



**KING COUNTY**

1200 King County Courthouse  
516 Third Avenue  
Seattle, WA 98104

**Signature Report**

**January 27, 2014**

**Motion 14068**

**Proposed No. 2013-0489.1**

**Sponsors Dembowski**

1           A MOTION relating to the King County Metro Strategic  
2           Plan for Public Transportation 2011-2021 and King County  
3           Metro Service Guidelines and accepting the King County  
4           Metro Transit 2013 Service Guidelines Report.

5           WHEREAS, the council adopted the King County Metro Strategic Plan for Public  
6           Transportation 2011-2021 ("the strategic plan") and the King County Metro Service  
7           Guidelines ("the service guidelines") in July 2011, and

8           WHEREAS, the Strategic Plan and Service Guidelines were to follow the  
9           recommendations of the regional transit task force regarding the policy framework for the  
10          Metro transit system, and

11          WHEREAS, the regional transit task force recommended that the strategic plan  
12          and service guidelines focus on transparency and clarity, cost control and productivity,  
13          and

14          WHEREAS, the regional transit task force further recommended that the policy  
15          guidance for making service reductions and service growth decisions be based on the  
16          following three priorities:

17           A. Emphasize productivity due to its linkage to economic development, land use,  
18          financial stability and environmental sustainability;

19           B. Ensure social equity; and

20 C. Provide geographic value throughout the county, and

21 WHEREAS, Ordinance 17143, Section 5, adopting the strategic plan and service  
22 guidelines directs that an annual service guidelines report of Metro's transit system,  
23 beginning with a baseline report in 2012, be transmitted by the executive to the council  
24 for acceptance by motion, and

25 WHEREAS, Ordinance 17597, Section 6.B., specifies that the annual service  
26 guidelines report also be transmitted by October 31 of each year to the regional transit  
27 committee for consideration, and

28 WHEREAS, Ordinance 17143, Section 5.A., specifies that the annual service  
29 guidelines report include:

30 A. The corridors analyzed to determine the Metro All-Day and Peak Network  
31 with a summary of resulting scores and assigned service levels as determined by the  
32 service guidelines;

33 B. The results of the analysis including a list of transit corridors above and below  
34 their target service levels and the estimated number of service hours necessary to meet  
35 the needs of each corridor below its target service level;

36 C. The performance of transit services by route and any changes in the service  
37 guidelines thresholds since the previous reporting period, using the performance  
38 measures identified in chapter III of the strategic plan and in the service guidelines;

39 D. A list of transit service changes made to routes and corridors of the network  
40 since the last reporting period;

41 E. Network and rider connectivity associated with transit services delivered by  
42 other providers; and

43 F. A list of potential changes, if any, to the strategic plan and service guidelines  
44 to better meet their policy intent, and

45 WHEREAS, King County Metro staff has compiled the required information and  
46 the executive has transmitted the service guidelines report set forth as Attachment A to  
47 this motion to the council and to the regional transit committee;

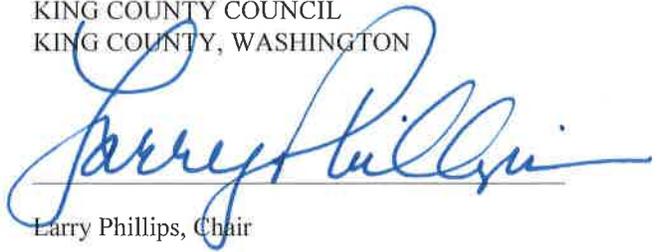
48 NOW, THEREFORE, BE IT MOVED by the Council of King County:

49           The King County council hereby accepts the King County Metro Transit 2013  
50 Service Guidelines Report, Attachment A to this motion.  
51

Motion 14068 was introduced on 11/12/2013 and passed by the Metropolitan King County Council on 1/27/2014, by the following vote:

Yes: 9 - Mr. Phillips, Mr. von Reichbauer, Mr. Gossett, Ms. Hague,  
Ms. Lambert, Mr. Dunn, Mr. McDermott, Mr. Dembowski and Mr.  
Upthegrove  
No: 0  
Excused: 0

KING COUNTY COUNCIL  
KING COUNTY, WASHINGTON



Larry Phillips, Chair

ATTEST:



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Anne Noris, Clerk of the Council

**Attachments:** A. King County Metro Transit - 2013 Service Guidelines Report



*We'll Get You There*

# King County Metro Transit 2013 Service Guidelines Report

November 2013

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# King County Metro Transit 2013 Service Guidelines Report

November 2013



*We'll Get You There*

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Metro Transit Division**  
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# Contents

<b>EXECUTIVE SUMMARY</b>	1
<b>INTRODUCTION</b>	5
<b>SECTION 1. SERVICE ANALYSIS</b>	10
<b>SECTION 2. SERVICE INVESTMENT PRIORITIES</b>	27
<b>SECTION 3. SERVICE REDUCTION PRIORITIES</b>	42
<b>SECTION 4. GUIDELINES AT WORK</b>	47
<b>SECTION 5. USING THE GUIDELINES TO PLAN A MAJOR SERVICE REDUCTION</b>	50
<b>SECTION 6. POTENTIAL CHANGES</b>	67
<b>FIGURES</b>	
Fig. 1 Metro Service Guidelines Process	6
Fig. 2 Corridor Service Families	15
Fig. 3 2013 Peak Route Analysis Results	16
Fig. 4 How to Read the Combined Route and Corridor Performance Tables	18
Fig. 5 How Can a Route Have Both Potential for Reduction and Priority for Investment?	19
Fig. 6 Snoqualmie Valley Alternative Services Delivery Project	26
Fig. 7 Routes Needing Investment to Reduce Passenger Crowding	30
Fig. 8 Routes Needing Investment to Improve Schedule Reliability	34
Fig. 9 2013 Corridors Below Target Service Levels	38
Fig. 10 Route Design and Productivity	41
Fig. 11 How is the Potential for Reduction Determined?	43
Fig. 12 Reduction Priorities and Potential for Major Reduction	44
Fig. 13 Methodology of Reducing Service	57
Fig. 14 Proposed Reduction of Up to 600,000 Annual Service Hours	58
Fig. 15 Service Reduction Proposal: Northwest Seattle/North King County	59
Fig. 16 Service Reduction Proposal: Northeast Seattle/North King County	60
Fig. 17 Service Reduction Proposal: Southwest Seattle/South King County	61
Fig. 18 Service Reduction Proposal: Central and Southeast Seattle/South King County	62
Fig. 19 Service Reduction Proposal: East King County–North	63
Fig. 20 Service Reduction Proposal: East King County–South	64
Fig. 21 Service Reduction Proposal: Southwest King County	65
Fig. 22 Service Reduction Proposal: Southeast King County	66

**TABLES**

Table 1	2012-2013 Route Performance Threshold Changes for Top 25% .....	11
Table 2	2012-2013 Route Performance Threshold Changes for Bottom 25% .....	11
Table 3	Service Families .....	13
Table 4	Number of All-Day Corridors by Assigned Service Levels.....	13
Table 5	Corridors Served Primarily by Sound Transit .....	14
Table 6	Number of Peak Period Routes Analyzed .....	16
Table 7	Spring 2013 Route and Corridor Performance.....	20
Table 8	2013 Investment Needs.....	27
Table 9	Routes Needing Investment to Reduce Passenger Crowding .....	28
Table 10	Percent On-Time, 2011-2013 .....	31
Table 11	Routes Needing Investment to Improve Schedule Reliability .....	31
Table 12	2013 Corridors Below Target Service Levels and Estimated Hours to Meet Service Levels Targets, Ordered by Investment Priority .....	35
Table 13	2012 Corridors Below Target Service Levels That Are No Longer Targeted for Investment .....	37
Table 14	2013 Routes in Top 25% on Both Measures in All Time Periods Served .....	40
Table 15	2013 Routes in Top 25% on Both Measures in at Least One Time Period Served .....	40
Table 16	Estimate of Hours That Could Be Reduced From Services With High and Medium Reduction Potential .....	43
Table 17	Routes Below One or More Productivity Thresholds at High Potential for Major Reduction .....	45
Table 18	Routes Below One or More Productivity Thresholds at Medium Potential for Major Reduction .....	46
Table 19	How Routes Would Be Affected in the Service Reduction Proposal .....	53
Table 20	Areas and Related Routes That Would Be Revised or Consolidated .....	53

**APPENDICES**

Appendix A: King County Low Income and Minority Census Tracts .....	A-2
Appendix B: Map of Activity Centers .....	A-3
Appendix C: Route Productivity Data .....	A-4
Appendix D: Routes with Overcrowding .....	A-9
Appendix E: Routes with Poor Reliability .....	A-11
Appendix F: Peak Route Analysis Results .....	A-15
Appendix G: 2013 Corridor Changes .....	A-18
Appendix H: Corridors that Changed Target Service Level from 2012 to 2013 .....	A-19
Appendix I: 2013 Service Changes .....	A-21
Appendix J: Information and Data Sources .....	A-25
Appendix K: Route-level Ridership .....	A-27
Appendix L: Corridor Analysis of All-Day Network: Step One .....	A-34
Corridor Analysis of All-Day Network: Step Two and Final Suggested Service Levels .....	A-37





## ■ EXECUTIVE SUMMARY

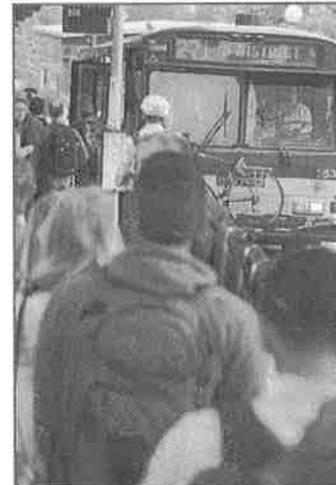
Metro Transit uses service guidelines to plan and manage our transit system and to enable the public to see the basis of our proposals to expand, reduce or revise service. We developed the guidelines in response to a recommendation of the 2010 Regional Transit Task Force and included them in the Strategic Plan for Public Transportation, which was adopted by the King County Council in 2011 and amended in August 2013. This *2013 Service Guidelines Report* was prepared to comply with Section 5 of King County Ordinance 17143. It presents our analysis of the Metro system using the guidelines. Unless noted otherwise, the data analyzed was from the February 16-June 7, 2013 service period.

The service guidelines strike a balance between productivity, social equity and geographic value. They help us use public tax and fare dollars as effectively as possible to provide high-quality service that gets people where they want to go (productivity). They help us make sure Metro serves areas that have many low-income and minority residents and others who may depend on transit (social equity), and that we respond to public transportation needs throughout the county (geographic value).

This report presents our analysis of Metro's 2013 All-Day and Peak Network, which sets target service levels for the 112 corridors in the network and identifies where service-hour investments are needed. It also presents our performance analysis of 212 Metro bus routes, which assesses productivity and service quality and identifies routes that are candidates for change or reduction. Metro's system experienced overall productivity improvements since last year's report. The performance thresholds increased for both the bottom and top performance thresholds for each period, measure and market except in the off-peak for routes that serve the Seattle Core. The findings of our analysis are the basis for the service reduction proposal presented in Section 5. The County's adopted 2013-2014 budget assumes that Metro will have a \$75 million revenue shortfall starting in mid-2014, after some temporary funding runs out. A reduction of up to 600,000 annual service hours would be necessary to close the budget gap. An additional 45,000 annual service hours would have to be cut in June 2014 because the funding will end for enhanced service to mitigate traffic impacts of the Alaskan Way Viaduct Replacement Project. The proposal for this major reduction—about 17 percent of the Metro system—is based on the reduction priorities in the service guidelines.

### Investment Needs

The 2013 guidelines analysis found an estimated need of approximately 510,000 annual hours to meet Metro's service quality objectives and



*The Service Guidelines define a transparent process using objective data that helps Metro make decisions about adding, reducing and changing transit service to deliver productive, high quality service where it's needed most.*

meet the target service levels. These needs represent an increase of about 15 percent above the current system size. These investments are necessary to provide reliable services with adequate transit capacity to destinations throughout King County.

**2013 Investment Needs**  
(Based on Spring 2013 Data)

Priority	Investment Area	Estimated Annual Hours Needed
1	Reduce passenger crowding	15,400
2	Improve schedule reliability	27,800
3	Increase service to meet target service levels in All-Day and Peak Network	467,500
<b>Total investment need</b>		<b>510,700</b>
4	Increase service on high-productivity routes: A substantial portion of the growth needed to meet the <i>Transportation 2040</i> goals (an additional 2.6 million annual service hours) will be on high-productivity services.	

**Investment priorities 1 and 2: Service quality needs.** Twenty-seven routes need investment to reduce passenger crowding and 69 routes need investment to improve schedule reliability. These routes need investments that are likely to be relatively minor, such as an added trip at a particular time of day or a few additional minutes of running time. We determined a total investment need of 43,200 annual service hours to correct the service quality problems.

**Investment priority 3: Service to meet target service levels in the All-Day and Peak Network.** Fifty-eight corridors need investment to reach target service levels. Meeting target levels typically requires the addition of many trips in a time period or in multiple time periods of the day, or complete revision of the schedules of routes serving an area. We determined a total investment need of approximately 467,500 annual service hours to meet target service levels.

**Investment priority 4: High-productivity routes.** Investment in high-productivity services is the fourth investment priority. Eighty-two of the 212 routes evaluated were in the top 25 percent on one or both productivity measures in 2013.

Highly productive routes generally serve areas where there is latent demand for transit. Although we know from our experience that investments in very productive routes result in higher ridership, the guidelines do not attempt to quantify the service hours that would be necessary to satisfy that demand. Some of these high-productivity routes are already identified as needing investments because they are overcrowded, unreliable or on corridors where service is not at the target level.

Investment in high-productivity routes is one way we use resources effectively to serve more people, helping us meet future needs. To meet the long-term goal in the Puget Sound region's transportation plan, Metro must double the number of riders and nearly double service levels by 2040. Growth to this level will help Metro maximize mobility as well as the economic and environmental benefits of transit.

The existing need of more than 500,000 annual service hours represents only about 20 percent of the growth needed to meet the region's 2040 targets. We expect a substantial portion of the remaining 2.6 million annual service hours will be on highly productive routes. Although new resources will be required to make the large investments our region needs, we will invest in highly productive routes incrementally as opportunities become available—such as through service restructures or partnerships with local jurisdictions.

## Changes in investment needs since 2012

The total investment need of 510,700 annual service hours is a substantial increase from the 334,300-hour need found in the 2012 analysis. The investment needs grew for several reasons:

- Continued growth in ridership has resulted in an increased need for investment to reduce passenger crowding.
- More investment is needed to address a decline in schedule reliability that has resulted from more-crowded buses, more roadway construction, increasing traffic congestion, and scheduling efficiencies adopted in 2010 and 2011 that have made it harder for late buses to get back on schedule.
- Target service levels increased for many routes as a result of the August 2013 update to the service guidelines methodology that made it more responsive to jobs and household levels.

**Current budget outlook.** Metro's ability to make the needed investments in the transit system depends on future funding. Metro and the King County Council have taken numerous actions since 2008 to manage a severe revenue shortfall and preserve as much service as possible, but use of reserve funds and revenue from the temporary congestion reduction charge will no longer be available after mid-2014. As a result, Metro faces an ongoing annual shortfall of \$75 million. In addition, state funding for enhanced transit service to mitigate the impacts of the Alaskan Way Viaduct Replacement Project expires in June 2014. Unless a new source of funding is approved, Metro will have to reduce service in 2014 and 2015 to close the funding gap.

## Reduction priorities

While it is never a goal to take away anyone's transit service, Metro may reduce service and reinvest the hours according to priorities defined in the guidelines to make the transit system more effective. Metro may also have to eliminate service because of budget constraints—as we are planning to do now because of the projected \$75 million revenue shortfall and discontinuation of Alaskan Way Viaduct construction mitigation funding. The service guidelines include priorities for reducing service that consider a route's productivity and its role in meeting the target service levels of the All-Day and Peak Network. We used these guidelines to plan a proposed reduction of up to 600,000 hours plus the 45,000 hours that will be lost when the Alaskan Way Viaduct mitigation contract ends. This proposal is presented in Section 5.

This report summarizes the reduction priorities of the guidelines into high, medium and low potential for major reduction. For a comparison of these designations and the reduction priorities in the guidelines, see Figure 12 on page 44.

Services that operate below the productivity thresholds are the first we consider for reduction. However, not all routes that operate below productivity thresholds have the same priority for service reductions. We describe routes as having high potential for major reduction when they operate below the productivity threshold and are largely duplicative of other routes and are on corridors that are above their target service levels. We describe routes as having medium potential for major reduction when they operate below the productivity threshold but help achieve target service levels on the All-Day and Peak Network.

Services with a high or medium potential for major reduction are within the first reduction priority in the guidelines. These services do not meet performance standards and are less used connections on the All-Day and Peak Network.

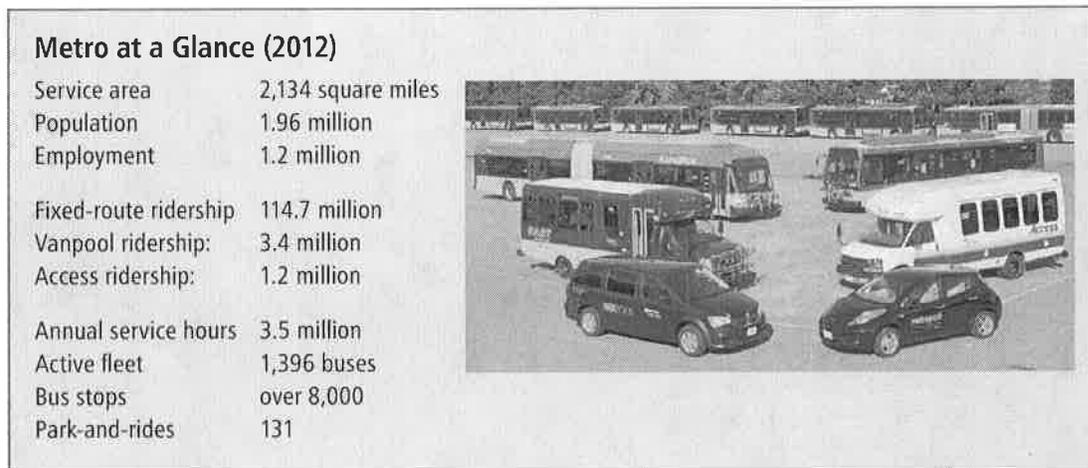
The 2013 analysis estimated that the total number of service hours that could be reduced from services categorized as having medium or high potential for reduction ranged from 255,000 to 360,000. A range was presented because the number of hours that would actually be reduced from a route would vary in

a service reduction plan, depending on the route's role in the overall network. To close the budget gap, additional hours from service categorized as having low priority for reduction must be eliminated. This is productive, well-performing service used by many riders and it would not be eliminated in ordinary circumstances.

### The guidelines at work: 2013 service changes and September 2012 results

Metro used the previous guidelines analysis to make service revisions in September 2013. The revisions included restructuring commuter service on the I-90 corridor, starting alternative service and revising existing service in the Snoqualmie Valley, reducing service on routes below the productivity threshold, and adding service to reduce crowding or improve reliability. We made these changes with the expectation of attracting more riders, improving productivity, and advancing social equity by serving people who depend on transit.

Our September 2012 service revision was the first extensive use of the guidelines to restructure and reallocate service to improve system effectiveness. Early results are promising, showing increases in ridership and productivity on the RapidRide C and D lines and routes that were restructured.





## ■ INTRODUCTION

This is the third annual service guidelines report. From now on, reports will be published in the fall rather than in the spring, as previous reports were, to better align service planning with the budget process and to provide data to the public as soon as it is available.

The report presents the results of our analysis of spring 2013 data for the Metro system using the service guidelines, and identifies services that are candidates for investment, change, or reduction. It serves as a snapshot of Metro service in one service change—a four-month period—and allows us to compare service in that same period each year to identify trends and areas needing improvement.

When Metro makes service decisions to match budget projections—whether resources are shrinking, stable, or growing—the service guidelines help by identifying reduction and investment priorities. The adopted 2013-2014 budget assumes that Metro will have a \$75 million annual revenue shortfall beginning in mid-2014—at about the same time the Alaskan Way Viaduct (AWV) construction mitigation funding expires. This will make it necessary to reduce service by up to 600,000 annual service hours to close the general revenue gap, plus 45,000 hours that would be lost when AWV mitigation service ends.

What is in this report?

This report is organized to lead readers through the following questions:

- **How is my route doing?** Section 1 presents the results of our route performance analysis as well as our analysis of corridors, which determines if target service levels are being met. In the future, this section will also discuss performance of alternative services.
- **Where are service investments most needed?** Section 2 identifies specific investment priorities based on service quality needs, target service levels, and route productivity.
- **What routes have the highest potential for major reductions or elimination?** Section 3 summarizes corridor and route information, identifying services with high, medium, and low potential for major reduction. This section is the starting point for analyzing how we could reduce the system. It does not provide the reduction proposals.
- **How is Metro using the guidelines?** Section 4 describes how we used the guidelines to plan service changes in 2013, and presents early results of the major fall 2012 service revision.
- **What will a major service reduction look like?** Section 5 shows a proposed reduction of up to approximately 600,000 annual service hours based that would be necessary because of the assumed revenue shortfall, and an additional 45,000 hours that would be necessary because of the discontinuation of Alaskan Way Viaduct project mitigation funding.

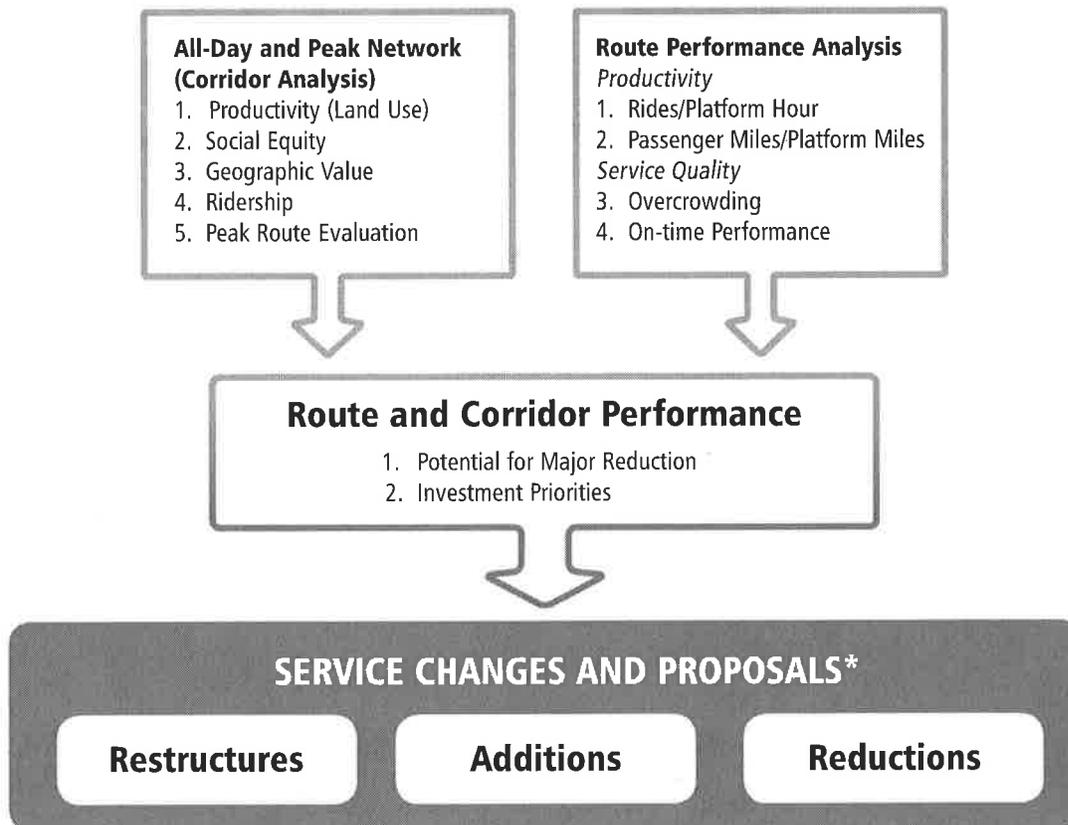
Figure 1 summarizes the service guidelines process we followed in preparing this report. To read the complete service guidelines, visit <http://metro.kingcounty.gov/planning> and select the “Service Guidelines” tab.

## 2013 strategic plan and service guidelines update

This report reflects the following updates to Metro’s strategic plan and service guidelines that were adopted in August 2013:

1. **Better linkage of transit service and local development.** The updates and the process we followed in developing them are described in Section 1.
2. **Civil Rights Act Title VI.** The Federal Transit Administration revised its requirements for transit agencies pursuant to Title VI of the Civil Rights Act of 1964, and we updated Metro’s systemwide service standards and policies to comply.
3. **Alternative services.** The service guidelines were updated to integrate alternative services per King County Council Motion 13736, which accepted the *King County Metro Transit Five-Year Implementation Plan for Alternatives to Traditional Transit Service Delivery*. The guidelines now include alternative services as one of the designated service families. The guidelines also clarify the purpose of alternative services, describe the conditions under which alternative services would be considered, and discuss how the services will be evaluated.
4. **Clarification of guidelines analysis process.** The guidelines were revised to improve clarity and to address technical issues related to the corridor analysis. Examples include revised passenger load thresholds that include RapidRide service levels, and a clearer explanation of the target service level comparison process.

**FIG. 1**  
Metro Service Guidelines Process



\*Service Design Principles guide changes to the system and are considered when planning for service changes.



## Providing service where it's needed most: how the guidelines advance social equity and geographic value

Metro strives to provide equitable access to public transportation for everyone in our community and to deliver value throughout King County. The service guidelines help us by defining criteria and processes for analyzing and planning transit service that focus on social equity and geographic value.

### Social equity

One of the most important processes is that of setting target service levels for corridors in the All-Day and Peak Network. The guidelines define a process for determining a social equity score that makes up 25 percent of each corridor's total service-level score. First we determine low-income and minority census tracts in the corridor using census data. Then we assign a social equity score based on the percentage of people who board buses in those areas compared to the county average.

The social equity score is combined with scores for productivity (50 percent of the total) and geographic value (25 percent) to determine a preliminary target service level. The next step is to increase the service level if necessary to serve the actual number of current riders. This step helps us make sure that in areas where many people have few transportation options and rely on Metro to get around, we set a target service level that will accommodate them.

The investment priorities defined in the guidelines also benefit low-income and minority corridors where many people use transit. The guidelines place a high priority on reducing overcrowding and improving schedule reliability. The table below shows the findings of the 2013 guidelines analysis for investment needed to reduce overcrowding, improve reliability, and meet target service levels systemwide and in low-income and minority routes and corridors.

Priority Investment Category	Estimated total hours needed	Hours on minority routes/corridor	% of total need	Hours on low-income routes/corridor	% of total need
Passenger crowding	15,400	7,300	47%	8,200	53%
Schedule reliability	27,800	11,750	42%	16,200	58%
Meeting target service levels	467,100	317,500	68%	300,900	64%



We also consider historically disadvantaged populations and people who depend on transit when we develop proposals to add, reduce or revise service. We strive to reach or maintain established target service levels. Even when reducing low-performing service, we avoid making reductions on underserved corridors.

The proposed plan to cut up to 600,000 service hours because of Metro’s \$75 million revenue shortfall and 45,000 hours because of the discontinuation of Alaskan Way Viaduct mitigation funding will affect transit users throughout King County. The guidelines help us assure that low-income and minority communities are not disproportionately affected.

Another way we avoid disproportionate impacts is to conduct robust public outreach that engages people who have low incomes or are members of minority groups—including those who speak little or no English. We develop partnerships with community organizations, have public open houses and information tables at convenient times and locations, translate public communication materials, and offer interpreters at meetings.

We follow the requirements and guidance of Title VI of the Civil Rights Act, which prohibits discrimination on the basis of race, color or national origin; King County Ordinance 16948, related to the “fair and just” principle of the King County Strategic Plan, which strives to eliminate inequities and social injustices based on race, income, and neighborhood; and the Executive Order on Translation, which requires county agencies to ensure that public communications are culturally and linguistically appropriate for the target audience, including people who do not speak English well.

For example, Ordinance 16948 lists 13 “determinants of equity.” When planning service changes we strive to maintain public transportation connections and access to health, education, food, housing, employment and other activities of daily living and civic engagement.

**Geographic value**

To help us deliver value throughout the county’s geographic area, the guidelines identify the primary transit connections between centers on the basis of ridership and travel time. Centers are activity nodes that are the basis of the countywide transit network. They include regional growth centers, manufacturing/industrial centers, and transit activity centers. Transit activity centers include major destinations and transit attractions such as large employment sites and health and social service facilities.

In the process for setting target service levels, we assign higher levels to corridors that serve as primary connections between centers.

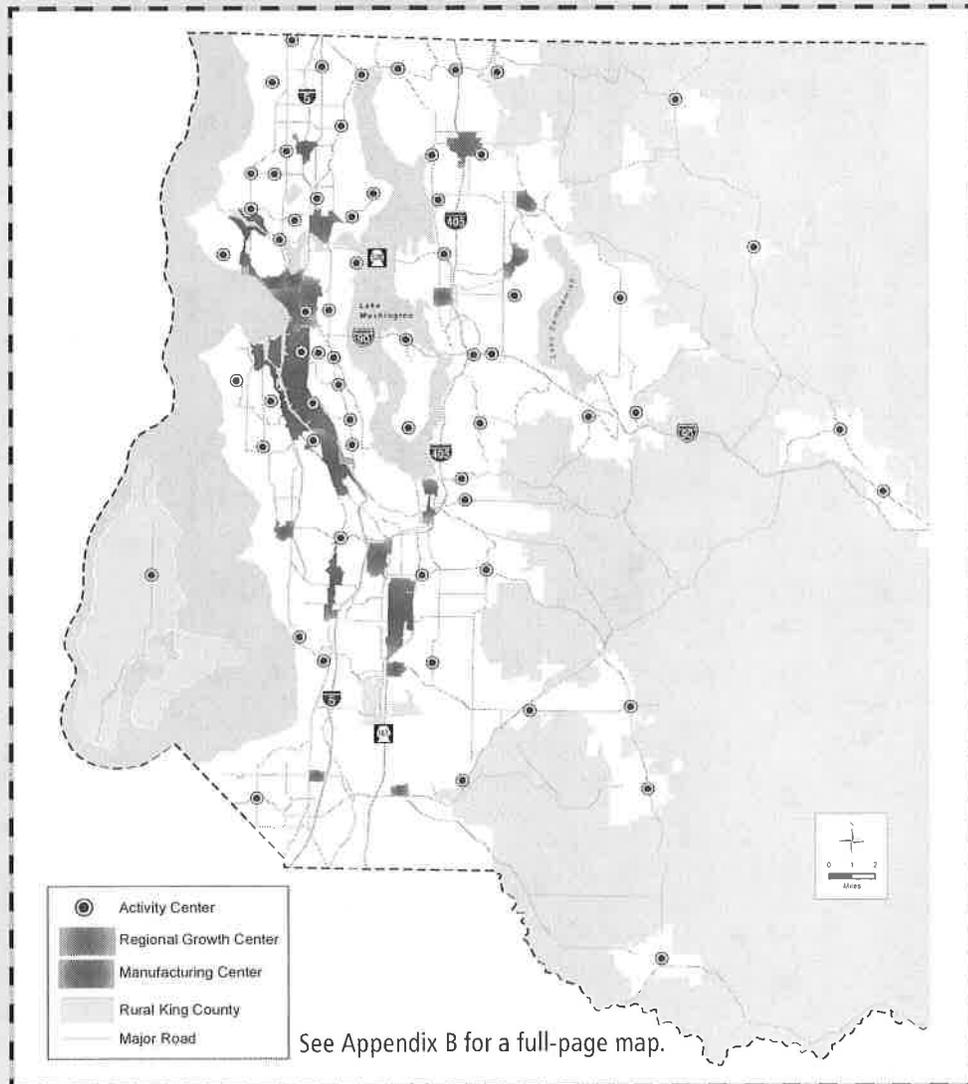
Primary Connections	Number of Corridors
Between regional growth centers	31
Between transit activity centers	49

The guidelines also incorporate geographic value by classifying routes by market served. This classification allows us to compare similar routes when assessing productivity. We classify our routes into two groups:

- Seattle core routes, which serve the greater downtown Seattle area and the University District.
- Non-Seattle core routes, which operate in other areas of Seattle and King County.

Routes that serve the Seattle core are expected to perform at a higher level because their market potential is greater than routes serving other parts of King County.

### Transit Activity Centers



## SECTION 1

## ■ SERVICE ANALYSIS

When Metro plans changes to our transit system, we analyze both the performance of routes (productivity and service quality) and how those routes serve the All-Day and Peak Network. This section describes how we do this analysis and presents the results. This analysis is the starting point for planning service revisions but is not a service change proposal.



The results are summarized in Table 7 (p. 20), which shows route performance and service quality needs alongside target service levels, corridor needs, and potential for major reduction.

The methodology for analyzing corridors was revised to better link local jurisdictions' development decisions and transit service. This revision is described on page 12.

### How we do the analysis

#### Route performance

We assess each route's performance by measuring its productivity and service quality.

1. **Productivity.** We calculate productivity using two measures:
  - **Rides per platform hour** – total ridership divided by the total hours a bus travels from the time it leaves its base until it returns.
  - **Passenger miles per platform mile** – total miles traveled by all passengers divided by the total miles the bus operates from its base until it returns.

We analyze productivity in peak, off-peak, and night periods in the market the route serves:

- **Seattle core** routes serve downtown Seattle, First Hill, Capitol Hill, South Lake Union, the University District, or Uptown.
- **Non-Seattle-core** routes serve other areas of Seattle and King County.

**Routes below the productivity threshold** are those in the bottom 25 percent of routes that operate in the same time period and market. High-productivity routes are those in the top 25 percent. The performance thresholds for 2013 are shown in Table 1.

#### What are corridors and routes?

**Corridors** are major transit pathways that connect regional growth, manufacturing/industrial, and activity centers; park-and-rides and transit hubs; and major destinations throughout King County. The service guidelines use the corridor analysis to evaluate and set target service levels for the 112 corridors of the All-Day and Peak Network.

**Routes** are the actual services provided. Service within a single corridor might be provided by multiple bus routes. For example, the corridor from Fremont to downtown Seattle via Dexter Avenue North is served by two different bus routes, 26 and 28, and both of these routes extend beyond Fremont. Some routes also cover multiple corridors. For example, the Route 271 serves three distinct travel markets: Issaquah-Eastgate, Eastgate-Bellevue, and Bellevue-University District. The service guidelines evaluate routes for productivity and service quality.

**Change in route performance thresholds.** The route performance thresholds change in each report to reflect current performance. Compared to the 2012 report, the performance thresholds increased for both the bottom and top performance thresholds for each period, measure and market except in the off-peak for routes that serve the Seattle Core. This general increase reflects overall improvement in the Metro system's productivity. The bottom 25 percent threshold for off-peak passenger miles per platform mile for routes that serve the Seattle Core changed from 9.9 to 9.8. The top 25 percent threshold for off-peak rides per platform mile and for passenger miles per platform mile both changed from 54.3 to 51.3 and from 15.5 to 15.4, respectively. Route performance threshold changes between 2012 and 2013 are shown in Tables 1 and 2.

Year-over-year change from 2012 to 2013 for each route's ridership and hours is reported in Appendix K.

**TABLE 1**  
**2012-2013 Route Performance Threshold Changes for Top 25%**

Market	Performance	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Routes that DO NOT serve Seattle core	2013	24.1	7.4	24.5	7.9	18.8	6.3
	2012	21.9	6.0	22.4	6.6	17.7	5.3
	Change	2.2	1.4	2.1	1.3	1.1	1.0
Routes that serve Seattle core	2013	47.3	16.6	51.3	15.4	34.9	10.8
	2012	45.4	14.8	54.3	15.5	31.5	9.0
	Change	1.9	1.8	-3.0	-0.1	3.4	1.8

**TABLE 2**  
**2012-2013 Route Performance Threshold Changes for Bottom 25%**

Market	Performance	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
Routes that DO NOT serve Seattle core	2013	12.1	2.4	12.0	2.7	10.9	2.6
	2012	12.0	2.2	10.1	1.9	9.3	2.0
	Change	0.1	0.2	1.9	0.8	1.6	0.6
Routes that serve Seattle core	2013	24.0	10.7	32.6	9.8	21.4	6.3
	2012	22.8	9.8	30.6	9.9	19.1	5.8
	Change	1.2	0.9	2.0	-0.1	2.3	0.5

2. **Service quality.** We assess route overcrowding and reliability. To ensure that investments are warranted to address problems, we may consider performance over a longer period than a single service change.
  - **Overcrowding** is defined as a trip that on average has 25 to 50 percent more riders than seats (depending on service frequency) or has people standing for longer than 20 minutes.
  - **Reliability** is measured by how often trips are late—arriving at any time point more than five minutes behind schedule. A route has low reliability if it is late more than 20 percent of the time on an average weekday or weekend, or more than 35 percent of the time in the weekday PM peak period.

## All-Day and Peak Network

The All-Day and Peak Network analysis examines corridors and peak service.

### 1) Corridor analysis

Each corridor in the All-Day and Peak Network is assigned target service levels based on productivity, social equity, and geographic value. Table 3 shows the service family categories based on the target service levels. The All-Day and Peak Network analysis compares the target service levels to existing service to determine whether a corridor is below, at, or above the target levels. The steps of the corridor analysis as well as the results are in Appendix L.

#### An updated corridor methodology that better links transit service and local development

In response to King County Ordinance 17143, Metro convened a collaborative working group to discuss concepts for refining Metro's service guidelines to better link transit service and local development. The group included representatives of local jurisdictions and partner agencies, the Regional Transit Committee staff, King County Council staff members, and others involved in transportation and land-use planning.

The working group identified the following issues during the collaborative process:

- Land-use thresholds are spread too far apart to be sensitive to near-term development.
- Land-use thresholds that fluctuate over time create moving development targets.
- Corridors should consider student populations—an important transit market.

In October 2012, the County Executive transmitted a preliminary report on potential changes to the Strategic Plan and Service Guidelines that addressed these issues. This *Linking Transit and Development Preliminary Concept Report* can be found at: [http://metro.kingcounty.gov/planning/#guidelines\\_update](http://metro.kingcounty.gov/planning/#guidelines_update)

Subsequently, the Regional Transit Committee and the King County Council adopted the following changes to the service guidelines:

1. Shifted from three thresholds to five thresholds for both households and jobs.
2. Changed from relative thresholds (for both households and jobs) to five fixed thresholds.
3. Included college and university student enrollment as jobs due to the similar travel characteristics.

The most noticeable change resulting from use of the new methodology is that more corridors receive points for households and/or jobs. The use of five rather than three thresholds makes the corridors more sensitive to the widely varying development patterns across King County. In previous analyses using the old methodology, many corridors received zero points for households and/or jobs. See Appendix L for these thresholds.

**TABLE 3**  
**Service Families**

Service family	Frequency (minutes)			Days of service	Hours of service
	Peak <sup>1</sup>	Off-peak	Night		
Very frequent	15 or better	15 or better	30 or better	7 days	16-20 hours
Frequent	15 or better	30	30	7 days	16-20 hours
Local	30	30 - 60	*	5-7 days	12-16 hours
Hourly	60 or worse	60 or worse	--	5 days	8-12 hours
Peak	8 trips/day minimum	--	--	5 days	Peak
Alternative services	Determined by demand and community collaboration process				

<sup>1</sup> Peak periods are 5-9 a.m. and 3-7 p.m. weekdays; off-peak are 9 a.m. to 3 p.m. weekdays and 5 a.m. to 7 p.m. weekends; night is 7 p.m. to 5 a.m. all days.

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

As an outcome of our analysis of spring 2013 data, more corridors were targeted for very frequent service and fewer corridors were targeted for frequent, local, and hourly service than in 2012, as seen in Table 4. This is a result of methodology changes (see box on page 12).

**TABLE 4**  
**Number of All-Day Corridors by Assigned Service Levels**

Service Level	2012	2013	Change
Very frequent	37	53	16
Frequent	26	22	-4
Local	31	26	-5
Hourly	19	11	-8
Alternative services*	N/A	N/A	N/A

\*New service family; data will be included in subsequent reports.

Thirty-two all-day corridors moved to a more frequent service level and one moved to a less frequent level.

### Setting target service levels: the role of social equity and geographic value

When we set target service levels, consideration of social equity and geographic value makes a difference.

To illustrate, some corridors that have low density and score poorly on land-use measures still warrant high levels of service because they score highly on geographic value and social equity measures. For example, corridor 3, between Auburn and Burien, gets only two points for land use. However, it is a highly used corridor that gets the maximum points possible for geographic value

and social equity, and is scored as a frequent-service corridor as a result. Without the social equity and geographic value scores, this corridor would not be identified as needing investment.

Similarly, corridor 55 between Lake City, Northgate and downtown Seattle and corridor 106 between Bellevue and the University District both get more points for social equity and geographic value than for land use, and are targeted for very frequent service as a result.

Eleven corridors received additional points from changes in the number of households or jobs per corridor mile. This reflects actual changes in the number of jobs, universities/colleges and residences with access to transit. The 2013 analysis also raised target service levels on seven corridors in part because of higher demand.

A list of all corridors that received different target service levels and the reasons for the changes is in Appendix H.

The target service levels are directly affected by changes in the use of bus service by people living and working in local communities and in the environment that local jurisdictions help create through policy and planning actions.

### The complete network: integration with Sound Transit

The corridors in Metro's All-Day Network do not include corridors where Sound Transit is the primary provider of all-day service. Key corridors in King County where Sound Transit is the primary provider of two-way, all-day transit service are listed in the table below. In many of these corridors, Metro operates mainly peak service that complements Sound Transit's all-day service.

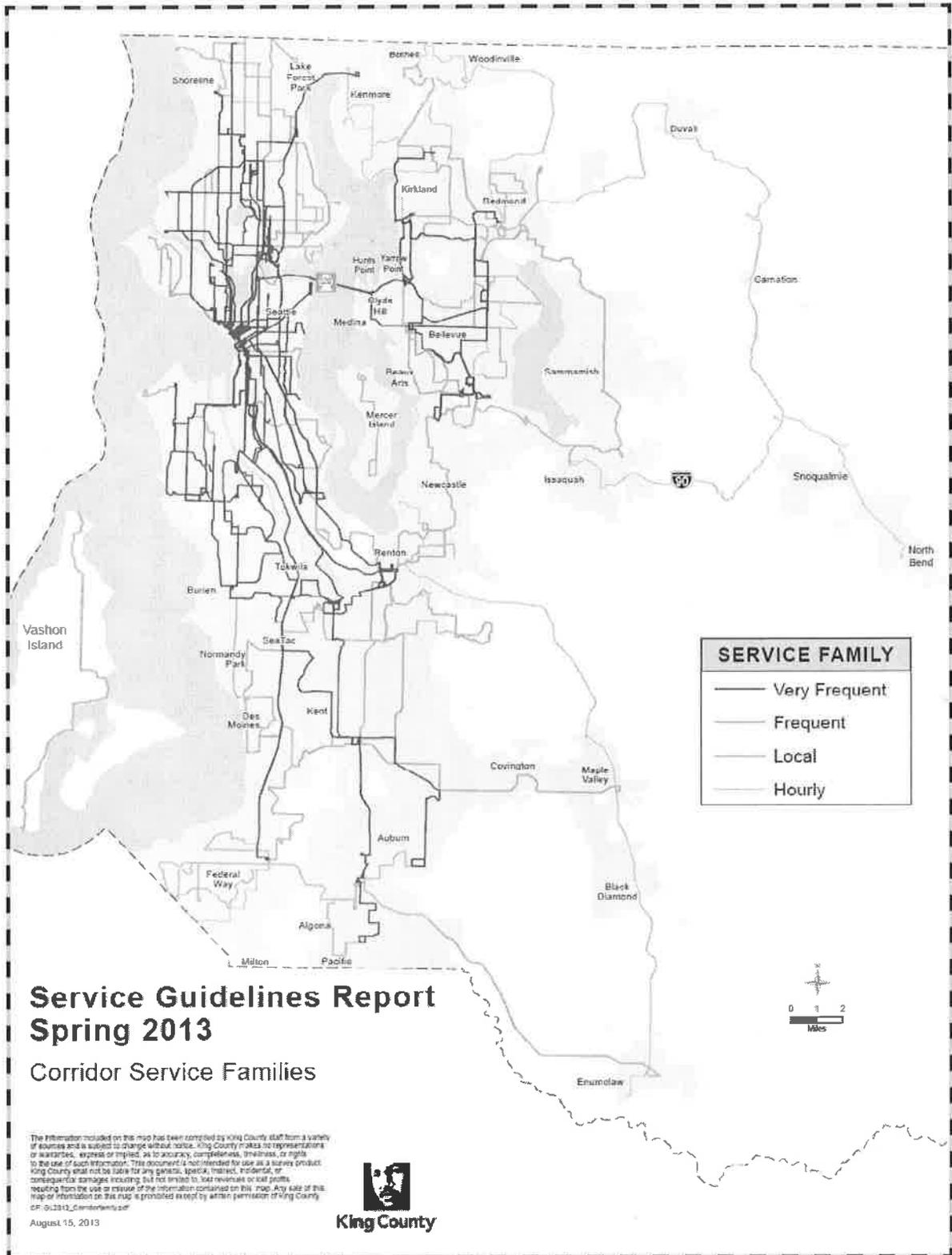


**TABLE 5**  
**Corridors Served Primarily by Sound Transit**

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

As Link service expands, Sound Transit will become the primary provider in additional corridors such as the Northgate-to-downtown Seattle corridor. As services are introduced and modified, Metro and Sound Transit will make adjustments to the network.

**FIG. 2**  
Corridor Service Families



## 2) Peak Analysis

This analysis compares both rides per trip and travel time on peak-period routes to those on the local alternative. For peak service to be justified, a peak route must have at least 90 percent of the rides per trip that its alternative service has and must be at least 20 percent faster than its alternative.

A peak route may be justified if it exceeds the route performance thresholds for either of these measures, and a peak period route that exceeds the thresholds on both measures provides even more value. The results of the peak analysis are in Figure 3 and Appendix F.

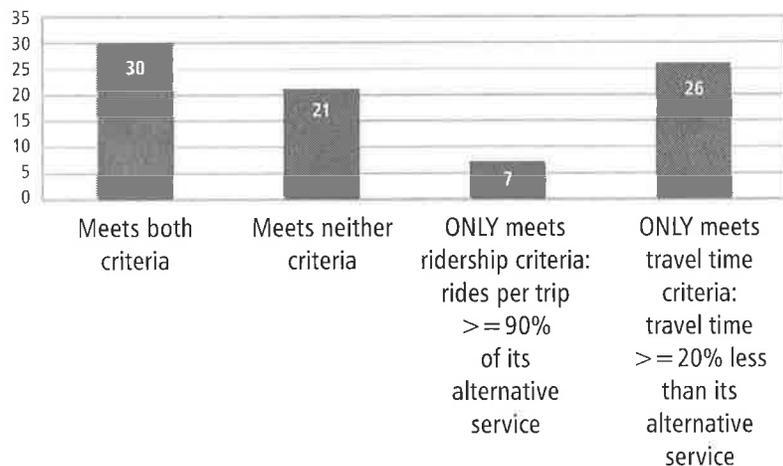
Table 6 below shows the change in the number of peak-only routes operated by Metro. The reduction in peak-only routes is largely due to the fall 2012 service restructures made in conjunction with the start of the RapidRide C and D Lines. These restructures eliminated some peak services as the RapidRide lines and the new network connections around RapidRide created a more robust all-day, two-way network.

**TABLE 6**  
Number of Peak-Period Routes Analyzed

Service Level	2012	2013	Change
Peak	92	83	- 9

The chart below shows the number of peak routes that meet one, two or neither of the peak criteria.

**FIG. 3**  
2013 Peak Route Analysis Results



## Combined analysis: potential for major reduction and investment priority

Figure 4 explains how Metro uses the combined corridor and route analysis to determine both the potential for major reduction in service and the investment priority. Potential for major reduction is characterized as high, medium or low. Services identified as having either high or medium potential for reduction are within the first reduction priority in the guidelines. All other services are identified as having low potential for reduction.

The first reduction priority in the guidelines is those routes that are below the 25 percent productivity threshold for at least one measure for a given period and do not provide a primary connection between centers or service that is necessary to meet the corridor's target service level. We examine those routes first when we take action to improve productivity, meet budget realities, or reinvest existing services to meet our investment priorities. A detailed description of the reduction priorities is in Section 3.

It is possible that a route can be designated as having a potential for reduction and can also be a priority for investment. Figure 5 shows routes for which this occurs and explains how it happens.

The size of proposed service changes (reinvestments, investments, or reductions) will be informed by budget realities and County Council direction. Services with medium or low potential for reduction may be impacted if Metro makes severe service reductions or extensive service reinvestments because of financial constraints or in response to public input.

Investment priorities are listed in the guidelines:

1. Overcrowding
2. Reliability
3. Corridors below target service levels
4. High productivity routes

Table 7, which shows the actual results of our analysis, follows Figure 5. A detailed description of information and data sources used in this report is in Appendix J.

**FIG. 4**  
How to Read the Combined Route and Corridor Performance Tables

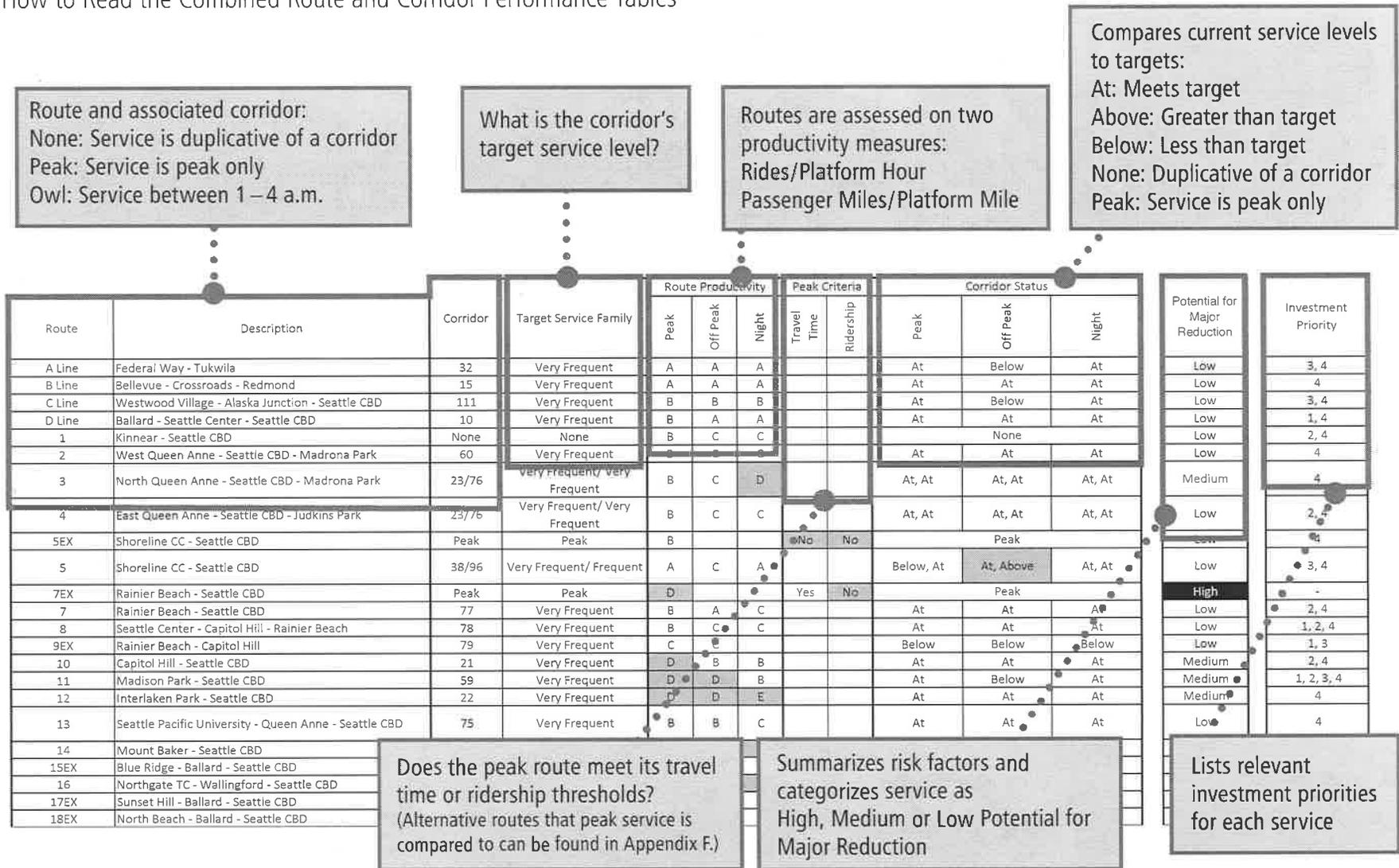


FIG. 5

How Can a Route have both Potential for Reduction and Priority for Investment?

Sometimes, routes that show up as having medium or high potential for reduction can also show up as needing investment. There are a few reasons this can occur.

- 1. Differences in performance by time of day.**  
 The potential for reduction is based on the lowest-performing time of day for a route. For example, a route that has a potential for reduction in the night period may need investment in the peak or off-peak period. For simplicity, we show the lowest-performing time so that readers of the report can have a clear idea whether or not their route is likely to be considered for reduction in any time period. An example of this is Route 28, which is identified as high potential for major reduction in off-peak but is targeted for investment due to high performance in the peak period.
- 2. Reliability investment priorities.** Routes are identified as an investment priority for reliability if they meet the thresholds, regardless of ridership or performance. Even a route that carries relatively fewer riders may be targeted for investment if it has poor reliability. It is important to identify reliability needs for all routes to ensure that a route has high-quality service as long as it continues operating. An example of this is Route 177.
- 3. High performance on one measure and low performance on another.** A small number of routes are in the top 25 percent on one measure and in the bottom 25 percent on the other measure. These routes may show up as having potential for major reduction, but would also show up as an investment priority because they are high-productivity. An example of this is Route 280.

Route	Route	Description	Corridor	Target Service Family	Route Productivity			Peak Criteria		Corridor Status			Potential for Major Reduction	Investment Priority
					Peak	Off Peak	Night	Travel Time	Ridership	Peak	Off Peak	Night		
28*	28	Whittier Heights - Ballard - Seattle CBD via Leary Av NW	34/36	Very Frequent/ Local	B	D	D			At, At	At, Above	At, At	High	2, 4
98*	98	South Lake Union Street Car	None	None	B	D	D				None		High	4
173	173	Federal Way TC - Federal Center South	Peak	Peak	D			Yes	No		Peak		High	2
177*	177	Federal Way - Seattle CBD	Peak	Peak	D			No	No		Peak		High	2
179*	179	Twin Lakes - Seattle CBD	Peak	Peak	D			No	No		Peak		High	1, 2, 4
197*	197	Twin Lakes - University District	Peak	Peak	D			Yes	No		Peak		High	4
202*	202	South Mercer Island - Seattle CBD	Peak	Peak	E			No	No		Peak		High	2
243*	243	Jackson Park - Bellevue	Peak	Peak	D			Yes	No		Peak		High	2
280*	280	Seattle CBD - Bellevue - Renton	Owl	Owl			D				None		High	2, 4

**LEGEND**

**Productivity**

- A Top 25% in both measures
- B Top 25% in one measure\*
- C Between top and bottom 25% in both measures
- D Bottom 25% in one measure\*
- E Bottom 25% in both measures

\*If one measure is in bottom 25% then it is a D

**Potential for Major Reduction**

- High** Any light shaded field is a risk factor  
Service in the bottom 25% of one or both productivity measures AND has none or above for its corridor status OR peak routes not meeting one or either peak criteria
- Medium** Service in the bottom 25% of one or both productivity measures AND at its corridor status
- Low** Services not in the bottom 25% for both productivity measures OR corridors below target service levels OR peak routes meeting both criteria

**Investment Priorities**

- 1 Overcrowding
- 2 Reliability
- 3 Corridors below target service level
- 4 High productivity routes

**TABLE 7**  
**Spring 2013 Route and Corridor Performance**

Route	Description	Corridor	Target Service Family	Route Productivity			Peak Criteria		Corridor Status			Potential for Major Reduction	Investment Priority
				Peak	Off Peak	Night	Travel Time	Ridership	Peak	Off Peak	Night		
A Line	Federal Way - Tukwila	32	Very Frequent	A	A	A			At	Below	At	Low	3, 4
B Line	Bellevue - Crossroads - Redmond	15	Very Frequent	A	A	A			At	At	At	Low	4
C Line	Westwood Village - Alaska Junction - Seattle CBD	111	Very Frequent	B	B	B			At	Below	At	Low	3, 4
D Line	Ballard - Seattle Center - Seattle CBD	10	Very Frequent	B	A	A			At	At	At	Low	1, 4
1	Kinnear - Seattle CBD	None	None	B	C	C			None			Low	2, 4
2	West Queen Anne - Seattle CBD - Madrona Park	60	Very Frequent	B	C	C			At	At	At	Low	4
3	North Queen Anne - Seattle CBD - Madrona Park	23/76	Very Frequent/ Very Frequent	B	C	D			At, At	At, At	At, At	Medium	4
4	East Queen Anne - Seattle CBD - Judkins Park	23/76	Very Frequent/ Very Frequent	B	C	C			At, At	At, At	At, At	Low	2, 4
5EX	Shoreline CC - Seattle CBD	Peak	Peak	B			No	No	Peak			Low	4
5	Shoreline CC - Seattle CBD	38/96	Very Frequent/ Frequent	A	C	A			Below, At	At, Above	At, At	Low	3, 4
7EX	Rainier Beach - Seattle CBD	Peak	Peak	D			Yes	No	Peak			High	-
7	Rainier Beach - Seattle CBD	77	Very Frequent	B	A	C			At	At	At	Low	2, 4
8	Seattle Center - Capitol Hill - Rainier Beach	78	Very Frequent	B	C	C			At	At	At	Low	1, 2, 4
9EX	Rainier Beach - Capitol Hill	79	Very Frequent	C	C				Below	Below	Below	Low	1, 3
10	Capitol Hill - Seattle CBD	21	Very Frequent	D	B	B			At	At	At	Medium	2, 4
11	Madison Park - Seattle CBD	59	Very Frequent	D	D	B			At	Below	At	Medium	1, 2, 3, 4
12	Interlaken Park - Seattle CBD	22	Very Frequent	D	D	E			At	At	At	Medium	4
13	Seattle Pacific University - Queen Anne - Seattle CBD	75	Very Frequent	B	B	C			At	At	At	Low	4
14	Mount Baker - Seattle CBD	64	Very Frequent	D	D	D			Below	Below	At	Medium	2, 3
15EX	Blue Ridge - Ballard - Seattle CBD	Peak	Peak	A			Yes	Yes	Peak			Low	1, 4
16	Northgate TC - Wallingford - Seattle CBD	69	Very Frequent	C	C	D			Below	Below	At	Medium	2, 3
17EX	Sunset Hill - Ballard - Seattle CBD	Peak	Peak	A			Yes	Yes	Peak			Low	1, 2, 4
18EX	North Beach - Ballard - Seattle CBD	Peak	Peak	A			No	Yes	Peak			Low	2, 4
19	West Magnolia - Seattle CBD	Peak	Peak	D			Yes	No	Peak			High	-
21EX	Arbor Heights - Westwood Village - Seattle CBD	Peak	Peak	C			Yes	Yes	Peak			Low	2
21	Arbor Heights - Westwood Village - Seattle CBD	39	Very Frequent	C	D	D			At	At	At	Medium	2
22	Arbor Heights - Westwood Village - Alaska Junction	None	None	C	D	E			None			High	-
24	Magnolia - Seattle CBD	61	Frequent	C	D	E			At	At	At	Medium	2
25	Laurelhurst - University District - Seattle CBD	58/107	Local/ Local	E	E				Below, Below	Below, Below	At, At	Low	2, 3
26EX	East Green Lake - Wallingford - Seattle CBD	Peak	Peak	A			No	Yes	Peak			Low	4
26	East Green Lake - Wallingford - Seattle CBD	34	Very Frequent	B	D	C			At	At	At	Medium	1, 2, 4
27	Colman Park - Leschi Park - Seattle CBD	24	Frequent	D	E	E			Below	At	At	Medium	2, 3
28	Whittier Heights - Ballard - Seattle CBD via Leary Av NW	34/36	Very Frequent/ Local	B	D	D			At, At	At, Above	At, At	High	2, 4
28EX	Broadview - Ballard - Seattle CBD via Leary Av NW	Peak	Peak	C			Yes	Yes	Peak			Low	1, 2
29	Ballard - Queen Anne - Seattle CBD	Peak	Peak	D			Yes	Yes	Peak			Low	2
30	Sand Point - University District	92	Frequent	D	E	D			Below	At	At	Medium	3
31	University District - Fremont - Magnolia	35	Very Frequent	D	E				At	Below	At	Medium	2, 3
32	University District - Fremont - Seattle Center	35	Very Frequent	C	C	C			At	Below	At	Low	2, 3
33	Discovery Park - Seattle CBD	26	Frequent	C	E	D			Below	At	Below	Medium	2, 3

**LEGEND**

- Productivity**
- A Top 25% in both measures
  - B Top 25% in one measure\*
  - C Between top and bottom 25% in both measures
  - D Bottom 25% in one measure\*
  - E Bottom 25% in both measures

\*If one measure is in bottom 25% then it is a D

**Potential for Major Reduction**

High	Any light shaded field is a risk factor Service in the bottom 25% of one or both productivity measures AND has none or above for its corridor status OR peak routes not meeting one or either peak criteria
Medium	Service in the bottom 25% of one or both productivity measures AND at its corridor status
Low	Services not in the bottom 25% for both productivity measures OR corridors below target service levels OR peak routes meeting both criteria

**Investment Priorities**

- 1 Overcrowding
- 2 Reliability
- 3 Corridors below target service level
- 4 High productivity routes

(continued) Spring 2013 Route and Corridor Performance

Route	Description	Corridor	Target Service Family	Route Productivity			Peak Criteria		Corridor Status			Potential for Major Reduction	Investment Priority
				Peak	Off Peak	Night	Travel Time	Ridership	Peak	Off Peak	Night		
36	Othello Station - Beacon Hill - Seattle CBD	13	Very Frequent	C	C	C			At	At	At	Low	-
37	Alaska Junction - Alki - Seattle CBD	Peak	Peak	E			Yes	Yes		Peak		Low	-
40	Northgate TC - Ballard - Seattle CBD via Leary Av NW	9/12	Very Frequent	C	C	C			Below/Below	At/At	At/At	Low	1, 2, 3
41	Lake City - Seattle CBD via Northgate	55	Very Frequent	A	A	A			Below	Below	Below	Low	2, 3, 4
43	University District - Capitol Hill - Seattle CBD	None	None	B	C	B				None		Low	4
44	Ballard - Wallingford - Montlake	11	Very Frequent	B	C	C			At	At	At	Low	4
47	Summit - Seattle CBD	None	None	D	E	E				None		High	-
48EX	Mt Baker - University District - Loyal Heights	Peak	Peak	D			No	Yes		Peak		High	-
48	Mt Baker - University District - Loyal Heights	8	Very Frequent	C	C	C			At	At	At	Low	2
49	University District - Capitol Hill - Seattle CBD	105	Very Frequent	A	A	A			Below	At	At	Low	3, 4
50	Alki - Columbia City - Othello Station	2/71	Frequent	C	C	E			Below/Below	At/At	At/At	Medium	3
55	Admiral District - Alaska Junction - Seattle CBD	Peak	Peak	C			No	No		Peak		Low	2
56EX	Alki - Seattle CBD	Peak	Peak	C			Yes	No		Peak		Low	2
57	Alaska Junction - Seattle CBD	Peak	Peak	C			No	Yes		Peak		Low	2
60	Westwood Village - Georgetown - Capitol Hill	20	Very Frequent	D	D	D			Below	Below	At	Medium	2, 3
61	North Beach - Ballard	None	None	E	E	E				None		High	-
62	Ballard - Seattle Pacific University - Seattle CBD	Peak	Peak	E			No	No		Peak		High	-
64EX	Lake City - First Hill	Peak	Peak	C			Yes	No		Peak		Low	-
65	Lake City - University District	57	Frequent	D	D	D			Below	At	At	Medium	3
66EX	Northgate TC - Eastlake - Seattle CBD	68	Very Frequent	A	C	C			At	Below	At	Low	1, 3, 4
67	Northgate TC - University District	68	Very Frequent	C	A	C			At	Below	At	Low	1, 3, 4
68	Northgate TC - Ravenna - University District	70	Very Frequent	D	B				Below	Below	Below	Low	1, 3, 4
70	University District - Seattle CBD	104	Very Frequent	B	C				At	At	Above	Low	4
71	Wedgwood - University District - Seattle CBD	110	Local	A	A	A			At	At	At	Low	1, 2, 4
72	Lake City - University District - Seattle CBD	Peak	Peak	A	A	A				Peak		Low	2, 4
73	Jackson Park - University District - Seattle CBD	25	Very Frequent	A	A	A			At	At	Below	Low	1, 2, 3, 4
74EX	Sand Point - Seattle CBD	Peak	Peak	A			No	No		Peak		Low	1, 2, 4
75	Northgate TC - Lake City - Seattle CBD	56	Frequent	C	C	B			Below	At	At	Low	1, 3, 4
76	Wedgwood - Seattle CBD	Peak	Peak	A			No	No		Peak		Low	2, 4
77	North City - Seattle CBD	Peak	Peak	B			Yes	No		Peak		Low	2, 4
82	Seattle CBD - Greenwood	Owl	Owl			E				None		High	-
83	Seattle CBD - Ravenna	Owl	Owl			D				None		High	-
84	Seattle CBD - Madison Park - Madrona	Owl	Owl			E				None		High	-
98	South Lake Union Street Car	None	None	B	D	D				None		High	4
99	International District - Waterfront	Peak	Peak	D						Peak		Low	-
101	Renton TC - Seattle CBD	84	Very Frequent	B	A	A			At	Below	At	Low	1, 2, 3, 4
102	Fairwood - Renton TC - Seattle CBD	Peak	Peak	B			No	Yes		Peak		Low	4
105	Renton Highlands - Renton TC	87	Frequent	B	A	B			Below	At	At	Low	3, 4
106	Renton TC - Rainier Beach - Seattle CBD	86	Very Frequent	C	C	C			At	Below	At	Low	3
107	Renton TC - Rainier Beach	85	Frequent	B	C	C			At	At	At	Low	4
110	Tukwila Station - North Renton	Peak	Peak	D			Yes	No		Peak		High	-
111	Lake Kathleen - Seattle CBD	Peak	Peak	C			Yes	Yes		Peak		Low	-
113	Shorewood - Seattle CBD	Peak	Peak	C			Yes	Yes		Peak		Low	-
114	Renton Highlands - Seattle CBD	Peak	Peak	D			Yes	Yes		Peak		Low	2

LEGEND

- Productivity**
- A Top 25% in both measures
  - B Top 25% in one measure\*
  - C Between top and bottom 25% in both measures
  - D Bottom 25% in one measure\*
  - E Bottom 25% in both measures

\*If one measure is in bottom 25% then it is a D

Potential for Major Reduction

High	Any light shaded field is a risk factor Service in the bottom 25% of one or both productivity measures AND has none or above for its corridor status OR peak routes not meeting one or either peak criteria
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Investment Priorities

- 1 Overcrowding
- 2 Reliability
- 3 Corridors below target service level
- 4 High productivity routes

(continued) Spring 2013 Route and Corridor Performance

Route	Description	Corridor	Target Service Family	Route Productivity			Peak Criteria		Corridor Status			Potential for Major Reduction	Investment Priority
				Peak	Off Peak	Night	Travel Time	Ridership	Peak	Off Peak	Night		
116EX	Fauntleroy Ferry - Seattle CBD	Peak	Peak	E			Yes	No		Peak		High	-
118	Tablequah - Vashon	91	Hourly	C	D	C				At		Medium	-
118EX	Tablequah - Seattle CBD via ferry	Peak	Peak	E			Yes	Yes		Peak		Low	-
119	Dockton - Vashon	None	None	D	E					None		High	-
119EX	Dockton - Seattle CBD via ferry	Peak	Peak	E			Yes	Yes		Peak		Low	2
120	Burien TC - Westwood Village - Seattle CBD	17	Very Frequent	B	B	A				At	At	Low	2, 4
121	Highline CC - Burien TC - Seattle CBD via 1st Av S	Peak	Peak	E			Yes	No		Peak		High	-
122	Highline CC - Burien TC - Seattle CBD via Des Moines Memorial Dr S	Peak	Peak	D			Yes	Yes		Peak		Low	-
123	Burien - Seattle CBD	Peak	Peak	C			No	No		Peak		Low	-
124	Tukwila - Georgetown - Seattle CBD	99	Very Frequent	C	C	C				Below	Below	Low	2, 3
125	Westwood Village - Seattle CBD	112	Frequent	C	D	D				Below	At	Medium	3
128	Southcenter - Westwood Village - Admiral District	1	Very Frequent	A	A	C				Below	Below	Low	1, 2, 3, 4
131	Burien TC - Highland Park - Seattle CBD	18	Very Frequent	B	D	C				Below	Below	Low	1, 2, 3, 4
132	Burien TC - South Park - Seattle CBD	19	Very Frequent	C	D	D				Below	Below	Medium	1, 2, 3
139	Burien TC - Gregory Heights	None	None	E	D	E				None		High	-
140	Burien TC - Renton TC	83	Very Frequent	A	A	A				Below	At	Low	3, 4
143EX	Black Diamond - Renton TC - Seattle CBD	Peak	Peak	D			Yes	Yes		Peak		Low	1, 2
148	Fairwood - Renton TC	31	Local	C	C	A				At	At	Low	4
150	Kent Station - Southcenter - Seattle CBD	51	Very Frequent	B	B	B				Below	At	Low	3, 4
152	Auburn - Seattle CBD	Peak	Peak	D			Yes	No		Peak		High	-
153	Kent Station - Renton TC	52	Frequent	C						Below	Below	Low	3
154	Tukwila Station - Boeing Industrial	Peak	Peak	C			Yes	No		Peak		Low	-
155	Fairwood - Southcenter	101	Local	C	C					Below	Below	Low	3
156	Southcenter - SeaTac Airport - Highline CC	100	Frequent	C	C	D				Below	At	Low	3
157	Lake Meridian - Seattle CBD	Peak	Peak	D			Yes	Yes		Peak		Low	2
158	Kent East Hill - Seattle CBD	Peak	Peak	D			Yes	Yes		Peak		Low	-
159	Timberlane - Seattle CBD	Peak	Peak	D			No	No		Peak		High	-
161	Lake Meridian - Seattle CBD	Peak	Peak	D			Yes	No		Peak		High	-
164	Green River CC - Kent Station	37	Very Frequent	A	A	A				Below	Below	Low	1, 3, 4
166	Kent Station - Burien TC	48	Local	A	A	B				At	At	Low	2, 4
167	Renton - Newport Hills - University District	Peak	Peak	B			Yes	Yes		Peak		Low	4
168	Maple Valley - Kent Station	49	Frequent	B	A	A				Below	At	Low	3, 4
169	Kent Station - East Hill - Renton TC	50	Frequent	A	A	A				Below	At	Low	2, 3, 4
173	Federal Way TC - Federal Center South	Peak	Peak	D			Yes	No		Peak		High	2
177	Federal Way - Seattle CBD	Peak	Peak	D			No	No		Peak		High	2
178	South Federal Way - Seattle CBD	Peak	Peak	C			No	No		Peak		Low	2
179	Twin Lakes - Seattle CBD	Peak	Peak	D			No	No		Peak		High	1, 2, 4
180	Auburn - SeaTac Airport - Burien TC	3	Very Frequent	A	A	C				Below	Below	Low	3, 4
181	Twin Lakes P&R - Green River CC	4	Local	A	A	C				At	At	Low	4
182	NE Tacoma - Federal Way TC	67	Hourly	C	C					Above	At	Low	2
183	Federal Way - Kent Station	33	Frequent	C	B					Below	Below	Low	3, 4
186	Enumclaw - Auburn Station	Peak	Peak	C						Peak		Low	-
187	Federal Way TC - Twin Lakes	103	Local	C	B	C				At	At	Low	4
190	Redondo Heights - Seattle CBD	Peak	Peak	D			Yes	Yes		Peak		Low	2

LEGEND

- Productivity**
- A Top 25% in both measures
  - B Top 25% in one measure\*
  - C Between top and bottom 25% in both measures
  - D Bottom 25% in one measure\*
  - E Bottom 25% in both measures

\*If one measure is in bottom 25% then it is a D

Potential for Major Reduction

	Any light shaded field is a risk factor
<b>High</b>	Service in the bottom 25% of one or both productivity measures AND has none or above for its corridor status OR peak routes not meeting one or either peak criteria
<b>Medium</b>	Service in the bottom 25% of one or both productivity measures AND at its corridor status
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Investment Priorities

- 1 Overcrowding
- 2 Reliability
- 3 Corridors below target service level
- 4 High productivity routes

(continued) Spring 2013 Route and Corridor Performance

Route	Description	Corridor	Target Service Family	Route Productivity			Peak Criteria		Corridor Status			Potential for Major Reduction	Investment Priority
				Peak	Off Peak	Night	Travel Time	Ridership	Peak	Off Peak	Night		
192	Star Lake - Seattle CBD	Peak	Peak	D			Yes	Yes		Peak		Low	-
193EX	Federal Way - First Hill	Peak	Peak	C			Yes	Yes		Peak		Low	-
197	Twin Lakes - University District	Peak	Peak	D			Yes	No		Peak		High	4
200	Downtown Issaquah - North Issaquah	None	None	E	C					None		High	-
201	South Mercer Island - Mercer Island P&R via Mercer Wy	Peak	Peak	E			Yes	Yes		Peak		Low	-
202	South Mercer Island - Seattle CBD	Peak	Peak	E			No	No		Peak		High	2
203	Mercer Island P&R - Shorewood	None	None	D	E					None		High	-
204	South Mercer Island - Mercer Island P&R via Island Crest	62	Local		E					At	Above	High	-
205EX	South Mercer Island - First Hill - University District	Peak	Peak	E			No	No		Peak		High	-
209	North Bend - Snoqualmie - Issaquah	42	Hourly	D	D					At	At	Medium	-
210	Issaquah - Factoria - Seattle CBD	Peak	Peak	E			Yes	No		Peak		High	-
211EX	Issaquah Highlands - First Hill	Peak	Peak	E			No	No		Peak		High	-
212	Eastgate - Seattle CBD	Peak	Peak	B			No	No		Peak		Low	4
213	Mercer Island P&R - Covenant Shores	None	None		E					None		High	-
214	Issaquah - Seattle CBD	Peak	Peak	C			No	No		Peak		Low	-
215	North Bend - Seattle CBD	Peak	Peak	D			No	Yes		Peak		High	-
216	Sammamish - Seattle CBD	Peak	Peak	B			No	No		Peak		Low	4
217	Issaquah - Eastgate - Seattle CBD	Peak	Peak	C			Yes	No		Peak		Low	-
218	Issaquah Highlands - Seattle CBD	Peak	Peak	B			Yes	Yes		Peak		Low	4
221	Education Hill - Overlake - Eastgate	80	Local	C	C	C				At	At	Low	2
224	Fall City - Duvall - Redmond TC	82	Hourly	D	D					At	At	Medium	-
226	Eastgate - Crossroads - Bellevue	29/72	Hourly/ Frequent	B	B	C				Above, Below	Above, At	Low	3, 4
232	Duvall - Bellevue	Peak	Peak	C			Yes	No		Peak		Low	2
234	Kenmore - Kirkland TC - Bellevue	43/53	Hourly/ Very Frequent	B	C	C				Above, At	Above, At	Low	4
235	Kingsgate - Kirkland TC - Bellevue	53	Very Frequent	C	C	C				At	At	Low	-
236	Woodinville - Totem Lake - Kirkland	98	Hourly	E	E	E				Above	Above	High	-
237	Woodinville - Bellevue	Peak	Peak	B			Yes	No		Peak		Low	2, 4
238	Bothell - Totem Lake - Kirkland	109	Local	C	C	E				At	At	High	-
240	Bellevue - Newcastle - Renton	16	Frequent	B	B	B				Below	At	Low	1, 3, 4
241	Eastgate - Factoria - Bellevue	27	Frequent	C	C	E				Below	At	Low	2, 3
242	North City - Overlake	Peak	Peak	B			Yes	Yes		Peak		Low	2, 4
243	Jackson Park - Bellevue	Peak	Peak	D			Yes	No		Peak		High	2
244EX	Kenmore - Overlake	Peak	Peak	C			Yes	No		Peak		Low	-
245	Kirkland - Overlake - Factoria	54	Very Frequent	A	C	C				At	At	Low	2, 4
246	Eastgate - Factoria - Bellevue	28	Local	D	C					At	Below	Medium	3
248	Avondale - Redmond TC - Kirkland	7	Local	C	C	C				At	At	Low	-
249	Overlake - South Kirkland - South Bellevue	73	Local	C	C	E				At	At	Medium	-
250	Overlake - Seattle CBD	Peak	Peak	D			No	No		Peak		High	-
252	Kingsgate - Seattle CBD	Peak	Peak	C			Yes	Yes		Peak		Low	-
255	Brickyard - Kirkland TC - Seattle CBD	97	Very Frequent	C	D	B				At	At	Medium	4
257	Brickyard - Seattle CBD	Peak	Peak	C			Yes	Yes		Peak		Low	2
260	Finn Hill - Seattle CBD	Peak	Peak	D			No	No		Peak		High	-
265	Overlake - Houghton - First Hill	Peak	Peak	E			Yes	No		Peak		High	-

LEGEND

- Productivity**
- A Top 25% in both measures
  - B Top 25% in one measure\*
  - C Between top and bottom 25% in both measures
  - D Bottom 25% in one measure\*
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Potential for Major Reduction

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Investment Priorities

- 1 Overcrowding
- 2 Reliability
- 3 Corridors below target service level
- 4 High productivity routes

(continued) Spring 2013 Route and Corridor Performance

Route	Description	Corridor	Target Service Family	Route Productivity			Peak Criteria		Corridor Status			Potential for Major Reduction	Investment Priority
				Peak	Off Peak	Night	Travel Time	Ridership	Peak	Off Peak	Night		
268	Redmond - Seattle CBD	Peak	Peak	B			Yes	No	Peak			Low	4
269	Issaquah - Overlake	41	Local	C					At	Below	At	Low	3
271	Issaquah - Bellevue - University District	14/40/106	Very Frequent/ Local/ Very Frequent	C	D	C			Above, At, At	At, At, At	At, At, At	Medium	-
277	Juanita - University District	Peak	Peak	E			Yes	Yes	Peak			Low	2
280	Seattle CBD - Bellevue - Renton	Owl	Owl			D			None			High	2, 4
301	Aurora Village - Seattle CBD	Peak	Peak	B			Yes	No	Peak			Low	4
303EX	Shoreline - First Hill	Peak	Peak	B			Yes	Yes	Peak			Low	1, 4
304	Richmond Beach - Seattle CBD	Peak	Peak	C			Yes	No	Peak			Low	-
306EX	Kenmore - Seattle CBD	Peak	Peak	D			No	No	Peak			High	-
308	Horizon View - Seattle CBD	Peak	Peak	C			No	No	Peak			Low	-
309EX	Kenmore - First Hill	Peak	Peak	E			Yes	No	Peak			High	-
311	Duvall - Woodinville - Seattle CBD	Peak	Peak	D			Yes	Yes	Peak			Low	-
312EX	Bothell - Seattle CBD	Peak	Peak	B			No	Yes	Peak			Low	4
316	Meridian Park - Seattle CBD	Peak	Peak	A			Yes	Yes	Peak			Low	2, 4
330	Shoreline CC - Lake City	95	Local	C					At	Below	At	Low	3
331	Shoreline CC - Kenmore	44	Local	C	C	D			At	At	Above	High	-
342	Shoreline - Bellevue TC - Renton	Peak	Peak	B			Yes	No	Peak			Low	4
345	Shoreline CC - Northgate	94	Very Frequent	A	A	B			Below	Below	Below	Low	3, 4
346	Aurora Village - Northgate	6	Local	A	A	C			At	At	At	Low	1, 4
347	Mountlake Terrace - Northgate	65	Local	A	C	A			At	At	Below	Low	3, 4
348	Richmond Beach - Northgate	90	Local	B	C	C			At	At	At	Low	4
355EX	Shoreline CC - University District - Seattle CBD	Peak	Peak	C			No	No	Peak			Low	2
358EX	Aurora Village - Seattle CBD	5	Very Frequent	A	A	A			At	Below	Below	Low	2, 3, 4
372EX	Woodinville - Lake City - University District	45	Very Frequent	C	B	C			At	Below	Below	Low	1, 2, 3, 4
373EX	Aurora Village - University Village	93	Frequent	C					Below	Below	Below	Low	3
601EX	Seattle CBD - Group Health (Tukwila)	Peak	Peak	E			Yes	Yes	Peak			Low	2
901DART	Mirror Lake - Federal Way TC	63	Local	C	C	C			At	At	At	Low	-
903DART	Twin Lakes - Federal Way TC	102	Local	C	D	D			At	At	At	Medium	-
907DART	Enumclaw - Renton TC	88	Hourly	E	D				At	At	At	Medium	-
908DART	Renton Highlands - Renton TC	89	Local	E	E				Below	Below	At	Low	3
909DART	Kennydale - Renton TC	47	Hourly	E	E				At	At	At	Medium	-
910DART	North Auburn - SuperMall	None	None	E	E				None			High	-
913DART	Kent Station - Riverview	Peak	Peak	D			Yes	Yes	Peak			Low	-
914DART	Kent - Kent East Hill	None	None		C				None			Low	-
915DART	Enumclaw - Auburn Station	30	Local		C				At	Below	At	Low	3
916DART	Kent - Kent East Hill	None	None		C				None			Low	-
917DART	Pacific - Auburn	74	Local	E	D				Below	Below	At	Low	3
919DART	SE Auburn - Auburn P&R	None	None		D				None			High	-
927DART	Issaquah - Lake Sammamish	None	None	E	E				None			High	-
930DART	Kingsgate - Redmond	81	Frequent	E					Below	Below	Below	Low	3
931DART	Bothell - Redmond	108	Hourly	E	D				Above	At	At	High	-
935DART	Totem Lake - Kenmore	46	Hourly	E					Above	At	At	High	-

LEGEND

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Investment Priorities

- 1 Overcrowding
- 2 Reliability
- 3 Corridors below target service level
- 4 High productivity routes

## Alternative services

Alternative services are defined as any non-fixed-route services directly provided or supported by Metro. Alternative services provide access to local destinations and to fixed-route transit service on corridors that cannot be cost-effectively served by fixed-route transit at target service levels. As part of efforts to increase system efficiency, Metro has converted some lower-performing fixed routes into dial-a-ride transit (DART) service. Alternative services can take other forms, such as van service operated by community partners.

The County Council adopted Motion 13736, accepting the *King County Metro Transit Five-Year Implementation Plan for Alternatives to Traditional Transit Service Delivery*, in September 2012. This motion requested that alternative services be further integrated into the strategic plan and guidelines.

## Measuring performance

Metro's first alternative service pilot project began in fall 2013 in the Snoqualmie Valley. As alternative services are more widely implemented, Metro will develop measures and thresholds for tracking performance, such as cost per rider. Results will be included in future service guidelines reports.

## Service type and service frequency

The type and frequency of alternative services are determined through a collaborative community engagement process that seeks to balance community travel needs against costs, which shall not exceed the estimated cost to deliver fixed-route service at target service levels.

## Adding, reducing and improving alternative service

When planning improvements to corridors that are below their target service levels or that perform in the bottom 25 percent, Metro will consider providing alternative services. When resources are available, we will use alternative services to replace or supplement the fixed-route service in the corridor, maintaining or enhancing access to transit for corridor residents in a cost-effective way. When Metro's resources are growing, we could identify candidate alternative service areas based on feedback from communities about unmet travel needs. Alternative services could respond to travel needs not easily accommodated by fixed-route transit, or could be designed to make the fixed-route service more effective. This could involve adding service in corridors that are below their target service levels.

As development or transit use increases in corridors with alternative services, Metro will consider converting the alternative service into fixed-route service. Such conversions will be guided by alternative service performance thresholds and by cost effectiveness compared to fixed-route service.

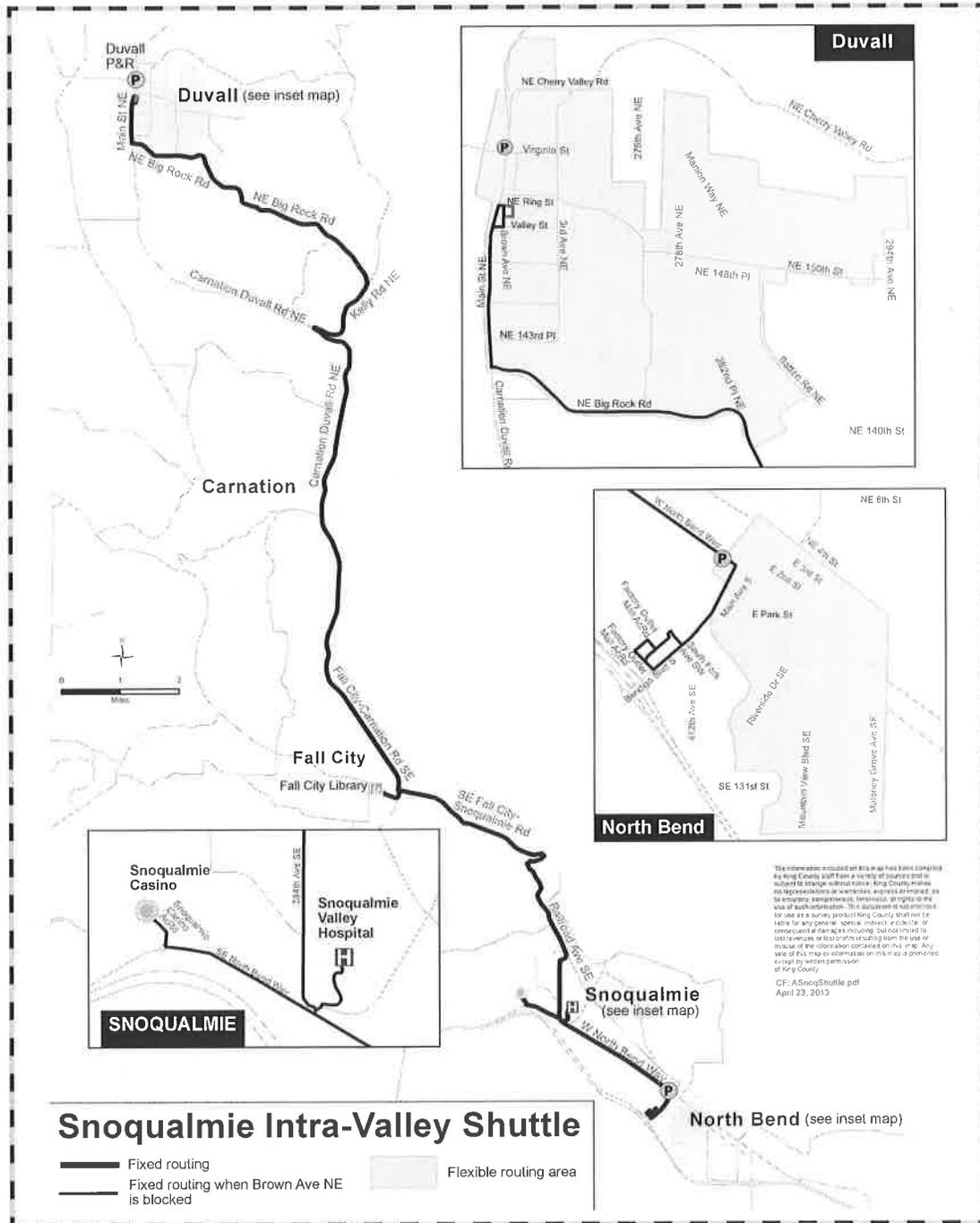
### Snoqualmie Valley Alternative Service Delivery Project

Metro's alternative services plan identified the Snoqualmie Valley as a candidate area. The Snoqualmie Valley Alternative Service Delivery Project began in fall 2012. Metro collaborated with residents, elected officials and community organizations to design a transportation system that meets the valley's unique needs while improving cost-effectiveness.

Routes 209, 224 and 311 were revised because they performed in the bottom 25 percentile in their markets. Resources generated from elimination of the Duvall-Fall City segment of Route 224 and the Woodinville-Duvall segment of Route 311 support the operation of the Snoqualmie Intra-Valley Shuttle. The Snoqualmie Tribe also supports the service through a funding agreement with Metro.

The new alternative service began in fall 2013. The shuttle provides fixed-route service between Duvall and North Bend, as shown in Figure 6, and service on request within "flexible routing areas" in Duvall and North Bend. Customer requests for travel to, from or within a flexible service area are accommodated after the fixed-route terminal is served. The route then returns to the fixed-route terminal to begin a trip in the opposite direction.

**FIG 6**  
Snoqualmie Valley Alternative Services Delivery Project



Metro’s five-year alternative services plan identified Vashon Island and southeast King County as areas where alternatives to fixed-route service would be considered. Metro is also exploring opportunities to provide alternative services in Redmond.



## SECTION 2

## ■ SERVICE INVESTMENT PRIORITIES

This section identifies where investments are needed to provide high-quality service and to meet target service levels. When Metro has resources available to invest, or reallocates existing service hours, these findings and the priorities defined in the guidelines will be the basis for investments.

The investment needs identified in this analysis of spring 2013 data are shown in Table 8 below. They are substantially higher than the previous year's analysis.

**TABLE 8**  
**2013 Investment Needs**  
 (Based on Spring 2013 Data)

Priority	Investment Area	Estimated Annual Hours Needed
1	Reduce passenger crowding	15,400
2	Improve schedule reliability	27,800
3	Increase service to meet target service levels in All-Day and Peak Network*	467,500
<b>Total investment need</b>		<b>510,700</b>
4	Increase service on high-productivity routes	See discussion on page 2

\* Referred to in the service guidelines as "corridors below target service levels"

Annual service hours needed to reduce passenger crowding increased from 5,500 to 15,400; hours needed to improve schedule reliability increased from 19,000 to 27,800; and hours needed to meet target service levels in the All Day and Peak Network rose from 309,800 to 467,500. The investment needs grew for several reasons:

- **Passenger crowding.** Growth in ridership resulted in more passenger crowding.
- **Schedule reliability declined** as a result of more crowded buses, more roadway construction, and traffic congestion that has worsened as the economy has improved. The number of unreliable routes in 2013 also continues to reflect the impact of scheduling efficiencies Metro adopted in 2010 and 2011. An additional factor affecting the reliability need is that, due to the timing of the last report, the reliability needs of the services that were to be restructured in fall 2012 could not be assessed.
- **Target service levels increased** for many routes on the All-Day and Peak Network as a result of the August 2013 update of the service guidelines methodology that made it more sensitive to job and household levels (see Section 1). These revisions resulted in more routes being identified as underserved, and did not cause any corridor to drop off the list of routes needing investment. Changes in land use and ridership also contributed to higher target service levels. The total investment needs

based on the analysis of spring 2013 data are shown in Table 8, followed by detailed findings about the investment needs.

### Priority 1 – Passenger crowding investments

Investment in the most crowded routes is the highest priority in the service guidelines. When service is chronically very crowded, it is poor quality and has a negative impact on riders. The passenger load thresholds are set so that we accept standing passengers on many of our services, but take action where crowding is at an unacceptable level and where it occurs regularly.

The table below and Figure 7 identify routes that need additional trips to reduce crowding.

**TABLE 9**  
**Routes Needing Investment to Reduce Passenger Crowding**

Route	Description	Day	Annual Hours Needed
8	Seattle Center - Capitol Hill - Rainier Beach	Weekday and Sunday	700
9EX	Rainier Beach - Capitol Hill	Weekday	500
11	Madison Park - Seattle CBD	Weekday	500
15EX	Blue Ridge - Ballard - Seattle CBD	Weekday	600
17EX	Sunset Hill - Ballard - Seattle CBD	Weekday	800
26	East Green Lake - Wallingford - Seattle CBD	Weekday	400
28EX	Broadview - Ballard - Seattle CBD via Leary Av NW	Weekday	500
40	Northgate TC - Ballard - Seattle CBD via Leary Av NW	Weekday	700
66EX	Northgate TC - Eastlake - Seattle CBD	Weekday	900
67	Northgate TC - University District	Weekday	200
68	Northgate TC - Ravenna - University District	Weekday	300
71	Wedgwood - University District - Seattle CBD	Saturday	500
73	Jackson Park - University District - Seattle CBD	Saturday	400
74EX	Sand Point - Seattle CBD	Weekday	600
75	Northgate TC - Lake City - Seattle CBD	Weekday	400
101	Renton TC - Seattle CBD	Weekday	300
128	Southcenter - Westwood Village - Admiral District	Weekday	800
131	Burien TC - Highland Park - Seattle CBD	Weekday	400
132	Burien TC - South Park - Seattle CBD	Weekday	500
143EX	Black Diamond - Renton TC - Seattle CBD	Weekday	1,800
164	Green River CC - Kent Station	Weekday	300
179	Twin Lakes - Seattle CBD	Weekday	600
240	Bellevue - Newcastle - Renton	Weekday	1,100
303EX	Shoreline - First Hill	Weekday	700
346	Aurora Village - Northgate	Weekday	200
372EX	Woodinville - Lake City - University District	Weekday	300
D Line	Ballard - Seattle Center - Seattle CBD	Weekday	400
<b>Total hours needed</b>			<b>15,400</b>

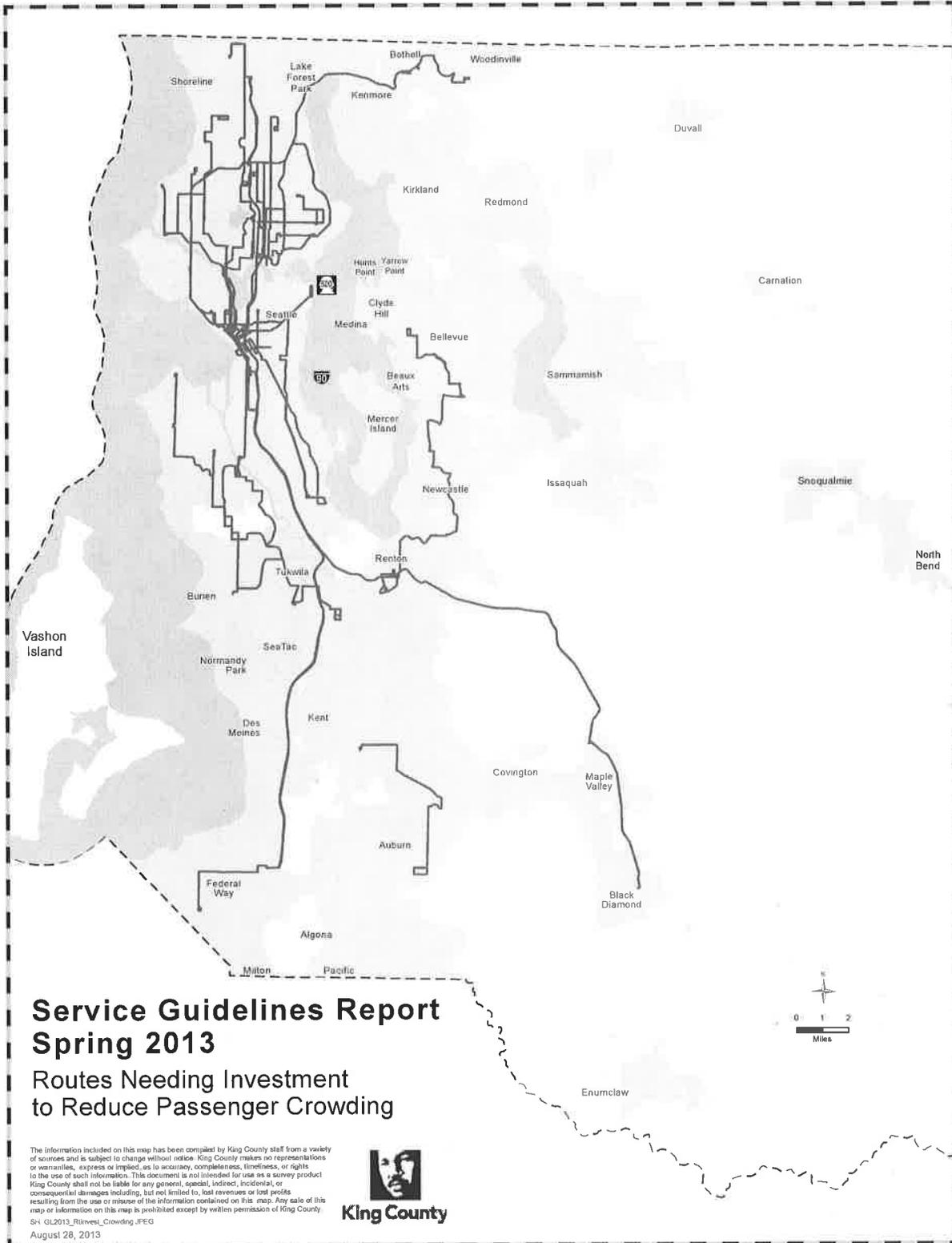
Some of the routes that were found in last year's analysis to have the most severe crowding have been improved since fall 2012. Route 4 received service investments in fall 2013. Route 16 received larger coaches to better handle passenger loads.

The need for investment to reduce passenger crowding has grown because

- ridership has grown and because
- the last report excluded routes that were part of the fall 2012 restructure.

Some additional routes were identified as overcrowded but were determined to not need immediate investment either because surrounding trips had capacity or because passenger crowding could be accommodated by assigning a larger bus. A list of all routes identified as overcrowded is in Appendix D.

FIG. 7  
Routes Needing Investment to Reduce Passenger Crowding



## Priority 2 – Improve schedule reliability

Schedule reliability is measured as a percent of trips that arrive between 1 minute early and 5 minutes late. To evaluate the system, our reliability threshold is 80 percent for weekday and weekend averages, indicating that our buses should arrive on time 80% of the time, which allows for variations in travel time, congestion, and ridership. Weekday PM peak average (3:15 p.m. – 6:15 p.m.) has a lower reliability threshold of 65 percent because this is the period with the most delays. Routes that are on-time less than 80 percent of the time (65 percent for weekday PM peak) are candidates for investment of service hours.

Metro continually strives to improve schedule reliability and has continued to make improvements since 2011. The table below shows the schedule reliability for calendar years 2011 and 2012 and for the service guidelines period from October 2012 to May 2013. Schedule reliability varies by time of year and tends to be best each year in the early spring. We use a longer time period for this analysis to ensure that schedule reliability needs are not understated by using data from just the four-month spring period. As shown in the table below, reliability has improved for each time period since 2012.

**TABLE 10**  
**Percent On-Time, 2011-2013**

	2011	2012	October 2012 – May 2013
6:00 a.m. – 9:00 a.m.	81.3%	81.9%	81.9%
9:00 a.m. – 3:15 p.m.	74.9%	75.8%	78.7%
3:15 p.m. – 6:15 p.m.	69.0%	68.5%	70.6%
<b>Weekday average</b>	<b>75.7%</b>	<b>76.3%</b>	<b>78.3%</b>
Saturday	75.7%	75.7%	78.6%
Sunday	78.6%	77.9%	81.4%
<b>Total system average</b>	<b>76.0%</b>	<b>76.4%</b>	<b>78.6%</b>

The table below lists the 69 routes identified as needing service-hour investments to improve their reliability using data from October 2012 to May 2013; a map of those routes is shown in Figure 8. The total need of 27,800 annual hours was calculated based on how far above the lateness threshold the routes were during the different time period. While this calculation provides a reasonable estimate of total needs, individual routes may receive more or less investment than estimated depending on the scheduling techniques available to improve reliability.

**TABLE 11**  
**Routes Needing Investment to Improve Schedule Reliability**

Route	Area	Day	Estimated Hours Needed
1	Kinnear - Seattle CBD	Saturday, Sunday	100
4	East Queen Anne - Seattle CBD - Judkins Park	Saturday	100
7	Rainier Beach - Seattle CBD	Saturday	50
8	Seattle Center - Capitol Hill - Rainier Beach	Weekday, Saturday, Sunday	2,050
10	Capitol Hill - Seattle CBD	Saturday	50
11	Madison Park - Seattle CBD	Weekday, Saturday, Sunday	350
14	Mount Baker - Seattle CBD	Weekday, Sunday	350
16	Northgate TC - Wallingford - Seattle CBD	Weekday, Saturday, Sunday	1,300
17EX	Sunset Hill - Ballard - Seattle CBD	Weekday	250
18EX	North Beach - Ballard - Seattle CBD	Weekday	250

Continued

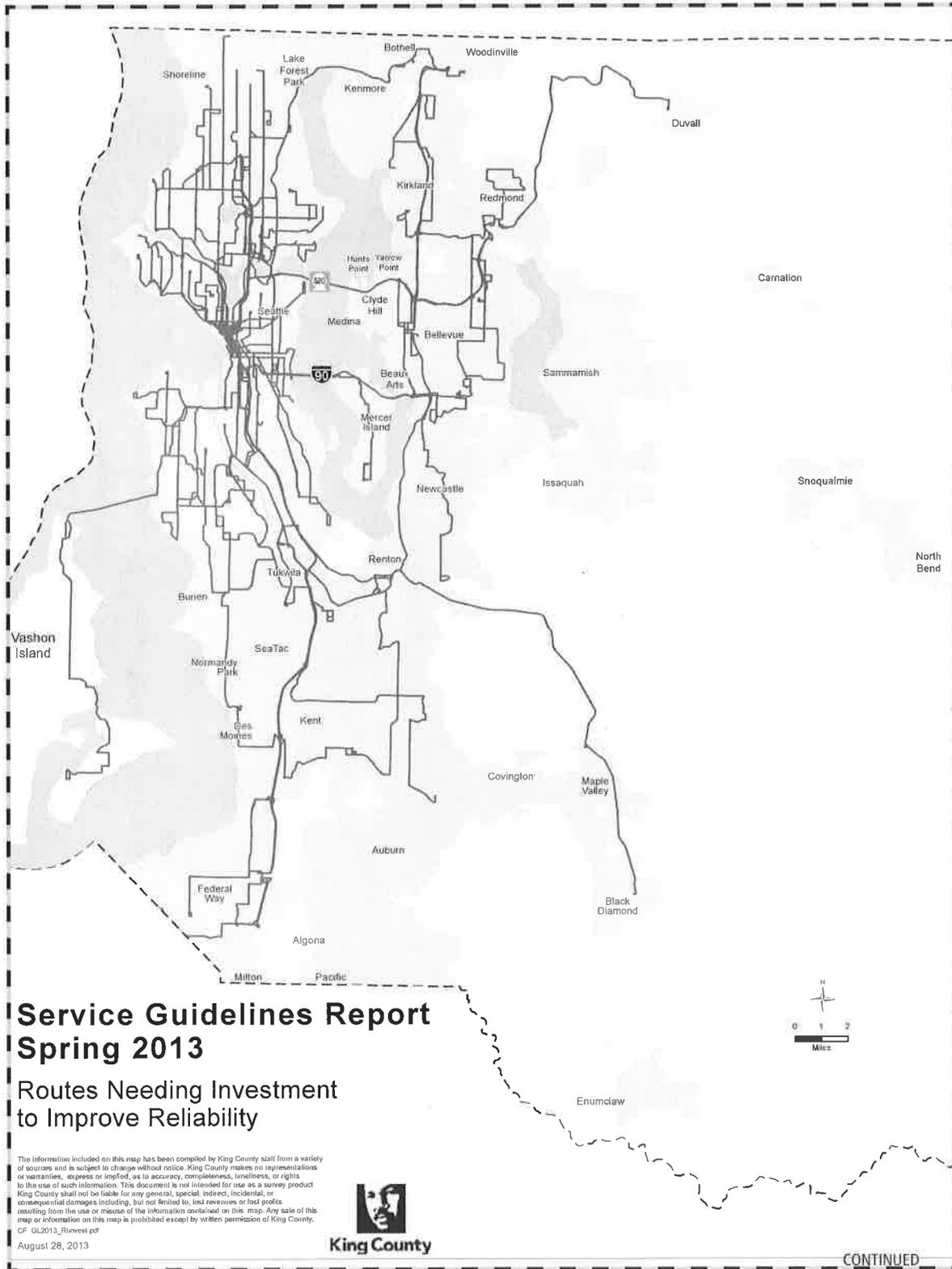
Route	Area	Day	Estimated Hours Needed
21EX	Arbor Heights - Westwood Village - Seattle CBD	Weekday	400
21	Arbor Heights - Westwood Village - Seattle CBD	Saturday	50
24	Magnolia - Seattle CBD	Weekday, Saturday	700
25	Laurelhurst - University District - Seattle CBD	Weekday	250
26	East Green Lake - Wallingford - Seattle CBD	Weekday, Saturday	350
27	Colman Park - Leschi Park - Seattle CBD	Weekday, Saturday, Sunday	450
28EX	Broadview - Ballard - Seattle CBD via Leary Av NW	Weekday	250
28	Whittier Heights - Ballard - Seattle CBD via Leary Av NW	Weekday, Saturday	600
29	Ballard - Queen Anne - Seattle CBD	Weekday	500
31	University District - Fremont - Magnolia	Weekday	300
32	University District - Fremont - Seattle Center	Weekday	250
33	Discovery Park - Seattle CBD	Weekday, Saturday, Sunday	400
40	Northgate TC - Ballard - Seattle CBD via Leary Av NW	Saturday, Sunday	500
41	Lake City - Seattle CBD via Northgate	Weekday	1,400
48	Mt Baker - University District - Loyal Heights	Saturday, Sunday	300
55	Admiral District - Alaska Junction - Seattle CBD	Weekday	400
56EX	Alki - Seattle CBD	Weekday	400
57	Alaska Junction - Seattle CBD	Weekday	300
60	Westwood Village - Georgetown - Capitol Hill	Saturday	100
71	Wedgwood - University District - Seattle CBD	Weekday	850
72	Lake City - University District - Seattle CBD	Saturday	550
73	Jackson Park - University District - Seattle CBD	Weekday, Saturday	650
74EX	Sand Point - Seattle CBD	Weekday	600
76	Wedgwood - Seattle CBD	Weekday	250
77	North City - Seattle CBD	Weekday	300
101	Renton TC - Seattle CBD	Saturday, Sunday	150
114	Renton Highlands - Seattle CBD	Weekday	250
119EX	Dockton - Seattle CBD via ferry	Weekday	250
120	Burien TC - Westwood Village - Seattle CBD	Saturday, Sunday	150
124	Tukwila - Georgetown - Seattle CBD	Weekday, Saturday, Sunday	1,450
128	Southcenter - Westwood Village - Admiral District	Weekday	500
131	Burien TC - Highland Park - Seattle CBD	Weekday, Saturday	1,300
132	Burien TC - South Park - Seattle CBD	Weekday, Saturday	350
143EX	Black Diamond - Renton TC - Seattle CBD	Weekday	250
157	Lake Meridian - Seattle CBD	Weekday	250
166	Kent Station - Burien TC	Weekday	250
169	Kent Station - East Hill - Renton TC	Weekday	400
173	Federal Way TC - Federal Center South	Weekday	250
177	Federal Way - Seattle CBD	Weekday	250
178	South Federal Way - Seattle CBD	Weekday	700
179	Twin Lakes - Seattle CBD	Weekday	250
182	NE Tacoma - Federal Way TC	Saturday	50
190	Redondo Heights - Seattle CBD	Weekday	250
202	South Mercer Island - Seattle CBD	Weekday	300
221	Education Hill - Overlake - Eastgate	Weekday, Saturday	650

Route	Area	Day	Estimated Hours Needed
232	Duvall - Bellevue	Weekday	250
237	Woodinville - Bellevue	Weekday	250
241	Eastgate - Factoria - Bellevue	Weekday	300
242	North City - Overlake	Weekday	250
243	Jackson Park - Bellevue	Weekday	250
245	Kirkland - Overlake - Factoria	Saturday	50
257	Brickyard - Seattle CBD	Weekday	250
277	Juanita - University District	Weekday	250
280	Seattle CBD - Bellevue - Renton	Saturday	50
316	Meridian Park - Seattle CBD	Weekday	250
355EX	Shoreline CC - University District - Seattle CBD	Weekday	500
358EX	Aurora Village - Seattle CBD	Sunday	100
372EX	Woodinville - Lake City - University District	Weekday	600
601EX	Seattle CBD - Group Health (Tukwila)	Weekday	250
<b>Total hours needed</b>			<b>27,800</b>

Some other routes had reliability problems but were determined not to need immediate investment, either because they have received reliability investments since spring 2013 or were deleted or have had major changes since spring 2013.

A list of all routes that exceeded the thresholds for reliability during the period analyzed for this report is in Appendix E.

**FIG. 8**  
Routes Needing Investment to Improve Schedule Reliability



### Priority 3 – Corridors below target service levels

Our analysis found that 58 corridors in the All-Day and Peak Network were below target service levels in one or more time periods in spring 2013. Nineteen corridors are new to this list in 2013 and three corridors from the 2012 list have dropped off. To bring service up to the target levels, an estimated 467,500 annual hours of investment would be needed—substantially higher than the 2012 need of 309,800 annual hours.

Table 12 lists the corridors that were below target service levels as of spring 2013; they are shown in Figure 9 (page 38). Priority among these corridors was established according to the service guidelines by ordering the corridors in descending order of points, first by the geographic value score, then by the productivity score, and finally by the social equity score. This priority order helps ensure that service enhancements are equitably distributed and productive.

**TABLE 12**  
**2013 Corridors Below Target Service Levels and Estimated Hours to Meet Service Level Targets, Ordered by Investment Priority**

Shading indicates corridor is new to list of routes below target service level  
\* Indicates route received investment in 2012

Corridor number	Between	And	Major route	Estimated hours to meet target
105	U. District	Seattle CBD	49	4,700
12	Ballard	Seattle CBD	40	4,400
25	U. District	Seattle CBD	73	4,700
69	Northgate	Seattle CBD	16*	8,900
55	Lake City	Seattle CBD	41	14,600
99	Tukwila	Seattle CBD	124	9,300
9	Ballard	Northgate	40	4,400
68	Northgate	U. District	66 EX/67*	3,300
19	Burien	Seattle CBD	132	15,000
20	Capitol Hill	Westwood Village	60*	9,800
51	Kent	Seattle CBD	150*	7,500
84	Renton	Seattle CBD	101	7,300
32	Federal Way	Tukwila Intl Blvd Station	A Line	7,000
81	Redmond	Totem Lake	930 DART	11,000
33	Federal Way	Kent	183	12,400
50	Kent	Renton	169	5,400
52	Kent	Renton	153	13,100
83	Renton	Burien	140 <sup>1</sup>	18,000
3	Auburn	Burien	180	21,700
100	Tukwila	Highline CC	156	9,700
59	Madison Park	Seattle CBD	11	4,600
38	Greenwood	Seattle CBD	5	2,700
35	Fremont	U. District	32	5,900
5	Aurora Village TC	Seattle CBD	358 EX* <sup>2</sup>	18,800
111	Westwood Village	Seattle CBD	C Line*	6,200

<sup>1</sup> Route 140 is slated to be deleted and replaced by RapidRide F Line in June 2014.

<sup>2</sup> Route 358 is slated to be deleted and replaced by RapidRide E Line in June 2014.

Corridor number	Between	And	Major route	Estimated hours to meet target
18	Burien	Seattle CBD	131	13,000
79	Rainier Beach Station	Capitol Hill	9 EX	17,900
57	Lake City	U. District	65	5,600
86	Renton	Seattle CBD	106	9,400
94	Shoreline CC	Northgate	345	8,600
45	Kenmore	U. District	372 EX	14,200
56	Northgate	U. District	75	4,500
87	Renton	Renton Highlands	105	2,800
112	Westwood Village	Seattle CBD	125	2,800
2	Alki	SODO	50	1,900
95	Shoreline CC	Lake City	330	4,500
16	Bellevue	Renton	240	7,600
37	Green River CC	Kent	164	11,100
49	Kent	Maple Valley	168	7,400
1	Admiral District	Tukwila	128	20,900
41	Issaquah	Overlake	269	11,100
101	Tukwila	Fairwood	155*	5,200
30	Enumclaw	Auburn	186/915 DART	2,600
64	Mount Baker Station	Seattle CBD	14	8,200
24	Colman Park	Seattle CBD	27	4,900
107	U. District	Seattle CBD	25	8,600
26	Discovery Park	Seattle CBD	33	3,100
72	Overlake P&R	Bellevue	226	6,500
92	Sand Point	U. District	30	1,700
70	Northgate	U. District	68	10,600
58	Laurelhurst	U. District	25	3,400
27	Eastgate	Bellevue	241	4,800
28	Eastgate	Bellevue	246	3,500
93	Aurora Village TC	U. District	373 EX	20,800
65	Mountlake Terrace	Northgate	347	2,000
71	Othello Station	SODO	50	1,900
89	Renton	Renton Technical College	908 DART	3,000
74	Pacific	Auburn	917 DART	3,000
<b>Total</b>				<b>467,500</b>

## Change from 2012

The list of corridors below target service levels identified in spring 2013 differs from the spring 2012 list because of service investments and changes in corridor scores since the last report. Corridor scores changed because of changes in the thresholds used to set service levels, as described in Section 1, as well as changes in the underlying land use, social equity, and performance data. Table 13 lists the corridors that were below target service levels in 2012 but are no longer targeted for investment. Reasons for change include:

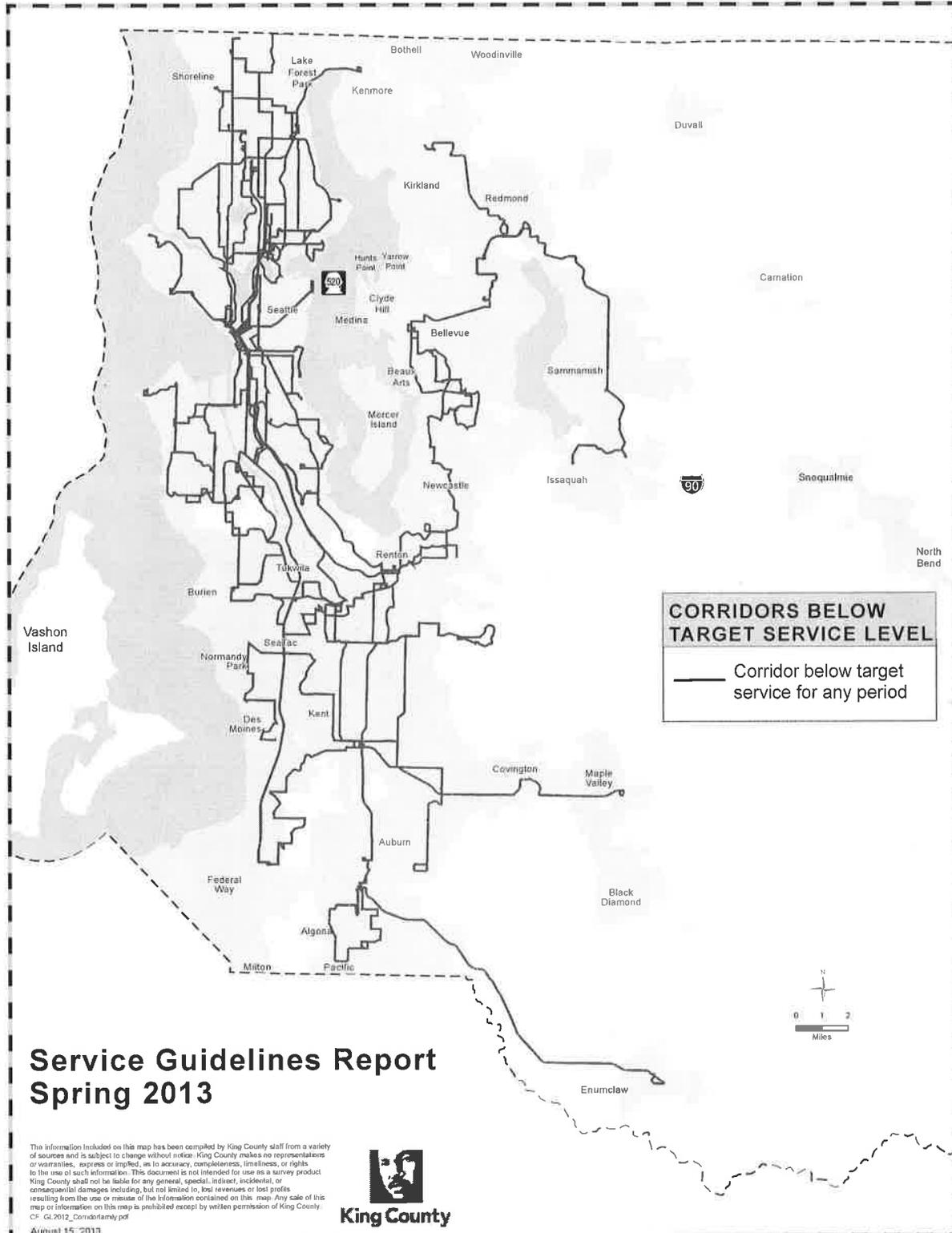
- **Service improvements made in 2012.** Service was improved on several corridors as part of the C and D line launch.
- **Lower ridership and productivity.** The ridership and productivity of major routes changed on several corridors. These corridors were targeted for less service because they needed less to meet existing demand.

In general, we expect to see changes each year in corridors that are below target service levels as ridership, productivity, and social conditions evolve. Our analysis takes such changes into account as we determine what investments may be needed.

**TABLE 13**  
**2012 Corridors Below Target Service Levels that are No Longer Targeted for Investment**

Corridor Number	Between	And	Major route	Reason for Change
11	Ballard	U. District	44	Lower off-peak ridership
21	Capitol Hill	Seattle CBD	10	Lower off-peak ridership
48	Kent	Burien	131	Service improvement

FIG. 9  
2013 Corridors Below Target Service Levels



## Priority 4 – High-productivity routes

Route productivity is assessed using two measures (see page 10). High-productivity routes are defined as those that perform in the top 25 percent of comparable routes on one or both measures in at least one time period.

In the spring 2013 period, of the 212 routes evaluated, 82 were in the top 25 percent on either or both productivity measures: rides per platform hour or passenger miles per platform mile.

Metro must become more productive and carry more riders to help fulfill the public transportation goal set in *Transportation 2040*—one reason why the guidelines define highly productive services as an investment priority. Investing in high-productivity routes in areas where there is latent demand for transit will result in higher ridership. A substantial portion of the growth needed to meet the *Transportation 2040* goals (an additional 2.6 million annual service hours) will be on high-productivity services.

Metro has demonstrated that investments in highly productive service lead to increased ridership. Examples are the RapidRide lines, where investments to improve frequency and quality of service have resulted in ridership growth on all four corridors: 55 percent increase on the A Line since October 2010, 20 percent increase on the B Line since October 2011, 51 percent increase on the C Line since September 2011, and 16 percent increase on the D Line since September 2012. The A and B Lines are among the top 25 percent of routes on both performance measures in all time periods. The C and D Lines are among the top 25 percent of routes on one or both performance measures in all time periods. We will continue to invest in high-productivity services when we restructure service, form service partnerships with local jurisdictions, or have other opportunities.

Many services that performed highly in 2012 continued to do so in 2013. Some notable groups of high-productivity routes that performed well on both measures include:

- **Current and future RapidRide routes.** In addition to the high performance of current RapidRide lines described above, Route 358 (future E Line), and Route 140 (future F Line) all performed in the top 25 percent on both measures for all time periods. The C and D lines performed in the top 25 percent for at least one of the measures during all time periods.
- **Downtown Seattle to University District routes.** Routes 49, 71, 72, 73, and 74 Express continue to be top performers that connect the largest transit markets in King County.
- **Commuter routes serving north Seattle.** Routes 15 Express, 17 Express, 18 Express, 26 Express, 74 Express, 76 and 316 are the top-performing commuter routes. These highly successful commuter routes operate in areas that have high demand for service, including Ballard, Green Lake, the University District, northeast Seattle, and Shoreline. Several of these routes are new to the group of high-performing routes, reflecting the restructure of service around the C and D lines in fall 2012 that consolidated services in northwest Seattle.
- **Routes connecting regional growth centers in south King County.** The network of routes that connect regional growth centers in south King County—128, 164, 166, 169, 180, and 181—continued to perform well in 2013. Their good performance is indicative of the strong demand for transit between regional growth and activity centers outside the Seattle core.
- **Routes that connect neighborhoods to Northgate.** The network of all-day routes in north King County connects several feeder routes with the high-performing Route 41, which connects Northgate to downtown Seattle. Routes 345, 346, and 347 provide neighborhood circulation as well as connection to Northgate. This group of routes performs well not just on service to downtown Seattle, but also on the neighborhood routes that both circulate and connect to the trunk service.

**TABLE 14**  
**2013 Routes in Top 25% on Both Measures in All Time Periods Served**

Route	Description	Time Period
A Line	Federal Way - Tukwila	Peak, off peak, night
B Line	Bellevue - Crossroads - Redmond	Peak, off peak, night
15EX	Blue Ridge - Ballard - Seattle CBD	Peak
17EX	Sunset Hill - Ballard - Seattle CBD	Peak
18EX	North Beach - Ballard - Seattle CBD	Peak
26EX	East Green Lake - Wallingford - Seattle CBD	Peak
41	Lake City - Seattle CBD via Northgate	Peak, off peak, night
49	University District - Capitol Hill - Seattle CBD	Peak, off peak, night
71	Wedgwood - University District - Seattle CBD	Peak, off peak, night
72	Lake City - University District - Seattle CBD	Peak, off peak, night
73	Jackson Park - University District - Seattle CBD	Peak, off peak, night
74EX	Sand Point - Seattle CBD	Peak
76	Wedgwood - Seattle CBD	Peak
140 (F Line)	Burien TC - Renton TC	Peak, off peak, night
164	Green River CC - Kent Station	Peak, off peak, night
169	Kent Station - East Hill - Renton TC	Peak, off peak, night
316	Meridian Park - Seattle CBD	Peak
358EX	Aurora Village - Seattle CBD	Peak, off peak, night

**TABLE 15**  
**2013 Routes in Top 25% on Both Measures in at Least One Time Period Served**

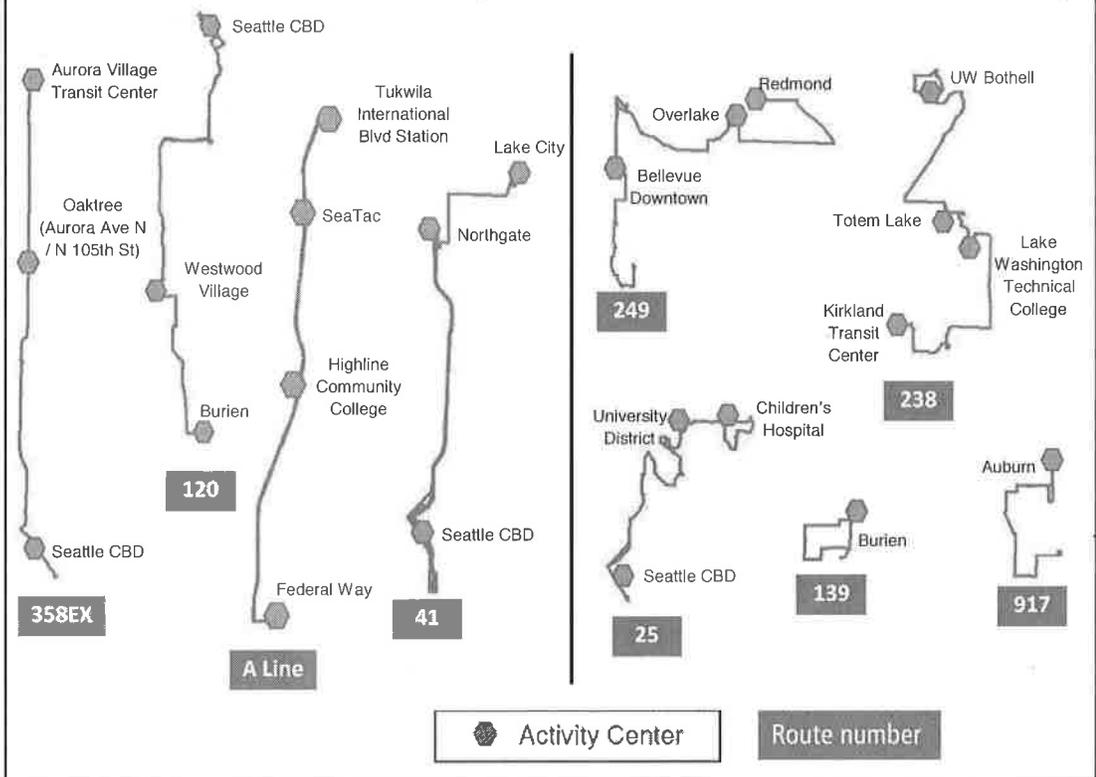
Route	Description	Time Period
D Line	Ballard - Seattle Center - Seattle CBD	Off peak, night
5	Shoreline CC - Seattle CBD	Peak, night
7	Rainier Beach - Seattle CBD	Off peak
66EX	Northgate TC - Eastlake - Seattle CBD	Peak
67	Northgate TC - University District	Off peak
101	Renton TC - Seattle CBD	Off peak, night
105	Renton Highlands - Renton TC	Off peak
120	Burien TC - Westwood Village - Seattle CBD	Night
128	Southcenter - Westwood Village - Admiral District	Peak, off peak
148	Fairwood - Renton TC	Night
166	Kent Station - Burien TC	Peak, off peak
168	Maple Valley - Kent Station	Off peak, night
180	Auburn - SeaTac Airport - Burien TC	Peak, off peak
181	Twin Lakes P&R - Green River CC	Peak, off peak
345	Shoreline CC - Northgate	Peak, off peak
346	Aurora Village - Northgate	Peak, off peak
347	Mountlake Terrace - Northgate	Peak, night

**FIG. 10**  
Route Design and Productivity

The design guidelines in the service guidelines help Metro plan productive service. The diagram below illustrates how longer, direct routes that connect multiple activity centers (denoted by the red hexagons along the routes) tend to have high productivity, while services that circulate through neighborhoods or are too short to connect many destinations tend to perform below the performance thresholds.

Selected all-day routes in the **top 25%** performance thresholds for both measures for at least one period

Selected all-day routes **below** 25% performance thresholds for both measures for at least one period





## SECTION 3

## ■ SERVICE REDUCTION PRIORITIES

Metro may reduce service to reallocate resources to meet higher-priority needs, to stay within budget, or to improve the productivity and efficiency of the transit system. This section is not a service reduction proposal. Section 5 of this report presents the service reductions and revisions that would be made because of Metro's expected revenue shortfall and loss of Alaskan Way Viaduct mitigation funding, based on the 2013 service guidelines analysis.

The service guidelines identify priorities for reducing service that are based on both the route performance analysis and the corridor analysis. The route performance analysis assesses route productivity. The corridor analysis sets target service levels for the All-Day and Peak Network using a process that balances productivity, social equity and geographic value.

The first factor that puts a route at risk of reduction is performance in the bottom 25 percent of routes that operate in the same market in the same time period on one or both of the productivity measures in the guidelines (see page 6 for an explanation of the measures).

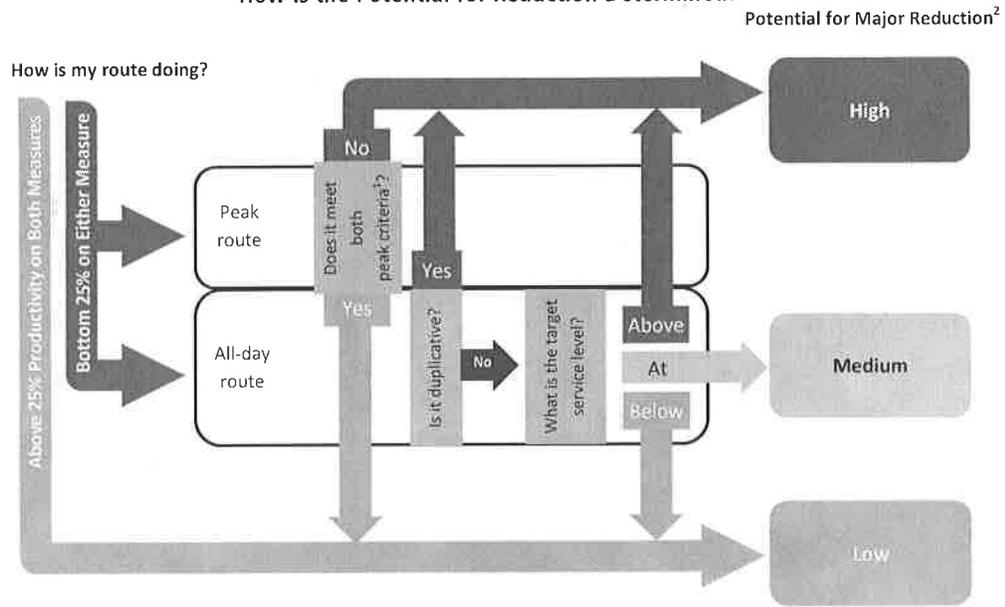
Not all routes performing in the bottom 25 percent have the same risk for reduction. In this report we categorize routes in the lowest-performing 25 percent as having high, medium or low potential for major reduction as follows:

- **High potential:** the route duplicates other service on the corridor, is on a corridor that is receiving service above its target level, or is a peak route that does not meet one or both of the peak service criteria.
- **Medium potential:** the route performs in the bottom 25 percent for a given time period and is on a corridor that is at its target service level.
- **Low potential:** the route is on a corridor that is below the target service level, is a peak service that meets one or both of the peak criteria, or provides the only connection in a community. The All-Day and Peak Network reflects the value of providing connections in communities throughout King County, suggesting that at least a minimum level of service should be provided for all 112 corridors.

Metro's adopted 2013-2014 budget assumes a \$75 million annual revenue shortfall after mid-2014. Metro must reduce up to 600,000 annual service hours to close this gap. When funding for Alaskan Way Viaduct mitigation service ends in June 2014, an additional 45,000 hours must be deleted. (The actual size of the reduction will depend on Metro's current finances.) The findings in this report are the basis for planning service reductions. Metro will also consider factors such as opportunities to make the system simpler or more efficient, and changes to other service in an area.

Figure 11 illustrates the factors used to determine a route's potential for reduction.

**FIG. 11**  
**How is the Potential for Reduction Determined?**



<sup>1</sup> Peak criteria are:

- Rides per trip should be 90% or greater compared to alternative service
- Travel time should be at least 20% faster than the alternative service

<sup>2</sup> The high, medium and low potential for major reduction shown here is a simplified presentation of the reduction priorities described in the service guidelines. See Figure 12 to see how High, Medium and Low relate to the four reduction priorities listed in the guidelines.

**Service reduction potential in 2013**

As seen on Table 16, the hours are given as an estimated range because the actual hours that would be reduced in a service change plan would vary. For example, if Metro restructures multiple interconnected routes in an area, the overall network might be more effective if we retain a segment of a route that is a candidate for reduction. As another example, we might retain a route that has potential for reduction if it is the only transit service in an area.

**TABLE 16**  
**Estimate of Hours that Could be Reduced from Services with High and Medium Reduction Potential**

	Percent of Total System	Est. Hours
High potential for major reduction	3% - 5%	115,000 - 160,000
Medium potential for major reduction	4% - 6%	140,000 - 200,000
Total hours in High and Medium potential for reduction	7% - 11%	255,000 - 360,000

We estimate that a total of between 255,000 and 360,000 annual service hours are in the high and medium risk categories, or between 7 and 11 percent of the Metro system. The \$75 million revenue shortfall would require a reduction of up to 600,000 annual service hours, and discontinuation of Alaskan

Way Viaduct mitigation funding would require an additional reduction of approximately 45,000 annual service hours. A reduction of this magnitude would have to go beyond the services identified as having high or medium potential for reduction. As shown in Figure 12, all services in the bottom 25 percent are not automatically placed within the category of high or medium potential for reduction. All services in the bottom 25 percent account for approximately 705,000 annual service hours, while only 255,000 to 360,000 are placed in the high or medium risk categories. The remaining routes in the bottom 25 percent are not categorized as having a high or medium risk for reduction. This is because they may be the last connection in a community, meet both peak criteria, or serve a corridor that is below its target service level, as they are categorized as a low potential for reduction. (See Fig. 11.)

The chart below describes how the reduction priorities relate to a route's potential for major reduction. The first reduction priority includes routes that are identified as having a high or medium potential for reduction. The second reduction priority is to restructure service. A restructure may touch routes with varying performances, so the "high, medium or low" classification does not apply. The third and fourth reduction priorities pull from those routes identified as having a low potential for major reduction.

FIG. 12

Service Guideline Reduction Priorities	Potential for Major Reduction
<p><b>1st reduction priority</b> – reduce service on routes that are below the 25% productivity threshold for a given time period, prioritizing those that are in the bottom 25% for both measures, reducing in the following order:</p> <ul style="list-style-type: none"> <li>▪ Duplicative service</li> <li>▪ Peak routes that do not meet one or both of the peak criteria</li> <li>▪ Route on corridors that are above their target service levels</li> </ul>	High
<ul style="list-style-type: none"> <li>▪ Routes on corridors that are at their target service levels</li> </ul>	Medium
<p><b>2nd reduction priority</b> – Restructure service to improve network design and efficiency</p>	N/A*
<p><b>3rd reduction priority</b> – Reduce service on routes that are predominately between 25–50% productivity threshold for a given time period, reducing in the following order:</p> <ul style="list-style-type: none"> <li>▪ Service that duplicates or overlaps with routes on the All-Day and Peak network</li> <li>▪ Peak routes that meet both peak criteria<sup>1</sup></li> <li>▪ Routes on corridors that are above their target service levels</li> <li>▪ Routes on corridors that are at their target service levels</li> </ul>	Low
<p><b>4th reduction priority</b> – Reduce services on routes that are below the 25% productivity threshold for a given time period on corridors identified as below their target service levels</p>	Low

\*Restructuring service may touch routes with varying performance and therefore isn't classified as high, medium or low.

<sup>1</sup> Peak routes that meet both peak criteria and that are between 0-50% reduction priority are evaluated among the 3rd reduction priority.

Whenever reductions are necessary, Metro strives to maintain public mobility as much as possible. To do so, we might reduce service frequency, shorten the span of service, or make targeted trip cuts rather than completely eliminate a route. We might also restructure a number of routes to make the whole network more productive and to maintain segments of routes that are reduced.

The tables on the following pages show the routes that are below the productivity threshold on one or both productivity measures and are at high or medium potential for major reduction based on the corridor analysis.

**TABLE 17**  
**Routes Below One or More Productivity Thresholds at High Potential for Major Reduction**

Route	Description	Peak		Off Peak		Night		Corridor	Target Service Family	Peak Criteria		Corridor Status			Potential for Major Reduction	Time Period
		Rides/PlatHr	PassMi/PlatMi	Rides/PlatHr	PassMi/PlatMi	Rides/PlatHr	PassMi/PlatMi			Travel Time	Ridership	Peak	Off Peak	Night		
7EX*	Rainier Beach - Seattle CBD	37.4	9.4					Peak	Peak	Yes	No		Peak	High	Peak	
19*	West Magnolia - Seattle CBD	31.5	7.8					Peak	Peak	Yes	No		Peak	High	Peak	
22	Arbor Heights - Westwood Village - Alaska Junction	15.6	2.8	13.1	2.4	7.8	1.2	None	None				None	High	Off Peak / Night	
28*	Whittier Heights - Ballard - Seattle CBD via Leary Av NW	50.9	12.4	36.1	9.7	23.1	5.8	34/36	Very Frequent/ Local			At, At	At, Above	At, At	High	Off Peak
47*	Summit - Seattle CBD	35.5	8.0	26.7	5.3	21.1	3.8	None	None				None	High	All	
48EX*	Mt Baker - University District - Loyal Heights	36.0	8.8					Peak	Peak	No	Yes		Peak	High	Peak	
61	North Beach - Ballard	7.7	1.1	9.3	1.5	4.9	0.8	None	None				None	High	All	
62*	Ballard - Seattle Pacific University - Seattle CBD	15.8	4.3					Peak	Peak	No	No		Peak	High	Peak	
82*	Seattle CBD - Greenwood					12.6	4.8	Owl	Owl				Owl	High	Night	
83*	Seattle CBD - Ravenna					15.8	7.8	Owl	Owl				Owl	High	Night	
84*	Seattle CBD - Madison Park - Madrona					8.1	1.3	Owl	Owl				Owl	High	Night	
98*	South Lake Union Street Car	83.4	12.7	52.4	8.9	24.0	4.0	None	None				None	High	Off Peak / Night	
99*	International District - Waterfront	25.0	6.1					Peak	Peak	Yes	No		Peak	High	Peak	
110	Tukwila Station - North Renton	12.5	2.0					Peak	Peak	Yes	No		Peak	High	Peak	
116EX*	Fauntleroy Ferry - Seattle CBD	19.7	8.6					Peak	Peak	Yes	No		Peak	High	Peak	
119	Dockton - Vashon	13.4	2.3	10.1	1.3			None	None				None	High	Peak / Off Peak	
121*	Highline CC - Burien TC - Seattle CBD via 1st Av S	20.4	9.0					Peak	Peak	Yes	No		Peak	High	Peak	
139	Burien TC - Gregory Heights	11.2	2.1	12.0	2.5	6.2	1.1	None	None				None	High	All	
152*	Auburn - Seattle CBD	16.8	11.4					Peak	Peak	Yes	No		Peak	High	Peak	
159*	Timberlane - Seattle CBD	20.4	14.0					Peak	Peak	No	No		Peak	High	Peak	
161*	Lake Meridian - Seattle CBD	18.8	10.7					Peak	Peak	Yes	No		Peak	High	Peak	
173	Federal Way TC - Federal Center South	12.0	5.9					Peak	Peak	Yes	No		Peak	High	Peak	
177*	Federal Way - Seattle CBD	23.8	15.1					Peak	Peak	No	No		Peak	High	Peak	
179*	Twin Lakes - Seattle CBD	22.7	16.7					Peak	Peak	No	No		Peak	High	Peak	
197*	Twin Lakes - University District	22.3	17.9					Peak	Peak	Yes	No		Peak	High	Peak	
200	Downtown Issaquah - North Issaquah	9.5	2.0	13.4	3.5			None	None				None	High	Peak	
202*	South Mercer Island - Seattle CBD	12.5	4.1					Peak	Peak	No	No		Peak	High	Peak	
203	Mercer Island P&R - Shorewood	12.3	1.8	11.8	1.1			None	None				None	High	Peak / Off Peak	
204	South Mercer Island - Mercer Island P&R via Island Crest			10.1	1.5			62	Local			At	Above	At	High	Off Peak
205EX*	South Mercer Island - First Hill - University District	19.0	5.5					Peak	Peak	No	No		Peak	High	Peak	
210*	Issaquah - Factoria - Seattle CBD	13.3	5.5					Peak	Peak	Yes	No		Peak	High	Peak	
211EX*	Issaquah Highlands - First Hill	15.4	4.7					Peak	Peak	No	No		Peak	High	Peak	
213	Mercer Island P&R - Covenant Shores			9.5	0.9			None	None				None	High	Off Peak	
215*	North Bend - Seattle CBD	23.7	13.8					Peak	Peak	No	Yes		Peak	High	Peak	
236	Woodinville - Totem Lake - Kirkland	8.5	2.4	7.9	2.5	6.6	1.5	98	Hourly			Above	Above	Above	High	All
238	Bothell - Totem Lake - Kirkland	12.5	3.4	13.5	4.0	6.4	1.6	109	Local			At	At	Above	High	Night
243*	Jackson Park - Bellevue	27.4	10.6					Peak	Peak	Yes	No		Peak	High	Peak	
250*	Overlake - Seattle CBD	21.8	11.9					Peak	Peak	No	No		Peak	High	Peak	
260*	Finn Hill - Seattle CBD	18.6	11.1					Peak	Peak	No	No		Peak	High	Peak	
265*	Overlake - Houghton - First Hill	16.6	9.0					Peak	Peak	Yes	No		Peak	High	Peak	
280*	Seattle CBD - Bellevue - Renton					16.0	10.9	Owl	Owl				Owl	High	Night	
306EX*	Kenmore - Seattle CBD	21.1	12.2					Peak	Peak	No	No		Peak	High	Peak	
309EX*	Kenmore - First Hill	12.5	7.8					Peak	Peak	Yes	No		Peak	High	Peak	
331	Shoreline CC - Kenmore	18.9	6.7	20.8	6.7	9.5	2.9	44	Local			At	At	Above	High	Night
910DART	North Auburn - SuperMall	8.5	1.0	9.2	1.8			None	None				None	High	Peak / Off Peak	
919DART	SE Auburn - Auburn P&R			14.4	2.5			None	None				None	High	Off Peak	
927DART	Issaquah - Lake Sammamish	7.0	1.7	6.4	2.6			None	None				None	High	Peak / Off Peak	
931DART	Bothell - Redmond	7.3	2.1	7.4	3.3			108	Hourly			Above	At	At	High	Peak
935DART	Totem Lake - Kenmore	5.7	0.7					46	Hourly			Above	At	At	High	Peak

Spring 2013 Thresholds for Routes that DO NOT serve Seattle Core

	Bottom 25%	Top 25%
Bottom 25%	12.1	2.4
Top 25%	24.1	7.4
Bottom 25%	12.0	2.7
Top 25%	24.5	7.9
Bottom 25%	10.9	2.6
Top 25%	18.8	6.3
Bottom 25%	24.0	10.7
Top 25%	47.3	16.6
Bottom 25%	32.6	9.8
Top 25%	21.4	5.3
Bottom 25%	15.4	3.3
Top 25%	34.9	10.8

\*Spring 2013 Thresholds for Routes that serve Seattle Core

Potential for Major Reduction

High	Any light shaded field is a risk factor Service in the bottom 25% of one or both productivity measures AND has none or above for its corridor status OR peak routes not meeting peak criteria
Medium	Service in the bottom 25% of one or both productivity measures AND at for its corridor status
Low	Services not in the bottom 25% of one or both productivity measures OR corridors below target service levels

Tables of routes at high or medium potential for major reduction

**TABLE 18**  
**Routes Below One or More Productivity Thresholds at Medium Potential for Major Reduction**

Route	Description	Peak		Off Peak		Night		Corridor	Target Service Family	Peak Criteria		Corridor Status			Potential for Major Reduction	Time Period
		Rides/ PlatHr	PassMi/ PlatMi	Rides/ PlatHr	PassMi/ PlatMi	Rides/ PlatHr	PassMi/ PlatMi			Travel Time	Ridership	Peak	Off Peak	Night		
3*	North Queen Anne - Seattle CBD - Madrona Park	53.7	11.7	49.9	10.7	24.5	6.0	23/76	Very Frequent/ Very Frequent			At, At	At, At	At, At	Medium	Night
10*	Capitol Hill - Seattle CBD	50.9	10.4	52.2	10.9	35.0	7.7	21	Very Frequent			At	At	At	Medium	Peak
11*	Madison Park - Seattle CBD	52.7	10.2	48.7	9.4	38.4	6.5	59	Very Frequent			At	Below	At	Medium	Peak
12*	Interlaken Park - Seattle CBD	50.6	9.5	38.0	6.3	16.4	2.7	22	Very Frequent			At	At	At	Medium	All
14*	Mount Baker - Seattle CBD	43.3	9.7	46.5	9.5	25.8	5.2	64	Very Frequent			Below	Below	At	Medium	Night
16*	Northgate TC - Wallingford - Seattle CBD	36.7	12.5	34.8	12.6	21.0	7.6	69	Very Frequent			Below	Below	At	Medium	Night
21*	Arbor Heights - Westwood Village - Seattle CBD	39.7	13.5	32.4	10.7	20.8	7.0	39	Very Frequent			At	At	At	Medium	Off Peak / Night
24*	Magnolia - Seattle CBD	44.4	13.3	28.9	10.1	21.0	5.5	61	Frequent			At	At	At	Medium	Off Peak / Night
26*	East Green Lake - Wallingford - Seattle CBD	48.5	13.1	32.2	11.1	22.6	7.1	34	Very Frequent			At	At	At	Medium	Off Peak
27*	Colman Park - Leschi Park - Seattle CBD	40.3	9.1	32.0	5.1	19.8	3.1	24	Frequent			Below	At	At	Medium	Off Peak / Night
30*	Sand Point - University District	28.6	6.6	23.8	5.8	24.5	4.9	92	Frequent			Below	At	At	Medium	Off Peak / Night
31*	University District - Fremont - Magnolia	35.6	8.4	30.1	7.7			35	Very Frequent			At	Below	At	Medium	Peak
33*	Discovery Park - Seattle CBD	46.7	13.6	31.5	8.3	23.1	5.8	26	Frequent			Below	At	Below	Medium	Off Peak
50	Alki - Columbia City - Othello Station	20.6	4.3	18.4	4.4	10.1	2.4	2/71	Frequent			Below/Below	At/At	At/At	Medium	Night
60*	Westwood Village - Georgetown - Capitol Hill	33.5	10.0	32.6	9.2	20.4	6.3	20	Very Frequent			Below	Below	At	Medium	Night
65*	Lake City - University District	32.9	7.7	34.3	8.5	21.4	6.1	57	Frequent			Below	At	At	Medium	Off Peak / Night
118	Tablequah - Vashon	14.8	2.5	12.8	2.1	13.4	3.1	91	Hourly			At	At	At	Medium	Off Peak
125*	Westwood Village - Seattle CBD	35.8	14.5	28.9	12.9	20.5	8.9	112	Frequent			Below	At	Below	Medium	Off Peak
132*	Burien TC - South Park - Seattle CBD	36.3	14.8	28.3	12.1	20.3	8.8	19	Very Frequent			Below	Below	At	Medium	Night
209	North Bend - Snoqualmie - Issaquah	7.8	3.5	10.7	5.3			42	Hourly			At	At	At	Medium	Peak / Off Peak
224	Fall City - Duvall - Redmond TC	6.9	3.2	7.8	4.0			82	Hourly			At	At	At	Medium	Peak / Off Peak
246	Eastgate - Factoria - Bellevue	11.6	2.6	12.3	2.7			28	Local			At	Below	At	Medium	Peak
249	Overlake - South Kirkland - South Bellevue	19.6	4.8	13.4	3.3	8.2	1.8	73	Local			At	At	At	Medium	Night
255*	Brickyard - Kirkland TC - Seattle CBD	28.4	14.2	27.3	13.5	24.8	13.1	97	Very Frequent			At	At	At	Medium	Off Peak
271*	Issaquah - Bellevue - University District	26.1	10.7	26.5	11.4	21.4	9.2	14/40/106	Very Frequent/ Local/ Very Frequent			Above, At, At	At, At, At	At, At, At	Medium	Off Peak
903DART	Twin Lakes - Federal Way TC	20.3	4.1	17.6	2.5	12.5	2.2	102	Local			At	At	At	Medium	Off Peak / Night
907DART	Enumclaw - Renton TC	3.6	1.3	5.4	2.7			88	Hourly			At	At	At	Medium	Peak / Off Peak
909DART	Kennydale - Renton TC	10.0	1.8	9.5	2.1			47	Hourly			At	At	At	Medium	Peak / Off Peak

Spring 2013 Thresholds for Routes that DO NOT serve Seattle Core

	Bottom 25%	Top 25%
Spring 2013 Thresholds for Routes that DO NOT serve Seattle Core	12.1	2.4
Bottom 25%	12.0	2.7
Top 25%	10.9	2.6
Spring 2013 Thresholds for Routes that serve Seattle Core	24.1	7.4
Bottom 25%	24.5	7.9
Top 25%	18.8	6.3
Spring 2013 Thresholds for Routes that serve Seattle Core	24.0	10.7
Bottom 25%	32.6	9.8
Top 25%	21.4	6.3
Spring 2013 Thresholds for Routes that serve Seattle Core	47.3	16.6
Bottom 25%	51.3	15.4
Top 25%	34.9	10.8

**Potential for Major Reduction**

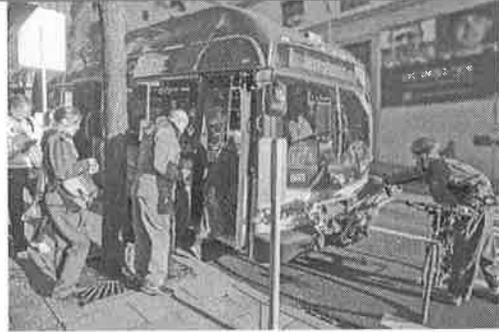
High	Any light shaded field is a risk factor
Medium	Service in the bottom 25% of one or both productivity measures AND has none or above for its corridor status OR peak routes not meeting peak criteria
Low	Service in the bottom 25% of one or both productivity measures AND at for its corridor status
Low	Services not in the bottom 25% of one or both productivity measures OR corridors below target service levels

## SECTION 4

## ■ THE GUIDELINES AT WORK

Metro uses the guidelines as we revise service three times each year, in the spring, summer, and fall. Following an extraordinarily large service change in fall 2012, in which we started the RapidRide C and D lines, revised more than 50 routes and reallocated more than

65,000 service hours, we made a smaller number of changes in 2013. This section summarizes the 2013 changes and reports on key outcomes emerging from 2012 service changes.



### 2013 service revisions

The February and June service revisions consisted of minor routing and system maintenance changes, including making permanent the trips that had been added to reduce overcrowding on the new C and D lines in fall 2012.

We made more changes in September, to address some of the crowding and unreliability issues, balance ridership and service levels on I-90 commuter routes, start an alternative services demonstration project, and change service in advance of the RapidRide F Line start. These are described below. A full list of changes made in 2013 is in Appendix I.

**Service quality investments.** The 2012 guidelines report found that 24,500 annual service hours were needed to reduce passenger crowding and improve schedule reliability. In September 2013, we invested more than 8,000 annual hours of service in routes that had these service quality problems. Metro did not have new resources for these investments, so following the guidelines, we reallocated hours from other service. However, we were able to meet only some of the needs. The investments did not cover the full list of routes that had reliability problems.

Metro added trips to all six routes identified as having overcrowding in the 2012 guidelines report. Trips were added on weekday mornings on routes 3, 4 and 60; on weekday afternoons on routes 16 and 44; and on Saturdays on Route 358.

We rescheduled four routes identified as having reliability problems in the 2012 report. Schedules were adjusted on weekdays on routes 2, 66, 150, and 181; on Saturdays on Route 2; and on Sundays on Route 150.

At the same time that service quality investments were made, trips were reduced on several routes that performed in the bottom 25 percent on at least one performance measure in 2012.

**I-90 commuter service changes.** Commuter services from the I-90 corridor to downtown Seattle have seen significant ridership growth in the past few years, leading to crowding on some routes. In fall 2013, Metro redistributed resources within this corridor to better match the available capacity to the market demand. The routes affected included commuter services from Bellevue, Eastgate, Issaquah, Issaquah Highlands, North Bend, and Sammamish.

Changes were focused on maintaining high levels of service to the busiest areas, such as the Eastgate and Issaquah Highlands park-and-rides. These changes were intended to reduce crowding and attract riders

#### September 2013 service quality investments

##### Trips were added to these routes:

3, 4, 16, 44, 60, 358

##### Schedules were changed on these routes:

2, 8, 66, 150, 181

#### September 2013 service reductions

##### Routes reduced:

139, 152, 187, 221, 246, 249, 250, 927

more evenly to different routes in the I-90 corridor. Metro also anticipates that some of the changes will attract new riders by providing faster and more direct trips between the primary destinations.

**Snoqualmie Valley Alternative Service Demonstration Project.** This first alternative service demonstration project began in the Snoqualmie Valley in fall 2013. Metro made changes to three fixed routes and added a new fixed route, and worked with an operating partner to establish a new intra-valley shuttle service in the Snoqualmie Valley. These changes affected service in Carnation, Duvall, Fall City, North Bend, Snoqualmie, and Woodinville.

Overall, the changes to fixed routes were designed to move service to areas with growing concentrations of population and employment. This combination of changes is designed to increase productivity and reduce costs while improving mobility in areas that are difficult to serve in a cost-effective way with traditional fixed-route transit.

**Renton service changes.** In June 2014, Metro will launch the RapidRide F Line between the Burien Transit Center and The Landing in Renton, replacing Route 140. In advance of the startup, Metro extended Route 140 to The Landing in September 2013 to provide better access to Boeing, other area employers, and housing and commercial developments at the south end of Lake Washington. This extension was the result of collaboration between Metro and the City of Renton to ensure that Metro responded to development that has occurred in the north portion of the Renton regional growth center. We also converted a local route to DART and made a minor routing modification in response to public feedback shared during outreach held in late 2012 and early 2013.

### Key early outcomes of fall 2012 service change

The fall 2012 service revision included the first large restructure to be planned using the service guidelines. In conjunction with the start of the RapidRide C and D lines, we restructured networks of more than 50 bus routes in Seattle and nearby communities and made smaller changes to about 40 routes. The revisions were intended to make the transit system more productive and to give riders better connections—including connections to fast, frequent RapidRide service. The changes included reducing or deleting low-productivity routes by more than 65,000 service hours and reinvesting the hours where they were needed to relieve crowding, improve reliability, and increase service on corridors that were below their target levels.

Because an extraordinarily large number of routes were affected and complete data are not yet available for all aspects of service, a comprehensive analysis of outcomes is not possible for this report.

In addition, customers are still adapting to the changes, and we expect performance indicators will change over the next year or two. However, analyses we have conducted to date have found notable results:

- In areas where major investments and restructures were made, ridership has grown more than the system average. The Delridge corridor, served by the Route 120 and portions of the C Line, has seen a 50 percent increase in boardings. Corridors with similar increases include Leary Way (Routes 28 and 40), Greenwood (Route 5), and Holman Road (Route 40).
- Ridership and productivity increases for the RapidRide C and D lines have outpaced systemwide increases. As of August 2013, C Line ridership had grown 51 percent above its 2011 baseline, already meeting the 5-year ridership projection. D line ridership was 16 percent above its baseline, on track to achieve the 5-year ridership projection. Both lines were also well above the average system



productivity as of May 2013. The system average rides per hour for 2013 through May was 32.9; the D Line average was 50.9 rides per hour and the C Line average was 37.6.

- Productivity on services affected by the C and D line restructure increased by 5 to 6 percent between 2011 and 2012.
- Median peak-hour travel times on the C and D lines have improved compared to travel times on the routes they replaced. The greatest travel time improvements are for the northbound C Line during the AM peak and for the northbound D Line during the PM peak. The least travel time improvement is on the southbound C Line during the PM peak.
- After an adjustment period following the September 2012 service change, Metro service systemwide met its on-time performance target of 80 percent in the period January through March 2013.

More detailed information about outcomes of the September 2012 service change and the C and D line restructures can be found at [www.kingcounty.gov/metro/reports](http://www.kingcounty.gov/metro/reports) in the following two reports:

- *Data and Lessons Learned from Elimination of the Ride Free Area and Start-up of RapidRide C and D Lines*
- *RapidRide C and D Line Implementation and Restructures—Ridership Assessment and Guidelines Analysis*

## SECTION 5

## ■ USING THE GUIDELINES TO REDUCE SERVICE BECAUSE OF A MAJOR FUNDING SHORTFALL



### Metro's funding shortfall

Since the service guidelines were adopted in July 2011, Metro has been using them to improve the transit system by delivering productive, high-quality service where it's needed most. This year, we have begun using the guidelines for a different purpose: to prepare for a major reduction of the transit system that may be necessary because of a severe funding shortfall facing Metro.

Since 2008, the Great Recession and ongoing weak economy have caused a shortfall in Metro's revenue from sales tax. Over the past five years, King County and Metro have taken many steps to substantially cut costs, increase revenue, and preserve most service. Actions include reducing staff and overhead, finding new operating efficiencies, tapping reserve funds, cutting very-low-productivity bus trips, raising fares, and adopting a temporary congestion reduction charge (CRC) that provides supplemental funding for two years.

However, the CRC will expire and available reserve funds will be exhausted in mid-2014. Metro's adopted 2013-2014 budget assumes that as a result, annual revenues will fall \$75 million short of what is needed to maintain the current level of service. Compounding this problem, state funding will end in June 2014 for enhanced Metro service to mitigate traffic impacts of the Alaskan Way Viaduct (AWV) Replacement Project.

If Metro does not receive additional revenue, up to 17 percent of current service would have to be eliminated in 2014 and 2015 to balance the transit budget. This would include up to 600,000 annual service hours to close the general revenue gap, plus 45,000 hours that would be lost when the AWV mitigation service ends. At the time this report is being prepared, the most recent sales tax collections for Metro have been somewhat better than expected, though not nearly enough to stave off service reductions. The actual size of the reductions will depend on Metro's current finances at the time reductions are approved.

In June 2014, the 45,000 hours of transit service supported by the AWV project mitigation contract would be removed. The West Seattle area has been receiving the most mitigation service and would be most heavily affected; other corridors that have been receiving mitigation service are those linking Burien, White Center, North Seattle (Aurora), Ballard and downtown Seattle. About 150 bus trips per day representing 7,500 bus seats per day would be lost, resulting in more-crowded and less-reliable transit service in an even more congested SR-99 corridor.

Service reductions would begin in June 2014, followed by additional reductions in September 2014 and February, June and September 2015. Up to 600,000 annual service hours would be eliminated in communities across King County, plus 45,000 hours in corridors that have been receiving AWV mitigation service.

The following is a proposal for making the necessary service reductions based on the service guidelines and objective data about route performance.

### Service reduction proposal

This proposal differs from the reduction illustration that was shared with the public in the 2012 service guidelines report. It has an added focus on revisions to the network that result in greater overall efficiency

and preservation of service on the most highly used corridors. Using the service guidelines, Metro planners developed the proposal based on a close examination of the network to find the most effective ways to provide service within a severely constrained budget.

**More than 80 percent of Metro’s routes would be changed in some way—some would be deleted, some would be reduced and some would be revised. These changes would have broad impacts on the entire public transportation network—even for routes that are not changed—and would affect a large portion of Metro’s customers and communities across King County. Impacts would include fewer travel options for riders, longer waits at bus stops, more transfers where people today have a direct connection, more-crowded and less-reliable buses, and increased traffic congestion.**

As the basis for this service reduction proposal, Metro spent several months doing a detailed, comprehensive analysis of data for all routes in regular service as of spring 2013. The routes are listed in Table 19. Because the service reductions would come from our current system, Table 19 lists routes as of fall 2013. Routes 208 and 219 are new as of fall 2013, so they are not shown in any tables in the preceding sections. Also that fall, Route 155 was converted to DART service, which is listed as 906DART in the table. We used the service guidelines described in Section 3 as the overarching guidance for which services would be reduced. We identified reduction priorities by considering each route’s performance and whether it is above, below or at the corridor’s target service level. The methodology for reducing service is illustrated in Figure 13.

We also looked for opportunities to cut hours yet maintain an effective network by making service revisions to areas of the county, to groups of routes, and to individual routes. Through these revisions, we could reduce duplication in the transit network while maintaining higher levels of service in the areas with the most ridership. Making changes to multiple routes along a corridor or within an area can improve efficiency and reduce operating costs while retaining more riders. At the same time, we kept in mind that large revisions also reduce or eliminate service in some current route segments, which can be harmful for customers and stressful for bus operators. We also sought to maintain connections in areas where there are high concentrations of minority populations or people with low incomes and high transit ridership.

In the service reduction proposal that is based on this work, the following changes would occur:

- **Less than 20 percent of Metro’s routes (33 routes) would remain unchanged**, but even these unchanged routes would likely carry more people and be more crowded in a reduced transit network. These routes typically are now in the top 25 percent on one or both performance measures, or were revised since spring 2013 to improve their performance and system efficiency.

Table 19 shows five routes that are in the bottom 25 for one or more productivity measures remaining unchanged. These routes remain unchanged for the following reasons:

- Route 10 was in the top 25 for one measure and in the bottom 25 for the other. This route helps maintain a network of well-spaced services.
  - Route 224 was shortened in fall 2013 as part of the alternative services delivery project to help make the service more cost-effective.
  - Route 246 was revised in fall 2013 to help make the service more productive.
  - Route 309EX was in the bottom 25 only because it was on a temporary reroute. Since the re-route has ended, this route is no longer in the bottom 25.
  - Route 601EX is an in service deadhead trip; in other words, it picks people up on its way from the base to the start of a different route. This means deletion of this trip would result in little to no cost savings because the bus and driver would still have to make this trip.
- **More than 50 percent of Metro’s routes (107 routes) would be reduced or revised.** In general, routes were proposed for reduction or revision because of low performance or because of an opportunity to improve the efficiency of the transit network.

The changes in this category would have the widest degree of variation. They range from smaller service reductions such as the last trips at the end of the day or elimination of low productivity route "tails," to larger reductions that include frequency reductions elimination of all night or off-peak service.

About 40 percent of routes in this category are now performing in the bottom 25 percent for one or both productivity measures during one or more time periods of the day. Many of these routes would be reduced or revised during the specific time periods when they carry the fewest riders, as we seek to preserve service where it is most highly used. The other 60 percent of routes in this category are higher-productivity routes that would be reduced and/or revised, or modified as part of a restructure, to improve service efficiency.

- **More than 30 percent of Metro's routes (74 routes) would be deleted.** Many of the routes that would be deleted are in the bottom 25 percent for one or both productivity measures, but some more-productive routes would also be deleted. Many of these higher-productivity routes are peak-only routes that do not meet the peak speed or ridership criteria described in Section 1 of this report. We also proposed to delete routes when we were able to consolidate service that operates on parallel corridors and serves similar markets, making better use of overall resources. Some routes would be deleted as we restructured larger areas and revised other routes to provide replacement service.

**TABLE 19**  
How Routes Would Be Affected in the Service Reduction Proposal

Unchanged		Deleted				Reduced/Revised				
A Line	301	4	82	205EX	909DART	C Line	32*	114	177*	249
B Line	303EX	5EX	83	209	910DART	D Line	33	116EX	180	252
10	309EX	7EX	84	210	913DART	1	36	118EX	181*	255
15EX	312EX	19	99	211EX	916DART	2	40	118	182	257
48	316	21	110	213	919DART	3*	41	119EX	186	269
74EX	330	22	113	215	927DART	5	43	119	187	271
75	345	25	139	217	930DART	7	44	120	193EX	311
76	347	26	152	237	935DART	8	49	121	197	331
77	373EX	27	154	238		9EX	50*	122	204	342*
101	601EX	28	158	242		11	55	123	208	346
102	906DART	30	159	243		12	56EX	124	212*	348
140 (F Line)		31	161	244EX		13*	60	125	214	355EX*
153		37	167	250		14	64EX	128	221	358EX* (E Line)
166		47	173	260		16*	65	131	226	372EX*
169		48EX	178	265		17EX	70*	132	232	903DART
183		57	179	277		18EX	71	143EX	234	907DART
216		61	190	280		21EX	73*	148	235*	914DART
218		62	192	304		24	98†	150	236	915DART
219		66EX	200	306EX		26EX*	105	156	240	917DART
224		67	201	308		28EX*	106*	157*	241	931DART
246		68	202	901DART		29	107	164	245	
268		72	203	908DART			111	168*	248	

Shaded cells are routes that perform in the bottom 25% in at least one measure, in at least one time period.

\* Routes have additional service/trips as a result of a revision

† South Lake Union Streetcar

**TABLE 20**  
Areas and Related Routes That Would Be Revised or Consolidated

REVISIONS IN REDUCTION PRIORITY II												
Northeast Seattle	31	32*	66EX	67	68	70*	71	72	73*	242	372EX*	
Northeast King County	221	234	235*	236	237	238	252	255	257	311	342*	930DART
Central/Southeast Seattle	7	8	9EX	14	27	36	60	98†	106*	107		
West Seattle	21	50*	116EX	118EX	119EX	125	128	131	132			
Queen Anne/Central Seattle	1	2	3*	4	12	13*	29					
North-Central Seattle	5EX	5	16*	26EX*	26	28EX*	28	40	355EX*			
I-5 South	177*	178	179	181*	190	192	193EX	197				
Magnolia	24	33										

ROUTE CONSOLIDATIONS AND ROUTING CHANGES						
Kent	157*	158	159	168*	914DART	916DART
Federal Way	187	901DART				
Renton	111					
Eastgate	212*	217	226	245	271	

\* Routes have additional service/trips as a result of a revision

## Bolded red routes are those that would be deleted

**Revisions** would take place in several areas of the county, listed below. These revisions are categorized as major, minor or route consolidations to give a sense of their magnitude. In proposing the revisions (as listed in tables 19 and 20), Metro's objective is to maintain service for as many current riders as possible, although in every case some riders would have to walk farther or would lose their service.

**Major revisions** are those where entire areas of the county would be restructured to provide more efficient service, reduce route duplication, target higher frequencies of service to the places with the most ridership, respond to major network changes and land-use developments, and create simpler service patterns that would be easier to understand. In these cases, we would be asking riders to adjust to a new service network, with many riders required to walk farther to reach service and some losing service altogether.

The service reduction proposal includes the following major revisions:

- **Northeast Seattle:** Consolidate several duplicative routes into one frequent route that runs between Northgate and downtown Seattle via the University District. Preserve night and weekend service on corridors with higher ridership in northeast Seattle and reduce service coverage to areas with fewer riders.
- **Northeast King County:** Shorten some routes that have less productive segments, reduce duplication in the network, maintain frequency in areas with higher ridership, better match service provided to the demand for that service, and reduce service coverage to areas that have fewer riders.
- **Central/Southeast Seattle:** Consolidate service to reduce duplication in the network while maintaining connections to areas with higher ridership. Preserve off-peak and night service to corridors with higher ridership in central and southeast Seattle by shortening some routes and reducing service coverage to areas that have fewer riders.
- **West Seattle:** Consolidate service to preserve commuter network and service coverage and frequency to West Seattle and southwest King County arterials. These restructures are in response to the combined impacts of Metro's structural financial gap and the loss of funding for the Alaskan Way Viaduct mitigation service.

**Minor revisions** are those where groups of routes that provide similar service would be revised or combined to provide more efficient service. In these cases, riders would use different routes to get to their destinations, but most riders would have service that is similar to what they currently use. Other riders may walk farther to access service or may lose their service. The service reduction proposal includes the following minor revisions:

- **Queen Anne/Central Seattle:** Consolidate service to reduce duplication in the network, maintain frequency in areas with high ridership and reduce service to areas with low ridership.
- **North-Central Seattle:** Streamline routings and consolidate competing services. Preserve off-peak, night, and weekend service on corridors with higher ridership in north-central Seattle by reducing service coverage in areas with fewer riders.
- **Magnolia:** Maintain all-day service to the areas with the highest ridership in Magnolia and preserve peak service levels that match rider demand.
- **I-5 South commuter service (Federal Way, Kent):** Maintain service frequency and ability to access current destinations to the most highly used park-and-ride lots on the I-5 south corridor. Eliminate peak service to park-and-rides that have relatively low utilization.

**Route consolidations:** In some cases, two or more routes are combined into one route that serves the majority of the riders that the two original routes served. The service reduction proposal also includes route consolidations in the following areas:

- **Kent:** Maintain some peak service to Kent East Hill by consolidating commuter service onto a single route and providing timed connections with Sounder commuter rail. Maintain scaled-back local DART service in Kent.
- **Federal Way:** Maintain some service coverage by reducing local service network duplication.
- **Renton:** Shorten route to serve most productive segments.
- **Eastgate:** Streamline routing to serve stops with the highest ridership and make service more efficient. Add peak service to accommodate rider demand.

**Route by route** descriptions of all service reductions and revisions are available online at [www.kingcounty.gov/metro/future](http://www.kingcounty.gov/metro/future). These descriptions include a map, summary of the route changes, resulting frequency and service span (or number of trips for peak service), and reasons why the service was reduced or revised. Also available online are maps of revision areas, with route frequencies and service spans of the resulting service network for each revised area. There are no route-by-route descriptions of unchanged or deleted routes.

**Public outreach** is part of any major service change. In November 2013, Metro will launch a public outreach process to inform people about the proposed reductions and learn from them about potential impacts of the changes. Throughout this process, we will strive to increase the public's understanding of the process Metro followed to determine the necessary reductions.

Metro will reach out in multiple forums in all areas of the county. The public outreach effort will be geared toward helping people better understand why service must be cut and how they may be affected, as well as helping Metro understand these effects. The feedback will help us identify impacts we might have missed in our own analysis, as well as ways we might meet our customers' needs in the future. If public feedback helps us identify ways to soften the impacts of service cuts, increase ridership, and *still make the necessary overall reductions*, we may make some adjustments to our proposal before finalizing the service reduction package that will ultimately be considered for adoption by the King County Council. Metro will more likely be able to respond to public feedback that:

- Identifies ways to reduce impacts on riders and serve more people while making the necessary service-hour reductions
- Balances the principles of social equity, geographic value and productivity by following the service guidelines
- Concerns a quantifiable reduced impact or benefit of the suggested change.

Community comments will also inform future service changes and policies, even if we are not able to adjust the reduction proposal and respond to people's concerns within the constraints of our current revenue environment.

A final proposal will be submitted to the King County Council for a decision in 2014.

## Potential impacts

**The proposed reduction of Metro service would directly affect more than 80 percent of Metro's routes and have a broad impact on the entire public transportation network and a large portion of Metro's customers.** Our services are part of an integrated transportation system, in which services work together to get people where they want to go. Today, as many as one-third of our customers make trips that involve transfers. For many of these riders, connections would become less convenient or impossible if services were eliminated or reduced.

The effectiveness of the overall transit network would be diminished. A reduced transit network would shrink the number of places people could go, limit where and how often they could travel, and increase the time that trips would take. People would have to walk farther or wait longer for a bus; many would

ride crowded buses, or be left at the curb as full buses pass them by. Overall, the system would be less convenient, attractive, and functional for many riders. Many riders might stop using transit as a result.

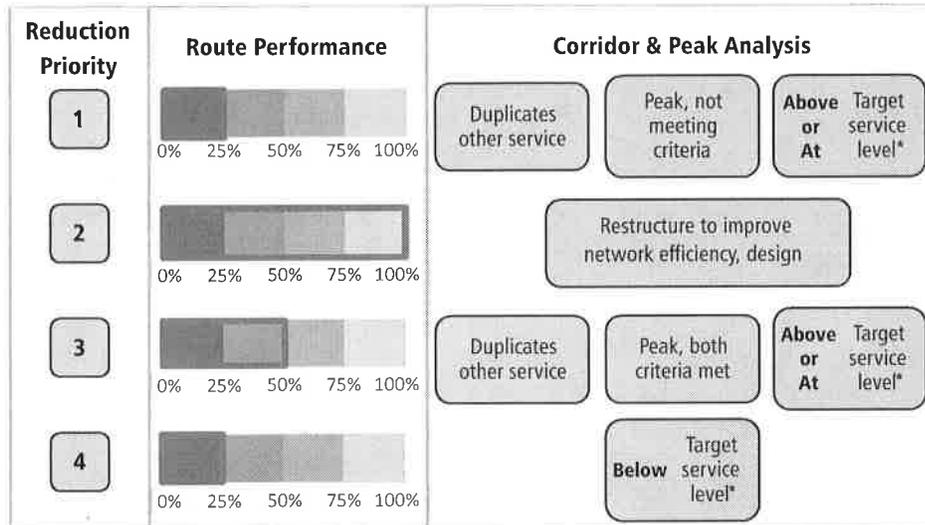
Here are some examples of what a reduced network could mean:

- **Elimination or reduction of more than 80 percent of the routes in the system would affect all types of services, not just those that are low-performing.**
- **Reduced neighborhood access to transit.** Many people in neighborhoods throughout King County would get less service, or would lose service entirely.
- **Longer, less-convenient trips to work and school.** Fifty-six percent of Metro's riders take the bus to school or work. Riders would have to wait longer, walk farther, make extra transfers or stand in the aisle more often. Some might not be able to get to their jobs or classes.
- **Increased traffic congestion.** Metro service takes about 175,000 vehicles off the road every weekday—largely during the busiest times of day on the most heavily used corridors. Major service reductions would send thousands of people back into their cars, increasing congestion and slowing traffic for everyone by adding tens of thousands of new car trips to King County's already-congested roadways.
- **Impacts on economic growth.** More than 1,500 businesses, the University of Washington, and other institutions provide bus passes to their employees or students; they rely on transportation to get people to work on time, manage parking capacity, and help reduce traffic congestion. Cuts to the transit system would affect our local economy as people would have a harder time getting to work and as increased congestion would make it harder to move goods and deliver services.
- **Impacts on those who depend on transit.** People who rely solely or heavily on transit would have fewer travel choices because there would be fewer bus stops, fewer routes, and less service on remaining routes.
- **Decreased accessible service options.** With less fixed-route service and fewer bus stops, riders with disabilities would have fewer opportunities to use Metro's fixed-route system. Federal requirements for complementary ADA paratransit, Metro's Access service, would be reduced if Metro's fixed-route service was reduced. Reductions in the areas and times in which Access service would be provided are possible, but are not yet part of this proposal.

### Guidelines methodology for reducing service

The first routes considered for reduction are those that perform in the bottom 25 percent on one or both productivity measures: **rides per platform hour** and **passenger miles per platform mile**.

Fig. 13  
Methodology For Reducing Service



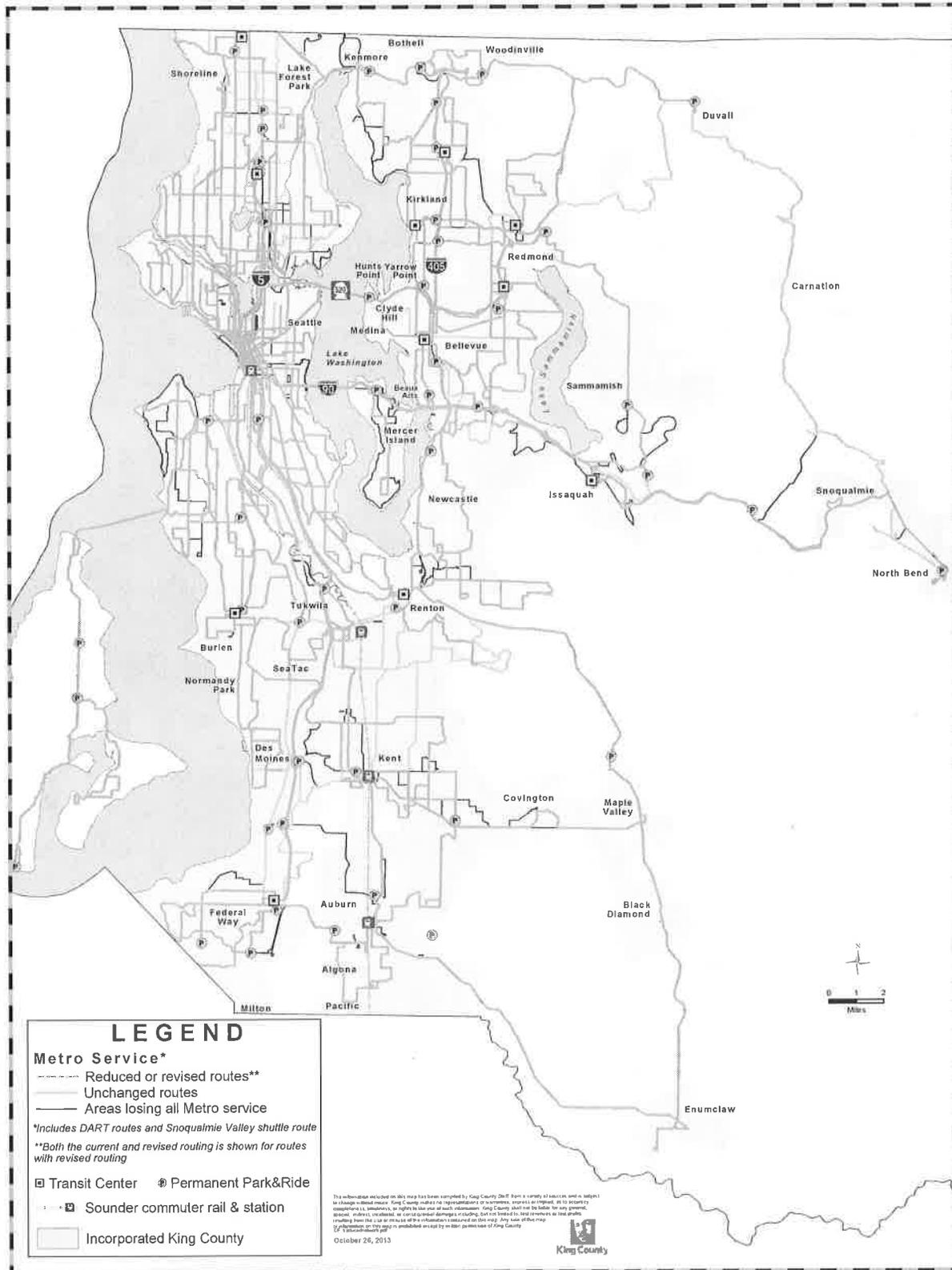
\*Target service level is based on demographics and demand between connections served by transit

### Why reducing routes in the bottom 25 percent is not enough

The routes that perform in the bottom 25 percent for productivity are a starting point for potential service reductions. Additional cuts would be needed to reduce the 600,000 hours necessary to close the \$75 million shortfall as well as the 45,000 hours funded by the Alaskan Way Viaduct mitigation contract that expires in June 2014. Some routes in the bottom 25 percent would be maintained to support some level of service throughout King County as well as other policy objectives. The remaining cuts would have to come from services that have higher productivity and would normally have a low potential for reduction. For further discussion, please see Section 3, Service Reduction Priorities, page 43.

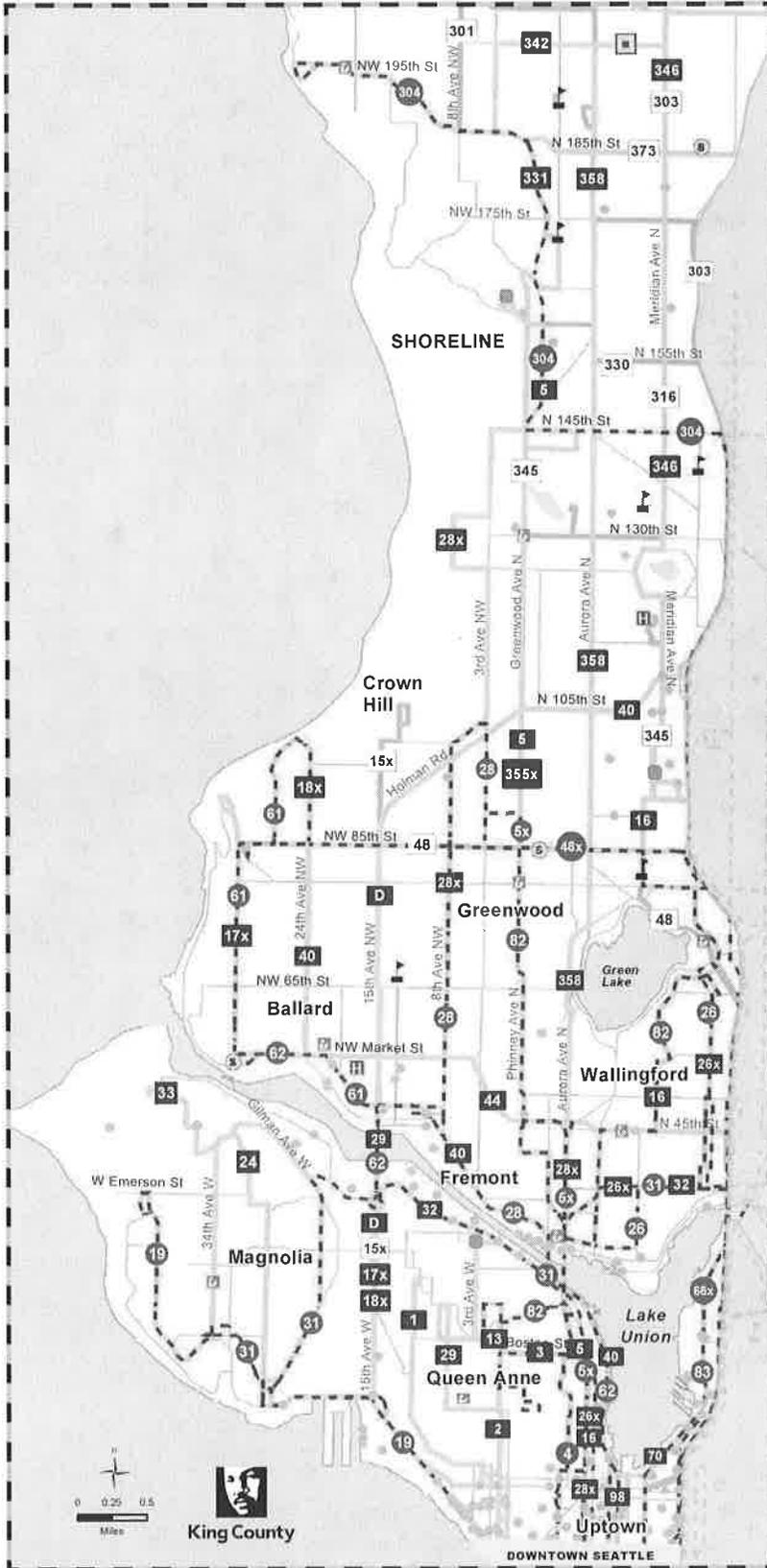
The figures on the following pages show area maps indicating routes that are deleted, reduced or revised, or unchanged in the service reduction proposal.

**FIG. 14**  
Proposed Reduction of Up to 600,000 Annual Service Hours



For more information, visit [www.kingcounty.gov/metro/future](http://www.kingcounty.gov/metro/future)

**FIG. 15**  
Service Reduction Proposal: Northwest Seattle/North King County



**LEGEND**

**Metro Service**

- - - Deleted
- 1 Reduced or revised
- Unchanged

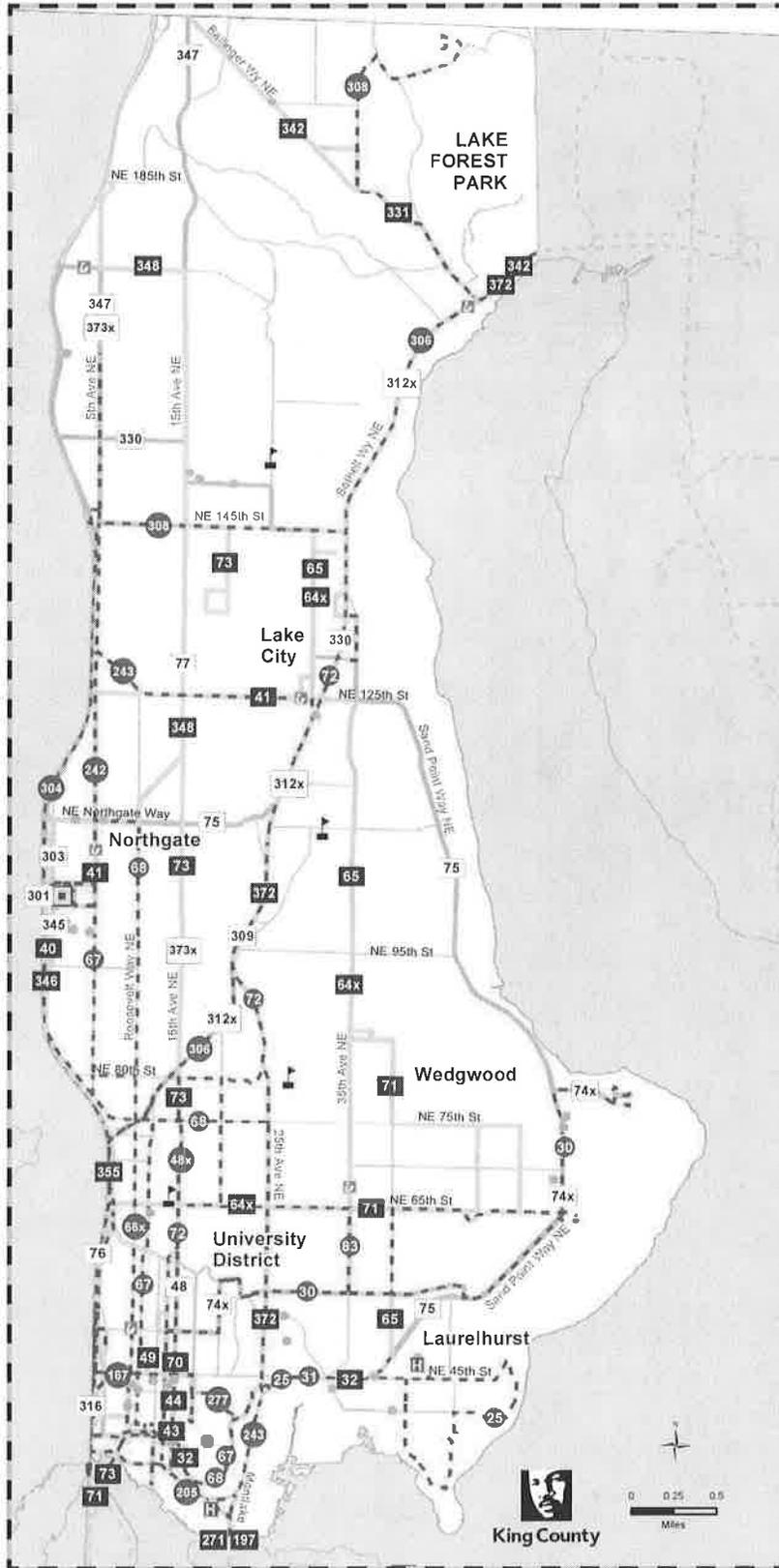
T Transit Center  
\* Major employment sites  
H High School      U University/Community College  
S Senior Center  
L Library      H Hospital

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For more information, visit  
[www.kingcounty.gov/metro/future](http://www.kingcounty.gov/metro/future)

FIG. 16  
Service Reduction Proposal: Northeast Seattle/North King County



**LEGEND**

**Metro Service**

- Deleted
- Reduced or revised
- Unchanged

Transit Center

Major employment sites

High School      University/Community College

Senior Center

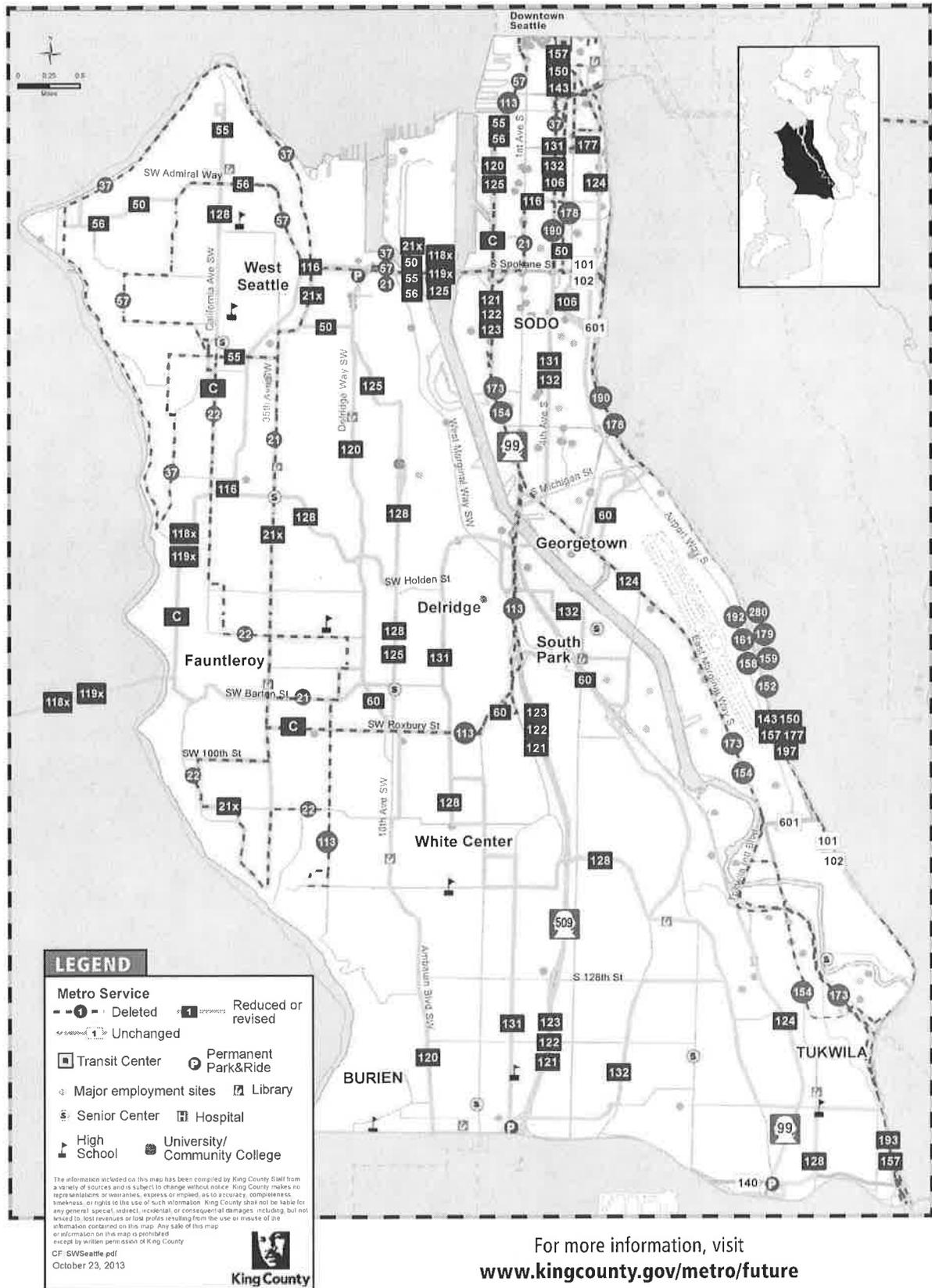
Library      Hospital

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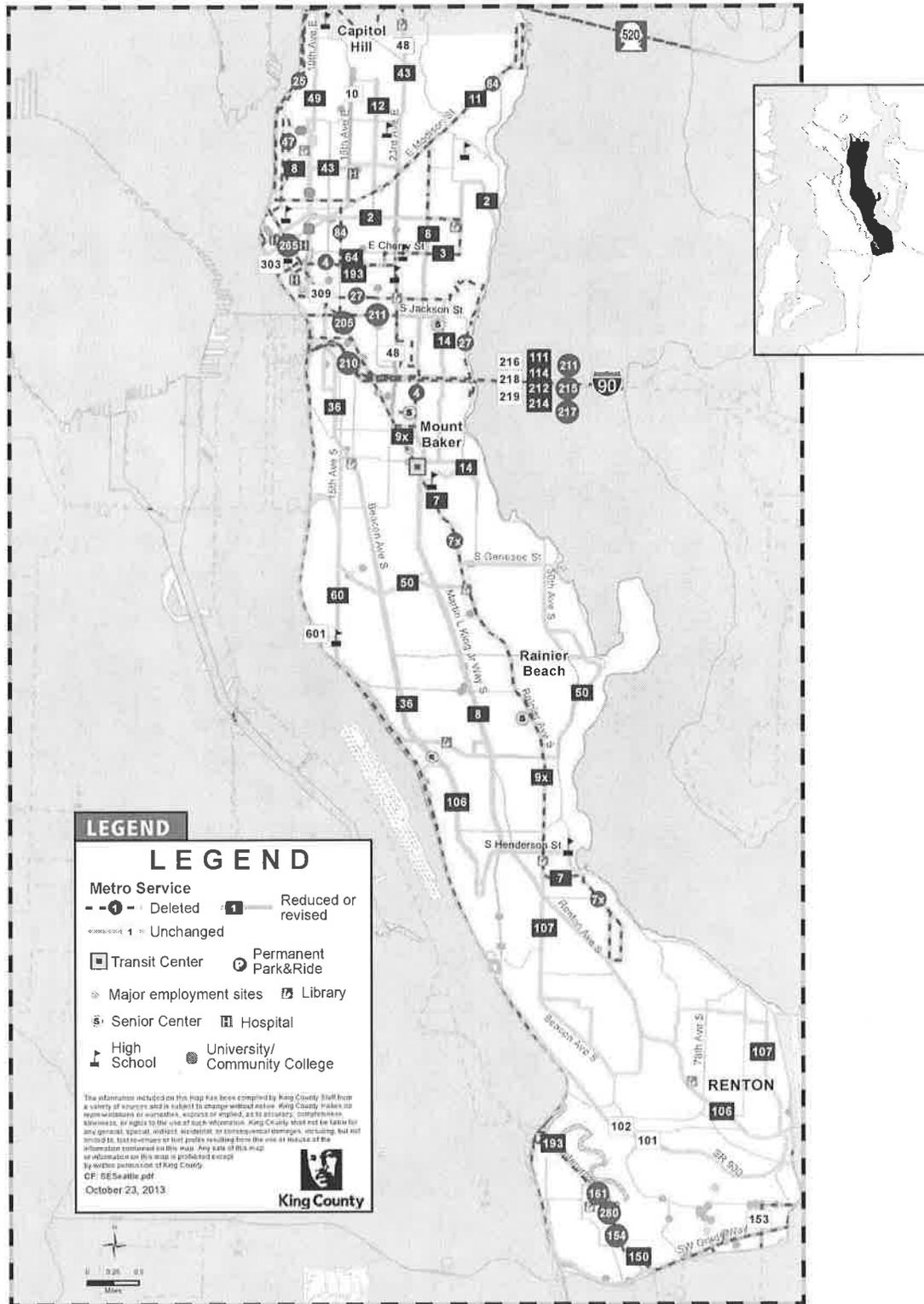
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For more information, visit  
[www.kingcounty.gov/metro/future](http://www.kingcounty.gov/metro/future)

**FIG. 17**  
Service Reduction Proposal: Southwest Seattle/South King County



**FIG. 18**  
Service Reduction Proposal; Central And Southeast Seattle/South King County



For more information, visit  
[www.kingcounty.gov/metro/future](http://www.kingcounty.gov/metro/future)

FIG. 19 Service Reduction Proposal: East King County—North

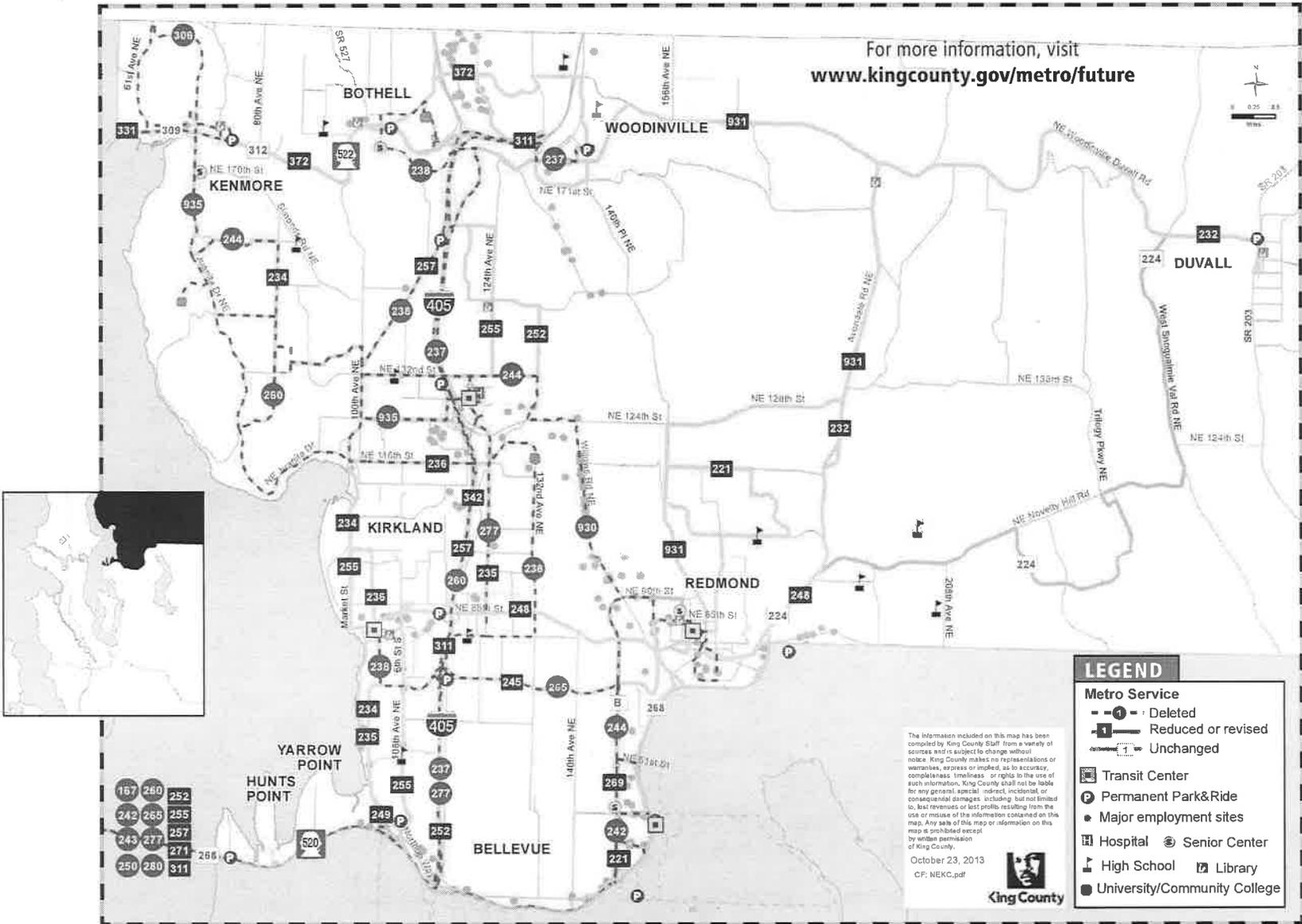
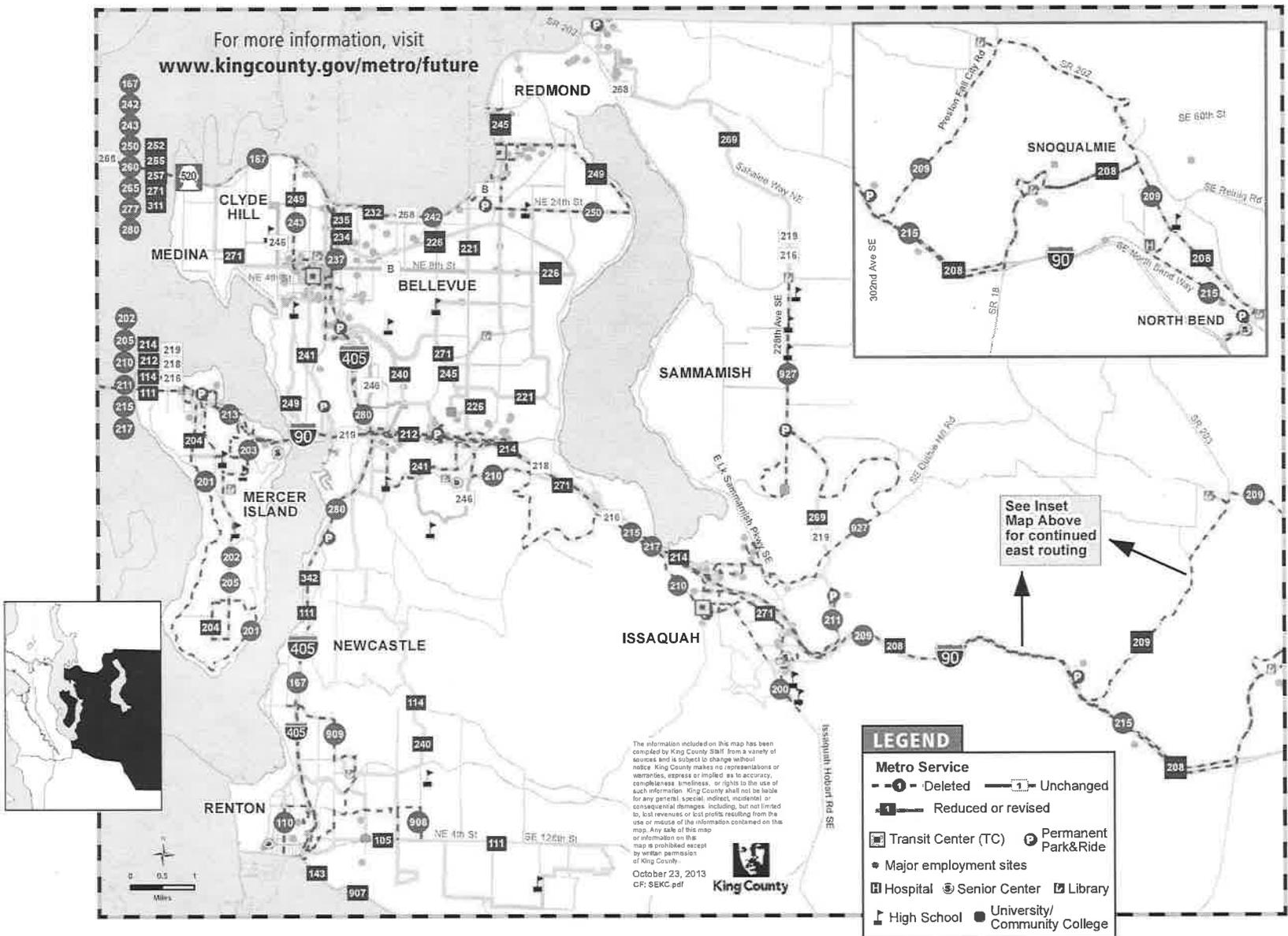
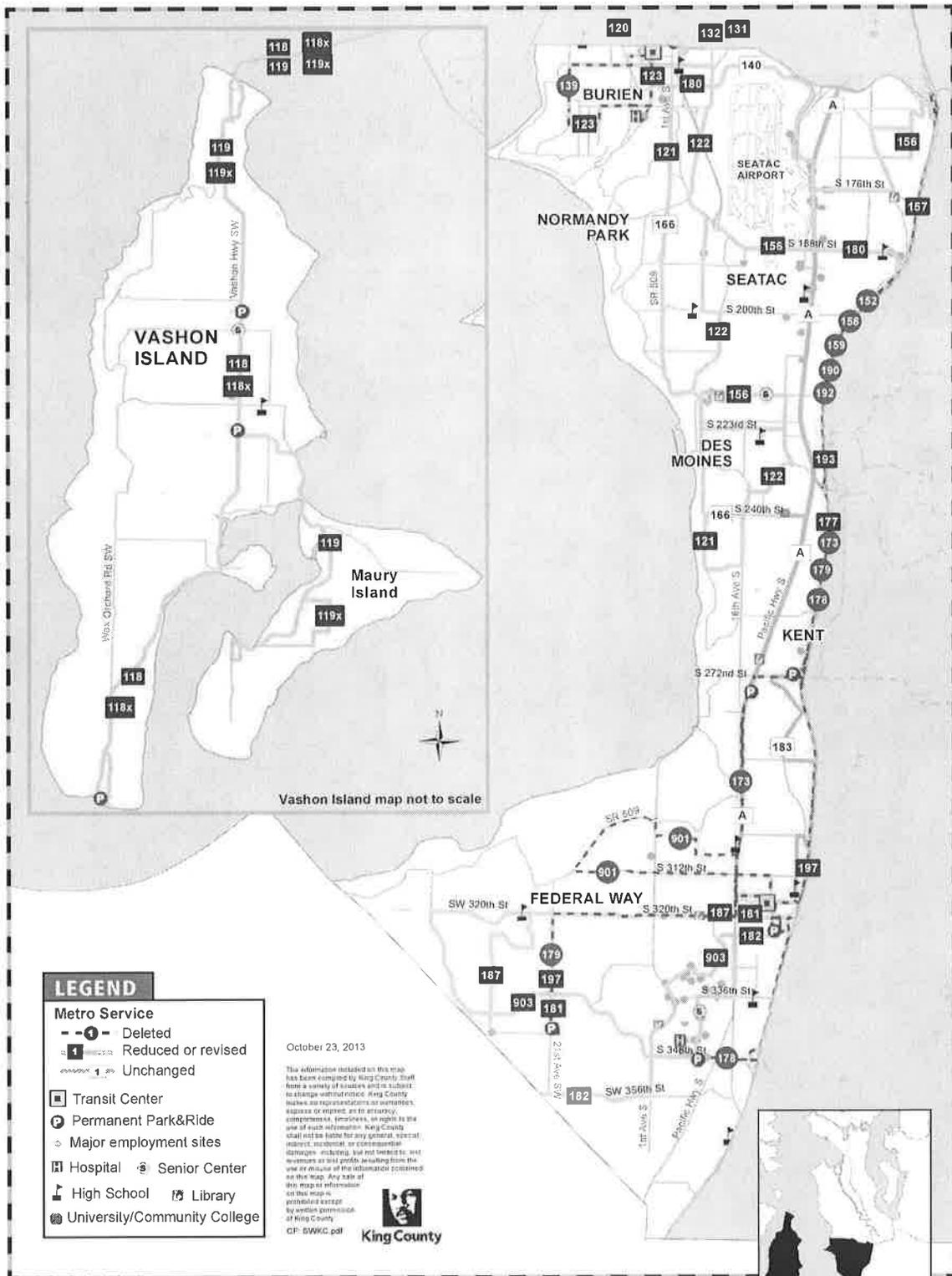


FIG. 20 Service Reduction Proposal: East King County—South

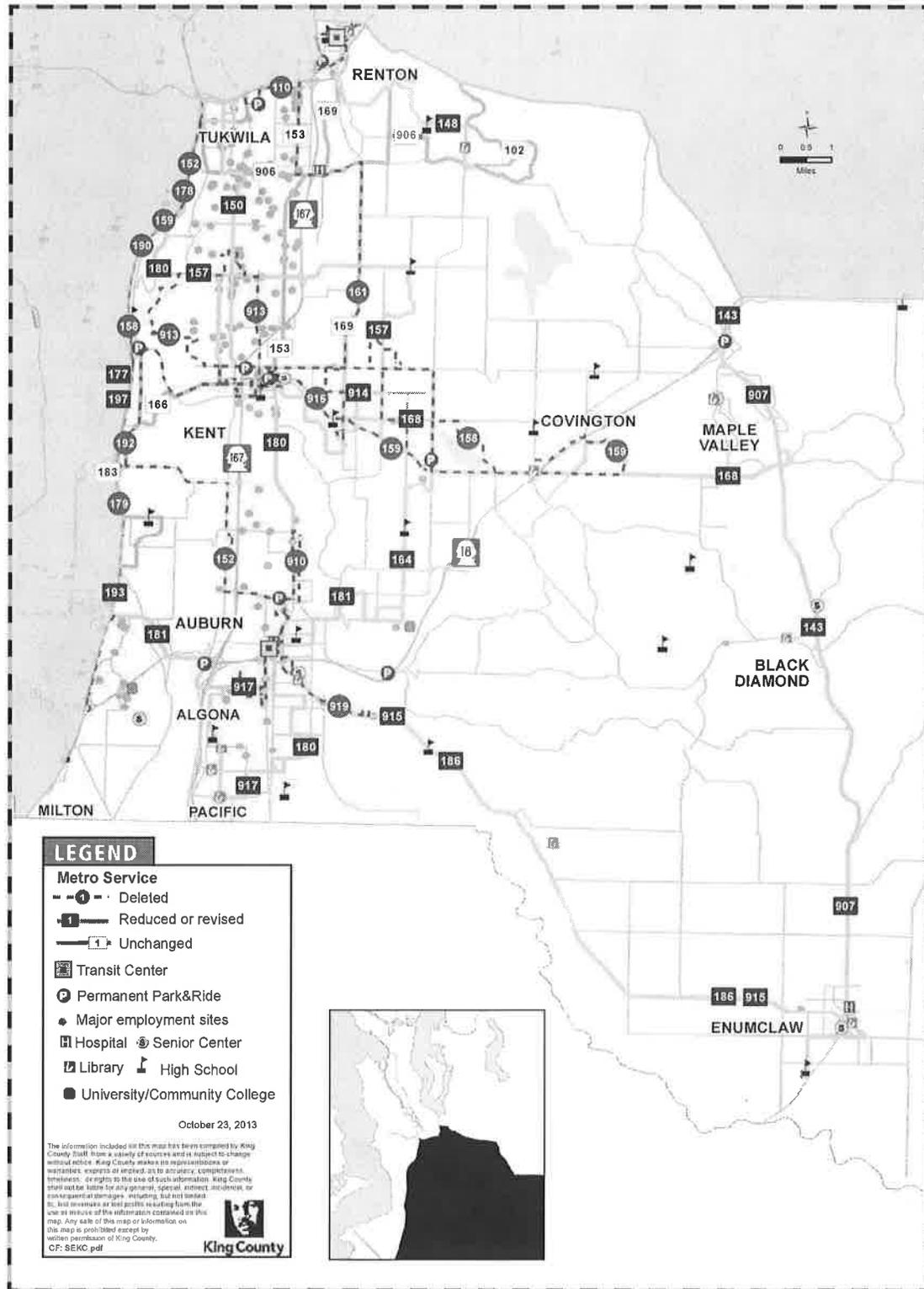


**FIG. 21**  
Service Reduction Proposal: Southwest King County



For more information, visit  
[www.kingcounty.gov/metro/future](http://www.kingcounty.gov/metro/future)

**FIG. 22**  
Service Reduction Proposal: Southeast King County



For more information, visit  
[www.kingcounty.gov/metro/future](http://www.kingcounty.gov/metro/future)



## SECTION 6

## ■ POTENTIAL CHANGES TO THE SERVICE GUIDELINES AND STRATEGIC PLAN

This 2013 Guidelines Report reflects changes to the guidelines methodology that were adopted as part of the 2013 strategic plan and service guidelines update. With the adoption of the updates, some actions were set in motion that might lead to future changes to the guidelines.

These actions are:

- 1) **Report on passenger load metrics.** Ordinance 17641 requires Metro to develop a report evaluating alternative measures to assess crowded services and the need for related transit service investments.

Metro operates buses with varying seating capacities and layout of seats, and the measure of passenger crowding is based on a ratio of passengers to seats. However, Metro's fleet is changing as we purchase new, low-floor buses to improve operations; these buses have fewer seats than older, high-floor buses. We are also purchasing some buses that are designed to have fewer seats and more room for standing passengers. The intent of the report is to determine if there may be different measures or other changes to passenger load metrics that can help us better identify overcrowding issues. The report is due to the County Council on April 30, 2014.

- 2) **Long-range plan development.** The new strategy 6.1.2 added to the strategic plan provides for Metro to "establish and maintain a long-range transit service and capital plan developed in collaboration with local comprehensive and regional long-range transportation planning."

The long-range plan will create a foundation for better coordination with partners, cities and other stakeholders, provide direction for cities in land use and policy decisions, and provide better guidance on Metro's future. To demonstrate Metro's needs and priorities, it will include service and capital elements of a future Metro transit network.

Metro is developing a scope and work plan for the development of the long-range plan, which is expected to take place over the next two years. As the plan is being developed, Metro will consider whether any changes are necessary to the strategic plan or service guidelines.

- 3) **Transit access and park-and-rides.** Ordinance 17641 also calls for Metro to develop a work plan to identify potential updates to the strategic plan and service guidelines related to park-and-rides and other infrastructure supporting access to transit. This work plan will be developed in coordination with the Puget Sound Regional Council, the Washington State Department of Transportation, Sound Transit, King County Council and King County Executive staff, local jurisdictions and private sector representatives.

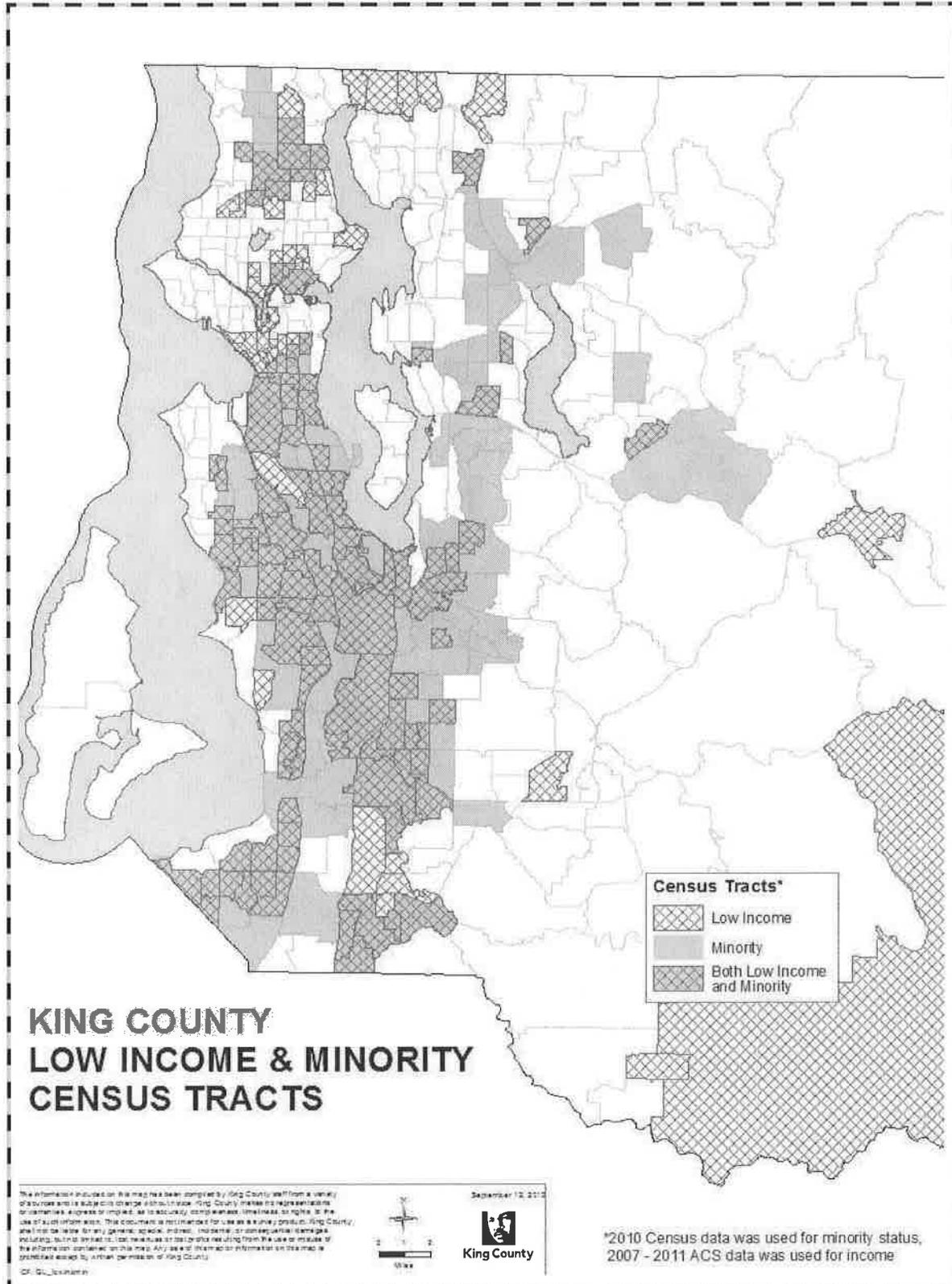
The work plan, due to the King County Council by December 31, 2013, is expected to include timelines, milestones and scope for reports that are expected to address:

- The role of park-and-rides and other infrastructure supporting access to transit
  - Best practices and approaches to improving transit access
  - Regional coordination for planning, tracking and funding of needs
  - Model policy language for regional consistency
  - Any proposed updates to the strategic plan and/or service guidelines.
- 4) **Alternative services.** Metro will continue to identify and report on appropriate performance measures for alternative services that are consistent with the productivity, social equity and geographic value policies of the *Strategic Plan for Public Transportation*; to monitor alternative service performance; and to establish how alternative transit service and levels of service should be adjusted in the future to meet community needs in a cost-effective manner.

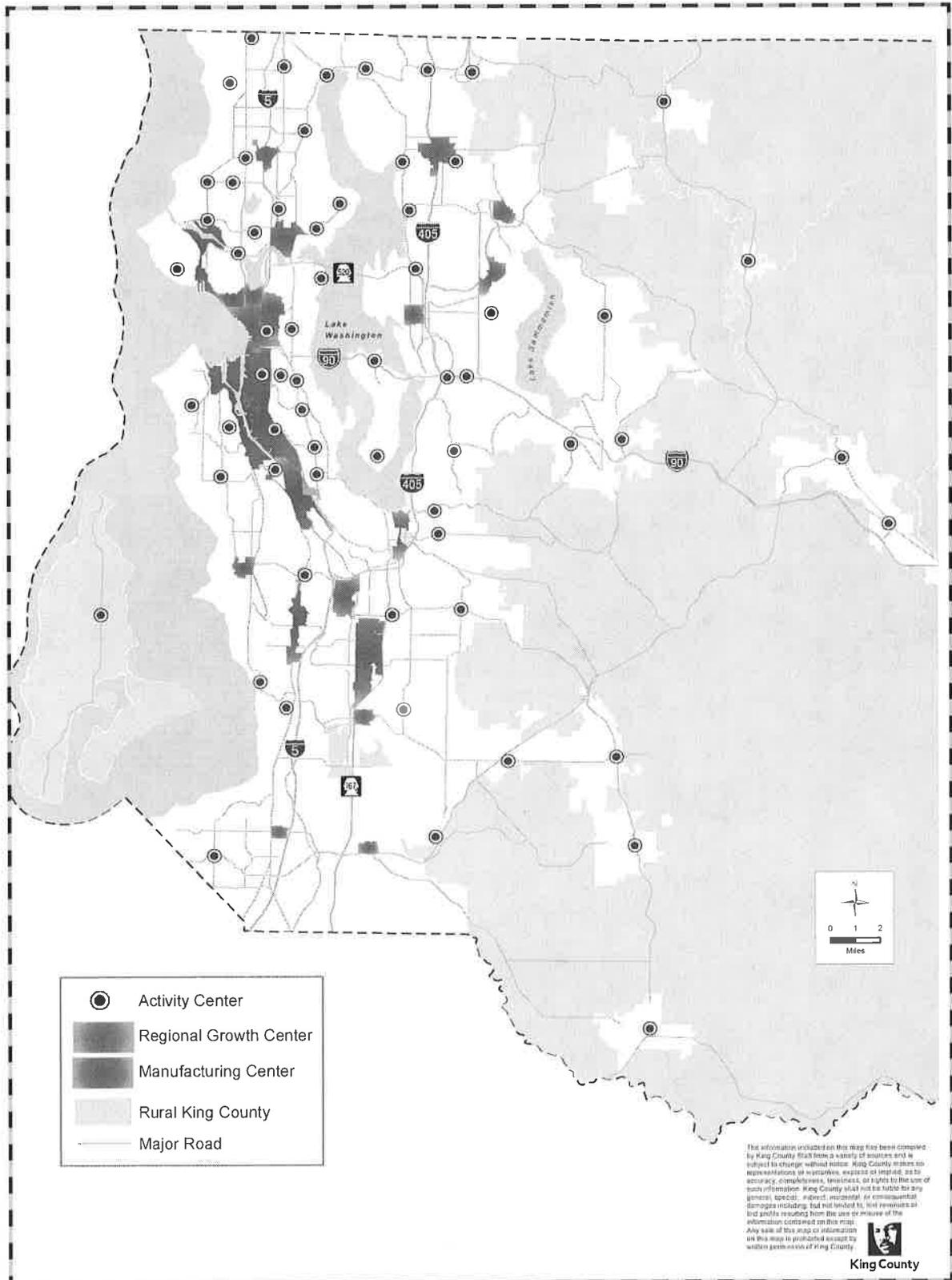
## ■ APPENDICES

Appendix A:	Map of Low-Income and Minority Tracts .....	A-2
Appendix B:	Map of Activity Centers .....	A-3
Appendix C:	Route Productivity Data .....	A-4
Appendix D:	Routes with Overcrowding .....	A-9
Appendix E:	Routes with Poor Reliability .....	A-11
Appendix F:	Peak Route Analysis Results .....	A-15
Appendix G:	2012 Corridor Changes .....	A-18
Appendix H:	Corridors that Changed Target Service Level from 2012 to 2013 .....	A-19
Appendix I:	2012 Service Changes .....	A-21
Appendix J:	Information and Data Sources .....	A-25
Appendix K:	Route-level Ridership .....	A-27
Appendix L:	Corridor Analysis of All-Day Network: Step One.....	A-34
	Corridor Analysis of All-Day Network: Step Two and Final Suggested Service Levels.....	A-37

Appendix A:  
King County Low Income and Minority Census Tracts (2011 Geography)



# Appendix B: Transit Activity Centers and Regional Growth/Manufacturing Centers



Appendix C:  
Route Productivity Data  
Routes that Do Not Serve the Seattle Core

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
A Line	Federal Way - Tukwila	49.1	13.5	54.2	17.6	39.4	12.7
B Line	Bellevue - Crossroads - Redmond	40.7	11.4	35.3	10.5	30.9	8.3
22	Arbor Heights - Westwood Village - Alaska Junction	15.6	2.8	13.1	2.4	7.8	1.2
50	Alki - Columbia City - Othello Station	20.6	4.3	18.4	4.4	10.1	2.4
61	North Beach - Ballard	7.7	1.1	9.3	1.5	4.9	0.8
105	Renton Highlands - Renton TC	31.5	7.3	28.2	8.2	18.9	5.7
107	Renton TC - Rainier Beach	24.2	6.1	22.0	6.0	15.0	4.3
110	Tukwila Station - North Renton	12.5	2.0				
118	Tahlequah - Vashon	14.8	2.5	12.8	2.1	13.4	3.1
119	Dockton - Vashon	13.4	2.3	10.1	1.3		
128	Southcenter - Westwood Village - Admiral District	33.8	10.9	35.4	12.0	17.2	5.8
139	Burien TC - Gregory Heights	11.2	2.1	12.0	2.5	6.2	1.1
140	Burien TC - Renton TC	29.6	9.0	33.6	11.3	28.8	9.7
148	Fairwood - Renton TC	16.4	5.2	17.3	6.0	19.8	7.0
153	Kent Station - Renton TC	22.1	6.2				
154	Tukwila Station - Boeing Industrial	18.4	5.3				
155	Fairwood - Southcenter	18.4	5.6	19.3	6.1		
156	Southcenter - SeaTac Airport - Highline CC	15.2	4.6	15.5	5.3	10.2	2.6
164	Green River CC - Kent Station	44.9	13.2	45.0	16.2	29.0	8.4
166	Kent Station - Burien TC	26.6	8.2	30.7	9.6	19.2	5.6
168	Maple Valley - Kent Station	24.3	7.3	25.4	8.6	24.8	7.0
169	Kent Station - East Hill - Renton TC	37.6	10.8	39.7	12.0	30.2	9.1
173	Federal Way TC - Federal Center South	12.0	5.9				
180	Auburn - SeaTac Airport - Burien TC	32.8	10.2	33.2	11.9	15.3	6.1
181	Twin Lakes P&R - Green River CC	28.0	8.4	27.2	9.8	17.4	4.3
182	NE Tacoma - Federal Way TC	16.3	4.4	19.6	6.2		
183	Federal Way - Kent Station	21.3	6.4	21.6	8.7		
186	Enumclaw - Auburn Station	12.6	3.2				
187	Federal Way TC - Twin Lakes	22.9	5.9	27.6	7.4	15.5	3.7
200	Downtown Issaquah - North Issaquah	9.5	2.0	13.4	3.5		
201	South Mercer Island - Mercer Island P&R via Mercer Wy	5.7	1.2				
203	Mercer Island P&R - Shorewood	12.3	1.8	11.8	1.1		
204	South Mercer Island - Mercer Island P&R via Island Crest			10.1	1.5		
209	North Bend - Snoqualmie - Issaquah	7.8	3.5	10.7	5.3		
213	Mercer Island P&R - Covenant Shores			9.6	0.9		
221	Education Hill - Overlake - Eastgate	20.3	5.9	17.5	4.9	12.5	2.6
224	Fall City - Duvall - Redmond TC	6.9	3.2	7.8	4.0		
226	Eastgate - Crossroads - Bellevue	27.6	7.0	25.6	6.0	12.4	2.9
232	Duvall - Bellevue	17.7	6.1				
234	Kenmore - Kirkland TC - Bellevue	22.1	8.6	19.5	7.5	14.6	5.0
235	Kingsgate - Kirkland TC - Bellevue	20.5	7.1	15.9	6.2	11.7	4.1
236	Woodinville - Totem Lake - Kirkland	8.5	2.4	7.9	2.5	6.6	1.5
237	Woodinville - Bellevue	20.0	8.2				
238	Bothell - Totem Lake - Kirkland	12.5	3.4	13.5	4.0	6.4	1.6
240	Bellevue - Newcastle - Renton	23.6	8.3	22.2	8.9	15.1	6.3
241	Eastgate - Factoria - Bellevue	16.9	4.1	16.1	3.9	10.6	2.4
242	North City - Overlake	21.3	12.3				
244EX	Kenmore - Overlake	12.4	5.0				
245	Kirkland - Overlake - Factoria	24.9	7.4	24.2	7.0	16.7	4.6
246	Eastgate - Factoria - Bellevue	11.6	2.6	12.3	2.7		
248	Avondale - Redmond TC - Kirkland	21.4	5.3	19.9	4.9	13.6	3.1
249	Overlake - South Kirkland - South Bellevue	19.6	4.8	13.4	3.3	8.2	1.8
269	Issaquah - Overlake	12.9	5.5				
330	Shoreline CC - Lake City	21.3	4.7				
331	Shoreline CC - Kenmore	18.9	6.7	20.8	6.7	9.5	2.9
342	Shoreline - Bellevue TC - Renton	18.7	10.2				

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
345	Shoreline CC - Northgate	42.2	11.3	39.2	11.1	18.5	6.8
346	Aurora Village - Northgate	41.2	12.0	34.6	10.8	15.5	5.4
347	Mountlake Terrace - Northgate	25.7	8.7	23.2	7.8	21.0	6.8
348	Richmond Beach - Northgate	24.5	7.0	24.0	7.3	17.8	5.8
901DART	Mirror Lake - Federal Way TC	20.8	4.6	20.6	3.6	16.3	4.6
903DART	Twin Lakes - Federal Way TC	20.3	4.1	17.6	2.5	12.5	2.2
907DART	Enumclaw - Renton TC	3.6	1.3	5.4	2.7		
908DART	Renton Highlands - Renton TC	9.4	1.8	7.0	1.8		
909DART	Kennydale - Renton TC	10.0	1.8	9.5	2.1		
910DART	North Auburn - SuperMall	8.5	1.0	9.2	1.8		
913DART	Kent Station - Riverview	13.8	2.2				
914DART	Kent - Kent East Hill			21.3	4.1		
915DART	Enumclaw - Auburn Station			16.0	4.5		
916DART	Kent - Kent East Hill			18.5	4.6		
917DART	Pacific - Auburn	11.6	2.2	11.1	2.7		
919DART	SE Auburn - Auburn P&R			14.4	2.5		
927DART	Issaquah - Lake Sammamish	7.0	1.7	6.4	2.6		
930DART	Kingsgate - Redmond	8.1	1.1				
931DART	Bothell - Redmond	7.3	2.1	7.4	3.3		
935DART	Totem Lake - Kenmore	5.7	0.7				

Spring 2013 Thresholds Routes that DO NOT serve Seattle Core	Peak		Off Peak		Night	
<b>Bottom 25%</b>	<b>12.1</b>	<b>2.4</b>	<b>12.0</b>	<b>2.7</b>	<b>10.9</b>	<b>2.6</b>
<b>Top 25%</b>	<b>24.1</b>	<b>7.4</b>	<b>24.5</b>	<b>7.9</b>	<b>18.8</b>	<b>6.3</b>

Routes that Serve the Seattle Core

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
C Line	Westwood Village - Alaska Junction - Seattle CBD	44.2	18.7	43.5	19.7	27.5	12.3
D Line	Ballard - Seattle Center - Seattle CBD	63.1	15.8	60.0	18.1	39.6	11.3
1	Kinnear - Seattle CBD	51.0	12.1	46.5	9.8	34.3	8.5
2	West Queen Anne - Seattle CBD - Madrona Park	49.1	11.4	45.7	9.8	29.8	6.8
3	North Queen Anne - Seattle CBD - Madrona Park	53.7	11.7	49.9	10.7	24.5	6.0
4	East Queen Anne - Seattle CBD - Judkins Park	53.5	11.2	48.4	9.9	28.3	6.3
5EX	Shoreline CC - Seattle CBD	47.7	16.5				
5	Shoreline CC - Seattle CBD	56.8	17.5	49.4	14.6	37.8	11.3
7EX	Rainier Beach - Seattle CBD	37.4	9.4				
7	Rainier Beach - Seattle CBD	51.9	15.7	59.3	17.8	34.9	10.7
8	Seattle Center - Capitol Hill - Rainier Beach	53.9	12.2	48.8	11.6	32.8	7.6
9EX	Rainier Beach - Capitol Hill	40.0	11.5	44.5	14.3		
10	Capitol Hill - Seattle CBD	50.9	10.4	52.2	10.9	35.0	7.7
11	Madison Park - Seattle CBD	52.7	10.2	48.7	9.4	38.4	6.5
12	Interlaken Park - Seattle CBD	50.6	9.5	38.0	6.3	16.4	2.7
13	Seattle Pacific University - Queen Anne - Seattle CBD	58.4	14.0	59.7	14.2	31.2	7.5
14	Mount Baker - Seattle CBD	43.3	9.7	46.5	9.5	25.8	5.2
15EX	Blue Ridge - Ballard - Seattle CBD	47.4	17.9				
16	Northgate TC - Wallingford - Seattle CBD	36.7	12.5	34.8	12.6	21.0	7.6
17EX	Sunset Hill - Ballard - Seattle CBD	54.3	18.7				
18EX	North Beach - Ballard - Seattle CBD	51.3	18.7				
19	West Magnolia - Seattle CBD	31.5	7.8				
21EX	Arbor Heights - Westwood Village - Seattle CBD	36.8	15.0				
21	Arbor Heights - Westwood Village - Seattle CBD	39.7	13.5	32.4	10.7	20.8	7.0
24	Magnolia - Seattle CBD	44.4	13.3	28.9	10.1	21.0	5.5
25	Laurelhurst - University District - Seattle CBD	22.4	6.0	17.5	4.4		
26EX	East Green Lake - Wallingford - Seattle CBD	52.5	17.7				
26	East Green Lake - Wallingford - Seattle CBD	48.5	13.1	32.2	11.1	22.6	7.1
27	Colman Park - Leschi Park - Seattle CBD	40.3	9.1	32.0	5.1	19.8	3.1
28	Whittier Heights - Ballard - Seattle CBD via Leary Av NW	50.9	12.4	36.1	9.7	23.1	5.8
28EX	Broadview - Ballard - Seattle CBD via Leary Av NW	43.4	13.8				
29	Ballard - Queen Anne - Seattle CBD	40.5	9.9				
30	Sand Point - University District	28.6	6.6	23.8	5.8	24.5	4.9
31	University District - Fremont - Magnolia	35.6	8.4	30.1	7.7		
32	University District - Fremont - Seattle Center	38.4	12.5	36.1	12.2	24.5	6.6
33	Discovery Park - Seattle CBD	46.7	13.6	31.5	8.3	23.1	5.8
36	Othello Station - Beacon Hill - Seattle CBD	45.7	12.9	51.3	13.7	27.6	7.4
37	Alaska Junction - Alki - Seattle CBD	21.3	8.1				
40	Northgate TC - Ballard - Seattle CBD via Leary Av NW	41.5	13.2	37.3	12.1	28.8	10.1
41	Lake City - Seattle CBD via Northgate	59.3	25.4	56.5	25.4	46.9	22.3
43	University District - Capitol Hill - Seattle CBD	58.9	16.0	50.4	13.1	38.6	10.5
44	Ballard - Wallingford - Montlake	62.4	16.6	50.9	12.4	34.1	9.1
47	Summit - Seattle CBD	35.5	8.0	26.7	5.3	21.1	3.8
48EX	Mt Baker - University District - Loyal Heights	36.0	8.8				
48	Mt Baker - University District - Loyal Heights	47.2	13.0	49.1	14.7	29.9	8.2
49	University District - Capitol Hill - Seattle CBD	62.2	19.7	63.2	18.2	53.0	15.6
55	Admiral District - Alaska Junction - Seattle CBD	30.6	12.7				
56EX	Alki - Seattle CBD	36.4	14.1				
57	Alaska Junction - Seattle CBD	32.9	13.2				
60	Westwood Village - Georgetown - Capitol Hill	33.5	10.0	32.6	9.2	20.4	6.3
62	Ballard - Seattle Pacific University - Seattle CBD	15.8	4.3				
64EX	Lake City - First Hill	34.6	13.6				
65	Lake City - University District	32.9	7.7	34.3	8.5	21.4	6.1
66EX	Northgate TC - Eastlake - Seattle CBD	52.8	18.8	40.9	13.7	27.3	8.9
67	Northgate TC - University District	40.9	12.8	53.5	20.6	24.6	6.7
68	Northgate TC - Ravenna - University District	39.8	8.7	56.5	13.6		
70	University District - Seattle CBD	49.5	14.8	40.0	11.5		
71	Wedgwood - University District - Seattle CBD	63.9	20.2	57.4	19.0	44.2	14.5
72	Lake City - University District - Seattle CBD	63.2	20.4	64.8	22.5	43.3	13.9
73	Jackson Park - University District - Seattle CBD	69.1	20.4	63.3	20.5	51.2	15.8
74EX	Sand Point - Seattle CBD	60.9	17.7				
75	Northgate TC - Lake City - Seattle CBD	44.7	11.3	47.8	12.4	37.7	9.2
76	Wedgwood - Seattle CBD	54.8	18.4				
77	North City - Seattle CBD	44.8	16.8				
82	Seattle CBD - Greenwood					12.6	4.8

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
83	Seattle CBD - Ravenna					15.8	7.8
84	Seattle CBD - Madison Park - Madrona					8.1	1.3
98	South Lake Union Street Car	83.4	12.7	52.4	8.9	24.0	4.0
99	International District - Waterfront	25.0	6.1				
101	Renton TC - Seattle CBD	42.9	22.9	52.7	28.1	35.7	19.4
102	Fairwood - Renton TC - Seattle CBD	36.5	20.7				
106	Renton TC - Rainier Beach - Seattle CBD	38.9	12.1	38.4	13.7	23.7	9.2
111	Lake Kathleen - Seattle CBD	25.6	16.4				
113	Shorewood - Seattle CBD	27.9	12.3				
114	Renton Highlands - Seattle CBD	22.0	13.0				
116EX	Fauntleroy Ferry - Seattle CBD	19.7	8.6				
118EX	Tahlequah - Seattle CBD via ferry	21.0	10.2				
119EX	Dockton - Seattle CBD via ferry	16.9	9.6				
120	Burien TC - Westwood Village - Seattle CBD	39.5	17.8	46.8	21.6	36.6	17.5
121	Highline CC - Burien TC - Seattle CBD via 1st Av S	20.4	9.0				
122	Highline CC - Burien TC - Seattle CBD via Des Moines Memorial Dr S	22.8	10.9				
123	Burien - Seattle CBD	26.1	16.3				
124	Tukwila - Georgetown - Seattle CBD	35.3	12.5	37.7	15.4	23.9	10.0
125	Westwood Village - Seattle CBD	35.8	14.5	28.9	12.9	20.5	8.9
131	Burien TC - Highland Park - Seattle CBD	40.3	16.8	32.5	13.1	23.6	10.6
132	Burien TC - South Park - Seattle CBD	36.3	14.8	28.3	12.1	20.3	8.8
143EX	Black Diamond - Renton TC - Seattle CBD	22.9	14.1				
150	Kent Station - Southcenter - Seattle CBD	40.0	20.4	39.8	21.5	31.2	18.1
152	Auburn - Seattle CBD	16.8	11.4				
157	Lake Meridian - Seattle CBD	16.6	11.3				
158	Kent East Hill - Seattle CBD	23.6	16.6				
159	Timberlane - Seattle CBD	20.4	14.0				
161	Lake Meridian - Seattle CBD	18.8	10.7				
167	Renton - Newport Hills - University District	26.1	21.0				
177	Federal Way - Seattle CBD	23.8	15.1				
178	South Federal Way - Seattle CBD	24.0	16.4				
179	Twin Lakes - Seattle CBD	22.7	16.7				
190	Redondo Heights - Seattle CBD	22.1	13.6				
192	Star Lake - Seattle CBD	21.4	13.4				
193EX	Federal Way - First Hill	24.7	16.2				
197	Twin Lakes - University District	22.3	17.9				
202	South Mercer Island - Seattle CBD	12.5	4.1				
205EX	South Mercer Island - First Hill - University District	19.0	5.5				
210	Issaquah - Factoria - Seattle CBD	13.3	5.5				
211EX	Issaquah Highlands - First Hill	15.4	4.7				
212	Eastgate - Seattle CBD	36.0	18.7				
214	Issaquah - Seattle CBD	24.6	14.9				
215	North Bend - Seattle CBD	23.7	13.8				
216	Sammamish - Seattle CBD	28.3	17.6				
217	Issaquah - Eastgate - Seattle CBD	24.5	15.7				
218	Issaquah Highlands - Seattle CBD	44.5	24.2				
243	Jackson Park - Bellevue	27.4	10.6				
250	Overlake - Seattle CBD	21.8	11.9				
252	Kingsgate - Seattle CBD	26.9	16.2				
255	Brickyard - Kirkland TC - Seattle CBD	28.4	14.2	27.3	13.5	24.8	13.1
257	Brickyard - Seattle CBD	25.9	16.3				
260	Finn Hill - Seattle CBD	18.6	11.1				
265	Overlake - Houghton - First Hill	16.6	9.0				
268	Redmond - Seattle CBD	29.5	18.8				
271	Issaquah - Bellevue - University District	26.1	10.7	26.5	11.4	21.4	9.2
277	Juanita - University District	15.9	6.1				
280	Seattle CBD - Bellevue - Renton					16.0	10.9

Spring 2013 Thresholds Routes that serve Seattle Core

	Peak		Off Peak		Night	
<b>Bottom 25%</b>	<b>24.0</b>	<b>10.7</b>	<b>32.6</b>	<b>9.8</b>	<b>21.4</b>	<b>6.3</b>
<b>Top 25%</b>	<b>47.3</b>	<b>16.6</b>	<b>51.3</b>	<b>15.4</b>	<b>34.9</b>	<b>10.8</b>

Route	Description	Peak		Off Peak		Night	
		Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile	Rides/ Platform Hour	Passenger Miles/ Platform Mile
301	Aurora Village - Seattle CBD	34.5	19.8				
303EX	Shoreline - First Hill	35.0	17.2				
304	Richmond Beach - Seattle CBD	26.5	14.7				
306EX	Kenmore - Seattle CBD	21.1	12.2				
308	Horizon View - Seattle CBD	27.5	14.9				
309EX	Kenmore - First Hill	12.5	7.8				
311	Duvall - Woodinville - Seattle CBD	21.7	13.9				
312EX	Bothell - Seattle CBD	36.2	17.6				
316	Meridian Park - Seattle CBD	57.2	19.4				
355EX	Shoreline CC - University District - Seattle CBD	33.2	11.3				
358EX	Aurora Village - Seattle CBD	52.3	22.2	60.7	24.5	44.6	18.8
372EX	Woodinville - Lake City - University District	40.8	13.2	50.6	15.5	30.3	6.8
373EX	Aurora Village - University Village	32.7	13.0				
601EX	Seattle CBD - Group Health (Tukwila)	9.1	3.4				

Spring 2013 Thresholds Routes that serve Seattle Core

	Peak		Off Peak		Night	
<b>Bottom 25%</b>	<b>24.0</b>	<b>10.7</b>	<b>32.6</b>	<b>9.8</b>	<b>21.4</b>	<b>6.3</b>
<b>Top 25%</b>	<b>47.3</b>	<b>16.6</b>	<b>51.3</b>	<b>15.4</b>	<b>34.9</b>	<b>10.8</b>

Appendix D:  
Routes with Overcrowding

Route	Description	Day	Trips >1.25 Load Factor	Trips >1.5 Load Factor	Trips with Standing for more than 20 min.	Recommended Action
4	East Queen Anne - Seattle CBD - Judkins Park	Weekday	2			Watch - service added in fall 2013
5EX	Shoreline CC - Seattle CBD	Weekday	1		1	Watch - surrounding trips have capacity
8	Seattle Center - Capitol Hill - Rainier Beach	Weekday	2			Add trip in PM Peak
8	Seattle Center - Capitol Hill - Rainier Beach	Sunday	1			Add trip in PM Peak
9EX	Rainier Beach - Capitol Hill	Weekday	2			Add trip in PM Peak
11	Madison Park - Seattle CBD	Weekday	2			Add trip in AM Peak
15EX	Blue Ridge - Ballard - Seattle CBD	Weekday	2		1	Add trip in PM Peak
16	Northgate TC - Wallingford - Seattle CBD	Weekday	3			Watch - Larger coaches have been assigned
17EX	Sunset Hill - Ballard - Seattle CBD	Weekday			2	Add trip in PM and edge of PM Peak
18EX	North Beach - Ballard - Seattle CBD	Weekday			1	Watch - surrounding trips have capacity
26	East Green Lake - Wallingford - Seattle CBD	Weekday		1		Add trip in AM Peak
28EX	Broadview - Ballard - Seattle CBD via Leary Av NW	Weekday	2		1	Add trip in AM Peak & watch PM Peak trips
32	University District - Fremont - Seattle Center	Weekday	1			Assign larger coach
40	Northgate TC - Ballard - Seattle CBD via Leary Av NW	Weekday	3		3	Add trip in PM Peak
41	Lake City - Seattle CBD via Northgate	Weekday	2			Watch - surrounding trips have capacity
44	Ballard - Wallingford - Montlake	Weekday	4			Watch - surrounding trips have capacity
66EX	Northgate TC - Eastlake - Seattle CBD	Weekday	3			Add trip in AM and PM Peak
67	Northgate TC - University District	Weekday	5			Add trip in AM Peak & assign larger coach
68	Northgate TC - Ravenna - University District	Weekday	7		1	Add trip in AM Peak & assign larger coach
70	University District - Seattle CBD	Weekday	2			Assign larger coach
71	Wedgwood - University District - Seattle CBD	Weekday			1	Add trip in AM Peak
71	Wedgwood - University District - Seattle CBD	Saturday	2			Watch - surrounding trips have capacity

Route	Description	Day	Trips >1.25 Load Factor	Trips >1.5 Load Factor	Trips with Standing for more than 20 min.	Recommended Action
72	Lake City - University District - Seattle CBD	Sunday	2			Watch - surrounding trips have capacity
73	Jackson Park - University District - Seattle CBD	Weekday	2		2	Add trip in PM Peak
73	Jackson Park - University District - Seattle CBD	Saturday	2			Watch - surrounding trips have capacity
73	Jackson Park - University District - Seattle CBD	Sunday	1			Watch - surrounding trips have capacity
74EX	Sand Point - Seattle CBD	Weekday			1	Add trip in PM Peak
75	Northgate TC - Lake City - Seattle CBD	Weekday	2			Add trip in PM Peak
101	Renton TC - Seattle CBD	Weekday	1		2	Add trip in AM Peak
128	Southcenter - Westwood Village - Admiral District	Weekday	1			Add trip to edge of PM Peak
131	Burien TC - Highland Park - Seattle CBD	Weekday	1			Add trip in PM Peak
132	Burien TC - South Park - Seattle CBD	Weekday	1			Add trip in PM Peak
143EX	Black Diamond - Renton TC - Seattle CBD	Weekday			3	Add trip in AM and PM Peak
159	Timberlane - Seattle CBD	Weekday			1	Watch - surrounding trips have capacity
164	Green River CC - Kent Station	Weekday	1			Add trip in midday
179	Twin Lakes - Seattle CBD	Weekday			1	Add trip in AM Peak
193EX	Federal Way - First Hill	Weekday			1	Watch - surrounding trips have capacity
197	Twin Lakes - University District	Weekday			1	Watch - surrounding trips have capacity
218	Issaquah Highlands - Seattle CBD	Weekday	2		7	Watch - fall 2013 I-90 service restructure
240	Bellevue - Newcastle - Renton	Weekday	2			Add trip in AM Peak & trip to edge of PM Peak
252	Kingsgate - Seattle CBD	Weekday			1	Watch - surrounding trips have capacity
303EX	Shoreline - First Hill	Weekday	1			Add trip in PM Peak
346	Aurora Village - Northgate	Weekday	1			Add trip in AM Peak
372EX	Woodinville - Lake City - University District	Weekday	2			Add trip in AM Peak
D Line	Ballard - Seattle Center - Seattle CBD	Weekday			1	Add trip in PM peak

## Appendix E:

## Routes with Poor Reliability

"-" indicates that it meets the guideline

Route	Description	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late	Action Taken
1	Kinnear - Seattle CBD	-	-	24%	24%	Service investment - 100 hours
2	West Queen Anne - Seattle CBD - Madrona Park	-	-	24%	-	No action at this time. Investment in September 2013
4	East Queen Anne - Seattle CBD - Judkins Park	-	-	24%	-	Service investment - 100 hours
7	Rainier Beach - Seattle CBD	-	-	20%	-	Service investment - 50 hours
8	Seattle Center - Capitol Hill - Rainier Beach	27%	42%	23%	20%	Service investment - 2050 hours
10	Capitol Hill - Seattle CBD	-	-	22%	-	Service investment - 50 hours
11	Madison Park - Seattle CBD	23%	-	22%	22%	Service investment - 350 hours
14	Mount Baker - Seattle CBD	24%	-	-	23%	Service investment - 350 hours
16	Northgate TC - Wallingford - Seattle CBD	24%	40%	24%	29%	Service investment - 1300 hours
17EX	Sunset Hill - Ballard - Seattle CBD	31%	47%	-	-	Service investment - 250 hours
18EX	North Beach - Ballard - Seattle CBD	20%	-	-	-	Service investment - 250 hours
21EX	Arbor Heights - Westwood Village - Seattle CBD	26%	41%	-	-	Service investment - 400 hours
21	Arbor Heights - Westwood Village - Seattle CBD	-	-	20%	-	Service investment - 50 hours
24	Magnolia - Seattle CBD	28%	-	24%	-	Service investment - 700 hours
25	Laurelhurst - University District - Seattle CBD	26%	45%	-	-	Service investment - 250 hours
26	East Green Lake - Wallingford - Seattle CBD	21%	-	27%	-	Service investment - 350 hours
27	Colman Park - Leschi Park - Seattle CBD	21%	-	34%	30%	Service investment - 450 hours
28EX	Broadview - Ballard - Seattle CBD via Leary Av NW	20%	-	-	-	Service investment - 250 hours
28	Whittier Heights - Ballard - Seattle CBD via Leary Av NW	26%	-	25%	-	Service investment - 600 hours
29	Ballard - Queen Anne - Seattle CBD	26%	39%	-	-	Service investment - 500 hours
31	University District - Fremont - Magnolia	24%	-	-	-	Service investment - 300 hours
32	University District - Fremont - Seattle Center	21%	-	-	-	Service investment - 250 hours
33	Discovery Park - Seattle CBD	-	36%	28%	25%	Service investment - 400 hours

Route	Description	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late	Action Taken
40	Northgate TC - Ballard - Seattle CBD via Leary Av NW	-	-	25%	30%	Service investment - 500 hours
41	Lake City - Seattle CBD via Northgate	22%	39%	-	-	Service investment - 1400 hours
48	Mt Baker - University District - Loyal Heights	-	-	24%	24%	Service investment - 300 hours
55	Admiral District - Alaska Junction - Seattle CBD	28%	47%	-	-	Service investment - 400 hours
56EX	Alki - Seattle CBD	28%	53%	-	-	Service investment - 400 hours
57	Alaska Junction - Seattle CBD	37%	67%	-	-	Service investment - 300 hours
60	Westwood Village - Georgetown - Capitol Hill	-	-	23%	-	Service investment - 100 hours
66EX	Northgate TC - Eastlake - Seattle CBD	25%	-	-	-	No action at this time. Investment in September 2013
71	Wedgwood - University District - Seattle CBD via I-5	26%	-	23%	-	Service investment - 450 hours
71	Wedgwood - University District - Seattle CBD via Eastlake E	31%	-	-	-	Service investment - 400 hours
72	Lake City - University District - Seattle CBD via I-5	25%	37%	27%	-	Service investment - 500 hours
72	Lake City - University District - Seattle CBD via Eastlake E	-	-	21%	-	Service investment - 50 hours
73	Jackson Park - University District - Seattle CBD	21%	42%	22%	-	Service investment - 650 hours
74EX	Sand Point - Seattle CBD	29%	57%	-	-	Service investment - 600 hours
76	Wedgwood - Seattle CBD	21%	36%	-	-	Service investment - 250 hours
77	North City - Seattle CBD	21%	40%	-	-	Service investment - 300 hours
101	Renton TC - Seattle CBD	-	-	26%	22%	Service investment - 150 hours
114	Renton Highlands - Seattle CBD	29%	-	-	-	Service investment - 250 hours
119EX	Dockton - Seattle CBD via ferry	30%	-	-	-	Service investment - 250 hours
120	Burien TC - Westwood Village - Seattle CBD	-	-	23%	21%	Service investment - 150 hours
124	Tukwila - Georgetown - Seattle CBD	30%	39%	33%	22%	Service investment - 1450 hours
128	Southcenter - Westwood Village - Admiral District	23%	-	-	-	Service investment - 500 hours
131	Burien TC - Highland Park - Seattle CBD	31%	-	31%	-	Service investment - 1300 hours
132	Burien TC - South Park - Seattle CBD	20%	-	26%	-	Service investment - 350 hours
143EX	Black Diamond - Renton TC - Seattle CBD	24%	-	-	-	Service investment - 250 hours
155	Fairwood - Southcenter	-	-	27%	-	No action at this time. Changed to DART in September 2013

Route	Description	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late	Action Taken
157	Lake Meridian - Seattle CBD	22%	-	-	-	Service investment - 250 hours
166	Kent Station - Burien TC	21%	-	-	-	Service investment - 250 hours
169	Kent Station - East Hill - Renton TC	22%	36%	-	-	Service investment - 400 hours
173	Federal Way TC - Federal Center South	20%	-	-	-	Service investment - 250 hours
177	Federal Way - Seattle CBD	22%	-	-	-	Service investment - 250 hours
178	South Federal Way - Seattle CBD	38%	41%	-	-	Service investment - 700 hours
179	Twin Lakes - Seattle CBD	26%	-	-	-	Service investment - 250 hours
181	Twin Lakes P&R - Green River CC	24%	-	-	-	No action at this time. Investment in September 2013
182	NE Tacoma - Federal Way TC	-	-	22%	-	Service investment - 50 hours
190	Redondo Heights - Seattle CBD	23%	-	-	-	Service investment - 250 hours
202	South Mercer Island - Seattle CBD	26%	42%	-	-	Service investment - 300 hours
221	Education Hill - Overlake - Eastgate	23%	42%	23%	-	Service investment - 650 hours
224	Fall City - Duvall - Redmond TC	39%	46%	-	-	No action at this time. Revised in September 2013
232	Duvall - Bellevue	21%	-	-	-	Service investment - 250 hours
237	Woodinville - Bellevue	30%	39%	-	-	Service investment - 250 hours
241	Eastgate - Factoria - Bellevue	-	38%	-	-	Service investment - 300 hours
242	North City - Overlake	20%	-	-	-	Service investment - 250 hours
243	Jackson Park - Bellevue	21%	40%	-	-	Service investment - 250 hours
245	Kirkland - Overlake - Factoria	-	-	22%	-	Service investment - 50 hours
246	Eastgate - Factoria - Bellevue	-	36%	-	-	No action at this time. Reduced in September 2013
257	Brickyard - Seattle CBD	22%	-	-	-	Service investment - 250 hours
277	Juanita - University District	21%	-	-	-	Service investment - 250 hours
280	Seattle CBD - Bellevue - Renton	-	-	25%	-	Service investment - 50 hours
311	Duvall - Woodinville - Seattle CBD	30%	-	-	-	No action at this time. Revised in September 2013
316	Meridian Park - Seattle CBD	23%	-	-	-	Service investment - 250 hours

Route	Description	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late	Action Taken
330	Shoreline CC - Lake City	21%	-	-	-	No action at this time. Added service in September 2013
355EX	Shoreline CC - University District - Seattle CBD	27%	46%	-	-	Service investment - 500 hours
358EX	Aurora Village - Seattle CBD	-	-	24%	22%	No action at this time. Investment in September 2013
372EX	Woodinville - Lake City - University District	24%	-	-	-	Service investment - 600 hours
601EX	Seattle CBD - Group Health (Tukwila)	43%	-	-	-	Service investment - 250 hours

Appendix F:  
Peak Route Analysis Results

Route	Description	Alternative Route(s)*	Ridership	Travel Time
			>= 90% of alternative	>= 20% faster than alternative
5EX	Shoreline CC - Seattle CBD	5	No	No
7EX	Rainier Beach - Seattle CBD	7	No	Yes
15EX	Blue Ridge - Ballard - Seattle CBD	D Line	Yes	Yes
17EX	Sunset Hill - Ballard - Seattle CBD	61 to D Line	Yes	Yes
18EX	North Beach - Ballard - Seattle CBD	40 to D Line	Yes	No
19	West Magnolia - Seattle CBD	24	No	Yes
21EX	Arbor Heights - Westwood Village - Seattle CBD	21	Yes	Yes
26EX	East Green Lake - Wallingford - Seattle CBD	26	Yes	No
28EX	Broadview - Ballard - Seattle CBD via Leary Av NW	28	Yes	Yes
29	Ballard - Queen Anne - Seattle CBD	2	Yes	Yes
37	Alaska Junction - Alki - Seattle CBD	None	Yes	Yes
48EX	Mt Baker - University District - Loyal Heights	48	Yes	No
55	Admiral District - Alaska Junction - Seattle CBD	50/128 to 673	No	No
56EX	Alki - Seattle CBD	50 to C Line	No	Yes
57	Alaska Junction - Seattle CBD	56	Yes	No
62	Ballard - Seattle Pacific University - Seattle CBD	40	No	No
64EX	Lake City - First Hill	76 to 3/4	No	Yes
74EX	Sand Point - Seattle CBD	30 to 71/72/73	No	No
76	Wedgwood - Seattle CBD	71	No	No
77	North City - Seattle CBD	73	No	Yes
102	Fairwood - Renton TC - Seattle CBD	148 to 101	Yes	No
110	Tukwila Station - North Renton	140 to 240/560/566	No	Yes
111	Lake Kathleen - Seattle CBD	None	Yes	Yes
113	Shorewood - Seattle CBD	None	Yes	Yes
114	Renton Highlands - Seattle CBD	240 to 212	Yes	Yes
116EX	Fauntleroy Ferry - Seattle CBD	C Line to 21	No	Yes
118EX	Tahlequah - Seattle CBD via ferry	118 to 116EX	Yes	Yes
119EX	Dockton - Seattle CBD via ferry	119 to 116EX	Yes	Yes
121	Highline CC -Burien TC - Seattle CBD via 1st Av S	166 to 120	No	Yes
122	Highline CC -Burien TC - Seattle CBD via Des Moines Memorial Dr S	156 to Link	Yes	Yes
123	Burien - Seattle CBD	139 to 121/122	No	No
143EX	Black Diamond - Renton TC - Seattle CBD	None	Yes	Yes
152	Auburn - Seattle CBD	None	No	Yes
<b>153</b>	<b>Kent Station - Renton TC</b>	<b>Included in corridor analysis</b>		
154	Tukwila Station - Boeing Industrial	140 to 124	No	Yes
157	Lake Meridian - Seattle CBD	None	Yes	Yes
158	Kent East Hill - Seattle CBD	None	Yes	Yes

Route	Description	Alternative Route(s)*	Ridership	Travel Time
			>= 90% of alternative	>= 20% faster than alternative
159	Timberlane - Seattle CBD	164/168 to Sounder	No	No
161	Lake Meridian - Seattle CBD	169 to 101/150	No	Yes
167	Renton - Newport Hills - University District	560 to 271	Yes	Yes
173	Federal Way TC - Federal Center South	A to 124	No	Yes
177	Federal Way - Seattle CBD	577	No	No
178	South Federal Way - Seattle CBD	182 to 577	No	No
179	Twin Lakes - Seattle CBD	181 to 577	No	No
190	Redondo Heights - Seattle CBD	574 to Link	Yes	Yes
192	Star Lake - Seattle CBD	574 to Link	Yes	Yes
193EX	Federal Way - First Hill	None	Yes	Yes
197	Twin Lakes - University District	181 to 577 to 71,72,73	No	Yes
201	South Mercer Island - Mercer Island P&R via Mercer Wy	None	Yes	Yes
202	South Mercer Island - Seattle CBD	205 to 550	No	No
205EX	South Mercer Island - First Hill - University District	202 to 71/72/73	No	No
210	Issaquah - Factoria - Seattle CBD	241 to 550	No	Yes
211EX	Issaquah Highlands - First Hill	210/212/550/554 to 3	No	No
212	Eastgate - Seattle CBD	554	No	No
214	Issaquah - Seattle CBD	554	No	No
215	North Bend - Seattle CBD	209 to 214	Yes	No
216	Sammamish - Seattle CBD	269 to 218	No	No
217	Issaquah - Eastgate - Seattle CBD	554 to 200/269/972	No	Yes
218	Issaquah Highlands - Seattle CBD	554	Yes	Yes
232	Duvall - Bellevue	248 to 545	No	Yes
237	Woodinville - Bellevue	311 to 532/535	No	Yes
242	North City - Overlake	540	Yes	Yes
243	Jackson Park - Bellevue	372 to 271	No	Yes
244EX	Kenmore - Overlake	None	No	Yes
250	Overlake - Seattle CBD	249 to 545	No	No
252	Kingsgate - Seattle CBD	255	Yes	Yes
257	Brickyard - Seattle CBD	238 to 255	Yes	Yes
260	Finn Hill - Seattle CBD	234 to 255	No	No
265	Overlake - Houghton - First Hill	245 to 255/260	No	Yes
268	Redmond - Seattle CBD	545	No	Yes
269	Issaquah - Overlake	Included in corridor analysis		
277	Juanita - University District	235 to 540	Yes	Yes
301	Aurora Village - Seattle CBD	358	No	Yes
303EX	Shoreline - First Hill	None	Yes	Yes
304	Richmond Beach - Seattle CBD	348 to 301, 345 to 41, 358, 316	No	Yes
306EX	Kenmore - Seattle CBD	522	No	No
308	Horizon View - Seattle CBD	331 to 306/312, 306, 312, 522, 77	No	No

Route	Description	Alternative Route(s)*	Ridership	Travel Time
			>= 90% of alternative	>= 20% faster than alternative
309EX	Kenmore - First Hill	312 to 3	No	Yes
311	Duvall - Woodinville - Seattle CBD	232 to 545/522	Yes	Yes
312EX	Bothell - Seattle CBD	522	Yes	No
316	Meridian Park - Seattle CBD	16	Yes	Yes
<b>330</b>	<b>Shoreline CC - Lake City</b>	<b>Included in corridor analysis</b>		
342	Shoreline - Bellevue TC - Renton	None	No	Yes
355EX	Shoreline CC - University District - Seattle CBD	5	No	No
<b>373EX</b>	<b>Included in corridor analysis</b>			
601EX	Seattle CBD - Group Health (Tukwila)	None	Yes	Yes
913DART	Kent Station - Riverview	None	Yes	Yes
<b>930DART</b>	<b>Kingsgate - Redmond</b>	<b>Included in corridor analysis</b>		

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

## Appendix G: 2013 Corridor Changes

Seventeen corridors had changes between 2012 and 2013. These changes were made to ensure that the corridor analysis most accurately reflects the pathways served by Metro. Seven corridors were revised to accurately reflect the network that was restructured around the C and D Lines. One corridor was removed as two preexisting corridors cover the pathway. Six corridors were revised to provide better connections to activity centers. Three pathways were revised in their routings, but not activity center endpoints. These adjustments affect the corridor analysis because they affect the number of households and jobs within ½ mile of stops along the corridors.

Corridor	Revision	Major Route in 2012	Major Route in 2013
2	No longer connects to downtown Seattle; Revised to connect to SODO activity center	56	50
10	Revised to reflect RapidRide alignment	15/18	D
12	Revised to end at Ballard activity center; Revised pathway	17	40
17	Revised pathway in White Center area to connect to Westwood Village	120	120
18	Revised pathway in south Seattle and SODO	131	131
19	Revised pathway in SODO	132	132
20	Extended to Westwood Village activity center	60	60
39	Revised to end at Westwood Village activity center	21	21
71	No longer connects to downtown Seattle; Revised to connect to SODO activity center	39	50
80	Revised pathway in Redmond	221	221
90	Revised pathway in Richmond Beach	348	348
99	Revised pathway in SODO	124	124
100	Extended to Highline Community College activity center	156	156
107	Revised pathway in U District	25	25
111	Revised to reflect RapidRide alignment	54	C
112	Extended to Westwood Village activity center	125	125
113	Deleted - Corridors 18 and 20 cover this previous corridor	23	n/a

Appendix H:  
Corridors that Changed Target Service Level from 2012 to 2013

Corridor Number	Between	And	Major Route	2012 Service Level	2013 Service Level	Reasons for Change (Simplified)
1	Admiral District	Tukwila	128	Local	Very Frequent	Higher demand
9	Ballard	Northgate	40	Local	Very Frequent	Land use threshold changes; higher demand; corridor modified
12	Ballard	Seattle CBD	40	Frequent	Very Frequent	Land use threshold changes; higher demand
14	Bellevue	Eastgate	271	Frequent	Very Frequent	More jobs; Land use threshold changes
16	Bellevue	Renton	240	Local	Frequent	Land use threshold changes
18	Burien	Seattle CBD	131	Frequent	Very Frequent	More jobs; Land use threshold changes
27	Eastgate	Bellevue	241	Hourly	Frequent	More jobs; Land use threshold changes; Higher percentage of boardings in low-income areas
28	Eastgate	Bellevue	246	Hourly	Local	More jobs; Land use threshold changes
37	Green River CC	Kent	164	Frequent	Very Frequent	Higher demand
39	Westwood Village	Seattle CBD	21	Local	Very Frequent	Land use threshold changes; Higher percentage of boardings in low-income and minority areas
45	Kenmore	U. District	372EX	Frequent	Very Frequent	More households and jobs
49	Kent	Maple Valley	168	Local	Frequent	Land use threshold changes
50	Kent	Renton	169	Local	Frequent	Land use threshold changes; Higher percentage of boardings in low-income areas
53	Kirkland	Bellevue	234/235	Frequent	Very Frequent	More households; Land use threshold changes
54	Kirkland	Factoria	245	Frequent	Very Frequent	Land use threshold changes
58	Laurelhurst	U. District	25	Hourly	Local	More households; Land use threshold changes
62	Mercer Island	S Mercer Island	204	Hourly	Local	Higher demand
64	Mount Baker Station	Seattle CBD	145	Frequent	Very Frequent	More households; Land use threshold changes
65	Mountlake Terrace	Northgate	347	Frequent	Local	Higher demand
71	Othello Station	SODO	50	Local	Frequent	Higher demand
72	Overlake P&R	Bellevue	226	Local	Very Frequent	Land use threshold changes
73	Overlake	Bellevue	249	Hourly	Local	Land use threshold changes
79	Rainier Beach Station	Capitol Hill	9EX	Frequent	Very Frequent	More households; Land use threshold changes; Activity center connection

Corridor Number	Between	And	Major Route	2012 Service Level	2013 Service Level	Reasons for Change (Simplified)
80	Redmond	Eastgate	221	Hourly	Local	Land use threshold changes; Activity center connection
81	Redmond	Totem Lake	930DART	Local	Frequent	Land use threshold changes
86	Renton	Seattle CBD	106	Frequent	Very Frequent	Land use threshold changes
92	Sand Point	U. District	30	Local	Frequent	More households; Land use threshold change
94	Shoreline CC	Northgate	345	Frequent	Very Frequent	Land use threshold changes
95	Shoreline CC	Lake City	330	Hourly	Local	Land use threshold changes
96	Shoreline CC	Greenwood	5	Local	Frequent	Higher demand
99	Tukwila	Seattle CBD	124	Frequent	Very Frequent	Land use threshold changes
107	U. District	Seattle CBD	25	Local	Frequent	More households and jobs
109	Bothell (UWB/CCC)	Kirkland	238	Hourly	Local	Land use threshold changes

## Appendix I: 2013 Service Changes

Month	Route	Description of Change	Type
February	C Line	Added two morning and two afternoon trips and adjusted schedules.	Added trips
February	21	Revised southbound afternoon and evening trips to serve Arbor Heights before ending at Westwood Village.	Revised routing
February	22	Extended span of service to Arbor Heights by one hour.	Added trips
February	24	Extended span of service by one hour.	Added trips
February	41	Revised pathways during emergency tunnel closures and when the DSTT is closed.	Revised routing
February	42	Deleted route.	Deleted route
February	55	Added two morning and two afternoon trips and adjusted schedules.	Added trips
February	71	Revised pathways during emergency tunnel closures and when the DSTT is closed.	Revised routing
February	71/71EX	Converted the local trip departing from IDS at 6:49 p.m. to an express trip.	Added trips; reduced trips
February	72	Revised pathways during emergency tunnel closures and when the DSTT is closed.	Revised routing
February	73	Revised pathways during emergency tunnel closures and when the DSTT is closed.	Revised routing
February	74	Revised pathways during emergency tunnel closures and when the DSTT is closed.	Revised routing
February	76	Revised pathways during emergency tunnel closures and when the DSTT is closed.	Revised routing
February	77	Revised pathways during emergency tunnel closures and when the DSTT is closed.	Revised routing
February	82	Shifted outbound service to operate along 3rd Avenue.	Revised routing
February	106	Revised SODO/Georgetown service to return back to normal routing with the completion of the Airport Way S/Argo Bridge.	Revised routing
February	120	Added two morning and two afternoon trips and adjusted schedules.	Added trips
February	124	Revised SODO/Georgetown service to return back to normal routing with the completion of the Airport Way S/Argo Bridge.	Revised routing
February	140	Revised routing on last evening trips.	Revised routing
February	152	Revised routing to use the SODO Busway between S Lander Street and S Spokane Street.	Revised routing
February	212	Modified the PM inbound routing to use Virginia Street instead of Olive Way.	Revised routing
February	216	Deleted service at Eastgate Freeway Station in the afternoon.	Revised routing
February	217	Modified the PM inbound routing to use Virginia Street instead of Olive Way.	Revised routing
February	316	Revised pathways during emergency tunnel closures and when the DSTT is closed.	Revised routing
February	913DART	Revised to operate one-way counter-clockwise loop to/from S 240th Street.	Revised routing
June	C Line	Added one early morning trip connecting to Route 560 at Westwood Village.	Added trips
June	C Line	Revised headway of AM Peak inbound trips.	Revised schedule

Month	Route	Description of Change	Type
June	D Line	Revised headway of AM Peak inbound trips.	Revised schedule
June	7	Revised staging location for night owl operations.	Revised routing
June	36	Revised staging location and first stop for night owl operations.	Revised routing
June	49	Revised staging location and first stop for night owl operations.	Revised routing
June	56/57	Provided an earlier afternoon trip to the Genesee Hill neighborhood from downtown Seattle by converting the Route 56 3:28 p.m. trip to a Route 57 trip.	Added trips/Reduced trips
June	82	Revised staging location and first stop for night owl operations.	Revised routing
June	83	Revised staging location and first stop for night owl operations.	Revised routing
June	84	Revised staging location and first stop for night owl operations.	Revised routing
June	120	Revised staging location and first stop for night owl operations.	Revised routing
June	124	Revised staging location and first stop for night owl operations.	Revised routing
June	240	Deleted 12 weekday trips that were funded by an expiring Regional Mobility Grant.	Reduced trips
June	280	Revised staging location and first stop for night owl operations.	Revised routing
September	2	Adjusted schedule to improve reliability	Adjusted schedule
September	3	Added 1 AM outbound trip.	Added trips
September	4	Added 1 Early AM outbound trip.	Added trips
September	5	Added 2 Saturday trips funded by the City of Seattle	Added trips
September	10	Added 7 Saturday trips and 12 Sunday trips funded by the City of Seattle	Added trips
September	16	Added 1 Early PM inbound trip.	Added trips
September	16	Established new routing, stops and layover locations in downtown Seattle due to seawall project and bored tunnel construction.	Added trips
September	21	Added 1 Saturday trip funded by the City of Seattle	Added trips
September	22	Expanded/adjusted routing to provide more convenient service for Arbor Heights riders.	Added trips
September	30	Revised the evening and weekend turn around (live-loop) in Sand Point.	Added trips
September	40	Added 2 weekday trips, 2 Saturday trips, and 2 Sunday trips funded by the City of Seattle	Added trips
September	41	Added 2 weekday trips, 11 Saturday trips, and 2 Sunday trips funded by the City of Seattle	Added trips
September	44	Added 3 PM outbound trips.	Revised routing
September	48/48EX	Converted the first afternoon express trip into a local trip.	Revised routing
September	48	Added 1 weekday trip, 3 Saturday trips, and 5 Sunday trips funded by the City of Seattle	Revised routing
September	49	Adjusted trip times on Saturday and Sunday nights funded by the City of Seattle	Added trips
September	60	Added 1 AM inbound trip.	Added trips; reduced trips
September	66EX	Adjusted schedule to improve reliability.	Added trips
September	66EX	Established new routing, stops and layover locations in downtown Seattle due to seawall project and bored tunnel construction.	Adjusted schedule
September	70	Revised layover on Saturdays to accommodate the University District Farmers Market.	Revised routing
September	71	Revised layover on Saturdays to accommodate the University District Farmers Market.	Revised routing

Month	Route	Description of Change	Type
September	72	Revised layover on Saturdays to accommodate the University District Farmers Market.	Revised routing
September	73	Revised layover on Saturdays to accommodate the University District Farmers Market.	Revised routing
September	99	Established new routing, stops and layover locations in downtown Seattle due to seawall project and bored tunnel construction.	Revised routing
September	110	Revised schedules to maintain connections with Sounder.	Revised routing
September	120	Added 3 weekday trips, 8 Saturday trips, and 2 Sunday trips funded by the City of Seattle.	Revised schedule
September	139	Deleted the first AM trip on weekdays departing Burien TC	Reduced trips
September	140	Extended Route 140 to Boeing and the Landing.	Revised routing
September	150	Adjusted schedule to improve reliability	Adjusted schedule
September	152	Eliminated 1 AM and 1 PM trip due to poorly performing service.	Reduced trips
September	154	Revised schedules to maintain connections with Sounder.	Revised schedule
September	155/906DART	Converted Route 155 to dial-a-ride transit service (906DART) with a flexible service area in Fairwood.	Added new route, deleted route
September	156	Removed the through-route with Route 155.	Revised routing
September	169	Revised terminal to relieve crowding at Renton Transit Center.	Revised routing
September	180	Revised schedules to maintain connections with Sounder.	Revised schedule
September	181	Adjusted schedule to improve reliability	Adjusted schedule
September	186	Revised schedules to maintain connections with Sounder.	Revised schedule
September	187	Eliminated 2 evening trips departing Federal Way Transit Center on weekdays.	Reduced trips
September	208	Created new route between Issaquah and Snoqualmie Ridge.	Added new route
September	209	Reduced service to 3 AM inbound trips and 3 PM outbound trips. Revised routing to eliminate the deviation onto Boalch Avenue NW and NW 14th Street.	Reduced trips; revised routing
September	210	Revised route to serve Eastgate Park-and-Ride Lower Platform in the morning peak period and Eastgate Freeway Station in the afternoon peak period.	Revised routing
September	211	Revised route to serve Eastgate Freeway Station and bypass stops at Eastgate Park-and-Ride Lower Platform, Richards Road and the South Bellevue Park-and-Ride.	Revised routing
September	212	Eliminated four AM trips and four PM trips. During the morning peak period, the combination of Route 210 and 212 maintains the existing number of trips at Eastgate Park-and-Ride Lower Platform.	Reduced trips
September	214	Added 2 AM and 3 PM trips to off-set the loss of Route 215 at Issaquah Transit Center. Also truncated 7 AM and 7 PM Route 214 trips at the Issaquah Transit Center.	Added trips; reduced trips
September	215	Revised the routing to bypass Issaquah Transit Center.	Revised routing
September	216	Revised routing to serve Issaquah Highlands Park-and-Ride and re-establish the afternoon stop at Eastgate Freeway Station.	Revised routing
September	218	Converted 5 AM and 9 PM Route 218 trips to new Route 219 trips, which will follow the same path as Route 218 and continue north to serve Sammamish.	Added trips; reduced trips
September	219	Created a new route that follows the same path as Route 216 between SR 202 and Sahalee Way.	Added new route

Month	Route	Description of Change	Type
September	221	Eliminated 1 PM northbound and 1 PM southbound trip.	Reduced trips
September	224	Eliminated the route segment between Duvall and Fall City, improved the frequency on the remaining route between Duvall and Redmond, and revised the routing in Redmond Ridge.	Revised routing; added trips
September	246	Reduced service to hourly during the peak periods.	Reduced trips
September	249	Reduced midday service to 45-60 minute frequency.	Reduced trips
September	250	Eliminated 2 AM and 2 PM trips.	Reduced trips
September	311	Eliminated the segment between Duvall and Woodinville.	Revised routing
September	330	Revised schedule to match Shoreline Community College class start and end times.	Revised schedule
September	331	Revised schedule to match Shoreline Community College class start and end times.	Revised schedule
September	358	Added trips in Saturday PM.	Added trips
September	629	Added contracted shuttle route between Duvall and North Bend.	Added new route
September	909DART	Revised routing to operate further east to Renton Technical College and the Renton Housing Authority.	Revised routing
September	910DART	Revised schedules to maintain connections with Sounder.	Revised schedule
September	913DART	Revised schedules to maintain connections with Sounder.	Revised schedule

## Appendix J: Information and Data Sources

### Information sources

This report is based on information collected from many sources. Ridership and reliability information is gathered by computers on Metro buses. The automated vehicle location (AVL) system on all Metro buses gathers data about bus locations that we use to track on-time performance. An automatic passenger counter (APC) system, installed on some Metro buses, provides ridership data. For this report, we used ridership and service information from the spring 2013 service change, between February 16 and June 7, 2013. We used reliability information for a longer time period – between October 2012 and May 2013.

Metro uses the most current and complete data available at the time the report is produced. However, there are limitations to the data. One key consideration when using Metro's ridership data is:

- **Ridership data is a sample** - APC sampling rates are a consistent data issue. Only about 18% of Metro's non-RapidRide trips are currently being observed on any given day. Trip and route level data do not include adjustments that are made when estimating system-wide ridership and are prone to more sampling variance. Saturday and Sunday ridership data is also prone to more sampling variance because there are fewer days that a trip could be sampled. Metro has begun to outfit all new buses with APC equipment starting in 2013 and this issue will diminish over time.

Considerations specific to this year's report include:

- **Upgrades to the Automated Passenger Counting (APC) System** - As part of Metro's onboard system project, Metro upgraded APC hardware and software from a signpost based system to a GPS-based system. While Metro continued to collect ridership data during the conversion process using both the legacy and GPS based system, some routes were not sampled adequately throughout the transition. This gap in the data resulted in both under and over counting of route level ridership in 2012 and 2013. Additionally, the GPS equipment is more sensitive and captures slightly more boardings than the legacy equipment. This data is adjusted, and when aggregated to an annual system wide basis the ridership information is reliable. However, at the trip, route, period or service change level ridership data is less reliable, especially as a comparison to 2012 when the APC transition was underway.
- **Changes to where some trips are considered to begin or end** – In 2012, Metro adjusted the point or location where a through-route partner arriving in downtown changes its number to that of the departing through-route partner. This procedural change has resulted in a small, but sometimes noticeable shift in ridership between paired routes.
- **No Ride Free Area** - With the elimination of the downtown Seattle Ride Free Area and implementation of "pay as you board" fare collection, fewer rides within downtown Seattle are expected. The elimination of the downtown Seattle Ride Free Area and switch to "pay on entry" fare collection should reduce ridership on all-day, two-way routes more than one-way commuter services.

### Data sources

There are several types of changes that can affect total platform hours on a route, and not all of those changes necessarily affect the level of service or number of trips. Different changes that affected route platform hours displayed in this appendix between 2012 and 2013 include:

- **Adding or eliminating trips** – Metro made many changes to service between Spring 2012 and Spring 2013, including the large restructure of service in Fall 2012 around the RapidRide C and D lines.
- **Ending the Ride Free Area** – Ending the Ride Free Area in Fall 2012 caused changes to how long it takes buses to travel in downtown Seattle. To prepare, Metro added hours to some routes to account for longer travel times even on routes that did not have any new trips.

- **Restructuring service** – Shortening or lengthening a route affects platform hours. Revisions to where a bus operates such as changing the pathway a bus operates on through downtown Seattle or rerouting for a long-term construction project can also affect how many hours it takes to operate a route.
- **Investments for reliability** – Investments to improve reliability often affect platform hours without impacting the number of trips. This type of investment includes changes such as adding more time to a schedule in an area that has become more congested, adding more recovery or break time between trips to allow buses to get back on schedule, or connecting trips together in a different way.
- **Routine scheduling changes and scheduling efficiencies** – With over 12,000 trips operating on an average weekday, there are sometimes opportunities to connect trips or routes together in a different way to be more efficient or to operate more reliably. Scheduling adjustments such as hooking trips together in a different way, adjusting run times, changing recovery time, or moving routes between operating bases can change hours without changing service levels. In 2010 and 2011 Metro implemented scheduling efficiencies to reduce hours without changing the number of trips by changing run times, reducing breaks between trips, and scheduling trips differently. On a smaller scale there is an ongoing and continued effort to continue making schedules more efficient that results in shifting hours on some routes each year.

## Appendix K:

## Route-level Ridership (weekday average, Spring 2012 and Spring 2013)

The table below contains weekday ridership and platform hour changes between 2012 and 2013 for all routes in the system. This list includes numerous custom bus routes which are excluded from the route analysis provided in this report. Weekday ridership has been rounded to the nearest 100, except where the weekday ridership is below 50 passengers. " - " indicates that the route did not operate during that period, therefore no weekday rides or platform hours exist.

Route	Weekday Rides in 2012	Weekday Rides in 2013	Change in Rides	Weekday Platform Hours in 2012	Weekday Platform Hours in 2013	Change in Platform Hours
1	2,600	2,300	(300)	57	48	(9)
2	5,700	5,700	0	121	127	6
2EX	900	-	(900)	23	-	(23)
3	7,000	6,700	(300)	132	136	4
4	5,400	5,300	(100)	111	112	1
5	7,300	8,000	700	163	153	(9)
7	11,800	12,900	1,100	242	247	5
7EX	300	400	100	12	12	
8	9,000	10,300	1,300	200	209	8
9	2,700	2,700	0	62	65	3
10	4,100	4,400	300	88	88	0
11	4,000	3,200	(800)	69	64	(4)
12	4,300	3,500	(800)	85	76	(9)
13	2,900	3,200	300	61	61	0
14	4,400	2,700	(1,700)	96	66	(30)
15	5,000	-	(5,000)	96	-	(96)
15EX	1,200	1,000	(200)	24	20	(4)
16	5,100	5,200	100	146	155	9
17	2,500	-	(2,500)	69	-	(69)
17EX	500	700	200	14	14	0
18	4,100	-	(4,100)	89	-	(89)
18EX	800	1,000	200	19	19	0
19	300	300	0	9	9	0
21	2,200	3,800	1,600	80	111	31
21EX	1,000	1,000	0	33	28	(4)
22	1,700	200	(1,500)	61	16	(45)
23	2,300	-	(2,300)	62	-	(62)
24	1,800	2,300	500	67	61	(6)
25	800	500	(300)	36	27	(9)
26	2,700	2,700	0	68	73	6
26EX	700	800	100	15	15	0
27	1,400	1,400	0	39	39	0
28	3,800	2,800	(1,000)	81	72	(9)
28EX	1,100	1,200	100	24	28	4

Route	Weekday Rides in 2012	Weekday Rides in 2013	Change in Rides	Weekday Platform Hours in 2012	Weekday Platform Hours in 2013	Change in Platform Hours
29	-	1,300	1,300	-	33	33
30	2,800	1,300	(1,500)	91	49	(42)
31	1,200	1,800	600	48	52	4
32	-	2,600	2,600	-	72	72
33	1,800	1,800	0	44	45	1
34	200	-	(200)	8	-	(8)
35	< 50	-	(< 50)	3	-	(3)
36	10,800	10,600	(200)	205	232	27
37	300	200	(100)	17	11	(7)
38	100	-	(100)	8	-	(8)
39	1,500	-	(1,500)	53	-	(53)
40	-	7,900	7,900	-	202	202
41	9,600	10,400	800	182	180	(2)
42	100	-	(100)	8	-	(8)
43	6,800	7,900	1,100	139	147	8
44	6,400	7,100	700	131	133	2
45	200	-	(200)	7	-	(7)
46	300	-	(300)	16	-	(16)
47	-	800	800	-	26	26
48	11,300	11,500	200	256	249	(8)
49	7,200	8,500	1,300	132	136	4
50	-	2,000	2,000	-	109	109
51	200	-	(200)	14	-	(14)
53	100	-	(100)	8	-	(8)
54	4,700	-	(4,700)	153	-	(153)
54EX	500	-	(500)	18	-	(18)
55	2,100	700	(1,400)	85	22	(63)
56	2,000	800	(1,200)	69	21	(48)
57	300	300	0	12	10	(2)
60	4,800	5,100	300	140	154	14
61	-	300	300	-	35	35
62	-	300	300	-	17	17
64	700	800	100	23	22	0
65	2,700	3,000	300	81	91	10
66	3,000	3,400	400	78	76	(2)
67	1,500	1,700	200	32	42	10
68	2,000	2,300	300	39	47	8
70	4,400	4,700	300	101	101	0
71	4,800	5,000	200	84	86	2
72	4,400	4,900	500	76	80	5
73	5,800	6,600	800	98	96	(2)

Route	Weekday Rides in 2012	Weekday Rides in 2013	Change in Rides	Weekday Platform Hours in 2012	Weekday Platform Hours in 2013	Change in Platform Hours
74	1,200	1,400	200	21	23	1
75	5,700	4,500	(1,200)	154	97	(57)
76	900	1,100	200	22	20	(2)
77	900	1,100	200	24	24	0
79	200	-	(200)	10	-	(10)
81	< 50	-	(< 50)	3	-	(3)
82	100	< 50	(100)	3	3	0
83	100	100	0	3	3	0
84	< 50	< 50	0	4	4	0
85	< 50	-	(< 50)	4	-	(4)
99	900	400	(500)	27	16	(11)
101	4,900	5,000	100	106	107	1
102	900	900	0	24	24	0
105	1,100	1,100	0	38	38	0
106	5,200	5,100	(100)	134	136	2
107	1,400	1,500	100	61	63	2
110	200	200	0	13	13	0
111	900	900	0	36	35	
113	300	300	0	12	12	0
114	400	400	0	17	17	0
116	300	500	200	21	26	5
118	400	500	100	31	31	1
118EX	100	200	100	9	9	0
119	200	200	0	15	13	(2)
119EX	100	100	0	5	5	0
120	8,300	8,600	300	195	206	11
121	1,200	1,000	(200)	46	47	1
122	600	600	0	21	26	5
123	300	300	0	14	12	(2)
124	3,700	3,300	(400)	99	95	(4)
125	1,800	1,800	0	73	56	(17)
128	3,700	4,400	700	104	134	31
129	100	-	(100)	6	-	(6)
131	1,400	2,900	1,500	63	82	18
132	2,400	3,100	700	81	99	18
133	300	-	(300)	14	-	(14)
134	200	-	(200)	15	-	(15)
139	200	200	0	16	15	
140	3,500	3,500	0	115	114	
143	600	600	0	27	27	0
148	600	600	0	37	38	0

Route	Weekday Rides in 2012	Weekday Rides in 2013	Change in Rides	Weekday Platform Hours in 2012	Weekday Platform Hours in 2013	Change in Platform Hours
150	7,300	7,100	(200)	181	184	4
152	300	300	0	20	20	
153	400	400	0	20	20	0
154	100	200	100	9	9	0
155	400	400	0	22	22	0
156	400	1,000	600	37	71	35
157	200	200	0	15	15	0
158	600	600	0	26	26	0
159	500	500	0	23	23	0
161	400	400	0	22	22	0
162	200	-	(200)	9	-	(9)
164	2,000	2,100	100	48	47	
166	1,600	2,200	600	55	79	23
167	400	400	0	16	16	0
168	1,500	1,700	200	68	68	
169	2,900	3,000	100	74	78	4
173	100	100	0	6	6	0
175	200	-	(200)	16	-	(16)
177	1,100	700	(400)	50	29	(21)
178	-	700	700	-	29	29
179	600	700	100	29	29	1
180	4,200	4,600	400	137	149	12
181	2,300	2,200	(100)	80	81	1
182	500	500	0	28	29	0
183	700	700	0	34	34	0
186	200	200	0	19	20	1
187	400	500	100	21	21	0
190	400	400	0	19	18	0
192	200	300	100	12	12	0
193	700	700	0	28	27	0
196	300	-	(300)	23	-	(23)
197	700	800	100	38	38	0
200	400	400	0	34	34	0
201	< 50	< 50	0	2	2	0
202	200	200	0	16	15	
203	100	100	0	8	8	0
204	100	100	0	11	11	0
205	200	200	0	13	12	0
209	300	300	0	34	33	
210	200	200	0	16	15	0
211	300	400	100	26	26	0
212	2,400	2,400	0	51	67	16

Route	Weekday Rides in 2012	Weekday Rides in 2013	Change in Rides	Weekday Platform Hours in 2012	Weekday Platform Hours in 2013	Change in Platform Hours
213	< 50	< 50	0	1	1	0
214	700	800	100	34	34	0
215	500	600	100	25	24	
216	600	700	100	24	24	0
217	200	200	0	8	8	0
218	1,800	2,000	200	42	44	3
219	100	-	(100)	10	-	(10)
221	1,200	1,500	300	82	82	0
224	100	100	0	19	20	0
226	1,200	1,600	400	65	61	(4)
232	300	400	100	22	21	
234	1,100	1,500	400	72	72	0
235	900	1,100	200	66	66	0
236	500	500	0	59	59	0
237	100	100	0	5	5	0
238	800	900	100	69	72	3
240	2,300	2,600	300	115	115	0
241	600	700	100	43	41	(3)
242	400	500	100	22	22	0
243	200	200	0	8	8	0
244	200	200	0	17	18	1
245	3,000	3,700	700	156	156	0
246	400	500	100	40	41	1
248	900	1,100	200	56	56	0
249	900	1,200	300	69	69	0
250	400	400	0	19	19	0
252	700	600	(100)	24	24	
255	5,900	6,100	200	219	218	
257	500	500	0	23	21	(3)
260	200	200	0	12	11	0
265	500	600	100	27	36	8
268	300	400	100	15	14	
269	500	600	100	49	48	
271	5,900	6,000	100	224	223	(2)
277	200	300	100	18	19	0
280	< 50	100	100	3	4	1
301	1,700	1,600	(100)	40	48	7
303	1,100	1,300	200	31	38	7
304	400	400	0	15	16	1
306	600	400	(200)	17	19	2
308	200	200	0	9	9	0

Route	Weekday Rides in 2012	Weekday Rides in 2013	Change in Rides	Weekday Platform Hours in 2012	Weekday Platform Hours in 2013	Change in Platform Hours
309	300	200	(100)	11	14	3
311	1,000	1,100	100	50	51	2
312	1,500	2,000	500	56	54	(2)
316	800	1,000	200	16	17	0
330	300	300	0	12	14	2
331	1,000	1,100	100	54	54	0
342	300	300	0	17	16	0
345	1,300	1,500	200	36	36	0
346	1,400	1,600	200	43	43	0
347	1,300	1,300	0	56	56	0
348	1,200	1,300	100	56	56	0
355	900	1,000	100	29	29	0
358	10,400	12,000	1,600	222	222	1
372	3,800	5,300	1,500	120	124	3
373	900	900	0	30	29	
600	100	-	(100)	6	-	(6)
601	-	< 50	< 50	-	5	5
671	8,400	8,700	300	180	179	
672	5,900	6,100	200	164	164	0
673	-	7,000	7,000	-	169	169
674	-	8,800	8,800	-	156	156
773	100	100	0	15	8	(8)
775	100	100	0	9	5	(3)
821	100	-	(100)	2	-	(2)
822	100	-	(100)	2	-	(2)
823	100	100	0	2	2	0
824	100	100	0	2	2	0
885	< 50	-	(< 50)	2	-	(2)
886	< 50	-	(< 50)	1	-	
887	-	100	100	-	2	2
888	100	100	0	2	3	0
889	100	100	0	2	2	0
890	< 50	-	(< 50)	2	-	(2)
891	100	100	0	3	3	0
892	100	100	0	3	2	0
893	< 50	100	100	2	2	0
901	300	400	100	19	19	0
903	500	500	0	28	28	0
907	100	100	0	19	19	0
908	100	100	0	10	10	0
909	100	100	0	14	14	0

Route	Weekday Rides in 2012	Weekday Rides in 2013	Change in Rides	Weekday Platform Hours in 2012	Weekday Platform Hours in 2013	Change in Platform Hours
910	100	100	0	9	9	0
912	< 50	-	(< 50)	11	-	(11)
913	200	200	0	13	13	0
914	200	200	0	10	10	0
915	100	100	0	7	7	0
916	200	200	0	11	11	0
917	200	200	0	14	14	0
919	100	100	0	8	8	0
925	< 50	-	(< 50)	10	-	(10)
927	100	100	0	21	21	0
930	100	100	0	13	13	0
931	300	300	0	39	39	0
935	200	100	(100)	34	19	(15)
952	300	300	0	25	25	0
980	< 50	< 50	0	2	2	0
981	< 50	< 50	0	2	2	0
982	100	100	0	4	3	
983	< 50	< 50	0	2	2	0
984	< 50	< 50	0	2	1	0
986	100	100	0	3	3	0
987	100	100	0	3	3	0
988	100	100	0	3	3	0
989	100	100	0	3	4	1
994	100	100	0	3	3	0
995	< 50	100	100	3	3	1

# Appendix L: Corridor Analysis of All-Day Network: Step One

CORRIDOR ID NUMBER	Connections			Land Use - Productivity			Social Equity - Demographics				Geographic Value - Primary Connections				Preliminary Target Service Levels						
	BETWEEN	AND	VIA	MAJOR ROUTE	HOUSEHOLDS/CORRIDOR MILE	POINTS	JOB/CORRIDOR MILE	POINTS	MINORITY	POINTS	LOW-INCOME	POINTS	ACTIVITY CENTERS	POINTS	REGIONAL & MANUFACTURING/INDUSTRIAL CENTERS	POINTS	TOTAL SCORE	RAPIDRIDE	PEAK	OFFPEAK	NIGHT
1	Admiral District	Southcenter	California Ave SW, Military Rd, T1BS	128	1018	2	946	2	69%	5	52%	0	Yes	5	0	0	14		30	30	0
2	Alki	SODO	Alaska Junction	50	1214	4	1999	4	17%	0	17%	0	Yes	5	0	0	13		30	30	0
3	Auburn	Burien	Kent, SeaTac	180	570	0	1248	2	75%	5	89%	5	0	Yes	10	22		15	30	30	
4	Auburn/GRCC	Federal Way	15th St SW, Lea Hill Rd	181	585	0	1189	2	25%	0	40%	0	0	Yes	10	12		30	30	0	
5	Aurora Village	Seattle CBD	Aurora Ave N	35BEX	2237	6	8233	8	42%	0	28%	0	Yes	5	0	0	19	Yes	< 15	15	15
6	Aurora Village	Northgate	Meridian Av N	346	1099	2	2548	4	99%	5	52%	0	Yes	5	0	0	16		30	30	0
7	Avondale	Kirkland	NE 85th St, NE Redmond Wy, Avondale Wy NE	248	1154	2	1453	4	79%	5	31%	0	Yes	5	0	0	16		30	30	0
8	Ballard	U. District	Green Lake, Greenwood	48N	2321	6	8366	8	8%	0	29%	0	Yes	5	0	0	19		15	30	30
9	Ballard	Northgate	Holman Road, Northgate	40	1968	6	3372	6	14%	0	51%	0	0	Yes	10	22		15	30	30	
10	Ballard	Seattle CBD	15th Ave W	674	3204	10	12205	10	0%	0	25%	0	0	Yes	10	30	Yes	< 15	15	15	
11	Ballard	U. District	Wallingford (N 45th St)	44	2379	6	13714	10	16%	0	30%	0	0	Yes	10	26		15	15	30	
12	Ballard	Seattle CBD	Ballard/Interbay MIC, Fremont, South Lake Union	40	3157	10	20346	10	1%	0	22%	0	0	Yes	10	30		15	15	30	
13	Beacon Hill	Seattle CBD	Beacon Ave	36	2327	6	12564	10	93%	5	68%	5	0	0	0	26		15	15	30	
14	Bellevue	Eastgate	Lake Hills Connector	271	747	2	6349	8	98%	5	81%	5	Yes	5	0	0	25		15	15	30
15	Bellevue	Redmond	NE 8th St, 156th Ave NE	672	1281	4	3934	6	89%	5	0%	0	0	Yes	10	25	Yes	< 15	15	15	
16	Bellevue	Renton	Newcastle, Factoria	240	953	2	2752	4	90%	5	69%	5	Yes	5	0	0	21		15	30	30
17	Burien	Seattle CBD	Delridge, Arbaum	120	1280	4	5465	6	70%	5	63%	5	0	Yes	10	30		15	15	30	
18	Burien	Seattle CBD	1st Ave S, South Park, Airport Wy	131	1334	4	8360	8	70%	5	81%	5	Yes	5	0	0	27		15	15	30
19	Burien	Seattle CBD	Des Moines Mem Dr, South Park	132	1153	2	7825	8	69%	5	100%	5	0	Yes	10	30		15	15	30	
20	Capitol Hill	White Center	South Park, Georgetown, Beacon Hill, First Hill	60	1486	4	4187	6	90%	5	75%	5	0	Yes	10	30		15	15	30	
21	Capitol Hill	Seattle CBD	15th Ave E	10	5462	10	19041	10	0%	0	87%	5	0	0	0	25		15	15	30	
22	Capitol Hill	Seattle CBD	Madison St	12	4647	10	39044	10	24%	0	87%	5	0	Yes	10	35		15	15	30	
23	Central District	Seattle CBD	E Jefferson St	35/45	4255	10	31852	10	67%	5	100%	5	Yes	5	0	0	35		15	15	30
24	Colman Park	Seattle CBD	Leschi, Yasler	27	2996	8	19013	10	85%	5	56%	0	0	0	0	23		15	30	30	
25	Cowen Park	Seattle CBD	University Way, I-5	73	2167	6	20677	10	71%	5	100%	5	0	Yes	10	36		15	15	30	
26	Discovery Park	Seattle CBD	Gilman Ave W, 22nd Ave W, Thorndyke Av W	33	2793	8	12854	10	0%	0	21%	0	0	0	0	18		30	30	0	
27	Eastgate	Bellevue	Newport Wy, S. Bellevue, 112th	241	948	2	6826	8	80%	5	63%	5	0	0	0	20		15	30	30	
28	Eastgate	Bellevue	Somerset, Factoria, Woodridge	245	933	2	6100	8	91%	5	34%	0	0	0	0	15		30	30	0	
29	Eastgate	Overlake	Phantom Lake	215	682	2	2944	4	40%	0	22%	0	0	0	0	6		60	60	0	
30	Enumclaw	Auburn	Auburn Wy S, SR 164	186/915DART	207	0	373	0	43%	0	92%	5	Yes	5	0	0	10		30	30	0
31	Fairwood	Renton	S Puget Dr, Royal Hills	148	741	2	674	2	100%	5	35%	0	Yes	5	0	0	14		30	30	0
32	Federal Way	SeaTac	SR-99	671	784	2	2298	4	100%	5	94%	5	0	Yes	10	26	Yes	< 15	15	15	
33	Federal Way	Kent	Military Road	183	810	2	662	2	97%	5	71%	5	0	Yes	10	24		15	30	30	
34	Fremont	Seattle CBD	Dexter Ave N	26/28	4248	10	24782	10	0%	0	5%	0	0	Yes	10	30		15	15	30	
35	Fremont	U. District	N 40th St	32	2142	6	25828	10	7%	0	46%	0	Yes	5	0	0	21		15	30	30
36	Fremont	Whittier Hts	8th Av NW, 3rd Av NW	28	1401	4	1544	4	0%	0	9%	0	0	0	0	8		60	60	0	
37	Green River CC	Kent	132nd Ave SE	164	931	2	1815	4	43%	0	33%	0	Yes	5	0	0	11		30	30	0
38	Greenwood	Seattle CBD	Greenwood Ave N	5	3607	10	12962	10	0%	0	23%	0	Yes	5	0	0	25		15	15	30
39	High Point	Seattle CBD	35th Ave SW	21	1850	6	9254	8	68%	5	68%	5	Yes	5	0	0	29		15	15	30

Threshold	Points										
> 3000	10	> 10250	10	>= 51%	5	>= 60%	5	Yes	5	Yes	10
> 2400	8	> 5500	8	DART 53%	5	DART 47%	5	No	0	No	0
> 1800	6	> 3000	6	< 51%	0	< 60%	0				
> 1200	4	> 1400	4								
> 600	2	> 500	2								

Levels	Points	Points	Points
15	19-40	25-40	---
30	10-18	10-24	19-40
60	0-9	0-9	0-18



(continued) Corridor Analysis of All-Day Network: Step One

CORRIDOR ID NUMBER	Connections			Land Use - Productivity				Social Equity - Demographics				Geographic Value - Primary Connections				Preliminary Target Service Levels						
	BETWEEN	AND	VIA	MAJOR ROUTE	HOUSEHOLDS/CORRIDOR MILE	POINTS	JOBS/CORRIDOR MILE	POINTS	MINORITY	POINTS	LOW-INCOME	POINTS	ACTIVITY CENTERS	POINTS	REGIONAL & MANUFACTURING/INDUSTRIAL CENTERS	POINTS	TOTAL SCORE	RAPIDRIDE	PEAK	OFFPEAK	NIGHT	
79	Rainier Beach	Capitol Hill	Rainier Ave	9EX	2341	6	5476	6	96%	5	81%	5	Yes	5		0	27		15	15	30	
80	Redmond	Eastgate	148th Ave, Crossroads, Bellevue College		221	750	2	2140	4	84%	5	45%	0	Yes	5		0	16	30	30	0	
81	Redmond	Totem Lake	Willows Road	930DART	685	2	2885	4	68%	5	12%	0		0	Yes	10	21	15	30	30		
82	Redmond	Fall City	Duvall, Carnation		224	188	0	236	0	36%	0	17%	0	Yes	5		0	5	60	60	0	
83	Renton	Burien	S 154th St		140	513	0	1503	4	97%	5	100%	5		0	Yes	10	24	Yes	< 15	15	15
84	Renton	Seattle CBD	MLK Jr Wy, I-5		101	876	2	6362	8	94%	5	100%	5	0	Yes	10	30	15	15	30		
85	Renton	Rainier Beach	West Hill, Rainier View		107	837	2	518	2	100%	5	94%	5		0	0	14	30	30	0		
86	Renton	Seattle CBD	Skyway, S. Beacon Hill		106	1065	2	6492	8	92%	5	80%	5	Yes	5		0	25	15	15	30	
87	Renton	Renton Highlands	NE 4th St, Union Ave NE		105	1215	4	2747	4	98%	5	90%	5	Yes	5		0	23	15	30	30	
88	Renton	Enumclaw	Maple Valley, Black Diamond	907DART	183	0	243	0	14%	0	19%	0	Yes	5		0	5	60	60	0		
89	Renton Highlands	Renton	NE 7th St, Edmonds Av NE	908DART	994	2	554	2	87%	5	77%	5		0	0	0	14	30	30	0		
90	Richmond Beach	Northgate	Richmond Bch Rd, 15th Ave NE		348	1320	4	1237	2	56%	5	52%	0	Yes	5		0	16	30	30	0	
91	S Vashon	N Vashon	Valley Center		118	38	0	75	0	0%	0	0%	0		0	0	0	0	60	60	0	
92	Sand Point	U. District	NE 55th St		30	1856	6	13231	10	13%	0	74%	5		0	0	21	15	30	30		
93	Shoreline	U. District	Jackson Park, 15th Av NE	373EX	1148	2	5760	8	100%	5	49%	0		0	0	0	15	30	30	0		
94	Shoreline CC	Northgate	N 130th St, Meridian Av N		345	1239	4	4069	6	63%	5	64%	5	Yes	5		0	25	15	15	30	
95	Shoreline CC	Lake City	N 155th St, Jackson Park		330	1344	4	2141	4	28%	0	14%	0	Yes	5		0	13	30	30	0	
96	Shoreline CC	Greenwood	Greenwood Av N		5	1822	6	2529	4	12%	0	38%	0	Yes	5		0	15	30	30	0	
97	Totem Lake	Seattle CBD	Kirkland, SR-520		255	1128	2	5834	8	0%	0	4%	0		0	Yes	10	20	15	30	30	
98	Totem Lake	Kirkland	Kingsgate		236	992	2	1155	2	27%	0	54%	0	Yes	5		0	9	60	60	0	
99	Tukwila	Seattle CBD	Pacific Hwy S, 4th Ave S		124	1412	4	9564	8	90%	5	85%	5		0	Yes	10	32	15	15	30	
100	Tukwila	Des Moines	McMicken Heights, Sea-Tac		156	524	0	565	2	93%	5	76%	5		0	Yes	10	22	15	30	30	
101	Tukwila	Fairwood	S 180th St, Carr Road		155	585	0	1201	2	100%	5	20%	0	Yes	5		0	12	30	30	0	
102	Twin Lakes	Federal Way	SW Campus Dr, 1st Ave S	903DART	772	2	1174	2	96%	5	86%	5		0	0	0	14	30	30	0		
103	Twin Lakes	Federal Way	S 320th St		187	744	2	593	2	59%	5	59%	0		0	0	9	60	60	0		
104	U. District	Seattle CBD	Eastlake, Fairview		73	3142	10	30237	10	40%	0	89%	5		0	Yes	10	35	15	15	30	
105	U. District	Seattle CBD	Broadway		49	3284	10	18372	10	45%	0	77%	5		0	Yes	10	35	15	15	30	
106	U. District	Bellevue	SR-520		271	865	2	11765	10	76%	5	52%	0		0	Yes	10	27	15	15	30	
107	U. District	Seattle CBD	Lakeview		25	2539	8	23079	10	27%	0	71%	5		0	0	23	15	30	30		
108	UW Bothell	Redmond	Woodinville, Cottage Lake	931DART	348	0	1034	2	6%	0	23%	0	Yes	5		0	7	60	60	0		
109	UW Bothell/CCC	Kirkland	132nd Ave NE, LK Wash Voch Tech		238	874	2	1673	4	0%	0	27%	0	Yes	5		0	11	30	30	0	
110	Wedgwood	Cowen Park	View Ridge, NE 65th St		71	1382	4	434	0	0%	0	23%	0		0	0	4	60	60	0		
111	West Seattle	Seattle CBD	Fauntleroy, Alaska Junction		673	2125	6	8268	8	15%	0	15%	0	Yes	5		0	19	Yes	< 15	15	15
112	White Center	Seattle CBD	16th Ave SW, SSSC		125	683	2	4444	6	94%	5	15%	0	Yes	5		0	18	30	30	0	

Threshold	Points										
> 3000	10	> 10250	10	>= 51%	5	>= 60%	5	Yes	5	Yes	10
> 2400	8	> 5500	8	DART 53%	5	DART 47%	5				
> 1800	6	> 3000	6	< 51%	0	< 60%	0	No	0	No	0
> 1200	4	> 1400	4								
> 600	2	> 500	2								

Levels	Points	Points	Points
15	19-40	25-40	—
30	10-18	10-24	19-40
60	0-9	0-9	0-18

# Corridor Analysis of All-Day Network: Step Two and Final Suggested Service Levels

CORRIDOR ID NUMBER	Connections			Loads at Preliminary Service Level		Load-Based Service Level Improvements		Cost Recovery at Preliminary Service Level			Cost Recovery-Based Service Level Improvements			Night Service Additions				Service Level Improvements			Final Target Service Levels and Family					
	BETWEEN	AND	VIA	PEAK	OFFPEAK	PEAK	OFFPEAK	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PRIMARY CONNECTIONS BETWEEN URBAN CENTERS	COST RECOVERY BASIS (8% / 16%)	CORRIDOR HAS 15 MIN PEAK SERVICE	ADD WHAT FREQUENCY NIGHT SERVICE?	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT
1	Admiral District	Southcenter	California Ave SW, Military Rd, TIBS	128	0.77	0.84	1	1	41%	27%	27%	0	0	0	0	30	30	30	1	1	0	15	15	30	Very Frequent	
2	Alki	SODO	Alaska Junction	50	0.89	0.47	1	0	25%	14%	16%	0	0	0	0	60	30	30	1	0	0	15	30	30	Frequent	
3	Auburn	Burien	Kent, SeaTac	180	0.42	0.87	0	1	13%	26%	12%	0	0	0	60	60	30	30	0	1	0	15	15	30	Very Frequent	
4	Auburn/GRCC	Federal Way	15th St SW, Lea Hill Rd	181	0.55	0.54	0	0	23%	21%	27%	0	0	0	60	30	0	30	0	0	0	30	30	30	Local	
5	Aurora Village	Seattle CBD	Aurora Ave N	358EX	1.09	0.77	1	1	53%	47%	17%	1	0	0	0	30	30	30	1	1	0	<15	<15	15	Very Frequent	
6	Aurora Village	Northgate	Meridian Av N	346	0.70	0.69	0	0	50%	27%	12%	0	0	0	0	60	0	60	0	0	0	30	30	60	Local	
7	Avondale	Kirkland	NE 85th St, NE Redmond Wy, Avondale Wy NE	248	0.30	0.27	0	0	17%	15%	21%	0	0	0	0	30	0	30	0	0	0	30	30	30	Local	
8	Ballard	U. District	Green Lake, Greenwood	48N	1.19	1.48	1	1	57%	76%	46%	1	1	1	0	30	30	30	1	1	1	<15	15	15	Very Frequent	
9	Ballard	Northgate	Holman Road, Northgate	40	0.97	1.22	1	1	50%	58%	22%	0	1	0	60	30	30	30	1	1	0	<15	15	30	Very Frequent	
10	Ballard	Seattle CBD	15th Ave W	674	1.00	1.25	1	1	51%	69%	31%	1	1	0	60	30	30	30	1	1	0	<15	<15	15	Very Frequent	
11	Ballard	U. District	Wallingford (N 45th St)	44	1.26	0.57	1	0	63%	39%	53%	1	0	1	60	30	30	30	1	0	1	<15	15	15	Very Frequent	
12	Ballard	Seattle CBD	Ballard/Interbay MIC, Fremont, South Lake Union	40	0.97	0.61	1	0	35%	29%	22%	0	0	0	60	30	30	30	1	0	0	<15	15	30	Very Frequent	
13	Beacon Hill	Seattle CBD	Beacon Ave	36	1.71	1.05	2	1	103%	59%	43%	2	1	1	0	30	30	30	2	1	1	<15	<15	15	Very Frequent	
14	Bellevue	Eastgate	Lake Hills Connector	271	0.44	0.29	0	0	16%	10%	8%	0	0	0	0	60	30	30	0	0	0	15	15	30	Very Frequent	
15	Bellevue	Redmond	NE 8th St, 156th Ave NE	672	0.66	0.54	0	0	49%	27%	24%	0	0	0	60	30	30	30	0	0	0	<15	15	15	Very Frequent	
16	Bellevue	Renton	Newcastle, Factoria	240	0.17	0.58	0	0	10%	17%	12%	0	0	0	0	60	30	30	0	0	0	15	30	30	Frequent	
17	Burien	Seattle CBD	Delridge, Ambaum	120	1.58	0.63	2	0	89%	36%	28%	1	0	0	60	30	30	30	2	0	0	<15	15	30	Very Frequent	
18	Burien	Seattle CBD	1st Ave S, South Park, Airport Wy	131	0.42	0.29	0	0	24%	13%	18%	0	0	0	0	30	30	30	0	0	0	15	15	30	Very Frequent	
19	Burien	Seattle CBD	Des Moines Mem Dr, South Park	132	0.52	0.35	0	0	22%	11%	16%	0	0	0	60	60	30	30	0	0	0	15	15	30	Very Frequent	
20	Capitol Hill	White Center	South Park, Georgetown, Beacon Hill, First Hill	60	0.72	0.57	0	0	30%	19%	16%	0	0	0	60	60	30	30	0	0	0	15	15	30	Very Frequent	
21	Capitol Hill	Seattle CBD	15th Ave E	10	1.43	0.69	1	0	115%	40%	27%	2	0	0	0	30	30	30	2	0	0	<15	15	30	Very Frequent	
22	Capitol Hill	Seattle CBD	Madison St	12	1.13	0.52	1	0	114%	29%	13%	2	0	0	60	60	30	30	2	0	0	<15	15	30	Very Frequent	
23	Central District	Seattle CBD	E Jefferson St	35/45	1.54	1.61	2	2	81%	72%	44%	1	1	1	0	30	30	30	2	2	1	<15	<15	15	Very Frequent	
24	Colman Park	Seattle CBD	Leschi, Yesler	27	0.80	0.54	1	0	24%	25%	15%	0	0	0	0	60	30	30	1	0	0	<15	30	30	Frequent	
25	Cowen Park	Seattle CBD	University Way, I-5	73	1.80	1.69	2	2	105%	92%	N/A	2	1	N/A	60	N/A	30	30	2	2	0	<15	<15	30	Very Frequent	
26	Discovery Park	Seattle CBD	Gilman Ave W, 22nd Ave W, Thorndyke Av W	33	1.38	0.47	1	0	57%	24%	18%	1	0	0	0	30	30	30	1	0	0	15	30	30	Frequent	
27	Eastgate	Bellevue	Newport Wy, S. Bellevue, 112th	241	0.13	0.18	0	0	7%	12%	4%	0	0	0	0	0	30	30	30	0	0	0	15	30	30	Frequent
28	Eastgate	Bellevue	Somerset, Factoria, Woodridge	246	0.21	0.12	0	0	9%	5%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	30	30	0	Local	
29	Eastgate	Overlake	Phantom Lake	226	0.45	0.38	0	0	33%	20%	5%	0	0	0	0	0	0	0	0	0	0	60	60	0	Hourly	
30	Enumclaw	Auburn	Auburn Wy S, SR 164	186/915DART	0.51	0.18	0	0	10%	6%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	30	30	0	Local	
31	Fairwood	Renton	S Puget Dr, Royal Hills	148	0.47	0.37	0	0	20%	13%	15%	0	0	0	0	60	0	60	0	0	0	30	30	60	Local	
32	Federal Way	SeaTac	SR-99	671	0.69	0.75	0	1	40%	42%	30%	0	0	0	60	30	30	30	0	1	0	<15	<15	15	Very Frequent	
33	Federal Way	Kent	Military Road	183	0.27	0.24	0	0	13%	8%	N/A	0	0	N/A	60	N/A	30	30	0	0	0	15	30	30	Frequent	
34	Fremont	Seattle CBD	Dexter Ave N	26/28	1.40	0.70	1	0	62%	28%	36%	1	0	1	60	30	30	30	1	0	1	<15	15	15	Very Frequent	
35	Fremont	U. District	N 40th St	32	1.19	1.56	1	2	69%	56%	N/A	1	1	N/A	0	N/A	30	30	1	2	0	<15	<15	30	Very Frequent	
36	Fremont	Whittier Hts	8th Av NW, 3rd Av NW	28	1.40	0.70	1	0	62%	28%	18%	1	0	0	0	30	0	30	1	0	0	30	60	30	Local	
37	Green River CC	Kent	132nd Ave SE	164	0.80	0.78	1	1	54%	35%	22%	1	0	0	0	30	30	30	1	1	0	15	15	30	Very Frequent	
38	Greenwood	Seattle CBD	Greenwood Ave N	5	1.13	0.56	1	0	46%	38%	29%	0	0	0	0	30	30	30	1	0	0	<15	15	30	Very Frequent	
39	High Point	Seattle CBD	35th Ave SW	21	0.54	0.51	0	0	32%	25%	16%	0	0	0	0	30	30	30	0	0	0	15	15	30	Very Frequent	

Load Factor*	Peak	Off Peak
1.50	2	2
0.75	1	1

Cost Recovery*	Peak	Off Peak	Night
>= 100%	2	2	2
>= 50%	1	1	1
>= 33%	--	--	1
>= 16%	--	--	30 min
>= 8%	--	--	60 min

\* Load Factor and Cost Recovery service level improvements move the preliminary levels of service up one or two levels, e.g. a load factor or cost recovery service level improvement of 2 changes a 30 min. service to <15 or a 60 min. service to 15, etc. A cost recovery >8% warrants 60 min. night service, >16% warrants 30 min.

**Above Target**  
**Below Target**

(continued) Corridor Analysis of All-Day Network: Step Two and Final Suggested Service Levels

CORRIDOR ID NUMBER	Connections			Loads at Preliminary Service Level		Load-Based Service Level Improvements		Cost Recovery at Preliminary Service Level			Cost Recovery-Based Service Level Improvements			Night Service Additions				Service Level Improvements			Final Target Service Levels and Family					
	BETWEEN	AND	VIA	PEAK	OFFPEAK	PEAK	OFFPEAK	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	RESULTING SERVICE FAMILY
40	Issaquah	Eastgate	Newport Way	271	0.31	0.29	0	0	11%	10%	8%	0	0	0	0	60	0	60	0	0	0	0	30	30	60	Local
41	Issaquah	Overlake	Sammamish, Bear Creek	269	0.38	N/A	0	N/A	16%	N/A	N/A	0	N/A	N/A	0	N/A	0	0	0	0	0	0	30	30	0	Local
42	Issaquah	North Bend	Fall City, Snoqualmie	209	0.27	0.27	0	0	6%	8%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	60	60	0	Hourly
43	Kenmore	Kirkland	Juanita	234	0.55	0.38	0	0	18%	15%	6%	0	0	0	0	0	0	0	0	0	0	0	60	60	0	Hourly
44	Kenmore	Shoreline	Lake Forest Park, Aurora Village TC	331	1.22	1.10	1	1	30%	32%	7%	0	0	0	0	0	0	0	0	1	1	0	30	30	0	Local
45	Kenmore	U. District	Lake Forest Park, Lake City	372EX	1.14	0.89	1	1	41%	39%	12%	0	0	0	0	60	30	30	1	1	0	<15	<15	30	Very Frequent	
46	Kenmore	Totem Lake	Finn Hill, Juanita	935DART	0.40	N/A	0	N/A	9%	N/A	N/A	0	N/A	N/A	0	N/A	0	0	0	0	0	0	60	60	0	Hourly
47	Kennydale	Renton	Edmonds Av NE	909DART	0.33	0.33	0	0	8%	7%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	60	60	0	Hourly
48	Kent	Burien	Kent-DM Rd, S. 240th St, 1st Av S	131/166	0.60	0.69	0	0	21%	24%	30%	0	0	0	0	30	0	30	0	0	0	0	30	30	0	Local
49	Kent	Maple Valley	Kent-Kangley Road	168	0.49	0.48	0	0	10%	20%	10%	0	0	0	0	60	30	30	0	0	0	0	15	30	30	Frequent
50	Kent	Renton	Kent East Hill	169	0.42	0.70	0	0	15%	31%	23%	0	0	0	60	30	30	30	0	0	0	0	15	30	30	Frequent
51	Kent	Seattle CBD	Tukwila	150	0.83	0.60	1	0	32%	31%	24%	0	0	0	60	30	30	30	1	0	0	<15	15	30	Very Frequent	
52	Kent	Renton	84th Av S, Lind Av SW	153	0.26	N/A	0	N/A	9%	N/A	N/A	0	N/A	N/A	60	N/A	30	30	0	0	0	0	15	30	30	Frequent
53	Kirkland	Bellevue	South Kirkland	234/235	1.10	0.76	1	1	36%	50%	22%	0	0	0	0	30	30	30	1	1	0	15	15	30	Very Frequent	
54	Kirkland	Factoria	Overlake, Crossroads, Eastgate	245	1.02	0.82	1	1	40%	37%	26%	0	0	0	0	30	30	30	1	1	0	15	15	30	Very Frequent	
55	Lake City	Seattle CBD	NE 125th St, Northgate, I-5	41	0.94	0.80	1	1	48%	44%	36%	0	0	1	60	30	30	30	1	1	1	<15	<15	15	Very Frequent	
56	Northgate	U. District	Lake City, Sand Point	75	0.91	0.68	1	0	36%	37%	29%	0	0	0	0	30	30	30	1	0	0	<15	30	30	Frequent	
57	Lake City	U. District	35th Ave NE	65	1.76	0.64	2	0	79%	26%	33%	1	0	1	0	30	30	30	2	0	1	<15	30	30	Frequent	
58	Laurelhurst	U. District	NE 45th St	25	0.15	0.08	0	0	5%	3%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	30	30	0	Local
59	Madison Park	Seattle CBD	Madison St	11	0.73	0.35	0	0	42%	19%	30%	0	0	0	0	30	30	30	0	0	0	0	15	15	30	Very Frequent
60	Madrona	Seattle CBD	Union St	25	0.74	0.63	0	0	40%	35%	23%	0	0	0	0	30	30	30	0	0	0	0	15	15	30	Very Frequent
61	Magnolia	Seattle CBD	34th Ave W, 28th Ave W	24	0.67	0.48	0	0	36%	22%	16%	0	0	0	0	30	30	30	0	0	0	0	15	30	30	Frequent
62	Mercer Island	S Mercer Island	Island Crest Way	204	0.90	0.24	1	0	20%	16%	N/A	0	0	N/A	0	N/A	0	0	1	0	0	30	60	0	Local	
63	Mirror Lake	Federal Way	S 312th St	901DART	0.59	0.42	0	0	17%	16%	13%	0	0	0	0	60	0	60	0	0	0	30	30	60	Local	
64	Mount Baker	Seattle CBD	31st Av S, S Jackson St	145	0.90	0.40	1	0	35%	18%	20%	0	0	0	0	30	30	30	1	0	0	<15	15	30	Very Frequent	
65	Mountlake Terrace	Northgate	15th Ave NE, 5th Ave NE	347	1.48	0.96	1	1	41%	36%	16%	0	0	0	0	30	0	30	1	1	0	30	30	0	Local	
66	Mt Baker	U. District	23rd Ave E	485	1.19	0.74	1	0	85%	38%	46%	1	0	1	0	30	30	30	1	0	1	<15	15	15	Very Frequent	
67	NE Tacoma	Federal Way	SW 356th St, 9th Ave S	182	0.70	0.44	0	0	26%	15%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	60	60	0	Hourly
68	Northgate	U. District	Roosevelt	66EX/67	1.56	1.98	2	2	64%	83%	21%	1	1	0	60	30	30	30	2	2	0	<15	<15	30	Very Frequent	
69	Northgate	Seattle CBD	Green Lake, Wallingford	16	0.62	0.56	0	0	22%	20%	16%	0	0	0	60	30	30	30	0	0	0	15	15	30	Very Frequent	
70	Northgate	U. District	Roosevelt Way NE, NE 75th St	68	0.61	0.93	0	1	24%	44%	N/A	0	0	N/A	0	N/A	30	30	0	1	0	15	15	30	Very Frequent	
71	Othello Station	SODO	Columbia City Station	500	0.89	0.47	1	0	37%	14%	16%	0	0	0	0	60	30	30	1	0	0	15	30	30	Frequent	
72	Eastgate	Bellevue	Bell-Red Road	226	0.23	0.19	0	0	11%	10%	5%	0	0	0	0	30	30	0	0	0	0	15	15	30	Very Frequent	
73	Overlake	Bellevue	Sammamish Viewpoint, Northup Way	249	0.33	0.25	0	0	24%	10%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	30	30	0	Local
74	Pacific	Auburn	Algona	917DART	0.19	0.18	0	0	7%	4%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	30	30	0	Local
75	Queen Anne	Seattle CBD	Queen Anne Ave N	2/13	0.96	1.46	1	1	59%	92%	48%	1	1	1	0	30	30	30	1	1	1	<15	15	15	Very Frequent	
76	Queen Anne	Seattle CBD	Taylor Ave N	3N/4N	1.34	0.67	1	0	65%	39%	44%	1	0	1	0	30	30	30	1	0	1	<15	15	15	Very Frequent	
77	Rainier Beach	Seattle CBD	Rainier Ave	7	1.17	0.93	1	1	63%	69%	54%	1	1	1	0	30	30	30	1	1	1	<15	<15	15	Very Frequent	
78	Rainier Beach	Seattle Center	M/LK Jr Wy, F John St, Denny Way	8	0.48	0.51	0	0	43%	38%	25%	0	0	0	60	30	30	30	0	0	0	15	15	30	Very Frequent	

14068

Load Factor*	Peak	Off Peak
1.50	2	2
0.75	1	1

Cost Recovery*	Peak	Off Peak	Night
>= 100%	2	2	2
>= 50%	1	1	1
>= 33%	--	--	1
>= 16%	--	--	30 min
>= 8%	--	--	60 min

\* Load Factor and Cost Recovery service level improvements move the preliminary levels of service up one or two levels, e.g. a load factor or cost recovery service level improvement of 2 changes a 30 min. service to <15 or a 60 min. service to 15, etc. A cost recovery >8% warrants 60 min. night service, >16% warrants 30 min.

Above Target  
Below Target

(continued) Corridor Analysis of All-Day Network: Step Two and Final Suggested Service Levels

CORRIDOR ID NUMBER	Connections			Loads at Preliminary Service Level:		Load-Based Service Level Improvements		Cost Recovery at Preliminary Service Level			Cost Recovery-Based Service Level Improvements			Night Service Additions				Service Level Improvements			Final Target Service Levels and Family					
	BETWEEN	AND	VIA	PEAK	OFFPEAK	PEAK	OFFPEAK	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PRIMARY CONNECTIONS BETWEEN URBAN CENTERS	COST RECOVERY BASIS (B% / 16%)	CORRIDOR HAS 15 MIN PEAK SERVICE	ADD WHAT FREQUENCY NIGHT SERVICE?	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT	PEAK	OFFPEAK	NIGHT
79	Rainier Beach	Capitol Hill	Rainier Ave	9EX	0.82	0.23	1	0	32%	17%	N/A	0	0	N/A	0	N/A	30	30	1	0	0	0	< 15	15	30	Very Frequent
80	Redmond	Eastgate	148th Ave, Crossroads, Bellevue College	221	0.30	0.31	0	0	16%	14%	N/A	0	0	0	0	30	0	30	0	0	0	0	30	30	30	Local
81	Redmond	Totem Lake	Willows Road	930DART	0.17	N/A	0	N/A	3%	N/A	N/A	0	N/A	N/A	60	N/A	30	30	0	0	0	0	15	30	30	Frequent
82	Redmond	Fall City	Duvall, Carnation	224	0.27	0.21	0	0	6%	6%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	60	60	0	Hourly
83	Renton	Burien	S 154th St	140	0.38	0.49	0	0	16%	26%	11%	0	0	0	60	60	30	30	0	0	0	0	< 15	15	15	Very Frequent
84	Renton	Seattle CBD	MLK Jr Wwy, I-5	101	1.14	0.45	1	0	43%	20%	28%	0	0	0	60	30	30	30	1	0	0	0	< 15	15	30	Very Frequent
85	Renton	Rainier Beach	West Hill, Rainier View	107	1.26	0.47	1	0	39%	17%	23%	0	0	0	0	30	30	30	1	0	0	0	15	30	30	Frequent
86	Renton	Seattle CBD	Skyway, S. Beacon Hill	106	0.73	0.26	0	0	31%	15%	18%	0	0	0	0	30	30	30	0	0	0	0	15	15	30	Very Frequent
87	Renton	Renton Highlands	NE 4th St, Union Ave NE	105	0.32	0.50	0	0	13%	22%	15%	0	0	0	0	60	30	30	0	0	0	0	15	30	30	Frequent
88	Renton	Enumclaw	Maple Valley, Black Diamond	907DART	0.13	0.25	0	0	3%	4%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	60	60	0	Hourly
89	Renton Highlands	Renton	NE 7th St, Edmonds Av NE	908DART	0.14	0.11	0	0	6%	3%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	30	30	0	Local
90	Richmond Beach	Northgate	Richmond 8ch Rd, 15th Ave NE	348	0.72	0.54	0	0	30%	19%	14%	0	0	0	0	60	0	60	0	0	0	0	30	30	60	Local
91	S Vashon	N Vashon	Valley Center	118	0.59	0.12	0	0	12%	10%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	60	60	0	Hourly
92	Sand Point	U. District	NE 55th St	30	0.12	0.23	0	0	9%	9%	9%	0	0	0	0	60	30	30	0	0	0	0	15	30	30	Frequent
93	Shoreline	U. District	Jackson Park, 15th Av NE	379EX	1.19	N/A	1	N/A	40%	N/A	N/A	0	N/A	N/A	0	N/A	30	30	1	0	0	0	15	30	30	Frequent
94	Shoreline CC	Northgate	N 130th St, Meridian Av N	345	0.34	0.36	0	0	17%	15%	7%	0	0	0	0	0	30	30	0	0	0	0	15	15	30	Very Frequent
95	Shoreline CC	Lake City	N 159th St, Jackson Park	330	0.13	N/A	0	N/A	17%	N/A	N/A	0	N/A	N/A	0	N/A	0	0	0	0	0	0	30	30	0	Local
96	Shoreline CC	Greenwood	Greenwood Av N	5	1.13	0.56	1	0	46%	38%	29%	0	0	0	0	30	30	30	1	0	0	0	15	30	30	Frequent
97	Totem Lake	Seattle CBD	Kirkland, SR-520	235	1.04	1.02	1	1	34%	42%	19%	0	0	0	60	30	30	30	1	1	0	0	< 15	15	30	Very Frequent
98	Totem Lake	Kirkland	Kingsgate	266	0.52	0.36	0	0	14%	12%	5%	0	0	0	0	0	0	0	0	0	0	0	60	60	0	Hourly
99	Tukwila	Seattle CBD	Pacific Hwy S, 4th Ave S	124	0.36	0.24	0	0	21%	15%	18%	0	0	0	0	60	30	30	30	0	0	0	15	15	30	Very Frequent
100	Tukwila	Des Moines	McMicken Heights, Sea-Tac	156	0.17	0.33	0	0	6%	12%	N/A	0	0	N/A	60	N/A	30	30	0	0	0	0	15	30	30	Frequent
101	Tukwila	Fairwood	S 180th St, Carr Road	155	0.23	0.20	0	0	7%	7%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	30	30	0	Local
102	Twin Lakes	Federal Way	SW Campus Dr, 1st Ave S	903DART	0.72	0.58	0	0	16%	14%	10%	0	0	0	0	60	0	60	0	0	0	0	30	30	60	Local
103	Twin Lakes	Federal Way	S 320th St	187	0.84	0.40	1	0	37%	21%	12%	0	0	0	0	60	0	60	1	0	0	0	30	60	60	Local
104	U. District	Seattle CBD	Eastlake, Fairview	73	1.52	0.62	2	0	60%	31%	N/A	1	0	N/A	60	N/A	30	30	2	0	0	0	< 15	15	30	Very Frequent
105	U. District	Seattle CBD	Broadway	49	0.81	0.67	1	0	50%	49%	82%	1	0	1	60	30	30	30	1	0	1	0	< 15	15	15	Very Frequent
106	U. District	Bellevue	SR-520	271	0.87	0.58	1	0	32%	20%	17%	0	0	0	60	30	30	30	1	0	0	0	< 15	15	30	Very Frequent
107	U. District	Seattle CBD	Lakeview	25	0.15	0.17	0	0	5%	7%	N/A	0	0	N/A	0	N/A	30	30	0	0	0	0	15	30	30	Frequent
108	UW Bothell	Redmond	Woodinville, Cottage Lake	931DART	0.42	0.31	0	0	12%	6%	N/A	0	0	N/A	0	N/A	0	0	0	0	0	0	60	60	0	Hourly
109	UW Bothell/CCC	Kirkland	132nd Ave NE, Lk Wash Voch Tech	238	0.40	0.35	0	0	10%	10%	5%	0	0	0	0	0	0	0	0	0	0	0	30	30	0	Local
110	Wedgwood	Cowen Park	View Ridge, NE 65th St	71	0.93	0.79	1	1	52%	44%	34%	1	0	1	0	30	0	30	1	1	1	0	30	30	30	Local
111	West Seattle	Seattle CBD	Fauntleroy, Alaska Junction	673	1.82	0.89	2	1	59%	34%	21%	1	0	0	0	30	30	30	2	1	0	0	< 15	< 15	15	Very Frequent
112	White Center	Seattle CBD	16th Ave SW, SCCC	125	1.40	0.71	1	0	43%	22%	21%	0	0	0	0	30	30	30	1	0	0	0	15	30	30	Frequent

Load Factor*	Peak	Off Peak
1.50	2	2
0.75	1	1

Cost Recovery*	Peak	Off Peak	Night
>= 100%	2	2	2
>= 50%	1	1	1
>= 33%	--	--	1
>= 16%	--	--	30 min
>= 8%	--	--	60 min

\* Load Factor and Cost Recovery service level improvements move the preliminary levels of service up one or two levels, e.g. a load factor or cost recovery service level improvement of 2 changes a 30 min. service to <15 or a 60 min. service to 15, etc. A cost recovery >8% warrants 60 min. night service, >16% warrants 30 min.

**Above Target**  
**Below Target**

1408

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