2018/2019 – Q3
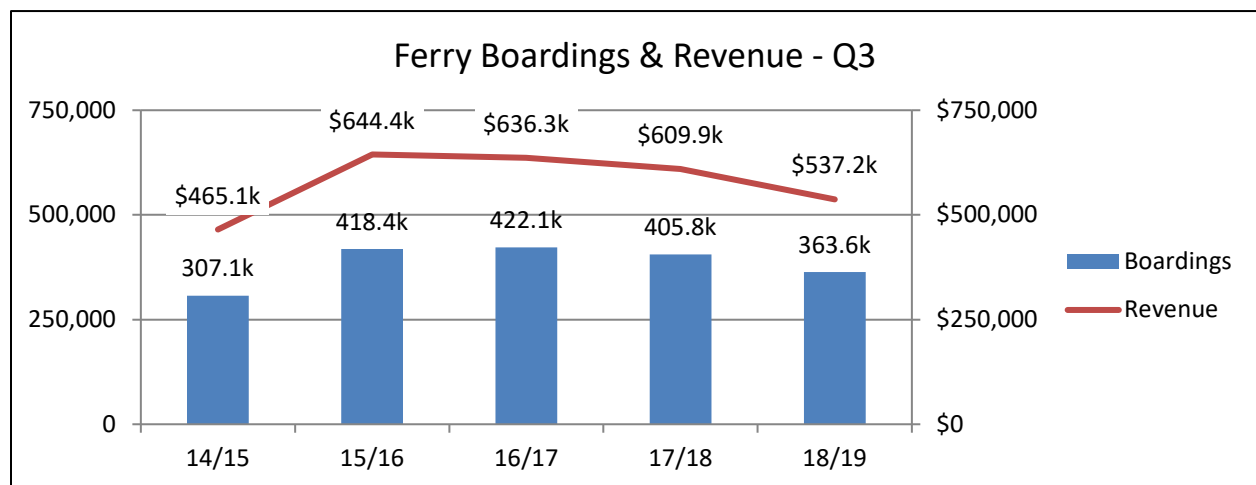# Performance Measures Report

HALIFAX
TRANSIT

Contents

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 third quarter, Conventional boardings increased 8.4% from this quarter last year, Ferry boardings decreased 10.4% and Access-A-Bus boardings increased 8.3%. Overall, system wide boardings increased this quarter by 7.3% compared to last year. Revenue this quarter increased 3.7% 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 - Q3

Year	Boardings	Revenue
14/15	40.6k	$63.9k
15/16	42.4k	$66.3k
16/17	42.6k	$66.k
17/18	43.7k	$68.9k
18/19	47.3k	$66.7k

Halifax Transit Boardings & Revenue - Q3

Year	Boardings	Revenue
14/15	7.04 m	$8.85 m
15/16	6.99 m	$8.87 m
16/17	6.81 m	$8.54 m
17/18	6.9 m	$8.53 m
18/19	7.4 m	$8.84 m
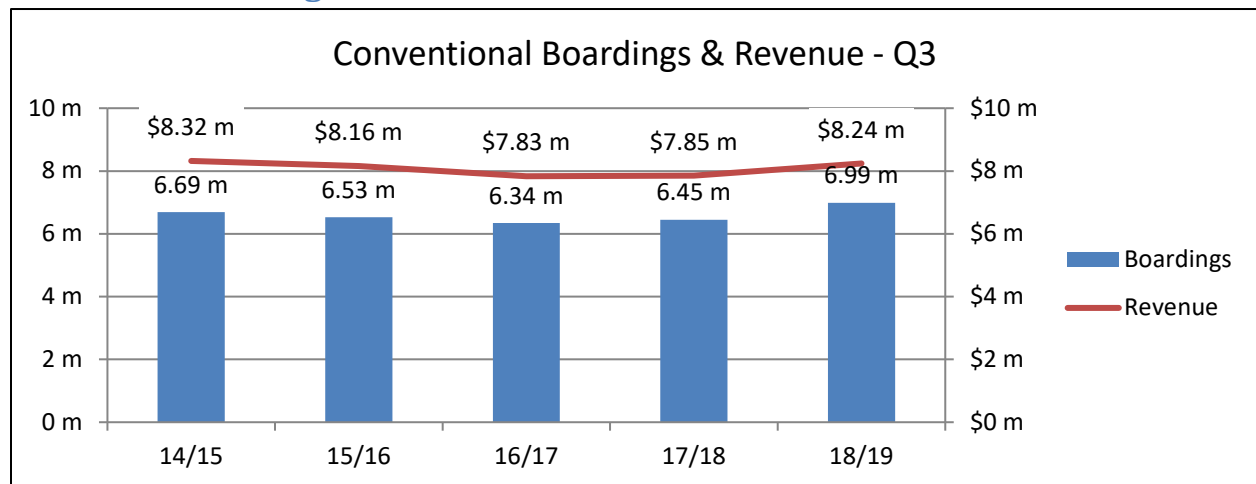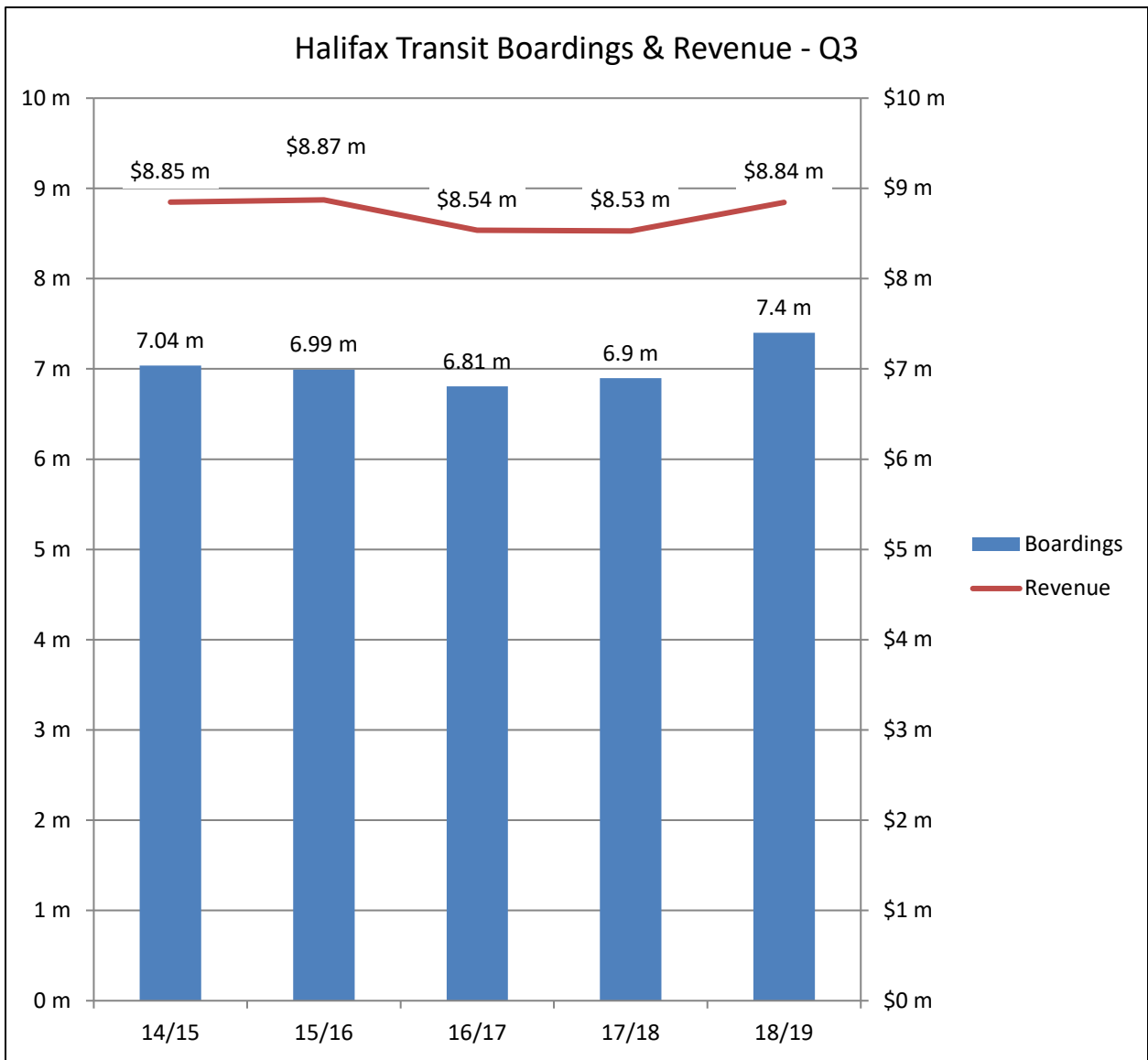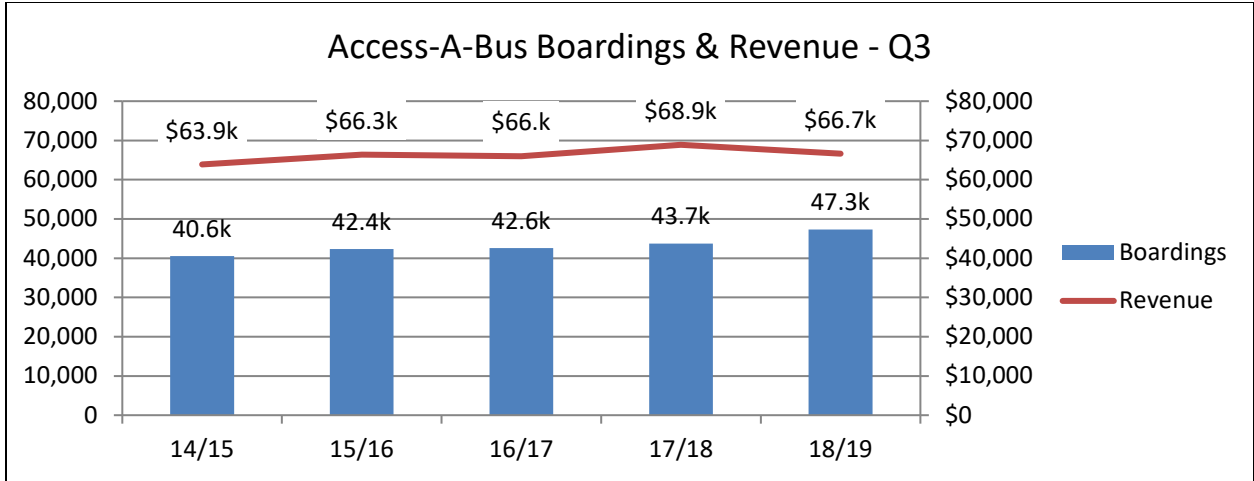
Revenue – Actual vs. Planned

The following charts provide an indication of how much revenue has been generated by each service type and by Halifax Transit in comparison to the planned budget revenue. Conventional revenue to date increased 4.9% from this time last year and is trending 0.4% above the planned amount. Ferry revenue to date decreased 8.6% from last year and is trending 1.1% above the planned amount. Access-A-Bus revenue to date has increased nearly 1% and is trending 1.7% below the planned amount. Overall revenue to date has increased 3.5% from this time last year and stands at 0.5% higher than the planned amount.

2018/19 YTD Actual vs Planned Conventional Revenue

	Actual	Planned
	$22,810,709	$22,715,900

Bar chart with y-axis from $0 to $25,000,000 in $5,000,000 increments.

2018/19 YTD Actual vs Planned Ferry Revenue

	Actual	Planned
	$2,263,939	$2,240,000

Bar chart with y-axis from $0 to $2,500,000 in $500,000 increments.

2018/19 YTD Actual vs Planned Access-A-Bus Revenue

	Actual	Planned
	$209,346	$213,000

Bar chart with y-axis from $0 to $250,000 in $50,000 increments.

2018/19 YTD Actual vs Planned Halifax Transit Revenue

Actual: $25,283,994
Planned: $25,168,900

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 mechanica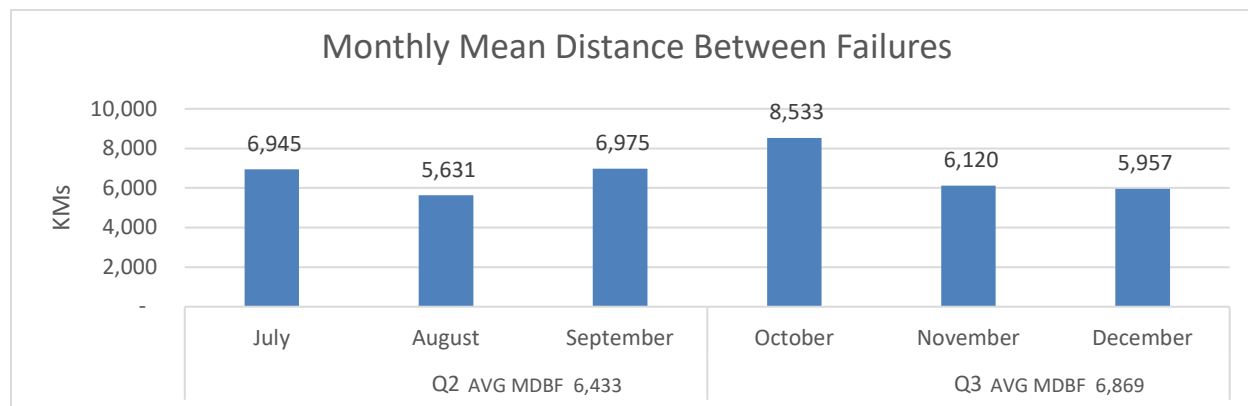l element of the revenue vehicle that prevents the vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip because actual movement is limited or because of safety concerns." The second type is other mechanical system failures which is the "failure of some other 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 third quarter of 2018, the MDBF for conventional transit is 6,869 kms. This is equivalent to a 7% improvement from the previous quarter. Bus Maintenance will continue to monitor this KPI and further develop quality initiatives to decrease aftertreatment and cooling system defects.

Monthly Mean Distance Between Failures

Month	KMs
July	6,945
August	5,631
September	6,975
October	8,533
November	6,120
December	5,957

Q2 AVG MDBF 6,433   Q3 AVG MDBF 6,869

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 third quarter of 2018, the MDBS for conventional transit was 3,252 kms. In comparison to the third quarter of 2017/2018 (3,582), this is a decrease of 9%. After investigation, there is no primary reason for this decline and may be an anomaly. For the third quarter of 2018, the MDBS for Access-A-Bus service was 75,730 kms. Bus Maintenance will continue to monitor this metric in order to reduce service calls.

Q3 Mean Distance Between Service Calls

Month	2017	2018
Oct	3,808	3,413
Nov	3,756	2,997
Dec	3,226	3,381
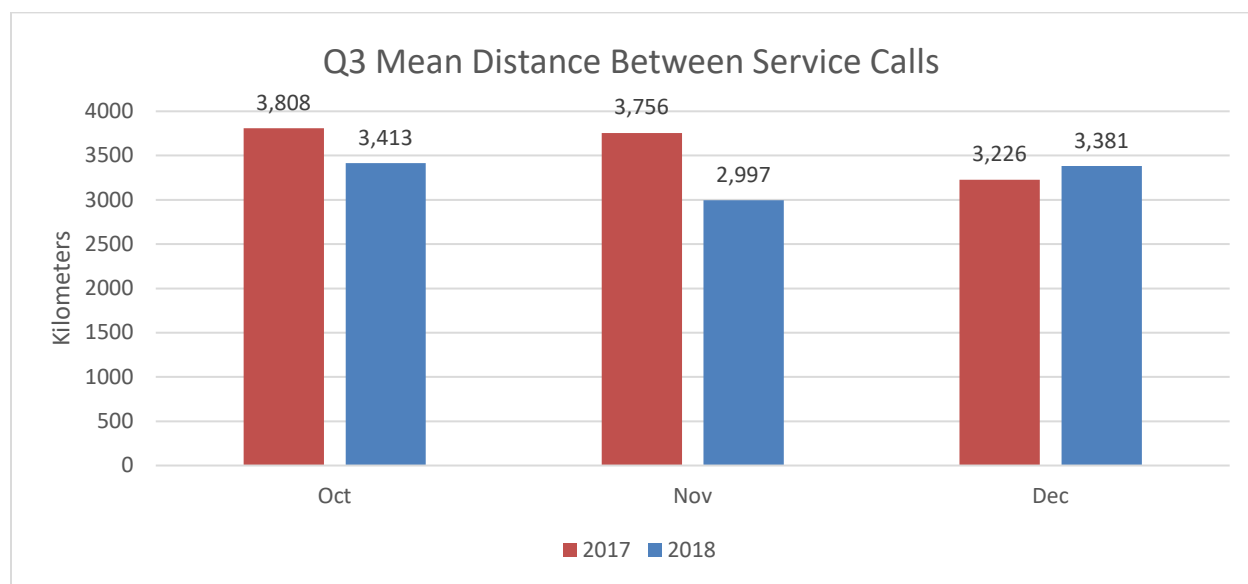
Bus Maintenance Cost – Quarter Average vs Budget

In the third quarter maintenance costs were $1.11/km, while the budgeted maintenance cost was $1.20/km. Therefore, in the third quarter the average cost per km was under budget by $0.09/km or 8%. Bus Maintenance will continue to strengthen budgeting processes to improve accuracy of future budgets.

Maintenance Cost per Kilometre - Q3 Average vs Budget

	Average Price	Budget Price
	$1.11	$1.20
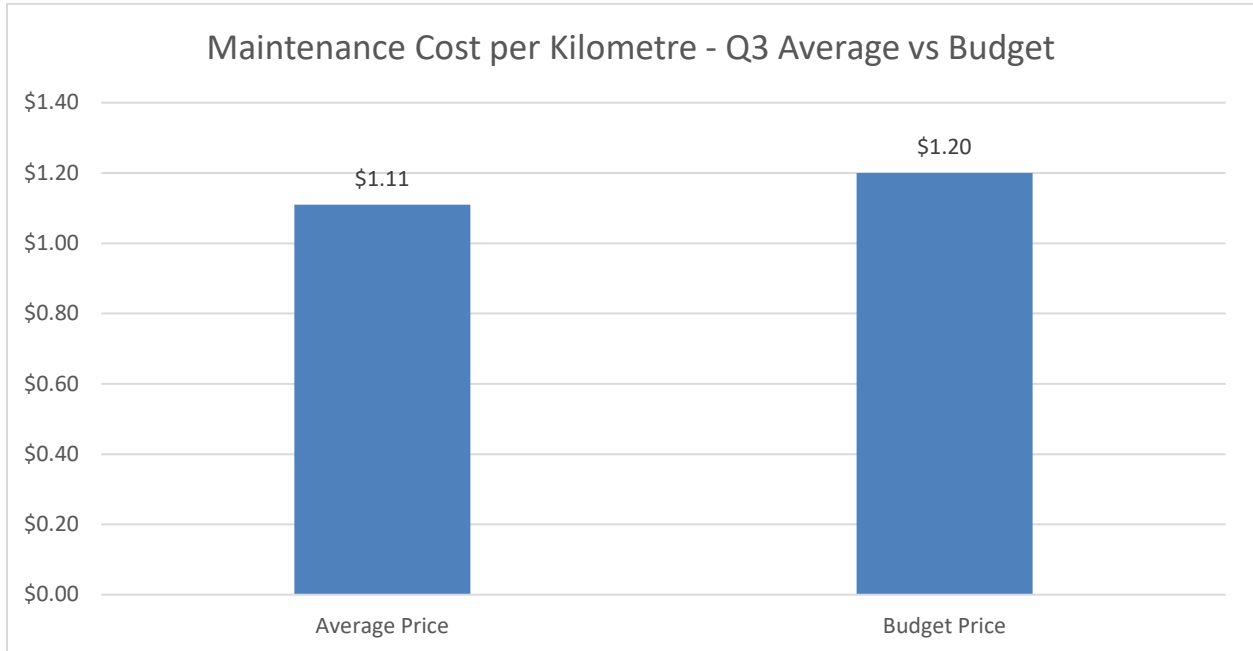
Fuel Price – Year to Date Average vs Budget

The budgeted fuel price for 2018/19 was set at 66 cents/litre. In the third quarter, the average fuel price to date was $0.80 cents/litre, 15 cents higher than the budgeted cost per litre.

Fuel Price per Litre - YTD Average vs Budget

	Average Price	Budget Price
	$0.801	$0.660
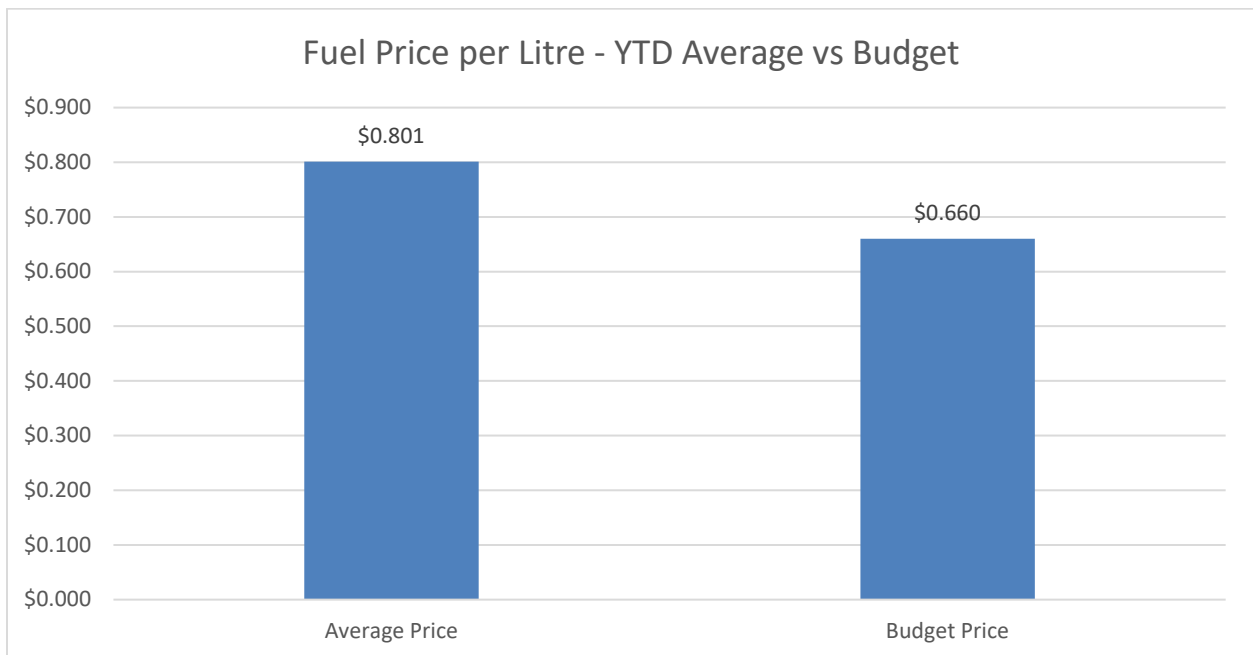
Access-A-Bus Trip Details

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 third quarter of 2018/19, 2,871 more trips were operated. Compared to third quarter last year this is an increase of 7.2%. The waitlist increased by 20% 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.
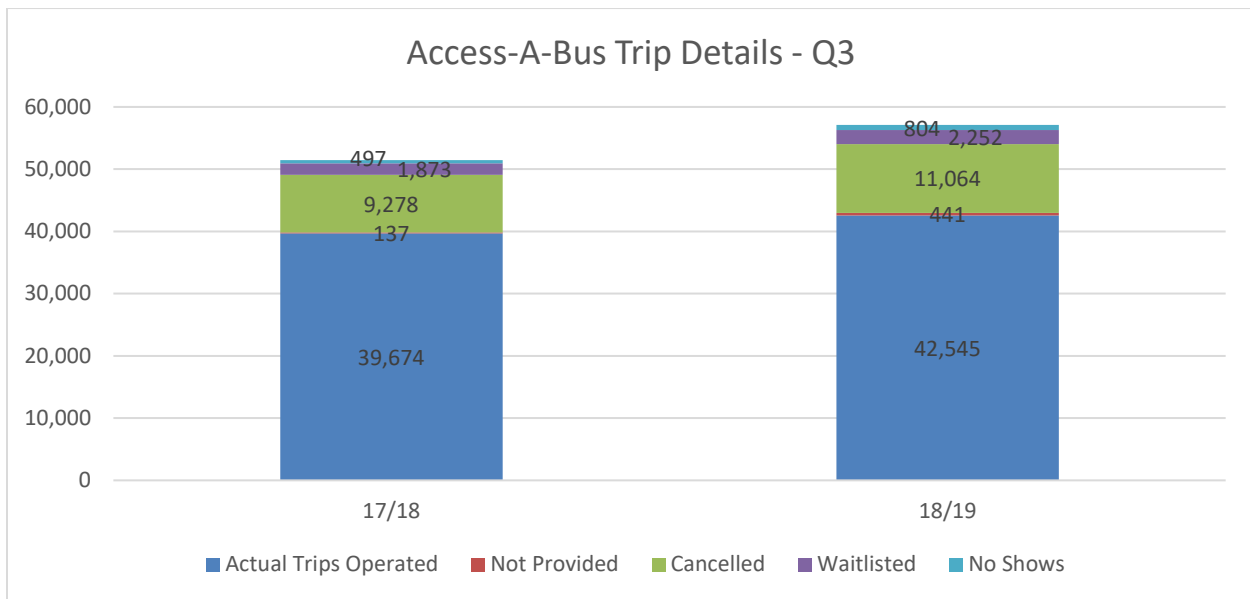
Passenger Overloads

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.
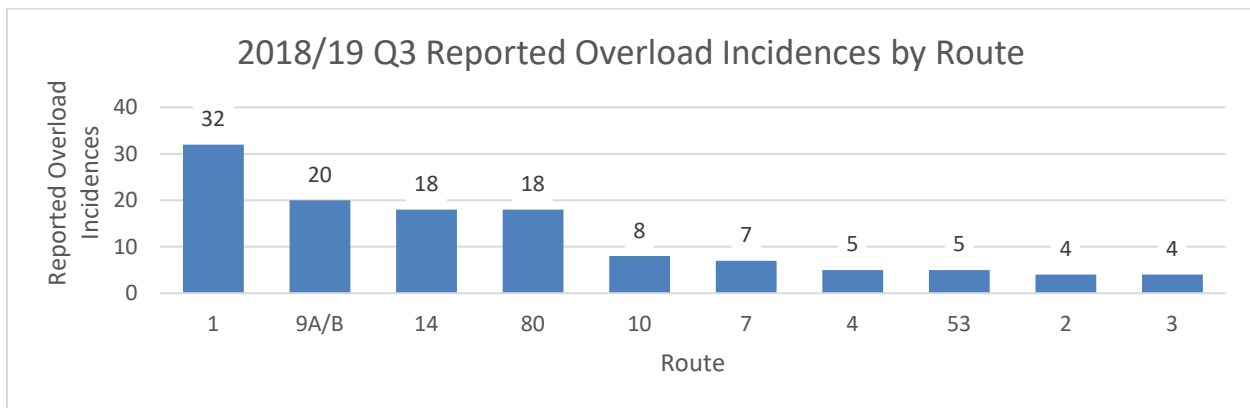
Customer Service – All Services

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, 52% of feedback received was related to bus operators and 12% regarding service issues. The remaining 36% is comprised of feedback regarding 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 92% of customer feedback was resolved within standard. This slight decrease is due to the transition of staff in several departments and is anticipated to improve in Q4.

Call volumes to the Departures Line (902-480-8000) are displayed by day of the week. In the third 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 - Q3

Transit Technology: 1%
Planning & Scheduling: 5%
Bus Stops & Shelters: 6%
Bus Operators: 52%
Service Issues: 12%
Access-A-Bus: 6%
Marketing: 5%
Compliments: 4%
Other Feedback: 9%

Feedback resolved within standard: 92%

Customer Feedback Comparison - Q3

Category	2017/18	2018/19
Transit Technology	1%	1%
Planning & Scheduling	5%	5%
Bus Stops & Shelters	7%	6%
Bus Operators	49%	51%
Service Issues	13%	11%
Access-A-Bus	6%	6%
Marketing	6%	5%
Compliments	4%	4%
Other Feedback	9%	9%

Average Departures Line Call Volumes - Q3

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 third quarter were 97,371 ± 13,558 (13.9% variance). Average Saturday boardings this quarter were 52,864 ± 7,501 (14.2% variance). Average Sunday boardings this quarter were 36,342 ± 2,643 (7.3% 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

Average Daily Boardings Comparison

	Q3	Q4	Q1	Q2	Q3
Weekday	94,165	94,170	88,392	93,680	97,371
Saturday	51,229	48,484	50,355	55,390	52,864
Sunday	32,906	32,460	33,764	39,152	36,342
	2017/18		2018/19		

■ Weekday ■ Saturday ■ Sunday
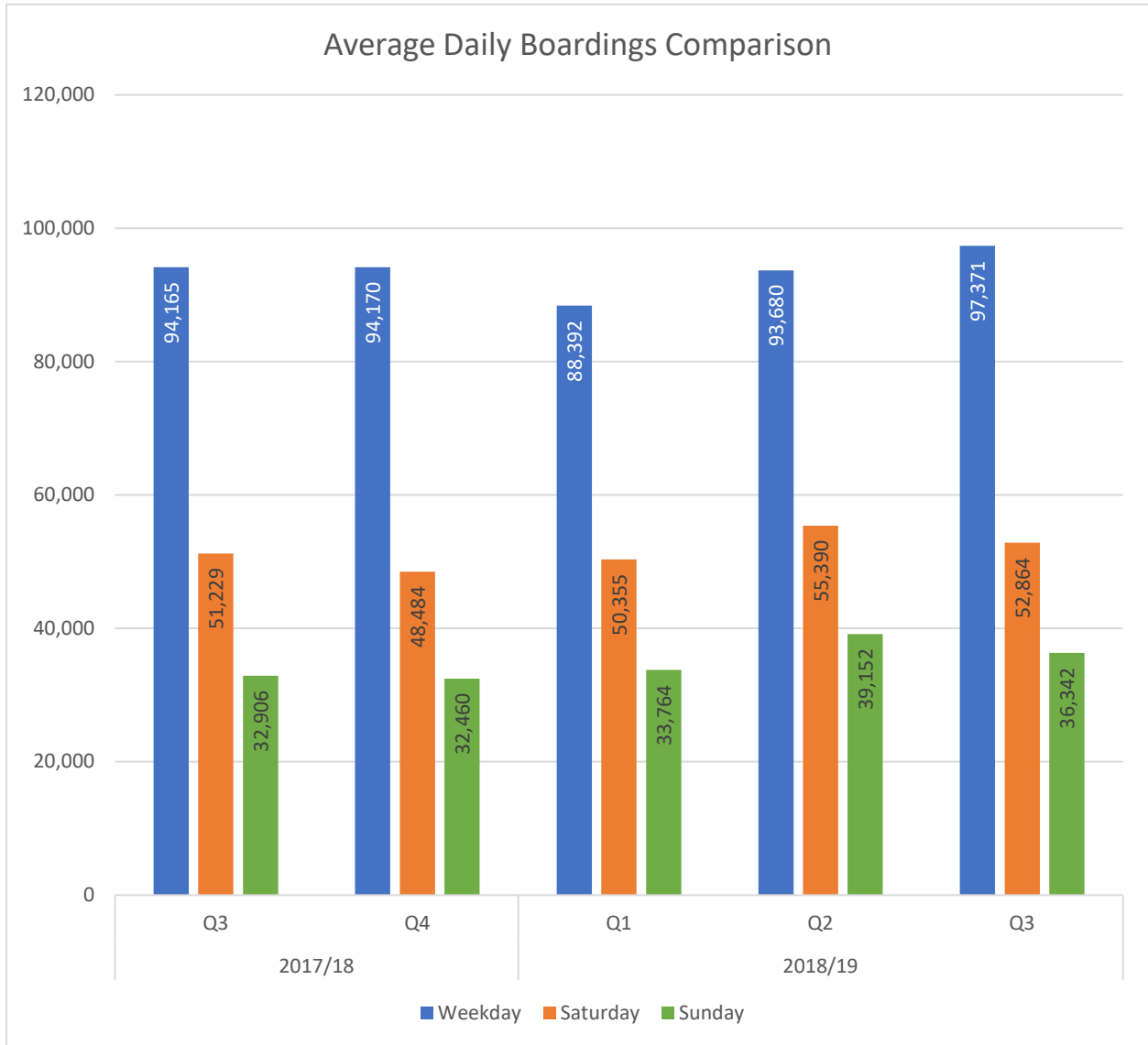
Passengers per Hour

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

Route	Weekday 17/18 Boardings	Weekday 17/18 Pass/Hr	Weekday 18/19 Boardings	Weekday 18/19 Pass/Hr	Saturday 17/18 Boardings	Saturday 17/18 Pass/Hr	Saturday 18/19 Boardings	Saturday 18/19 Pass/Hr	Sunday 17/18 Boardings	Sunday 17/18 Pass/Hr	Sunday 18/19 Boardings	Sunday 18/19 Pass/Hr
1	10,347	71	10,361	66	8,218	73	7,978	70	4,962	62	5,283	61
2 (new)			4,315	40			3,709	37			2,297	30
2 (removed)	2,693	44			2,081	39			983	32		
3 (new)			6,208	41			3,114	36			3,360	36
4 (new)			4,950	39			2,049	41			1,759	39
4 (removed)	2,474	40			1,815	31			1,149	37		
5	142	35	130	32								
7	5,315	46	5,216	45	3,495	37	3,216	35	2,090	40	1,787	34
9A/B	5,291	31	6,740	39	2,630	35	3,580	49	2,295	32	2,886	41
9A	3,538	32	4,567	41	1,160	33	1,704	49	961	28	1,254	37
9B	1,753	29	2,173	36	1,470	38	1,876	50	1,335	36	1,632	45
10	5,167	47	5,056	47	3,193	43	3,259	44	1,902	40	2,009	41
11	101	41	111	50								
14	2,898	45	2,919	45	1,313	39	1,299	39	1,230	42	1,147	40
15	214	14	196	13	115	12	100	10	108	12	137	11
16 (removed)	1,206	26			662	15						
17 (removed)	1,307	32										
18 (removed)	2,031	34			1,498	30			742	39		
21	1,265	29	972	32	684	18	766	22	309	13	566	32
22	436	12	651	21	410	12	432	13	307	9	397	12
23 (removed)	370	19										
28 (new)			1,373	34			1,296	32			682	37
29	2,430	26	3,053	34	1,368	22	1,789	29	1,087	18	1,348	23
30A/B (new)			825	23			497	14			330	16
30A (new)			446	24			257	15			150	13
30B (new)			378	21			240	14			181	21
39 (new)			1,199	27			815	16			389	18
41	1,399	49	1,505	46								
42 (removed)	1,422	38										
51	1,046	43	1,095	45	576	35	532	32	311	38	312	34

	Weekday				Saturday				Sunday			
	17/18		18/19		17/18		18/19		17/18		18/19	
Route	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr
52 (removed)	5,775	48			4,108	43			3,584	39		
53	1,381	52	1,235	47	791	52	699	46	418	53	337	41
54	830	38	816	38	501	32	508	32	272	27	279	28
55	411	18	393	18	249	16	245	16	170	11	156	10
56	882	25	985	30	1,011	29	1,099	31	635	20	697	22
57	605	15	546	13	270	9	244	8	147	8	142	8
58	701	25	744	26	432	23	468	25	370	21	377	22
59	2,019	26	1,936	25	792	34	730	31	530	23	531	23
60	2,857	37	2,710	35	1,730	43	1,717	43	1,261	44	1,157	41
61	2,247	29	2,228	29	1,033	27	1,007	26	875	24	880	24
62	826	26	818	26	523	23	544	24	230	16	268	17
63	810	47	810	47								
64	326	31	567	31								
65	253	15	248	15	92	7	78	6	50	8	44	7
66	1,446	23	1,424	23	480	30	531	33	370	23	365	23
68	1,343	27	1,326	27	813	28	759	26	511	18	530	19
72	1,423	31	1,409	31	1,094	23	1,003	21	478	19	509	19
80	4,215	33	4,218	33	3,503	33	3,351	32	2,588	27	2,605	29
81	1,357	26	1,433	27								
82	996	22	937	20	222	10	201	9	100	9	90	8
83	147	12	149	11	91	10	76	8	43	9	37	8
87	1,310	29	1,210	26	996	20	1,050	21	511	17	478	16
88	90	16	92	15	64	12	63	12	25	11	22	10
89	423	19	461	21								
90	1,254	26	1,351	28	763	17	743	16	466	19	375	15
400	234	18	200	16	64	9	68	10	53	8	57	7
401	131	10	137	11								
433 (new)			51	9								
Alderney	3,166	106	2,667	89	3,169	181	2,776	159	1,447	83	1,272	73
Woodside	2,562	122	2,232	106								

Q3 Comparison - Average Daily Boardings by Route

Express Service Peak Boardings and Passengers per Trip

Q3 Comparison - Average Daily Peak Boardings by Route				
	Weekday (Peak Only)			
Route	**17/18**		**18/19**	
	Boardings	**Pass/Trip**	**Boardings**	**Pass/Trip**
31 (removed)	290	32		
32	519	29	489	28
33 (removed)	176	41		
34 (removed)	722	42		
35 (removed)	279	31		
78	110	8	94	8
79	124	10	91	8
84	951	35	901	31
85	132	33	111	29
86	131	33	116	30
123 (new)			253	20
135 (new)			480	35
136 (new)			531	34
137 (new)			340	29
138 (new)			487	35
159	797	19	719	18
185	1,150	25	1,103	24
194	109	14	142	18
320	529	15	656	18
330	427	18	416	17
370	143	10	136	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 Q3 Weekday Boardings by District

District 14: 360
District 1: 337
District 15: 3,030
District 2: 222
District 16: 1,896
District 6: 6,672
District 13: 191
District 4: 1,077
District 10: 5,109
District 5: 19,775
District 8: 8,735
District 12: 5,166
District 9: 11,354
District 7: 28,842
District 3: 2,396
District 11: 2,211
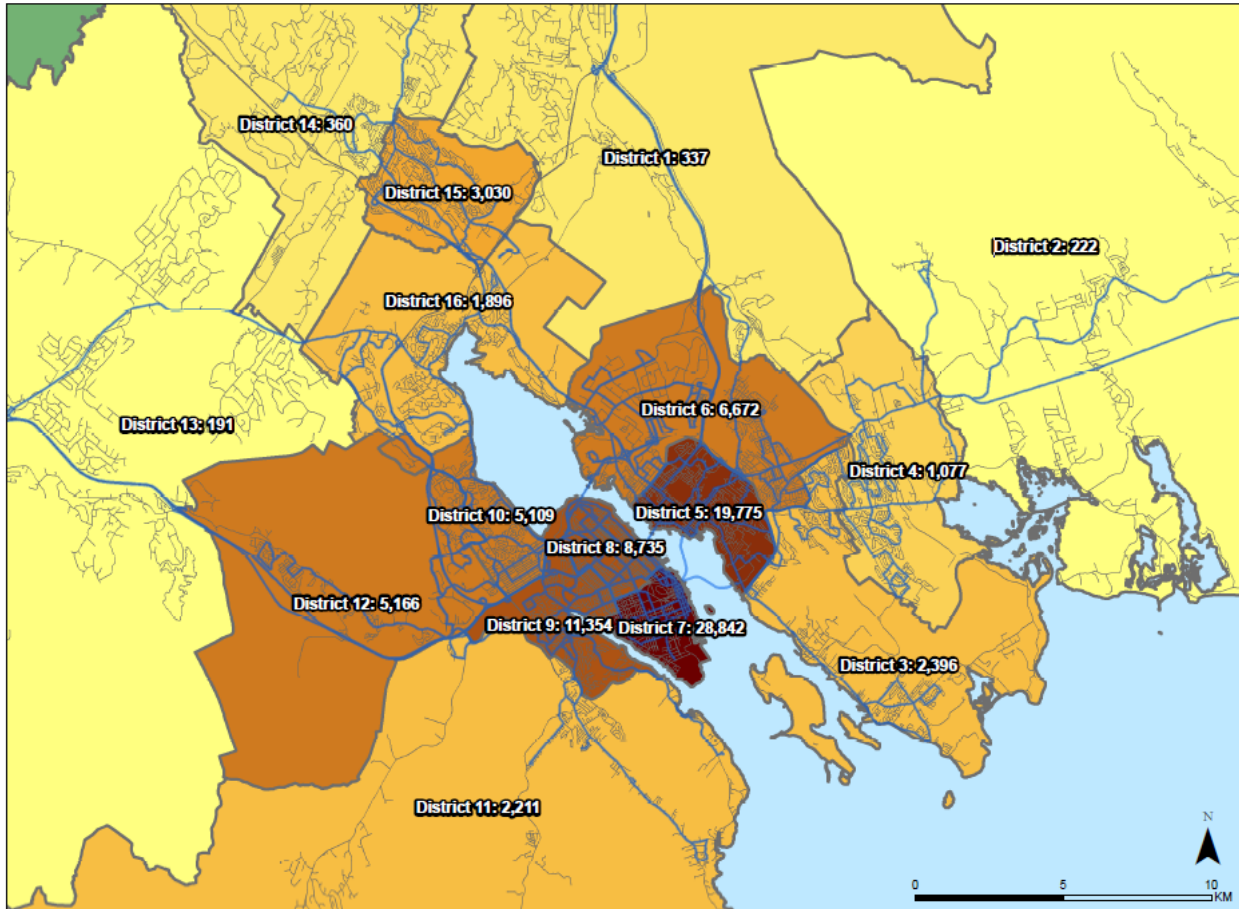
Weekday Boardings by District – AM Peak Period

2018-19 Q3 Weekday AM Peak Boardings by District
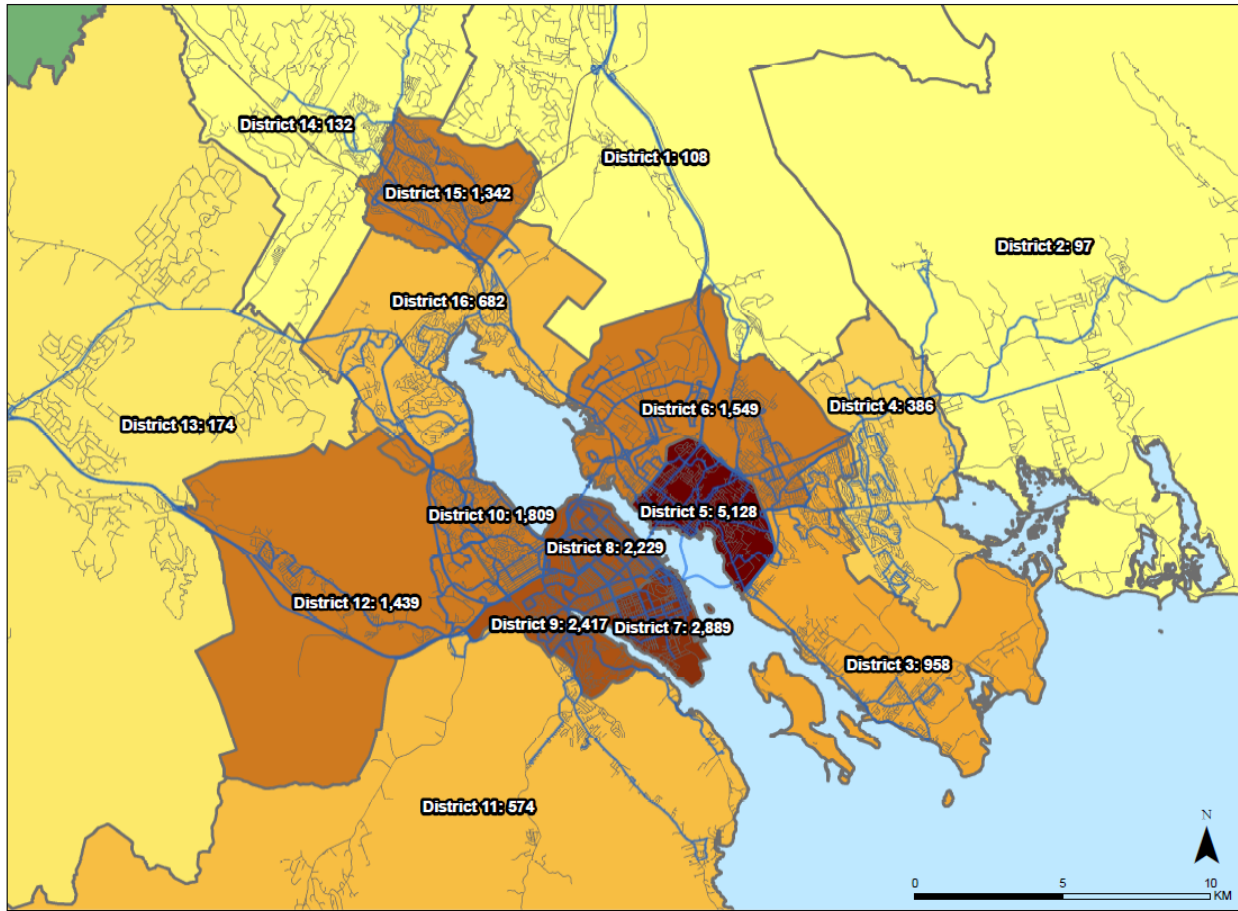
Passengers per Hour by Route

Passengers per Hour (Excluding Express Routes)

Route	Passengers per Hour
1	66
2	40
3	41
4	39
5	32
7	45
9A/B	39
10	47
11	50
14	45
15	13
21	32
22	21
28	34
29	34
30A/B	23
32	34
39	27
41	46
51	45
53	47
54	38
55	18
56	30
57	13
58	26
59	25
60	35
61	29
62	26
63	47
64	31
65	15
66	23
68	27
72	31
80	33
81	27
82	20
83	11
87	26
88	15
89	21
90	28
400	16
401	11
433	9

Express Service Peak Passengers per Trip by Route

Express Service Peak Passengers per Trip - Q3

Route	Passengers per Hour
32	28
78	8
79	8
84	31
85	29
86	30
123	20
135	35
136	34
137	29
138	35
159	18
185	24
194	18

Regional Express Peak Passengers per Trip by Route

Regional Express Service Peak Passengers per Trip - Q3

Route	Passengers per Trip
320	18
330	17
370	10

Ferry Passengers per Hour

Ferry Passengers per Hour - Q3
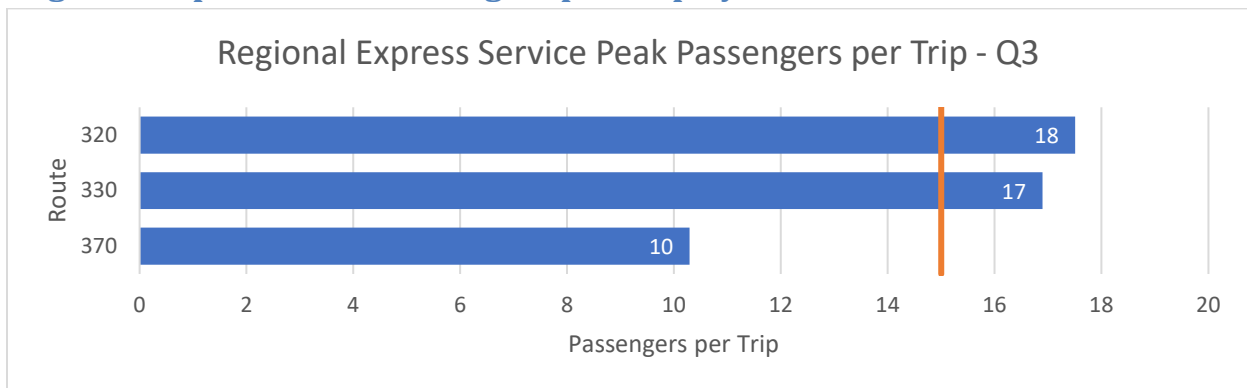
	Passengers per Hour
Alderney	89
Woodside	106
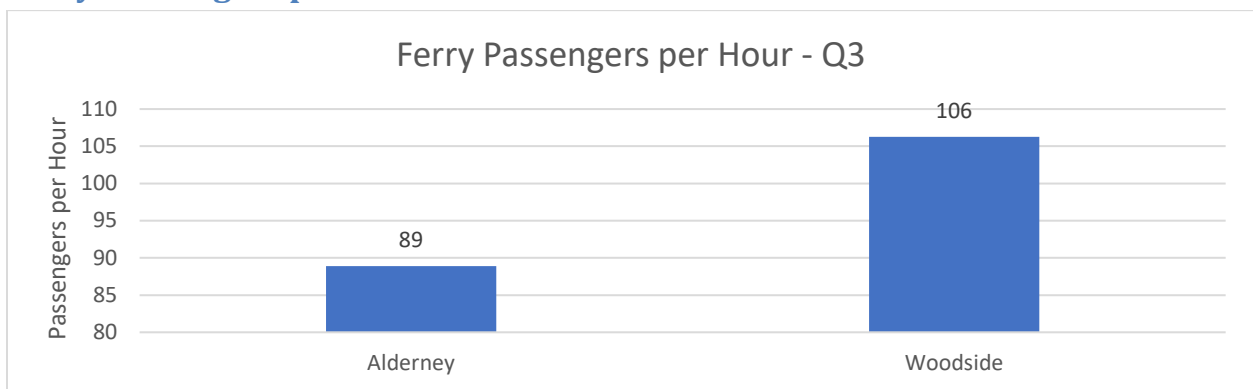
On-Time Performance

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 third quarter last year, on-time performance improved from 75% to 77%.

Overall Network On-Time Performance
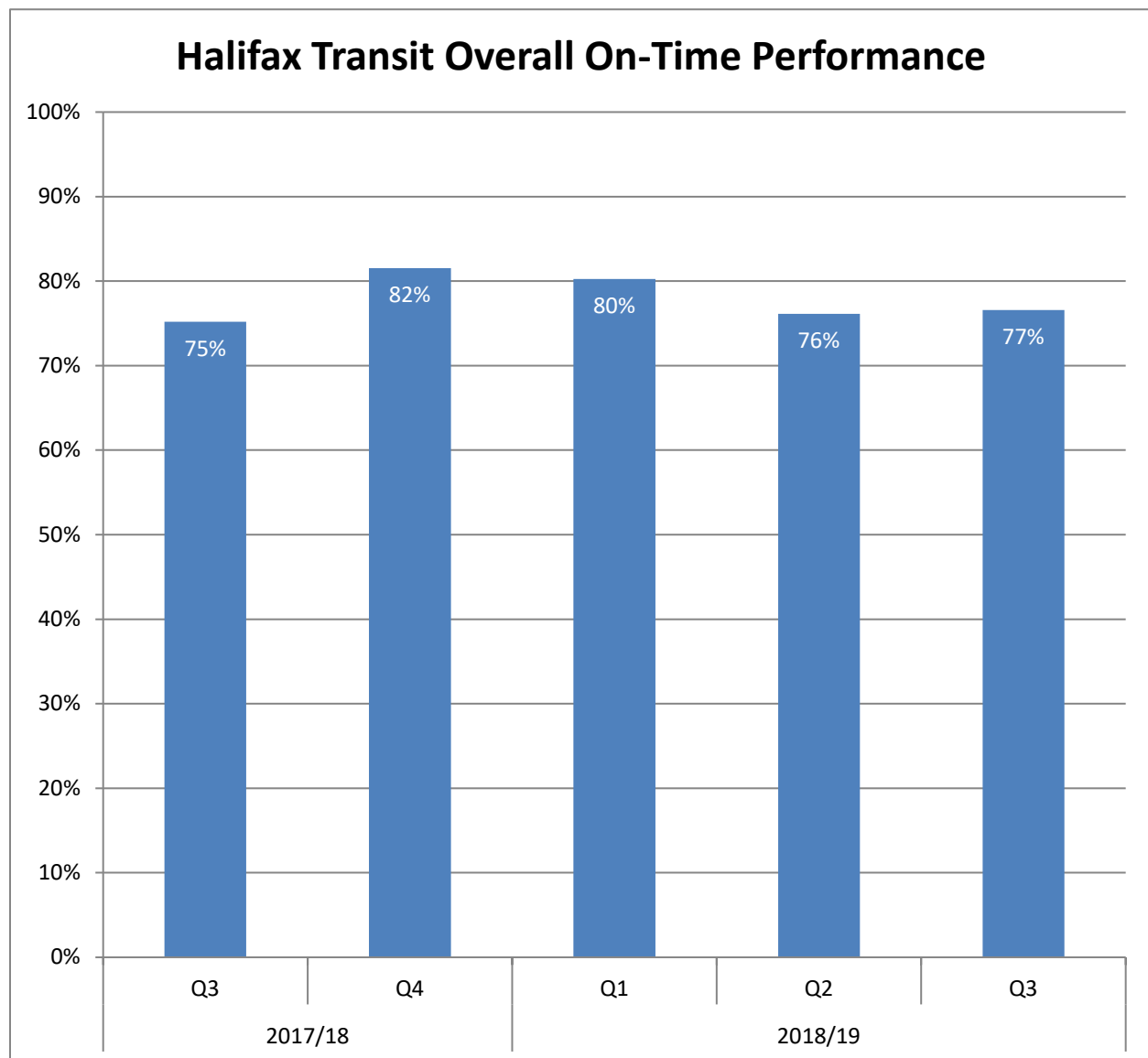
Weekday On-Time Performance – All Day Services

Q3 Weekday On Time Performance - All Day Services

Route Number	2017/18	2018/19
1	63%	67%
*2	68%	73%
*3	76%	80%
*4	63%	81%
7	74%	67%
9A/B	79%	70%
10	80%	76%
14	62%	63%
15	82%	70%
21	65%	57%
22	73%	88%
28		77%
29	76%	82%
30A/B		92%
*39	67%	69%
41	75%	80%
51	84%	85%
53	69%	73%
54	84%	84%
55	78%	84%

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.

Q3 Weekday On Time Performance - All Day Services

Route Number	2017/18	2018/19
56	95%	93%
57	93%	91%
58	95%	90%
59	81%	81%
60	83%	87%
61	72%	70%
62	74%	80%
63	91%	90%
64	67%	86%
65	88%	89%
66	69%	68%
68	76%	78%
72	78%	76%
80	64%	69%
81	65%	68%
82	79%	81%
83	96%	95%
87	63%	67%
88	93%	91%
89	89%	88%
90	68%	62%
320	86%	85%

Weekday Peak Period On-Time Performance – All Day Services

Q3 Weekday Peak On-Time Performance - All Day Services

Route Number	2017/18	2018/19
1	48%	51%
*2	52%	60%
*3	71%	77%
*4	50%	74%
7	68%	69%
9A/B	73%	64%
10	77%	73%
14	49%	49%
15	78%	62%
21	58%	53%
22	65%	82%
28		72%
29	86%	78%
30A/B		90%
*39	55%	58%
41	65%	67%
51	76%	76%
53	65%	67%
54	78%	77%
55	79%	79%

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.

Q3 Weekday Peak On-Time Performance - All Day Services

Route Number	2017/18	2018/19
56	95%	94%
57	93%	88%
58	94%	89%
59	71%	71%
60	80%	85%
61	64%	59%
62	69%	76%
63	89%	93%
64	65%	82%
65	88%	83%
66	49%	46%
68	63%	64%
72	65%	61%
80	57%	61%
81	57%	59%
82	69%	71%
83	96%	93%
87	50%	56%
88	92%	90%
89	87%	86%
90	56%	51%
320	80%	79%

Weekday Peak Period On-Time Performance – Peak Only Services

Q3 Weekday Peak On Time Performance - Peak Only Services

Route Number	2017/18	2018/19
5	63%	70%
11	79%	84%
32	75%	72%
78	100%	99%
79	90%	92%
84	62%	65%
85	57%	57%
86	56%	55%
*123	58%	71%
135		50%
136		49%
137		57%
138		44%
159	80%	76%
185	64%	65%
194	69%	64%
330	87%	83%
370	79%	77%
400	82%	90%
401	73%	80%
433	69%	50%

* Route 123 is compared to the former Route 23.

† Express Routes intentionally leave some non-holding timepoints prior to the scheduled time, skewing adherence values lower than what passengers experience at holding time points. Many of these non-holding timepoints are indicated with a bold black border in the riders guide.

† Schedule adherence reviewed on newly implemented Clayton Park Express Routes will result in new schedules being implemented in November 2019.