

Service Guidelines Task Force

7. Service Types

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Introduction

This section introduces the concept of service types, a broad term that classifies service into categories based on chosen criteria. The materials in this section explore how the service guidelines differentiate services from one another, how they evaluate the services, and the impacts this has on priorities for reductions and additions.

Links to Information

1. Best Practices in Transit Service Planning (page 5: Classification Systems): http://bit.ly/sgtf7_1
2. American Public Transportation Association (APTA) Peer Review (page 5: Recommendation re: service types): http://bit.ly/sgtf7_2
3. Service Guidelines Task Force Website: <http://www.kingcounty.gov/sgtaskforce>

Overview

Regional Transit Task Force (2010). In 2010, the RTTF recommended that Metro use performance measures for each service type to learn how it might improve transit system performance, to establish a rationale for policy choices, and to aid in transparency.

Specifically, the RTTF recommended (Recommendation 1):

“Metro should create and adopt a new set of performance measures by service type, and report at least annually on the agency’s performance on these measures. The performance measures should incorporate reporting on the key system design factors, and should include comparisons with Metro’s peer transit agencies.”

The RTTF recommended regular performance reporting at least annually.

The RTTF subgroup on performance measures worked with Metro staff to develop an initial example of metrics for overall system performance and easy-to-understand reporting. The task force recommended that Metro continue developing performance measures using this model. The task force suggested that Metro develop performance measures for all of Metro’s operations (e.g., customer service, vehicle maintenance, etc.).

The RTTF report included this explanation of how performance measures should be used to compare the effectiveness of similar types of service:

“Modifying Metro’s current method of compiling and reporting on performance measures will enable Metro managers, King County decision-makers and the public to compare and evaluate the effectiveness of similar service types. The performance measurement system should include the following types of services: fixed route, Dial-A-Ride Transit (DART), Access, vanpool, etc. Reporting on the fixed-route services should be further differentiated by four different “families” of services: Frequent Arterial, Peak Commuter, Local, and Hourly service. Reporting by type, and according to the different families of fixed-route service, is important because the distinctive services provide different functions within the system, and perform very differently. For example, Figure 5 (on the next page) shows how the different families of fixed-route service perform on two commonly used productivity measures.”

King County Metro Service Guidelines. Metro incorporated the recommendation to measure performance by service type into the strategic plan and service guidelines.

The service guidelines identify two types of service, based on the market served:

- **Seattle core routes** connect downtown Seattle, First Hill, Capitol Hill, South Lake Union, the University District, or Uptown to other areas of Seattle and King County. Examples include routes 11, 26, 70, 150, 177, 214, 219, 271, 304, 355, C Line, D Line, and E Line.
- **Non-Seattle core routes** operate wholly within other areas of Seattle and King County. Examples include routes 50, 128, 168, 221, 245, 331, 347, 903DART, 931DART, A Line, B Line, and F Line.

A full list of routes by market served is provided in the back of this section. Metro evaluates performance by service type and by whether the service operates all-day or during peak-periods. In addition, Metro is currently

following policies updated in 2013 by incorporating alternative services more fully into performance measurement and evaluating these services separately. As noted in the American Public Transportation Association Peer Review of Metro Transit, “Metro could continue to evaluate opportunities to revise the service guidelines to compare service productivity by service type as this enables a more appropriate analysis of service.”

The table below shows the frequency and span of the service families defined in the service guidelines. It is important to note that Service Family categorizations are not used in the guidelines as an evaluative tool or to determine priority for investment or reductions. The Service Family types are labels applied to corridors at the end of the corridor analysis; they generically describe levels of service across all times of the day and all days of the week, as indicated below:

Service Family	Frequency (minutes)			Days of service	Hours of service
	Peak	Off-peak	Night		
Very frequent	15 or more frequent	15 or more frequent	30 or more frequent	7 days	16-20 hours
Frequent	15 or more frequent	30	30	7 days	16-20 hours
Local	30	30 - 60	--*	5-7 days	12-16 hours
Hourly	60 or less frequent	60 or less frequent	--	5 days	8-12 hours
Peak	8 trips/day minimum	--	--	5 days	Peak
Alternative Services	Determined by demand and community collaboration process				

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

Comparison of Crowding Methods

The 2014 Service Guidelines Report identifies routes needing investment to reduce passenger crowding. In the 2014 report, 27 routes were identified as overcrowded, with an estimated need of 22,200 annual hours (page 16 in the Service Guidelines Report). In April 2014, the Alternative Passenger Crowding Measures Report reviewed current and proposed methodologies for calculating investment need to reduce passenger crowding and identified the investment need based on the 2013 Service Guidelines Report.

Per discussions at the Regional Transit Committee meeting on November 19, 2014, Metro conducted additional analysis on the data from the 2014 Service Guidelines Report using area-based crowding measures identified in the Alternative Passenger Crowding Measures Report. Below is a description of the methodology used and a table showing the changes in investment need based on the various area-based measures.

Revised Crowding Analysis Methodology

To conduct the analysis for area-based measures, Metro determined the load threshold for each fleet type for each area-based measure (available in Appendix E of the Alternative Passenger Crowding Measures Report). Based on these fleet based thresholds, Metro identified all trips that experienced crowding due to the area-based thresholds and trips with 20 minute standing loads. When determining whether to recommend adding a trip or assigning a larger coach, Metro considered several factors: when the overcrowding occurred, what (if any) other trips were overcrowded on that route, the frequency of the service, and the assigned fleet.

Below is a table that compares the passenger crowding need as shown in the 2014 Service Guidelines Report and four area-based crowding measures (3 ft², 4 ft², 5 ft², and 6 ft²).

Estimated Annual Hours Needed Based on Revised Crowding Analysis				
2014 Service Guidelines Report	3 ft² per person	4 ft² per person	5 ft² per person	6 ft² per person
22,200	15,100	16,600	19,500	23,000

The area-based thresholds that correspond most closely with the current levels of investment need identified are area-based thresholds of 6 to 7 ft² per person for service that is not frequent and 4 ft² per person for frequent services. Setting thresholds using a lower number of square feet per person would result in the identification of significantly less crowding than using existing measures.

The next page identifies the route-level need as shown in the 2014 Service Guidelines Report and four area-based crowding measures (3 ft², 4 ft², 5 ft², and 6 ft²).

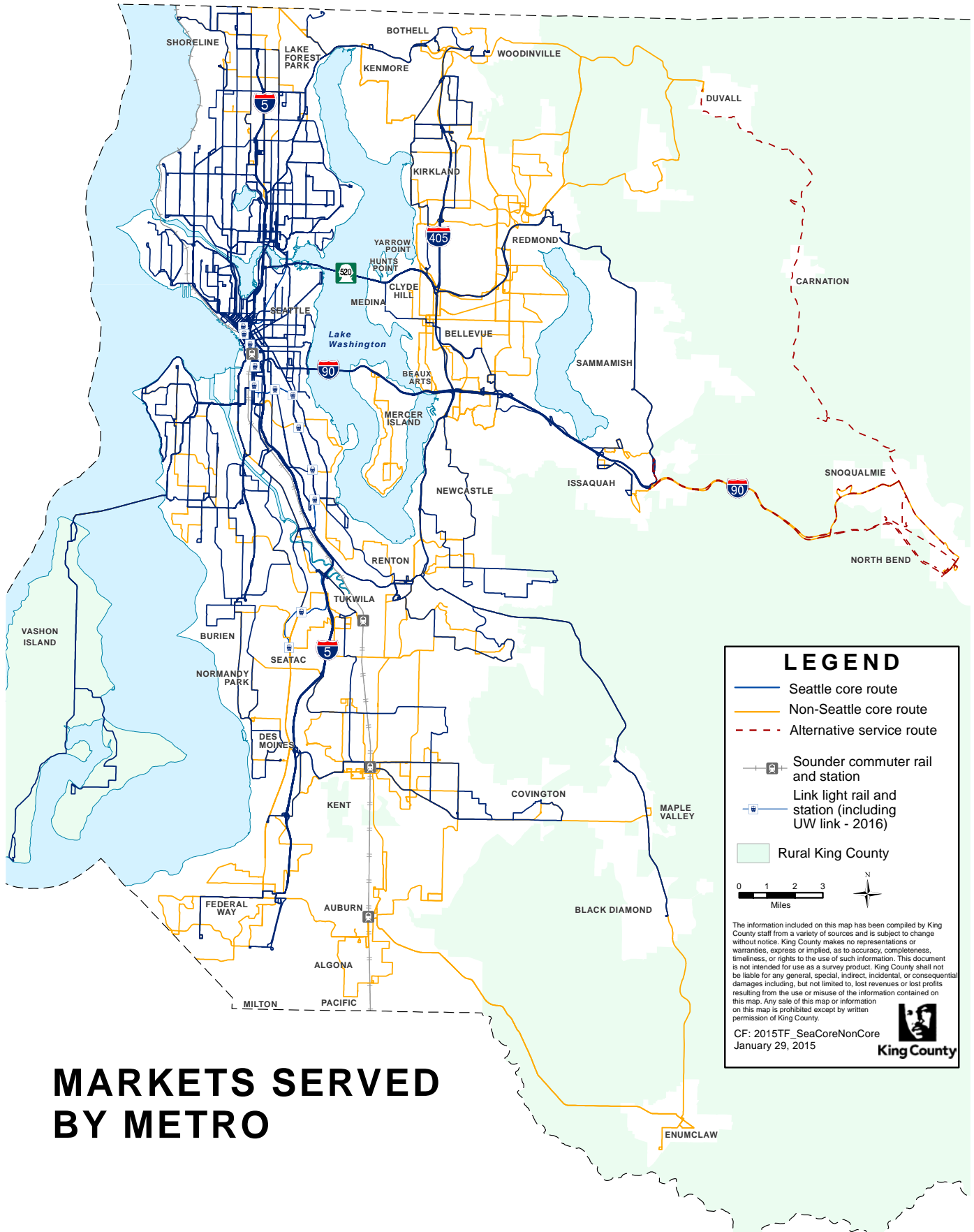
Route	Estimated Annual Hours Needed				
	2014 Service Guidelines Report	Area- Based Alternative Measures of Crowding			
		3 ft ² / person	4 ft ² / person	5 ft ² / person	6 ft ² / person
5	1,300	0	0	0	1,300
8	600	0	0	600	600
15EX	1,100	1,100	1,100	1,100	1,100
16	1,600	600	600	1,100	1,600
18EX	500	500	500	500	500
28	400	400	400	400	400
40	700	0	0	700	700
41	900	0	400	400	900
44	300	0	0	0	300
48	500	0	500	500	500
70	300	300	300	300	300
71EX	400	400	400	400	400
72	100	0	0	100	100
74EX	500	500	500	500	500
76	0	0	0	400	800
101	1,100	1,100	1,100	1,100	1,100
143EX	1,600	1,600	1,600	1,600	1,600
179	600	600	600	600	600
214	500	500	500	500	500
216	700	700	700	700	700
218	500	500	500	500	500
219	500	500	500	500	500
240	1,700	600	600	1,200	1,200
268	600	600	600	600	600
316	0	0	0	0	500
372	600	0	600	600	600
C Line	1,400	1,400	1,400	1,400	1,400
D Line	1,600	1,600	1,600	1,600	1,600
E Line	1,600	1,600	1,600	1,600	1,600
Total	22,200	15,100	16,600	19,500	23,000

Routes by Market Served

<u>Non-Seattle Core Routes</u>		<u>Seattle Core Routes</u>			
22	240	1	48EX	125	303EX
50	241	2	49	131	304
61	242	3	55	132	306EX
105	244	4	56	143	308
107	245	5	57	143EX	309EX
110	246	5EX	60	150	311
118	248	7	62	152	312EX
119	249	7EX	64EX	157	316
128	269	8	65	158	355EX
139	330	9EX	66EX	159	372EX
140	331	10	67	161	373EX
148	342	11	68	167	601EX
153	345	12	70	177	673
154	346	13	71	178	674
156	347	14	71EX	179	675
164	348	15EX	72	190	
166	671	16	72EX	192	
168	672	17EX	73	193EX	
169	901DART	18EX	73EX	197	
173	903DART	19	74EX	202	
180	906DART	21	75	205	
181	907DART	21EX	76	210	
182	908DART	24	77	211EX	
183	909DART	25	82	212	
186	910DART	26	83	214	
187	913DART	26EX	84	215	
200	914DART	27	98	216	
201	915DART	28	99	217	
203	916DART	28EX	101	218	
204	917DART	29	102	219	
208	919DART	30	106	243	
209	927DART	31	111	250	
213	930DART	32	113	252	
221	931DART	33	114	255	
224	935DART	36	116EX	257	
226		37	118EX	260	
232		40	119EX	265	
234		41	120	268	
235		43	121	271	
236		44	122	277	
237		47	123	280	
238		48	124	301	

Strikethrough indicates route was deleted in September 2014.

U o # V o # . . o



MARKETS SERVED BY METRO