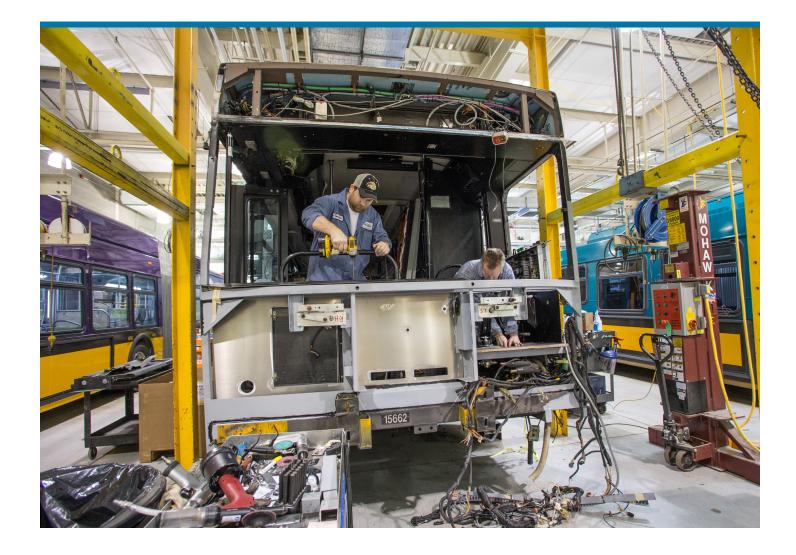
Attachment A



2023 System Evaluation





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Table of Contents

Executive Summary 1	
Introduction	
Major System Changes and Impacts	
Fixed-Route Service Evaluation	
Crowding	
Reliability	
Service Growth	1
The Complete Network: Integration with Sound Transit	
RapidRide Progress Report)
Metro Flex	
Marine Services	3

Appendices

Appendix A: Methodology	30
Appendix B: Equity Priority Areas & Route Equity Scores	35
Appendix C: Crowding (Priority 1)	39
Appendix D: Reliability (Priority 2)	39
Appendix E: Service Growth (Priority 3)	41
Appendix F: Summary of Fixed-Route Investment Needs	45
Appendix G: Route-Level Ridership and Hours (2021–2022)	47
Appendix H: Route Productivity	51
Appendix I: Service Changes	58

Executive Summary

This report presents Metro Transit's annual assessment of its transit network as required by King County Ordinances 17143, 18413, 19367, and Motion 13736. This 2023 System Evaluation uses the spring 2023 service change period from mid-March to mid-June. The report includes information about fixed-route, Dial-A-Ride Transit (DART), RapidRide, Water Taxi, and Metro Flex services, all part of Metro's expanding portfolio of mobility solutions.

In late 2021, the King County Council adopted updated Service Guidelines. These new guidelines were applied for the first time in the 2022 System Evaluation, and also apply to the 2023 System Evaluation. The currently adopted Service Guidelines serve as a policy framework that helps Metro evaluate different types of mobility services in a single report. The policies are oriented towards achieving the Metro Connects interim network as a target for service growth.

Our Findings

The 2023 System Evaluation highlights the following investment needs in Metro's fixed-route transit system:

- » Zero hours of service to relieve crowding (Priority 1)
- » 31,050 hours of service to improve reliability (Priority 2)
- » 1,689,900 hours of service in service growth (Priority 3) to restore currently suspended service hours and implement the Metro Connects interim network (or an average of approximately 100,000–120,000 hours per year)

Making the investments identified in this report would improve reliability (Priority 2) and grow the service network (Priority 3).

With ridership still rebounding from the pandemic, Metro does not need any additional investments to address chronic crowding issues (Priority 1) at this point in time. The reliability investment needs increased from last year's figure by about 6,300 annual hours. The service growth (Priority 3) methodology also highlights significant investment needs of over 1.6 million hours over the next 14-16 years. The total service growth needs increased by about 45,000 service hours from last year's system evaluation. With ridership on the rise, regional growth in jobs and population, and increasing congestion on King County roadways, these System Evaluation priorities require ongoing monitoring. To achieve the full Metro Connects 2050 long-range vision and meet the demands of the Puget Sound Regional Council's Transportation 2050 plan, Metro will ultimately need to provide around 3.6 million more annual hours of service.

Metro's Prior Investment Activities

Metro continues to face additional challenges in delivering future investments to the transit system.

Sustained improvements in reliability will require additional service hours and infrastructure investments to mitigate the impacts of major construction and rising traffic congestion across the region. In addition, several nationwide issues noted in last year's System Evaluation continue to hamper service restoration and growth, including staff shortages and supply chain issues. These challenges continue to affect transit service quality and limit Metro's ability to deliver additional service across the county. Metro made service-level adjustments in the 2023 fall service change to better align schedules with current operational capacity and improve reliability to transit riders.

Seattle Investments

Metro and the City of Seattle work together to plan and implement service funded by the Seattle Transit Measure (STM; approved by voters in November 2014 and renewed in November 2020). As of spring 2023, the Seattle Department of Transportation is supporting 148,000 annual hours of service. Metro is working closely with the City of Seattle to deliver upon the measure's goals with various mobility strategies, including fixed-route buses and Metro Flex services.

RapidRide

Metro currently operates seven RapidRide lines throughout King County. With the recent launch of the H Line and multiple future RapidRide lines under development, the RapidRide network continues to grow. The new H Line launched in March of 2023 and runs between downtown Seattle and Burien. The G Line (connecting downtown Seattle, First Hill, and Madison Valley) is currently under construction and expected to launch in 2024. Design of the I Line (connecting Renton, Kent and Auburn) is 90 percent complete with an expected launch date in 2026. Design of the J Line (connecting downtown Seattle, Eastlake, and University District) is 100 percent complete, and should launch in 2027. Design of RapidRide R Line (connecting downtown Seattle, Mount Baker, and Rainier Beach) is 10 percent complete after a brief pause in 2020 due to funding constraints spurred by the COVID-19 pandemic. In 2022, funding was designated to complete preliminary design of the K Line (connecting Totem Lake, Kirkland, and Eastgate) and to complete a RapidRide Prioritization Plan. The Plan—which will organize RapidRide candidate corridors into priority tiers based on evaluation factors of equity, environment, service demand, capital need, and implementation—will be finalized by June 2024.

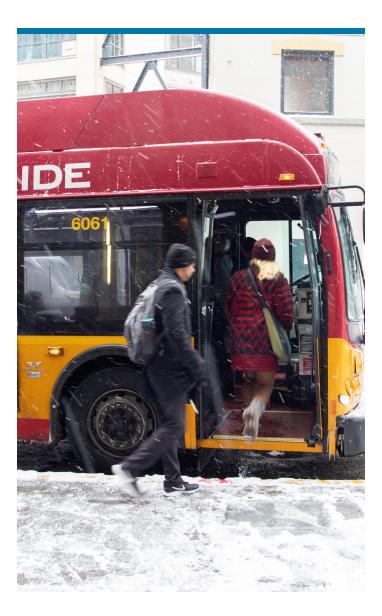
Marine Services

The Marine Division was included in the System Evaluation Report beginning in 2016 and became a division of Metro in 2019. The report now includes data on King County Water Taxi service. The Water Taxi serves two routes that connect Pier 50 at Colman Dock in downtown Seattle with Vashon Island and West Seattle. Metro plans to maintain and improve current service on the two existing routes while studying potential future routes.

Information about Water Taxi services are included in the Marine Services section of this report, and details on the evaluation methodology are included in Appendix A.

Metro Flex

This report includes performance data for Metro Flex services that were operating between March 2023 and June 2023. In 2023, Metro's on-demand services were rebranded as Metro Flex. Through this program, Metro staff 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, street network, or land use to support regular fixed-route bus service. Although many pilot services were suspended or discontinued in 2020 because of the pandemic, Metro gradually restored several of these on-demand services over the last two years. Metro continues to monitor existing pilots and consider new service areas across the county.



Our Future

Future service investments will be included in the county's biennial budget process. Workforce shortages and supply chain challenges—which are not limited to King County continue to constrain Metro's ability to invest and deliver additional service hours in the transit system. Metro remains committed to addressing these constraints, which will help Metro support service growth, deliver on the Long Game, and achieve the targets from Metro Connects.

As Metro moves toward achieving this vision, it aims to coordinate with external agencies and jurisdictions to identify opportunities to deliver more service efficiently and effectively.

Introduction

What is the System Evaluation?

This report is a snapshot of the performance of Metro's transit system for fixed-route, Dial-A-Ride Transit (DART), Water Taxi, and Metro Flex services. The System Evaluation provides the basis for decisions about adding, reducing, or changing service. It is based on Metro's Service Guidelines, which establish criteria and processes Metro uses to analyze and plan changes to our transit system. The guidelines were updated in 2021 and adopted by the King County Council (Ordinances 18301,18413, 19367, and Motion 13736). The 2023 report contains the following sections:

- » Major System Changes and Impacts
- » Bus Service Evaluation
- » Integration with Sound Transit
- » RapidRide Progress Report
- » Metro Flex
- » Marine Service (Water Taxi)
- » Appendices (Methodology and Data)

Reducing crowding and improving reliability—Metro's primary service quality indicators—are the top two investment priorities, as they directly affect the quality of transit service. Improvements in these areas help Metro maintain service for current riders and attract new ones. Metro's third priority investment, service growth, emphasizes expanding the fixed-route transit system. Service growth lets Metro provide better mobility options and helps meet existing demand, reach climate action goals, and support the region's economy to continue growing without expanding roadways.

How does Metro use the System Evaluation report?

Metro analyzes data to learn how different services are performing, where problems exist in our system, and to identify the agency's priorities for service growth. Staff combine this information with feedback from customers, operators, and partners to develop proposals to change service. Metro presents these proposals to the public, gathers and incorporates feedback, and submits final plans for approval by the King County Council. After the approved service changes are implemented, the cycle begins again.

How Can Transit Customers Use the System Evaluation Report?

Riders can find their route(s) on the maps and appendices in this report and compare it to other routes in the fixedroute transit system. They can easily identify problems on a route (such as reliability), and how many additional service hours Metro needs to invest to fix those problems. This report provides a snapshot in time; some problems come and go, and Metro uses the latest available data to make service change proposals.

Major System Changes and Impacts

This section summarizes changes to Metro's service, ridership, and performance since March of 2020. At the onset of the COVID-19 pandemic, Metro's ridership declined dramatically as people stayed home and limited their travel. Metro thereby reduced service on many routes and suspended others entirely. In total, there are approximately 345,000 suspended service hours in Metro's transit system as of the 2023 spring service change.

Metro has also faced additional challenges, including operator and mechanic shortages, supply chain issues, and mechanical problems in the transit fleet. Growing Metro's operator workforce and resolving ongoing issues with the transit fleet are both essential for improving transit service and restoring suspended routes. Metro will continue to recruit, train, and grow its workforce to deliver service growth for the foreseeable future.

2020 Service Changes

- » Spring Service Change: From March–April of 2020, Metro reduced service across the system in a series of cuts to fixed-route bus, DART, flexible services, and Water Taxi services. By the end of April, Metro was operating at 75 percent of pre-pandemic service levels.
- » Summer Service Change: In June, Metro restored service to 85 percent of pre-pandemic levels. However, many non-peak Metro routes—including most routes in south King County—maintained more of their pre-pandemic ridership and provided full service throughout 2020.
- Fall Service Change: For the September 2020 service change, Metro continued operating at 85 percent of pre-pandemic service, with 58 routes fully suspended and 21 routes partially suspended.
 Peak-only routes comprised 73 percent of all suspended routes. COVID-19 related load limits did not affect most trips because of low ridership.¹ However, some routes did have trips where rider demand reached or exceeded the load limits.

1 COVID-related load limits established maximum ridership capacity at 12 people for 40 foot buses and 18 people for 60 foot buses.

Drivers passed up passengers at stops when buses had reached load limits. Most of these trips occurred in the midday or late afternoon on high-ridership routes serving areas with a high proportion of priority populations. Just a few routes, particularly the A Line, E Line, 7, and 36, regularly had trips exceeding the load limits. To address these "crowded" trips or buses passing up riders at stops, Metro added scheduled and unscheduled supplemental trips for routes at times where trips were regularly at or above the load limits. For the September 2020 service change, Metro added 24,000 service hours of scheduled service to accommodate riders on trips regularly at or above the load limits. This service change also included various investments to improve service and transit integration in South King County as part of the Renton-Kent-Auburn Area Mobility Plan.



2021 Service Changes

- » Spring Service Change: With ridership gradually increasing, Metro added or restored service on 16 routes to maintain pandemic-related load limits and prevent crowding on popular routes. It also suspended trips on 10 peak commuter routes where ridership had not yet returned.
- Fall Service Change: Metro restored over 200,000 annual service hours on 36 routes in October 2021, bringing transit system back to about 90 percent of pre-pandemic levels. This service change also included a major service restructure in north King County as a part of the Link light rail expansion to Northgate.

2022 Service Changes

- » Spring Service Change: Metro made minor cuts to service to align with existing workforce capacity. Capacity limitations restricted Metro's ability to restore service during the spring 2022 service change. These issues also resulted in a higher number of unplanned trip cancelations. Canceled trips are not reflected in the reliability evaluation methodology because they cannot be resolved through additional service hour investments.
- Fall Service Change: Metro made service reductions to address a workforce shortage and minor schedule adjustments to increase reliability and more evenly space out time between bus trips. Additionally, with the reopening of the West Seattle high bridge, Metro moved several routes back onto the bridge from their temporary routing. These changes reduced travel time and improved reliability for riders between West Seattle and downtown Seattle.

2023 Service Changes

Spring Service Change: Metro made additional schedule adjustments to improve reliability and travel times but was still limited by workforce capacity challenges across the system. Metro added roughly 13,000 annual service hours through the Seattle Transit Measure. During this service change, Metro successfully launched the H Line, the newest addition to the RapidRide services operating in King County, which replaced Route 120. Metro is still trying to address unplanned trip cancelations and recently-adjusted service levels in the fall in order to better-align service with existing capacity. Although they are not directly factored into this report, Metro acknowledges that unplanned trip cancelations have a significant impact on transit riders.

Ridership

After seeing ridership drop following the onset of the COVID-19 pandemic in 2020, ridership continues to recover across the system.

- » 2021-2022: Between May 2021 and May 2022, average weekday bus ridership increased by 45 percent, a net increase of nearly 52,000 daily boardings.
- 2022-2023: Between May 2022 and May 2023, average weekday bus ridership increased by 20 percent, a net increase of over 34,000 daily boardings.

Although average weekday ridership continues to rise, it has not yet recovered to pre-pandemic highs. Ridership recovery varies by time of day and day of the week, with more ridership growth observed during off-peak times. The ridership recovery information on the next page compares May 2023 ridership data to May 2019.

- » AM Peak Ridership: The morning peak period from 5–9 a.m., which initially saw the largest decline in ridership in the first year of the pandemic, has rebounded to 45 percent of 2019 levels.
- » Midday Ridership: The midday period from 9 a.m.–3 p.m. has recovered 69 percent of pre-pandemic ridership.
- » PM Peak Ridership: The afternoon peak period from 3–7 p.m. has recovered 54 percent of pre-pandemic ridership.
- » Evening Ridership: The evening period from 7–10 p.m. has recovered 72 percent of pre-pandemic ridership.
- » Night Ridership: The night service period from 10 p.m.–5 a.m. has recovered 78 percent of pre-pandemic ridership.
- Weekend Ridership: In May 2023, average Saturday ridership was 61 percent of pre-pandemic totals in May 2019. In May 2023, average Sunday ridership was 82 percent of pre-pandemic totals in May 2019.

Ridership changes also differed considerably by the type and location of the route. Routes with the largest declines in ridership were peak-only and infrequent routes. Routes with the smallest declines were generally frequent, all-day routes; routes serving south Seattle and south King County; and RapidRide routes.

On-Time Performance

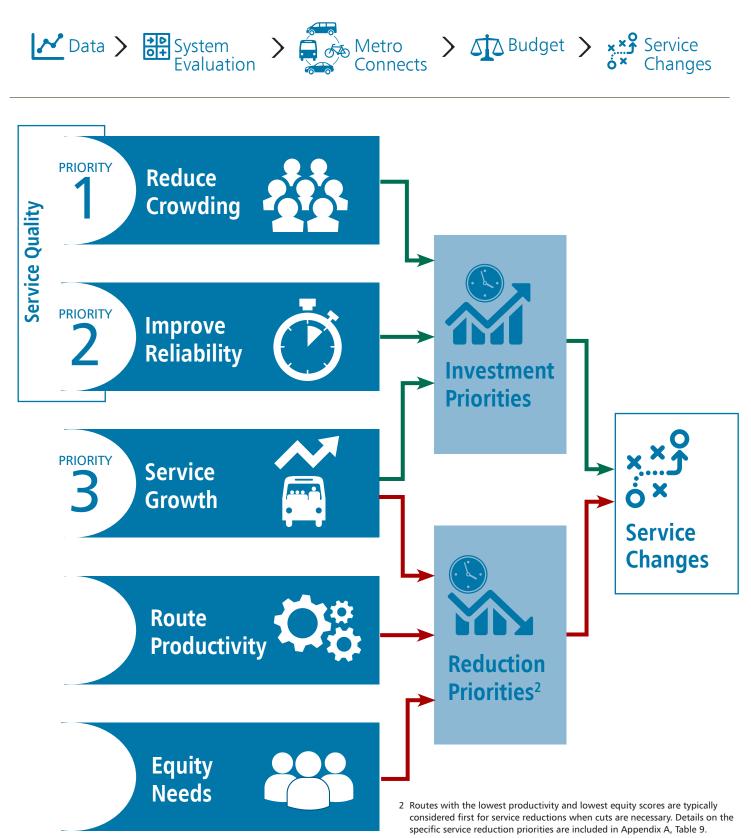
Improvement in on-time performance was one positive outcome for service following the onset of the pandemic. Traffic congestion decreased as more people worked from home and limited non-essential trips. As a result, on-time performance increased dramatically at the start of the pandemic, but later dropped because buses arrived too early or ran ahead of schedule. Metro responded by adjusting schedules for the September 2020 service change to account for less traffic congestion. After such adjustments, on-time performance increased to over 80 percent. In the first six months of 2023, Metro's reliability was relatively stable, with an average on-time performance of 79 percent, nearly the same as 2022. In comparison, on-time performance totaled 78 percent for the same period in 2019.

The data and trends examined in the last several years provide valuable insights into who is using Metro services and where and when riders are returning to the system. For example, school and university students continue to bolster Metro's ridership. Additionally, more employers are beginning to shift from fully remote work environments (spurred by the pandemic) to hybrid schedules with employees working in the office a few days each week. As a result of these changing commute patterns, Metro adjusted schedules on various routes and continues to plan for the growth and improvement of the Metro transit system.



Fixed-Route Service Evaluation

How the system evaluation informs service changes



Bus Service Evaluation

Crowding (Priority 1)

What is Crowding?

Crowding needs in the System Evaluation are defined by the following factors:

- » The vehicle's average maximum load is more than the crowding threshold for the type of vehicle.
- » The average passenger load is more than the number of seats for 20 or more minutes.
- » Trips must be crowded consistently for several months to be identified for investment.

Findings

What's Been Done

The 2023 System Evaluation found that zero bus hours are needed to reduce crowding. Although ridership is on the rise, it is still relatively low compared to pre-pandemic levels and no routes have chronically crowded trips. No additional investments were needed between fall 2020 and spring 2023 to reduce crowding as defined in the Service Guidelines.

What's Next?

As ridership continues to recover across the system, Metro will continue to monitor ridership trends, including employees returning to central workplaces and students attending class, to understand when and where to expect ridership growth and potential crowding.



Reliability (Priority 2)

What is Reliability?

In a transit context, reliability refers to the extent to which buses arrive on time or maintain their designated headway (or time between buses) throughout the day. Metro considers routes to be candidates for investment when buses do not arrive on time or fail to meet their scheduled headways more than 20 percent of the time all day. To improve reliability, Metro can invest by adding running time to schedules and partnering with cities on infrastructure to improve speed and reliability. These improvements help buses move faster and more reliably, which saves money and provides a better customer experience.

Findings

The 2023 System Evaluation found that 31,050 additional bus hours are needed to improve reliability. The investment need increased from last year's figure by about 6,300 annual hours. This report lists 56 routes needing investment; nineteen of them are new to the list. Four routes on last year's list are now within standards, and thirty-seven routes that were on last year's list remain on the list again this year.

See Appendix C for route-by-route reliability numbers.

- South county routes: Eighteen routes were identified as needing reliability investments. Routes 111, 153, 162, 168, 177, 181, 182, 183, and 190 are new to the list. The other nine (106, 113, 124, 125, 128, 131, 132, 193X, and the H Line) still have outstanding needs.
- » East county routes: Nine routes were identified as needing reliability investments. Routes 212, 216, 226, 240, 245, and 268 are new to the list. The other routes (208, 271, and the B Line) still have outstanding needs, and the investment needs are relatively small.
- » North county routes: Two routes were identified as needing reliability investments. Routes 302 and 348 are both new to the list and the investment needs are relatively small.
- » Seattle routes: Twenty-seven routes were identified as needing reliability investments. The two routes that are new to this list are routes 14 and 65. The other 25 routes still have outstanding needs.

What's Been Done

Following the onset of the COVID-19 pandemic, Metro shifted its primary focus from addressing lateness-related service reliability issues (which require investment), to earliness-related service reliability issues (which are either cost neutral or sometimes involve savings). Although the 2022 System Evaluation highlighted a modest investment need of 24,750 additional service hours, recent service changes following the evaluation period have prioritized aligning service with existing workforce capacity. Eliminating earliness remains the current focus, though Metro continues to monitor the system for any evidence of service reliability issues in either direction, late or early.

What's Next?

Metro uses various tools to improve reliability across the system. For example, Metro's speed and reliability infrastructure investments help facilitate large improvements in the rider experience. Metro is investing in technology that will support active headway management, which will help monitor and prevent bus "bunching" across the transit system, and ensure that buses can adhere to their frequent schedules throughout the day. However, traffic congestion is increasing as the region and economy continue to grow and recover from the pandemic.

Metro will monitor routes and adjust schedules to reflect evolving conditions, while continuing to partner with jurisdictions and agencies to provide transit–supportive infrastructure that enables fast and reliable transit service as travel demand increases.

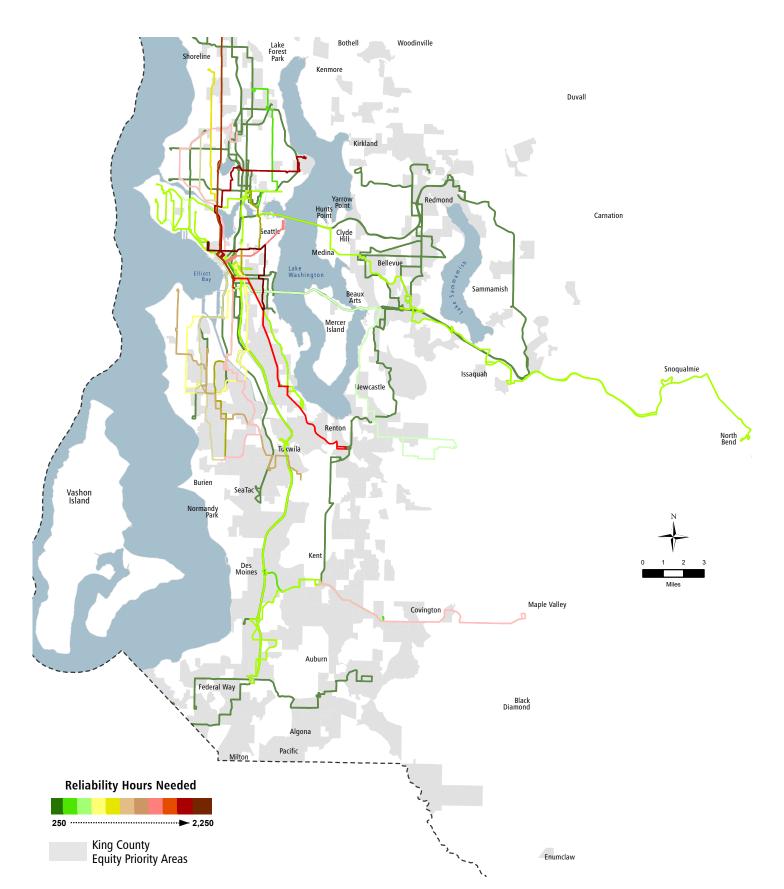


Figure 1. Metro bus routes needing investment to improve reliability

Service Growth (Priority 3)

What is Service Growth?

Service growth is based on routes' target service levels (how often buses should arrive throughout the day in Metro's existing system). The Service Guidelines include criteria for determining target service levels. Each route's target service level is based on the higher of either the proposed Metro Connects interim network value or the service growth methodology, which uses land use, equity, and geographic value factors to establish a target service level. The gap between how much service Metro currently provides and how much service is envisioned constitutes the investment needed to meet target service levels. Investment needs recommended in this section include service hour gaps caused by currently suspended services.

	Service Level: Frequenc	Service Level: Frequency (minutes between trips) and Time Period						
Service	AM Peak 5–9 a.m. PM Peak 3–7 p.m.	Off-Peak 9 a.m.–3 p.m., 7–10 p.m.	Night 10 p.m.–5 a.m.	Weekend Sat.–Sun.	Days of Service	Hours of Service		
Very frequent/ RapidRide	<= 10 mins	<= 15 mins	<= 15 mins	<= 15 mins	7 days	16–24 hrs		
Peak Frequent	<= 15 mins	<= 30 mins	<= 30 mins	<= 30 mins	7 days	16–24 hrs		
Local	<= 30 mins	<= 30 mins	<= 60 mins	<= 60 mins	5–7 days	12–18 hrs		
Hourly	<= 60 mins	<= 60 mins			5 days	8–12 hrs		
Peak-only	8 trips/day minimum				5 days	Peak		
Metro Flex	Determined by demand and community collaboration process							

Table 1: Summary of typical service levels

Findings

To meet target service levels envisioned in the Metro Connects interim network or the service growth methodology, service needs to grow on 110 routes by approximately 1,689,900 service hours (or an average of approximately 100,000–120,000 hours per year).

- » Current network: 97 existing routes need 1,369,400 additional service hours
- » Proposed Metro Connects routes (no current service): 13 new routes need 320,500 service hours

The 2023 estimated service growth needs increased by about 10,000 service hours annually. Although this annual gap is increasing, current staffing shortages and supply chain issues continue to limit Metro's ability to expand service across the system. The maps on the following pages show service growth needs by route and time of day.

What's Been Done

Since 2020, network growth focused on restoring services that were suspended or reduced during the pandemic. As noted above, staffing shortages and supply chain issues have limited Metro's ability to expand service. Due to the resulting operational constraints, Metro's system faced a large number of canceled trips and disruptions to passengers. Even with these constraints, Metro continues to evaluate opportunities to reduce disruptions to regularly scheduled service, including realigning schedules to better fit current capacity. Metro refers to this service growth data and priorities within the System Evaluation Report to help inform restructures.

What's Next?

Metro is implementing service reductions in fall 2023 to better align service levels with current operational capacity and help reduce unplanned trip cancellations. Any service reductions will be captured as investment needs in the 2024 System Evaluation. Metro will continue to seek opportunities to improve operational capacity and expand mobility options while centering on the needs of priority populations. As Metro considers future projects and investments, staff will use the Priority 3 analysis to inform service proposals.

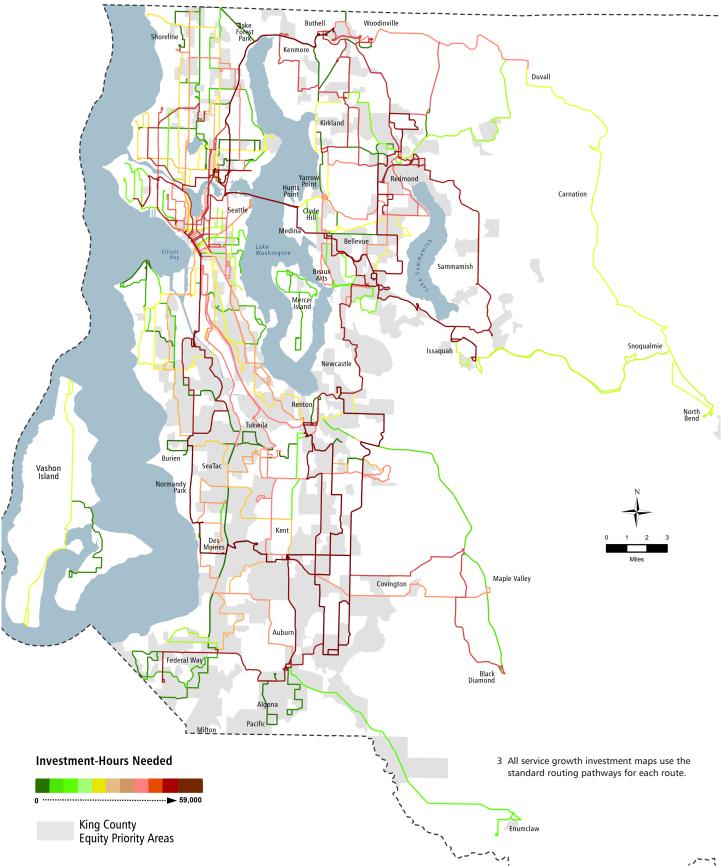
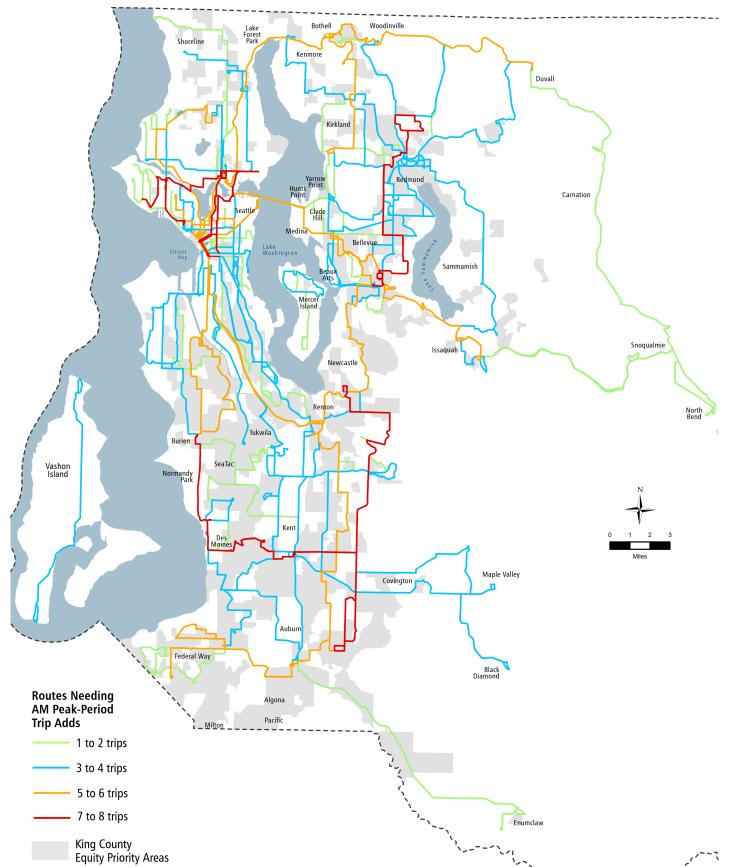
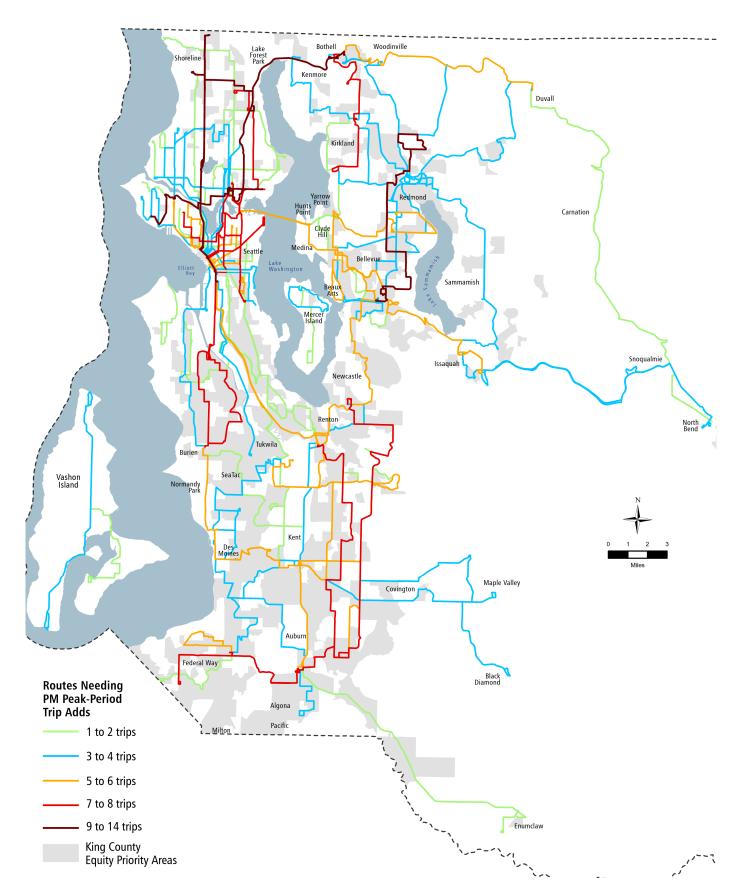


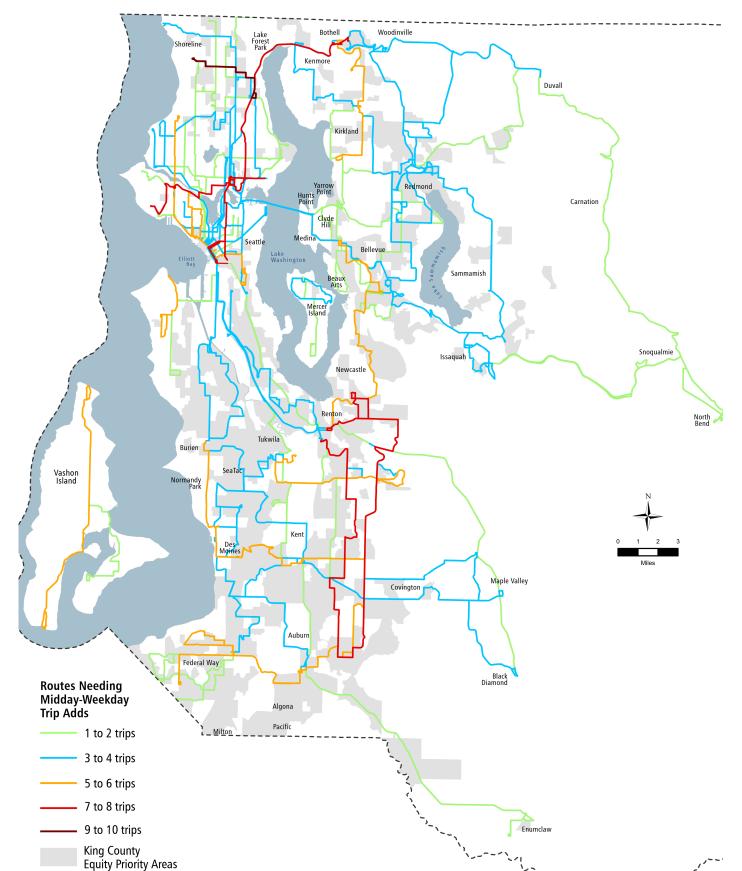
Figure 2. Metro routes needing investment in service growth (Priority 3): total investment needed³



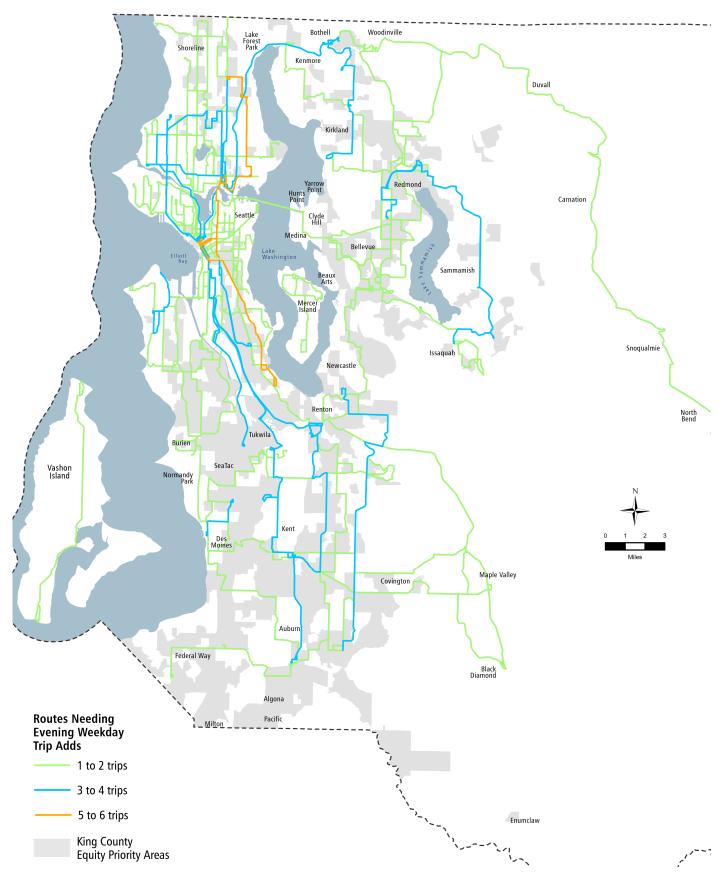


King County Metro | 2023 System Evaluation 13

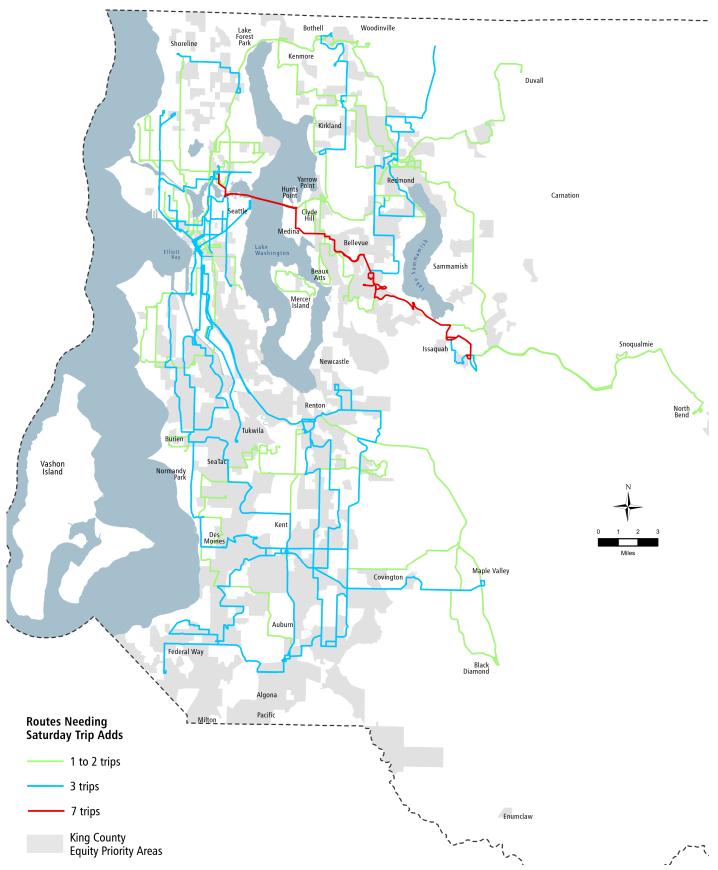


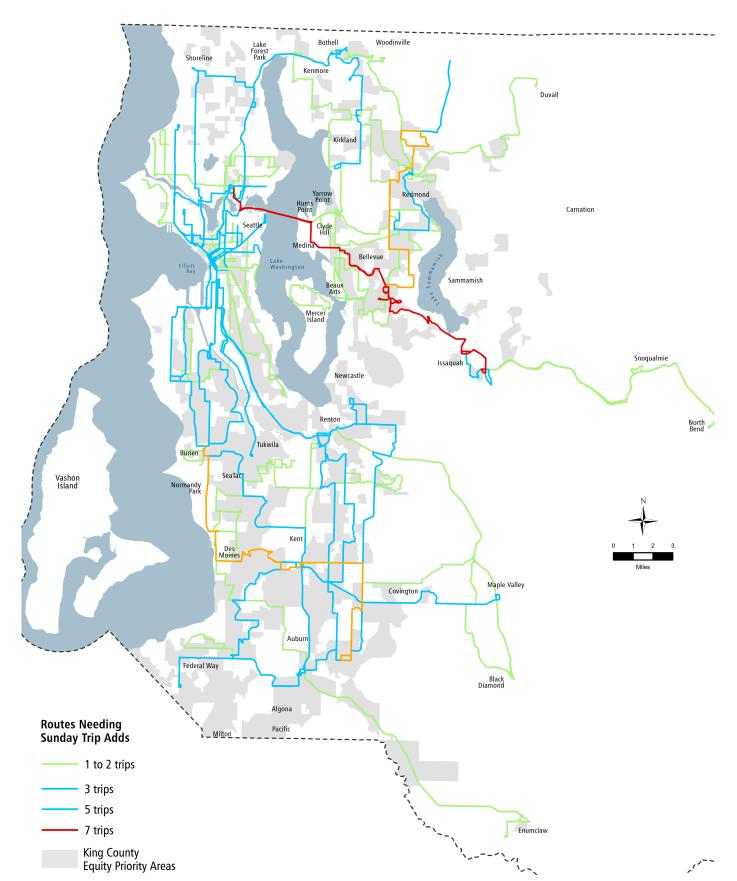


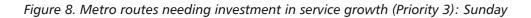












The Complete Network: Integration with Sound Transit

Metro and Sound Transit continue to plan together, and with jurisdictions, to collectively create an integrated network that gives riders the best possible transit experience. As Link light rail and Stride bus rapid transit (BRT) services expand, this coordination will maximize the total regional investment in transit while aiming to provide efficient and seamless services for transit riders.

Metro and Sound Transit are coordinating with their many agency and jurisdictional partners to meet the region's diversity of mobility needs, including integration with Link. Building on successful integration of services around Central Link (2009-10), University Link (2016), and Northgate Link (2021), Metro continues to plan for multiple upcoming light rail and Stride BRT expansion projects.

Sound Transit is currently partnering with Metro on the East Link Connections Mobility Project (inclusive of East Link and downtown Redmond Link Extensions) and with Metro and Community Transit on the Lynnwood Link Connections Mobility Project. Through these projects, the transit agencies will restructure their respective bus networks to integrate with Link light rail extensions to the downtown Redmond and Lynnwood City Center stations. As with the East Link and Lynnwood Link restructure efforts, Metro will begin engaging with Sound Transit and Pierce Transit in 2024 on the Federal Way Link Extension project for a major restructure of bus routes in south King County (South Link Connections Mobility Project). Metro is participating in the planning, design, and environmental review for the West Seattle and Ballard Link Extensions, Tacoma Dome Link Extension, 130th Street Infill Station, Stride S1/S2 (I-405 BRT), Stride S3 (SR 522/NE 145th BRT), and Kent Station Parking and Access Improvements projects.

Table 2 lists key corridors in King County where Sound Transit is the primary provider of two-way, all-day transit service. As Link service continues to expand and Stride service is launched, Sound Transit will become the high-capacity transit provider in more corridors. As services are introduced and modified, Metro and Sound Transit will continue to integrate them to maximize mobility and improve transit connections across the region. This coordination will offer current and future Metro customers fast, frequent, and reliable connections to jobs, education, and other opportunities that advance social equity for all.

Between	And	Via	Major Route
Woodinville	Roosevelt	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	Northgate	SeaTac, Rainier Valley, downtown Seattle, Capitol Hill, U District	Link light rail

Table 2: Corridors served primarily by Sound Transit



RapidRide Progress Report

RapidRide is a network of easy to use, high-quality, and convenient bus rapid transit lines, and it is an integral part of the region's high-capacity transit network. Metro's RapidRide service includes many important features for customers.

- » Frequent and reliable service: RapidRide buses are more frequent and stay on time more often.
- » **Bus stop upgrades:** RapidRide stations include better lighting, signs with real-time arrival information, and more seating.
- » **Better access:** Metro is working with local cities to improve sidewalks, street crossings, and other pathways to bus stations to ensure a safe and convenient experience.

Metro currently operates seven RapidRide lines throughout King County. The H line launched in March 2023 and the RapidRide network will continue to expand. Construction on the G Line continues, while the I Line and the J Line are both nearing the end of the planning and design stage. The J Line expected launch date has moved from 2026 to 2027. Following the J Line, Metro is planning two additional RapidRide lines, the K Line and the R Line. Planning for these two lines started in 2019, but both projects were paused in response to the financial impacts of the COVID-19 pandemic. Funding to restart both projects is included in the 2023–2024 biennial budget.

Route name	To / From / Via	Comparable Route(s)	One-Way Miles	Project Status	Expected Opening	Federal Funding (FTA)
G Line*	Madison Valley - Seattle CBD - E Madison St	11, 12	2.4	Construction	2024	Small Starts grant, American Rescue Plan funding, & Congestion Mitigation and Air Quality Improvement funding
l Line	Renton – Auburn – Kent	160	17.9	Design - 90%	2026	Pending Small Starts Grant
J Line*	U. District – Seattle CBD – Eastlake	70	5.2	Design - 100%	2027	Pending Small Starts Grant, Congestion Mitigation and Air Quality funding, & Surface Transportation Program funding
K Line	Totem Lake – Eastgate - Kirkland	255, 271	14.6	Preliminary planning	TBD	TBD
R Line	Rainier Beach - Seattle CBD - Mt Baker	7	9.4	Design - 10%	TBD	TBD

Table 3: RapidRide expansion status update

* City of Seattle is leading the design and construction of the G and J Lines



RapidRide H Line Launch

On March 18, 2023, Metro launched the RapidRide H Line, its seventh RapidRide line. Investments along the corridor include new transit stations, bus lanes, and traffic signal upgrades, totaling \$154.1 million between Metro, the City of Seattle, and the City of Burien. Improvements span the entire corridor between downtown Seattle, Delridge and West Seattle, White Center, and Burien.

RapidRide H Line, By the Numbers

- » Corridor length: 12 miles
- » Total stations and stops: 51
- » Intersections with transit signal priority: increasing to 19
- » Bus lanes: 15 miles total, including five new miles, plus 3.6 miles of Business Access and Transit (BAT) lanes
- » 4 miles of new sidewalks
- » 40 new or improved crosswalks (at intersections and mid-block)
- » 8 mid-block crossings with push-button flashing signals
- » 60 new ADA accessible curb ramps
- » Project budget: \$154.1 million in Metro, Seattle, and Burien investments

RapidRide Prioritization Plan

Metro adopted an updated Metro Connects long-range plan in December 2021 which envisions a significant expansion of the RapidRide network. The ordinance adopting Metro Connects requires the creation of a RapidRide Prioritization Plan to determine the specific candidate corridors to be developed as part of the interim network.

The RapidRide Prioritization Plan will be finalized by June 2024. In creating a new prioritization framework, this evaluation of candidate routes will lead with equity and sustainability. The prioritization framework will organize RapidRide candidate lines into tiers by their priority and potential timeframe for implementation. The top tier RapidRide candidates will include those planned to be implemented for the interim network, while the second tier will contain lines to be developed if additional funding becomes available. The third tier will include candidate routes not prioritized for development as part of the interim network.

Table 4 summarizes the performance of the closest equivalent routes for each candidate corridor. Candidate corridors include both new corridors and updates to existing RapidRide lines. The service growth factors in the System Evaluation are not measures of performance but are included in Table 4 because they have similarities to certain evaluation factors included in the prioritization plan.

RapidRide Candidate	Current	ent Demand Service Quality factors		Service Growth factors			
Corridor ID (Metro Connects)	Route Equivalent	Ridership (weekday)	Crowding (weekday)	Reliability (weekday)	Equity Score (2–10)	Land Use Score (2–26)	Geographic Value Score (2–10)
1027 (1/)	255	2,481	-	89%	2	11	10
1027 (K)	271	2,746	-	81%	4	11	10
1071 (R)	7	9,954	-	86%	6	21	7
1012	44	5,513	-	83%	0	20	7
1049	150	4,072	-	87%	4	15	10
1052	181	1,742	-	87%	6	5	10
1056	165	2,887	-	82%	4	4	7
1064	36	6,806	-	89%	8	21	7
1064	49	2,815	-	73%	4	21	10
1993	40	7,208	-	79%	2	21	10
1999	B Line*	4,177	-	86%	6	13	10
2101 + 1029	B Line*	4,177	-	86%	6	13	10
3101+1028	271	2,746	-	81%	4	11	10

Table 4: Interim network RapidRide candidate corridors⁴

*RapidRide weekday reliability is based on headway adherence analysis

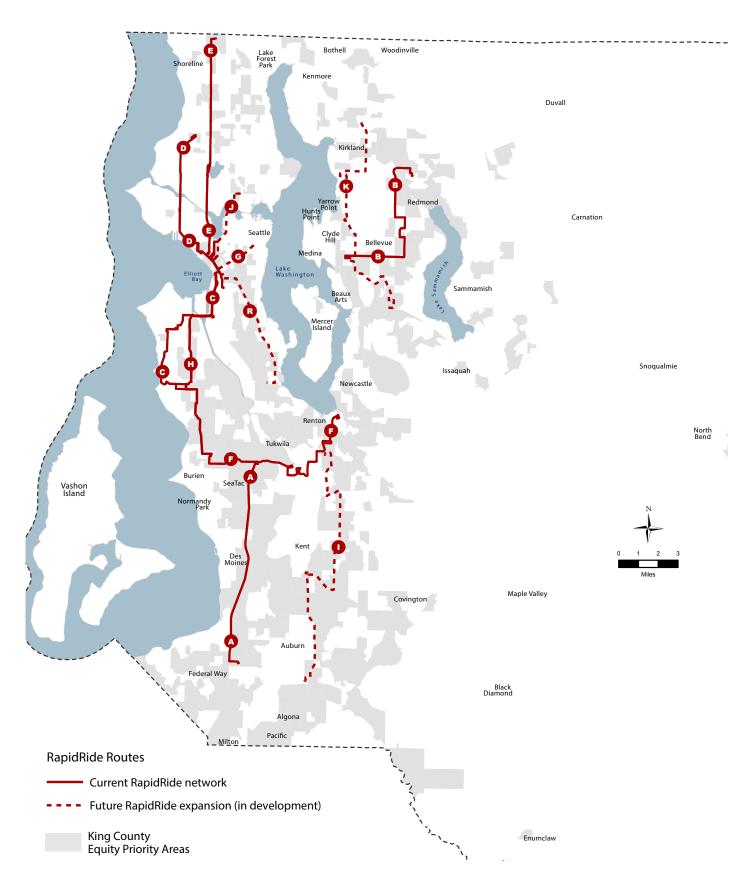


Figure 9. RapidRide service network (current and planned routes)



Metro Flex

Metro's Flexible Services Program underwent a major change in 2023 as it consolidated its on-demand services under a single operator and technology, rebranding on-demand services as Metro Flex. Metro Flex complements fixed-route bus service and provides service in areas where the land use and demand are not well-suited to bus service. These services develop and advance projects that build Metro's understanding and experience with new, innovative mobility solutions.

Metro Flex is easy and efficient to use for customers, bringing the old Community Ride, Ride Pingo to Transit, and Via to Transit services under one platform. With the transition to Metro Flex, all users can hail trips on-demand using a phone to take trips anywhere within the service area. Riders may be required to walk to a nearby corner to meet their vehicle unless they have unique mobility needs. Additionally, riders with a good fixed-route alternative will be directed to that particular fixed-route option via the app.

A defining feature of Metro Flex is the ability to launch, test, and refine innovative service solutions as pilots 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 Metro Flex, Metro is continuing to develop new pilot products and services through ideas that emerge from community partnerships and needs, as well as emerging national and international best practices for mobility services.

Metro Flex		Lounsh Data					
Service Area	AM Peak	Midday	PM Peak	Night	Saturday	Sunday	Launch Date
Juanita	1.5	1.5	1.4	-	-	-	Sept. 2020
Kent	1.5	1.8	1.7	4.7	0.9	1.1	Sept. 2021
Othello	3.7	3.8	3.8	4.8	3.6	3.6	Apr. 2019
Rainier Beach	3.3	3.7	3.5	4.1	3.3	3.1	Apr. 2019
Renton	2.9	3.1	3.0	3.8	3.0	2.9	Aug. 2021
Sammamish	2.0	2.3	2.6	-	1.8	-	June 2019
Skyway	2.7	3.3	3.5	4.3	3.1	3.1	Aug. 2021
Tukwila	3.9	3.4	3.6	4.3	3.3	3.1	Apr. 2019

Table 5: Metro Flex productivity in spring 2023 (March-June)

Table 6: Metro Flex efficiency and equity in spring 2023 (March–June)

Metro Flex		Percent Trips in					
Service Area	AM Peak	Midday	PM Peak	Night	Saturday	Sunday	Equity Priority Areas
Juanita	\$ 37.12	\$ 37.25	\$ 40.78	-	-	-	29%
Kent	\$ 36.39	\$ 31.26	\$ 32.90	\$ 12.10	\$ 63.04	\$ 49.21	79%
Othello	\$ 15.08	\$ 15.03	\$ 15.07	\$ 11.75	\$ 15.89	\$ 15.75	91%
Rainier Beach	\$ 16.81	\$ 15.34	\$ 16.29	\$ 13.82	\$ 17.28	\$ 18.01	83%
Renton	\$ 19.55	\$ 18.49	\$ 18.92	\$ 14.91	\$ 18.99	\$ 19.66	84%
Sammamish	\$ 27.97	\$ 24.41	\$ 21.71	-	\$ 30.93	-	23%
Skyway	\$ 20.50	\$ 17.32	\$ 16.15	\$ 13.26	\$ 18.16	\$ 18.38	69%
Tukwila	\$ 14.52	\$ 16.54	\$ 15.72	\$ 13.29	\$ 17.00	\$ 18.21	86%

What's Next

In addition to providing annual data in the System Evaluation, Metro will continue to evaluate and monitor all Metro Flex services. Although some newer pilots have higher costs than longstanding ones, Metro will make occasional adjustments to improve efficiency and increase ridership. Such changes include marketing campaigns to boost awareness, adjusting service levels, or adjusting the service areas covered by each service. These changes allow Metro to maximize the effectiveness of services during the pilot period, serve locations outside of our fixed-route transit network, better meet the demand for each service, and keep costs low. Furthermore, Metro will continue to evaluate how each service area aligns with agency policies around equity and sustainability. If a pilot consistently meets both the community needs and staff expectations during evaluation, and funding is available for sustained service, Metro may recommend individual pilots be converted into ongoing service.

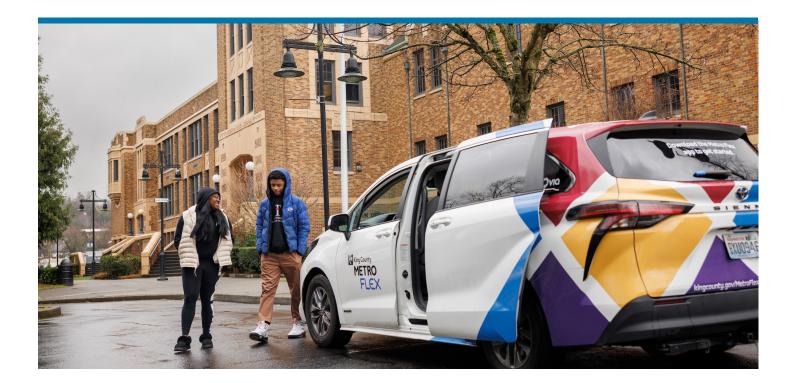
Developing New Metro Flex Service Areas

King County Metro works closely with jurisdiction partners to develop new Metro Flex services. A new component of the annual System Evaluation is a county-wide analysis to prioritize locations with good conditions for successful Metro Flex pilots, continued learning, and innovation.

To determine which locations would be best served by new Metro Flex services, Metro evaluates over 140 Transit Connection Locations (TCLs), which includes transit activity centers, park-and-rides, Link stations, transit centers, and other types of transit hubs. These TCLs are first screened based on equity and density criteria. Next, they are scored based on accessibility to determine how much a flexible service would improve mobility to jobs and other community assets in the area. Implementation of new Metro Flex services is contingent on resources, including staff time and funding.

The process used for this analysis is detailed in Table 11, Appendix A.

The map on the next page shows potential locations for Metro Flex services across the county. Each potential area is centered around a Transit Connection Location and includes a 2-mile walkshed which is screened based on the equity and density criteria. Each location that passes the screening criteria is shaded based on how well it meets the criteria from Table 11.⁵ This analysis serves as one of many tools to help identify potential locations for new pilot services. Network restructures, partnerships with jurisdictions, input from the community, grant funding, and other factors create opportunities for identifying potential locations and implementing new Metro Flex services. Additional details on the Metro Flex services methodology are included in Appendix A.



5 Prioritized locations for new Metro Flex services meet both density screening criteria (between 5 and 18 people per acre) and equity screening criteria (equity rank in the top 40 percent).

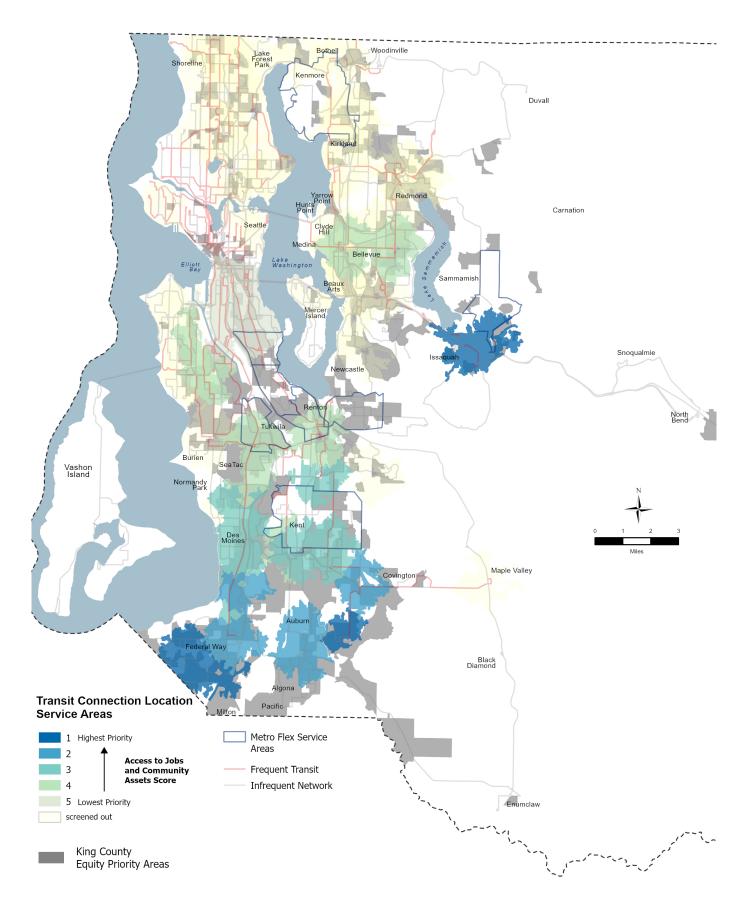


Figure 10. Metro Flex potential service prioritization – accessibility of service areas as of spring 2023

Marine Service

Metro's Marine Division operates the King County Water Taxi. As of September 2023, Metro operates two Water Taxi routes. The Vashon Island/downtown Seattle route provides year-round service during weekday commute periods. The West Seattle/downtown Seattle route provides a similar weekday commuter ferry service year-round, along with an expanded summer schedule to include all-day service, seven-days-a-week and late-night service on Fridays and Saturdays. With the 2023-24 Adopted Biennial Budget, the West Seattle route has added year-round midday, weekday, and weekend service.

Water Taxi Performance

Metro monitors Water Taxi performance with four performance measures: ridership, productivity, passenger loads, and schedule reliability. Please see Appendix A for the method used to develop performance measures. See Table 8 for a summary of service performance from March 2023 to June 2023.

What's Been Done

In response to the pandemic and the resulting drop in ridership in 2020, Metro maintained the winter schedule for Water Taxi service throughout the year, with commute period service only for both routes. In April 2020, commute service was further reduced to two round trips to West Seattle and one round trip to Vashon. From May through October 2020, the Water Taxi resumed commute period service for both routes on a Monday-through-Friday only schedule.

In 2021, Metro restored midday and weekend service on the West Seattle route for the summer season, with daily service every day, all day, and late nights on Friday and Saturday. As part of the West Seattle high bridge closure mitigation, the City of Seattle funded additional Water Taxi and shuttle services in fall 2021. Metro maintained summer midday and weekend service throughout the winter from October 2021 through March 2022 to provide alternate transportation options.

To provide consistent transportation service for the community and optimize staff retention on the West Seattle route, Metro maintained the increased summer sailing schedule through the winter service period in 2022 (except for increased evening service on Fridays and Saturdays). Beginning in April 2022, Metro reinstated the increased evening service on Fridays and Saturdays throughout the summer season, ending in October 2022.

With the 2023-24 Adopted Biennial Budget, the West Seattle route has committed to maintaining year-round midday weekday and weekend service along with the existing commuter weekday service.

What's Next

Metro evaluates service schedules regularly to ensure they continue to meet community needs. While no major service changes are planned for the West Seattle and the Vashon Island routes, Water Taxi service will be continuously monitored based on ridership recovery.

Route	Average Weekday Boardings	Average Saturday Boardings	Average Sunday Boardings	Average Rides per Round Trip	Trips operating at over 95% of Capacity	Percent Late Trips
Vashon Island	338	-	-	54	2	0.31%
West Seattle	759	1419	893	56	0	0.51%

Table 7: Marine service data, March 15, 2023–June 15, 2023



Appendices

Appendix A: Methodology	30
Appendix B: Equity Priority Areas & Route Equity Scores	35
Appendix C: Crowding (Priority 1)	39
Appendix D: Reliability (Priority 2)	39
Appendix E: Service Growth (Priority 3)	41
Appendix F: Summary of Fixed-Route Investment Needs	45
Appendix G: Route-Level Ridership and Hours (2022–2023)	47
Appendix H: Route Productivity	51
Appendix I: Service Changes	58

Appendix A: Methodologies and Process Descriptions

Fixed-Route Service Growth

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). Metro uses several months of data to determine the average maximum load on each trip. This figure is compared to the crowding threshold of the scheduled coach assignment. Each coach type Metro operates has its own crowding threshold, which 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, it is then determined 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. Estimated investment need is based on the number of hours it takes to provide a trip on the identified route in the identified time period.

Twenty-minute standing loads. Metro compiles data from APCs for each unique trip in the system. Several months of data is used to determine the average departing load from each bus stop served by the trip. The data is also used to determine the average time when buses leave each stop (known as the "passing minute"). These data are then processed 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, other trips that arrive within 15 minutes are checked to determine if they have the capacity to take those standing passengers without having standing loads themselves. If excess capacity is not found, the route is identified 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 bus stops to scheduled arrival times. Buses that arrive at bus stops up to 1.5 minutes before the scheduled time and up to 5.5 minutes after the scheduled time are considered on time. This allows for random variations resulting from operating in mixed traffic without prompting an unnecessary allocation of resources. All arrivals at stops are recorded by systems on the bus. For the System Evaluation, late arrivals are analyzed by route and by time period.

RapidRide service reliability is determined by headway adherence for weekdays because the route runs more frequently than every 15 minutes. When scheduled headways are between 1 and 7 minutes, actual headways at stops within two minutes of scheduled headways are considered acceptable. When scheduled headways are between 8 and 15 minutes, actual headways at stops within three minutes of scheduled headways are considered acceptable.

Metro evaluates reliability over three time periods, including weekdays, Saturdays, and Sundays. For each route and time period, Metro calculates the percentage of late arrivals at stops (more than 5.5 minutes after the scheduled arrival time). Routes that arrive late more than 20 percent of the time are identified for reliability investments. Metro estimates these investment needs by calculating how much additional service a route needs to meet the 20 percent goal.

Methodologies and Process Descriptions continued

Service Growth (Priority 3)

Metro uses the higher of target service levels from the Metro Connects interim network⁶ and a service growth methodology from the Service Guidelines to establish a route's target service level, calculate the necessary investment to meet that target, and determine the relative priority for each route. Additional details on the growth methodology are included in Table 8.

Factor	Priority	Weighting (investment needed)	Purpose	Measures	
Equity	1	25%	Serve communities where needs are greatest.	Equity Prioritization Score	
Land Use	2	50%	Support areas of higher employment and household density, areas with high student enrollment, and the function of park-and-rides in the transit network.	 Households within quarter mile Park-and-ride stalls within quarter mile Jobs within quarter mile Low-income jobs within quarter mile Enrolled students at high schools and colleges within quarter mile 	
Geographic Value	3	25%	Provide appropriate service levels throughout King County for connections between all centers.	 Connection between regional growth centers Connection between activity centers Connection between manufacturing & industrial centers 	

Table 8: Service growth methodology

Metro evaluates different measures in equity, land use, and geographic value to develop a set of scores for each route. These scores help Metro identify where needs are greatest and develop service level targets for each route. Metro compares these Service Guideline targets to the Metro Connects interim network targets, and uses the higher of the two values to calculate the investment gap for each route. These service hour investment needs are prioritized by route in the following order.

- 1. Equity score: determined by the proportion of priority populations within each census block with a bus stop.
- 2. Land Use score: determined by the number of households, park-and-ride stalls, jobs, low-income jobs, and enrolled students at high schools and colleges within a quarter mile of the route.
- 3. Geographic Value score: determined by how well the route connects regional growth centers, activity centers, and manufacturing and industrial centers in the county.

⁶ The prioritization methodology allows Metro to increase service levels gradually as it implements the Metro Connects interim network (pre-West Seattle Ballard Link Extension).

Methodologies and Process Descriptions continued

Fixed-Route Service Reductions Methodology

Priorities for reduction are listed in the table below. Productivity and equity measures are used to prioritize candidates for service reduction. Routes with low performance on the productivity measures, and specifically those that also have low equity scores, are generally the first to the prioritized for reduction. Within all priorities, Metro ensures that equity is a primary consideration in any reduction proposal, complying with all state and federal regulations.

The priority list is intended to address reductions to multiple trips within a time period, cuts to all service in a time period, or deletion of routes. Individual low-performing trips may also be considered for reductions outside of the priority list.

Table 9: Priorities in fixed-route service reductions

Priority	Factors
1	Routes within the bottom 25% on both productivity measures and with Opportunity Index Scores of 3 or less
2	Routes within the bottom 25% on both productivity measures and with Opportunity Index Scores of 4 or 5
3	Routes within the bottom 25% on one productivity measure and with Opportunity Index Scores of 3 or less
4	Routes within the bottom 25% on one productivity measure and with Opportunity Index Scores of 4 or 5
5	Routes within the bottom 50% on one or both productivity measures and with Opportunity Index Scores of 3 or less
6	Routes within the bottom 50% on one or both productivity measures and with Opportunity Index Scores of 4 or 5

Metro Flex

Evaluating Existing Metro Flex Service

Service is evaluated in terms of productivity, efficiency, and equity.

Table 10: Evaluating existing Metro Flex services

Type of Measure	Description
Productivity: Rides per	Number of total riders who board a vehicle relative to the total number of hours
vehicle hour	that a vehicle operates
Efficiency: Cost per boarding	Cost per boarding relative to the cost of operating the service
Equity: Boardings/exits that are in equity priority area	Total number of boardings or exits which are in an equity priority area relative to the total number of boardings or exits

Adding New Flexible Services

To determine which locations would be best served by new flexible services, Metro evaluates over 140 Transit Connection Locations (TCLs), which include transit activity centers, park-and-rides, Link stations, transit centers, and other types of transit hubs. These TCLs (and their surrounding 2-mile walkshed) are first screened out based on density and equity measures. Next, they are scored based on their relative accessibility to jobs and community assets. This approach helps identify areas that lack sufficient access to the existing transit network and would benefit the most from a flexible service. The full process used to identify, screen, and score these locations is depicted below in Table 11.

Steps	Description
1) Identify Transit Connection Location Service Areas	Includes a 2-mile walkshed (area reachable by foot) around the primary facility.
2) Apply Screening Criteria	Equity – average equity priority area score for the block groups in the service area is within the top 40 percent of all Transit Connection Locations.
	Density – service area has a moderate population density between 5–18 people per acre. Denser areas would be a stronger candidate for fixed-route service, and less dense areas would lack the demand to support a new flexible service.
3) Apply Scoring Criteria (accessibility)	Accessibility scores determine the extent that a new flexible service would improve the surrounding area's ability to get to jobs and other community assets. Scores are broken into quintiles. The greater the access to jobs and community assets, the higher the score. Service areas with the lowest access scores are prioritized for future Metro Flex service. This approach prioritizes TCL service areas that serve to gain the most relative mobility throughout the county with the addition of a Metro Flex service.
4) Implementation	Implementation of new Metro Flex services is contingent on resources, including staff time and funding.

Table 11: Steps for prioritizing new Metro Flex services

Marine Service

Metro monitors performance and manages Marine Services using a set of performance measures included in the System Evaluation Report. The Marine Division uses these measures to determine when and where to consider adding service through an expanded service window or additional vessels serving the route, reallocating service from existing routes, or adjusting schedules to improve performance. Four performance measures are used to evaluate ferry service performance: ridership, service productivity, passenger loads, and schedule reliability.

Table 12: Evaluating	Marine Services
----------------------	-----------------

Type of Measure	Measures Used
Ridership: Average daily boardings	Average daily ridership is measured and reported for each route for weekdays, Saturdays, and Sundays.
Productivity: Riders per round trip	Total passengers per round trip include the average number of riders on a vessel for both the initial departure and return trip.
Passenger loads (Crowding): Trips at or greater than 95% of capacity	Trips are crowded if they reach 95% or greater capacity as regulated by the U.S. Coast Guard, more than five times per month over a 12-month period.
Schedule reliability: Trips departing more than five minutes late	Trip departures within five minutes of the published schedule are on time. The overall goal is for 98% of all trips to be on time.

Appendix B: Equity Priority Areas & Route Equity Scores

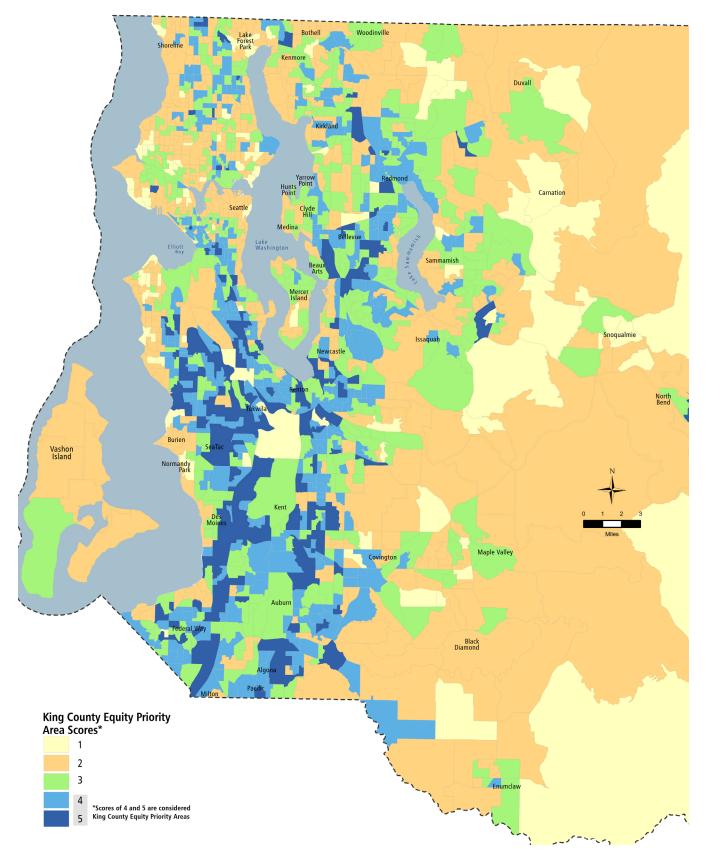


Figure 11. Census block groups by equity priority area score

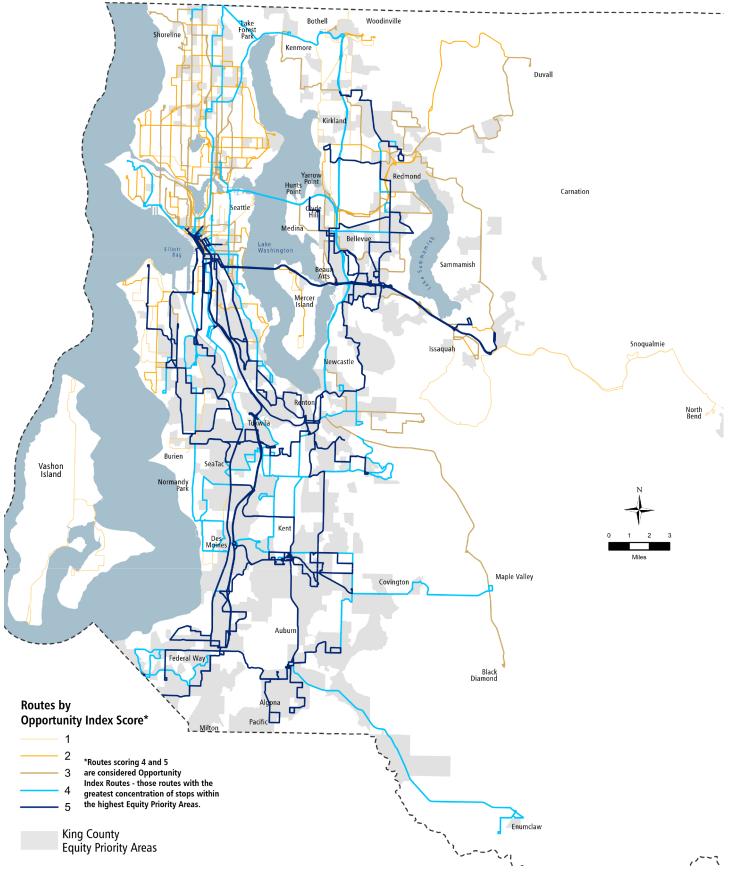
Route Equity Prioritization Scores⁷

Route Name	Equity Prioritization Score	Route Name	Equity Prioritization Score	Route Name	Equity Prioritization Score	Route Name	Equity Prioritization Score
1	2.8	60	3.5	183	4.0	773	2.4
2	2.9	62	2.6	184	4.3	775	1.8
3	2.9	65	2.8	187	3.8	901	4.2
4	3.2	67	2.9	204	2.5	903	3.9
5	2.6	70	3.0	208	2.2	906	2.7
7	3.7	73	3.1	221	3.3	907	2.6
8	3.4	75	2.8	224	3.3	915	3.1
10	2.7	79	2.3	225	3.1	917	4.2
11	2.8	101	3.9	226	3.7	930	3.6
12	3.0	102	3.5	230	2.5	2204	2.7
13	3.1	105	4.2	231	2.7	2515	3.0
14	3.6	106	4.1	239	3.0	3028	2.8
15	2.6	107	4.0	240	4.0	3061	3.3
17	2.4	118	2.0	241	4.3	3062	2.8
18	2.7	119	2.0	245	3.6	3069	3.2
20	2.9	124	2.7	246	3.7	3085	3.2
21	2.6	125	3.3	249	3.3	3090	2.9
24	2.3	128	3.5	250	3.0	3091	2.9
27	3.3	131	3.2	255	2.7	3122	2.7
28	2.6	132	3.6	269	2.8	3162	3.9
31	2.6	148	4.0	271	3.2	3214	2.9
32	2.6	150	3.3	330	3.1	3220	1.9
33	3.0	153	2.8	331	2.5	A Line	4.6
36	4.1	156	3.5	345	3.2	B Line	3.6
40	2.8	160	4.0	346	3.1	C Line	2.7
44	2.5	161	3.8	347	3.4	D Line	2.9
45	2.7	165	3.3	348	3.1	E Line	3.1
48	3.2	168	3.4	372	3.1	F Line	3.3
49	3.2	181	3.9	631	3.1	H Line	3.8
50	2.6	182	4.2	635	2.7		1

7 Metro Connects interim network routes without an equivalent in the current network are depicted by a 4-digit number on this list. They are evaluated based on their proposed routing and service levels in the Metro Connects interim network.

Equity Priority Areas & Route Equity Scores continued

Figure 12. Opportunity index route scores



Appendix C: Crowding (Priority 1) There are no crowding investment needs for 2023.

Appendix D: Reliability (Priority 2)

Route	Weekday % Late	Saturday % Late	Sunday % Late
1	17%	24%	23%
2	12%	18%	14%
3	9%	9%	11%
4	13%	16%	19%
5	13%	36%	25%
7	14%	30%	16%
8	28%	22%	31%
9X	31%		
10	8%	11%	13%
11	27%	42%	39%
12	18%	13%	16%
13	12%	19%	5%
14	12%	21%	13%
15X	17%		
16X	8%		
17X	20%		
18X	16%		
20	9%	23%	13%
21	15%	32%	21%
21X	13%		
22	20%		
24	18%	28%	21%
27	14%	21%	13%
28X	22%	28%	27%
29	14%		
31	24%	20%	17%
32	20%	29%	22%
33	16%	21%	29%
36	11%	14%	15%
40	21%	25%	22%
43	29%	23%	24%
44	17%	22%	12%
45	17%	22%	18%
48	16%	20%	10%

over the lateness threshold

Route	Weekday % Late	Saturday % Late	Sunday % Late
49	21%	27%	19%
50	8%	13%	13%
55	10%		
56	7%		
57	11%		
60	15%	26%	30%
62	25%	32%	23%
64X	19%		
65	22%	17%	9%
67	22%	17%	11%
70	14%	19%	12%
73	5%	11%	5%
75	15%	24%	18%
79	12%		
101	10%	10%	8%
102	13%		
105	12%	10%	8%
106	26%	25%	21%
107	19%	10%	8%
111	28%		
113	23%		
114	5%		
118	16%	3%	11%
119	14%		
121	13%		
124	16%	22%	19%
125	22%	11%	
128	23%	24%	10%
131	22%	22%	20%
132	24%	25%	25%
148	16%	9%	10%
150	13%	9%	9%
153	22%		
156	8%	4%	4%

Reliability continued

over the lateness threshold

Route	Weekday % Late	Saturday % Late	Sunday % Late
160	13%	10%	6%
161	19%	19%	17%
162	27%		
165	18%	14%	16%
167	16%		
168	28%	20%	19%
177	26%		
181	13%	15%	21%
182	18%	28%	10%
183	22%	23%	
184	14%	8%	4%
187	12%	13%	6%
190	20%		
193X	31%		
208	26%	21%	
212	24%		
214	3%		
216	23%		
217	15%		
218	16%		
221	13%	14%	19%
225	18%	8%	12%
226	14%	23%	17%
230	13%	9%	6%
231	14%	7%	9%
232	16%		
237	9%		
239	11%	9%	9%
240	16%	26%	12%
241	9%	18%	15%
245	14%	24%	16%
246	8%		
249	9%	12%	13%
250	14%	15%	13%
255	11%	13%	9%
257	19%		
268	20%		
269	15%		
271	19%	23%	22%
301	5%		
302	24%		

Route	Weekday % Late	Saturday % Late	Sunday % Late
303	12%		
304	5%		
311	11%		
320	18%		
322	12%		
330	11%		
331	7%	18%	11%
342	16%		
345	5%	12%	10%
346	4%	7%	8%
347	16%	15%	12%
348	18%	21%	15%
372X	11%	19%	16%
A Line*	18%	9%	8%
B Line*	14%	12%	22%
C Line*	18%	15%	11%
D Line*	17%	23%	16%
E Line*	25%	24%	19%
F Line*	15%	8%	3%
H Line*	20%	24%	23%

*RapidRide all-day weekday reliability based on headway adherence analysis

Appendix E: Service Growth (Priority 3)

Service Growth Scoring and Prioritization

Priority	Ranking	71	74	70	37	81	14	34	72	65	66	35	13	67	110	73	62	87	109	36	83	91	<i>LL</i>	75	2	68	111	80	38	33	96
Total Service Growth Investment	Needed (Annual Hours - rounded)	5,100	6,300	3,600	19,900	11,600	16,200	8,600	8,300	17,300	7,800	15,200	8,800	22,600	11,800	12,300	2,600	10,700	7,000	4,700	7,300	31,300	26,800	6,100	9,300	29,400	13,700	2,400	19,800	29,100	3,200
	Sunday Service Hours	1	2,021	1	1	2,262	1,221	1,010	558	1,176	965	1	1	1,653	802	917	'	1,779	1	498	ı	ı	2,021	709	875	'	814	ı	1	1,327	
Needed	Saturday Service Hours	514	ı			1,041			ı	1,163	833	541	662	1,482	719	822	·	798		ı	ı	ı	1,866				730		1,595	1,298	
ce Hours	Night Service Hours	2,375	2,568	1,562	4,129	2,667	11,870	2,273	2,667	3,090	1,838	3,356	3,700	7,266	3,527	4,031	2,570	2,209	1,586	ı	1,634	3,911	4,807	661	6,083	8,592	5,470	2,374	3,404	9,786	3,209
Additional Annual Service Hours Needed	Off-Peak Midday Service Hours				6,444	3,262			1,472	3,660	1,472	5,012		7,266	3,527	4,031		2,546			2,148	11,298	5,649	2,029		8,990	2,307		5,171	6,822	•
Additional	PM Peak Service Hours	1,273	I	2,042	6,365	2,387	1	2,042	2,785	4,734	2,652	4,296	3,182	3,121	1,702	1,309	I	ı	3,766	2,387	3,554	9,905	6,444	1,538	ı	4,933	2,466	1	6,590	5,476	ı
·	AM Peak Service Hours	988	1,758		2,988		3,103	3,324	864	3,501		2,039	1,221	1,830	1,494	1,210	ı	3,362	1,642	1,799	ı	6,213	6,041	1,212	2,347	6,913	1,921	I	3,056	4,437	1
	Sunday Trips		m		1	m	2	2	2	m	m	1		m	1	1	ı	m	1	2	ı	I	m	2	2	1	2	1	ı	ω	
er Hour	Night Saturday Trips Trips	2	I		1	2	ı	ı	ı	e	m	2	2	m	1	1	I	2	ı	I	I	I	ſ		1	ı	2	1	m	ω	1
Trips pe	Night Trips	2	-	-	2	-	9	-	2	2	2	2	7	ω	2	2	-	-	-	ı	-	2	2	ı	4	ω	4	-	2	9	-
Additional Trips per Hour	Off-Peak Midday Trips	I			9	2	1	ı	2	4	2	9	ı	5	S	S	ı	2	1	ı	2	8	4	2	ı	4	2	1	4	7	ı
A	PM Peak Trips	2	ı	2	9	2		2	5	7	ъ	9	4	ω	2	1	ı	ı	4	4	4	6	9	2		ω	m	ı	7	7	ı
	AM Peak Trips	2	2	1	Μ	•	ω	4	2	9	1	Μ	7	2	2	-	1	4	2	Μ	1	7	7	7	ω	ъ	Μ	ı	4	7	1
	Routes	-	2	m	4	ß	7	∞	10	11	12	13	14	15	17	18	20	21	24	27	28	31	32	33	36	40	44	45	48	49	50

Priority	Ranking	39	82	89	78	32	41	88	112	16	46	ß	4	12	118	119	85	47	25	42	15	28	43	94	29	9	21	60	61	26	7
Total Service Growth	(Annual Hours - rounded)	11,200	10,800	20,400	13,300	18,700	12,000	4,600	700	21,100	15,200	10,800	16,700	12,000	9,800	1,900	19,800	4,200	I	34,000	38,600	I	20,300	6,700	16,000	38,900	12,800	53,200	16,800	35,600	1,600
	Sunday Service Hours	1,448		1	'		ı	-	368	1,783	1,025	905	'	•	112	'	1,991	607	1	2,089	2,529	·	1	639	965	3,257	1,733	5,791	1,769	2,564	ı
Needed	Saturday Service Hours	1,379					ı		330	1,974	919	741	ı				1,866	I	I	2,109	2,758	ı	1	573	496	3,110	1,731	3,461	1,812	2,488	ı
ice Hours	Night Service Hours	3,019	3,433	7,105	4,325	6,385	4,480	1	1	6,022	5,072	873	5,959	1	006	63	7,634	706	1	5,072	6,842	ı	7,736	1	3,716	12,021	•	3,166	1,345	2,034	1
Additional Annual Service Hours Needed	Off-Peak Midday Service Hours		4,336	4,614	3,898	5,171	4,614	2,705			4,508	5,092	3,620	7,160	4,230	1,193		I		7,956	7,717		4,256		5,490	4,694	5,569	16,111	5,171	11,337	1,631
Additional	PM Peak Service Hours	2,970	3,023	5,848	2,864	2,824	1,671	1,909	ı	6,365	1,040	1,803	2,572	2,466	2,069	648	4,190	1,485	1	10,502	10,714	ı	2,970	3,129	3,819	9,945	1,962	11,298	3,819	10,502	ı
	AM Peak Service Hours	2,379		2,810	2,188	4,310	1,185	-	ı	5,001	2,625	1,387	4,508	2,334	2,440	ı	4,137	1,364	1	6,229	8,024	ı	5,367	2,328	1,516	5,834	1,777	13,366	2,934	6,705	
	Sunday Trips	2	1	ı	ı	1	ı	ı	~	e	~	m	ı	ı	ı	ı	e	-	ı	m	e	ı	ı	-	2	m	m	5	m	e	1
er Hour	Night Saturday Trips Trips	2	ı	1	ı			1	1	S	٢	m	ı	ı	ı	1	З	ı	ı	m	Э	ı		1	1	m	m	S	m	Э	ı
Trips po	Night Trips	-	-	ß	Μ	4	ω		ı	ĸ	2	-	2	ı	-	ı	m	ı	ı	2	2	ı	ω	ı	2	4	ı	1	-	1	I
Additional Trips per Hour	Off-Peak Midday Trips	1	2	4	4	4	4	2	ı	ı	m	8	2	4	ß	-	1	ı	1	4	4	ı	2		4	2	4	9	4	9	2
A	PM Peak Trips	2	2	7	4	ω	2	2	ı	9	-	4	2	2	4	-	4	2	ı	∞	∞	ı	2	4	4	9	2	9	4	8	ı
	AM Peak Trips	2	ı	4	4	5	2	I	ı	5	2	Μ	4	2	4	ı	4	2	ı	ъ	9	ı	4	ю	2	4	2	∞	4	9	I
	Routes	60	62	65	67	70	73	75	79	101	102	105	106	107	118	119	124	125	128	131	132	148	150	153	156	160	161	165	168	181	182

Priority	Ranking	11	∞	31	115	116	56	58	55	20	97	95	98	22	m	23	24	48	92	93	100	45	54	103	51	52	57	53	44	49	101
Total Service Growth Invectment	(Annual Hours - rounded)	14,900	1,500	2,100	3,500	8,400	39,000	8,100	24,100	10,900	ı	1	29,200	34,300	6,500	17,800	7,200	17,900	2,100	10,200	32,400	40,700	18,100	ı	3,700	3,000	5,100	11,800	49,300	600	5,400
	Sunday Service Hours	1,464	1	,	,	487	3,529	344	1,406	905	I	ı	1,960	1	648	•	371	905	,	1,237	ı	7,361	832	'	1		I	•	1,379	103	217
Needed	Saturday Service Hours	1,502	1			561	2,352	308	1,247		ı	1	1,704				333	856	ı	1,122	1,109	7,067	746			1	ı		512	92	
iice Hours	Night Service s Hours	721	•	359	1,459	1	3,290	•	4,181	1,291	1		5,076	5,018	664	4,195	ı	,	,	ı	12,862	3,984	265	,	1,492	1,162	2,640	4,108	8,740	451	1,909
Additional Annual Service Hours Needed	Off-Peak Midday Service Hours	5,012		1,273	1,074	1,671	7,797	2,769	7,638		ı		8,234	12,292		3,978	2,904	4,256		3,262	8,592	7,558	7,359		2,228	1,830	2,466	4,853	13,505		1,432
Additional	PM Peak Service Hours	3,607	1,538		571	3,580	12,995	2,586	5,304	4,933	ı		7,850	9,309	2,970	5,622	1,961	7,779	1	2,519	5,533	7,028	6,723	ı	1	1	1	1,697	19,492	ı	955
	AM Peak Service Hours	2,631		512	397	2,086	9,082	2,103	4,276	3,741	ı		4,342	7,658	2,238	3,989	1,597	4,058	2,129	2,079	4,330	7,704	2,172	ı	1	1	1	1,184	5,704	ı	903
	Sunday Trips	m	ı			-	ß	l	2	2	I	ı	ω	1	2	ı	1	-		2	I	7	m		1	ı	I	ı	m	1	1
er Hour	Night Saturday Trips Trips	m	ı	ı	ı	-	m	1	2	ı	ı	ı	m	ı	ı	ı	1	1	ı	2	1	7	m	ı		ı	I	ı	-	1	
Irips pe	Night Trips				2	ı	-	ı	-	-		1	m	2	ı	2			ı	ı	4	-		ı	-	-	-	2	ω	-	ω
Additional Trips per Hour	Off-Peak Midday Trips	4		2	2	-	4	2	4	1	ı	ı	9	9		2	2	2		2	4	4	10		2	2	2	4	7		4
Ā	PM Peak Trips	4	4	ı	-	m	6	£	4	4	ı	ı	∞	9	4	4	2	ß	ı	2	4	ъ	13	ı	ı	ı	ı	2	14	ı	4
	AM Peak Trips	Μ	ı	-	-	2	∞	£	4	4	ı	ı	ъ	9	4	Μ	2	Μ	2	2	ω	9	4	ı	ı	ı	I	2	ß	ı	4
	Routes	183	184	187	204	208	221	224	225	226	230	231	239	240	241	245	246	249	250	255	269	271	330	331	345	346	347	348	372	631	635

Service Growth Scoring and Prioritization continued

Additional Trips per Hour
Night Saturday Sunday Service Trips Trips Trips Hours
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Appendix F: Summary of Fixed-Route Investment Needs⁸

		Investment	Need			Investment	Need
Route	Priority 1: Crowding	Priority 2: Reliability	Priority 3: Service Growth	Route	Priority 1: Crowding	Priority 2: Reliability	Priority 3: Service Growth
1	-	500	5,100	75	-	250	4,600
2	-	-	6,300	79	-	-	700
3	-	-	3,600	101	-	-	21,100
4	-	-	19,900	102	-	-	15,200
5	-	650	11,600	105	-	-	10,800
7	-	500	16,200	106	-	1,900	16,700
8	-	2,250	8,600	107	-	-	12,000
10	-	-	8,300	118	-	-	9,800
11	-	1,200	17,300	119	-	-	1,900
12	-	-	7,800	124	-	250	19,800
13	-	-	15,200	125	-	250	4,200
14	-	250	8,800	128	-	850	-
15	-	-	22,600	131	-	700	34,000
17	-	-	11,800	132	-	1,000	38,600
18	-	-	12,300	148	-	-	-
20	-	250	2,600	150	-	-	20,300
21	-	550	10,700	153	-	250	6,700
24	-	500	7,000	156	-	-	16,000
27	-	250	4,700	160	-	-	38,900
28	-	750	7,300	161	-	-	12,800
31	-	400	31,300	165	-	-	53,200
32	-	500	26,800	168	-	950	16,800
33	-	500	6,100	181	-	250	35,600
36	-	-	9,300	182	-	250	1,600
40	-	950	29,400	183	-	500	14,900
44	-	250	13,700	184	-	-	1,500
45	-	250	2,400	187	-	-	2,100
48	-	-	19,800	204	-	-	3,500
49	-	500	29,100	208	-	500	8,400
50	-	-	3,200	221	-	-	39,000
60	-	550	11,200	224	-	-	8,100
62	-	2,150	10,800	225	-	-	24,100
65	-	300	20,400	226	-	250	10,900
67	-	250	13,300	230	-	-	
70	-	-	18,700	231	-	-	-
73	_	_	12,000	239	-	-	29,200

8 Investment needs are not totaled for each route because the service growth investment needs would alleviate service quality investment needs for crowding and reliability.

Summary of Fixed-Route Investment Needs continued

		Investment	Need
Route	Priority 1:	Priority 2:	Priority 3:
	Crowding	Reliability	Service Growth
240	-	250	34,300
241	-	-	6,500
245	-	250	17,800
246	-	-	7,200
249	-	-	17,900
250	-	-	2,100
255	-	-	10,200
269	-	-	32,400
271	-	500	40,700
330	-	-	18,100
331	-	-	-
345	-	-	3,700
346	-	-	3,000
347	-	-	5,100
348	-	250	11,800
372	-	-	49,300
631	-	-	600
635	-	-	5,400
773	-	-	6,600
775	-	-	-
901	-	-	7,700
903	-	-	3,500
906	-	-	18,200
907	-	-	5,500
915	-	-	6,100
917	-	-	-
930	-	-	6,800

		Investment	Need
Route	Priority 1: Crowding	Priority 2: Reliability	Priority 3: Service Growth
2204*	-	-	18,300
2515*	-	-	24,200
3028*	-	-	22,600
3061*	-	-	59,200
3062*	-	-	24,200
3069*	-	-	17,200
3085*	-	-	8,600
3090*	-	-	30,200
3091*	-	-	21,800
3122*	-	-	26,600
3162*	-	-	52,400
3214*	-	-	5,400
3220*	-	-	9,800
A Line	-	-	-
B Line	-	250	1,700
C Line	-	-	9,100
D Line	-	250	8,500
E Line	-	2,200	15,900
F Line	-	-	-
H Line	-	750	14,900

*These Metro Connects routes in this list, depicted with a 4-digit number, have no current service or corresponding route in the existing transit network—as a result, they do not have any service quality data and are only evaluated for service growth investment needs.

Appendix G: Route-Level Ridership and Hours (2022–2023)

King County Metro tracks ridership and platform hours across the transit system. New RapidRide lines (like the H Line) are compared to the legacy route they replaced.

		Year-O	ver-Year Changes in	Rides and Platform	n Hours	
Route	Weekday Rides (Spring 2022)	Weekday Rides (Spring 2023)	Change in Rides	Platform Hours (Spring 2022)	Platform Hours (Spring 2023)	Change in Platform Hours
1	1,535	1,804	269	78	78	0
2	3,379	3,645	266	133	133	0
3	3,328	4,116	788	168	168	0
4	1,972	2,384	412	108	116	8
5	3,050	3,629	579	142	142	0
7	8,515	9,954	1,439	309	310	1
8	4,828	5,912	1,084	158	156	-2
9	139	200	61	17	18	1
10	1,648	1,768	120	76	76	0
11	1,730	1,989	259	83	81	-2
12	1,532	1,541	9	75	73	-3
13	1,154	1,221	67	61	61	0
14	2,069	2,393	324	91	91	0
15	158	195	37	19	12	-6
16	188	213	25	23	16	-7
17	110	172	62	14	11	-3
18	60	167	107	11	11	0
20	1,558	2,066	508	161	161	0
21	2,037	2,346	309	151	138	-13
22	114	154	40	16	16	0
24	980	1,109	129	67	64	-3
27	539	714	175	48	47	-1
28	1,047	1,347	300	92	77	-15
29	96	117	21	19	12	-6
31	1,443	1,900	457	86	80	-6
32	1,629	2,178	549	100	95	-6
33	750	947	197	47	46	-1
36	5,795	6,806	1,011	241	243	2
40	6,383	7,208	825	310	288	-23
43	289	303	14	23	21	-2
44	4,733	5,513	780	168	173	5
45	3,824	4,928	1,104	148	147	-1
48	3,285	3,923	638	144	145	1
49	2,428	2,815	387	125	126	2
50	2,149	2,516	367	153	155	2
55	143 169		26	23	16	-7
56	203	157	-46	21	16	-5

Route-Level Ridership and Hours continued

		1	ver-Year Changes in			
Route	Weekday Rides (Spring 2022)	Weekday Rides (Spring 2023)	Change in Rides	Platform Hours (Spring 2022)	Platform Hours (Spring 2023)	Change in Platform Hours
57	130	121	-9	11	11	0
60	4,412	5,176	764	225	225	0
62	4,503	5,899	1,396	223	225	3
64	144	169	25	19	13	-5
65	2,760	3,375	615	116	117	1
67	2,763	3,523	760	105	107	1
70	3,476	4,189	713	176	179	3
73	949	1,257	308	82	87	6
75	2,945	3,784	839	145	142	-3
79	944	1,324	380	100	92	-8
101	2,320	2,558	238	153	139	-15
102	504	526	22	35	29	-6
105	718	822	104	53	53	0
106	3,798	4,566	768	177	178	2
107	1,643	1,845	202	117	117	0
111	154	211	57	37	36	-1
113	45	33	-12	11	10	-1
114	90	93	3	18	19	0
118	147	171	24	25	25	0
119	96	95	-1	13	13	0
121	105	116	11	21	15	-6
124	2,437	2,829	392	139	139	0
125	553	659	106	63	62	-1
128	2,558	3,311	753	183	182	-2
131	1,986	2,271	285	111	104	-7
132	2,023	2,313	290	108	101	-7
148	391	509	118	43	43	0
150	3,734	4,072	338	200	200	0
153	513	541	28	42	42	0
156	670	875	205	72	72	0
160	3,867	5,058	1,191	200	200	0
161	1,386			101	100	0
162	270	206	-64	44	36	-8
165	2,113	2,887	774	142	142	0
167	84	101	17	16	16	-1
168	1,071	1,580	509	70	70	0
177	111	91	-20	19	18	-2
181	1,384	1,742	358	106	106	0

Route-Level Ridership and Hours continued

Route	Weekday Rides	Weekday Rides	ver-Year Changes in	Platform Hours	Platform Hours	Change in
	(Spring 2022)	(Spring 2023)	Change in Rides	(Spring 2022)	(Spring 2023)	Platform Hours
182	334	402	68	29	29	0
183	788	1,050	262	52	52	0
184	588	814	226	45	45	0
187	293	392	99	20	20	0
190	58	72	14	15	15	0
193	256	284	28	34	35	1
204	55	76	21	17	12	-5
208	95	107	12	20	20	0
212	259	352	93	35	27	-8
214	103	54	-49	21	14	-7
216	77	286	209	15	16	1
217	57	64	7	11	11	0
218	211	221	10	34	17	-18
221	720	1,016	296	81	77	-4
224	96	78	-18	16	15	0
230	263	310	47	53	53	0
231	227	284	57	55	52	-2
232	50	87	37	16	15	-1
237	9	13	4	6	5	-1
239	481	615	134	69	68	0
240	1,379	1,765	386	120	120	0
241	323	412	89	48	48	0
245	1,887	2,729	842	154	148	-6
246	138	206	68	29	29	0
249	365	507	142	57	50	-7
250	1,702	2,137	435	160	154	-5
255	2,069	2,481	412	197	188	-9
257	143	189	46	21	16	-6
268	70	171	101	14	13	-1
269	512	737	225	77	77	0
271	2,270	2,746	476	212	198	-14
301	129	88	-41	22	18	-4
302	224	252	28	15	14	-1
303	191	259	68	16	18	1
304	34	33	-1	9	9	0
311	288	233	-55	39	18	-21
320	210	360	150	35	24	-11
322	306	389	83	36	31	-5
330	128	182	54	14	14	0

Route-Level Ridership and Hours continued

		Year-O	ver-Year Changes in	Rides and Platform	n Hours	
Route	Weekday Rides (Spring 2022)	Weekday Rides (Spring 2023)	Change in Rides	Platform Hours (Spring 2022)	Platform Hours (Spring 2023)	Change in Platform Hours
331	405	524	119	58	59	1
342	90	115	25	16	16	0
345	713	879	166	64	63	-1
346	814	944	130	55	53	-2
347	907	1,054	147	64	62	-2
348	915	1,113	198	67	64	-3
372	4,805	5,410	605	208	212	4
630	14	19	5	8	5	-4
631	35	42	6	13	8	-5
635	0	79	79	14	13	0
773/ 775	179	211	32	7	12	5
901/ 903	230	287	57	19	16	-2
906	354	501	147	65	44	-21
907	43	48	5	17	17	0
914	96	79	-17	22	16	-7
915	182	169	-13	33	30	-4
917	120	151	31	28	29	1
930	175	148	-26	40	39	-1
A Line	7,116	8,412	1,296	212	212	1
B Line	3,305	4,177	872	167	167	0
C Line	5,791	7,250	1,459	332	304	-28
D Line	7,666	9,044	1,378	264	253	-11
E Line	10,310	11,426	1,116	365	345	-19
F Line	4,098	4,748	650	193	193	-1
H Line	5,347	6,907	1,560	306	295	-11

Appendix H: Route Productivity

Thresholds are different for each service type and day period.

Productivity data for partially and fully suspended routes is not representative of typical performance. Similar to the 2022 System Evaluation, this productivity analysis will not directly inform service reductions because many routes are still suspended or have canceled trips.

Service Family	Time Period	Bottom 25% Threshold Rides	Top 25% Threshold Rides	Bottom 25% Threshold Miles	Top 25% Threshold Miles
Urban	Peak	13.9	27.2	5.1	8.8
Urban	Off-Peak	16.8	29.4	5.4	9.2
Urban	Night	10.7	18.0	3.2	5.4
Urban	Saturday	18.2	26.6	5.5	7.9
Urban	Sunday	15.5	23.5	4.3	7.1
Suburban	Peak	9.9	19.4	3.0	5.4
Suburban	Off-Peak	10.6	21.9	4.2	7.7
Suburban	Night	7.4	12.9	2.4	4.1
Suburban	Saturday	10.6	16.6	3.4	5.8
Suburban	Sunday	9.0	15.0	2.9	5.0
Rural and DART	Peak	5.2	11.7	NA	NA
Rural and DART	Off-Peak	5.8	9.3	NA	NA
Rural and DART	Saturday	2.8	5.1	NA	NA
Rural and DART	Sunday	3.8	6.4	NA	NA

roductivity		Route Type	Urban																										
bottom 25% in terms of productivity		Opportunity Index Score	m	2	3	2	2	4	ß	4	1	1	1	2	4	ß	£	2	2	£	2	2	£	2	2	£	2	ß	5
bottom	Sunday	Passenger Miles per Platform Mile	5.0	6.9	4.4	3.9	7.9	9.4	7.5	NA	4.2	4.9	2.4	4.3	4.2	NA	NA	NA	NA	2.7	NA	4.8	3.7	4.8	NA	4.5	7.3	4.1	6.7
ductivity	Sur	Rides per Platform Hour	28.6	29.8	19.5	17.5	23.6	34.6	35.3	NA	22.4	24.6	10.3	18.3	26.1	NA	NA	NA	NA	7.6	NA	15.8	20.0	14.1	NA	19.4	26.2	11.0	27.0
top 25% in terms of productivity	Saturday	Passenger Miles per Platform Mile	6.2	6.7	5.5	4.8	9.4	10.4	7.7	NA	5.1	6.3	3.0	6.8	4.5	NA	NA	NA	NA	3.3	NA	6.0	4.5	6.1	NA	5.2	8.0	5.8	7.1
	Satu	Rides per Platform Hour	34.5	30.2	22.5	20.9	30.4	38.3	34.6	AN	26.4	26.7	14.0	31.1	26.0	NA	NA	NA	NA	10.0	NA	18.0	17.9	18.0	NA	22.3	29.1	20.5	29.0
1	Night	Passenger Miles per Platform Mile	3.8	4.4	2.3	2.7	5.9	7.8	5.7	NA	3.1	3.4	2.0	3.7	3.2	NA	NA	NA	NA	2.6	NA	3.6	2.1	2.9	NA	4.5	4.2	3.5	4.8
	Niç	Rides per Platform Hour	18.1	17.2	12.5	10.7	17.8	26.9	25.6	NA	16.1	15.7	8.2	17.1	16.7	NA	NA	NA	NA	8.1	NA	10.3	10.0	9.3	NA	19.6	15.9	10.0	21.2
	Off-Peak	Passenger Miles per Platform Mile	5.3	7.1	6.0	5.9	9.6	10.2	8.6	2.2	5.4	6.7	4.3	6.4	5.1	NA	NA	NA	NA	4.3	NA	6.3	2.7	6.6	NA	5.7	7.1	6.4	8.1
ed	Off-I	Rides per Platform Hour	23.1	31.4	25.2	22.7	25.3	33.6	39.4	7.3	26.3	27.6	19.2	24.6	29.0	NA	NA	NA	NA	13.1	NA	16.8	12.7	17.0	NA	23.8	24.5	21.3	30.9
ty continu	Peak	Passenger Miles per Platform Mile	6.3	7.8	6.3	6.3	11.2	10.2	9.4	2.8	4.7	6.0	5.6	6.0	5.3	5.4	5.0	5.4	5.0	4.0	5.7	6.4	3.8	6.8	2.2	6.2	7.4	6.9	7.6
Route Productivity continued	Pe	Rides per Platform Hour	24.7	32.9	27.8	27.6	31.3	33.0	43.2	11.6	24.2	26.1	27.7	25.5	28.0	15.6	13.0	15.7	14.9	14.4	13.5	19.0	18.6	21.5	9.6	24.9	26.9	23.0	28.7
Route F		Route	1	2	e	4	ß	7	ø	6	10	11	12	13	14	15	16	17	18	20	21	24	27	28	29	31	32	33	36

King County Metro | 2023 System Evaluation 51

bottom 25% in terms of productivity		Passenger Opportunity Route Miles per Index Score Type Mile	7.3 2 Urban	1.9 2 Urban	7.4 1 Urban	6.3 2 Urban	4.1 3 Urban	6.0 3 Urban	NA 2 Urban	NA 1 Urban	NA 1 Urban	5.9 4 Urban	6.3 2 Urban	NA 1 Urban	5.3 2 Urban	5.1 3 Urban	5.4 2 Urban	2.7 3 Urban	4.8 2 Urban	NA 3 Urban	12.1 5 Urban	NA 4 Urban	5.3 5 Urban	NA 4 Urban	NA 4 Urban		NA 4 Urban	4 -
	Sunday	Rides Passe per Mile Platform Plati Hour M	22.8 7	9.0	25.6 7	23.4 6	14.4 4	18.9 6	NA	NA	NA	20.3 5	20.6 6	NA	18.8 5	20.9 5	15.9 5	9.3 2	17.1 4	NA	17.5 12	NA	19.8 5	NA	NA		NA	
top 25% in terms of productivity	Saturday	Passenger Miles per Platform Mile	8.1	2.2	8.2	7.8	5.4	6.2	NA	NA	NA	7.1	7.7	NA	6.2	6.1	6.2	3.2	6.1	NA	13.6	NA	6.7	NA	NA	VIV	NA	NA NA
top 25% ir	Satı	Rides per Platform Hour	25.4	9.5	29.5	26.6	18.0	22.6	NA	NA	NA	22.8	24.9	NA	22.4	25.9	18.4	11.2	21.4	NA	19.8	NA	24.5	NA	NA	VIV	EN	AN AN
1	Night	Passenger Miles per Platform Mile	5.1	2.4	5.4	5.5	3.2	5.4	NA	NA	NA	4.3	4.2	NA	4.5	4.2	3.9	2.0	4.7	1.5	11.0	NA	4.9	NA	NA	ΝΔ		NA
	N	Rides per Platform Hour	15.8	10.3	20.1	25.2	11.1	18.7	NA	NA	NA	15.5	15.5	NA	15.7	22.4	11.6	8.0	17.5	8.7	16.7	NA	18.0	NA	NA	NA		NA
	Off-Peak	Passenger Miles per Platform Mile	9.2	3.5	9.8	11.6	9.2	9.9	NA	4.5	NA	7.2	7.0	NA	9.1	9.1	8.6	4.6	8.5	3.1	11.1	NA	7.4	NA	NA	NA		NA
ed	-ffo	Rides per Platform Hour	27.7	15.4	32.5	40.0	33.6	22.9	NA	9.9	NA	23.5	25.2	NA	31.3	37.7	25.3	14.6	32.4	13.0	16.1	NA	27.9	NA	AN	AN		NA
y continu	Peak	Passenger Miles per Platform Mile	9.2	3.7	11.2	8.2	9.3	6.9	4.5	4.2	6.6	7.5	8.1	3.8	9.1	8.2	9.5	4.7	7.4	3.1	14.5	14.1	6.8	5.8	2.7	4.8	•	4.1
Route Productivity continued	Pe	Rides per Platform Hour	29.4	17.8	38.0	32.9	32.7	23.9	12.3	11.2	14.3	25.2	31.2	12.5	34.7	36.4	29.8	17.1	27.3	16.2	21.1	21.2	27.2	7.8	5.7	7.5		7.5
Route F		Route	40	43	44	45	48	49	55	56	57	60	62	64	65	67	70	73	75	79	101	102	106	111	113	114		121

Route Productivity continued

		-40	Off-Peak	Z	Night	Satu	Saturday	Sur	Sunday		
Rides per Platform Hour	Passenger Miles per Platform Mile	Rides per Platform Hour	Passenger Miles per Platform Mile	Rides per Platform Hour	Passenger Miles per Platform Mile	Rides per Platform Hour	Passenger Miles per Platform Mile	Rides per Platform Hour	Passenger Miles per Platform Mile	Opportunity Index Score	Route Type
21.7	9.0	26.3	9.7	13.8	5.3	16.7	7.1	14.4	6.2	4	Urban
23.3	8.1	29.4	10.3	14.4	5.4	18.8	7.0	15.2	5.6	5	Urban
22.9	13.4	19.6	12.5	17.1	11.2	18.5	12.5	15.4	10.4	4	Urban
7.3	4.0	AN	AN	AN	NA	NA	AN	AN	AN	5	Urban
7.0	5.6	AN	NA	AN	NA	NA	AN	AN	NA	4	Urban
7.1	5.9	NA	NA	AN	NA	NA	NA	AN	NA	m	Urban
6.2	4.1	AN	AN	AN	NA	NA	AN	AN	NA	4	Urban
10.0	6.7	AN	AN	AN	NA	NA	NA	AN	NA	IJ	Urban
14.0	7.5	9.3	5.1	AN	NA	NA	NA	AN	NA	ъ	Urban
6.6	4.0	NA	NA	AN	NA	NA	NA	AN	NA	2	Urban
20.4	13.7	AN	AN	AN	NA	NA	AN	AN	NA	m	Urban
6.6	3.9	NA	NA	AN	NA	NA	NA	NA	NA	4	Urban
14.4	8.7	NA	NA	NA	NA	NA	NA	NA	NA	5	Urban
16.8	7.9	14.0	7.4	8.1	4.0	10.4	5.7	8.6	4.7	1	Urban
14.1	10.1	NA	NA	AN	NA	NA	NA	NA	NA	2	Urban
13.9	8.8	NA	NA	NA	NA	NA	NA	NA	NA	2	Urban
15.3	7.3	14.5	7.5	9.9	4.7	16.2	7.8	13.7	6.5	S	Urban
18.3	10.2	NA	NA	NA	NA	NA	NA	NA	NA	З	Urban
14.6	7.6	NA	NA	NA	NA	NA	NA	NA	NA	С	Urban
15.3	10.6	NA	NA	NA	NA	NA	NA	NA	NA	2	Urban
15.5	8.1	11.0	4.0	NA	NA	NA	NA	NA	NA	4	Urban
12.6	6.1	NA	NA	NA	NA	NA	NA	NA	NA	ß	Urban
25.4	7.0	30.6	7.3	15.2	3.6	22.6	5.4	18.1	4.2	С	Urban
28.0	11.3	21.8	10.1	16.0	7.4	22.6	10.2	17.8	8.0	1	Urban
38.2	11.5	37.4	11.5	27.3	9.1	38.0	12.0	32.4	10.3	2	Urban
36.2	14.6	32.0	12.5	30.7	11.9	37.1	14.7	30.5	11.8	С	Urban
25.0	11.4	23.4	10.9	19.6	9.2	25.6	11.8	22.1	10.2	ſ	Urban

top 25% in terms of productivity bottom 25% in terms of productivity

Route Productivity continued

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	Route Type	Suburban																											
	Opportunity Index Score	1	2	4	ъ	IJ	5	4	4	IJ	ъ	4	4	5	5	5	5	4	ß	4	5	2	1	1	1	5	5	5	5
Sunday	Passenger Miles per Platform Mile	NA	4.5	4.3	3.2	5.0	3.8	NA	3.4	7.9	6.1	5.7	5.2	4.9	3.2	NA	2.9	3.5	2.3	1.8	3.5	1.5	1.5	NA	2.1	5.4	2.3	4.4	NA
Sur	Rides per Platform Hour	AN	13.8	12.3	10.2	16.2	10.2	NA	9.0	22.3	15.9	15.4	14.1	15.0	9.8	NA	13.1	13.1	10.2	5.1	12.4	5.2	4.7	ΝA	5.6	11.4	5.2	15.6	NA
rday	Passenger Miles per Platform Mile	NA	5.4	4.2	4.1	5.9	5.2	NA	3.9	9.8	6.5	4.8	5.4	5.5	4.1	3.9	3.2	4.6	2.4	2.2	4.0	1.4	1.8	NA	2.3	5.9	2.9	4.8	NA
Saturday	Rides per Platform Hour	NA	15.5	14.1	12.5	19.3	14.0	NA	10.4	27.3	17.6	15.2	16.1	16.2	11.2	11.5	14.5	16.3	9.6	5.9	14.5	5.9	6.4	NA	6.7	13.1	7.4	16.4	NA
Night	Passenger Miles per Platform Mile	1.2	3.3	2.6	2.8	3.9	3.7	NA	2.5	7.6	5.3	3.4	4.2	3.2	NA	3.9	2.1	2.7	1.7	1.5	2.6	0.9	1.1	NA	1.6	4.5	2.2	3.8	NA
Nig	Rides per Platform Hour	4.5	9.4	11.5	9.3	12.1	8.4	NA	7.2	23.3	13.1	13.0	15.4	12.3	NA	10.7	11.4	11.7	7.0	4.5	7.9	3.2	4.3	AN	6.0	10.7	6.0	14.7	NA
beak	Passenger Miles per Platform Mile	3.0	5.6	5.7	5.9	6.2	5.5	4.9	5.0	9.2	8.2	8.6	8.0	7.9	6.4	8.1	9.9	7.7	4.7	3.1	5.5	2.1	2.1	NA	3.0	7.3	2.8	5.7	1.9
Off-Peak	Rides per Platform Hour	9.0	15.8	20.0	20.1	20.3	13.5	12.4	15.3	26.2	23.4	26.7	24.6	21.5	18.1	23.3	22.7	27.3	15.9	9.3	18.4	6.3	5.5	NA	9.3	17.6	8.2	19.2	6.1
ak	Passenger Miles per Platform Mile	2.9	5.4	4.1	4.7	5.4	4.5	5.2	3.3	8.3	6.9	6.0	8.0	4.1	3.2	6.7	4.1	5.2	3.7	3.0	5.0	2.1	1.7	0.9	2.8	6.0	3.0	5.0	2.0
Peak	Rides per Platform Hour	12.0	19.4	16.4	18.9	19.3	11.5	14.6	12.1	25.2	19.9	20.3	27.0	15.5	12.6	22.5	19.4	20.3	13.1	8.9	16.1	6.2	5.6	2.6	10.3	14.4	9.5	18.7	7.8
	Route	22	50	105	107	128	148	153	156	160	161	165	168	181	182	183	184	187	221	225	226	230	231	237	239	240	241	245	246

Route Type		Suburban	Rural	Rural	Rural	Rural														
	Opportunity Index Score	m	2	2	S	1	2	m	4	1	2	4	2	ß	4	5	-	1	1	2
Sunday	Passenger Miles per Platform Mile	2.1	4.7	NA	NA	NA	NA	2.2	NA	3.6	4.3	4.4	4.1	8.9	7.3	7.5	1.6	NA	NA	NA
Sur	Rides per Platform Hour	7.4	13.7	NA	NA	NA	NA	6.7	NA	7.5	9.8	13.0	13.3	28.2	24.0	23.2	4.0	NA	NA	NA
Saturday	Passenger Miles per Platform Mile	2.5	5.5	NA	NA	NA	NA	2.7	NA	4.6	6.3	6.3	5.4	9.8	8.1	8.8	2.1	NA	3.2	NA
Satu	Rides per Platform Hour	8.5	16.6	NA	NA	NA	NA	7.6	NA	11.0	13.0	16.6	16.9	31.3	24.9	27.8	5.3	NA	5.0	NA
Night	Passenger Miles per Platform Mile	NA	3.1	NA	NA	NA	NA	NA	NA	2.9	4.1	4.2	3.9	9.4	6.5	6.3	1.0	NA	1.0	NA
N	Rides per Platform Hour	NA	9.5	NA	NA	NA	NA	NA	NA	7.5	8.9	11.9	12.8	32.2	23.1	19.7	3.1	NA	2.2	NA
Off-Peak	Passenger Miles per Platform Mile	3.1	5.2	4.6	0.7	NA	4.3	3.8	NA	6.3	7.8	5.6	5.3	12.6	8.9	10.2	2.5	2.0	4.4	NA
Off-	Rides per Platform Hour	10.6	14.4	9.1	3.8	NA	14.6	10.4	NA	16.1	21.7	17.3	20.8	41.7	27.2	28.5	9.3	6.4	7.7	AN
Peak	Passenger Miles per Platform Mile	2.9	5.0	4.5	2.0	1.1	3.5	2.6	3.3	5.0	6.4	5.5	4.3	12.8	7.9	7.7	3.0	2.9	2.5	1.9
Pe	Rides per Platform Hour	9.9	14.9	9.9	4.9	3.6	12.2	7.9	7.0	15.6	18.8	18.5	17.1	42.9	24.5	25.2	7.2	7.4	4.6	5.8
	Route	249	250	269	301	304	330	331	342	345	346	347	348	A Line	B Line	F Line	118	119	208	232

bottom 25% in terms of productivity

	Route Type		DART													
	Opportunity Index Score		c	2	-	-	-	1	£	4	4	m	ß	4	ß	5
Sunday	Passenger Miles per Platform Mile	NA	AN	AN	AN	AN	AN	NA	AN	AN	AN	AN	AN	AN	NA	NA
Sui	Rides per Platform Hour	NA	ΝA	NA	ΝA	0.1	8.9	5.5	3.7	3.8	16.8	NA	ΝA	NA	5.3	NA
Saturday	Passenger Miles per Platform Mile	NA	AN	NA	NA	AN	AN	NA	NA	AN	NA	AN	AN	AN	NA	NA
Satu	Rides per Platform Hour	4.6	AN	AN	AN	2.9	5.6	4.7	4.2	3.5	9.9	AN	2.4	2.5	2.3	ΝA
Night	Passenger Miles per Platform Mile	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ni	Rides per Platform Hour	NA	NA	NA	NA	NA	NA	NA	5.5	NA	19.8	NA	NA	NA	NA	NA
Off-Peak	Passenger Miles per Platform Mile	NA	AN	AN	AN	AN	AN	NA	AN	AN	AN	AN	AN	AN	NA	NA
-Ħ0	Rides per Platform Hour	4.4	7.1	0.0	6.8	8.2	8.4	16.3	5.6	6.6	24.6	4.2	3.0	19.9	9.2	12.0
Peak	Passenger Miles per Platform Mile	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	AN	AN	NA	NA	NA
Pe	Rides per Platform Hour	5.1	6.5	2.7	5.3	7.0	12.1	15.1	4.5	4.8	19.0	5.3	18.5	20.5	11.3	11.3
	Route	204	224	630	631	635	773	775	901	903	906	907	914	915	917	930

Route Productivity continued

King County Metro | 2023 System Evaluation 56

bottom 25% in terms of productivity

Appendix I: Service Changes

Routes	Summary of Change	Type of Change
4	Fall 2022 - "A" package Delete two weekday trips to address workforce shortage	Removed Trips
	Delete two weekday trips to address workforce shortage	
15		Removed Trips
15	Delete four weekday trips to address workforce shortage	Removed Trips
16	Delete four weekday trips to address workforce shortage	Removed Trips
17	Delete two weekday trips to address workforce shortage	Removed Trips
21X	Delete seven weekday trips to address workforce shortage	Removed Trips
22	Delete two weekday trips to address workforce shortage	Removed Trips
24	Delete one weekday trip to address workforce shortage	Removed Trips
28	Delete five weekday trips to address workforce shortage	Removed Trips
29	Delete four weekday trips to address workforce shortage	Removed Trips
40	Delete six weekday trips to address workforce shortage	Removed Trips
45, 75	Delete two weekday trips to address workforce shortage	Removed Trips
55	Delete three weekday trips to address workforce shortage	Removed Trips
56	Delete four weekday trips to address workforce shortage	Removed Trips
62	Delete one weekday trip to address workforce shortage	Removed Trips
64	Delete four weekday trips to address workforce shortage	Removed Trips
111	Delete four weekday trips to address workforce shortage	Removed Trips
120	Delete five weekday trips to address workforce shortage	Removed Trips
121	Delete two weekday trips to address workforce shortage	Removed Trips
131	Delete one weekday trip to address workforce shortage	Removed Trips
162	Delete four weekday trips to address workforce shortage	Removed Trips
177	Delete one weekday trip to address workforce shortage	Removed Trips
214	Delete five weekday trips to address workforce shortage	Removed Trips
218	Delete nine weekday trips to address workforce shortage	Removed Trips
255	Delete five weekday trips to address workforce shortage	Removed Trips
257	Delete four weekday trips to address workforce shortage	Removed Trips
301	Delete four weekday trips to address workforce shortage	Removed Trips
302, 303	Add one weekday trip to fill headway gap in Route 302/303 schedule	Added Trips
311	Delete eleven weekday trips to address workforce shortage	Removed Trips
320	Delete five weekday trips to address workforce shortage	Removed Trips
372	Delete one weekday trip to address workforce shortage	Removed Trips

Service Changes continued

Routes	Summary of Change	Type of Change
C Line	Delete thirteen weekday trips to address workforce shortage	Removed Trips
D, E Lines	"Some D and E Line service will be shifted to North Base"	Base Change
E Line	Delete eight weekday trips to address workforce shortage	Removed Trips
	Spring 2023 - "A" Package	·
11	Re-orient eastbound pathway as a result of the Pike Pine Streetscape & Bicycle Improvement Project	Route Revision
49	Re-orient eastbound pathway as a result of the Pike Pine Streetscape & Bicycle Improvement Project	Route Revision
60	Move the trips and blocks associated with the Routes 60 and 106 from Central to Ryerson Base on weekends	Base Change
73	Add six weekday trips and 23 trips on both Saturdays and Sundays	Added Trips
106	Move the trips and blocks associated with the Routes 60 and 106 from Central to Ryerson Base on weekends	Base Change
107	Add four Sunday trips; smooth headways to approximately 30 minutes	Added Trips
120	Replace the Route 120 with the new RapidRide H Line	Route Removal
331	Add an eastbound PM trip	Added Trips
678	Create the new RapidRide H Line (Route 678) between Burien, White Center, Delridge and downtown Seattle	Add Route
	Spring 2023 - "B" Package	
3, 4	Add three weekday trips and two weekend trips on Route 4; add two weekday trips and four Saturday trips and three Sunday trips on Route 3	Added Trips
28	Add one weekday trip; add one trip on weekends	Added Trips
33	Add one weekday trip	Added Trips
36	Add one weekday trip; add three Saturday trips and one Sunday trip	Added Trips
40	Add one weekday trip and one weekend trip	Added Trips
44	Add one weekday trip	Added Trips
48	Add two weekday trips	Added Trips
49	Add runtime to account for additional deadhead travel time	Route Revision
50	Add two weekday trips and two weekend trips	Added Trips
65, 67	Add two weekday trips to both Routes 65 and 67	Added Trips
70	Add three weekday trips and two Saturday trips and three Sunday trips	Added Trips
106	Add two weekday trips	Added Trips
120	Update to Package A item regarding the removal of bus stop signage	Route Revision
245	Re-route due to the closure of the Houghton Park & Ride	Route Revision
673	Add five weekday trips and two weekend trips	Added Trips
674	Add one weekend trip	Added Trips
675	Add one weekend trip	Added Trips
678	Add two weekday trips and five trips weekend trips	Added Trips



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