2018/19 – Q4
Performance Measures Report

HALIFAX
TRANSIT

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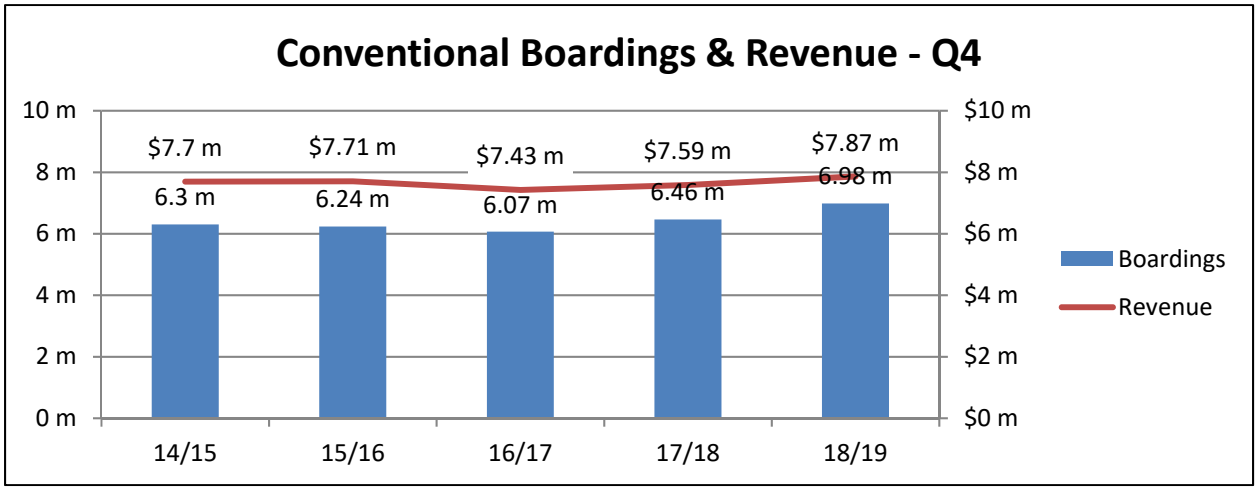
Revenue & Boardings

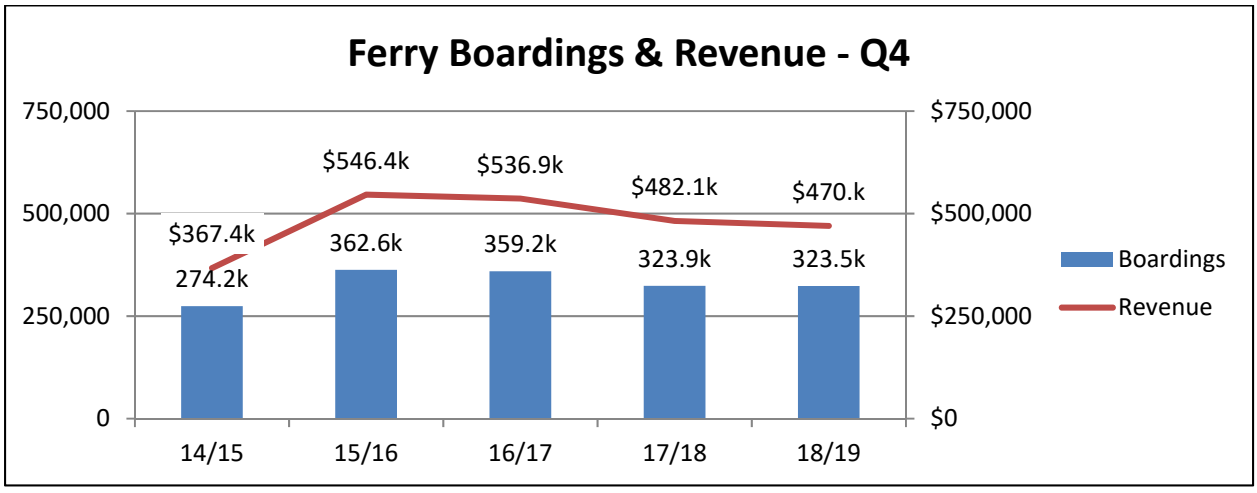
Revenue and boardings are reported to demonstrate how well transit services were used over the quarter, in comparison to the same quarter the previous year.

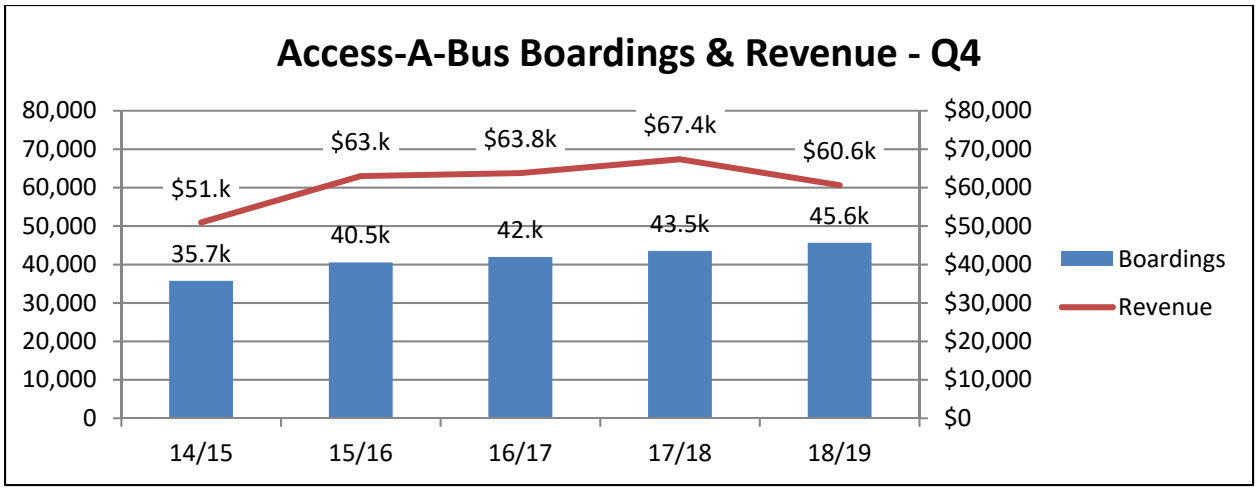
By installing Automatic Passenger Counter (APC) systems throughout the network in the 2017/18 fiscal year, Halifax Transit is now able to track the number of boardings by counting passengers entering the bus at each stop, instead of estimating boardings from revenue. Therefore, the data source for boardings in the chart below changed effective 2017/18. When a trip requires a transfer, the boardings metric would count the same passenger each time they entered a new bus. This method of data collection provides a more accurate measure of how passengers are utilizing the system, as assumptions related to multi-use revenue sources, such as tickets and passes, are removed, and replaced by physical counts.

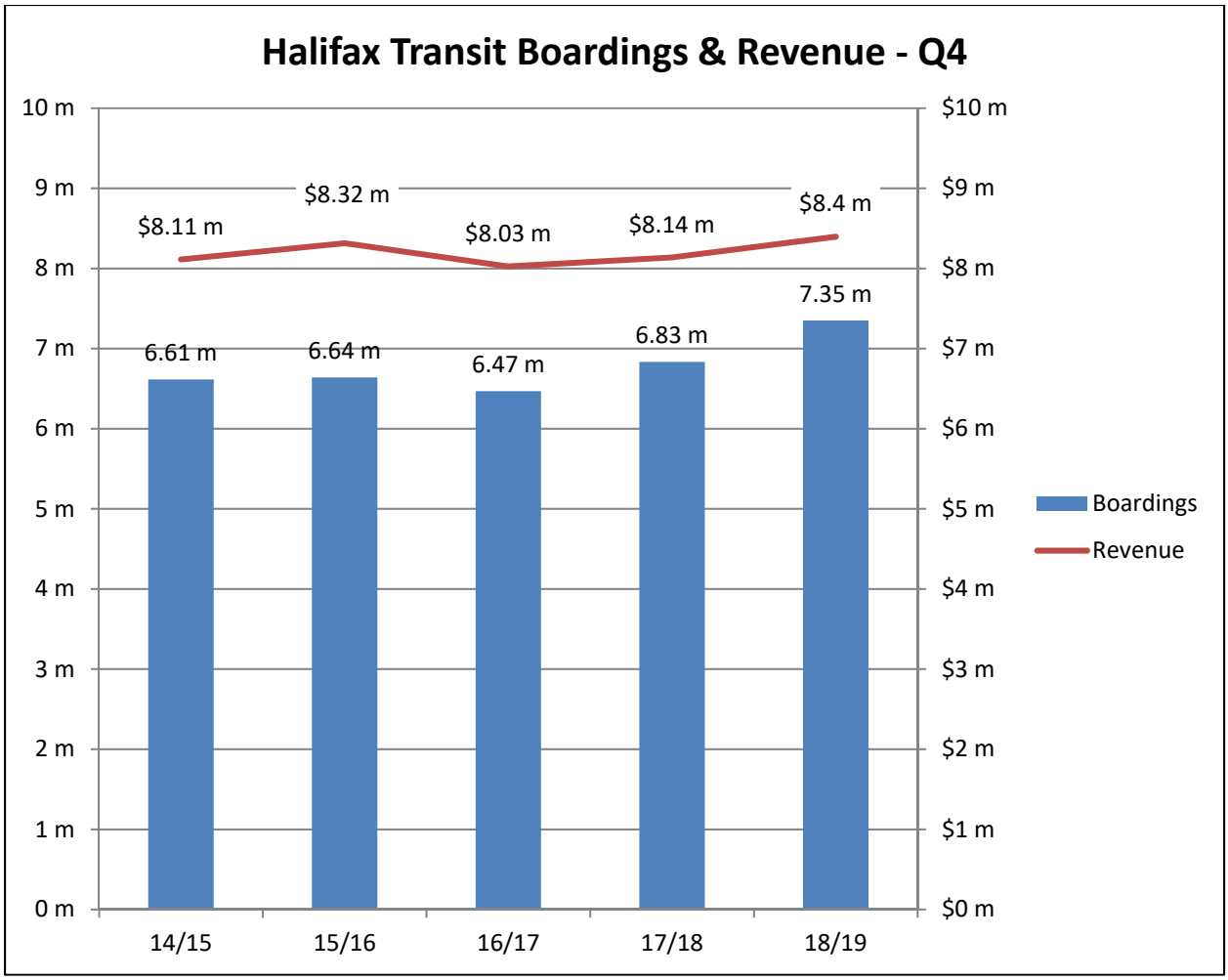
In the fouth quarter, Conventional boardings increased 8.0% from this quarter last year, Ferry boardings stayed consistent and Access-A-Bus boardings increased 4.8%. Overall, system wide boardings increased this quarter by 7.6% compared to last year. Overall revenue this quarter increased 3.2% from last year. The route network changes implemented in August 2018 have resulted in more passengers transferring at the Lacewood Terminal and Mumford Terminal, which partly attributes to the increase in boardings, but is estimated to account for less than 1% of the overall network wide increase in boardings.

Historical Boardings & Revenue






Access-A-Bus Boardings & Revenue - Q4
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
$80,000
$70,000
$60,000
$50,000
$40,000
$30,000
$20,000
$10,000
$0
$51.k
$63.k
$63.8k
$67.4k
$60.6k
35.7k
40.5k
42.k
43.5k
45.6k
14/15
15/16
16/17
17/18
18/19
Boardings
Revenue


Halifax Transit Boardings & Revenue - Q4
10 m
9 m
8 m
7 m
6 m
5 m
4 m
3 m
2 m
1 m
0 m
$10 m
$9 m
$8 m
$7 m
$6 m
$5 m
$4 m
$3 m
$2 m
$1 m
$0 m
$8.11 m
$8.32 m
$8.03 m
$8.14 m
$8.4 m
6.61 m
6.64 m
6.47 m
6.83 m
7.35 m
14/15
15/16
16/17
17/18
18/19
Boardings
Revenue

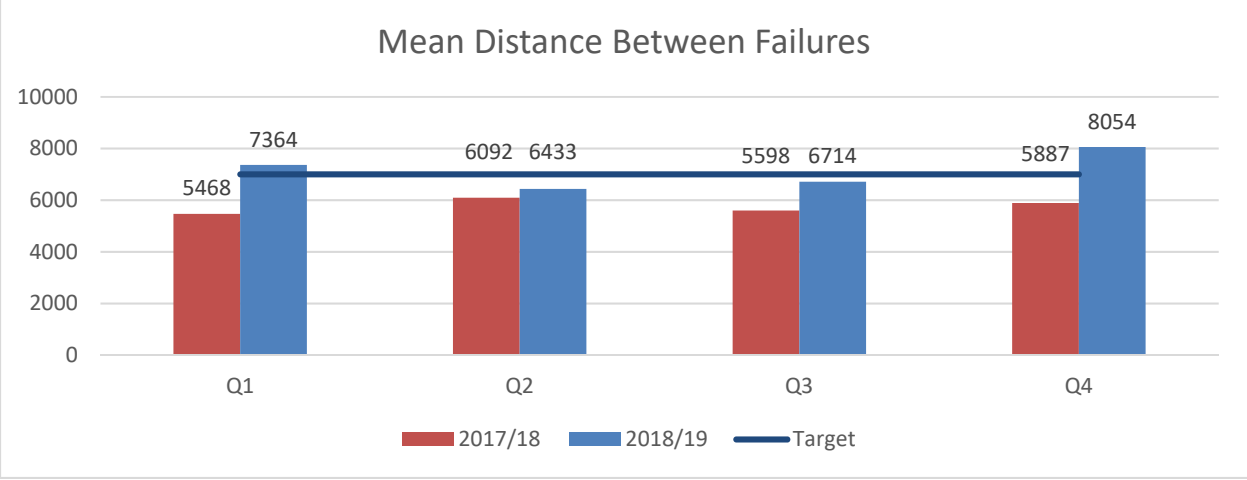
Mean Distance Between Failures

Halifax Transit consulted with a number of transit authorities in Canada, and the Canadian Urban Transit Association (CUTA), to understand the difference between past maintenance performance indicators and the industry standard. As a consequence, it was determined that Halifax Transit had reported all maintenance service calls, while other jurisdictions removed service calls associated with auxiliary equipment such as AVL, communication equipment, fareboxes, alarms, lights, passenger-related issues, etc. Also, some jurisdictions reported the number of change-offs (buses discontinuing their scheduled service) to be reflected as failures instead of service calls. Halifax Transit has selected to continue reporting service calls but as a separate metric; Mean Distance Between Service Calls. In order to remain consistent with the industry standard, a new metric defined as Mean Distance Between Failures (MDBF) has been selected and defined below.

Halifax Transit's Mean Distance Between Failures (MDBF) is the distance in kms covered between failures. CUTA references the Federal Transit Administration's definition of failures which states that there are two classes of failures. The first being major mechanical system failures, which is the "failure of some mechanical element of the revenue vehicle that prevents the vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip because actual movement is limited or because of safety concerns." The second type is other mechanical system failures which is the "failure of some other mechanical element of the revenue vehicle that, because of local agency policy, prevents the revenue vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip even though the vehicle is physically able to continue in revenue service". Therefore, the MDBF is equal to the number of instances whereby a failure resulted in a change-off of the bus or service being lost. This metric does not consider failures resulting from passenger-related events (i.e. sickness on the bus), farebox defects or accident damages as they do not impede the scheduled revenue trips, which aligns with other transit authorities surveyed. Due to the nature of the data sources, Halifax Transit is looking to improve the accuracy of this number by removing failures that were logged, but resulted in "no fault found". Currently, the reported number does include these items.

Bus Maintenance has set a target of 7,000 kms between failures. The target for this KPI shall be revisited on annual basis to promote continuous improvement, which may be achieved by implementation and support of quality and preventative maintenance initiatives.

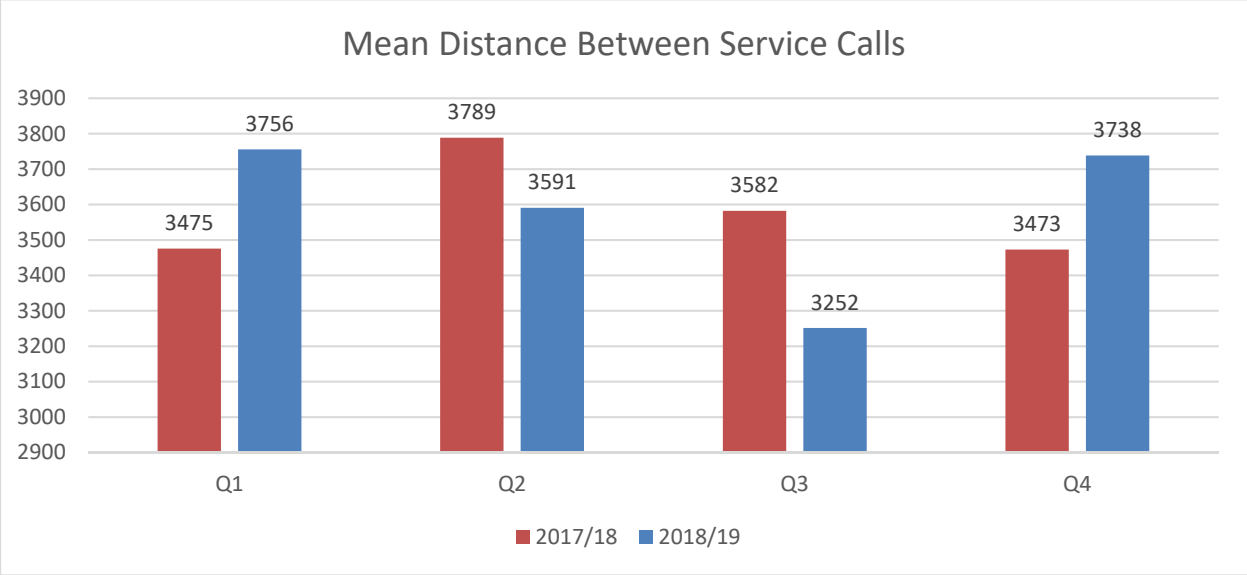
For the fourth quarter of 2018, the MDBF for conventional transit was 8,054 kms. This is equivalent to a 37% improvement from this time last year.



Mean Distance Between Service Calls

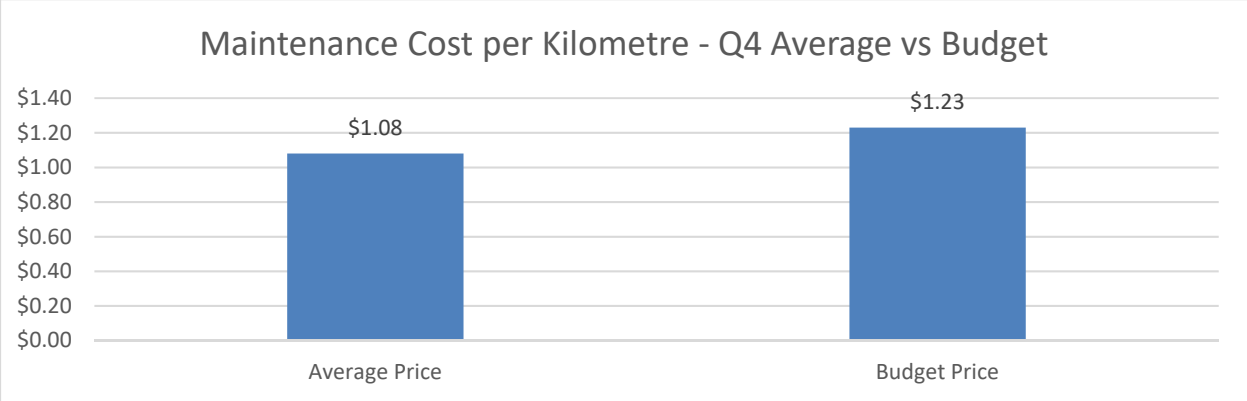
In order to continue monitoring the number of maintenance service calls, this will be reflected as a separate metric; Mean Distance Between Service Calls (MDBS). This number will reflect the distance in kilometres covered on average between maintenance service calls. This number includes all instances of service calls including issues with secondary equipment, passenger-related events and damages to the bus resulting from minor accidents. Bus Maintenance is continuing to benchmark this metric in order to provide a target.

For the fourth quarter of 2018, the MDBS for conventional transit was 3,738 kms. In comparison to the fourth quarter of 2017/18 (3,473 kms), this is an improvement of 7%. Comparing the average for the year 2018/19 versus the average for the year 2017/18, the 2 years are at par. For the fourth quarter of 2018, the MDBS for Access-A-Bus service was 72,503 kms. Bus Maintenance will continue to monitor this metric in order to reduce service calls.



Bus Maintenance Cost – Quarter Average vs Budget

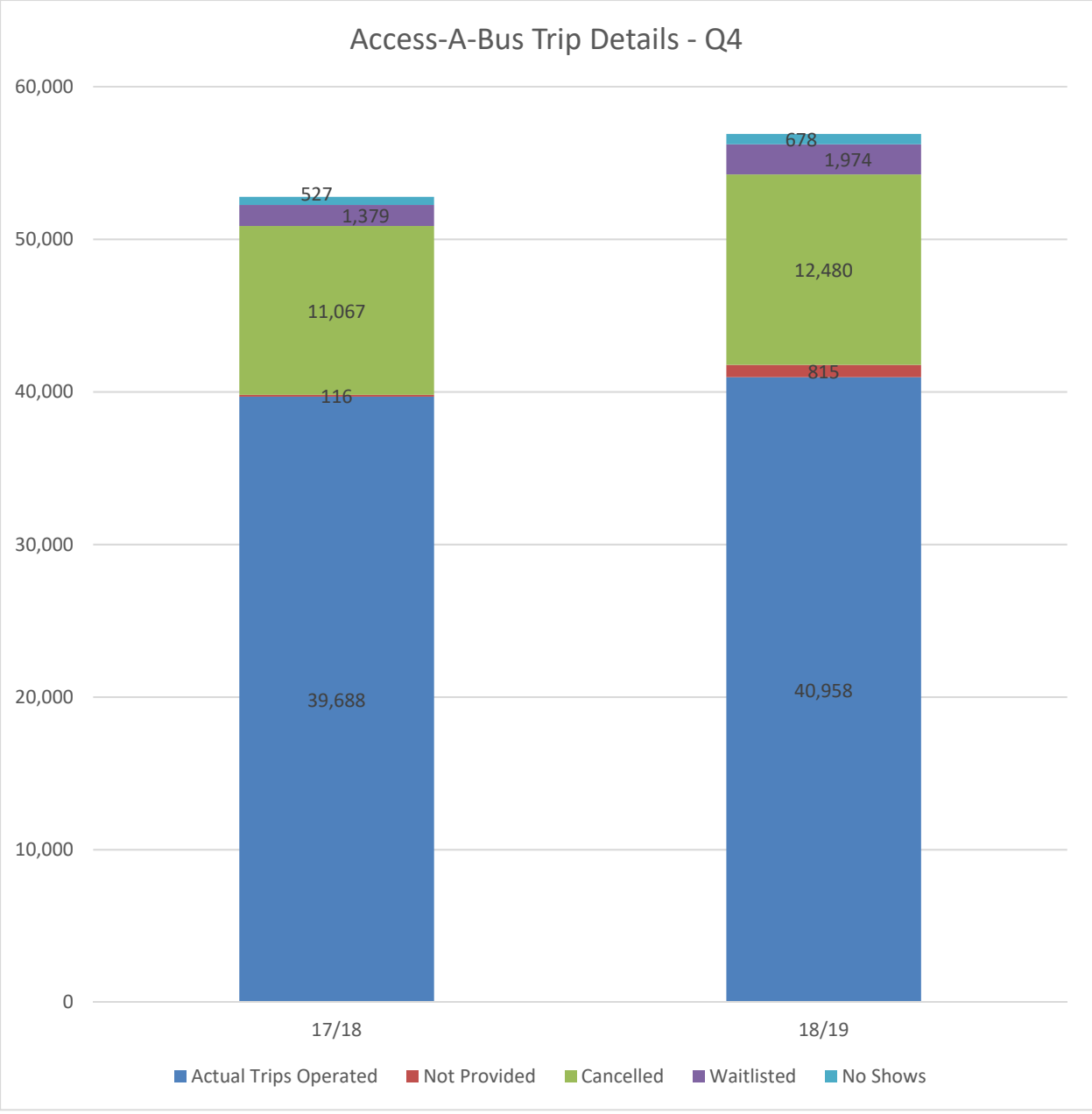
In the fourth quarter maintenance costs were $1.08/km, while the budgeted maintenance cost was $1.23/km. Therefore, in the fourth quarter the average cost per km was under budget by $0.15/km or 14%.



Access-A-Bus Trip Details

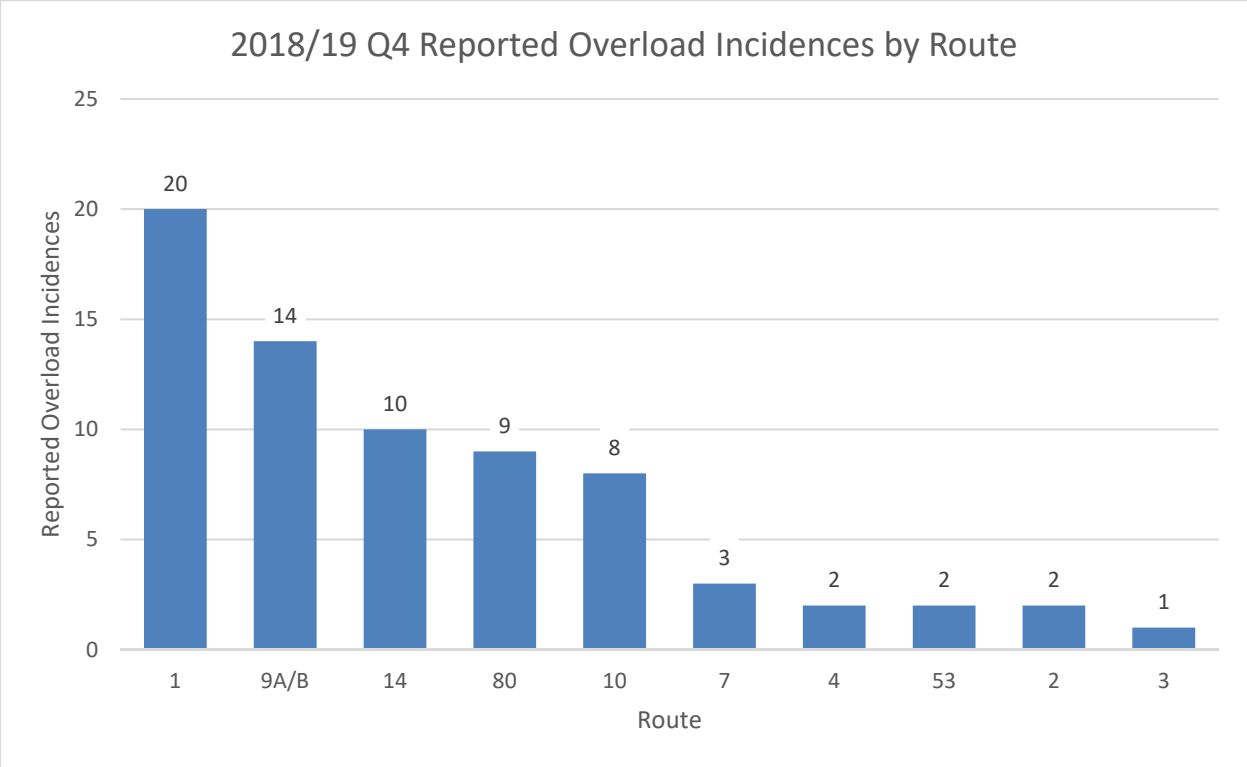
Access-A-Bus trip details are tracked monthly to provide an indication of efficiency in Access-A-Bus usage and booking. In April 2018 Access-A-Bus completed a scheduling software upgrade and process improvement review. After introducing these new, standardized processes, scheduling effectiveness has improved. These changes have resulted in statistics, such as the number of trip cancellations, no shows and errors, being recategorized and therefore may not be comparable with prior years.

In the fourth quarter of 2018/19, 1,270 more trips were operated. Compared to fourth quarter last year this is an increase of 3.2%. The waitlist increased by 43% this quarter compared to last year, due to an increase in late cancellations and no shows. No shows and late cancellations are particularly challenging to fill, having little to no time to fill these bookings with passengers from the waitlist.



Passenger Overloads

Halifax Transit tracks overloads that are reported to help match scheduling requirements to passenger demands. The following graph shows the most commonly overloaded routes during the quarter. This does not include all overloads, as many go unreported for a number of reasons. Work is underway to improve the reporting process to ensure the data provides a more accurate reflection of actual conditions.

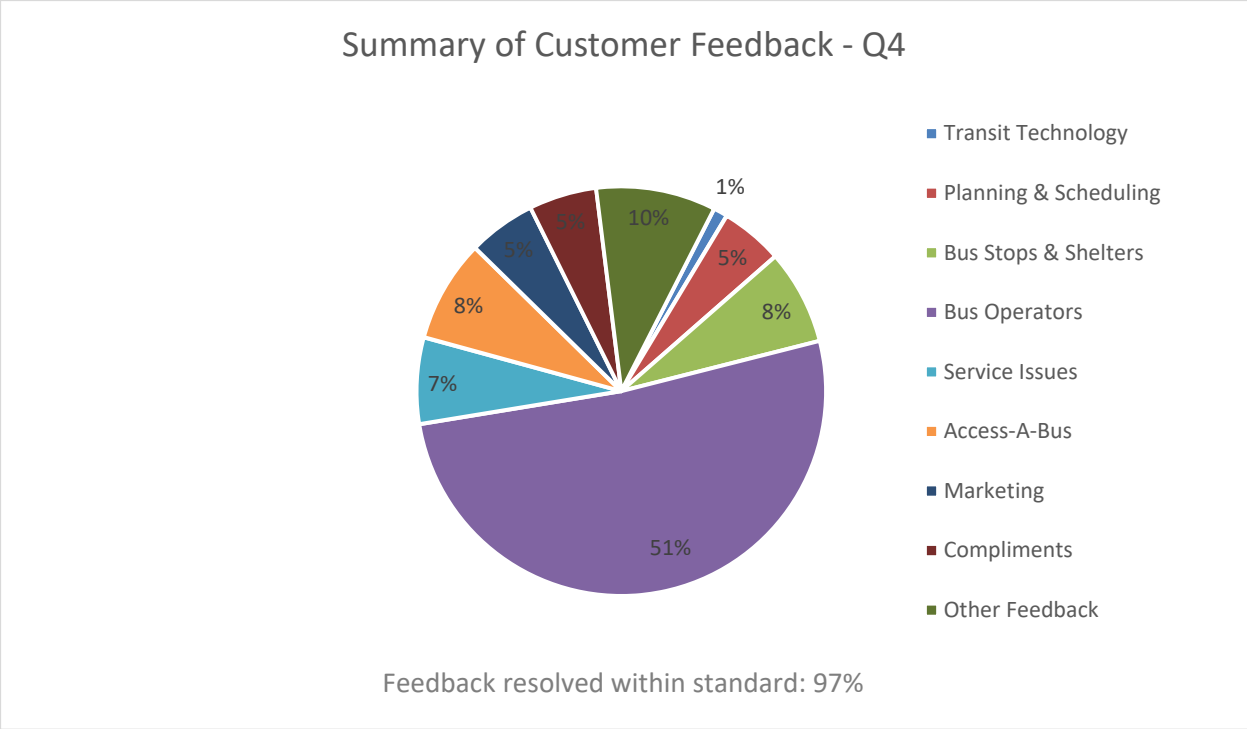


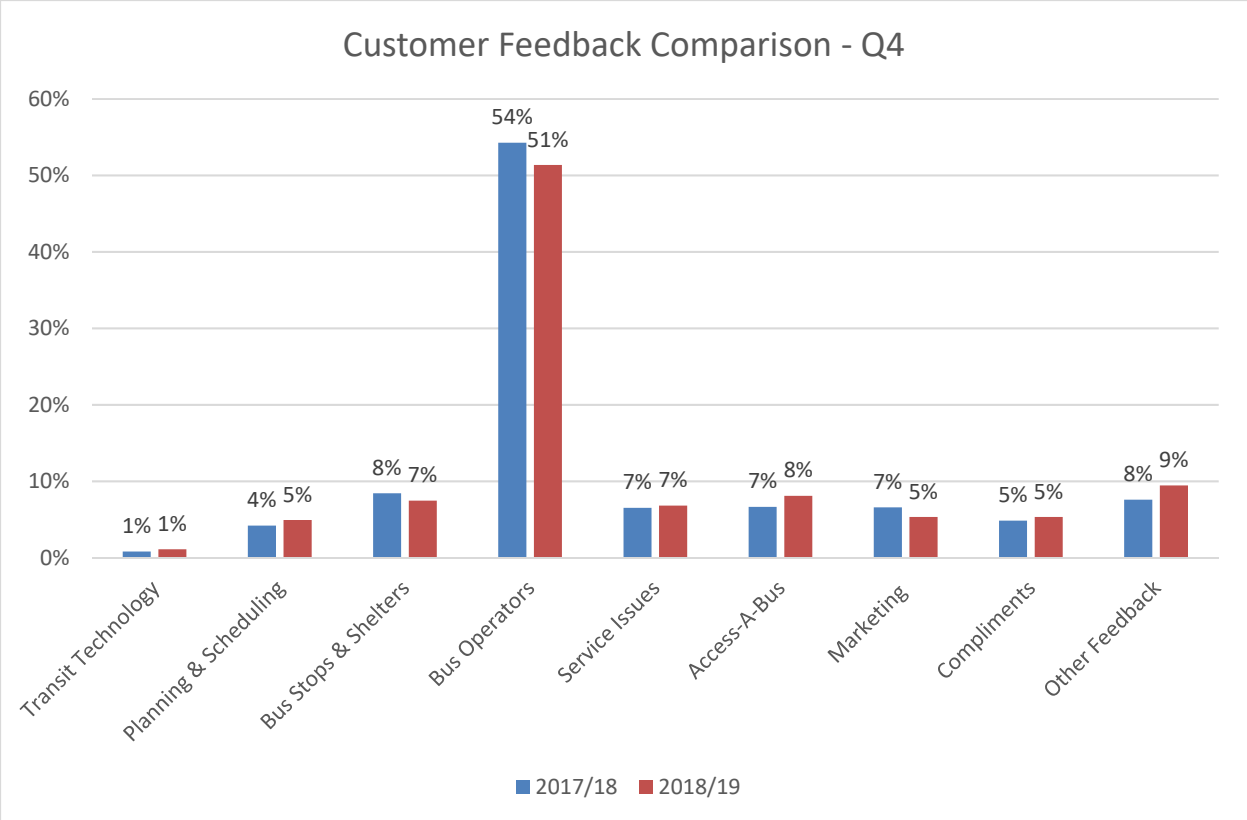
Customer Service – All Services

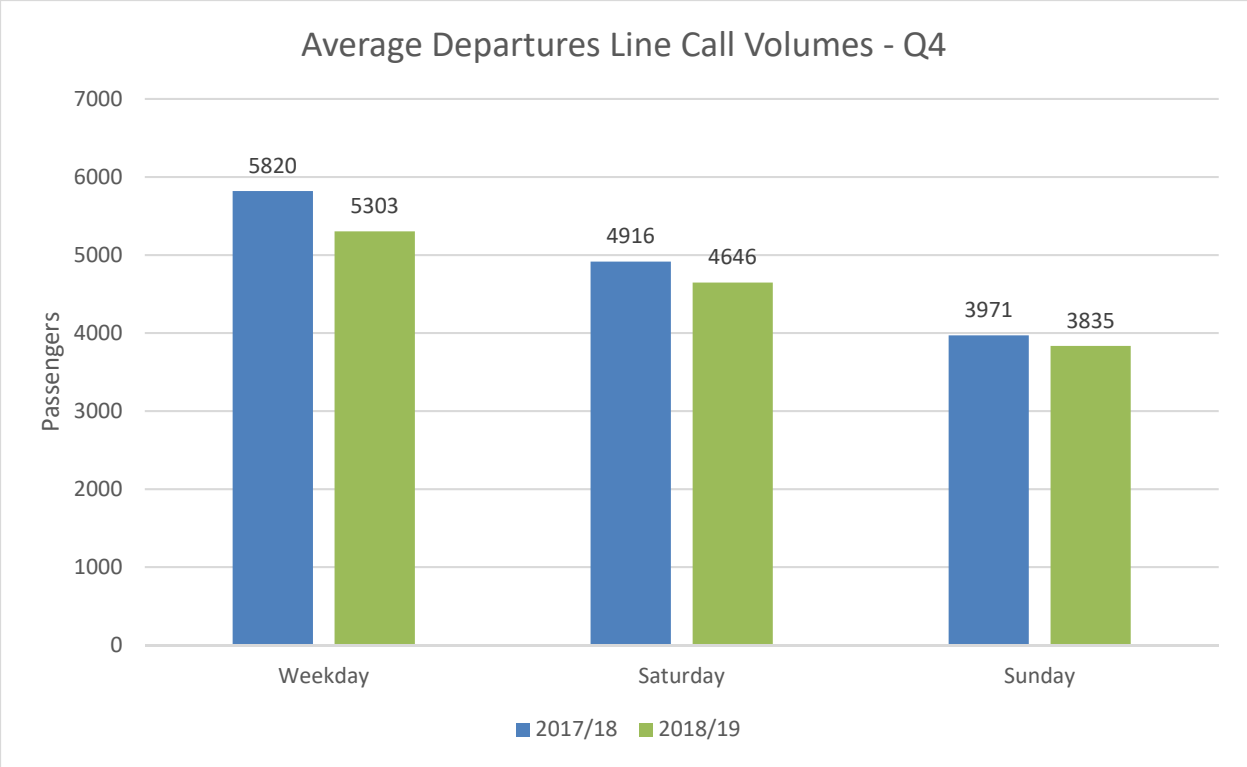
Customer service statistics are measured monthly using the Hansen Customer Relationship Management software along with Crystal Reports. Feedback is first categorized by subject matter and then divided into two categories: feedback resolved within service standard and feedback resolved outside service standard. The service standard varies depending on the subject matter.

This quarter, 51% of feedback received was related to bus operators, the remaining 49% is comprised of feedback regarding service issues, planning and scheduling, bus stops and shelters, marketing, compliments and other miscellaneous comments. Halifax Transit aims to address 90% of feedback within service standard. This quarter 97% of customer feedback was resolved within standard.

Call volumes to the Departures Line (902-480-8000) are displayed by day of the week. In the fourth quarter of 2018/19, average call volumes were lower than this time last year for both weekdays as well as for Saturdays and Sundays.


Summary of Customer Feedback - Q4
1%
10%
5%
5%
8%
8%
7%
51%
Transit Technology
Planning & Scheduling
Bus Stops & Shelters
Bus Operators
Service Issues
Access-A-Bus
Marketing
Compliments
Other Feedback
Feedback resolved within standard: 97%


Customer Feedback Comparison - Q4
60%
50%
40%
30%
20%
10%
0%
1% 1%
4% 5%
8% 7%
54% 51%
7% 7%
7% 8%
7% 5%
5% 5%
8% 9%
Transit Technology
Planning & Scheduling
Bus Stops & Shelters
Bus Operators
Service Issues
Access-A-Bus
Marketing
Compliments
Other Feedback
2017/18
2018/19



Boardings & Passengers per Hour

Automatic Passenger Counter (APC) data is now being been used to report bus ridership statistics. The APCs provide data within a 90% degree of accuracy. Boardings by Route demonstrate passenger usage during the past quarter. APC data has been collected since September 2016. The standard deviation is included to demonstrate the degree of variance in boardings from the daily average passenger count.

Average weekday boardings in the fourth quarter were 98,620 ± 11,135 (11.3% variance). Average Saturday boardings this quarter were 52,575 ± 3,083 (5.9% variance). Average Sunday boardings this quarter were 35,303 ± 5,094 (14.4% variance).

New routes implemented on August 20, 2018 as part of the *Moving Forward Together Plan* are not comparable to individual routes they have replaced and as such are not compared by route. Boardings by route comparisons for the following routes will resume in the second quarter of 2019/20.

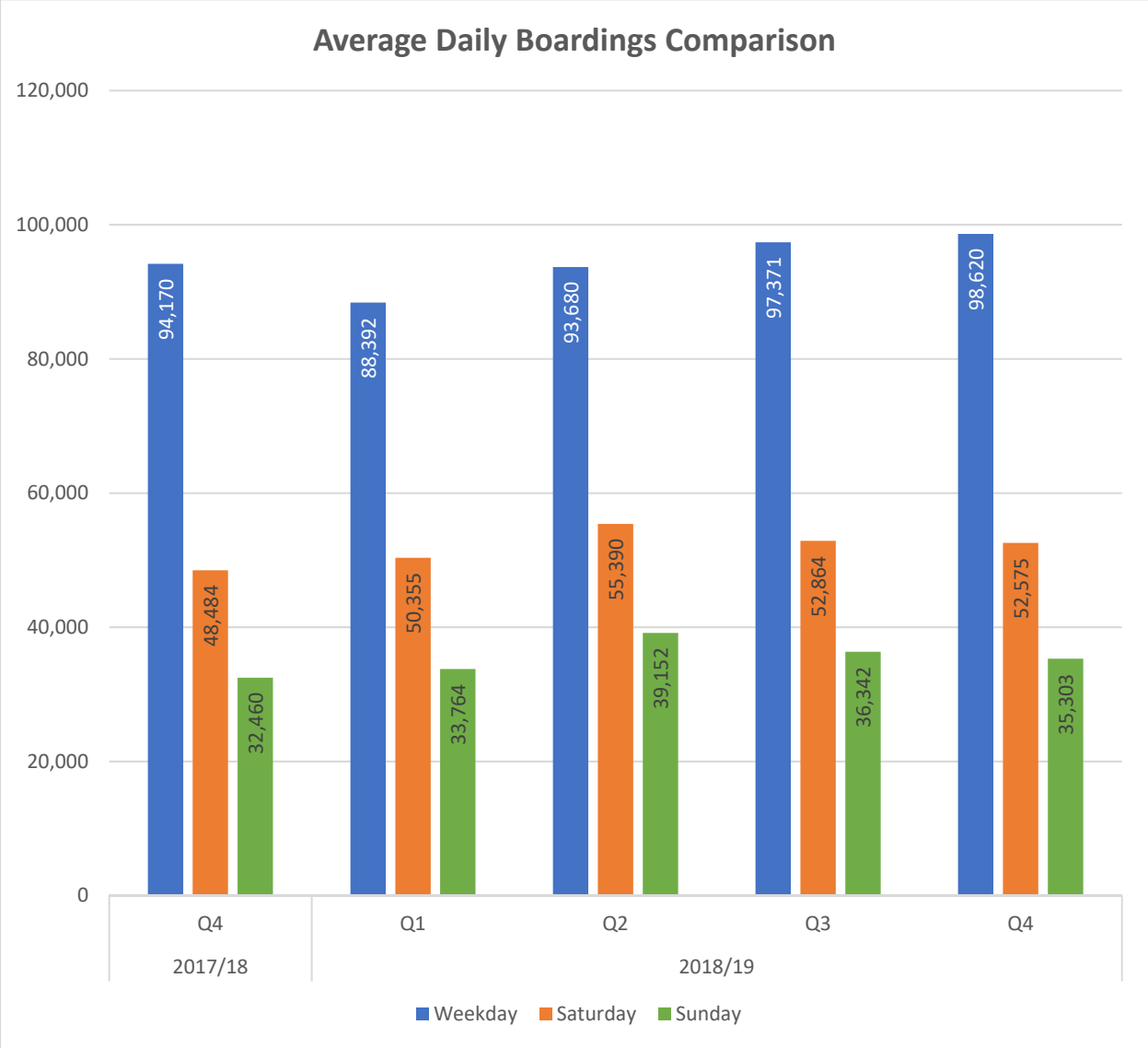
Corridor Routes:
- 2 Fairview
- 3 Crosstown
- 4 Universities

Local Routes:
- 21 Timberlea
- 28 Bayers Lake
- 30 Clayton Park West
- 39 Flamingo

Express Routes:
- 123 Timberlea Express
- 135 Flamingo Express
- 136 Farnham Gate Express
- 137 Clayton Park Express
- 138 Parkland Express

Rural Route:
- 433 Tantallon

Average Daily Boardings by Service Day



Passengers per Hour

Passengers per hour measures the volume of passengers carried per service hour by route. Due to differences in service model/design, Express Routes are measured instead by passengers per trip. Ridership fluctuates significantly by season and therefore figures are compared to the same quarter in the previous year. Conventional route targets vary by time of day and are not illustrated at this time as data is being presented over the entire service day only. Express routes have a ridership target of 20 passengers per trip, while Regional Express Routes have a target of 15 passengers per trip.

Boardings & Passengers per Hour

Q4 Comparison - Average Daily Boardings by Route												
Route	Weekday				Saturday				Sunday			
	17/18		18/19		17/18		18/19		17/18		18/19	
	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr
1	11,334	73	11,339	72	8,061	72	8,703	77	5,486	65	5,490	64
2 (new)			4,372	41			3,649	36			2,236	30
2 (removed)	2,528	41			1,813	34			891	29		
3 (new)			6,154	41			3,208	37			3,350	35
4 (new)			5,318	42			2,092	42			1,833	41
4 (removed)	2,263	38			1,683	29			1,033	32		
5	126	33	129	32								
7	5,422	47	5,423	47	3,565	38	3,667	39	2,244	42	1,929	36
9A/B	5,598	32	6,649	39	3,059	41	3,493	48	2,331	33	2,749	39
9A			4,543	41			1,652	47			1,244	36
9B			2,106	36			1,841	49			1,505	41
10	5,510	50	5,322	49	3,178	43	3,391	46	2,051	42	2,056	42
11	103	43	132	57								
14	3,022	48	2,940	46	1,387	42	1,445	43	1,164	40	1,102	37
15	194	13	197	13	92	8	93	9	113	9	122	10
16 (removed)	1,176	25			636	15						
17 (removed)	1,363	34										
18 (removed)	2,106	35			1,435	29			774	32		
21	1,173	27	897	30	640	17	765	22	312	17	472	26
22	537	15	627	20	378	11	387	12	317	9	347	10
23 (removed)	383	21										
28 (new)			1,260	34			1,189	29			581	32
29	2,712	29	3,190	35	1,514	24	1,760	28	1,133	19	1,250	21
30A/B (new)			840	23			510	15			294	15
30A (new)			454	24			282	16			128	11
30B (new)			386	21			228	13			166	20
39 (new)			1,200	26			796	16			371	18
41	1,552	52	1,686	51								
42 (removed)	1,442	39										
51	1,023	43	1,054	44	530	32	554	33	316	38	298	33

Q4 Comparison - Average Daily Boardings by Route												
Route	Weekday				Saturday				Sunday			
	17/18		18/19		17/18		18/19		17/18		18/19	
	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr
52 (removed)	5,538	47			3,913	41			3,401	39		
53	1,339	51	1,226	47	721	48	734	49	395	50	328	40
54	756	35	793	37	443	28	460	29	215	22	240	24
55	400	18	384	18	223	14	219	14	166	11	169	11
56	802	23	853	26	844	24	912	26	487	15	583	18
57	584	14	519	13	259	9	221	7	128	7	118	7
58	688	25	698	25	349	19	415	22	333	19	329	19
59	1,926	24	1,884	24	674	29	747	32	472	20	505	21
60	2,691	35	2,746	36	1,608	40	1,695	43	1,213	42	1,098	39
61	2,210	29	2,188	29	1,007	26	1,052	27	788	21	804	21
62	793	25	766	24	494	22	494	22	252	16	245	15
63	814	45	821	46								
64	296	28	547	29								
65	240	14	256	15	73	6	87	7	43	7	51	8
66	1,361	22	1,380	22	448	28	502	31	290	18	299	19
68	1,271	26	1,303	27	690	24	779	27	494	18	488	18
72	1,329	28	1,337	29	981	21	931	20	449	16	482	18
80	4,147	33	4,231	34	3,316	32	3,299	31	2,694	28	2,502	28
81	1,362	26	1,534	29								
82	962	21	931	20	210	10	177	8	97	9	85	8
83	154	12	143	11	77	8	74	8	41	9	43	9
87	1,270	28	1,167	26	968	20	972	20	497	16	450	15
88	69	12	82	14	50	9	49	9	21	9	22	9
89	380	17	463	22								
90	1,295	27	1,416	30	754	17	761	16	453	18	407	16
400	219	17	193	15	70	10	72	10	59	8	61	8
401	133	10	131	11								
433 (new)			50	9								
Alderney	2,901	97	2,455	82	1,995	114	1,870	107	1,000	57	1,268	72
Woodside	2,290	109	2,115	101								

Express Service Peak Boardings and Passengers per Trip

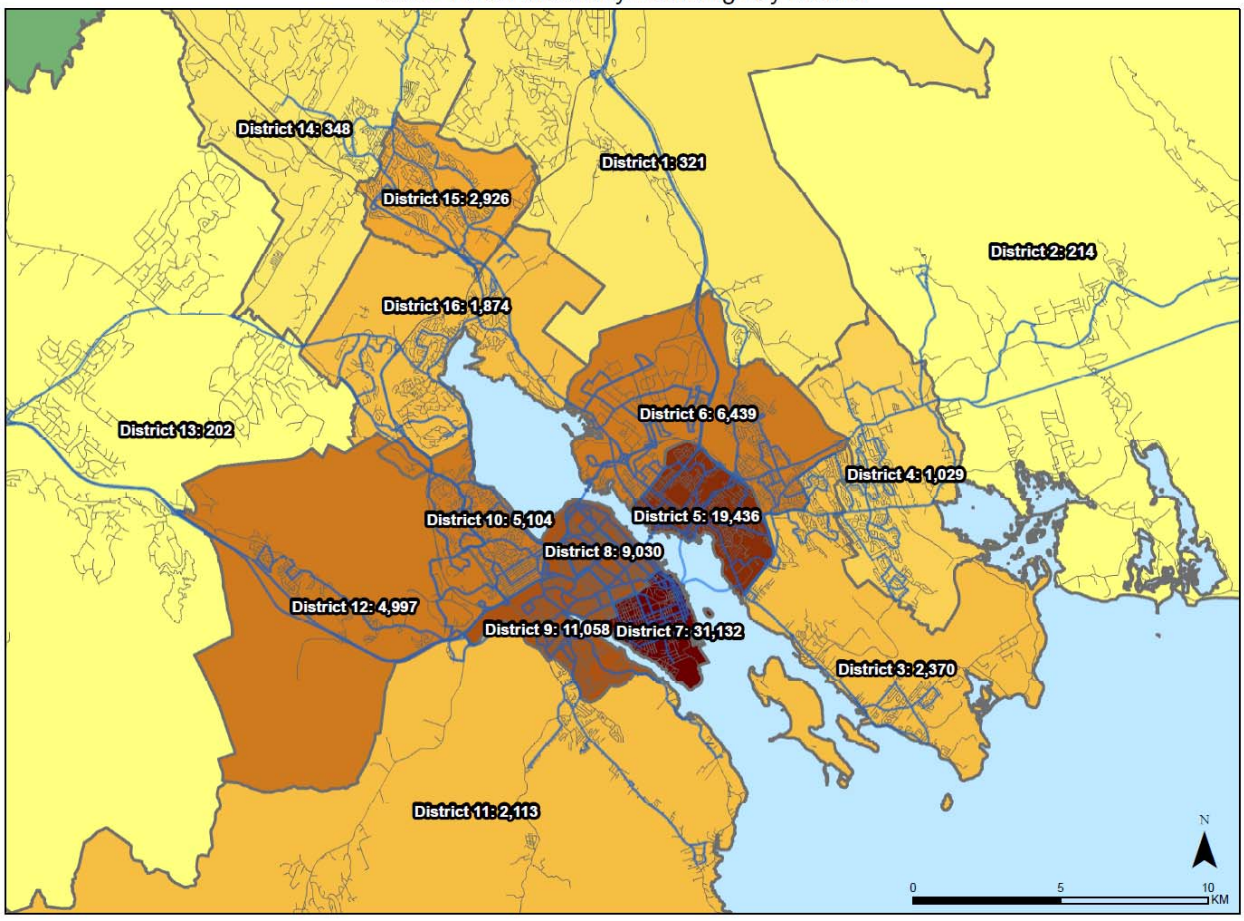
Q4 Comparison - Average Daily Peak Boardings by Route				
Route	Weekday (Peak Only)			
	17/18		18/19	
	Boardings	Pass/Trip	Boardings	Pass/Trip
31 (removed)	279	31		
32	481	27	473	26
33 (removed)	159	40		
34 (removed)	702	41		
35 (removed)	280	31		
78	95	7	98	8
79	106	9	94	8
84	930	34	858	31
85	122	31	120	30
86	132	33	121	30
123 (new)			278	21
135 (new)			508	36
136 (new)			557	35
137 (new)			386	32
138 (new)			507	36
159	571	19	587	20
185	776	24	778	24
194	120	15	153	19
320	196	16	215	18
330	354	16	388	18
370	128	11	128	10

Boardings by District

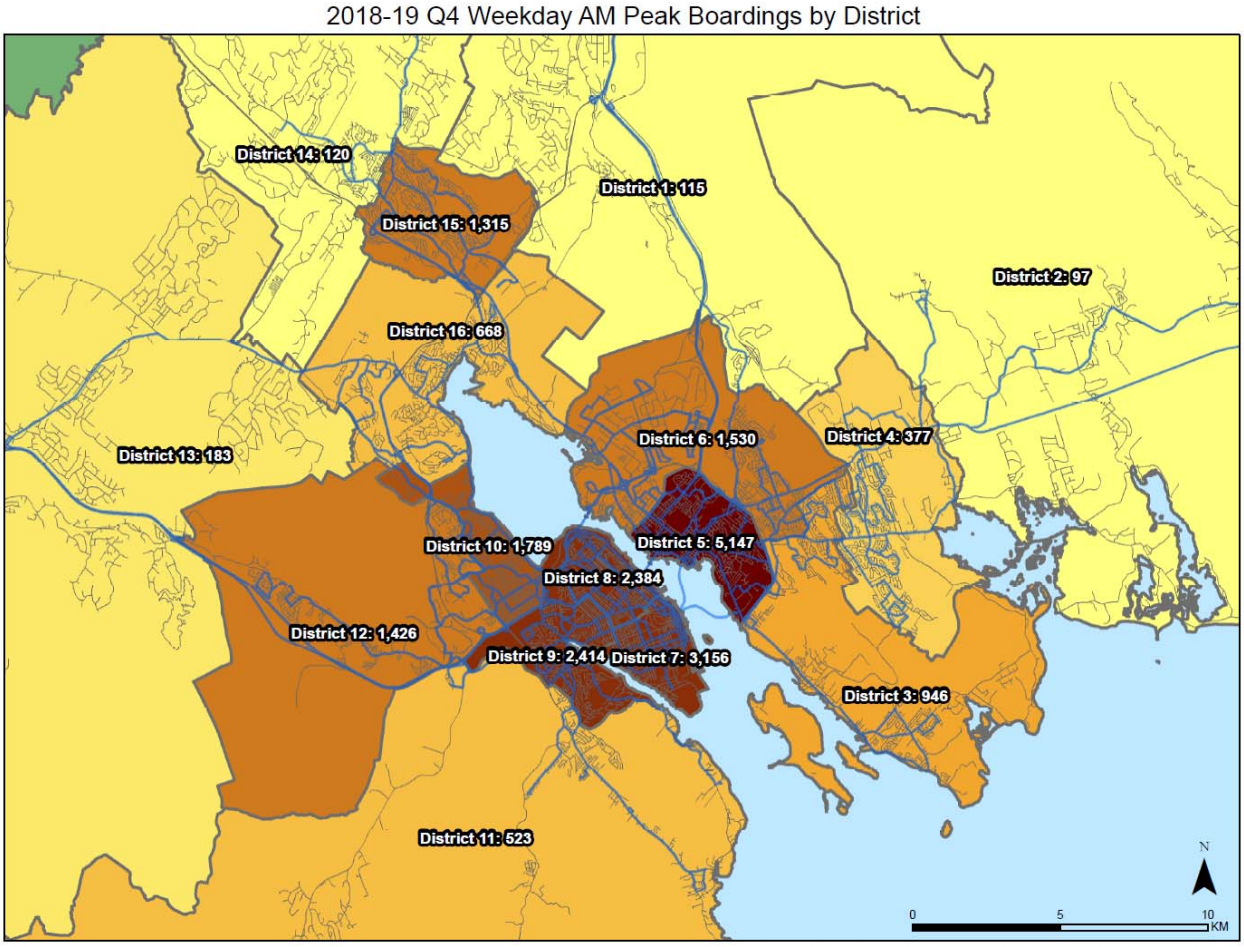
To assist in visualizing where ridership demands exist, boardings have been mapped by district. The all-day boardings map illustrates typical boardings over an entire service day, whereas the AM Peak Period map represents boardings during the morning peak period only and therefore generally illustrates passenger origins.

Weekday Boardings by District – All Day

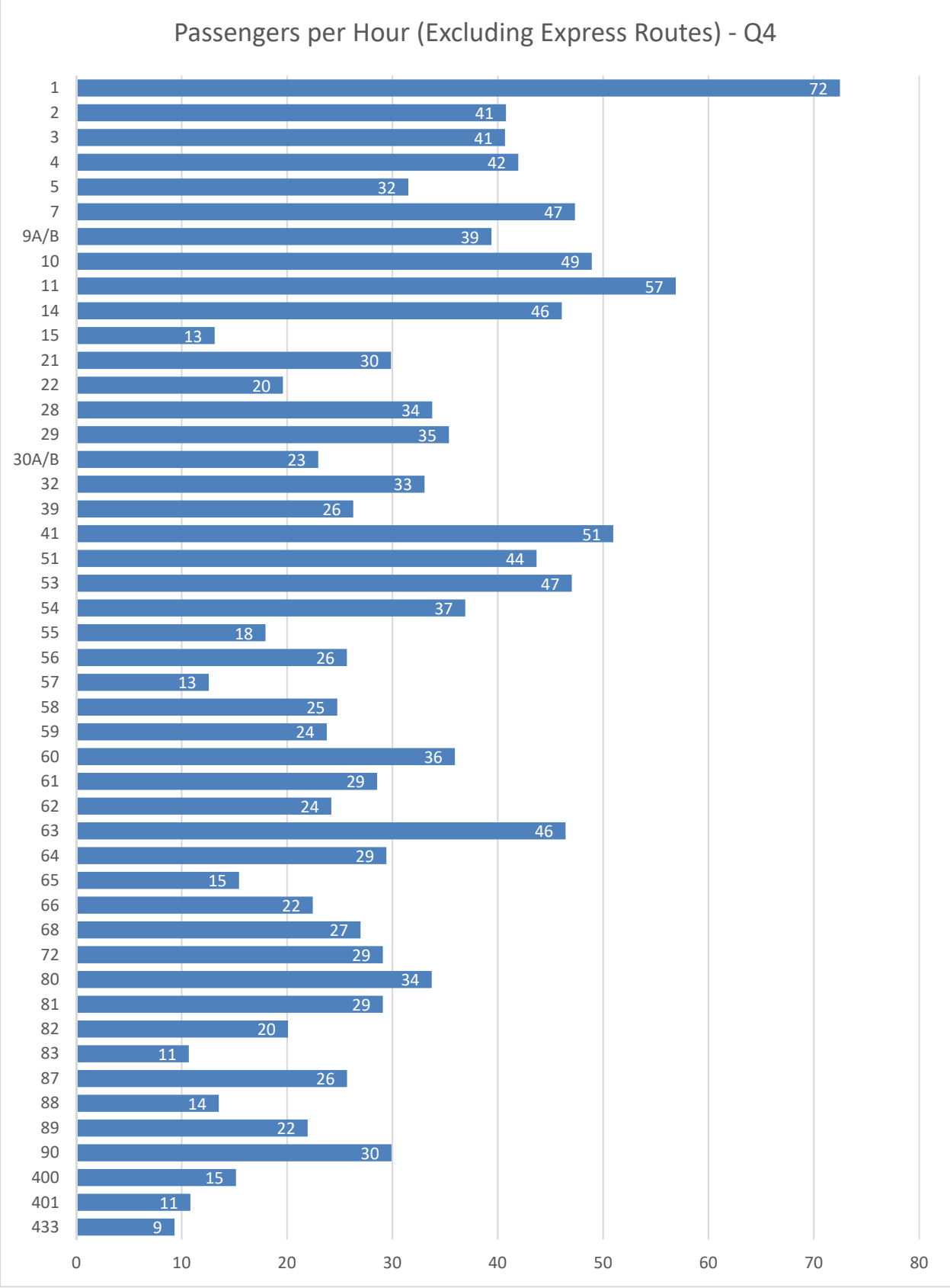
2018-19 Q4 Weekday Boardings by District



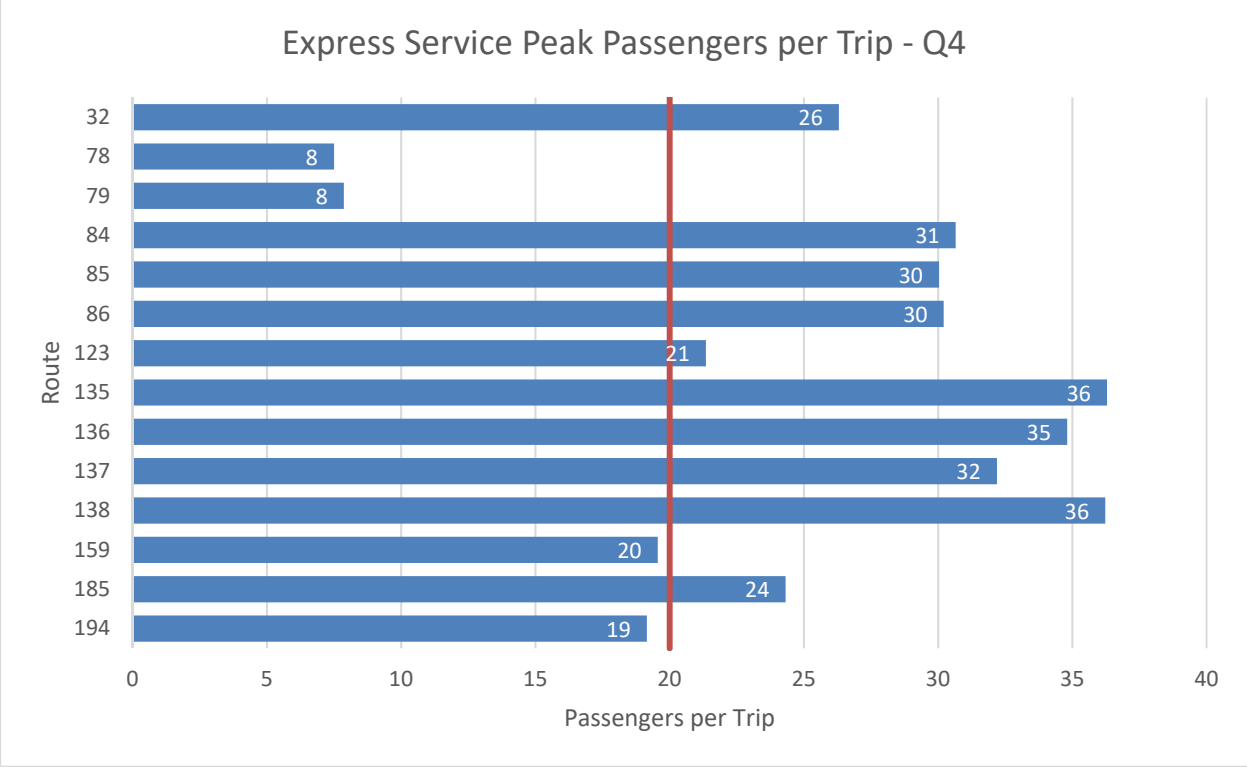
Weekday Boardings by District – AM Peak Period



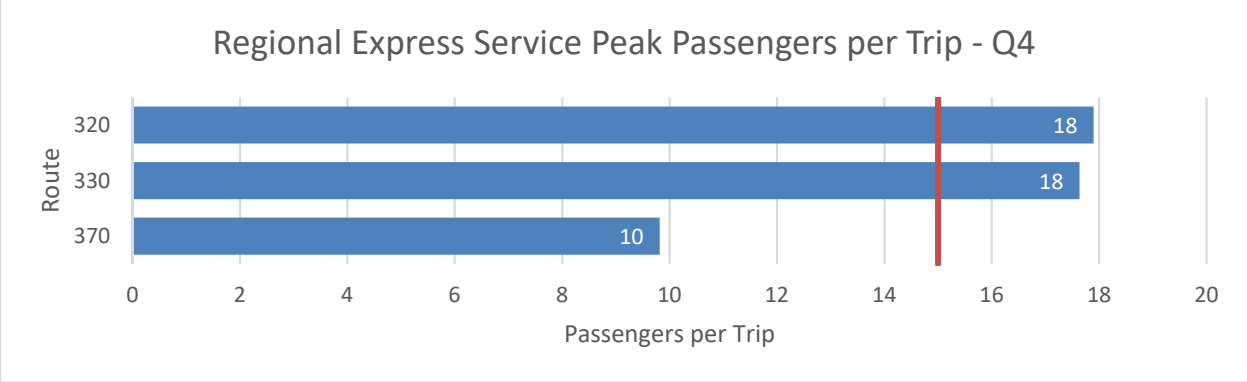
Passengers per Hour by Route



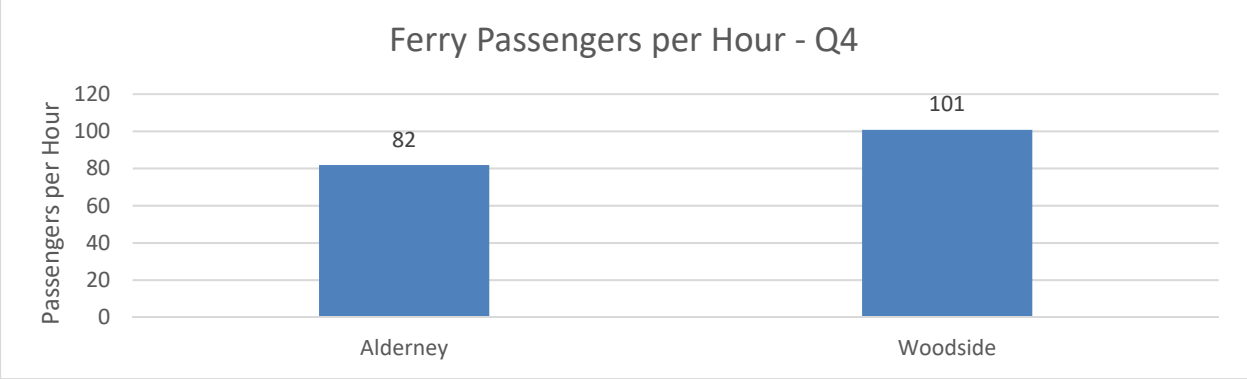
Express Service Peak Passengers per Trip by Route



Regional Express Peak Passengers per Trip by Route



Ferry Passengers per Hour



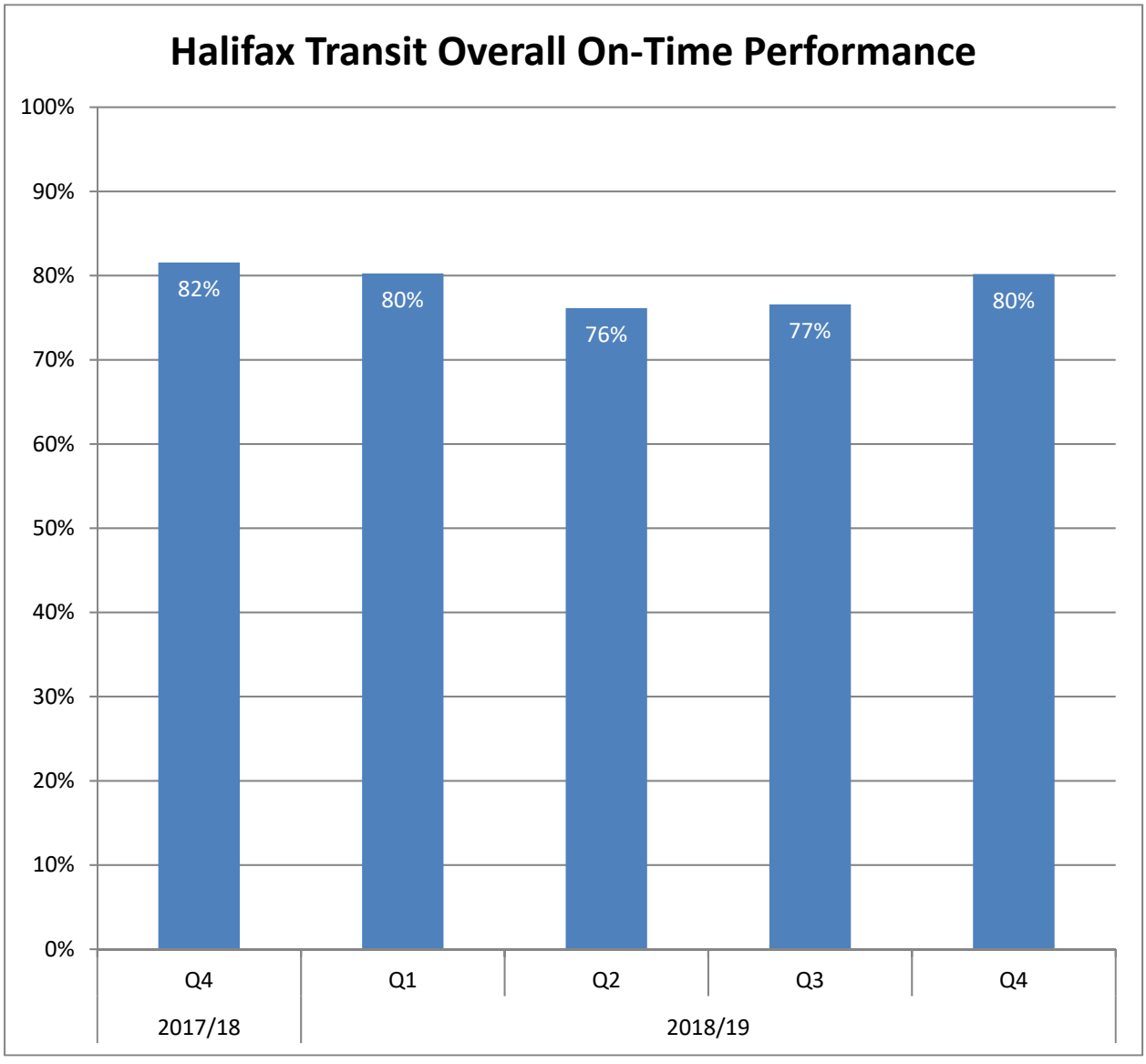
On-Time Performance

On-time performance is a measure of route reliability and is tracked monthly to demonstrate schedule adherence across the network of routes. Terminals and select bus stops along each route are classified as time-points and have assigned and publicized scheduled arrival times. On-time performance demonstrates the percentage of observed time-point arrivals that are between one minute early and three minutes late.

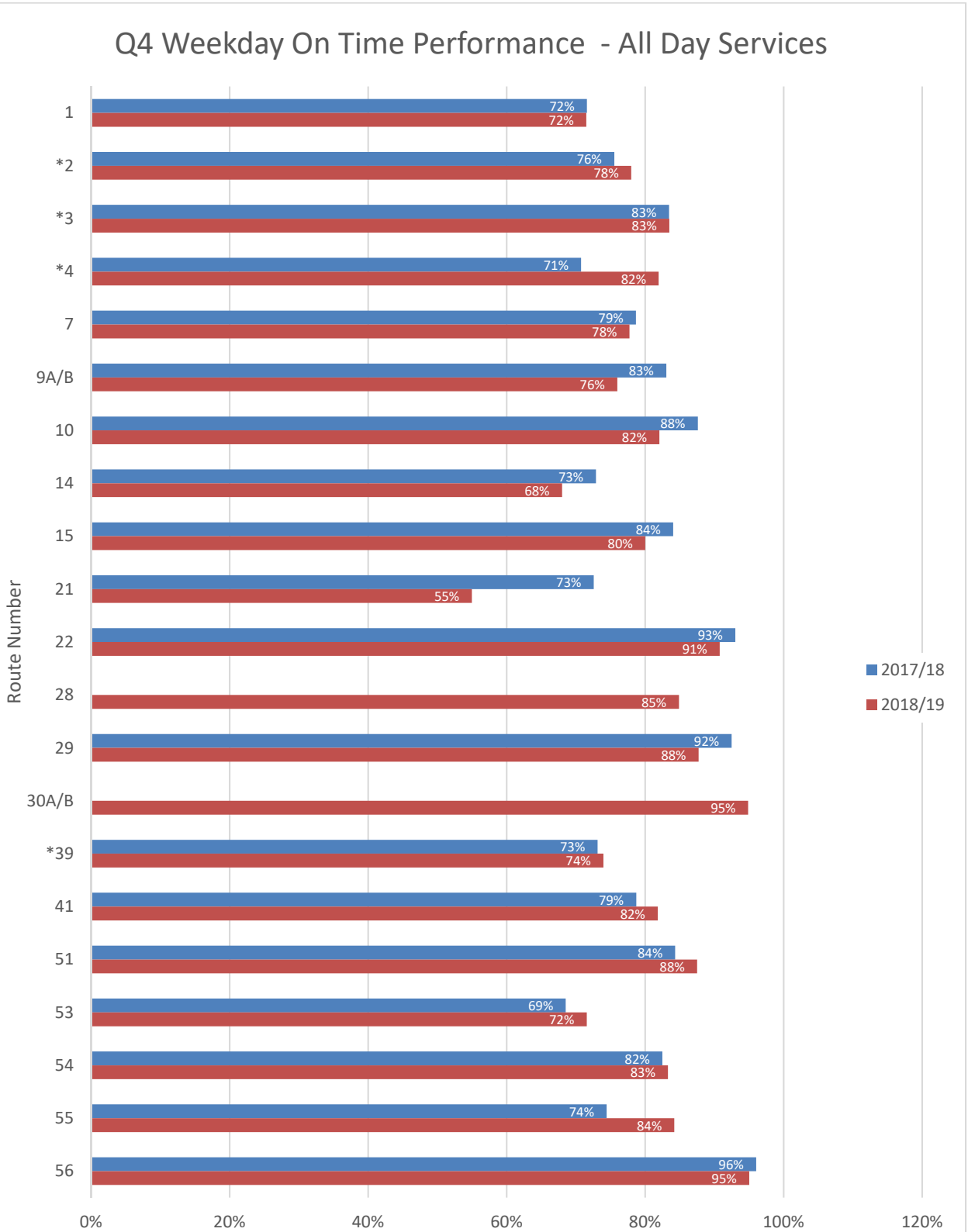
Transit industry standard targets for on-time performance tend to range between 85% and 90%, although service types are not always comparably grouped, nor are schedule adherence definitions consistent between agencies. Halifax Transit will analyze on-time performance across the network in order to establish a benchmark and target for the minimum percentage of trips to depart on time.

Compared to the fourth quarter last year, on-time performance dropped from 82% to 80%.

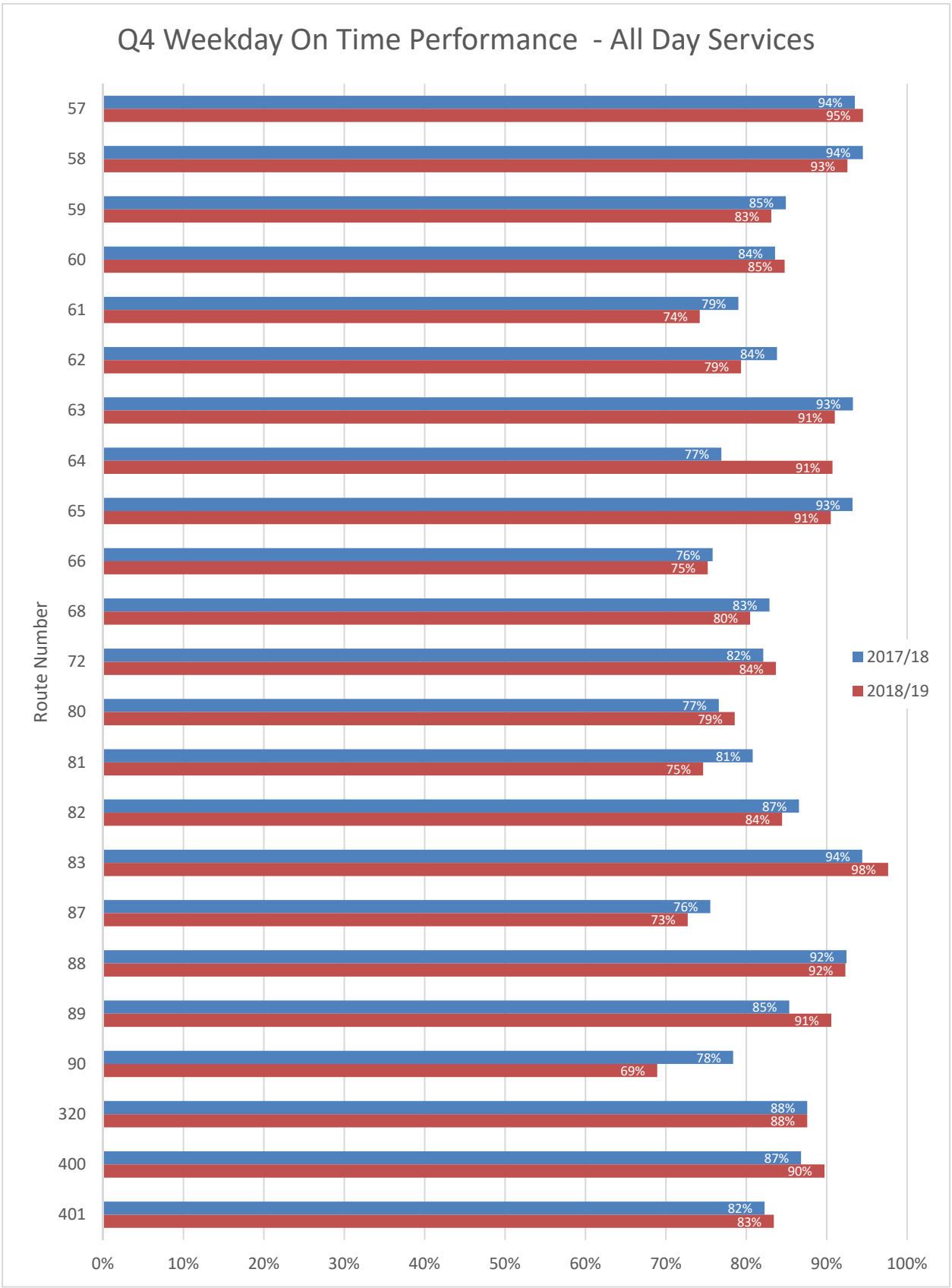
Overall Network On-Time Performance



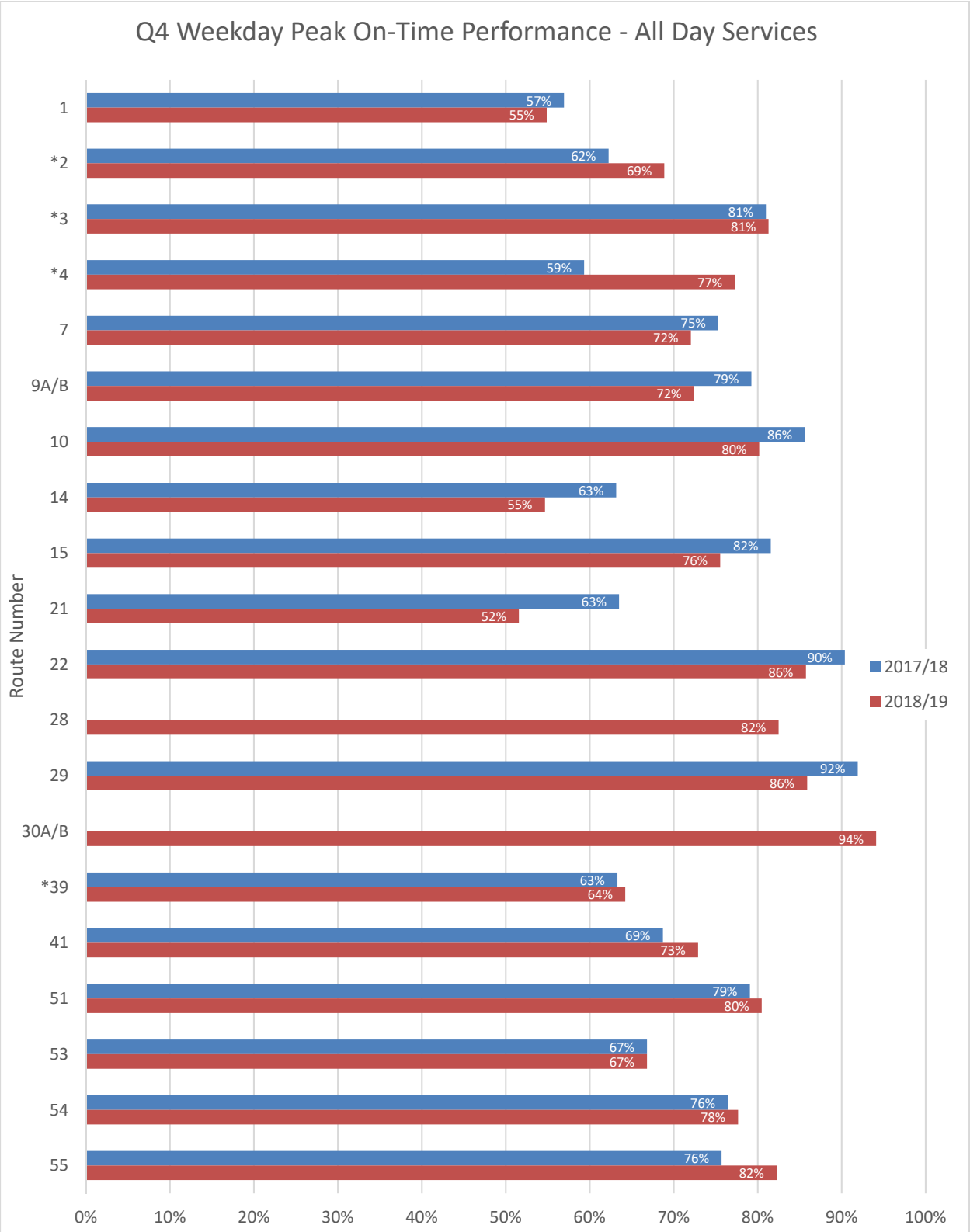
Weekday On-Time Performance – All Day Services



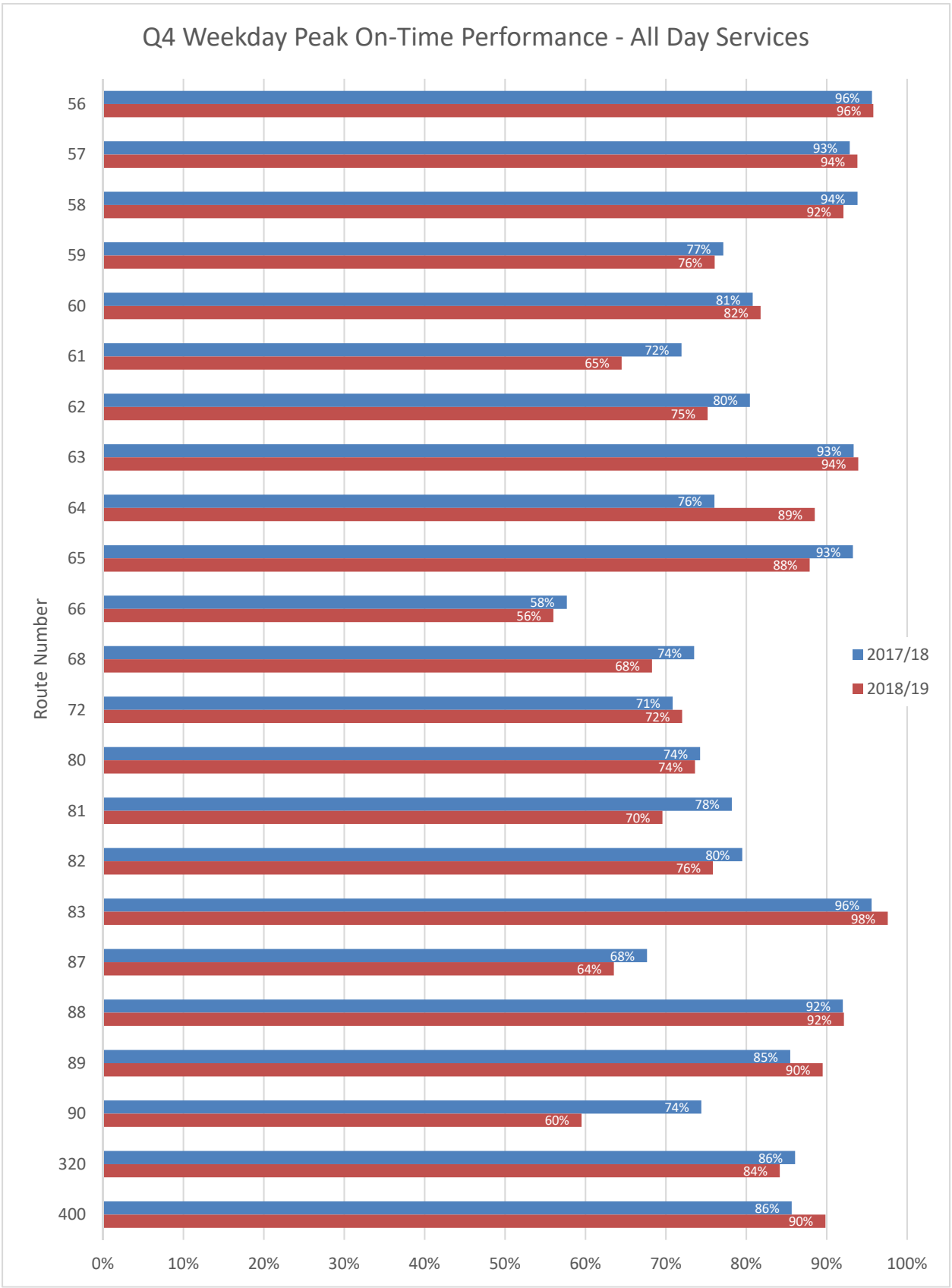
** Route 2 is compared to former route 2; Route 3 to former Route 52; Route 4 to former Routes 17, 18 and 42; and Route 39 to former Route 16.*


Q4 Weekday On Time Performance - All Day Services
Route Number
57 94% 95%
58 94% 93%
59 85% 83%
60 84% 85%
61 79% 74%
62 84% 79%
63 93% 91%
64 77% 91%
65 93% 91%
66 76% 75%
68 83% 80%
72 82% 84%
80 77% 79%
81 81% 75%
82 87% 84%
83 94% 98%
87 76% 73%
88 92% 92%
89 85% 91%
90 78% 69%
320 88% 88%
400 87% 90%
401 82% 83%
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
2017/18
2018/19

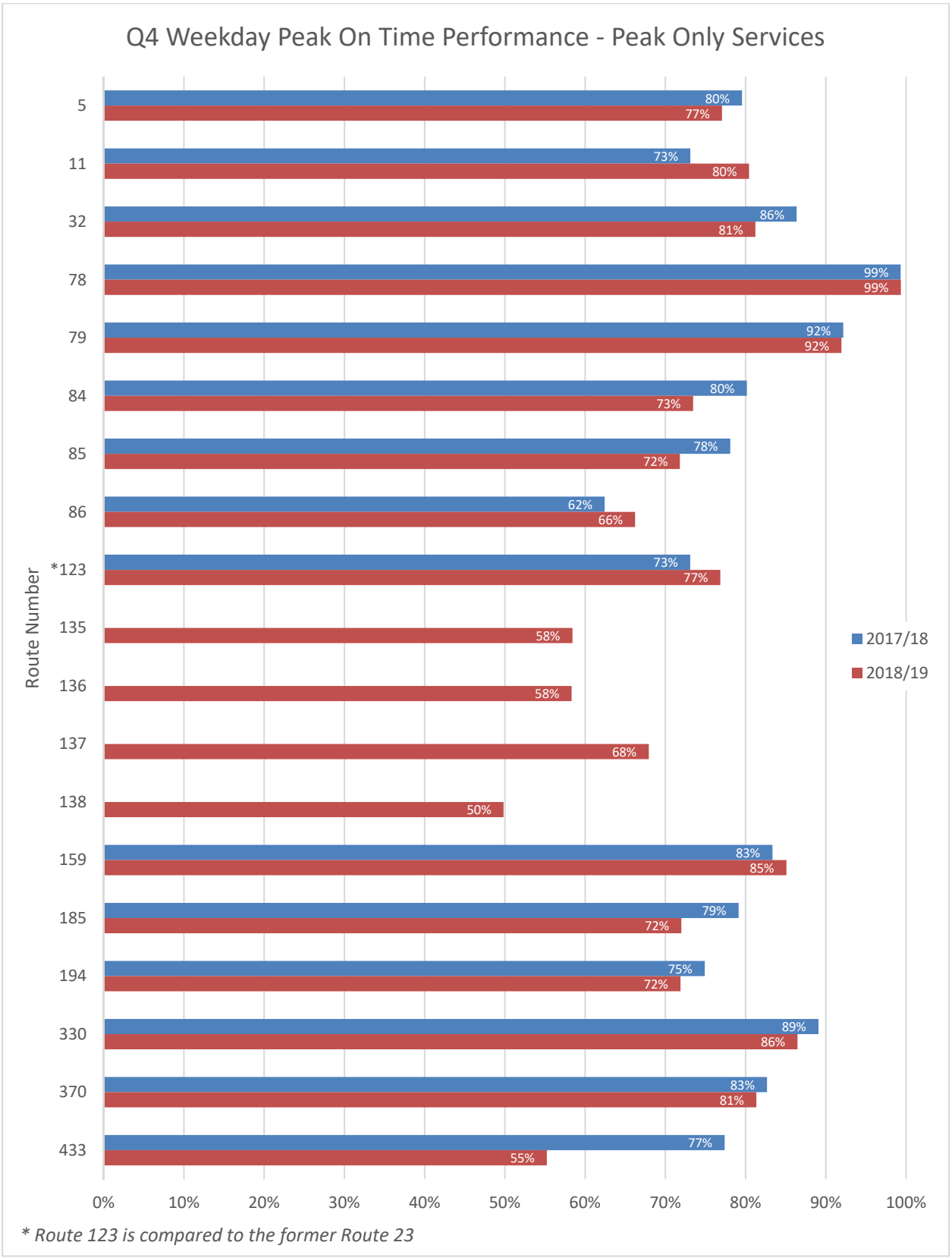
Weekday Peak Period On-Time Performance – All Day Services



** Route 2 is compared to former route 2; Route 3 to former Route 52; Route 4 to former Routes 17, 18 and 42; and Route 39 to former Route 16.*


Q4 Weekday Peak On-Time Performance - All Day Services
Route Number
56
57
58
59
60
61
62
63
64
65
66
68
72
80
81
82
83
87
88
89
90
320
400
96%
96%
93%
94%
94%
92%
77%
76%
81%
82%
72%
65%
80%
75%
93%
94%
76%
89%
93%
88%
58%
56%
74%
68%
71%
72%
74%
74%
78%
70%
80%
76%
96%
98%
68%
64%
92%
92%
85%
90%
74%
60%
86%
84%
86%
90%
2017/18
2018/19
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

Weekday Peak Period On-Time Performance – Peak Only Services



** Route 123 is compared to the former Route 23*