



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 then presents the results. This analysis is the starting point for planning service revisions but is not a service change proposal.

Route performance

We assess each route's performance by measuring its 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 2014 are shown in Tables 1 and 2.

Change in route performance thresholds. The route performance thresholds change in each report to reflect current network performance. In 2014, the performance thresholds showed relatively little change from 2013 for most

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. 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.

periods in both markets. This reflects a relatively stable period in the Metro system, with some increases in performance due to overall ridership growth. Performance thresholds increased or remained stable for most measures for non-Seattle core routes, with the exception of off-peak rides per platform hour. The change in performance thresholds for Seattle core routes was mixed, with increases or no change for most peak measures, declines in most night measures, and mixed changes in off-peak measures. Night service was added on several routes in 2013 and may be one cause of this change in night performance. Route performance threshold changes between 2013 and 2014 are shown in Tables 1 and 2. A table of performance by route is in Appendix C.

TABLE 1
2013-2014 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	2014	25.2	8.1	24.7	8.0	18.8	6.3
	2013	24.1	7.4	24.5	7.9	18.8	6.3
	Change	1.1	0.7	0.2	0.1	0.0	0.0
Routes that serve Seattle core	2014	48.2	17.1	51.1	14.9	35.1	10.2
	2013	47.3	16.6	51.3	15.4	34.9	10.8
	Change	0.9	0.5	-0.2	-0.5	0.2	-0.6

TABLE 2
2013-2014 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	2014	12.0	2.4	11.3	2.7	11.3	2.7
	2013	12.1	2.4	12.0	2.7	10.9	2.6
	Change	-0.1	0.0	-0.7	0.0	0.4	0.1
Routes that serve Seattle core	2014	24.3	10.7	33.7	9.8	20.7	5.9
	2013	24.0	10.7	32.6	9.8	21.4	6.3
	Change	0.3	0.0	1.1	0.0	-0.7	-0.4

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 a target service level 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 I.

TABLE 3
Service Families

Service family	Frequency (minutes)			Days of service	Hours of service
	Peak ¹	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				

¹ 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 2014 data, fewer corridors were targeted for very frequent or hourly service and more corridors were targeted for frequent and local service than in 2013, as seen in Table 4.

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

Service Level	2013	2014	Change
Very frequent	53	51	-2
Frequent	22	25	3
Local	26	29	2
Hourly	11	7	-3

Ten all-day corridors moved to a more frequent service level and eight moved to a less frequent level. A list of all corridors that changed target service families and the reasons for the changes are in Appendix F.

Ten corridors received additional points from changes in the number of jobs per corridor mile. This reflects actual changes in the number of jobs or universities/college enrollment with access to transit. Three corridors received more points for ridership in minority census tracts, while one corridor received fewer points. Eight corridors received more points for ridership in low-income census tracts, while eight received fewer points. Five corridors moved to a higher service family in part because of higher demand/ridership on the corridor.

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

On June 12, 2014, Executive Dow Constantine issued an executive order directing Metro to develop an integrated transit service plan in coordination with Sound Transit and partner agencies. Executive Constantine also authored a motion, passed by the Sound Transit Board on June 26, 2014, directing Sound Transit to study bus-rail integration in coordination with partner agencies.



Responding to the Executive’s directives, Metro and Sound Transit worked together to develop the Sound Transit/Metro integration report that was submitted to the King County Council and Sound Transit Board in September 2014. This report identifies potential efficiencies, and savings as well as ways the two agencies can collaborate to deliver better transit service and gain “efficiency dividends.” It also lays the foundation for coordinated efforts to optimize the region’s investments in high-capacity rail and bus service. The report outlines how the two agencies will move together in the following areas:

1. Short-term integration
2. Long-term integration
3. Rider engagement and information
4. Capital facilities
5. Operational efficiencies

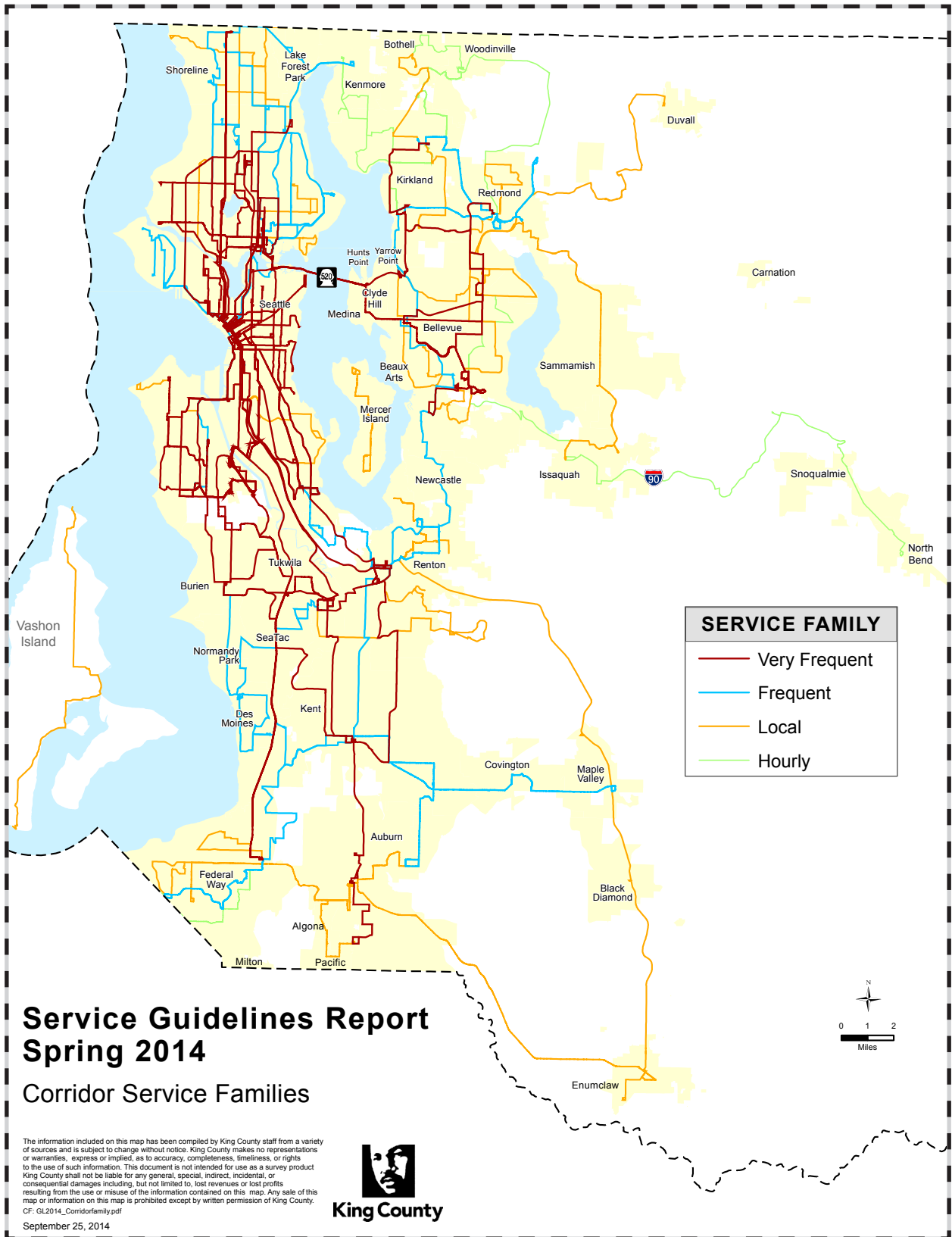
The two agencies are discussing new ways to better coordinate their analysis of corridors where both agencies operate service. At present, Metro’s All-Day Network does not include corridors where Sound Transit is the primary provider of all-day service. Key corridors in King County where Sound Transit is the primary provider of two-way, all-day transit service are listed in the table below. In many of these corridors, Metro mainly operates 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 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. Information about whether routes meet one or both criteria is used in planning future service changes. Peak routes meeting neither criteria may be considered for change or restructuring to improve performance and use resources more efficiently.

In 2014, Metro analyzed 86 peak routes, two more than in 2013. The chart below shows the number of peak routes that meet one, two or neither of the peak criteria. This year, more routes meet both criteria than in 2013, and fewer routes meet neither or only one criteria. The results of the peak analysis are in Figure 3 and Appendix E.

