the number of additional trips that are needed to meet the target. We prioritize corridors for investment based on their initial score, ordering first by geographic value, then productivity, then social equity, then corridor number if a tie exists.

## Methodologies and Process Descriptions continued

### Route Productivity (Priority 4)

We calculate two measures of productivity for three time periods (peak, off-peak, and night):

- » Rides per platform hour. Annualized ridership for each route in each time period is determined based on data collected in one service period (between one service change and the next). Annualized platform hours are similarly calculated. We then divide rides by platform hours.
- » Passenger miles per platform mile. Annualized passenger miles (the sum of miles every individual passenger travels) are divided by the number of miles buses traveled on each route in each time period.

Routes are separated into three service types: urban, suburban, and DART/Shuttle:

- » Urban routes primarily serve the densest parts of the county: the PSRC-designated Regional Growth Centers of Seattle Downtown, First Hill/Capitol Hill, South Lake Union, the University Community, and Uptown.
- » Suburban routes primarily serve passengers in suburban and rural areas in Seattle and King County.
- » DART/Shuttle routes are those that provide flexible, community-based service that has different characteristics than the fixed-route system.

For each group of routes, in each time period, for each measure, we calculate quartiles based on the results. Each route's performance in each time period in each measure is classified as being in either the top 25 percent, middle 50 percent, or bottom 25 percent of routes within the same service type. This data helps planners know which routes in each category and in each time period are the most and least productive, which informs investment and reduction decisions in accordance with the Service Guidelines.

### Peak Analysis

Routes that operate only the peak period are called peak-only routes. A local alternative for each peak-only route is designated only if the local alternative serves at least 50 percent of the riders of the peak-only route. Each peak-only route is compared to its alternative, if one exists, on two measures: ridership and travel time. Peak-only routes either pass or fail each measure. If the peak-only route's ridership is at least 90 percent of the alternative route's ridership in the peak period, it passes the ridership test. If the peak-only route's scheduled travel time is at least 20 percent faster than the alternative route's travel time, it passes the travel time test. If no local alternative exists, the peak-only route automatically passes both measures. We use the results of this analysis when Metro is forced to reduce service, in accordance with the Service Guidelines.

### Community Connections

This section describes the methodology for measuring the performance of Community Shuttle and TripPool services. Conceptually, the performance measures are similar, but due to differences in service design, the computation of those measures are different.

### Community Shuttle

Community Shuttle performance measures are based on DART performance measures. The table below shows the performance measures used to evaluate Community Shuttle routes. The description for each measure includes its purpose and how its outcome may inform changes to service.

## Methodologies and Process Descriptions continued

Measure	Description
Average daily ridership	<ul style="list-style-type: none"> <li>» Purpose: This metric is designed to measure the level of use of alternative services over time.</li> <li>» High ridership may trigger additional trips and/or conditional conversion to fixed-route service.</li> <li>» Low ridership may trigger a re-evaluation of the service and potential right-sizing.</li> </ul>
Cost per boarding	<p>Direct fixed cost per boarding</p> <ul style="list-style-type: none"> <li>» Purpose: This measure compares the direct cost of the service on a per-passenger basis. Direct cost is defined as the fixed cost of operating the service. In the case of this service, the direct cost is determined through a contract with Hopelink. This cost includes service operation, vehicle maintenance and administration conducted by the service provider. Due to the highly variable nature of fuel prices, we excluded this cost from this measure in order to be able to generate numerical targets for a particular route. Including fuel prices in this measure would require Metro to forecast the future price of fuel in order to set realistic performance targets.</li> <li>» Example: a shuttle that costs \$1,200 per day to operate and provides an average of 100 boardings per day costs \$12 per boarding to provide the service.</li> <li>» An uncharacteristically high cost per boarding may trigger a re-evaluation of the service and potential right-sizing.</li> </ul>
Vehicle capacity used	<p>Rides per seat provided</p> <ul style="list-style-type: none"> <li>» Purpose: This metric is designed to measure the level of use of alternative services relative to the capacity of the service provided.</li> <li>» Example: a shuttle with 16 seats making four one-way trips per weekday will provide 1,280 seats over the course of a month. This measure compares the rides provided in that month to the number of seats.</li> <li>» High vehicle capacity use may trigger additional trips and/or conditional conversion to fixed-route service.</li> <li>» Low vehicle capacity use may trigger a re-evaluation of the service and potential right-sizing.</li> </ul>
Customer satisfaction	<p>Measures customer satisfaction with a given service based on intercept surveys of current riders.</p> <ul style="list-style-type: none"> <li>» Purpose: This metric is designed to determine if a given service is meeting the community-identified transportation need effectively.</li> <li>» High customer satisfaction suggests that a Community Connections solution is meeting the needs of the community effectively.</li> <li>» Low customer satisfaction suggests that the service in its current form is not effectively meeting the needs of the community and may trigger a re-evaluation of the service to better fit customer needs.</li> </ul>



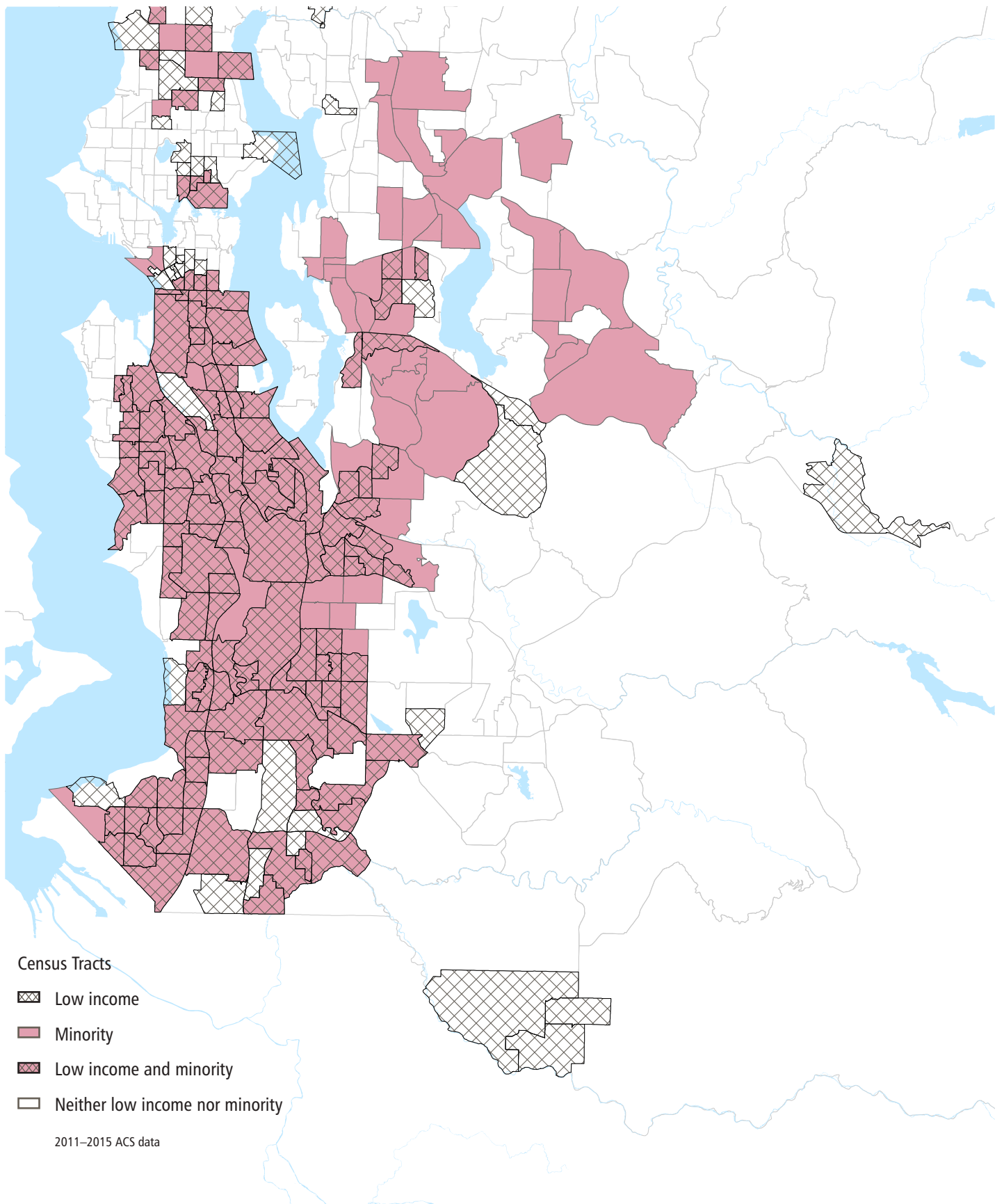
## Methodologies and Process Descriptions continued

### TripPool

The table below shows the performance measures used to evaluate TripPool services. The description for each measure includes its purpose and how its outcome may inform changes to service.

Measure	Description
Average daily ridership	<ul style="list-style-type: none"> <li>» Purpose: This metric is designed to measure the level of use of services over time.</li> <li>» High ridership may trigger adding additional vehicles to the system.</li> <li>» Low ridership may trigger a re-evaluation of the service and potential right-sizing.</li> </ul>
Vehicle capacity used	<p>Average participants/trip</p> <ul style="list-style-type: none"> <li>» Purpose: This metric is designed to measure the level of use of service for a trip.</li> <li>» High participation for a trip may trigger additional trips of this type, or provision of a larger vehicle.</li> <li>» Low use may trigger re-evaluation of a trip when resources are constrained or opportunity costs are high.</li> </ul>
Operating cost per boarding	<p>Operating cost/ boarding</p> <ul style="list-style-type: none"> <li>» Purpose: This measure compares the actual cost of the service on a per-passenger basis.</li> <li>» An uncharacteristically high cost per rider may trigger a re-evaluation of the service and potential right-sizing.</li> <li>» Low cost per rider may trigger an expansion of the service.</li> </ul>
Customer satisfaction	<p>Measures customer satisfaction with a given service based on intercept surveys of current riders.</p> <ul style="list-style-type: none"> <li>» Purpose: This metric is designed to determine if a given service is meeting the community-identified transportation need effectively.</li> <li>» High customer satisfaction suggests that a Community Connections solution is meeting the needs of the community effectively.</li> <li>» Low customer satisfaction suggests that the service in its current form is not effectively meeting the needs of the community and may trigger a re-evaluation of the service to better fit customer needs.</li> </ul>

## Appendix B: King County Low-Income and Minority Census Tracts



## Appendix C: Route Productivity Data

### Suburban Routes

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: Suburban Routes		Peak		Off Peak		Night	
Bottom 25%		14.0	4.7	12.1	4.7	9.6	3.5
Top 25%		23.9	8.2	25.1	8.3	16.8	5.6
22	Arbor Heights - Westwood Village - Alaska Junction	20.4	5.0	9.1	2.1	5.7	1.1
50*	Alki - Columbia City - Othello Station	24.4	6.1	19.1	5.2	8.0	2.4
105	Renton Highlands - Renton TC	30.2	9.3	27.7	8.9	16.4	4.8
107	Renton TC - Rainier Beach	26.3	6.7	21.6	6.4	12.7	3.7
118	Tahlequah - Vashon	11.7	4.8	12.6	3.9	9.1	3.4
119	Dockton - Vashon	16.2	5.2	13.0	5.9		
128	Southcenter - Westwood Village - Admiral District	26.4	8.9	24.7	7.9	12.3	4.5
148	Fairwood - Renton TC	13.7	5.7	13.9	6.0	11.3	5.1
153	Kent Station - Renton TC	17.6	6.1	12.0	4.7		
154	Tukwila Station - Boeing Industrial	16.2	5.1	26.2	8.2		
156	Southcenter - SeaTac Airport - Highline CC	15.7	4.3	16.2	6.0	10.0	3.8
164	Green River CC - Kent Station	36.6	11.1	36.0	13.3	22.8	6.9
166	Kent Station - Burien TC	22.3	7.8	25.2	9.1	15.8	5.9
168	Maple Valley - Kent Station	20.2	6.5	22.4	8.3	17.6	4.9
169	Kent Station - East Hill - Renton TC	23.5	8.7	25.1	10.1	25.1	9.1
180	Auburn - SeaTac Airport - Burien TC	30.3	10.3	30.8	11.6	17.2	6.9
181	Twin Lakes P&R - Green River CC	21.0	6.6	25.0	9.2	16.0	4.2
182	NE Tacoma - Federal Way TC	14.5	3.8	18.7	6.1		
183	Federal Way - Kent Station	19.9	7.5	17.5	8.1	9.3	3.8
186	Enumclaw - Auburn Station	10.7	2.9				
187	Federal Way TC - Twin Lakes	25.1	6.6	27.3	7.8	15.8	3.6
200	Downtown Issaquah - North Issaquah			7.3	1.8		

## Route Productivity Data continued

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: Suburban Routes		Peak		Off Peak		Night	
Bottom 25%		14.0	4.7	12.1	4.7	9.6	3.5
Top 25%		23.9	8.2	25.1	8.3	16.8	5.6
201	South Mercer Island - Mercer Island P&R via Mercer Wy	2.1	0.3				
204	South Mercer Island - Mercer Island P&R via Island Crest	8.7	1.8	11.5	3.0		
208	Issaquah - North Bend	6.0	3.4	7.9	5.1	3.9	1.4
221	Education Hill - Overlake - Eastgate	19.5	6.2	17.4	5.4	9.6	2.5
224	Duvall - Redmond TC	7.7	3.1	9.0	4.0		
226	Eastgate - Crossroads - Bellevue	23.1	7.4	19.6	5.5	10.8	3.1
232	Duvall - Bellevue	15.6	6.3				
234	Kenmore - Kirkland TC - Bellevue	20.6	8.5	15.9	6.1	9.9	3.6
235	Kingsgate - Kirkland TC - Bellevue	22.0	7.7	15.7	6.1	9.6	3.6
236	Woodinville - Totem Lake - Kirkland	6.5	1.9	7.0	2.3		
237	Woodinville - Bellevue	21.6	10.8				
238	Bothell - Totem Lake - Kirkland	8.7	2.6	10.4	3.4		
240	Bellevue - Newcastle - Renton	21.6	9.2	18.5	8.3	11.3	5.1
241	Eastgate - Factoria - Bellevue	14.1	4.6	9.7	3.5	6.6	2.2
243	Overlake - Kenmore	2.3	0.8				
244	Kenmore - Overlake	12.4	6.5				
245	Kirkland - Overlake - Factoria	23.8	7.0	20.6	6.2	15.0	4.1
246	Eastgate - Factoria - Bellevue	13.2	3.2	9.0	2.6		
248	Avondale - Redmond TC - Kirkland	19.3	5.6	16.6	4.7	10.9	2.8
249	Overlake - South Kirkland - South Bellevue	15.9	4.5	11.4	3.6		
269	Issaquah - Overlake	12.6	5.6	7.3	3.4		
330	Shoreline CC - Lake City	24.1	7.0	33.3	10.5		
331	Shoreline CC - Kenmore	16.4	5.8	16.5	5.3		



## Route Productivity Data continued

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: Suburban Routes		Peak		Off Peak		Night	
Bottom 25%		14.0	4.7	12.1	4.7	9.6	3.5
Top 25%		23.9	8.2	25.1	8.3	16.8	5.6

342	Shoreline - Bellevue TC - Renton	16.6	8.8				
345	Shoreline CC - Northgate	31.4	8.2	29.7	7.9	9.4	3.6
346	Aurora Village - Northgate	28.2	8.2	23.1	7.4	11.0	4.5
347	Mountlake Terrace - Northgate	23.4	7.4	20.9	6.3	16.7	5.5
348	Richmond Beach - Northgate	23.3	6.2	22.2	5.8	17.1	5.7
A Line	Federal Way - Tukwila	54.8	16.7	58.4	19.0	45.1	14.0
B Line	Bellevue - Crossroads - Redmond	42.5	12.7	34.1	10.8	28.5	7.8
F Line	Burien - Tukwila Int'l Blvd - Renton	32.2	9.5	33.5	11.5	22.4	7.2

## DART/Shuttle Routes

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: DART/Shuttle Routes		Peak		Off Peak		Night	
Bottom 25%		8.1	2.1	7.4	2.3	13.0	4.7
Top 25%		11.9	3.8	13.8	4.5	13.0	4.7

901DART	Mirror Lake - Federal Way TC	16.7	4.7	17.6	4.6	13.0	4.7
903DART	Twin Lakes - Federal Way TC	8.1	1.8	11.1	2.4		
906DART	Fairwood - Southcenter	13.3	4.3	13.8	5.5		
907DART	Enumclaw - Renton TC			6.3	2.9		
908DART	Renton Highlands - Renton TC	8.0	2.1	6.5	1.9		

## Route Productivity Data continued

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: DART/Shuttle Routes		Peak		Off Peak		Night	
Bottom 25%		8.1	2.1	7.4	2.3	13.0	4.7
Top 25%		11.9	3.8	13.8	4.5	13.0	4.7
910DART	North Auburn - SuperMall			11.2	2.5		
913DART	Kent Station - Riverview	9.5	2.5				
914DART	Kent - Kent East Hill			13.9	4.0		
915DART	Enumclaw - Auburn Station			19.1	6.7		
916DART	Kent - Kent East Hill			11.0	4.5		
917DART	Pacific - Auburn	11.5	2.9	7.8	2.2		
930DART	Kingsgate - Redmond	9.4	3.6	10.7	3.9		
931DART	Bothell - Redmond	5.0	2.1	3.5	1.6		

## Urban Routes

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: Urban Routes		Peak		Off Peak		Night	
Bottom 25%		24.7	9.8	22.4	7.5	15.7	4.4
Top 25%		41.6	17.5	37.2	12.1	25.9	7.9
1*	Kinney - Seattle CBD	47.2	12.3	36.2	8.3	19.0	4.9
2*	West Queen Anne - Seattle CBD - Madrona Park	51.1	12.5	43.5	9.6	22.6	5.2
3*	Seattle Pacific University - North Queen Anne - Seattle CBD - Madrona Park	51.1	12.1	40.1	8.8	19.6	3.7
4*	Seattle Pacific University - East Queen Anne - Seattle CBD - Judkins Park	36.6	8.0	27.3	6.2	15.2	3.7
5*	Shoreline CC - Seattle CBD	56.2	19.9	41.7	14.3	22.8	7.9
5X*	Shoreline CC - Seattle CBD	43.2	16.6				
7*	Rainier Beach - Seattle CBD	43.7	14.1	47.4	14.5	34.3	10.7
8*	Seattle Center - Capitol Hill - Mt Baker	53.2	11.6	41.3	9.3	27.6	6.1
9	Rainier Beach - Capitol Hill	27.9	8.0	23.1	7.4		

## Route Productivity Data continued

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: Urban Routes		Peak		Off Peak		Night	
Bottom 25%		24.7	9.8	22.4	7.5	15.7	4.4
Top 25%		41.6	17.5	37.2	12.1	25.9	7.9

10*	Capitol Hill - Seattle CBD	36.2	6.9	36.8	7.5	22.0	4.5
11*	Madison Park - Seattle CBD	56.2	14.4	44.6	10.0	25.7	4.4
12*	Interlaken Park - Seattle CBD	49.3	9.5	32.4	6.3	14.7	3.5
13*	Seattle Pacific University - Queen Anne - Seattle CBD	41.6	11.6	38.3	9.2	27.5	6.3
14*	Mount Baker - Seattle CBD	41.1	9.5	35.7	7.5	18.5	4.4
15X	Blue Ridge - Ballard - Seattle CBD	45.0	18.0				
17X	Sunset Hill - Ballard - Seattle CBD	43.5	17.0				
18X	North Beach - Ballard - Seattle CBD	42.0	17.1				
19*	West Magnolia - Seattle CBD	27.2	9.6				
21*	Arbor Heights - Westwood Village - Seattle CBD	39.8	14.5	25.1	10.2	14.5	5.9
21X*	Arbor Heights - Westwood Village - Seattle CBD	31.9	15.8				
24*	Magnolia - Seattle CBD	42.5	13.2	25.3	8.8	14.0	4.5
26X	Northgate - East Green Lake - Wallingford - Seattle CBD	42.3	13.9	24.1	9.9	12.2	4.5
27*	Colman Park - Leschi Park - Seattle CBD	30.1	7.2	18.4	4.8	12.9	3.0
28X*	Broadview - Crown Hill - Ballard - Seattle CBD via Leary Way NW	38.9	13.3	23.9	9.0	11.5	4.2
29	Ballard - Queen Anne - Seattle CBD	29.1	7.0	12.6	3.8		
31*	University District - Fremont - Magnolia	28.8	7.7	23.4	6.4	12.8	3.9
32*	University District - Fremont - Seattle Center	36.1	10.8	29.4	9.5	21.0	5.6
33*	Discovery Park - Seattle CBD	48.8	14.0	29.1	8.5	13.0	4.2
36	Othello Station - Beacon Hill - Seattle CBD	43.6	12.3	41.6	11.8	24.6	6.6
37	Alaska Junction - Alki - Seattle CBD	19.1	9.4				

## Route Productivity Data continued

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: Urban Routes		Peak		Off Peak		Night	
Bottom 25%		24.7	9.8	22.4	7.5	15.7	4.4
Top 25%		41.6	17.5	37.2	12.1	25.9	7.9
40*	Northgate TC - Ballard - Seattle CBD via Leary Av NW	47.0	14.4	39.2	12.9	23.4	7.8
41*	Lake City - Seattle CBD via Northgate	53.9	27.7	40.8	21.3	27.7	15.6
43	University District - Capitol Hill - Seattle CBD	23.7	5.6	18.1	3.9	11.7	3.4
44*	Ballard - Wallingford - Montlake	59.1	16.5	44.5	12.5	32.5	8.4
45*	Loyal Heights - University District	36.9	8.7	36.8	9.8	26.1	5.4
47*	Summit - Seattle CBD	24.5	5.0	17.6	3.4		
48*	Mt Baker - University District	35.8	10.3	25.1	6.6	14.3	3.6
49*	University District - Capitol Hill - Seattle CBD	42.5	15.4	37.4	13.6	31.4	11.6
55*	Admiral District - Alaska Junction - Seattle CBD	30.3	13.9				
56	Alki - Seattle CBD	37.5	15.3				
57	Alaska Junction - Seattle CBD	41.7	17.6				
60*	Westwood Village - Georgetown - Capitol Hill	31.0	9.3	29.9	9.1	17.7	5.3
62*	Sand Point – Green Lake – Seattle CBD	40.7	11.9	27.7	9.1	16.4	5.1
63	Northgate - Cherry Hill	24.8	8.7	17.2	6.6		
64X	Jackson Park - Cherry Hill	26.2	8.7				
65*	Jackson Park – Lake City – University District	48.2	11.5	33.4	8.4	25.2	6.6
67*	Northgate TC - University District	41.5	11.9	37.8	10.6	30.2	7.1
70*	University District - Seattle CBD	52.6	18.0	43.1	16.2	20.3	7.7
71	Wedgwood - University District	28.0	6.1	24.3	5.6	17.3	3.2
73*	Jackson Park - Cowen Park - University District	20.2	4.1	28.3	8.6	26.7	7.2



## Route Productivity Data continued

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: Urban Routes		Peak		Off Peak		Night	
Bottom 25%		24.7	9.8	22.4	7.5	15.7	4.4
Top 25%		41.6	17.5	37.2	12.1	25.9	7.9
74	Sand Point - Seattle CBD	37.2	13.5	12.0	3.8		
75	Northgate TC - Lake City - Seattle CBD	38.0	9.6	30.2	7.3	21.3	5.1
76*	Wedgwood - Seattle CBD	38.7	15.2	18.9	8.8		
77	North City - Seattle CBD	34.8	18.5				
78	Children's Hospital - UW Station	17.9	3.6	15.4	3.2		
101	Renton TC - Seattle CBD	35.0	19.6	28.0	18.0	28.9	18.1
102	Fairwood - Renton TC - Seattle CBD	39.9	24.0				
106	Renton TC - Rainier Beach - Seattle CBD	36.4	9.6	31.4	9.5	20.8	7.1
111	Lake Kathleen - Seattle CBD	21.6	15.3				
113	Shorewood - Seattle CBD	20.2	10.4				
114	Renton Highlands - Seattle CBD	15.4	10.6				
116	Fauntleroy Ferry - Seattle CBD	20.7	7.6				
118X	Tahlequah - Vashon	17.7	9.2	14.0	6.8		
119X	Dockton - Vashon	18.7	10.2				
120*	Burien TC - Westwood Village - Seattle CBD	39.6	17.5	39.3	17.9	29.7	13.4
121	Highline CC -Burien TC - Seattle CBD via 1st Av S	18.7	8.7	16.5	6.7		
122	Highline CC -Burien TC - Seattle CBD via Des Moines Memorial Dr S	17.5	9.2	22.3	12.2		
123	Burien - Seattle CBD	27.3	18.1				
124*	Tukwila - Georgetown - Seattle CBD	33.5	12.0	30.2	10.1	19.8	7.9
125*	Westwood Village - Seattle CBD	31.7	13.6	19.4	8.9	14.8	6.6
131	Burien TC - Highland Park - Seattle CBD	38.3	16.4	34.3	13.2	22.8	9.4

## Route Productivity Data continued

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: Urban Routes		Peak		Off Peak		Night	
Bottom 25%		24.7	9.8	22.4	7.5	15.7	4.4
Top 25%		41.6	17.5	37.2	12.1	25.9	7.9
132	Burien TC - South Park - Seattle CBD	31.5	13.3	27.6	10.2	18.2	7.3
143	Black Diamond - Renton TC - Seattle CBD	16.0	11.3				
150	Kent Station - Southcenter - Seattle CBD	36.1	20.3	28.5	17.5	25.3	17.5
157	Lake Meridian - Seattle CBD	12.6	9.7				
158	Kent East Hill - Seattle CBD	18.1	13.3				
159	Timberlane - Seattle CBD	14.0	10.1				
167	Renton - Newport Hills - University District	21.3	17.5	12.2	9.6		
177	Federal Way - Seattle CBD	14.6	10.9				
178	South Federal Way - Seattle CBD	13.8	10.9				
179	Twin Lakes - Seattle CBD	18.4	15.5				
190	Redondo Heights - Seattle CBD	14.2	10.2				
192	Star Lake - Seattle CBD	9.5	7.4				
193	Federal Way - First Hill	14.1	10.8				
197	Twin Lakes - University District	12.5	10.4	12.9	8.7		
212	Eastgate - Seattle CBD	37.7	20.1	22.9	11.2		
214	Issaquah - Seattle CBD	26.1	17.6				
216	Sammamish - Seattle CBD	29.8	20.7				
217	Issaquah - Eastgate - Seattle CBD	21.1	14.8				
218	Issaquah Highlands - Seattle CBD	34.8	22.6	21.8	13.1		
219	Redmond - Sammamish - Seattle CBD	25.0	20.4				
252	Kingsgate - Seattle CBD	26.4	17.7				
255	Brickyard - Kirkland TC - Seattle CBD	34.8	18.4	23.9	13.6	20.6	10.8

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Spring 2018 Thresholds: Urban Routes		Peak		Off Peak		Night	
Bottom 25%		24.7	9.8	22.4	7.5	15.7	4.4
Top 25%		41.6	17.5	37.2	12.1	25.9	7.9

257	Brickyard - Seattle CBD	26.2	17.4				
268	Redmond - Seattle CBD	28.7	18.4				
271	Issaquah - Bellevue - University District	24.6	11.0	21.7	10.3	16.1	7.8
277	Juanita - University District	11.9	5.0	10.1	4.3		
301	Aurora Village - Seattle CBD	34.2	24.7	29.7	21.1		
303	Shoreline - First Hill	28.4	14.8				
304	Richmond Beach - Seattle CBD	25.6	17.5				
308	Horizon View - Seattle CBD	21.3	13.8				
309	Kenmore - First Hill	25.9	17.9				
311	Woodinville - Seattle CBD	28.2	19.9				
312	Bothell - Seattle CBD	31.9	18.4	21.1	10.7		
316*	Meridian Park - Seattle CBD	38.5	16.2				
355	Shoreline CC - University District - Seattle CBD	27.0	10.4	23.8	8.1		
372*	Woodinville - Lake City - University District	34.9	10.4	36.6	10.4	24.3	6.1
373	Aurora Village - University Village	39.6	13.2	27.8	8.3		
C Line*	Westwood Village - Alaska Junction - Seattle CBD	47.9	19.3	35.6	16.2	22.4	10.4
D Line*	Crown Hill - Ballard - Seattle Center - Seattle CBD	63.7	19.0	53.3	17.6	34.9	10.7
E Line*	Aurora Village - Seattle CBD	58.1	21.8	56.9	23.7	44.3	17.2
--	South Lake Union Streetcar	56.7	7.2	40.4	5.5	15.3	2.2
--	West Seattle Water Taxi **	96.0	30.0				
--	Vashon Island Water Taxi **	158.0	79.0				

\* Designates routes receiving Seattle investments

\*\* Water Taxi is operated by the King County Marine Division

## Appendix D: Changes to Route Productivity Thresholds

### Top 25%

Service Type	Year	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Suburban	2018	23.9	8.2	25.1	8.3	16.8	5.6
	2017	25.7	8.8	26.0	9.1	16.2	5.7
	Change	-1.7	-0.6	-0.9	-0.8	0.6	-0.1
Urban	2018	41.6	17.5	37.2	12.1	25.9	7.9
	2017	43.2	17.2	40.5	12.8	25.4	7.8
	Change	-1.6	0.3	-3.3	-0.7	0.5	0.0
DART/Shuttle	2018	11.9	3.8	13.8	4.5	13.0	4.7
	2017	14.0	2.7	16.5	3.2	16.8	2.9
	Change	-2.1	1.1	-2.6	1.3	-3.8	1.8

### Bottom 25%

Service Type	Year	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Suburban	2018	14.0	4.7	12.1	4.7	9.6	3.5
	2017	14.5	4.6	12.6	4.3	10.0	2.8
	Change	-0.5	0.1	-0.5	0.4	-0.4	0.7
Urban	2018	24.7	9.8	22.4	7.5	15.7	4.4
	2017	23.6	10.7	25.6	7.6	15.4	4.4
	Change	1.1	-0.8	-3.2	-0.1	0.3	0.1
DART/Shuttle	2018	8.1	2.1	7.4	2.3	13.0	4.7
	2017	9.1	1.3	10.0	2.0	16.8	2.9
	Change	-1.0	0.8	-2.5	0.3	-3.8	1.8

Rounding errors may appear in this table.



## Appendix E: Peak Route Analysis

Route	Description	Alternative Route(s)*	Ridership ≥ 90% of alternative	Travel Time ≥ 20% faster than alternative
5X	Shoreline CC - Seattle CBD	5	No	No
9	Rainier Beach - Capitol Hill	7	No	No
15X	Blue Ridge - Ballard - Seattle CBD	D Line	No	Yes
17X	Sunset Hill - Ballard - Seattle CBD	29	Yes	Yes
18X	North Beach - Ballard - Seattle CBD	40	No	No
21X	Arbor Heights - Westwood Village - Seattle CBD	21	Yes	Yes
29	Ballard - Queen Anne - Seattle CBD	2	Yes	Yes
37	Alaska Junction - Alki - Seattle CBD	773	Yes	Yes
55	Admiral District - Alaska Junction - Seattle CBD	50	Yes	No
56	Alki - Seattle CBD	50	Yes	Yes
57	Alaska Junction - Seattle CBD	56	Yes	No
64X	Lake City - First Hill	76	No	Yes
76	Wedgwood - Seattle CBD	71	Yes	No
77	North City - Seattle CBD	373	Yes	Yes
102	Fairwood - Renton TC - Seattle CBD	148	Yes	No
111	Lake Kathleen - Seattle CBD	None	Yes	Yes
113	Shorewood - Seattle CBD	None	Yes	Yes
114	Renton Highlands - Seattle CBD	240	Yes	Yes
116	Fauntleroy Ferry - Seattle CBD	C Line	No	No
118X	Tahlequah - Seattle CBD via ferry	118	Yes	No
119X	Dockton - Seattle CBD via ferry	119	Yes	No
121	Highline CC -Burien TC - Seattle CBD via 1st Av S	166	Yes	Yes
122	Highline CC -Burien TC - Seattle CBD via Des Moines Memorial Dr S	156	Yes	Yes
123	Burien - Seattle CBD	121	Yes	No
154	Tukwila Station - Boeing Industrial	124	No	No
157	Lake Meridian - Seattle CBD	None	Yes	Yes
158	Kent East Hill - Seattle CBD	164	Yes	No
159	Timberlane - Seattle CBD	164	Yes	No
167	Renton - Newport Hills - University District	560X	Yes	Yes
177	Federal Way - Seattle CBD	577X	No	No
178	South Federal Way - Seattle CBD	177	Yes	No
179	Twin Lakes - Seattle CBD	181	Yes	No
190	Redondo Heights - Seattle CBD	574X	Yes	Yes
192	Star Lake - Seattle CBD	574X	No	Yes
193	Federal Way - First Hill	None	Yes	Yes
197	Twin Lakes - University District	181	Yes	Yes

## Peak Route Analysis continued

Route	Description	Alternative Route(s)*	Ridership ≥ 90% of alternative	Travel Time ≥ 20% faster than alternative
201	South Mercer Island - Mercer Island P&R via Mercer Wy	None	Yes	Yes
212	Eastgate - Seattle CBD	554X	Yes	No
214	Issaquah - Seattle CBD	554X	No	No
216	Sammamish - Seattle CBD	269	Yes	No
217	Issaquah - Eastgate - Seattle CBD	554X	No	Yes
218	Issaquah Highlands - Seattle CBD	554X	Yes	Yes
219	Redmond - Sammamish - Seattle CBD	None	Yes	Yes
232	Duvall - Bellevue	248	Yes	Yes
237	Woodinville - Bellevue	311	No	Yes
243	Overlake - Kenmore	930	Yes	Yes
244	Kenmore - Overlake	234	Yes	Yes
252	Kingsgate - Seattle CBD	255	No	Yes
257	Brickyard - Seattle CBD	238	Yes	Yes
268	Redmond - Seattle CBD	545	No	Yes
277	Juanita - University District	235	No	Yes
301	Aurora Village - Seattle CBD	E Line	No	Yes
303	Shoreline - First Hill	None	Yes	Yes
304	Richmond Beach - Seattle CBD	348	Yes	Yes
308	Horizon View - Seattle CBD	331	Yes	No
309	Kenmore - First Hill	312	No	Yes
311	Woodinville - Seattle CBD	232	Yes	Yes
312	Bothell - Seattle CBD	522X	Yes	No
316	Meridian Park - Seattle CBD	26X	Yes	Yes
342	Shoreline - Bellevue TC - Renton	None	Yes	Yes
355	Shoreline CC - University District - Seattle CBD	5	No	No
913DART	Kent Station - Riverview	None	Yes	Yes
Vashon Water Taxi **	Vashon - Seattle CBD	118	Yes	Yes
West Seattle Water Taxi **	West Seattle - Seattle CBD	37	Yes	Yes

Peak-only routes 27, 143, 153, 183, 373X, 930, and 931 are included in the corridor analysis because they each serve as the only route on one of Metro's corridors during at least one time period. These routes are not analyzed as part of the peak analysis because their target service levels are set by the corridor analysis.

\* Alternative routes must serve at least 50% of riders on the peak-only route.

\*\* Water Taxi is operated by the King County Marine Division.

## Appendix F: Route-level Reliability

■ over the lateness threshold

Route	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late
1	12%	15%	21%	13%
2	10%	11%	9%	18%
3	12%	16%	16%	14%
4	9%	12%	17%	16%
5X	23%	16%		
5	24%	36%	27%	18%
7	19%	27%	19%	12%
8	21%	33%	24%	22%
9	10%	14%		
10	16%	18%	7%	13%
11	17%	20%	22%	28%
12	11%	17%	7%	8%
13	15%	16%	13%	15%
14	14%	19%	10%	9%
15X	16%	29%		
17X	22%	24%		
18X	25%	37%		
19	19%	25%		
21X	14%	17%		
21	21%	33%	31%	13%
22	7%	8%	6%	19%
24	22%	30%	23%	17%
26X	21%	26%	28%	14%
27	17%	21%	28%	20%
28X	19%	22%	26%	22%
29	19%	27%		
31	13%	21%	20%	
32	14%	21%	16%	14%
33	18%	24%	26%	20%
36	17%	27%	11%	13%
37	13%			
37	43%	49%		
40	18%	28%	28%	31%
41	11%	17%	7%	8%
43	17%	30%	12%	5%
44	11%	13%	15%	8%
45	10%	12%	9%	8%
47	7%	12%	11%	4%

Route	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late
48	12%	24%	16%	11%
49	11%	12%	11%	10%
50	19%	30%	17%	9%
55	18%	28%		
56	21%	40%		
57	19%	14%		
60	14%	17%	16%	10%
62	23%	38%	21%	25%
63	30%	42%		
64X	26%	41%		
65	9%	18%	9%	6%
67	13%	22%	14%	12%
70	19%	35%	23%	13%
71	6%	8%	5%	
73	8%	8%	3%	5%
74	4%	8%		
75	12%	17%	15%	9%
76	16%	19%		
77	10%	8%		
78	2%	6%		
101	11%	14%	11%	15%
102	12%	20%		
105	21%	36%	11%	16%
106	24%	28%	16%	18%
107	24%	30%	20%	15%
111	25%	35%		
113	20%	30%		
114	25%	37%		
116	21%	20%		
118X	14%	14%		
118	11%	7%	3%	4%
119X	15%	20%		
119	10%	17%		
120	12%	16%	13%	17%
121	18%	26%		
122	23%	36%		
123	31%	43%		
124	18%	26%	20%	10%

## Route-level Reliability continued

■ over the lateness threshold

Route	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late
125	9%	11%	13%	5%
128	10%	11%	16%	16%
131	20%	30%	26%	17%
132	19%	22%	25%	15%
143	32%	38%		
148	18%	33%	22%	17%
150	13%	20%	18%	23%
153	13%	30%		
154	7%	8%		
156	7%	11%	11%	13%
157	32%	44%		
158	29%	46%		
159	25%	45%		
164	5%	8%	13%	
166	10%	18%	22%	20%
167	17%	25%		
168	15%	30%	11%	23%
169	9%	8%	21%	15%
177	26%	28%		
178	30%	39%		
179	34%	47%		
180	14%	27%	14%	14%
181	13%	21%	17%	14%
182	13%	21%	21%	12%
183	7%	11%	19%	
186	17%	26%		
187	13%	24%	18%	13%
190	33%	41%		
192	22%	35%		
193	19%	21%		
197	19%	26%		
200	6%			
201	2%	4%		
204	3%	4%		
208	20%	29%	13%	
212	25%	35%		
214	21%	26%		
216	37%	55%		

Route	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late
217	13%	24%		
218	22%	35%		
219	37%	54%		
221	14%	25%	9%	13%
224	10%	28%		
226	13%	16%	12%	18%
232	15%	13%		
234	13%	18%	18%	14%
235	20%	24%	7%	8%
236	15%	22%	22%	14%
237	3%	4%		
238	20%	27%	12%	21%
240	22%	22%	14%	5%
241	12%	16%	12%	16%
243	11%	20%		
244	33%	33%		
245	14%	17%	18%	11%
246	16%	32%		
248	10%	21%	7%	6%
249	10%	18%	29%	14%
252	19%	25%		
255	13%	20%	14%	9%
257	14%	21%		
268	25%	21%		
269	19%	29%	5%	
271	17%	30%	9%	7%
277	16%	29%		
301	14%	20%		
303	12%	22%		
304	16%	23%		
308	15%	31%		
309	12%	28%		
311	15%	26%		
312	15%	29%		
316	14%	20%		
330	14%	27%		
331	12%	18%	11%	9%
342	18%	33%		
345	7%	11%	7%	6%



## Route-level Ridership continued

over the lateness threshold

Route	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late
346	2%	4%	3%	2%
347	6%	11%	10%	7%
348	13%	22%	9%	7%
355	29%	49%		
372	18%	20%	10%	7%
373	12%	20%		
A Line	18%	22%		
B Line	13%	16%		
C Line	17%	21%		
D Line	17%	20%		
E Line	23%	26%		
F Line	16%	15%		
King County Marine Division	All-Day Weekday % Late			
West Seattle Water Taxi **	0.92%			
Vashon Island Water Taxi **	0.75%			

\*\* Water Taxi is operated by the King County Marine Division

## Appendix G: Route-level Ridership and Hours

Route	Weekday Rides in Fall 2016	Weekday Rides in Fall 2017	Change in Rides	Weekday Platform Hours in Fall 2016	Weekday Platform Hours in Fall 2017	Change in Platform Hours
1	2,400	2,400	0	66	66	0
2	5,600	5,900	300	135	138	3
3	6,200	7,200	1,000	135	166	31
4	4,600	3,900	-700	116	105	-11
5	8,300	8,300	0	184	193	9
7	10,800	10,800	0	255	257	2
8	8,400	8,600	200	188	190	2
9	1,200	1,000	-200	34	36	2
10	3,100	3,100	0	94	94	0
11	4,000	4,000	0	86	89	3
12	3,300	3,300	0	84	84	0
13	3,000	2,400	-600	61	63	2
14	3,100	2,900	-200	84	88	4
15X	1,300	1,500	200	30	33	3
17X	900	1,100	200	19	25	6
18X	1,100	1,000	-100	24	25	1
19	300	300	0	12	12	0
21	4,900	4,900	0	144	152	8
22	200	200	0	16	16	0
24	2,300	2,300	0	71	72	1
26X	2,900	2,900	0	94	94	0
27	1,000	1,100	100	49	51	2
28X	3,100	3,200	100	95	103	8
29	1,300	1,100	-200	34	38	4
31	1,600	1,600	0	56	58	2
32	2,500	2,400	-100	77	78	1
33	2,200	2,100	-100	59	59	0
36	9,300	9,200	-100	232	237	5
37	200	200	0	11	10	-1
40	11,400	12,000	600	284	299	15
41	10,000	9,600	-400	194	201	7
43	800	700	-100	30	29	-1
44	8,400	8,800	400	167	178	11
45	7,100	6,900	-200	176	185	9
47	600	600	0	23	23	0
48	5,500	5,800	300	183	198	15
49	6,500	6,400	-100	168	169	1

## Route-level Ridership and Hours continued

Route	Weekday Rides in Fall 2016	Weekday Rides in Fall 2017	Change in Rides	Weekday Platform Hours in Fall 2016	Weekday Platform Hours in Fall 2017	Change in Platform Hours
50	2,200	2,300	100	109	124	15
55	1,000	1,000	0	32	32	0
56	700	700	0	19	21	2
57	400	500	100	11	11	0
60	4,800	5,400	600	151	192	41
62	7,400	7,500	100	233	241	8
63	500	700	200	26	29	3
64X	700	800	100	26	28	2
65	5,000	5,700	700	123	145	22
67	4,900	5,700	800	117	145	28
70	7,500	8,300	800	182	191	9
71	1,400	1,300	-100	49	51	2
73	1,100	1,100	0	41	40	-1
74	1,100	1,300	200	34	38	4
75	4,700	4,400	-300	124	130	6
76	1,500	1,600	100	47	43	-4
77	1,000	1,100	100	28	30	2
78	200	200	0	14	14	0
82	<50	0	<50	4	0	-4
83	<50	0	<50	4	0	-4
84	<50	0	<50	3	0	-3
99	300	300	0	16	17	1
101	5,100	4,800	-300	116	117	1
102	1,000	1,000	0	26	30	4
105	900	1,000	100	38	38	0
106	5,300	5,600	300	177	178	1
107	2,500	2,600	100	116	117	1
111	800	800	0	37	40	3
113	300	200	-100	12	13	1
114	400	400	0	20	30	10
116	600	600	0	30	29	-1
118X	200	200	0	11	11	0
118	400	300	-100	30	30	0
119X	100	100	0	5	5	0
119	200	200	0	12	12	0
120	8,600	8,600	0	226	228	2

## Route-level Ridership and Hours continued

Route	Weekday Rides in Fall 2016	Weekday Rides in Fall 2017	Change in Rides	Weekday Platform Hours in Fall 2016	Weekday Platform Hours in Fall 2017	Change in Platform Hours
121	900	900	0	47	51	4
122	500	500	0	25	28	3
123	300	300	0	13	12	-1
124	4,000	4,000	0	135	136	1
125	1,800	1,700	-100	58	58	0
128	3,500	3,500	0	139	139	0
131	3,100	3,100	0	84	93	9
132	2,900	2,800	-100	101	103	2
143	500	600	100	33	36	3
148	600	600	0	42	43	1
150	6,900	6,200	-700	192	192	0
153	400	400	0	21	22	1
154	200	200	0	8	8	0
156	1,100	1,100	0	65	65	0
157	200	200	0	16	17	1
158	600	600	0	25	30	5
159	400	400	0	24	25	1
164	1,900	1,700	-200	48	48	0
166	1,900	2,000	100	84	86	2
167	400	300	-100	16	16	0
168	1,500	1,400	-100	68	69	1
169	2,900	3,200	300	79	144	65
177	500	500	0	34	36	2
178	500	400	-100	30	32	2
179	800	800	0	38	40	2
180	4,600	4,400	-200	150	150	0
181	2,100	2,200	100	86	89	3
182	500	500	0	28	28	0
183	700	700	0	33	33	0
186	200	200	0	21	21	0
187	400	500	100	20	20	0
190	400	400	0	27	27	0
192	200	100	-100	14	15	1
193	500	500	0	29	30	1
197	600	500	-100	38	40	2
200	100	100	0	13	13	0
201	<50	<50	0	3	3	0

## Route-level Ridership and Hours continued

Route	Weekday Rides in Fall 2016	Weekday Rides in Fall 2017	Change in Rides	Weekday Platform Hours in Fall 2016	Weekday Platform Hours in Fall 2017	Change in Platform Hours
204	200	200	0	19	19	0
208	100	100	0	17	17	0
212	2,400	2,700	300	68	72	4
214	1,100	1,200	100	45	45	0
216	800	900	100	28	30	2
217	200	200	0	8	9	1
218	1,000	1,300	300	30	35	5
219	800	800	0	30	33	3
221	1,400	1,500	100	80	83	3
224	100	100	0	16	16	0
226	1,500	1,500	0	64	66	2
232	400	400	0	23	24	1
234	1,400	1,300	-100	74	74	0
235	1,100	1,100	0	66	67	1
236	500	400	-100	62	63	1
237	100	100	0	6	6	0
238	900	800	-100	77	78	1
240	2,300	2,200	-100	102	105	3
241	700	600	-100	42	45	3
243	0	<50	--	0	11	--
244	200	200	0	15	17	2
245	3,500	3,400	-100	148	148	0
246	300	300	0	29	30	1
248	900	900	0	55	55	0
249	900	800	-100	54	54	0
252	700	700	0	25	26	1
255	6,800	6,800	0	222	229	7
257	600	600	0	22	23	1
268	400	400	0	15	15	0
269	500	800	300	50	86	36
271	5,700	5,500	-200	224	233	9
277	200	200	0	19	19	0
301	1,600	1,700	100	50	49	-1
303	1,100	1,200	100	40	40	0
304	400	400	0	14	15	1
308	200	200	0	10	10	0
309	500	500	0	17	19	2



## Route-level Ridership and Hours continued

Route	Weekday Rides in Fall 2016	Weekday Rides in Fall 2017	Change in Rides	Weekday Platform Hours in Fall 2016	Weekday Platform Hours in Fall 2017	Change in Platform Hours
311	1,200	1,300	100	45	48	3
312	2,500	2,500	0	77	83	6
316	1,100	1,200	100	28	28	0
330	400	400	0	14	14	0
331	900	900	0	48	48	0
342	300	300	0	17	17	0
345	1,200	1,200	0	38	38	0
346	1,200	1,100	-100	43	43	0
347	1,400	1,200	-200	56	56	0
348	1,400	1,300	-100	56	56	0
355	1,000	1,000	0	30	33	3
372	7,700	8,000	300	207	216	9
373	1,600	1,500	-100	36	38	2
601	<50	0	<50	5	0	-5
628	100	100	0	27	27	--
629	100	100	0	31	31	--
630	100	200	100	17	17	--
631	100	100	0	10	9	--
633	0	<50	--	0	--	--
A Line	9,700	10,200	500	179	182	3
B Line	6,300	6,200	-100	161	166	5
C Line	11,100	12,100	1,000	289	297	8
D Line	14,300	14,300	0	256	256	0
E Line	17,000	17,300	300	299	305	6
F Line	5,500	5,600	100	178	182	4
773*	200	100	-100	14	11	-3
775*	200	200	0	8	12	4
823	100	100	50	2	2	0
824	100	100	0	2	2	0
886	<50	<50	0	2	2	
887	100	100	0	2	2	0
888	100	100	0	2	2	0
889	100	100	0	2	2	0
891	100	100	0	3	3	0
892	100	100	0	2	2	0
893	100	100	0	0	2	2

## Route-level Ridership and Hours continued

Route	Weekday Rides in Fall 2016	Weekday Rides in Fall 2017	Change in Rides	Weekday Platform Hours in Fall 2016	Weekday Platform Hours in Fall 2017	Change in Platform Hours
894	100	100	0	2	2	0
895	100	100	0	0	2	2
901DART	500	400	-100	20	21	1
903DART	300	300	0	27	27	0
906DART	300	400	100	27	27	0
907DART	100	100	0	22	19	-3
908DART	100	100	0	11	11	0
910DART	100	100	0	10	10	0
913DART	200	200	0	13	13	0
914DART	200	200	0	10	11	1
915DART	200	200	0	17	17	0
916DART	200	100	-100	12	12	0
917DART	200	200	0	16	16	0
930DART	100	100	0	15	15	0
931DART	200	200	0	32	32	0
952	300	200	-100	26	27	1
980	<50	<50	0	1	2	1
981	<50	<50	0	2	2	0
982	100	100	0	4	4	0
984	<50	<50	0	2	2	0
986	100	100	0	3	3	0
987	100	100	0	4	4	0
988	100	100	0	3	3	0
989	100	100	0	4	4	0
994	100	100	0	4	3	-1
995	100	<50	-50	4	3	-1
West Seattle Water Taxi	669	786	117	7	8	2
Vashon Water Taxi	849	943	94	6	6	0

Rides are rounded to the nearest 100; rounding errors may appear in this table

\* The 2017 System Evaluation incorrectly reported figures for these routes.

## Appendix H: Service Changes and Corridor Changes

### Service Changes

Route(s)	Summary of Change	Type of Change
<b>MARCH SERVICE CHANGE</b>		
C Line*	Add 2 AM peak inbound trip and 1 PM peak outbound trip; reschedule the first 2 northbound trips	Added trips, schedule adjustment
D Line*	Add 1 new AM peak inbound trip	Added trip
E Line*	Add 2 AM Peak trips and 2 PM peak trips	Added trips
F Line	Increase evening frequency on weekdays to 15 minutes until 10 p.m.	Increased frequency
4*	Create a Route 4 shuttle to mitigate construction impacts caused by the reconstruction of 23rd Ave. S.	New route
5*, 5X*	Add 2 AM peak trips	Added trips
7*	Extend northbound Route 7 trips that are not through-routed with Route 49 to 4th Ave/Virginia St	Revised routing
10*, 47*	Revise routing to use 3rd Ave instead of 1st Ave for some trips due to construction	Revised routing
21*	Revise routing to operate on Edgar Martinez Dr S. between 1 Av S and 4 Av S; and on 1 Av S between S. Lander St and Edgar Martinez Dr S.	Revised routing
22	Add Sunday variant on its northernmost terminus to avoid California Av SW between SW Edmunds and SW Oregon St.	Revised routing
24*	Add 1 inbound trip during the AM peak period and reschedule 1 Route 19 trip.	Added trip
29	Route revision to serve stops on 1st Ave in Belltown	Revised routing
31*, 32*, 75	Add new weekday evening service on Route 31; through-route new Route 31 trips with new Route 75 trips; 2 existing Route 32 trips will now become Route 31 trips	Increased span, added trips, schedule adjustment
37	Revise routing to operate on Edgar Martinez Dr S. between 1 Av S and 4 Av S; and on 1 Av S between S. Lander St and Edgar Martinez Dr S.	Revised routing
50*	Add 1 AM peak and 1 PM peak trip, revise route to operate on S Holgate St. in order to travel east-west between 1 Av S and SODO busway.	Added trips, revised routing
60*	Route revision in Yesler Terrace area	Revised routing
63, 64	Add 1 Route 64 p.m. peak trip and reschedule surrounding Route 63 and 64 trips	Added trip, schedule adjustment
70*	Add 2 new AM peak trips in each direction	Added trips
74	Add new midday shuttle service between Sand Point and University District	Added trips
99	Discontinue Route 99	Route elimination
101	Improve weekday peak and midday frequency to a minimum of 15 minutes in both directions	Revised routing
101	Change routing to begin and terminate at the South Renton Park and Ride instead of the Renton Transit Center	Revised routing

## Service Changes and Corridor Changes continued

Route(s)	Summary of Change	Type of Change
102	Shift 8 trips from Route 101 to Route 102	Schedule adjustment, revised routing
105	At Renton Transit Center, Route 105 will serve Bay 6	Terminal change
116, 118, 119	Revise routing to operate on Edgar Martinez Dr. S. between 1 Av S and 4 Av S due to construction at Lander St	Revised routing
116, 118, 119	Change inbound routing to travel east on SW Alaska St and north on 35 Av SW between Fautleroy Way SW and SW Avalon Way	Revised routing
150	Improve Sunday daytime frequency to every 15 minutes	Increased frequency
153, 183	Add 30 minute weekday midday service to Routes 153 and 183; add weekday hourly evening service to Route 183	Increase frequency
156	Increase AM peak frequency to 15 minutes for 1.5 hours in each direction	Increased frequency
180	Improve northbound AM Peak frequency to about every 20 minutes	Increased frequency
181	Improve AM Peak frequency to every 20 minutes for 2 hours in each direction	Increased frequency
212	Add 2 late AM peak inbound trips	Added trips
217	Revise inbound routing to exit the I-90 mainline at 4th Ave	Revised routing
218	Add 3 AM peak inbound trips	Added trips
224, 232, 248	Revise eastbound routing in downtown Redmond to Redmond Way from Cleveland St	Revised routing
226, 241	Added hours to operate with battery electric buses	Schedule adjustment
240	Improve night frequency to 30 minutes; improve Sunday frequency to 30 minutes	Improved frequency
245	Improve AM Peak period frequency to 12 minutes for 2 hours in each direction	Increased frequency
269	Provide Saturday service between the Bear Creek P&R and the Issaquah Highlands P&R.	Added trips
312	Add 1 PM peak trip	Added trip
634, 636, 637	Operate Trailhead Direct transit service for the 2018 hiking season	New route
908	Change bay assignment at RTC to Bay 10	Terminal change
930	Extend span of service between the AM and PM peaks	Increase span

## Service Changes and Corridor Changes continued

Route(s)	Summary of Change	Type of Change
<b>JUNE SERVICE CHANGE</b>		
5*, 21*	Rebalance stop spacing on Routes 5 and 21	Stop adjustment
40*	Add two PM peak trips to Route 40	Added trips
41*, 74	Revise routing and add service hours due to changes at Convention Place Station.	Revised routing, schedule adjustment
48*	Construction re-route	Revised routing
70*	Add 2 AM and 1 PM Peak trips to operate during summer only on weekdays	Added trips
101, 102, 150	Revise routing and add service hours due to changes at Convention Place Station.	Revised routing, schedule adjustment
243, 312X, 342, 372X	End construction reroute for Main St in Bothell due to completion of project	Revised routing
252, 257, 268, 311	Revise routing and add service hours due to changes at Convention Place Station.	Revised routing, schedule adjustment
255	Revise routing and add service hours due to changes at Convention Place Station.	Revised routing, schedule adjustment
893	Revise schedule with bell time change	Schedule adjustment
895	Revise schedule with bell time change	Schedule adjustment
980	Extend southern terminal to Mt. Baker; modify stop pattern	Terminal change
981	Revise routing; modify stop pattern	Revised routing
984	Revise routing	Revised routing
987	Revise routing for AM trip; modify stop patterns for revised routing.	Revised routing
988	Revise routing; modify stop pattern	Revised routing
992	Seasonal activation of service	Schedule adjustment



## Service Changes and Corridor Changes continued

Route(s)	Summary of Change	Type of Change
<b>SEPTEMBER SERVICE CHANGE</b>		
1*	Shift one PM Peak trip five minutes later	Schedule adjustment
2*, 13*	Adjust trip times in the AM Peak to help address overcrowding	Added trips
3*, 4*	Add one AM Peak trip to help relieve overcrowding	Added trip
4*	Re-route of the Route 4 shuttle due to 23rd Ave construction	Revised routing
5*	Additional service hours designed to improve route reliability	Reliability improvement
5*, 5X*	Add one Route 5 AM trip inbound; add one Route 5X AM trip inbound	Added trips
7*, 49*	Add one late night Route 7 trip	Added trip
8*	Add two new AM peak trips; reschedule surrounding trips	Added trip, schedule adjustment
9X	Add Rainier Ave/Charles St. to stop pattern	Stop adjustment
17, 18	Add three new AM Peak trips	Added trips
21X*, 55*, 56*, 57*, 120*, C Line*	Revise routing to 1 Av/1 Av S between S. Dearborn and Columbia/Cherry St due to closure of Alaskan Way Viaduct	Revised routing
28*	Add one new AM Peak trip	Added trip
31*, 32*, 75	Extend span on weekdays and Saturday until around 10:00 pm on Route 31;	Increased span
37	Revise routing to 1 Av/1 Av S between Columbia St and S Dearborn St (outbound direction only)	Revised routing
40*	Establish peak directional turn-backs in both AM and PM peak periods; extend span of frequent service between Seattle and Northgate	Revised routing, added trips, increased frequency
41*	Add weekday trips to improve frequency	Increased frequency
41*, 74	Revise routing and add service hours due to construction at Convention Place Station	Revised routing, schedule adjustment
50*	Restore service to the Veterans Administration Medical Center	Revised routing
56*, 57*	Add one new AM Peak trip for Route 56, one new AM Peak for Route 57	Added trips
62*	Add one new outbound PM peak trip, extend the 7:10 SB turn-back to begin at NOAA at Building 3	Added trip, revised routing
63, 64	Adjust trip times to address overcrowding, add one new early PM peak trip on Route 63	Added trip, schedule adjustment
70*	Additional service hours designed to improve route reliability, add weekday trips to improve frequency	Reliability improvement, increased frequency
73*, 373	Convert two Route 73 trips into Route 373 trips; add one southbound Route 373 AM trip	Schedule adjustment, added trip
76, 316	Adjust trip times to address overcrowding	Schedule adjustment
101, 102, 150	Revise routing and add service hours due to construction at Convention Place Station	Revised routing, schedule adjustment

## Service Changes and Corridor Changes continued

Route(s)	Summary of Change	Type of Change
106	Add one new Sunday trip	Added trip
111	Add one new AM Peak trip	Added trip
111, 114, 212, 214, 216, 219, 219	Revise routing to accommodate the closure of the D2 roadway and the Rainier Ave Freeway station	Revised routing
114	Add one new AM Peak trip	Added trip
116, 118, 119	Revise inbound routing to return to Fautleroy Way with cancellation of construction project	Revised routing
118	Adjust PM trip time from downtown to ensure Route 118 will arrive at the Fautleroy Ferry Dock in time to board the ferry at 5:45pm.	Schedule adjustment
120*	Add two new AM Peak trips and one new PM Peak trip, remove all "Reduced Weekday" designations from Route 120 trips	Added trips, schedule adjustment
121, 122, 123	Revise routing due to closure of Alaskan Way Viaduct	Revised routing
125*	Revise routing to 1 Av/1 Av S between S. Dearborn and Columbia/Cherry St	Revised routing
128	Trips after 11 p.m. deadhead to lay at Tukwila Sounder Station	Terminal change
150	Improve AM peak northbound frequency	Increased frequency
177, 178, 190	Change AM (inbound) pathway due to upcoming Terry Ave. closure.	Revised routing
180	Add northbound AM trips	Added trips
181	Add AM peak trips	Added trips
212, 217	Revise routing to accommodate the closure of the D2 roadway and the Rainier Ave Freeway station	Revised routing
240	Add peak period trips in both directions	Added trips
245	Add PM peak period trips in both directions	Added trips
255	Revise routing and add service hours due to construction at Convention Place Station, shift three trips later to adjust for heavy loads	Revised routing, schedule adjustment
331, 345	Add new Route 345 AM Peak trips and weekday evening service between Shoreline College and Northgate	Added trips
345	On weekdays, add one AM Peak trip and one night trip in each direction; On Sunday, add three southbound trips	Added trips
372	Add one new weekday NB trip between Lake City Way NE/NE 130th St and UW Bothell	Added trip

## Service Changes and Corridor Changes continued

Route(s)	Summary of Change	Type of Change
629	Convert Route 629 to a Community Access Transportation service	New route
630	Revise routing to accommodate the closure of the D2 roadway and the Rainier Ave Freeway station	Revised routing
633	Extend Route 633 service span to operate Mon-Fri 6:30 a.m. to 8:00 p.m.	Increased span
988	Route will no longer serve stop at E MadisonSt/E Garfield St (#12260).	Stop adjustment
989	Revise routing to accommodate the closure of the D2 roadway and the Rainier Ave Freeway station	Revised routing
C Line*	Add one PM peak trip southbound; add one AM peak trip northbound	Added trips
D Line*	Add one AM trip; adjust trip schedule	Schedule adjustment, added trip
E Line*	Add 10 southbound trips from Aurora Village TC to downtown; add four northbound trips from downtown Seattle to Aurora Village TC	Added trips
F Line	Improve frequency on weekend evenings to 15 minutes	Increased frequency

\* Designates routes receiving Seattle investments

## Service Changes and Corridor Changes continued

### Corridor Changes

The last System Evaluation covered service from September 2016 to March 2017. In September 2017, Metro implemented a system called “Stop-based Scheduling.” This system’s primary function was to transition from using “time points” to using “time stops” to measure on-time performance. “Time points” were used to schedule service and were placed on or near route alignments throughout the system, but they did not necessarily correspond with actual physical locations of bus stops. Stop-based Scheduling altered the system of time points to move these schedule reference points to the same locations as physical bus stops. Along the way, the locations of bus stops, as represented in our data systems, received a fresh look and minor corrections were made. Slight alterations in where our data systems represent the physical locations of bus stops resulted in slight alterations to corridor walksheds. In turn, this produced perturbations in the number of jobs and households falling within each corridor’s walkshed, particularly in high-density areas like downtown Seattle.

Only one corridor’s extent/alignment was altered by action of the King County Council:

#### **Renton to Enumclaw**

This corridor, served by routes 143 and 907, was truncated at Black Diamond to enable higher-frequency service between Black Diamond and Renton. The portion of the corridor between Black Diamond and Enumclaw, which was only served by route 907, was replaced with a demand-response service. Daily ridership on this segment more than doubled after the demand-response service was implemented.

Future changes to corridors will likely occur as Link light rail expands and as Metro implements its long-range plan METRO CONNECTS. All proposed changes will undergo public outreach and are subject to approval by the King County Council.







Corridor Analysis continued

BETWEEN		AND		VIA		MAJOR ROUTE		Land Use - Productivity			Social Equity - Demographics			Geographic Value - Connections to Centers			Initial Target Service Levels						
								POINTS	JOBS/CORRIDOR MILE	POINTS	% BOARDINGS IN MINORITY TRACTS	POINTS	% BOARDINGS IN LOW-INCOME TRACTS	POINTS	CONNECTION TYPE	POINTS	PEAK	OFFPEAK	NIGHT				
Renton	Burien	S 154th St	F Line	868	2	1,792	4	82%	5	82%	5	82%	5	RGC/MIC - RGC/MIC	10	26	15	15	15				
Renton	Black Diamond <sup>1</sup>	Maple Valley	143/907	253	0	333	0	46%	3	40%	3	40%	3	RGC/MIC - TAC	7	21	30	30	30				
Renton	Beacon Hill	West Hill, Rainier View	107	949	2	648	2	97%	4	97%	4	97%	4	RGC/MIC - TAC	7	13	15	15	15				
Renton	Renton Highlands	NE 4th St, Union Ave NE	105	1,356	4	2,608	4	97%	5	90%	5	90%	5	RGC/MIC - TAC	7	25	15	15	30				
Renton	Seattle CBD	Martin Luther King Jr Way S, I-5	101/102	714	2	5,185	6	97%	5	100%	5	100%	5	RGC/MIC - RGC/MIC	10	28	15	15	30				
Renton	Seattle CBD	Skyway, Martin Luther King Jr Way S, Beacon Hill	106	1,438	4	2,089	4	100%	5	100%	5	100%	5	RGC/MIC - TAC	7	25	15	15	30				
Renton Highlands	Renton	NE 7th St, Edmonds Ave NE	908	1,244	4	2,919	4	82%	5	74%	5	74%	5	Other	2	20	15	30	30				
Richmond Beach	Northgate	Richmond Beach Rd, 15th Ave NE	348	1,602	4	1,935	4	50%	3	59%	3	59%	3	RGC/MIC - TAC	7	23	15	30	30				
Roosevelt	UW	University Way						Connection now served by Northgate - U District via Roosevelt Way NE corridor															
Sand Point	Fremont <sup>2</sup>	View Ridge, NE 65th St, Cowen Park	62	2,340	6	2,047	4	0%	0	28%	0	28%	0	TAC - TAC	5	15	30	30	0				
Sand Point	University District	NE 55th St	74	2,972	8	11,955	10	40%	3	81%	3	81%	3	Other	2	28	15	15	30				
Shoreline	University District	Jackson Park, 15th Ave NE	373	1,479	4	6,848	8	46%	3	57%	3	57%	3	RGC/MIC - TAC	7	27	15	15	30				
Shoreline CC	Greenwood	Greenwood Ave N	5	2,022	6	2,283	4	10%	0	42%	3	42%	3	TAC - TAC	5	18	30	30	0				
Shoreline CC	Lake City	N 155th St, Jackson Park	330	1,595	4	1,940	4	20%	0	85%	5	85%	5	TAC - TAC	5	18	30	30	0				
Shoreline CC	Northgate	N 130th St, Meridian Ave N	345	1,386	4	3,093	6	39%	3	74%	3	74%	3	RGC/MIC - TAC	7	25	15	15	30				
Totem Lake	Seattle CBD	Kirkland, SR-520	255	1,601	4	8,365	8	2%	0	10%	0	10%	0	RGC/MIC - RGC/MIC	10	22	15	30	30				
Tukwila	Des Moines	McMicken Heights, Sea-Tac	156	585	0	1,254	2	94%	5	87%	5	87%	5	RGC/MIC - RGC/MIC	10	22	15	30	30				
Tukwila	Fairwood	S 180th St, Carr Road	906	617	2	1,467	4	93%	5	68%	5	68%	5	RGC/MIC - TAC	7	23	15	30	30				
Tukwila	Seattle CBD	Pacific Hwy S, 4th Ave S	124	1,811	6	9,526	8	84%	5	94%	5	94%	5	RGC/MIC - RGC/MIC	10	34	15	15	30				
Twin Lakes	Federal Way	S 320th St	187	936	2	570	2	61%	5	91%	5	91%	5	Other	2	16	30	30	0				
Twin Lakes	Federal Way	SW Campus Dr, 1st Ave S	903	1,207	4	1,127	2	74%	5	71%	5	71%	5	Other	2	18	30	30	0				
University District	Bellevue	SR-520	271	916	2	12,785	10	94%	5	9%	0	9%	0	RGC/MIC - RGC/MIC	10	27	15	15	30				
University District	Seattle CBD	Broadway	49	5,514	10	29,584	10	58%	5	78%	5	78%	5	Other	2	32	15	15	30				
University District	Seattle CBD	Eastlake, Fairview	70	5,305	10	41,460	10	36%	3	72%	3	72%	3	RGC/MIC - TAC	7	35	15	15	30				
UW Bothell	Redmond	Woodinville, Cottage Lake	931	548	0	1,160	2	14%	0	0%	0	0%	0	RGC/MIC - TAC	7	9	60	60	0				
UW Bothell	University District	Kenmore, Lake Forest Park, Lake City	372	1,411	4	7,566	8	45%	3	48%	3	48%	3	RGC/MIC - TAC	7	25	15	15	30				
UW Bothell/CCC	Kirkland	132nd Ave NE, Lake Washington Tech	238	1,179	2	2,319	4	0%	0	3%	0	3%	0	RGC/MIC - TAC	7	13	30	30	0				
Vashon	Tahlequah	Valley Center	118	49	0	82	0	0%	0	0%	0	0%	0	Other	2	2	60	60	0				
West Seattle	Seattle CBD	Fauntleroy, Alaska Junction	C Line	2,147	6	11,532	10	21%	0	33%	0	33%	0	RGC/MIC - TAC	7	23	<15	15	15				
White Center	Seattle CBD	16th Ave SW, South Seattle College	125	632	2	5,363	6	95%	5	95%	5	95%	5	RGC/MIC - TAC	7	25	15	15	30				
Woodinville	Kirkland	Kingsgate	236	1,167	2	1,270	2	28%	0	4%	0	4%	0	RGC/MIC - TAC	7	11	30	30	0				

Threshold	Points	Threshold	Points	Threshold	Points	Threshold	Points	Threshold	Points	Threshold	Points	Threshold	Points	Threshold	Points	Levels	Points	Points	Points
> 3000	10	> 10250	10	FR: 53%	5	FR: 50%	5	RGC/MIC - RGC/MIC	10	15	19-40	25-40	--						
> 2400	8	> 5500	8	DART: 63%	5	DART: 56%	5	RGC/MIC - TAC	7	30	10-18	10-24	19-40						
> 1800	6	> 3000	6	FR: 35%	3	FR: 31%	3	TAC - TAC	5	60	0-9	0-9	--						
> 1200	4	> 1400	4	DART: 44%	3	DART: 37%	3	Other	2										
> 600	2	> 500	2	(FR: Fixed-route)		(DART: Dial-a-Ride Transit)													

Figures rounded for display purposes.  
<sup>1</sup> Corridor was truncated. Demand-response service in place between Black Diamond and Enumclaw.  
<sup>2</sup> Corridor was extended from Cowen Park to Fremont.

(RGC: Regional Growth Center)  
(MIC: Manufacturing/Industrial Center)  
(TAC: Transit Activity Center)

# Corridor Analysis continued

Connections		Load-Based Service Level Improvements			Other Policy-based Night Service Additions			Service Level Improvements			Final Target Service Levels and Family						
BETWEEN	AND	VIA	Load at Preliminary Service Level *			PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	RESULTING SERVICE FAMILY	INVESTMENT NEED (After subtracting Mar & Sep 2018 investments)	INVESTMENT PRIORITY
			PEAK	OFFPEAK	NIGHT												
Admiral District	Southcenter	California Ave SW, Military Rd, TIBS	128	22%	43%	26%	-	-	-	-	-	30	30	30	Frequent	9,500	32
Alki	SODO Station	Alaska Junction	50	112%	38%	16%	2	-	-	-	-	30	30	30	Frequent	14,200	21
Auburn	Burien	Kent, SeaTac	180	32%	50%	3%	-	-	-	-	-	30	30	30	Frequent	-	9
Auburn	Pacific	Algona	917	11%	5%	N/A	-	-	-	-	-	30	30	0	Local	3,100	55
Auburn/GRCC	Federal Way	15th St SW, Lea Hill Rd	181	18%	36%	23%	-	-	-	-	-	30	30	30	Frequent	2,300	10
Aurora Village	Northgate	Meridian Ave N	346	20%	14%	11%	-	-	-	-	-	15	15	30	Very Frequent	9,300	25
Aurora Village	Seattle CBD	Aurora Ave N	E Line	111%	77%	58%	2	1	1	1	1	<15	<15	<15	Very Frequent	4,700	2
Avondale	Kirkland	NE 85th St, Redmond Way, Avondale Rd NE	248	16%	27%	16%	-	-	-	-	-	30	30	30	Frequent	4,300	29
Ballard	Northgate	Holman Road	40	158%	79%	85%	2	1	1	1	1	<15	<15	15	Very Frequent	-	-
Ballard	Seattle CBD	15th Ave W	D Line	106%	74%	58%	1	1	1	1	1	<15	<15	15	Very Frequent	-	-
Ballard	Seattle CBD	Fremont, South Lake Union	40	158%	40%	85%	2	-	1	1	1	<15	<15	15	Very Frequent	-	-
Ballard	University District	Green Lake, Greenwood	45	111%	31%	77%	2	-	1	1	1	<15	<15	15	Very Frequent	-	-
Ballard	University District	Wallingford (N 45th St)	44	117%	45%	78%	2	-	1	1	1	<15	<15	15	Very Frequent	-	-
Beacon Hill	Seattle CBD	Beacon Ave	36	117%	87%	76%	2	1	1	1	1	<15	<15	15	Very Frequent	-	-
Bellevue	Eastgate	Lake Hills Connector	271	48%	45%	21%	-	-	-	-	-	15	30	30	Frequent	-	-
Bellevue	Redmond	NE 8th St, 156th Ave NE	B Line	51%	30%	25%	-	-	-	-	-	<15	<15	15	Very Frequent	-	-
Bellevue	Bellevue	Newcastle, Factoria	240	17%	37%	9%	-	-	-	-	-	15	30	30	Frequent	-	30
Burien	Seattle CBD	1st Ave S, South Park	131	30%	17%	2%	-	-	-	-	-	15	15	30	Very Frequent	8,600	3
Burien	Seattle CBD	Dairidge, Ambaum	120	120%	36%	83%	2	-	1	1	1	<15	<15	15	Very Frequent	-	-
Burien	Seattle CBD	Des Moines Mem Dr S, South Park	132	24%	14%	20%	-	-	-	-	-	15	15	30	Very Frequent	16,000	17
Capitol Hill	Seattle CBD	15th Ave E	10	92%	31%	56%	1	-	1	1	1	<15	<15	15	Very Frequent	-	-
Capitol Hill	Seattle CBD	Madison St	12	97%	30%	32%	1	-	1	1	1	<15	<15	30	Very Frequent	-	-
Capitol Hill	White Center	South Park, Georgetown, Beacon Hill, First Hill	60	63%	39%	32%	1	-	-	-	-	<15	<15	30	Very Frequent	7,800	16
Central District	Seattle CBD	E Jefferson St	3/4	127%	93%	69%	2	1	1	1	1	<15	<15	15	Very Frequent	-	-
Colman Park	Seattle CBD	Leschi, Yesler Way	27	24%	7%	12%	-	-	-	-	-	15	15	30	Very Frequent	9,300	44
Discovery Park	Seattle CBD	Gilman Ave W, 22nd Ave W, Thorndyke Ave W	33	62%	26%	17%	1	-	-	-	-	<15	<15	30	Frequent	3,900	46
Eastgate	Bellevue	Newport Way, S. Bellevue, Beaux Arts	241	10%	13%	6%	-	-	-	-	-	15	30	30	Frequent	5,300	20
Eastgate	Bellevue	Somerset, Factoria, Woodridge	246	6%	8%	N/A	-	-	-	-	-	15	30	30	Frequent	15,200	49
Eastgate	Overlake	Phantom Lake	226	44%	28%	9%	-	-	-	-	-	60	60	0	Hourly	-	-
Enumclaw	Auburn	Auburn Way S, SR 164	186/915	34%	18%	N/A	-	-	-	-	-	30	30	0	Local	3,500	39
Fairwood	Renton	S Puget Dr, Royal Hills	148	19%	27%	17%	-	-	-	-	-	15	30	30	Frequent	5,200	34
Federal Way	Kent	Military Road S	183	22%	15%	N/A	-	-	-	-	-	15	30	30	Frequent	4,900	11
Federal Way	SeaTac	SR-99	A Line	52%	50%	37%	-	-	-	-	-	<15	<15	15	Very Frequent	-	-
Fremont	Broadview	8th Ave NW	28	131%	12%	9%	2	-	-	-	-	<15	<15	30	Frequent	-	-
Fremont	Seattle CBD	Dexter Ave N	62	126%	29%	49%	2	-	-	-	-	<15	<15	30	Very Frequent	-	-
Fremont	University District	University District	31/32	78%	76%	38%	1	1	1	1	1	<15	<15	30	Very Frequent	-	-
Green River CC	Kent	132nd Ave SE	164	34%	47%	18%	-	-	-	-	-	15	30	30	Frequent	5,900	33
Greenwood	Seattle CBD	Greenwood Ave N	5	104%	37%	79%	1	-	1	1	1	<15	<15	15	Very Frequent	-	-
High Point	Seattle CBD	35th Ave SW	21	55%	31%	30%	-	-	-	-	-	15	15	30	Very Frequent	-	-

Figures rounded for display purposes.

\* The average load's proportion to the crowding threshold. Ridership service level improvements move the preliminary levels of service up one or two levels, e.g. a ridership service level improvement of 2 changes a 30 min. service to <15 or a 60 min. service to 15, etc.

Ridership*		Peak	Offpk	Night
110%		2	2	2
55%		1	1	1

Above Target	
At Target	
Below Target	

# Corridor Analysis continued

Connections		Loads at Preliminary Service Level *		Load-Based Service Level Improvements			Other Policy-based Night Service Additions			Service Level Improvements				Final Target Service Levels and Family				
BETWEEN	AND	VIA	MAJOR ROUTE	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PRIMARY CONNECTIONS BETWEEN URBAN CENTERS	CORRIDOR HAS 15 MIN PEAK SERVICE	ADD WHAT FREQUENCY?	PEAK	OFFPEAK	NIGHT	RESULTING SERVICE FAMILY	INVESTMENT NEED (after subtracting Mar & Sep investments)	INVESTMENT PRIORITY
Issaquah	Eastgate	SE Newport Way	271	29%	23%	24%	-	-	-	-	-	-	-	30	30	0	Local	-
Issaquah	North Bend	Fall City, Snoqualmie	208	0%	7%	N/A	-	-	-	-	-	-	-	30	30	0	Local	10,200
Issaquah	Overlake	Sammamish, Bear Creek	269	13%	17%	N/A	-	-	-	60	30	30	-	15	30	30	Frequent	14,000
Kenmore	Kirkland	Juanita	234	54%	22%	12%	-	-	-	-	-	-	-	60	60	0	Hourly	-
Kenmore	Shoreline	Lake Forest Park, Aurora Village TC	331	65%	38%	N/A	1	-	-	-	30	30	1	15	30	30	Frequent	9,800
Kenmore	Totem Lake	Finn Hill, Juanita	-	-	-	-	-	-	-	-	-	-	-	60	60	0	Hourly	9,500
Kennydale	Renton	Edmonds Ave NE	-	-	-	-	-	-	-	-	-	-	-	60	60	0	Hourly	7,200
Kent	Burien	Kent-DM Rd, S, 240th St, 1st Ave S	168	16%	34%	26%	-	-	-	-	30	30	-	15	30	30	Frequent	6,000
Kent	Maple Valley	SE Kent-Kangley Road	168	52%	28%	40%	-	-	-	-	-	-	-	15	15	30	Very Frequent	16,300
Kent	Renton	84th Ave S, Lind Ave SW	153	20%	N/A	N/A	-	-	-	60	30	30	-	15	15	30	Very Frequent	-
Kent	Renton	Kent East Hill	169	30%	28%	36%	-	-	-	60	30	30	-	15	15	30	Very Frequent	-
Kent	Seattle CBD	Tukwila	150	63%	35%	41%	1	-	-	60	30	30	1	<15	30	30	Very Frequent	6,600
Kirkland	Bellevue	South Kirkland	234/235	48%	42%	39%	-	-	-	-	30	30	-	15	30	30	Frequent	-
Kirkland	Factoria	Overlake, Crossroads, Eastgate	245	54%	67%	20%	-	1	-	-	30	30	-	15	15	30	Very Frequent	-
Lake City	Seattle CBD	NE 125th St, Northgate, I-5	41	144%	46%	95%	2	-	1	60	30	30	2	<15	15	15	Very Frequent	-
Lake City	University District	35th Ave NE	65	137%	116%	90%	2	2	1	-	30	30	2	<15	<15	15	Very Frequent	-
Northgate <sup>1</sup>	University District	Lake City, Sand Point	75	95%	75%	71%	1	1	1	-	30	30	1	<15	15	15	Very Frequent	-
Laurelhurst	University District	NE 41st St	78	21%	11%	N/A	-	-	-	-	-	-	-	30	30	0	Local	-
Madison Park	Seattle CBD	Madison St	11	69%	35%	51%	1	-	-	-	30	30	1	<15	15	15	Very Frequent	3,400
Madrona	Seattle CBD	Union St	2	94%	47%	67%	1	-	1	-	30	30	1	<15	15	15	Very Frequent	-
Magnolia	Seattle CBD	34th Ave W, 28th Ave W	24	51%	14%	23%	-	-	-	-	30	30	-	15	15	30	Very Frequent	11,300
Mercer Island	S Mercer Island	Island Crest Way	204	32%	13%	N/A	-	-	-	-	-	-	-	60	60	0	Hourly	-
Mirror Lake	Federal Way	S 312th St	901	8%	12%	5%	-	-	-	-	-	-	-	30	30	0	Local	-
Mount Baker	Seattle CBD	31st Ave S, S Jackson St	14	77%	31%	53%	1	-	-	-	30	30	1	<15	15	30	Very Frequent	9,100
Mount Baker	University District	22nd Ave E	48	40%	29%	17%	-	-	-	-	30	30	-	15	15	30	Very Frequent	-
Mount Baker Transit Ctr	Seattle Center	Martin Luther King Jr Way, E John St, Denny Way	8	66%	38%	31%	1	-	-	-	30	30	1	<15	15	30	Very Frequent	-
Mountlake Terrace	Northgate	15th Ave NE, 5th Ave NE	347	51%	25%	39%	-	-	-	60	30	30	-	30	30	0	Local	-
Northwest Tacoma	Federal Way	SW 356th St, 9th Ave S	182	22%	13%	15%	-	-	-	-	-	-	-	30	30	0	Local	2,300
Northgate	Seattle CBD	Green Lake, Wallingford	26	69%	14%	20%	1	-	-	60	30	30	1	<15	15	30	Very Frequent	13,200
Northgate	University District	Roosevelt Way NE	67	84%	67%	50%	1	1	-	60	30	30	1	<15	<15	15	Very Frequent	-
Orthello Station	SODO Station	Columbia City Station	50	112%	38%	16%	2	-	-	-	30	30	2	<15	30	30	Frequent	14,200
Overlake	Bellevue	Bell-Red Road	226	22%	14%	9%	-	-	-	-	30	30	-	15	15	30	Very Frequent	14,000
Overlake	Bellevue	Sammamish Viewpoint, Northrup Way	249	15%	13%	14%	-	-	-	-	30	30	-	15	30	30	Frequent	11,100
Queen Anne	Seattle CBD	Queen Anne Ave N	2/13	100%	89%	71%	1	1	1	-	30	30	1	<15	15	15	Very Frequent	-
Queen Anne	Seattle CBD	Taylor Ave N	3/4	105%	53%	66%	1	-	1	-	30	30	1	<15	15	15	Very Frequent	-
Rainier Beach	Seattle CBD	Rainier Ave S	7	90%	53%	66%	1	-	1	-	30	30	1	<15	15	15	Very Frequent	-
Rainier Beach	Capitol Hill	Rainier Ave S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rainier Beach	Mount Baker Transit Center	Martin Luther King Jr Way S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redmond	Duvall	Avondale Rd NE	224	9%	6%	N/A	-	-	-	-	-	-	-	30	30	0	Local	7,600
Redmond	Eastgate	148th Ave, Crossroads, Bellevue College	221	29%	40%	14%	-	-	-	-	-	-	-	30	30	0	Local	-
Redmond	Totem Lake	Willows Road	930	6%	N/A	N/A	-	-	-	60	30	30	-	15	30	30	Frequent	9,400

Above Target	At Target	Below Target
1	1	1
2	2	2
2	2	2

\* The average load's proportion to the crowding threshold. Ridership service level improvements move the preliminary levels of service up one or two levels, e.g. a ridership service level improvement of 2 changes a 30 min. service to <15 or a 60 min. service to 15, etc.

Ridership*	Peak	Offpk	Night
110%	2	2	2
55%	1	1	1

Figures rounded for display purposes.  
<sup>1</sup> Corridor was extended from Lake City to Northgate.  
 The Kenmore-Totem Lake and Kennydale-Renton corridors are not currently served in their entirety.

# Corridor Analysis continued

Connections		Loads at Preliminary Service Level *			Load-Based Service Level Improvements			Other Policy-based Night Service Additions				Service Level Improvements				Final Target Service Levels and Family				INVESTMENT NEED (After subtracting Mar & Sep 2018 investments)	INVESTMENT PRIORITY
BETWEEN	AND	VIA	MAJOR ROUTE	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PRIMARY CONNECTIONS BETWEEN URBAN CENTERS	CORRIDOR HAS 15 MIN PEAK SERVICE	ADD NIGHT FREQUENCY?	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	RESULTING SERVICE FAMILY		
Renton	Burien	S 154th St	F Line	22%	27%	15%	-	-	-	60	30	30	-	-	-	<15	15	15	Very Frequent	-	7
Renton	Black Diamond <sup>1</sup>	Maple Valley	143/907	29%	3%	N/A	-	-	-	-	-	-	-	-	30	30	0	Local	3,600	40	
Renton	Beacon Hill	West Hill, Rainier View	107	62%	41%	35%	1	-	-	-	30	30	1	-	<15	15	30	Frequent	6,500	36	
Renton	Renton Highlands	NE 4th St, Union Ave NE	105	20%	14%	24%	-	-	-	30	30	-	-	-	15	15	30	Very Frequent	6,400	26	
Renton	Seattle CBD	Marin Luther King Jr Way S, I-5	101/102	138%	25%	48%	2	-	-	60	30	30	2	-	<15	15	30	Very Frequent	-	5	
Renton	Seattle CBD	Skyway, Martin Luther King Jr Way S S, Beacon Hill	106	61%	38%	35%	1	-	-	30	30	30	1	-	<15	15	30	Very Frequent	6,900	27	
Renton Highlands	Renton	NE 7th St, Edmonds Ave NE	908	2%	4%	N/A	-	-	-	4%	30	30	-	-	15	30	30	Frequent	7,400	50	
Richmond Beach	Northgate	Richmond Beach Rd, 15th Ave NE	348	26%	32%	23%	-	-	-	30	30	30	-	-	15	30	30	Frequent	6,500	28	
Roosevelt	UW	University Way	Connection now served by Northgate - U District via Roosevelt Way NE corridor																		
Sand Point	Fremont <sup>2</sup>	View Ridge, NE 65th St, Cowen Park	62	251%	57%	25%	2	1	-	-	30	30	2	1	<15	15	30	Very Frequent	-	-	
Sand Point	University District	NE 55th St	74	70%	N/A	N/A	1	-	-	30	30	30	1	-	<15	15	30	Very Frequent	40,900	47	
Shoreline	University District	Jackson Park, 15th Ave NE	373	64%	N/A	N/A	1	-	-	-	30	30	1	-	<15	15	30	Very Frequent	28,400	18	
Shoreline CC	Greenwood	Greenwood Ave N	5	104%	37%	20%	1	-	-	-	30	30	1	-	15	30	30	Frequent	-	-	
Shoreline CC	Lake City	N 155th St, Jackson Park	330	9%	16%	N/A	-	-	-	-	-	-	-	-	30	30	0	Local	3,100	42	
Shoreline CC	Northgate	N 130th St, Meridian Ave N	345	24%	22%	14%	-	-	-	-	30	30	-	-	15	15	30	Very Frequent	5,800	22	
Totem Lake	Seattle CBD	Kirkland, SR-520	255	137%	56%	41%	2	1	-	60	30	30	2	1	<15	15	30	Very Frequent	-	-	
Tukwila	Des Moines	McMicken Heights, Sea-Tac	156	13%	21%	10%	-	-	-	60	30	30	-	-	15	30	30	Frequent	3,700	13	
Tukwila	Fairwood	S 180th St, Carr Road	906	9%	15%	N/A	-	-	-	30	30	-	-	-	15	30	30	Frequent	15,100	31	
Tukwila	Seattle CBD	Pacific Hwy S, 4th Ave S	124	27%	15%	12%	-	-	-	60	30	30	-	-	15	15	30	Very Frequent	-	-	
Twin Lakes	Federal Way	S 320th St	187	27%	12%	20%	-	-	-	-	-	-	-	-	30	30	0	Local	1,300	53	
Twin Lakes	Federal Way	SW Campus Dr, 1st Ave S	903	17%	7%	N/A	-	-	-	-	-	-	-	-	30	30	0	Local	1,600	52	
University District	Bellevue	SR-520	271	96%	45%	42%	1	-	-	60	30	30	1	-	<15	15	30	Very Frequent	-	-	
University District	Seattle CBD	Broadway	49	63%	41%	66%	1	-	-	30	30	30	1	-	<15	15	15	Very Frequent	-	-	
University District	Seattle CBD	Eastlake, Fairview	70	112%	39%	59%	2	-	-	60	30	30	2	-	<15	15	15	Very Frequent	-	-	
UW Bothell	Redmond	Woodinville, Cottage Lake	931	24%	N/A	N/A	-	-	-	-	-	-	-	-	60	60	0	Hourly	3,600	38	
UW Bothell	University District	Kenmore, Lake Forest Park, Lake City	372	137%	45%	73%	2	-	-	-	30	30	2	-	<15	15	15	Very Frequent	3,700	19	
UW Bothell/CCC	Kirkland	132nd Ave NE, Lake Washington Tech	238	19%	26%	N/A	-	-	-	-	-	-	-	-	30	30	0	Local	-	-	
Washon	Tablequah	Valley Center	118	103%	14%	18%	1	-	-	-	-	-	-	-	30	60	0	Local	1,200	56	
West Seattle	Seattle CBD	Fauntleroy, Alaska Junction	C Line	114%	62%	50%	2	1	-	-	30	30	2	1	<15	<15	15	Very Frequent	-	-	
White Center	Seattle CBD	16th Ave SW, South Seattle College	125	57%	20%	29%	1	-	-	-	30	30	1	-	<15	15	30	Very Frequent	12,900	24	
Woodinville	Kirkland	Kingsgate	236	19%	13%	14%	-	-	-	-	-	-	-	-	30	30	0	Local	-	-	

Above Target	
At Target	452,600†
Below Target	

Ridership*	Peak	Offpk	Night
110%	2	2	2
55%	1	1	1

\* The average load's proportion to the crowding threshold. Ridership service level improvements move the preliminary levels of service up one or two levels, e.g. a ridership service level improvement of 2 changes a 30 min. service to <15 or a 60 min. service to 15, etc.

† Figures rounded for display purposes.  
<sup>1</sup> Corridor was truncated. Demand-response service in place between Black Diamond and Enumclaw.  
<sup>2</sup> Corridor was extended from Cowen Park to Fremont.

† The two corridors served by route 50 have identical investment needs. This total is therefore not the sum of all values in this column.

## Appendix J: Investment Needs

### Priority 1 - Crowding

Route	Daily One-way Trips Needed	Hours
5	1	400
14	1	200
15X	2	800
17X & 18X	1	400
33	1	200
50	1	400
102	2	900
111	1	700
120	1	300
123	1	300
216	1	600
218	1	400
219	1	400
252	1	300
301	1	400
312	1	400
C Line	3	700
		<b>7,800</b>

Special note: In this report, routes 17 and 18 are identified as needing one trip between the two of them to relieve crowding, as the routes work together to carry riders between Ballard and downtown Seattle. However, service additions planned for these routes in September 2018 may be enough to relieve that crowding. If future analysis finds this to be the case, we will not consider these routes for additional Priority 1 investment.

### Priority 2 - Reliability

Route	Hours	Route	Hours
1	50	150	100
5 & 5X	750	157	300
8	550	158	400
11	150	159	250
17X	250	166	50
18X	250	168	50
21	550	169	50
24	300	177	300
26X	450	178	400
27	100	179	800
28X	150	182	50
33	50	190	400
37	250	192	250
40	1,000	208	250
56	250	212	400
62	1,300	214	250
63	400	216	700
64	250	218	250
105	250	219	700
106	800	235	250
107	600	236	50
111	250	238	50
113	250	240	250
114	250	244	300
116	250	249	100
122	250	268	250
123	250	355	400
124	50	E Line	400
131	350		<b>19,250</b>
132	100		
143	500		
148	50		



## Priority 3 - Service Growth

Connections					
Between	And	Via	Major Route	Hours	Priority
Northgate	Seattle CBD	Green Lake, Wallingford	26X	13,200	1
Aurora Village	Seattle CBD	Aurora Ave N	E Line	4,700	2
Burien	Seattle CBD	1st Ave S, South Park	131	8,600	3
Kent	Seattle CBD	Tukwila	150	6,600	4
Redmond	Totem Lake	Willows Road	930	9,400	5
Kent	Renton	84th Ave S, Lind Ave SW	153	16,300	6
Auburn/GRCC	Federal Way	15th St SW, Lea Hill Rd	181	2,300	7
Federal Way	Kent	Military Road S	183	4,900	8
Issaquah	Overlake	Sammamish, Bear Creek	269	14,000	9
Tukwila	Des Moines	McMicken Heights, Sea-Tac	156	3,700	10
Madison Park	Seattle CBD	Madison St	11	3,400	11
Magnolia	Seattle CBD	34th Ave W, 28th Ave W	24	11,300	12
Capitol Hill	White Center	South Park, Georgetown, Beacon Hill, First Hill	60	7,800	13
Burien	Seattle CBD	Des Moines Mem Dr S, South Park	132	16,000	14
Shoreline	Univeristy District	Jackson Park, 15th Ave NE	373	28,400	15
UW Bothell	University District	Kenmore, Lake Forest Park, Lake City	372	3,700	16
Eastgate	Bellevue	Newport Way, S. Bellevue, Beaux Arts	241	5,300	17
Alki	SODO Station	Alaska Junction	50	14,200	18
Shoreline CC	Northgate	N 130th St, Meridian Ave N	345	5,800	19
Overlake	Bellevue	Sammamish Viewpoint, Northup Way	249	11,100	20
White Center	Seattle CBD	16th Ave SW, South Seattle College	125	12,900	21
Aurora Village	Northgate	Meridian Ave N	346	9,300	22
Renton	Renton Highlands	NE 4th St, Union Ave NE	105	6,400	23
Renton	Seattle CBD	Skyway, Martin Luther King Jr Way S S. Beacon Hill	106	6,900	24
Richmond Beach	Northgate	Richmond Beach Rd, 15th Ave NE	348	6,500	25
Avondale	Kirkland	NE 85th St, Redmond Way, Avondale Rd NE	248	4,300	26
Tukwila	Fairwood	S 180th St, Carr Road	906	15,100	27
Admiral District	Southcenter	California Ave SW, Military Rd, TIBS	128	9,500	28
Green River CC	Kent	132nd Ave SE	164	5,900	29
Fairwood	Renton	S Puget Dr, Royal Hills	148	5,200	30
Kent	Burien	Kent-DM Rd, S. 240th St, 1st Ave S	166	6,000	31
Renton	Beacon Hill	West Hill, Rainier View	107	6,500	32
Redmond	Duvall	Avondale Rd NE	224	7,600	33
UW Bothell	Redmond	Woodinville, Cottage Lake	931	3,600	34

## Investment Needs, Priority 3 - Service Growth continued

Connections					
Between	And	Via	Major Route	Hours	Priority
Enumclaw	Auburn	Auburn Way S, SR 164	186/915	3,500	35
Renton	Black Diamond	Maple Valley	143/907	3,600	36
Issaquah	North Bend	Fall City, Snoqualmie	208	10,200	37
Shoreline CC	Lake City	N 155th St, Jackson Park	330	3,100	38
Kenmore	Shoreline	Lake Forest Park, Aurora Village TC	331	9,800	39
Colman Park	Seattle CBD	Leschi, Yesler Way	27	9,300	40
Mount Baker	Seattle CBD	31st Ave S, S Jackson St	14	9,100	41
Discovery Park	Seattle CBD	Gilman Ave W, 22nd Ave W, Thorndyke Ave W	33	3,900	42
Sand Point	University District	NE 55th St	74	40,900	43
Overlake	Bellevue	Bell-Red Road	226	14,000	44
Eastgate	Bellevue	Somerset, Factoria, Woodridge	246	15,200	45
Renton Highlands	Renton	NE 7th St, Edmonds Ave NE	908	7,400	46
Othello Station	SODO Station	Columbia City Station	50	14,200	47
Twin Lakes	Federal Way	SW Campus Dr, 1st Ave S	903	1,600	48
Twin Lakes	Federal Way	S 320th St	187	1,300	49
Northeast Tacoma	Federal Way	SW 356th St, 9th Ave S	182	2,300	50
Auburn	Pacific	Algona	917	3,100	51
Vashon	Tahlequah	Valley Center	118	1,200	52
Kenmore	Totem Lake	Finn Hill, Juanita	-	9,500	53
Kennydale	Renton	Edmonds Ave NE	-	7,200	54
				<b>452,600</b>	

The two corridors served by Route 50 have identical investment needs. The sum of all hours shown here is therefore greater than the total shown at the bottom.



**King County**  
**METRO**

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