Reliability (Priority 2)

Investment need

19,250 bus hours

What is Reliability?

In a transit context, reliability refers to whether buses arrive when they are supposed to. We consider routes whose buses arrive late more than 20 percent of the time all day, or more than 35 percent of the time during the afternoon peak period, to be candidates for investment. We can invest by adding running time to schedules, but we also partner with cities on infrastructure improvements. These improvements help buses move faster and more reliably, saving money and providing a better customer experience.

What We Found

Despite aggressive recent investments in reliability, new challenges have emerged. These new issues, along with increased traffic congestion and high ridership, have increased our investment need over last year's figure by about 2,250 annual hours. We list 61 routes needing investment—36 of them are new. Ten routes that were on last year's list are now within standards, but the rest have new or outstanding needs. See Appendix F for route-by-route reliability numbers.

- **South county routes.** Routes 105, 106, 107, 111, 113, 114, 116, 122, 124, 132, 143, 148, 150, 157, 158, 159, 169, 177, 182, and 192 are new to the list. Most of them slipped just out of standard this year, so their investment needs are relatively small. Routes that travel on I-5 south of Seattle have increasing reliability problems.
- **East county routes.** Routes 208, 214, 235, 236, 238, 240, and 244 are new to the list, most of them just out of standard. Other routes that use I-90, including routes 111, 114, 212, 216, 218, and 219, still have reliability problems despite previous investments—likely due to the closure of express lanes on I-90.
- **Other routes.** Routes 1, 5X, 17, 18, 21, 24, 27, 33, and 56 are new to the list. One RapidRide line, the E Line, also slipped out of standard on weekdays.
- **Weekends.** The system-wide investment need for Saturday service (2,700 hours of the Priority 2 investment need) nearly doubled over last year, indicating worsening weekend traffic.

What We've Done

In March, we invested about 8,000 hours directly in service schedules to improve reliability. Taken as a whole, the routes we invested in saw weekday lateness decrease by about 19 percent overall, and by about 34 percent in the morning peak period. We invested another 13,700 hours in schedules in the summer to mitigate the impacts of the closure of Convention Place Station at the north end of the Downtown Seattle Transit Tunnel.

We also continued or expanded our partnerships with Seattle, Kent, Bothell, Redmond, Bellevue, Kirkland, Shoreline, and Union Pacific Railroad to implement infrastructure-related spot improvements in 18 places. These improvements helped keep 47,500 daily riders moving on 38 bus routes.

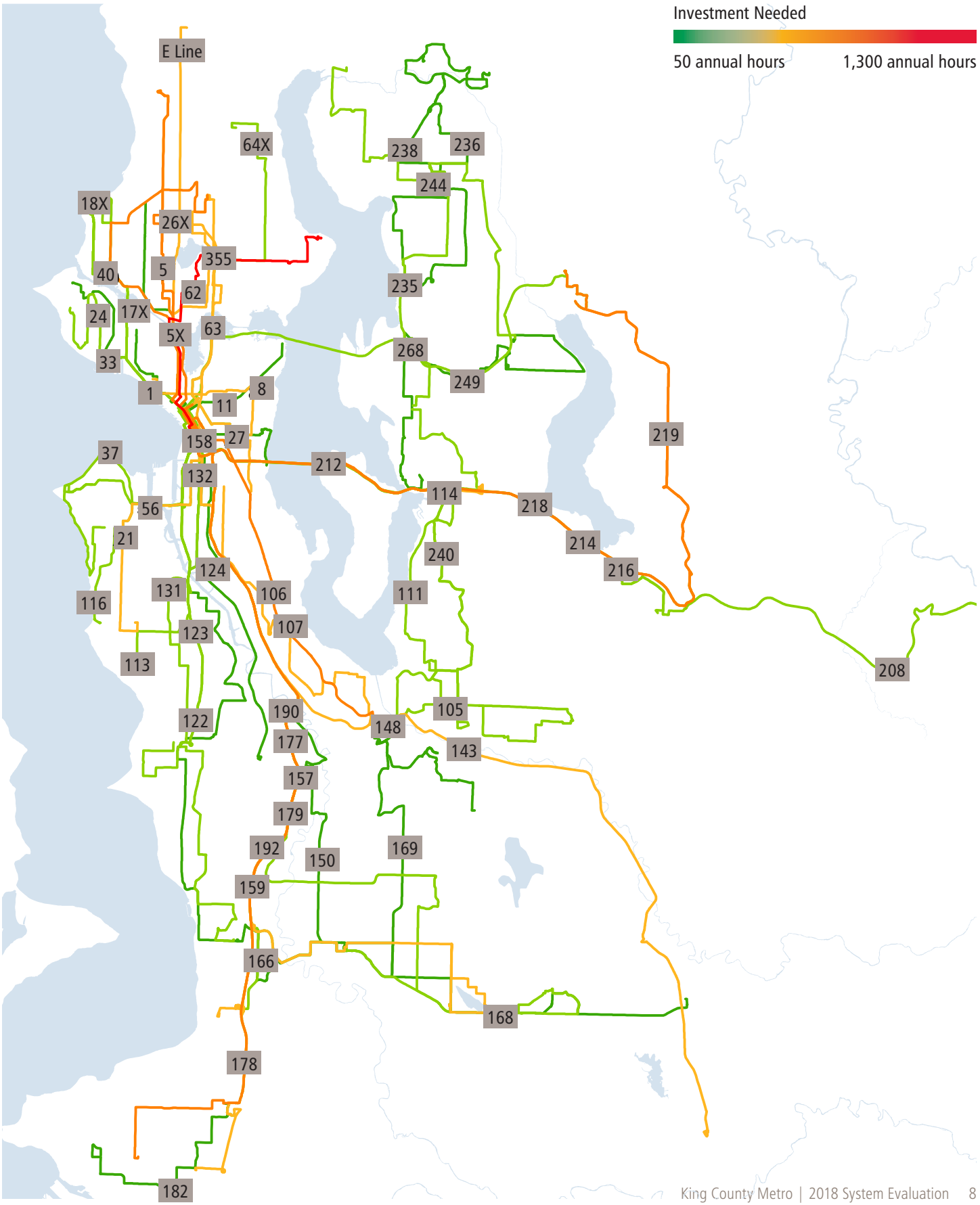
What's Next?

Major construction projects will significantly affect Metro's service over the next year. While preparing this report, we planned to do the following:

- In September, add 3,500 hours for reliability (Priority 2 investments).
- In September, add 25,500 hours to reduce the effects on reliability of major construction projects associated with the expansion of Link light rail and the closure of the Alaskan Way Viaduct.
- In spring 2019, add about 34,000 hours to reduce the effects on reliability of moving buses out of the Downtown Seattle Transit Tunnel and construction on SR-520 and SR-99.
- Also in spring 2019, implement off-board fare payment and all-door boarding in the Third Avenue transit corridor in downtown Seattle. These changes will help keep riders moving through the busiest bus corridor in the system.

Our findings continue to reinforce the idea that adding running time to schedules to deal with increased congestion is not always the best way to improve reliability—it just acknowledges that it takes longer than before to make the same trip. We've already implemented other ways to keep buses moving, including simplifying fares, increasing opportunities for off-board fare payment, improving signage, and consolidating stops. As we seek to expand our infrastructure work to improve bus speed and reliability, we highly value partnerships with jurisdictions to help us make these improvements.

Figure 2. Metro Fixed Routes Needing Investment to Improve Reliability per the Service Guidelines



Appendix F: Route-level Reliability

over the lateness threshold

Route	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late
1	12%	15%	21%	13%
2	10%	11%	9%	18%
3	12%	16%	16%	14%
4	9%	12%	17%	16%
5X	23%	16%		
5	24%	36%	27%	18%
7	19%	27%	19%	12%
8	21%	33%	24%	22%
9	10%	14%		
10	16%	18%	7%	13%
11	17%	20%	22%	28%
12	11%	17%	7%	8%
13	15%	16%	13%	15%
14	14%	19%	10%	9%
15X	16%	29%		
17X	22%	24%		
18X	25%	37%		
19	19%	25%		
21X	14%	17%		
21	21%	33%	31%	13%
22	7%	8%	6%	19%
24	22%	30%	23%	17%
26X	21%	26%	28%	14%
27	17%	21%	28%	20%
28X	19%	22%	26%	22%
29	19%	27%		
31	13%	21%	20%	
32	14%	21%	16%	14%
33	18%	24%	26%	20%
36	17%	27%	11%	13%
37	13%			
37	43%	49%		
40	18%	28%	28%	31%
41	11%	17%	7%	8%
43	17%	30%	12%	5%
44	11%	13%	15%	8%
45	10%	12%	9%	8%
47	7%	12%	11%	4%

Route	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late
48	12%	24%	16%	11%
49	11%	12%	11%	10%
50	19%	30%	17%	9%
55	18%	28%		
56	21%	40%		
57	19%	14%		
60	14%	17%	16%	10%
62	23%	38%	21%	25%
63	30%	42%		
64X	26%	41%		
65	9%	18%	9%	6%
67	13%	22%	14%	12%
70	19%	35%	23%	13%
71	6%	8%	5%	
73	8%	8%	3%	5%
74	4%	8%		
75	12%	17%	15%	9%
76	16%	19%		
77	10%	8%		
78	2%	6%		
101	11%	14%	11%	15%
102	12%	20%		
105	21%	36%	11%	16%
106	24%	28%	16%	18%
107	24%	30%	20%	15%
111	25%	35%		
113	20%	30%		
114	25%	37%		
116	21%	20%		
118X	14%	14%		
118	11%	7%	3%	4%
119X	15%	20%		
119	10%	17%		
120	12%	16%	13%	17%
121	18%	26%		
122	23%	36%		
123	31%	43%		
124	18%	26%	20%	10%

Route-level Reliability continued

over the lateness threshold

Route	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late
125	9%	11%	13%	5%
128	10%	11%	16%	16%
131	20%	30%	26%	17%
132	19%	22%	25%	15%
143	32%	38%		
148	18%	33%	22%	17%
150	13%	20%	18%	23%
153	13%	30%		
154	7%	8%		
156	7%	11%	11%	13%
157	32%	44%		
158	29%	46%		
159	25%	45%		
164	5%	8%	13%	
166	10%	18%	22%	20%
167	17%	25%		
168	15%	30%	11%	23%
169	9%	8%	21%	15%
177	26%	28%		
178	30%	39%		
179	34%	47%		
180	14%	27%	14%	14%
181	13%	21%	17%	14%
182	13%	21%	21%	12%
183	7%	11%	19%	
186	17%	26%		
187	13%	24%	18%	13%
190	33%	41%		
192	22%	35%		
193	19%	21%		
197	19%	26%		
200	6%			
201	2%	4%		
204	3%	4%		
208	20%	29%	13%	
212	25%	35%		
214	21%	26%		
216	37%	55%		

Route	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late
217	13%	24%		
218	22%	35%		
219	37%	54%		
221	14%	25%	9%	13%
224	10%	28%		
226	13%	16%	12%	18%
232	15%	13%		
234	13%	18%	18%	14%
235	20%	24%	7%	8%
236	15%	22%	22%	14%
237	3%	4%		
238	20%	27%	12%	21%
240	22%	22%	14%	5%
241	12%	16%	12%	16%
243	11%	20%		
244	33%	33%		
245	14%	17%	18%	11%
246	16%	32%		
248	10%	21%	7%	6%
249	10%	18%	29%	14%
252	19%	25%		
255	13%	20%	14%	9%
257	14%	21%		
268	25%	21%		
269	19%	29%	5%	
271	17%	30%	9%	7%
277	16%	29%		
301	14%	20%		
303	12%	22%		
304	16%	23%		
308	15%	31%		
309	12%	28%		
311	15%	26%		
312	15%	29%		
316	14%	20%		
330	14%	27%		
331	12%	18%	11%	9%
342	18%	33%		
345	7%	11%	7%	6%

Route-level Ridership continued

over the lateness threshold

Route	All-Day % Late	PM % Late	Saturday % Late	Sunday % Late
346	2%	4%	3%	2%
347	6%	11%	10%	7%
348	13%	22%	9%	7%
355	29%	49%		
372	18%	20%	10%	7%
373	12%	20%		
A Line	18%	22%		
B Line	13%	16%		
C Line	17%	21%		
D Line	17%	20%		
E Line	23%	26%		
F Line	16%	15%		

King County Marine Division	All-Day Weekday % Late
West Seattle Water Taxi **	0.92%
Vashon Island Water Taxi **	0.75%

** Water Taxi is operated by the King County Marine Division