

King County

1200 King County Courthouse 516 Third Avenue Seattle, WA 98104

Meeting Agenda

Panel 3 – Move King County (Discussion Related to Proposed 2019-2020 Biennial Budget)

Councilmembers: Claudia Balducci, Chair, Reagan Dunn, Kathy Lambert, Joe McDermott, Dave Upthegrove, Pete von Reichbauer Staff: Paul Carlson (206-477-0875), Panel Lead, Mary Bourguignon (206-477-0873), Leah Krekel-Zoppi (206-477-0892) Panel Assistant: Marka Steadman (206-477-0887)

9:30 AM

Wednesday, October 17, 2018

Room 1001

SPECIAL MEETING

Pursuant to K.C.C. 1.24.035 A. and F., this meeting is also noticed as a meeting of the Metropolitan King County Council, whose agenda is limited to the committee business. In this meeting only the rules and procedures applicable to committees apply and not those applicable to full council meetings.

- 1. <u>Call to Order</u>
- 2. Roll Call
- 3. Public Comment

To show a PDF of the written materials for an agenda item, click on the agenda item below.

Briefing

4. Briefing No. 2018-B0175 pp. 3-30

Move King County: Policy Discussion on the Proposed 2019-2020 Budget

Paul Carlson, Council Staff
Rob Gannon, General Manager, King County Transit Division
John Resha, Assistant General Manager for Finance and Administration, King County Transit Division
Diane Carlson, Director of Capital Projects, King County Transit Division
Dwight Dively, Director, Office of Performance, Strategy and Budget

Adjournment



Sign language and communication material in alternate formats can be arranged given sufficient notice (296-1000).

IDD Number 296-1024.

ASSISTIVE LISTENIING DEVICES AVAILABLE IN THE COUNCIL CHAMBERS.



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Metropolitan King County Council Budget Panel Discussion 2019-2020

MOVE KING COUNTY

King County leads the nation in transit ridership growth, with more than 130 million rides on 3.9 million hours of bus service a year. Continuing to meet this demand will require continued growth in transit service, the capital infrastructure necessary to support it, and creative solutions to provide efficient and sustainable mobility options.

Over the next two years, King County Metro Transit proposes to add 177,000 hours of transit service; invest more than \$500 million in bus base capacity, roadway infrastructure, rider improvements, and environmental initiatives to transition the bus fleet to electric power; and test new programs to make transit more affordable to people in need.

This is the first of three budget panel discussions during which County Councilmembers will examine mobility issues as part of their review of the 2019-2020 County budget. Today's discussion will begin with answers from Metro staff, found on the following pages. Topics include:

BUS BASE CAPACITY & CAPITAL PROJECT DELIVERY

- The identified need for bus base capacity for 625-650 additional buses, plans to develop that capacity over the next decade, and estimates for future needs
- Potential funding sources for transit capital needs
- Metro systems and expertise to deliver on a complex capital portfolio of projects

SERVICE PLANNING & DELIVERY, 2019-2020

- The proposed 177,000 service hour increase, compared with the identified need
- The proposed geographic distribution of new bus service
- Funding for proposed new bus service, including funding from regional partners
- The infrastructure needed to support new bus service

LONG-TERM REGIONAL MOBILITY: 2021-2040

- The transition from 2019-2020 to the region's long-term transit plan, METRO CONNECTS
- Metro's plans to become a mobility agency, including planning for multi-modal, autonomous, and last-mile transportation
- Plans for RapidRide lines, focusing on proposed capital investments during 2019-2020, and on how RapidRide is balanced with needs in other areas of the county

MAKING TRANSIT AFFORDABLE & ACCESSIBLE

- Metro's proposal for income-based fare pilot programs
- Additional outreach efforts to reach people in need
- Plans for ongoing work on fares and the relationship between fare proposals and adopted Fund Management Policies that set a target of farebox recovery between 25% and 30%

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Issue 1: Bus Base Capacity and Capital Project Delivery:

Metro has identified a bus base expansion need to accommodate 625-650 buses by 2040. How much of the service need identified in Metro CONNECTS would that level of bus base expansion provide?

The proposed base expansion program accommodates all of the service identified in the adopted Metro Connects vision for 2040 and provides the capacity necessary to retrofit all bases to support battery electric buses.

The approach encompasses three results:

- 1. As quickly as possible meet today's bus space and maintenance demands;
- 2. Build capacity to meet the projected demand of METRO CONNECTS; and
- 3. Build capacity necessary to retrofit all bases to support a zero-emission fleet before 2040.

It is possible that an additional base (e.g. 10th base) may become necessary in the 2040 horizon depending on future operational conditions. This need, timing and location will be affirmed through future service and system evaluations as well as updates to the METRO CONNECTS plan.

What is proposed in this budget to increase bus base capacity, both in terms of specific capacity to be delivered and dollars spent? What will be needed beyond this biennium and how will it be funded?

Table 1 identifies the projects, effects and costs associated with all operational capacity growth (OCG) projects in the proposed Capital Improvement Program.

As OCG is the development of long-term fixed assets, consistent with both Metro Transit fund management and King County financial policies, these capital projects are anticipated to be debt funded (and do not rely on undesignated fund balance for implementation). The ongoing debt service streams are included in the financial plan.

What steps has Metro taken to build the internal infrastructure to effectively deliver capital projects? What improvements has Metro made to internal tracking and project monitoring systems?

To increase the speed and ability of the Capital Division to deliver projects, we've worked hard to develop the internal infrastructure and create a standard process to support project delivery. Unlike public agencies with 10 or more years' history of \$200 million annual appropriation for their capital programs, Metro's capital program was limited for years by lack of revenues to support it.

Metro's Capital Division has been charged with reducing the time to deliver a capital project and deliver at twice the current rate in a manner consistent with sustainability and equity and social justice goals, values and expectations. We will accomplish this by using new systems and processes and enhancing existing ones to streamline and improve capital project planning and delivery, right-sizing our workforce and increasing consultant utilization, and by clarifying roles, responsibilities and expectations for project teams members.

Table 1: Proposed OCG Projects

Project	Location	Project Summary	Spaces Added ¹	Completion	KCM CIP ²	2019-2020
CENTRAL CAMPUS						
Central Campus Body Shop, Wellness Center and TCC Expansion	Central Campus	Planning/design/construction of facility to house a 4-stall body shop and paint booth and back up Control Center on Frye Lot at Central Campus	Critical support services to support Central Campus Expansion	2024	\$ 88M	\$ 2.8 M
Vehicle Maintenance Bays	Central Base	Conversion of 4 body shop bays to 3 vehicle maintenance bays and 1 Interior wash bay at Central Base Vehicle Maintenance Building	60	2021	\$ 7.7	\$ 2.8 M
Central Campus Expansion	Central Campus	To be determined	90	2023	\$ 130 M	\$ 2 M
SOUTH CAMPUS						
South Campus Substations	South Base	Siting, design, and construction of substation/ electrical room to support interim base electrification by 2021. Infrastructure expected to be reused for South Annex Base		Ву 2021	\$6.5 M	\$ 3.1 M
Training Relocation	South Annex	Relocation of facilities at current South Base Annex. Includes siting and building or leasing temporary facilities on nearby property until South King County Base is completed in 2030 to 2040		2020	\$34 M	\$ 1.1 M
Interim Base@ South Campus	Group Health site	Clearing and paving of Group Health site and construction of any required facilities to support interim base	125	2020	\$ 14 M	\$ 7.5 M
Parking Garage Upgrades	Group Health site	Structural repair and retrofit to recently purchased parking garage to prepare for Metro use. Allows relocation of Component Supply Center (CSC) parking to this garage, freeing up space for bus parking at the CSC.		2019	\$ 0.8 M	\$ 0.8 M
South Annex Base ³	South Annex	Planning, design, and construction of a 250-275 bus electric bus compatible transit base on the South Annex site	250-275	2025	\$ 247 M	\$ 6.2 M
NEW SOUTH KING (
South King County Base	South King County	Land acquisition and conceptual design study	250-275	After 2030	\$ 40 M	\$ 2.2 M
Total					\$ 598	\$ 28.5

¹ Estimated; actual buses accommodated may vary depending on the size and technology of the bus

² Estimates by Metro staff for the Capital Improvement Program accompanying the 19/20 biennial budget request.

³ Does not include relocation of existing functions or demolition of the South Annex site prior to starting final construction.

The new Capital division as proposed would:

- 1. Gather up currently dispersed planning functions under centralized management;
- 2. Expand project performance monitoring and control with additional project control staff;
- 3. Expand implementation of a portfolio management structure with additional program/project managers;
- 4. Establish gates to review the business cases for projects, review answers to questions regarding cost, benefit and feasibility, apply relevant criteria, recommend projects for relative prioritization, review recommendation for priority setting and approve projects for inclusion in the budget request for appropriation; and
- 5. Provide clear lines of accountability for project ownership, planning, delivery and performance.

The additional FTEs we've requested will allow us to support critical functions such as project formulation and management, program performance monitoring, project control, finance support, strategic planning/partnerships and construction management. The Capital division process and organizational improvements are described in more detail below.

Specific Improvements

Over the past two years, Metro has developed and established systems and processes designed to improve our ability to monitor, control and report project progress, tactically and strategically manage resources, increase transparency and agility in responding to evolutionary changes in projects, encourage coordination and collaboration between capital planning and implementation and establish governance procedures to allow management to provide high-level decision making and direction setting consistent with our strategic goals. The establishment of the Capital Division with clear accountability for project planning, delivery and performance monitoring ties all of these activities together.

Having implemented a combination of systems and processes, we can now quickly access and communicate relevant project information vertically and horizontally across the organization to improve and speed up decision making recognizing and addressing problems as they arise – allowing Metro to be more data driven.

Metro has been laying the foundation to improve our ability to quicken the pace of project delivery and provide better accountability for tracking and project monitoring with the following changes which are in various stages of implementation:

Portfolio Management

The capital program has adopted a portfolio management structure to organize the multitude of capital investments undertaken within Metro. Portfolio Management has become an industry best practice framework that allows like projects to be managed similarly in order to prioritize investments; collect, report and analyze data; manage human and fiscal resources, and ensure resources are appropriately applied to carry out the most important investments – ensuring that the right investments are being made through the right projects. In short, portfolio management is a means for organizations to ensure that the right investments are being made to deliver optimal value. Portfolio Management is also a process that allows greater clarity on our capital investment inventory, improve analysis by coalescing project schedule, cost, budget and resource data; enhance strategic alignment; and manage the inevitable changes that occur

during project implementation. The proposed CIP reflects the work done to prepare a budget by portfolio, subportfolio, program and project.

Capital Management Reporting System

Another tool for system change that Metro has developed and is in the process of rolling out is the Capital Management Reporting System (CMRS). With this implementation, Metro will be moving from a spreadsheet approach for collecting and reporting data to one that provides multi-dimensional project reporting in a quick and reliable manner. We intend to use it to achieve greater accountability and transparency in managing and monitoring the performance of projects.

This project successfully reached its first delivery milestone and is on track for an end of year delivery milestone and full functional use at the beginning of second quarter 2019.

Roles and responsibilities/training

Metro has also begun the hard work of fully implementing processes and reinforcing roles and responsibilities. As part of wider implementation of the project management process, we've been training project managers and communicating the roles and responsibilities of project team members and the need to adhere to the project management process and observe project milestones.

Resource planning

We've trained supervisors to ensure that staff who serve as resources on a project at its different stages and phases are entering their time against the appropriate project within the Portfolio Management structure. This has allowed management to more effectively plan for and identify hiring needs for the different stages and phases of projects.

Capital planning

We've also significantly expanded the influence/authority and capacity of those performing the project performance monitoring and control function and created a new capital planning section to centralize and better integrate the capital planning function in the project formulation process.

Gates - Delivery Board

Another process we've adopted is one where projects move through decision gates so that committees and boards can effectively set priorities for projects, vet projects and ensure that the right projects move forward for inclusion in budget requests for appropriation. We've established a Delivery Board composed of the new Capital Division Director and managers of groups responsible for planning and delivery of capital projects and those whose groups depend on the successful completion of projects. The Delivery Board was formed prior to the development of the 2019-2020 CIP and has been reviewing prioritization of existing and proposed new capital project and workforce utilization plans and providing guidance to the development of the CIP. The Delivery Board submitted a recommended CIP to Metro's Senior Leadership Team for submittal to the King County Executive as part of a biennial budget. Going forward, the Delivery Board will increasingly provide oversight and monitor the entire adopted CIP making decisions on projects/programs to improve CIP program outcomes. The use of decision gates is modeled after successful processes used by Wastewater Treatment and KCIT organizations.

Right-sizing our workforce

The 2019-20 budget requests resources to allow Metro's Capital division to hire the people needed to perform the work while ensuring that we have the right resources with the right skills at the right time. A core of the people hired will be FTEs for positions anticipated to be needed long-term. Some of the people hired will be term-limited employees who will work on projects for shorter terms needed to help meet the projected spike in demand for people resources over the next five to six years. Still other people will be engaged as consultants for their substantive experience and specialized expertise on a project-specific basis to assist with work that exceeds the capacity of existing staff, yet is not appropriate for TLT hiring.

Alternative delivery methods

Metro is working with King County's Procurement team to incorporate alternative delivery methods to increase the speed of project delivery. We've done this by evaluating alternative project delivery methods and rating them against defined criteria such as attaining a faster schedule, minimizing impact to operational services, and staying within budget. For example, we recently evaluated Design-Bid-Build (DBB), General Contractor/Construction Manager (GC/CM) and Design Build (DB) methods for appropriateness and applicability to an HVAC replacement project.

Depending on the delivery method chosen, the extent of Project Owner involvement can vary and affect the numbers of employees that Metro may need to hire. We're aware of studies that show that an alternative delivery method to the standard Design-Bid-Build method has the potential to significantly quicken the pace of delivery - though not without increased risks. Metro is working with Risk Management and the Prosecuting Attorney's Office to evaluate and manage risks.

Strengthening project performance monitoring

Metro's capital division is designed to provide increased capabilities for monitoring project performance and performing traditional functions of project control. In the new organization, this function is elevated to the same organization level as program planning and project delivery. The budget includes resources to effectively grow this capability.

The appendix includes some summary information on both the Operational Capacity Growth Planning and Metro's strategy of "Get Things Built".

Issue #2: Service Planning and Delivery, 2019-2020

The budget proposes an increase of 177,000 service hours. How does that compare with the identified service priority guidelines identified need? How will the proposed service hours be distributed geographically?

How will the proposed service hours be funded? How has Metro balanced service planning between available funding (for instance, from the Seattle TBD) with identified need in other areas of the county?

As mentioned previously, Metro's ability to increase bus service in the biennium is dependent upon having capacity available to support the service. Current constraints exist for peak service, so the adds in the biennium are heavily weighted to the off-peak. Specifically:

- Peak hours represent 20-25% of the total hours added (e.g., DSTT, ST, edge of peak/reverse peak frequency)
- Off-Peak hours represent 75-80% of the total hours added (e.g., most mobility project hours, most SDOT hours)

Table 2: Service Hour Investments by Funding and Customer Impact

		# of New	Peak	
Category	Type of Change	Service Hrs	Service*	
King Coun	ty Investment - Customers Will See an Increase in Service	•		
	Northeast Mobility Project	5,000	yes	
	Renton/Kent/Auburn Mobility Project	10,000	yes	
	Subtotal	15,000		
King Coun	ty Investment - Maintain Current Customer Expectations			
	Priority 1 & 2 – Crowding and Reliability	21,300	yes	
	Metro - DSTT	29,000	yes	
	Construction Related	4,700	yes	
	Continuation of Regional Mobility Grants (32,220 hrs)	0	n/a	
	Conversion to DART Service	-30,000	yes	
	Seattle Supplantation	6,575	n/a	
	Subtotal	31,575		
Other Investment - Maintain Current Customer Expectations				
	ST - DSTT**	10,000	yes	
	Subtotal	10,000		
Other Investment - Meet External Need Consistent with Long-Term Vision				
	Seattle CMC	100,000	< 5%	
	Business Partner	20,000	yes	
	Subtotal			
Total Prop	oosed Service Hours Increase	176,575		

^{*} Total Peak Hour Impact <25%.

^{**} Sound Transit has just increased their request to 21,400 hours (an increase of 11,400 over the current request).

In response to questions that have been raised about the restructures proposed for the biennium, we are providing the following details.

North Eastside Mobility Project

Proposed to implement in fall 2019, this project is developing changes to fixed-route bus and broader mobility services in Bothell, Kirkland, Kenmore, Redmond, and Woodinville. We have been working to understand the communities' mobility needs with goals to develop a set of mobility priorities for future service, respond to changing conditions to keep transit reliable, build a more complete and connected transportation network, lay the groundwork for future transit investments that will connect our growing cities and communities, and make the most of all service options, which include bus, light rail, paratransit and ridesharing services, and new flexible options that complement fixed-route bus. Potentially affected routes include the 234, 235, 236, 238, 243, 244, 245, 248, 249, 255, 277, 930, Community Van, and Community Ride services.

Renton/Kent/Auburn Mobility Project & I Line Development

Proposed to implement in fall 2020, this project is developing changes to fixed-route bus and broader mobility services centered around the future RapidRide I Line which will connect Renton, Kent, and Auburn. While project scoping is still underway, we expect potential service discussion and changes could impact services throughout South King County, not only along the future I Line. This project has goals of understanding the communities' mobility needs more deeply using an equity-based approach, and making the most of the full range of service options which include bus, light rail, commuter rail, paratransit and ridesharing services, and new flexible options. Another goal is to deliver a final preferred alignment for the RapidRide I Line to support federal funding discussions and grant applications.

What steps is Metro taking to ensure that the agency has the bus base and operational capacity to deliver the additional service hours, and what would it take to provide additional service hours beyond what has been proposed?

As discussed in Issue #1, Metro is aggressively addressing base capacity constraints in the proposed CIP. The investments represent a plan that brings new capacity online starting in 2021, followed by incremental increases in 2023, 2025 and 2030. The 2021 capacity alleviates current constraints and provides the opportunity to begin meeting growth demands. Growth in service prior to this time would need to be in the off-peak services.

In addition to base capacity, there are a number of other factors that are requiring Metro to balance various needs of the system in the coming biennium, as discussed below.

The most significant of these is that during the biennium, we will be in the "Period of Maximum Constraint" for major regional roadways. Beginning with the closure of the Convention Place Station in 2018 until the opening of Northgate Link Light Rail, the operating environment is going to need to be flexible in order to respond to day-to-day and hour-to-hour changes to minimize customer impacts. Given current operating constraints with base capacity, if more hours were added during the biennium, we would have less ability to respond as the transit environment changes. The 2019-2020 budget includes hours that are associated with some of these impacts such as the end of joint operations and removal of buses from the Downtown Seattle Transit; but these hours provide customers with no new

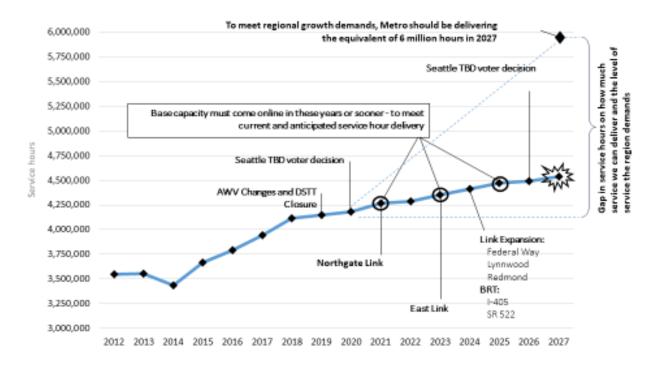
service as the hours allow schedules to be maintained, but do not add trips. Construction mitigation hours do not result in additional service to customers – rather the allow Metro to continue to provide the same level of service as is provided today.

Operating capacity is constrained due to limited base capacity. Our partners have approached us about purchasing more service, and we have included some of those requests in the budget (with associated revenue reimbursement). We have indicated to our partners that the only opportunity for **new hours is in the off-peak.** Off peak service does not require additional buses so this type of service does not require additional base capacity. These hours provide some improved service level for customers, but don't address many of the conditions identified in the 2017 System Evaluation Report.

In spite of these issues, Metro is making investments that will **improve services** for customers through the northeast service restructure in 2019 and the Renton/Kent/Auburn restructure in 2020. Additionally, investments in crowding and reliability (Priority 1 and 2) from the service guidelines will provide customers with some minimally improved service. Hour investments during the 2019-2020 biennium are consistent with existing policy as presented in the service guidelines and the adopted fund management policies.

An additional bridge between short-term and long-term impact is the continued management of potential "pinch-points"- starting with the Period of Maximum Constraint. The pinch-points are those points in time where external factors have the potential to disrupt the operation and delivery of the Metro Transit System. The chart below begins to show these points in time along with potential increased service demand to deliver the METRO CONNECTS vision. This chart is intended to illustrate the issues that Metro is facing.

Planned Metro Service Hours and Potential Pinch-Points (by year)



Moving King County 2019-2020 Budget Review – Metro Transit Responses

Issue #3: Long-Term Regional Mobility: 2021-2040

How does the 2019-2020 budget prepare the region for the long-term plan outlined in Metro CONNECTS – and the necessary discussion about how to fund longer-term implementation of METRO CONNECTS?

The budget aligns with the adopted METRO CONNECTS plan through the CIP investments for Operational Capacity Growth (OCG) and expanding the RapidRide system, but does not fund all the investments identified in the adopted plan. METRO CONNECTS was developed in 2015-2016 and reflected the best assumptions in place at that time, but it is a 'living document' as the region continues to experience growth. Recent estimates shared with the Regional Transit Committee would indicate that growth in the region and demand for transit service may require the 2040 system of 6 million hours to be achieved 10 years earlier. The impact of such changes are currently being reviewed.

It is important to note that METRO CONNECTS establishes new priorities that do not directly align with the Service Guidelines Corridor Analysis Indicator of Productivity, Social Equity and Geographic Value and the Adding Service: Investment Priorities. While this budget proposal represents a bridge between the adopted policy direction, updates to the Strategic Plan, Service Guidelines and METRO Connects may be necessary to reconcile the differences.

When adopted, METRO CONNECTS was not fully funded. That has not changed with the 2019-2020 budget. METRO CONNECTS continues to be the long-term vision for the agency and the productivity improvements identified in the plan are critical to addressing the region's transportation issues. Since METRO CONNECTS was developed in 2015-2016, the region has continued to see growth. As a result, several of the assumptions underlying the METRO CONNECTS plan continue to evolve. In response, Metro is proposing an Elected Official Summit for Fall 2019 to begin to tackle the 'big' questions about how we move forward.

Key topics for the Elected Official Summit are anticipated to include:

- 1) Equity and Social Justice issues What could/should/will it mean to incorporating Metro's charge to reduce historic disparities through the County's public transportation and ferry services (K.C.C. 2.16.038).
- 2) Policy Constraints Current policy as established in Metro's Strategic Plan, Service Guidelines process and METRO CONNECTS reflect a multitude of priorities that are not always in alignment while providing no clear prioritization. Growth of innovative mobility options is also something that needs to be evaluated to identify changes in policies that might be required.
- 3) Funding Constraints There is currently greater need for transit services and mobility than can be met with existing resources. To help address this, Metro is looking at its cost structures to identify ways to deliver more services with the funding that available. Regardless of how successful improvements in the effectiveness our investments are, these efforts can 'narrow the gap', but they will not be sufficient to address the broader funding needs.

How does the 2019-2020 budget prepare Metro to become a mobility agency? What specific steps is Metro taking to plan for multi-modal, autonomous, and last-mile transportation? What progress can the Council expect to see over the course of the biennium?

METRO CONNECTS outlines a clear vision to improve customer access to transit. With the creation of the Mobility Division, Metro is organizing to deliver on this vision by improving our customers' ability to safely and efficiently walk, bike, ride, and drive to transit. Over the next biennium, the Council can expect to see the following:

- Metro's Bike and Walk Group has developed a plan for system-wide bicycle parking expansion
 and has secured grant funds to not only provide bike parking at all major transit hubs, but also
 support cities in non-motorized connectivity investments that get people to those hubs.
- Metro's Parking Group is working to implement near-term actions like better managing park & rides in addition to planning for major shifts in transportation technology, like autonomous vehicles and new mobility services, though mobility hub retrofit designs of park & rides.
- Metro's Innovative Mobility Group tracks the latest developments in transportation technology and applies the best practices to mobility pilots around King County like dedicated car share parking, carpool app incentives, Shared Employer Shuttles, and on-demand first/last mile services.
- Metro's Community Connections Program will continue to work with local governments and community partners to develop innovative and cost-efficient solutions to serve the parts of King County that do not have the infrastructure, density, or land use to support traditional fixedroute bus service. Metro is currently piloting different mobility services, such as Community Shuttle, Community Van, TripPool, and others.

The appendix includes a one-page summary of Metro's efforts towards becoming a Mobility Agency.

The proposed budget includes significant capital outlay for RapidRide infrastructure – for service that will not become available until after the upcoming biennium, but which will be fairly locked in once the capital improvements are made. How has Metro prioritized the development and timing of RapidRide corridors? How has Metro balanced planning between available funding with identified need in other areas of the county?

METRO CONNECTS identifies expansion of the RapidRide system, describing a network of 26 corridors by 2040. To be considered for future RapidRide expansion, corridors were measured for productivity, social equity, and geographic value. METRO CONNECTS identifies implementation of the lines in accordance with the envisioned 2025 and 2040 networks.

In order to guide implementation of the RapidRide Expansion Program, Metro reviewed the 20 proposed new corridors in 2018 to determine a potential delivery schedule for the RapidRide lines identified in METRO CONNECTS. The attached technical memorandum summarizes the process and evaluation of the RapidRide system along with a discussion of funding currently available for the program.

Issue #4 Making Transit Affordable and Accessible

Metro has proposed an income-based approach to transit needs and has proposed implementing one or more income-based fare reduction pilots during the biennium. With a maximum annual foregone revenue of \$600,000 for these pilot projects (the amount in the proposed budget legislation), what can you provide in terms of additional or lower cost service to people in need? What can the Council expect to see as you implement and evaluate these pilots?

While the Low-Income Fare Evaluation Report addresses a number of potential programs, markets and distribution channels, this work has led to a recommendation to develop an income based approach to fares. During the biennium, Metro will develop specific pilot programs to look at this issue.

Timeline for Income-Based Fare Pilot(s) Program:

2018 - 4th Quarter Post-budget adoption

- Work with the Office of Equity and Social Justice and existing Metro Transit advisory bodies to identify Stakeholder Advisory Committee (SAC) membership criteria and members, and Scope the committee's s charge. Work will include plan for incorporate community based outreach into this process.
- Begin deeper evidence-based research and analysis for program development and SAC discussion

2019 - 1st Quarter

- Establish (SAC)
- Use preliminary SAC discussions to establish criteria for pilot(s)

2019 - 2nd Quarter

- Receive SAC Advisory work
- Develop initial pilot program(s) for 3rd and 4th quarter 2019 launch
- Brief Council and RTC on proposed pilot program(s)
- Identify potential policy implications

2019 - 3rd Quarter and 4th Quarter

Launch pilot(s)

2020 - 1st Quarter

 Begin initial data / results evaluation for potential policy changes (in response to both results and 2019 Elected Official Conference)

2020 - 2nd Quarter

- Propose policy changes (as appropriate)
- Make 2021/2020 proposed budget recommendation to County Executive

2020 - 3rd Quarter

- Wrap-up pilot program(s) and evaluations
- Support policy deliberations (as appropriate)
- Support County Council Budget Deliberations

2020 - 4th Quarter

Plan for 2021 launch (as appropriate)

What additional outreach, education, and work with partners (such as housing authorities, school districts, unions, colleges) is Metro planning to make existing reduced fare products more available to eliaible riders?

Metro's report recommended targeted marketing and outreach to increase access to transit and participation in Metro's existing low-income programs. This could include strategic deployment of ORCA-to-go, new partnerships to expand LIFT enrollment locations, as well as other changes such as allowing online enrollment in reduced fare programs. Metro will work to develop a specific list of actions that could be taken, working with stakeholders to identify key priorities and establish timelines for implementation.

What is the plan for your ongoing work on fare structure?

Our Fares program will focus on 3 primary areas in 2019-2020:

- Income-based fare pilot(s) and potential program;
- Replacement options and strategy for the end of life farebox systems; and
- Integration of all Metro Transit modes with the fare system.

The workplan will be refined based on the adopted 2019-2020 budget.

Metro's long-term goal for fare policy is adopting a targeted universalism approach as supported through County Equity and Social Justice policy, where everyone can afford the transit fare and that everyone has access to high-quality mobility options. We also have policy goals to achieve parity between the Adult fare and the Access fare, in addition to policy that guides Metro to use fare programs to increase transit ridership and attract new riders. However, we have not yet developed a continually updated set of measurable benchmarks. The next piece of work for Metro's Fares team is to collect information about how people are currently using the system, where there are barriers, and where there is a clear need for improvement. Once we understand current conditions and trends, we can set some specific goals. For example we could set a target for the percentage of eligible customers who are using LIFT. We can't set those targets without knowing more about the size of the eligible population and current use. Much of this market assessment work has already begun, so we will build on that information, in addition to engaging internal and external stakeholders, to identify measures of progress.

One of the most important elements of the Executive's budget is resources for high-quality program evaluation efforts, which will provide the best information possible on efficacy of these programs. Additionally, Metro's fares team will engage a stakeholder advisory group as well as elected officials, peer agency staff, internal staff, and others to identify a set of meaningful performance measures that can be used to provide regular updates on progress. These measures could be made available online or through regular reporting.

How is Metro responding to the Fund Management Policies language establishing a target farebox recovery of 30% and a minimum of 25%?

Metro is projecting that the farebox recovery ratio will be at 25% at the end of 2020. In order to maintain this 25% target, the financial plan assumes fare increases in each of the next few biennia.

Specific recommendations for future fare changes will be based on a variety of work underway in 2019-2020 including:

- Income-based fare pilot program(s)
- Metro cost structure work
- The Elected Official Summit
- Evaluation and changes in productivity

Appendices



Today, our seven bases are operating beyond their optimal capacity. We need parking for about 100 more buses so we can relieve congestion and maintain our existing fleet more efficiently and safely. We also need to move forward on several critical maintenance projects at our bases, and need added capacity to offset the impacts of construction.

In the 2017–2018 biennium we focused on optimizing operations to reduce congestion and on purchasing neighboring properties to grow our base capacity. We found opportunities for expansion at our Central and South bases. We've begun fast-track development of a new interim base to accommodate 125 buses by 2021. This added capacity will support our near-term fleet growth and electric battery bus charging needs while we design and build a permanent eighth base for 250 buses by 2025.

To provide for the fleet growth envisioned in METRO CONNECTS and convert to a zero emission fleet by 2040, we'll also need a permanent ninth base.

Four major efforts are underway and proposed in our 2019–2020 biennium Capital Improvement Program:

 Expand Central Base. Add yard space, convert body shop to maintenance bays, and build a replacement body shop. (New capacity: Total of 150 buses in phases by 2023)

- Build a temporary base next to South Base. Use existing
 parking garage on recently purchased site south of the
 base. Demolish office building, pave yard, install temporary
 operations and maintenance structures, provide for electric
 bus charging. (New capacity: 125 buses 2021-2025)
- Build a new permanent bus base at South Campus.
 Move non-essential functions from Metro-owned annex property across the street from South Base, demolish or move existing structures, build new permanent facilities for yard, operations, maintenance, and electric bus charging. (New capacity: 250 buses by 2025)
- 4. Acquire site for permanent ninth base. Select a site optimally located for efficient access to existing and future routes, likely in south King County. Plan for a new base that is well integrated with the community, aesthetically pleasing and built to high environmental standards. It will be home to a battery electric bus fleet that will be quiet and emission free and it will bring economic and job opportunities to the area. Construction will be timed to provide spare capacity while we retrofit existing bases for electric battery bus charging.
 (New Capacity: 250 buses during or after 2030)

The graphs on the next page show our plan to increase base capacity to meet these needs and our projected fleet growth under both our current fleet plan and the METRO CONNECTS vision.









Building for more stable operations



*Net add is 125 when Interim Bus Capacity of 125 is taken into account. Dips in chart represent State of Good Repair Activities, which reduce capacity.





We're focusing a substantive portion of our resources on meeting strategic goals in three areas:

- Speed and Reliability: Primarily through implementing seven new RapidRide lines.
- Operational capacity growth: Building more infrastructure to park, maintain, fuel, and expand our fleet.
- State of good repair: Keeping our existing capital assets in good repair to continue safely, reliably, and cost effectively operating our system.

To meet demand in these areas, we're streamlining planning and project implementation, pursuing new ways to deliver projects, and enhancing our ability to forecast our staffing needs and manage our staffing resources.

Organized to support focus and coordination

We've organized our capital program into three portfolios:

- Fixed assets: The physical infrastructure, from bus stops to bus bases, needed to deliver service to our customers
- Fleet: The vehicles we use to carry passengers (e.g., electric trolleys, buses, and paratransit and rideshare vans), and also those we need to do our work (e.g., tow trucks)
- Technology: The network of computers and software needed to operate and maintain bus service in a way that reduces pollution, optimizes scheduling, enhances safety, and expedites fare payment for more-efficient passenger boarding

Why isn't the infrastructure ready to add bus service now?

Just a few years ago, Metro was preparing to cut service after the Great Recession. Our limited resources did not support major capital projects like building or expanding bus bases.

Things improved in fall 2014, when sales tax revenues were greater than expected and Seattle voters approved funds to support added transit service in the city.

In 2016, we worked with many stakeholders to develop METRO CONNECTS, our long-range plan with a bold vision for the future of transportation in King County. Realizing that vision will require significant capital investment with a fast ramp-up.

Demand for transit service has grown along with our region's recovering economy. We've responded by adding new service as quickly as possible, and this has put a strain on our facilities. With increased revenues, we can now pursue critical capital projects and grow our capital program to an average expenditure of about \$250 million per year over the next six years.

2019-2020 PRIORITIES

- 1. Deliver interim base capacity by 2021 and South Annex Base by 2025.
- Build organizational infrastructure to reduce project delivery time and double our output while meeting sustainability, equity, and social justice goals.
- 3. Redesign the process for delivering and monitoring our capital program.
- 4. Formalize processes to achieve coordinated planning for three capital portfolios with service, workforce, financial, and strategic planning functions across the agency.





By becoming a mobility agency that both provides public transportation and integrates new travel options, Metro can lead the way in reducing congestion and improving people's ability to get to work, school, services and more.

With rapid population and job growth, King County has an urgent need to lower congestion and improve regional mobility.

Meanwhile, the transportation landscape itself is undergoing a transformation. Technological advances such as connected and autonomous vehicles, and new mobility models like e-hailing, ridesharing and microtransit, are beginning to offer new, convenient, and flexible ways to get around.

Despite all the change underway, transit will continue to be the most effective way to move the most people in dense urban environments. High-capacity fixed-route bus and light rail service therefore must remain the backbone of regional mobility. New and innovative mobility services will complement transit by offering riders first- and last-mile connections to and from transit and by creating cost-effective ways to serve low-density areas. The integration of these emerging services with transit will transform regional mobility.

Metro is the region's largest public transportation provider, with expertise in service planning, operations, capital delivery, regional partnerships, and meeting our diverse customers' needs. We are uniquely positioned to lead our region's mobility transformation in a way that advances social equity and opportunity, ensures universal accessibility, and enables people to travel farther, faster, and more easily throughout King County.

Becoming a mobility agency will position Metro to fulfill our mission: Provide the best possible public transportation services and improve regional mobility and quality of life in King County.

Our strategy for transforming mobility



Continually evaluate and adjust Metro's mix of services to maintain our focus on the services we deliver best while partnering with others to deliver complementary mobility options.



Work with regional partners to improve and expand the high-capacity fixed-route bus and rail network, strengthening the role of public transit as the backbone of regional mobility.



Improve the quality and cost-effectiveness of flexible route and demand response services by adopting new approaches and by collaborating with private mobility providers.



Adopt open and interoperable systems to enable customers to seamlessly plan, pay for, and transfer along their multimodal journeys.



Help develop regulations, incentives and subsidies to ensure that both public and private mobility services are safe and provide equitable access for disadvantaged populations.



Proactively transform our workforce through development and training programs so that employees benefit from the higher-skill and higher-wage opportunities created by the mobility transformation.



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TECHNICAL MEMORANDUM

DATE: October 10, 2018

TO: Hannah McIntosh

Vic Stover

FROM: Mark Yand

Alicia McIntire

SUBJECT: RapidRide Expansion Program Delivery Schedule

INTRODUCTION AND PURPOSE

METRO CONNECTS identifies expansion of the RapidRide system, describing a network of 26 corridors by 2040. METRO CONNECTS considered the following factors in identifying corridors for RapidRide expansion:

- Interconnection of the King County high capacity transit network
- Performance of underlying routes
- Geographic distribution
- Equity and social justice
- Designated speed and reliability corridors
- Integration with ST2 and ST3 projects, the Move Seattle initiative, and Metro's Long Range Planning efforts

More generally, each RapidRide corridor was measured for ridership, social equity, and geographic value. METRO CONNECTS identifies implementation of the lines in accordance with the envisioned 2025 and 2040 networks.

In order to guide implementation of the RapidRide Expansion Program (RREP), in 2018 Metro reviewed the 22 proposed new corridors in METRO CONNECTS to determine a potential delivery schedule for future RapidRide lines. The evaluation included a quantitative and qualitative review of each RapidRide corridor, the results of which were used to assign each corridor into one of three phases for implementation. The process was not used to identify the priorities for modifications or upgrades to existing RapidRide lines.

REVIEW APPROACH

The RapidRide corridors were reviewed quantitatively and qualitatively based on a variety of factors and using an approach reflective of Metro's Service Guidelines¹. Geographic value was also considered in this evaluation with the intent of providing investment throughout the county to build a regional high capacity transit network.

QUANTITATIVE EVALUATION

The RapidRide corridors were evaluated quantitatively resulting in an initial ranking. The evaluation factors were chosen based on agency priorities that Metro has identified and that are based on the Service Guidelines, including growing transit ridership and focusing on equity and social justice. The factors used to quantify those priorities are summarized in Table 1. Scores for the three factors were assigned to each RapidRide corridor based on performance relative to the other corridors. These scores were then weighted at 50% equity and social justice (combined percent poverty and percent minority) and 50% future daily boardings to determine an overall initial ranking for each corridor. Table 2 displays the results of the initial quantitative evaluation for each corridor. As identified in the associated key, darker colors represent a higher score in a given category and lighter colors represent a lower score.

QUALITATIVE REVIEW

The RapidRide corridors were also evaluated qualitatively according to additional factors: existing partnership commitment, importance to the regional high capacity transit network, and an overview of the complexity of implementing the corridor. These factors were not quantified and were instead used as qualitative evaluation criteria.

Existing partnership commitment was assessed based upon features such as whether a project is currently in progress, financial commitments, existing Federal Transit Administration or other grant applications, or expressed agency commitments to participate in development of a corridor. A RapidRide corridor was classified as important to the high capacity transit network if it provided unique coverage on corridors that warrant high capacity transit service or if the corridor would provide the additional frequency in service needed to support connections and transfers to Link stations. Corridor complexity was reviewed based on length of corridor, number of jurisdictions impacted and likelihood of Federal Transit Administration funding. Corridor complexity did not ultimately provide meaningful differentiation between corridors and was not used as a final evaluation factor.

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¹ For this evaluation, the alignments for Corridors 1013, 1033, 1063, and 1071 have been modified to reflect planned changes identified since the adoption of METRO CONNECTS.

Table 1. RREP Delivery Program Prioritization Factors - Quantitative Evaluation

Factor	Description	Calculation
Percent Poverty	Percentage of census tracts along the length of the corridor that are designated as lowincome tracts.	If the proportion of a tract's population living below 200% of the poverty level exceeds the proportion of the county's population living below 200% of the poverty level, the tract is designated a low-income tract.
Percent Minority	Percentage of tracts along the length of the corridor that are defined as minority tracts.	If the proportion of a tract's population that is other than "Non-Hispanic, White Alone" exceeds the proportion of the county's population that is other than "Non-Hispanic, White Alone", the tract is designated a minority tract.
Future Daily Boardings	The anticipated number of future daily riders based on existing or forecast boardings.	 Three calculation methodologies were employed based upon current project development status: For the G Line and Corridor 1013 (Roosevelt) projects, used official ridership projections as submitted in each corridor's FTA Small Starts application. For corridors that reflect existing routes in their entirety and will primarily replicate these routes, used the latest System Evaluation Report numbers for current ridership. Applied a growth factor of high (50%), high-medium (40%), medium (30%), medium-low (20%), or low (10%) to existing ridership at applicable stops for each corridor based upon the degree of change for service, population and job growth, and connectivity with high-capacity transit anticipated for each route For remaining corridor alignments, employed a two-phase analysis: Applied a growth factor of high (50%), high-medium (40%), medium (30%), medium-low (20%), or low (10%) to existing ridership at applicable stops of composite routes for each corridor based upon the degree of change for service, population and job growth, and connectivity with high-capacity transit anticipated for each route. For corridor segments that are not reflected in existing routes, assumed ¼ mile stop spacing and used an average of stop ridership value based on the closest existing service that would be folded into RapidRide service.

Table 2. Quantitative Evaluation Results

Line / Corridor	Current Routes	To/Via/From (Corridor Name)	Corridor Length (miles)	Primary Service Area (North, East, South)	Percent Poverty (max. 5 points)	Percent Minority (max. 5 points)	Future Daily Boardings (max. 10 points)	Composite Score (max. 20 points)
Corridor 1071	7	Seattle CBD/Mount Baker/Rainier Beach (Rainier)	5	North	26%	49%	13,503***	19
G Line	11, 12	Madison Valley/Seattle CBD (Madison)	2.5	North	20%	34%	12,327*	17
Corridor 1064	36, 49	University District/Capitol Hill/Beacon Hill/Othello	10	North	23%	50%	13,073***	17
H Line	120	Burien Transit Center/Westwood Village/Seattle CBD (Delridge)	13	North	21%	49%	11,180**	16
Corridor 1013	67, 70	Seattle CBD/Eastlake/University District (Roosevelt)	10.5	North	22%	37%	17,190*	16
Corridor 1063	48	University District/Central Area/Mount Baker	10.5	North	22%	52%	7,062***	16
Corridor 1033	169, 180	Renton/Kent/Auburn	16.5	South	17%	53%	7,717***	14
Corridor 40RR	40	Northgate/Ballard/Seattle CBD	13.5	North	14%	29%	15,600**	14
Corridor 1056	164, 166	Highline Community College/Kent/Green River Community College	12	South	23%	52%	4,119***	14
Corridor 1009	372	Bothell/Lake City/University District	15	North	20%	31%	10,400**	14
Corridor 1012	44	Ballard/Wallingford/University District	6	North	21%	25%	11,440**	13
Corridor 1061	8, 11	Uptown/South Lake Union/Capitol Hill/Madison Park	7.5	North	12%	26%	17,999***	13
Corridor 1202	62	Sand Point/Green Lake/Fremont/Seattle CBD	11.5	North	15%	27%	9,859***	13
Corridor 1030	240, 245	Overlake/Newcastle/Renton	17.5	East	13%	49%	6,154***	12
Corridor 1014	45	Loyal Heights/Greenwood/University District	6.5	North	20%	27%	8,405***	12
Corridor 1027	234, 235, 271	Totem Lake/Bellevue/Eastgate	14.5	East	9%	34%	5,034***	11
Corridor 1052	181	Twin Lakes/Federal Way/Green River Community College	14	South	16%	46%	3,150***	11
Corridor 1075	105, 106	Renton Highlands/Renton/Skyway/Rainier Beach	11	South	20%	69%	4,661***	11
Corridor 1043	128, 131	Alki/Alaska Junction/White Center/Burien	11.5	North	15%	39%	4,260***	10
Corridor 1515	183, 901	Kent/Star Lake/Twin Lakes	11.5	South	19%	53%	1,250***	10
Corridor 1025	234, 235	Kenmore/Totem Lake/Overlake	15.5	East	7%	33%	1,972***	6
Corridor 1026	248	East Redmond/Kirkland/Redmond	7.5	East	7%	40%	1,363***	6

Bold font indicates routes for which the alignment differs from METRO CONNECTS

Key

Lowest Ranking
Highest Ranking

^{*} Ridership reflects official projections as submitted in each corridor's FTA Small Starts application

^{**} Ridership reflects forecasts based upon ridership on existing routes in their entirety

^{***} Ridership reflects forecasts based upon composite routes

EXPANSION PHASES

Based on the results of both the quantitative and qualitative evaluation, the corridors were divided into three prioritized phases for expansion of the RapidRide system. The first phase includes six corridors, the second phase includes seven corridors, and the third phase includes the remaining corridors. Corridors in Expansion Phase 1 are those identified for implementation first, with those included in Phases 2 and 3 implemented in later years. While these phases represent priorities for implementation, actual implementation scheduling may vary to account for available funding, constructability, and other factors.

Table 3 summarizes the corridors included in Expansion Phase 1, which are prioritized for delivery by 2025. All of these corridors are already underway, have existing partnership commitments, or have been identified as important to the high capacity transit network.

Table 3. RapidRide Network Expansion Phase 1

RapidRide Corridor	Location (RapidRide Name)	Defining Factors (relative to other RapidRide Corridors)*	Year of Service Start
G Line	Madison Valley/Seattle CBD (Madison)	 High Percent Poverty Strong Existing Partnership Commitment Importance to HCT Network 	2021
H Line	Burien Transit Center/Westwood Village/Seattle CBD (Delridge)	 High Percent Poverty High Percent Minority High Future Daily Boardings Strong Existing Partnership Commitment Importance to HCT Network 	2021
Corridor 1033	Renton/Kent/Auburn	 Higher Percent Minority Higher Future Daily Boardings (relative to other South Service Area RapidRide corridors) Existing Partnership Commitment Importance to HCT Network 	2023
Corridor 1013	Seattle CBD/Eastlake/University District (Roosevelt)	 Higher Percent Poverty Higher Future Daily Boardings Existing Partnership Commitment Importance to HCT Network 	2024
Corridor 1071	Seattle CBD/Mount Baker/Rainier Beach (Rainier)	 Higher Percent Poverty High Percent Minority Higher Future Daily Boardings Existing Partnership Commitment Importance to HCT Network 	2024
Corridor 1027	Totem Lake/Bellevue/Eastgate	 Higher Future Daily Boardings (relative to other East Service Area RapidRide corridors) Existing Partnership Commitment Importance to HCT Network 	2025

^{*} Italicized font represents quantitative factors; non-italicized font represents qualitative factors

Table 4 summarizes the corridors included in Expansion Phase 2. Delivery of these corridors is expected after 2025, however, a timeline for their delivery has not been developed. Most of these corridors have been identified as important to the HCT network.

Table 4. RapidRide Network Expansion Phase 2

RapidRide Corridor	Location	Defining Factors (relative to other RapidRide Corridors)*		
Corridor 40RR	Northgate/Ballard/Seattle CBD	 Higher Future Daily Boardings Existing Partnership Commitment		
Corridor 1009	Bothell/Lake City/University District	 High Percent Poverty High Future Daily Boardings Importance to HCT Network 		
Corridor 1012	Ballard/Wallingford/University District	 High Percent Poverty High Future Daily Boardings Existing Partnership Commitment Importance to HCT Network 		
Corridor 1030	Overlake/Newcastle/Renton	 High Percent Minority Higher Future Daily Boardings (relative to other East Service Area RapidRide corridors) 		
Corridor 1052	Twin Lakes/Federal Way/Green River Community College	 High Percent Minority Importance to HCT Network		
Corridor 1056	Highline Community College/Kent/Green River Community College	 Higher Percent Poverty Higher Percent Minority Importance to HCT Network 		
Corridor 1063	University District/Central Area/Mount Baker	 Higher Percent Poverty Higher Percent Minority Existing Partnership Commitment Importance to HCT Network 		

^{*} Italicized font represents quantitative factors; non-italicized font represents qualitative factors

Table 5 summarizes the corridors included in Expansion Phase 3. Delivery of these corridors is expected after those identified in Phase 2. Similar to Phase 2, a timeline for their delivery has not been developed.

Table 5. RapidRide Network Expansion Phase 3

RapidRide Corridor	Location		
Corridor 1014	Loyal Heights/Greenwood/University District		
Corridor 1025	Kenmore/Totem Lake/Overlake*		
Corridor 1026	East Redmond/Kirkland/Redmond		
Corridor 1043	Alki/Alaska Junction/White Center/Burien*		
Corridor 1061	Uptown/South Lake Union/Capitol Hill/Madison Park		
Corridor 1064	University District/Capitol Hill/Beacon Hill/Othello		
Corridor 1075	Renton Highlands/Renton/Skyway/Rainier Beach		
Corridor 1202	Sand Point/Green Lake/Fremont/Seattle CBD		
Corridor 1515	Kent/Star Lake/Twin Lakes		

^{*} Corridor is dependent on ST3 Link investments and subsequent revision to existing RapidRide lines.

RAPIDRIDE NETWORK EXPANSION PHASE 1 DELIVERY SCHEDULE

Figure 1 displays the estimated delivery schedule for Phase 1 of the RapidRide network expansion. It includes the project phases with the following approximate durations:

Preliminary Design: 12 to 14 months

Final Design: 15 to 18 monthsImplementation: 15 to 18 months

In addition to the project phases listed, several of the corridors are expected to qualify for Small Starts funding from the Federal Transit Administration (FTA). This process is anticipated to last 1 to 2 years for each corridor and this has been included in the timeline for the corridors to which it is applicable. This delivery schedule is conceptual and is subject to change as planning and design for each corridor progresses.

CONCLUSION

It is expected that the delivery program will be revisited throughout implementation of the RREP as conditions and priorities for the RapidRide service network evolve. Changes to the data associated with the quantitative and qualitative factors for corridors, along with updated Metro priorities, could result in a reordering of corridors for delivery. While Metro has no set timeline, potential milestones for reevaluation of the delivery program could include development of the biennial budget, updates to the King County Capital Improvement Program (CIP), or updates to METRO CONNECTS.

RAPIDRIDE | RAPIDRIDE EXPANSION - PHASE 1



Figure 1. RapidRide Network Expansion Phase 1 Delivery Schedule