

# TECHNICAL MEMORANDUM

DATE: October 10, 2018  
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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 Guidelines<sup>1</sup>. 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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<sup>1</sup> 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**

<i>Factor</i>	<i>Description</i>	<i>Calculation</i>
<i>Percent Poverty</i>	Percentage of census tracts along the length of the corridor that are designated as low-income 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.
<i>Percent Minority</i>	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.
<i>Future Daily Boardings</i>	The anticipated number of future daily riders based on existing or forecast boardings.	<p>Three calculation methodologies were employed based upon current project development status:</p> <ol style="list-style-type: none"> <li>1. For the G Line and Corridor 1013 (Roosevelt) projects, used official ridership projections as submitted in each corridor’s FTA Small Starts application.</li> <li>2. 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</li> <li>3. For remaining corridor alignments, employed a two-phase analysis:               <ol style="list-style-type: none"> <li>a. 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.</li> <li>b. 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.</li> </ol> </li> </ol>

**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)
<b>Corridor 1071</b>	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
<b>Corridor 1013</b>	67, 70	Seattle CBD/Eastlake/University District (Roosevelt)	10.5	North	22%	37%	17,190*	16
<b>Corridor 1063</b>	48	University District/Central Area/Mount Baker	10.5	North	22%	52%	7,062***	16
<b>Corridor 1033</b>	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

\* 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

**Key**

	Lowest Ranking
	Highest Ranking

## 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**

<b>RapidRide Corridor</b>	<b>Location (RapidRide Name)</b>	<b>Defining Factors (relative to other RapidRide Corridors)*</b>	<b>Year of Service Start</b>
<i>G Line</i>	Madison Valley/Seattle CBD (Madison)	<ul style="list-style-type: none"> <li>• <i>High Percent Poverty</i></li> <li>• Strong Existing Partnership Commitment</li> <li>• Importance to HCT Network</li> </ul>	2021
<i>H Line</i>	Burien Transit Center/Westwood Village/Seattle CBD (Delridge)	<ul style="list-style-type: none"> <li>• <i>High Percent Poverty</i></li> <li>• <i>High Percent Minority</i></li> <li>• <i>High Future Daily Boardings</i></li> <li>• Strong Existing Partnership Commitment</li> <li>• Importance to HCT Network</li> </ul>	2021
<i>Corridor 1033</i>	Renton/Kent/Auburn	<ul style="list-style-type: none"> <li>• <i>Higher Percent Minority</i></li> <li>• <i>Higher Future Daily Boardings (relative to other South Service Area RapidRide corridors)</i></li> <li>• Existing Partnership Commitment</li> <li>• Importance to HCT Network</li> </ul>	2023
<i>Corridor 1013</i>	Seattle CBD/Eastlake/University District (Roosevelt)	<ul style="list-style-type: none"> <li>• <i>Higher Percent Poverty</i></li> <li>• <i>Higher Future Daily Boardings</i></li> <li>• Existing Partnership Commitment</li> <li>• Importance to HCT Network</li> </ul>	2024
<i>Corridor 1071</i>	Seattle CBD/Mount Baker/Rainier Beach (Rainier)	<ul style="list-style-type: none"> <li>• <i>Higher Percent Poverty</i></li> <li>• <i>High Percent Minority</i></li> <li>• <i>Higher Future Daily Boardings</i></li> <li>• Existing Partnership Commitment</li> <li>• Importance to HCT Network</li> </ul>	2024
<i>Corridor 1027</i>	Totem Lake/Bellevue/Eastgate	<ul style="list-style-type: none"> <li>• <i>Higher Future Daily Boardings (relative to other East Service Area RapidRide corridors)</i></li> <li>• Existing Partnership Commitment</li> <li>• Importance to HCT Network</li> </ul>	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**

<i>RapidRide Corridor</i>	<i>Location</i>	<i>Defining Factors (relative to other RapidRide Corridors)*</i>
<i>Corridor 40RR</i>	Northgate/Ballard/Seattle CBD	<ul style="list-style-type: none"> <li>• <i>Higher Future Daily Boardings</i></li> <li>• Existing Partnership Commitment</li> </ul>
<i>Corridor 1009</i>	Bothell/Lake City/University District	<ul style="list-style-type: none"> <li>• <i>High Percent Poverty</i></li> <li>• <i>High Future Daily Boardings</i></li> <li>• Importance to HCT Network</li> </ul>
<i>Corridor 1012</i>	Ballard/Wallingford/University District	<ul style="list-style-type: none"> <li>• <i>High Percent Poverty</i></li> <li>• <i>High Future Daily Boardings</i></li> <li>• Existing Partnership Commitment</li> <li>• Importance to HCT Network</li> </ul>
<i>Corridor 1030</i>	Overlake/Newcastle/Renton	<ul style="list-style-type: none"> <li>• <i>High Percent Minority</i></li> <li>• <i>Higher Future Daily Boardings (relative to other East Service Area RapidRide corridors)</i></li> </ul>
<i>Corridor 1052</i>	Twin Lakes/Federal Way/Green River Community College	<ul style="list-style-type: none"> <li>• <i>High Percent Minority</i></li> <li>• Importance to HCT Network</li> </ul>
<i>Corridor 1056</i>	Highline Community College/Kent/Green River Community College	<ul style="list-style-type: none"> <li>• <i>Higher Percent Poverty</i></li> <li>• <i>Higher Percent Minority</i></li> <li>• Importance to HCT Network</li> </ul>
<i>Corridor 1063</i>	University District/Central Area/Mount Baker	<ul style="list-style-type: none"> <li>• <i>Higher Percent Poverty</i></li> <li>• <i>Higher Percent Minority</i></li> <li>• Existing Partnership Commitment</li> <li>• Importance to HCT Network</li> </ul>

\* *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**

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



★ = Service Starts

**Figure 1. RapidRide Network Expansion Phase 1 Delivery Schedule**