2020/21 – Q3
Performance Measures Report

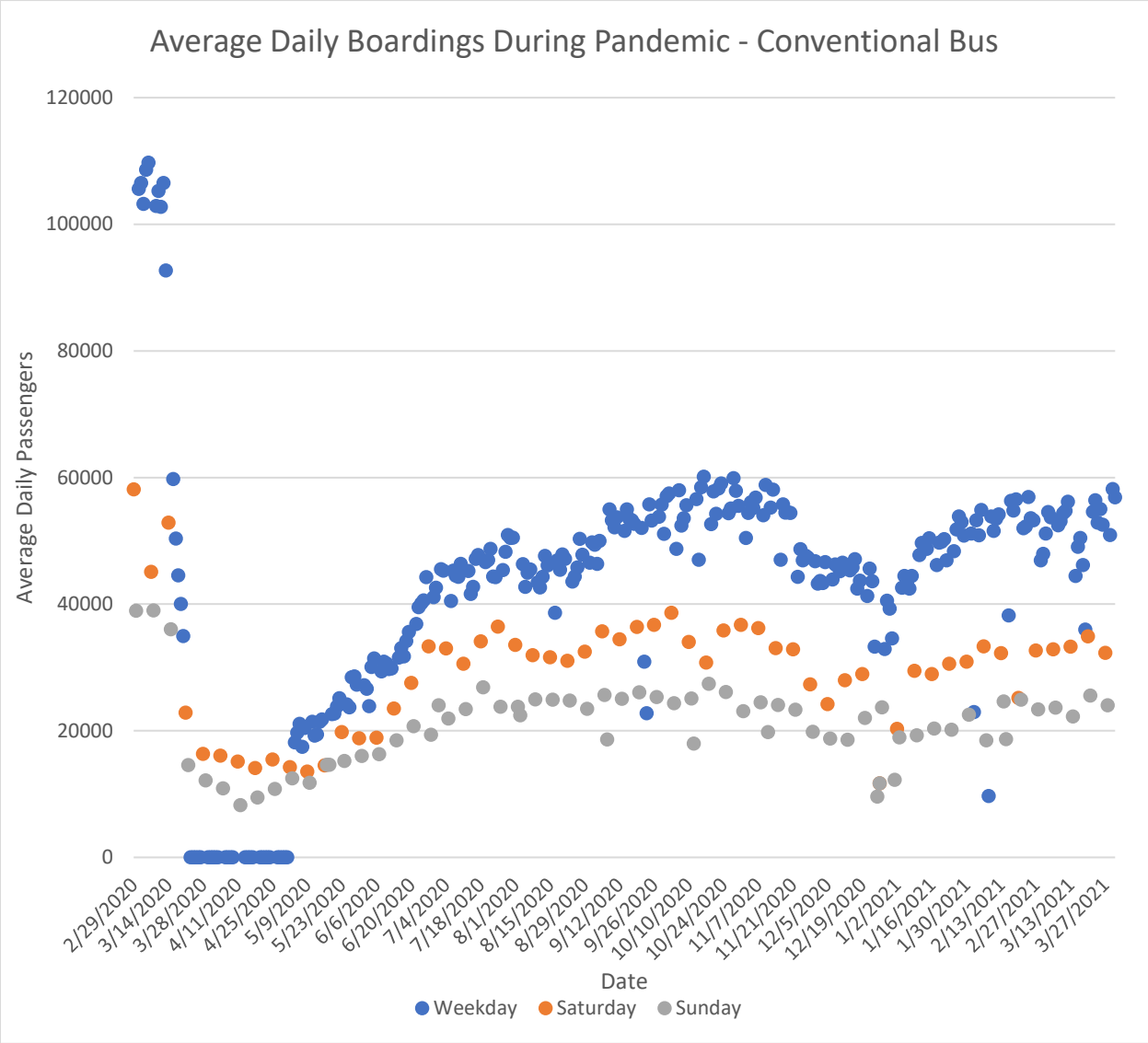
HALIFAX
TRANSIT

Contents

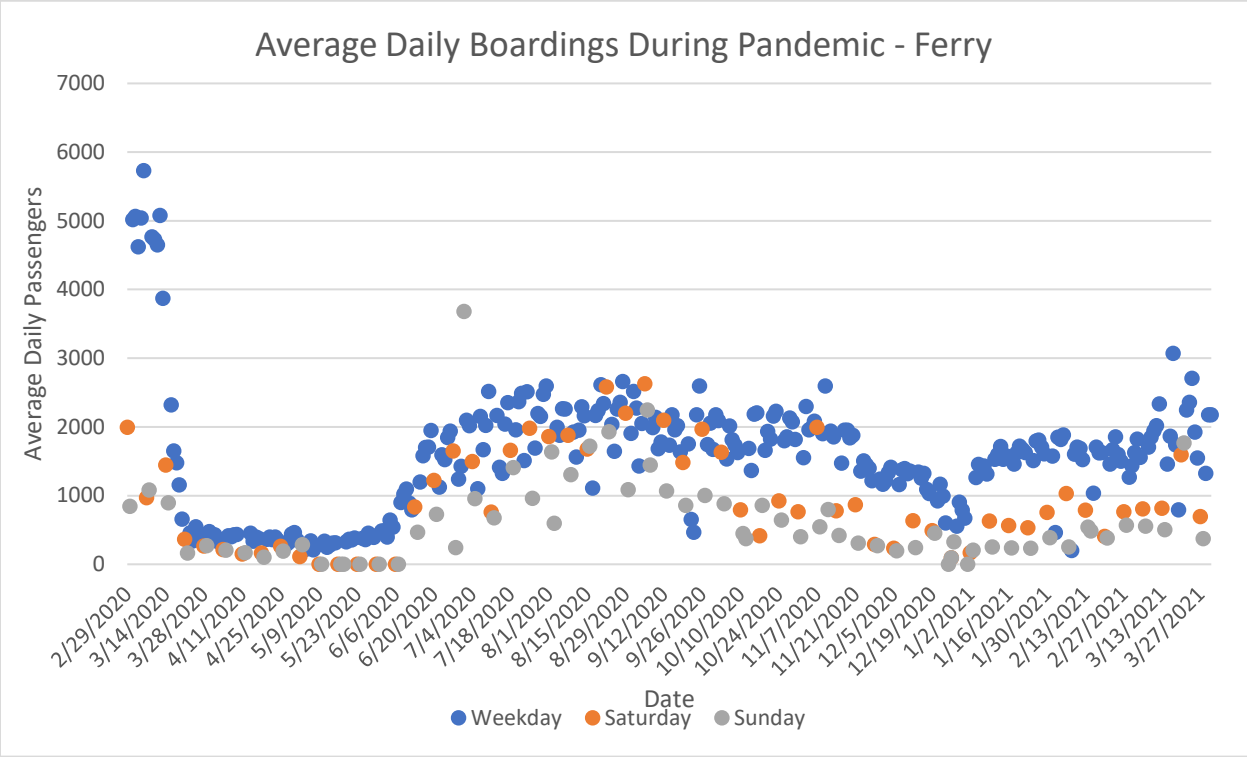
COVID-19 Pandemic Data Impacts

The onset of the COVID-19 pandemic in early 2020 resulted in the need to rapidly implement emergency service adjustments to the weekday schedules. Fare collection ceased on March 18th and resumed August 1st. Full service bus schedules resumed August 31st. Ferry service increased September 8th, and again October 26th, but continued to run at a reduced schedule to accommodate extra cleaning requirements at the end of each day.

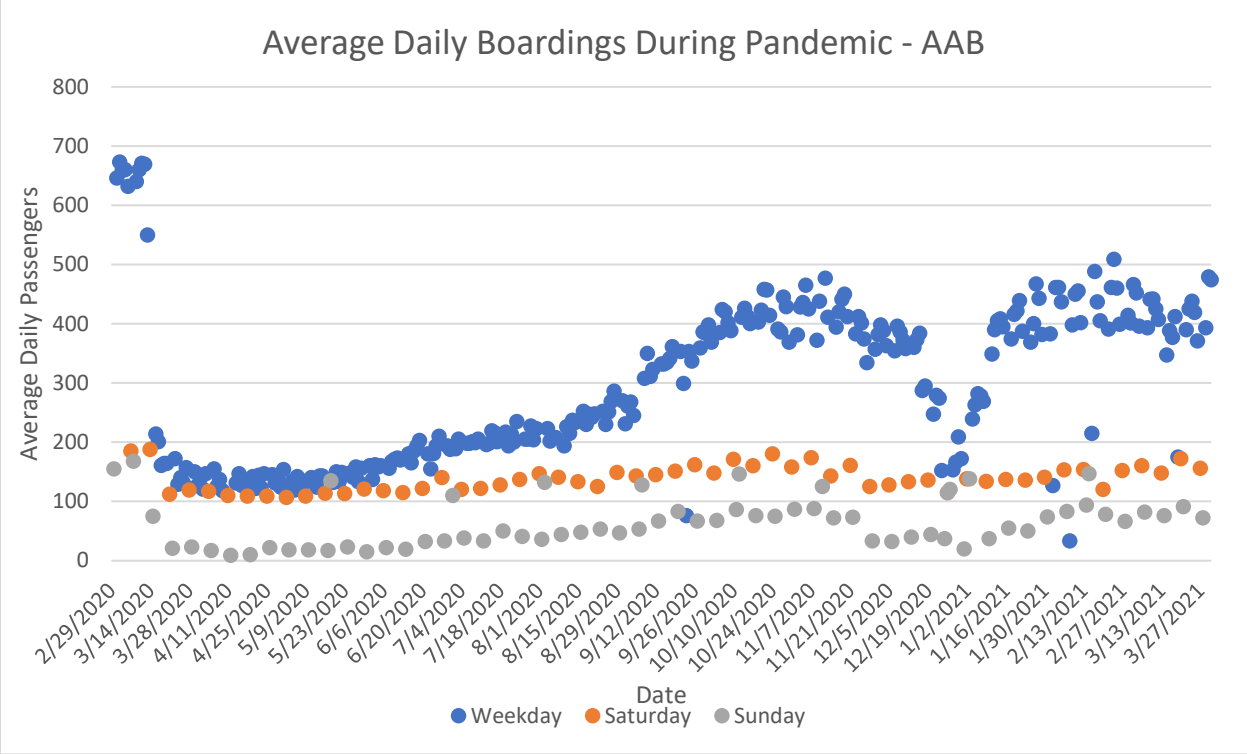
Conventional Bus Boardings During Pandemic



Access-A-Bus Boardings During Pandemic



Ferry Boardings During Pandemic



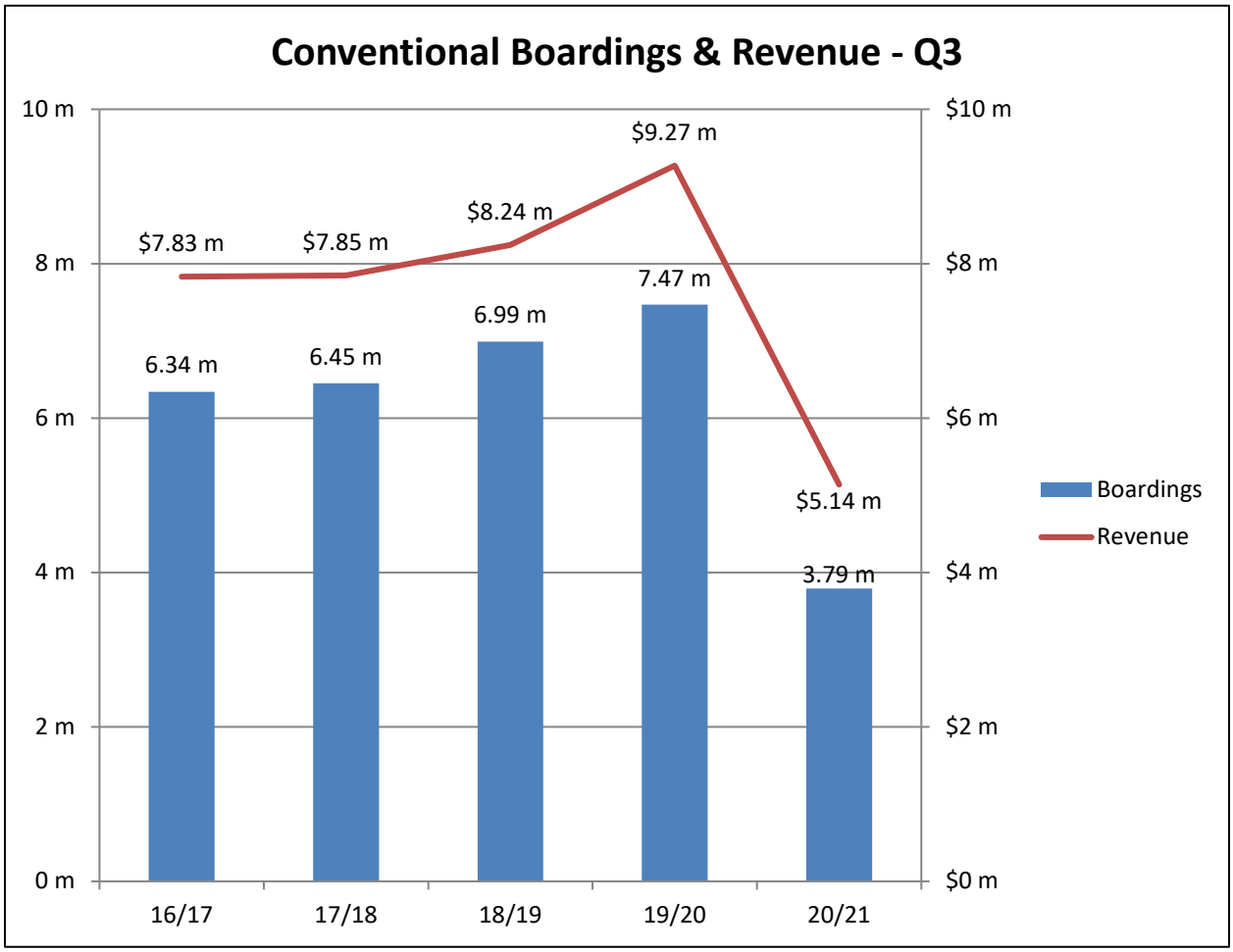
Boardings & Revenue

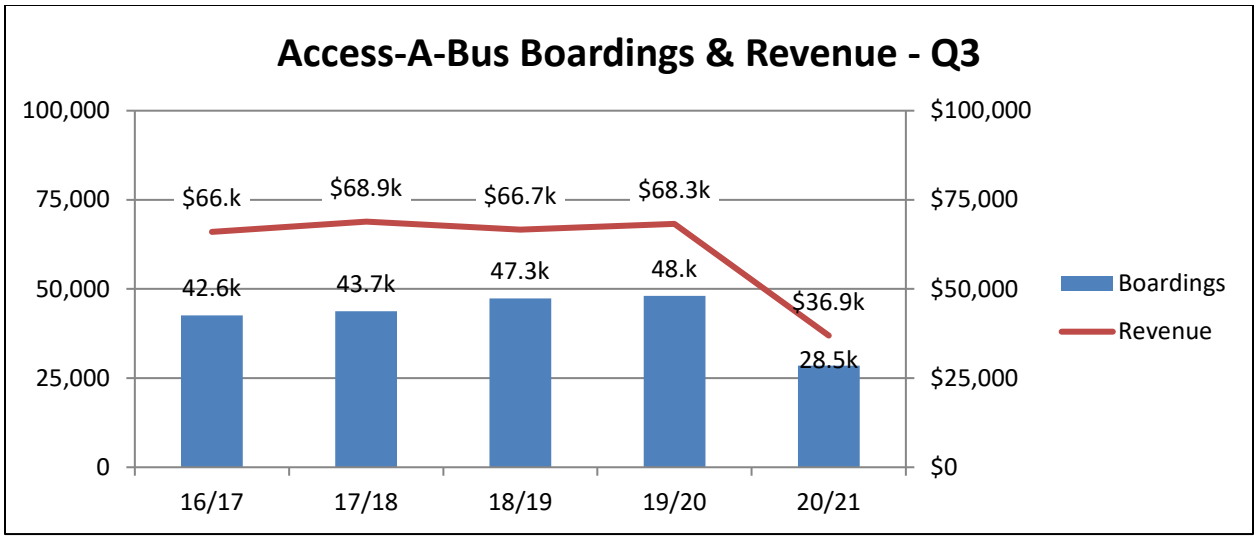
Revenue and boardings are reported to demonstrate how well transit services were used over the quarter, in comparison to the same quarter the previous year.

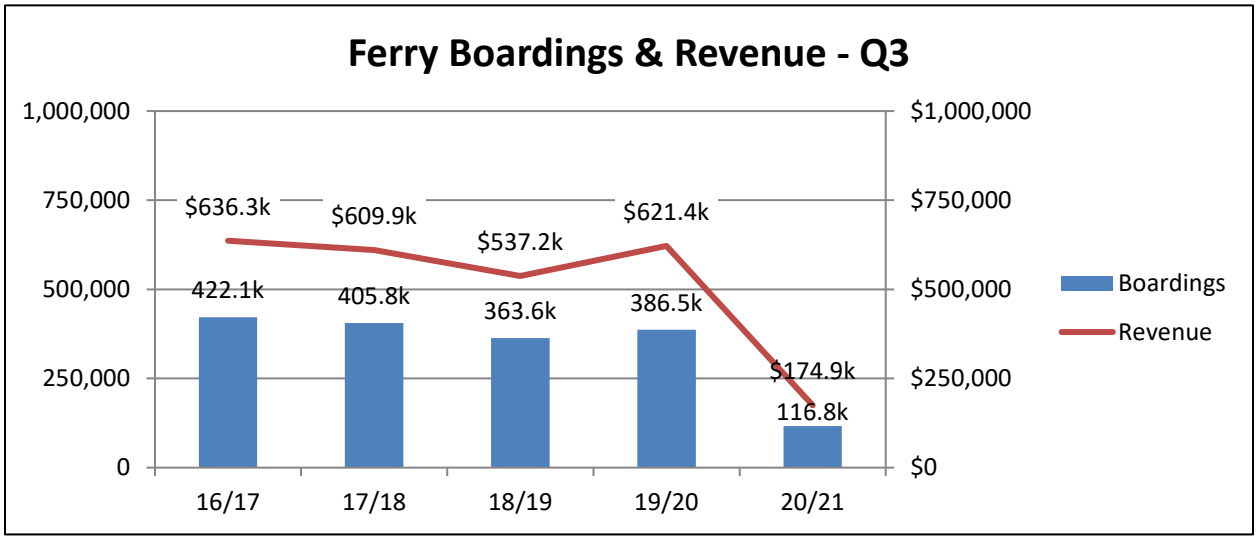
By installing Automatic Passenger Counter (APC) systems throughout the network in the 2017/18 fiscal year, Halifax Transit is now able to track the number of boardings by counting passengers entering the bus at each stop, instead of estimating boardings from revenue. Therefore, the data source for boardings 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.

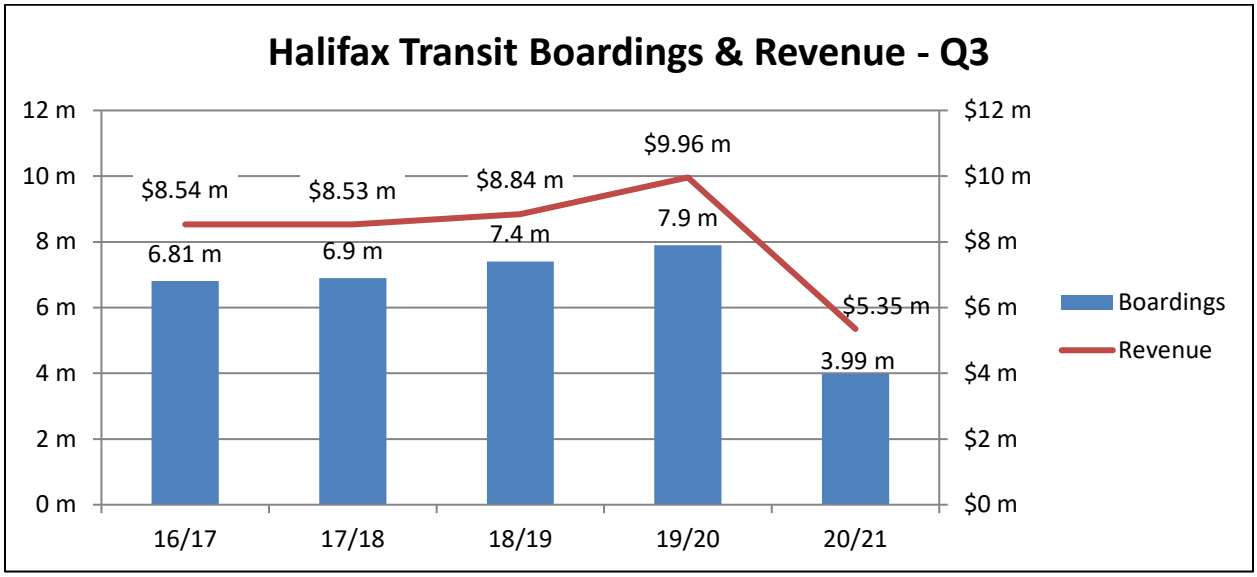
COVID-19 continued to have a significant impact during the third quarter of 2020/21. Conventional boardings decreased 47.7% from this quarter last year, Ferry boardings decreased 69.81% and Access-A-Bus boardings decreased 52.8%. Overall, system wide boardings decreased this quarter by 40.7% compared to last year. Fare collection resumed mid second quarter on August 1, 2020. Overall revenue this quarter decreased 43.5% from last year.

Historical Boardings & Revenue




Access-A-Bus Boardings & Revenue - Q3
100,000
75,000
50,000
25,000
0
$100,000
$75,000
$50,000
$25,000
$0
$66.k
$68.9k
$66.7k
$68.3k
$36.9k
42.6k
43.7k
47.3k
48.k
28.5k
16/17
17/18
18/19
19/20
20/21
Boardings
Revenue

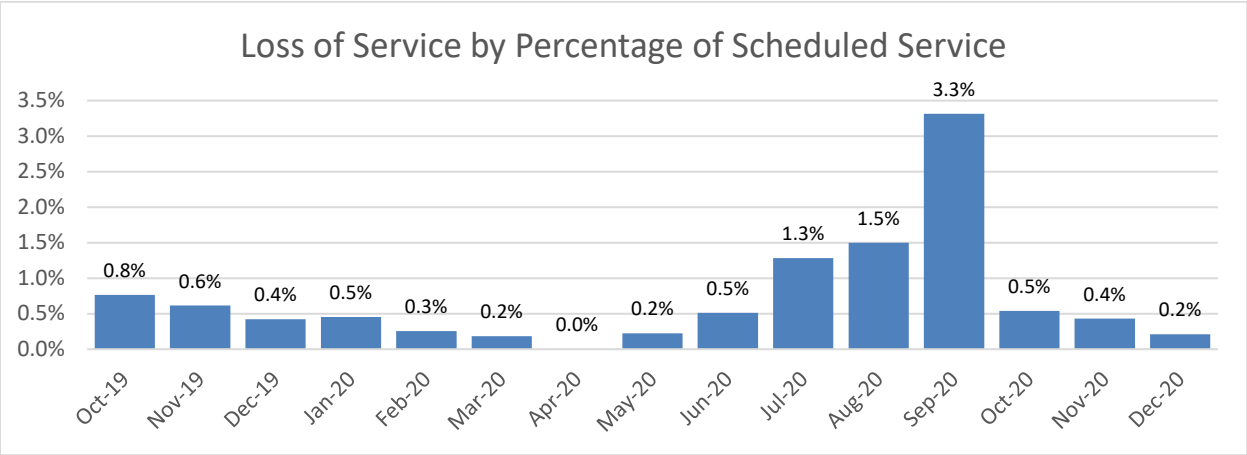

Ferry Boardings & Revenue - Q3
1,000,000
750,000
500,000
250,000
0
$1,000,000
$750,000
$500,000
$250,000
$0
$636.3k
$609.9k
$537.2k
$621.4k
$174.9k
422.1k
405.8k
363.6k
386.5k
116.8k
16/17
17/18
18/19
19/20
20/21
Boardings
Revenue


Halifax Transit Boardings & Revenue - Q3
12 m
10 m
8 m
6 m
4 m
2 m
0 m
$12 m
$10 m
$8 m
$6 m
$4 m
$2 m
$0 m
$8.54 m
$8.53 m
$8.84 m
$9.96 m
$5.35 m
6.81 m
6.9 m
7.4 m
7.9 m
3.99 m
16/17
17/18
18/19
19/20
20/21
Boardings
Revenue

Loss of Service

Loss of service represents the total number of scheduled bus service hours that were not completed. If a trip was able to be filled or partially filled by a standby bus, that time would not be included in this figure.

In the third quarter, the total loss of service was 845 hours and 42 minutes, which is 0.39% of the quarterly revenue hours. The table below shows the total loss of service for each month.

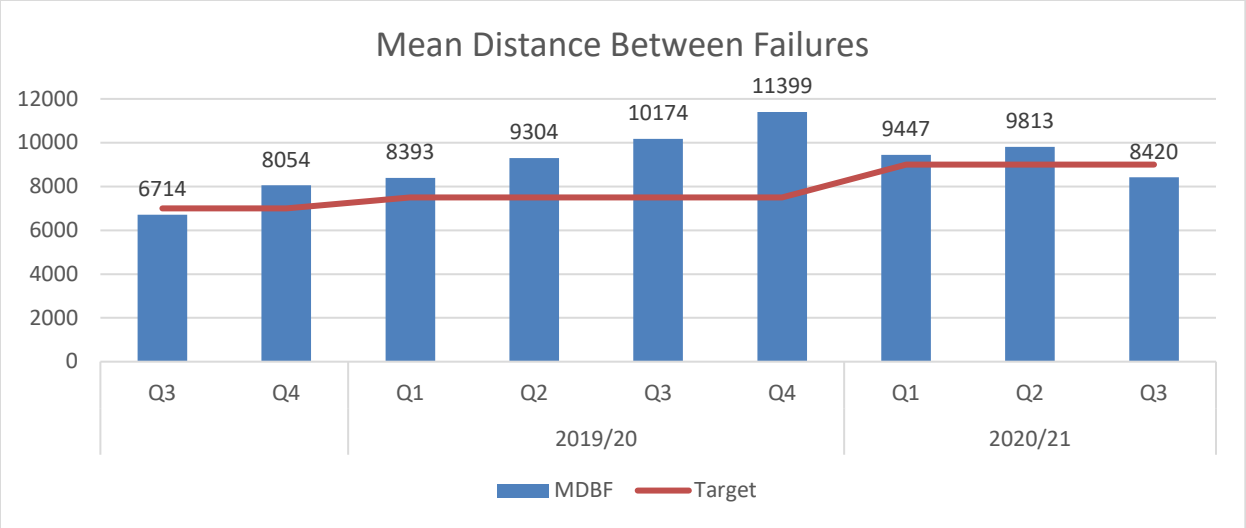


Mean Distance Between Failures

Halifax Transit's Mean Distance Between Failures (MDBF) is the distance in kilometres 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 9,000 kms for 2020/21, an improvement of 20% from the prior year. 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.

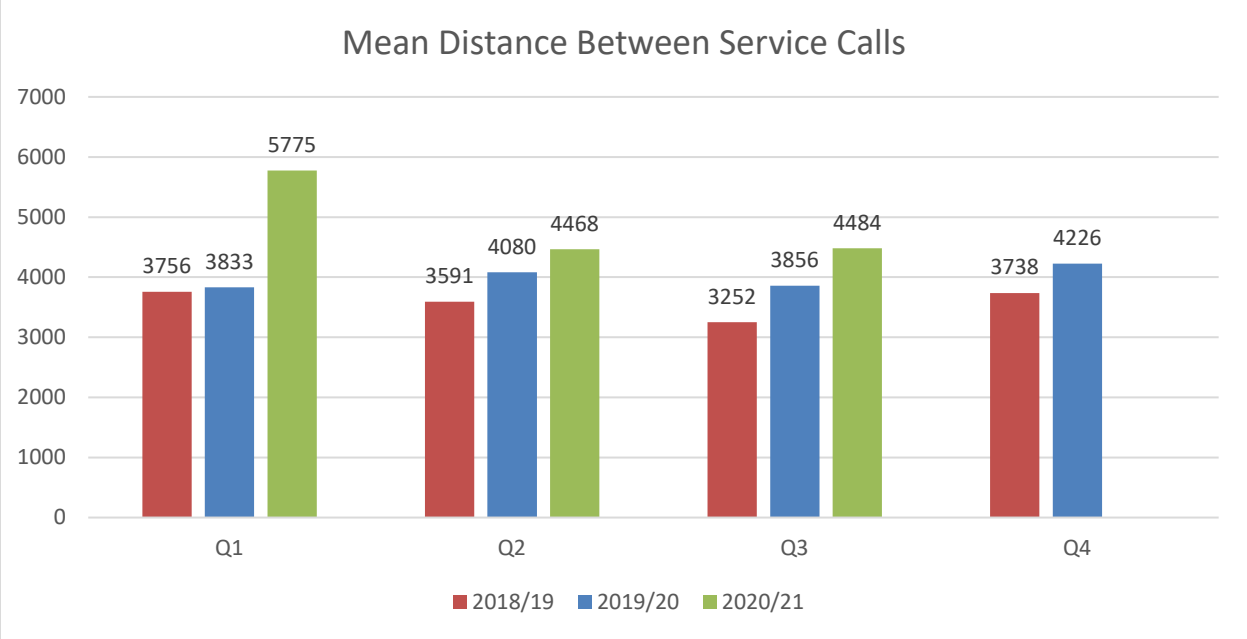
For the third quarter of 2020/21, the MDBF for conventional transit was 8420 kms. This is equivalent to a 17% decrease from the third quarter of the previous year (2019/20). The mean MDBF for 2020/21 is 9145 kms which is above the target of 9000 kms. Bus Maintenance will continue to monitor this KPI and has implemented new preventative maintenance measures to reduce aftertreatment and cooling system defects.



Mean Distance Between Service Calls

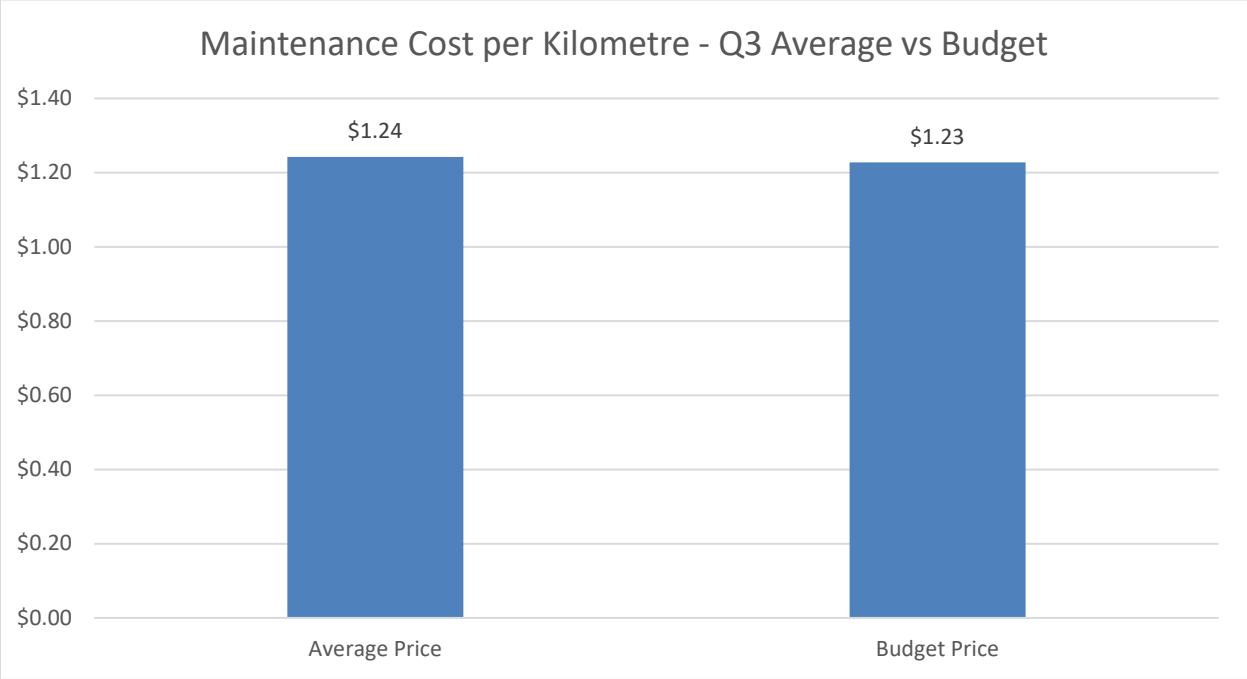
Mean Distance Between Service Calls (MDBS) reflects the average distance in kilometres covered between maintenance service calls. This metric includes all instances of service calls, including issues with secondary equipment, passenger-related events and damages to the bus resulting from minor accidents.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

For the third quarter of 2020/21, the MDBS for conventional transit was 4484 kms. In comparison to the third quarter of 2019/20 (3856), this is an improvement of 16%. Overall, the Mean Distance Between Service Calls has improved by 25% in 2020/21 over 2019/20. Therefore, bus reliability for conventional transit continues to improve significantly. The MDBS for Access-A-Bus service was 67801 kms. Bus Maintenance will continue to monitor this metric in order to reduce service calls.



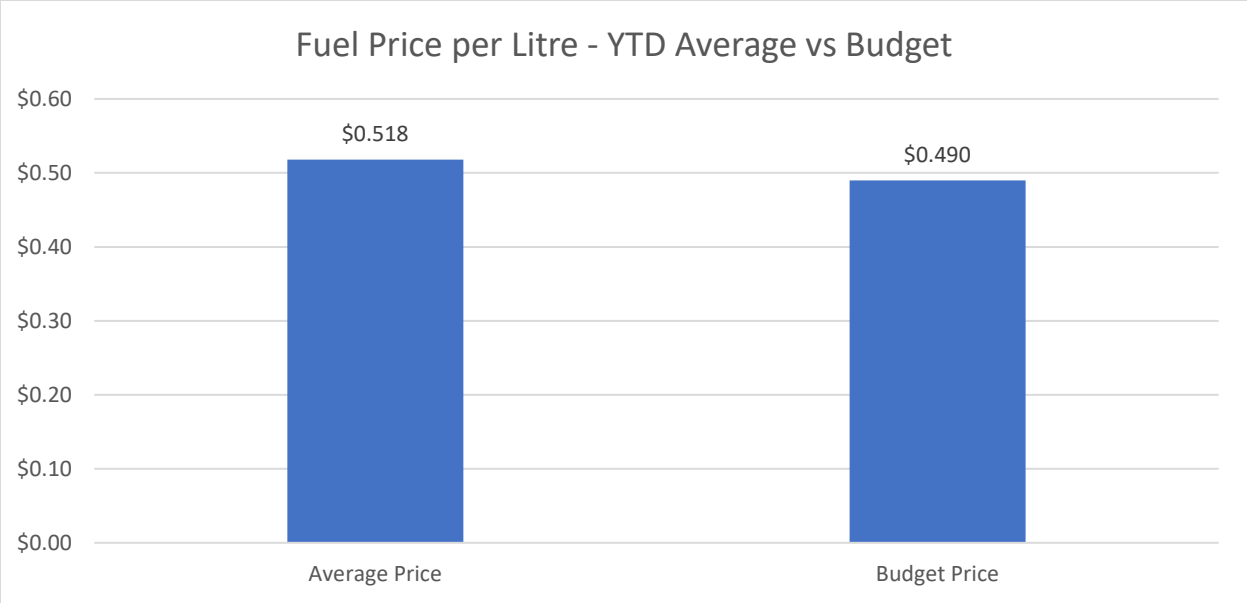
Bus Maintenance Cost – Quarter Average vs Budget

In the third quarter, maintenance costs were $1.24/km, while the budgeted maintenance cost was $1.23/km. Bus Maintenance will continue to strengthen the budgeting process to improve accuracy of future budgets.



Fuel Price – Year to Date Average vs Budget

The budgeted fuel price for 2020/21 was set at 49 cents/litre. In the third quarter, the average fuel price was 52 cents/litre, 2 cents higher than the budgeted cost per litre.

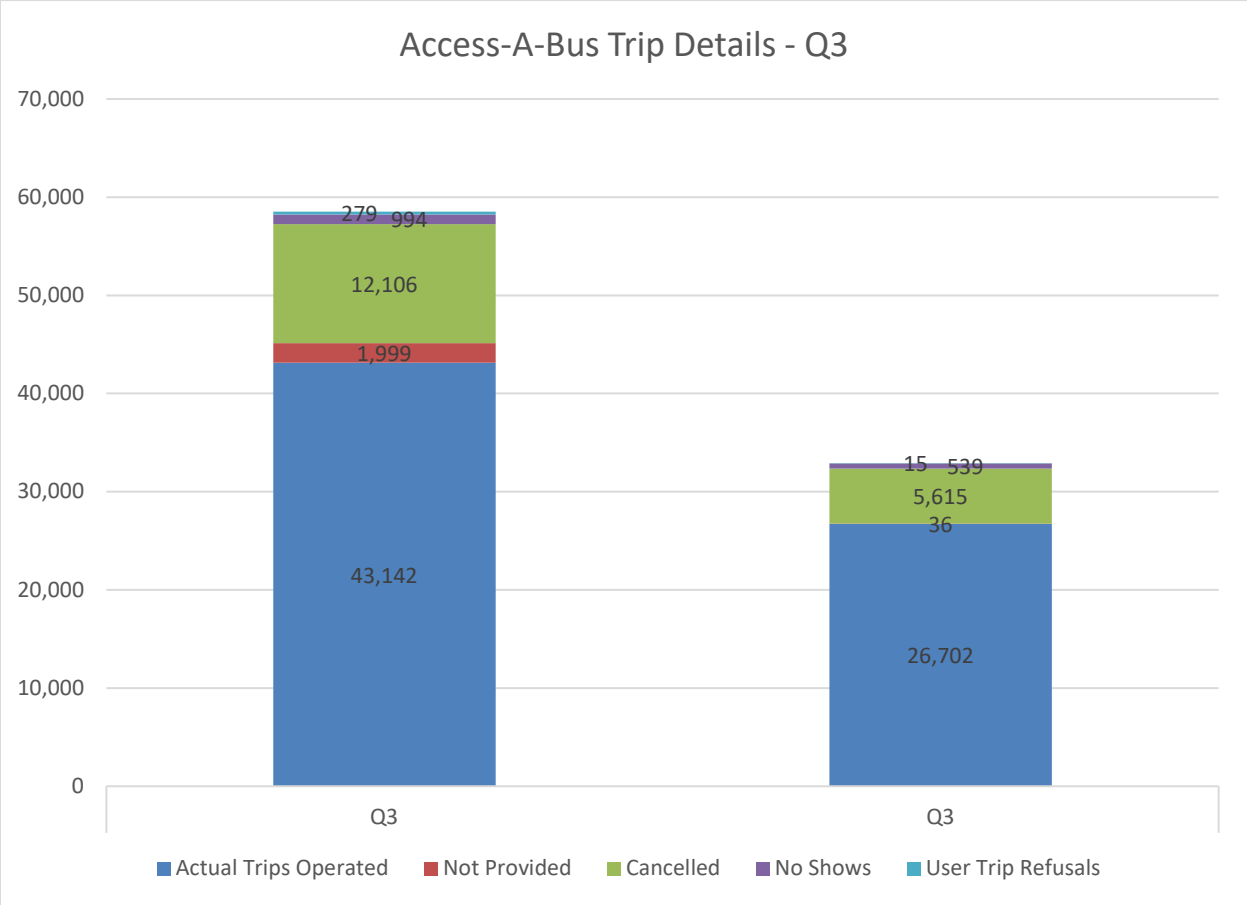


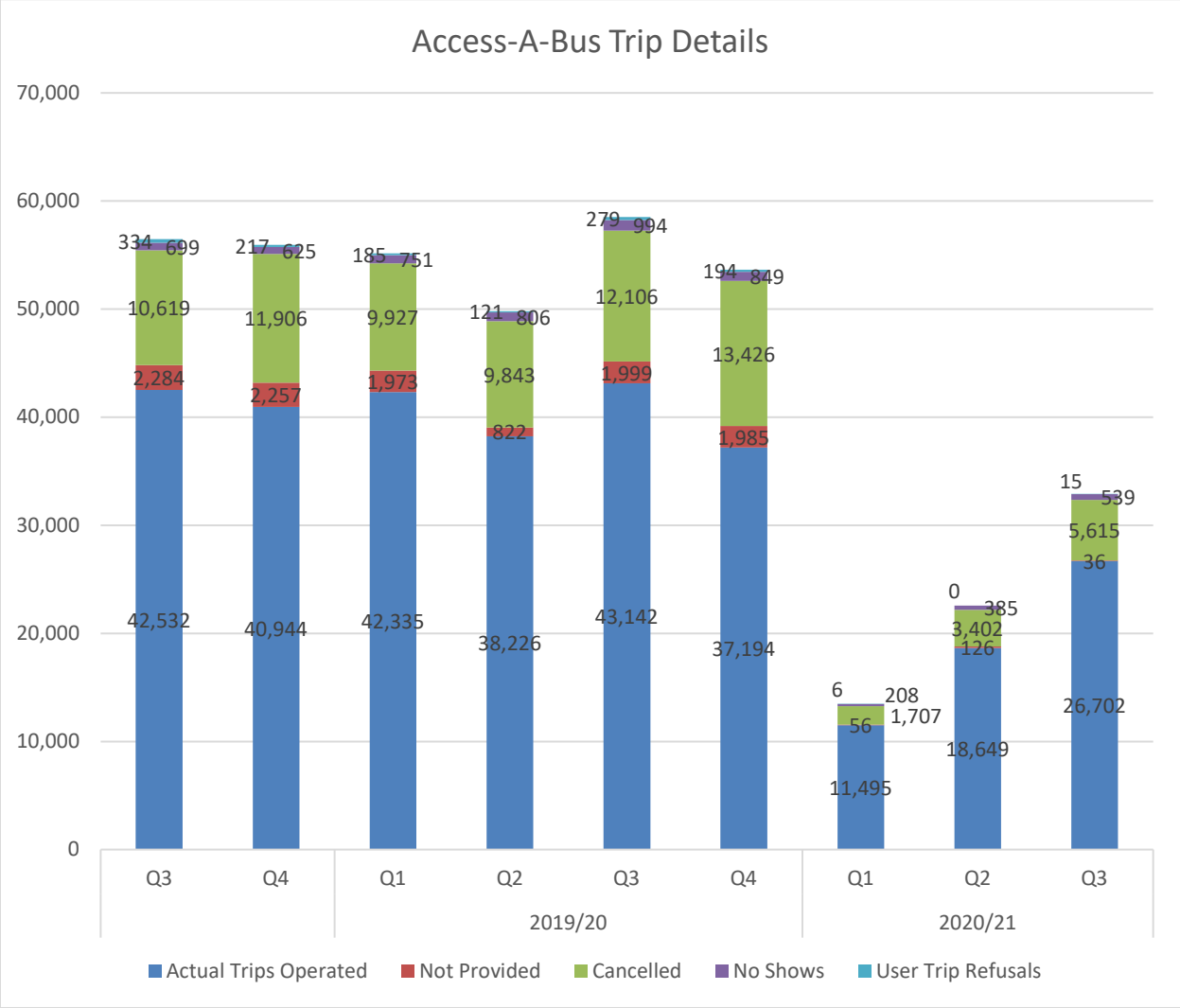
Access-A-Bus Trip Details

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 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.

During a more recent review of the reporting processes for Access-A-Bus it was determined that further revision to the reporting categories would more accurately reflect the service and passenger experience and would better align with the key performance indicators. The category previously reported as “Waitlisted” will be reported as “Not Provided” and includes requested trips that could not be provided within the quarter. Those trips that were previously reported as “Not Provided” were erroneous and are now removed from the requested trip totals. A new category has been included; “User Trip Refusals” and includes any trips where the customer declined a booking that was offered within a half hour of their desired trip time. Analysis and interpretation of the new data set resulting from the 2018 software upgrade is ongoing. Partnership with the vendor continues and may result in future reporting changes, all in an effort to convey the most accurate and meaningful performance statistics possible.

In the third quarter of 2020/21 the COVID-19 pandemic continued to affect ridership significantly. 16,440 fewer trips were operated compared to the third quarter last year, a decrease of ~~10~~38%. The trips that were not provided decreased by ~~33~~98%, compared to this quarter last year.



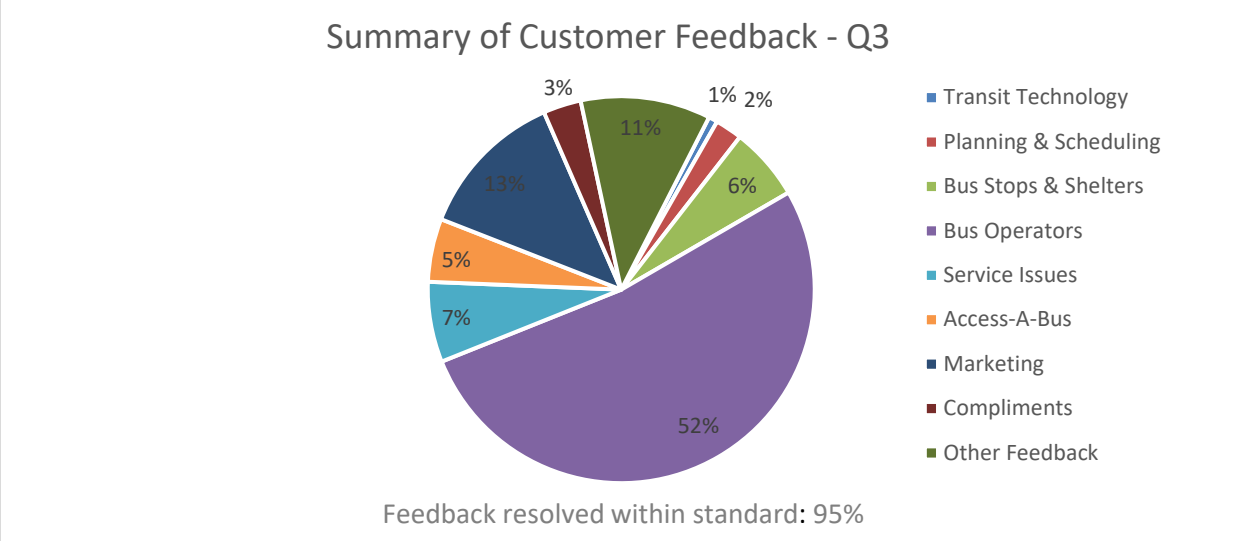


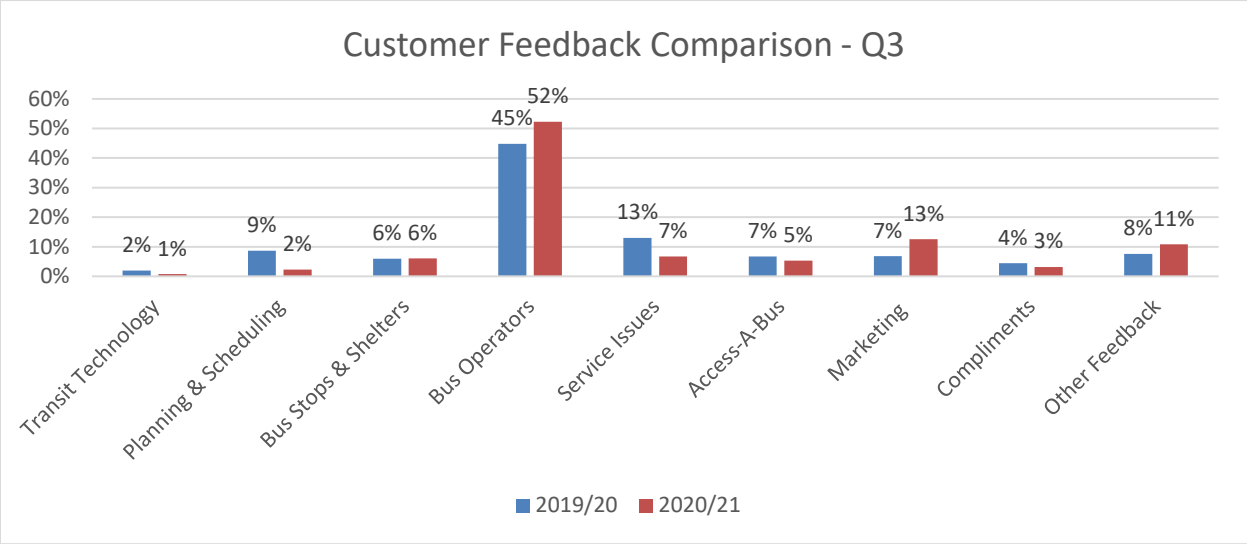
Customer Service – All Services

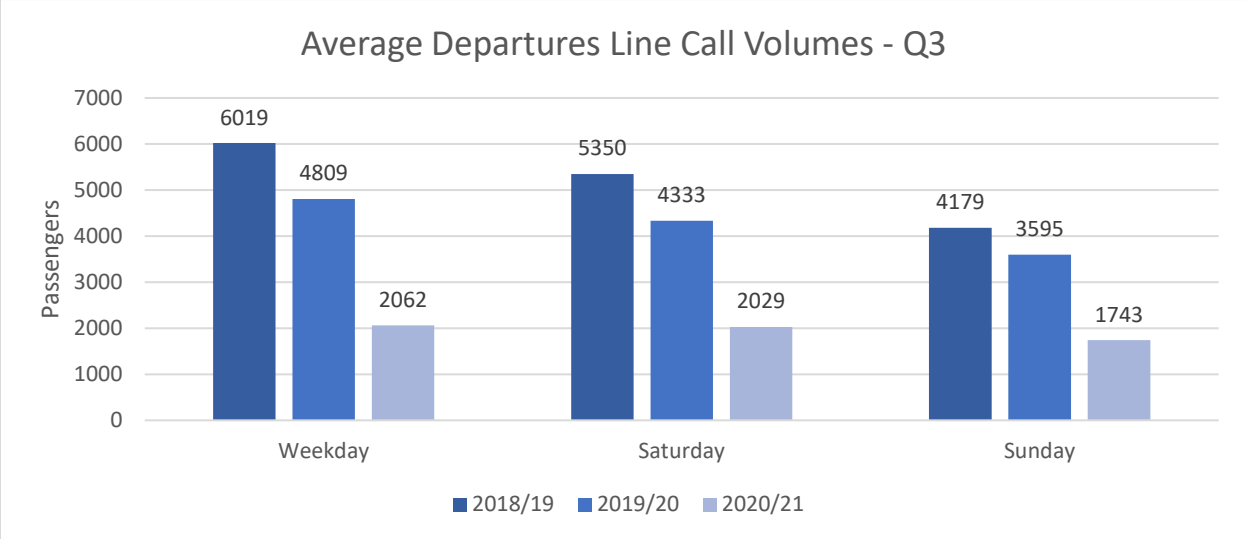
Customer service statistics are measured monthly using the Hansen Customer Relationship Management software along with Crystal Reports. Feedback is first categorized by subject matter and then divided into two categories: feedback resolved within service standard and feedback resolved outside service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

In the third quarter, 52% of feedback received was related to bus Operators. The remaining 48% 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 95% 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 third quarter of 2020/21, average call volumes were significantly lower than this time last year for weekdays as well as for Saturdays and Sundays due to reduced ridership resulting from the COVID-19 pandemic.


Summary of Customer Feedback - Q3
3%
1%
2%
11%
13%
6%
5%
7%
52%
Transit Technology
Planning & Scheduling
Bus Stops & Shelters
Bus Operators
Service Issues
Access-A-Bus
Marketing
Compliments
Other Feedback
Feedback resolved within standard: 95%


Customer Feedback Comparison - Q3
60%
50%
40%
30%
20%
10%
0%
2% 1%
9% 2%
6% 6%
45% 52%
13% 7%
7% 5%
7% 13%
4% 3%
8% 11%
Transit Technology
Planning & Scheduling
Bus Stops & Shelters
Bus Operators
Service Issues
Access-A-Bus
Marketing
Compliments
Other Feedback
2019/20
2020/21


Average Departures Line Call Volumes - Q3
Passengers
7000
6000
5000
4000
3000
2000
1000
0
6019
4809
2062
5350
4333
2029
4179
3595
1743
Weekday
Saturday
Sunday
2018/19
2019/20
2020/21

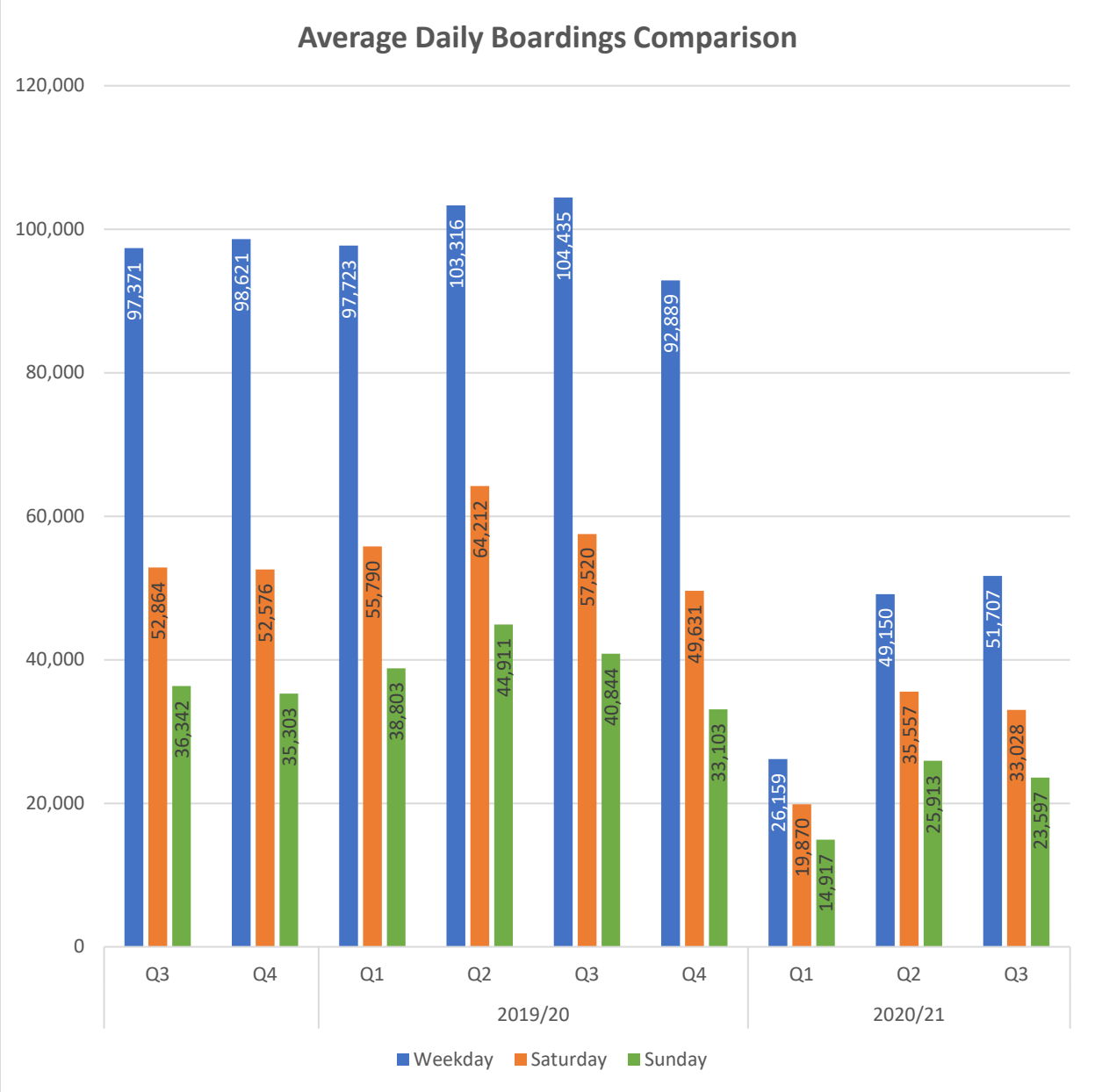
Service Utilization

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.

Boardings

Average weekday boardings in the third quarter were 51,707 ± 7,346 (14.2% variance). Average Saturday boardings this quarter were 33,028 ± 4,829 (14.6% variance). Average Sunday boardings this quarter were 23,597 ± 2,883 (12.2% variance).

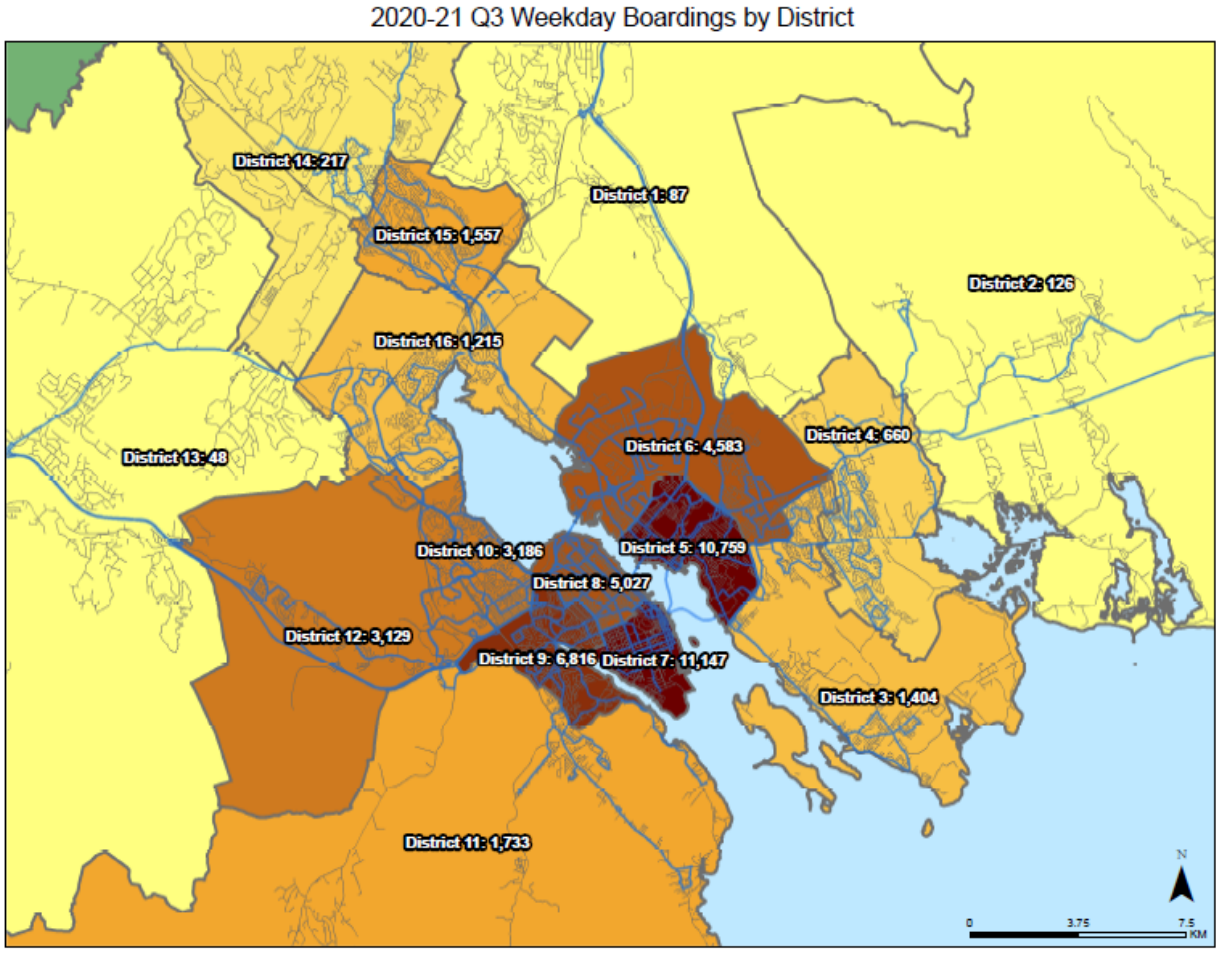
Average Daily Boardings by Service Day



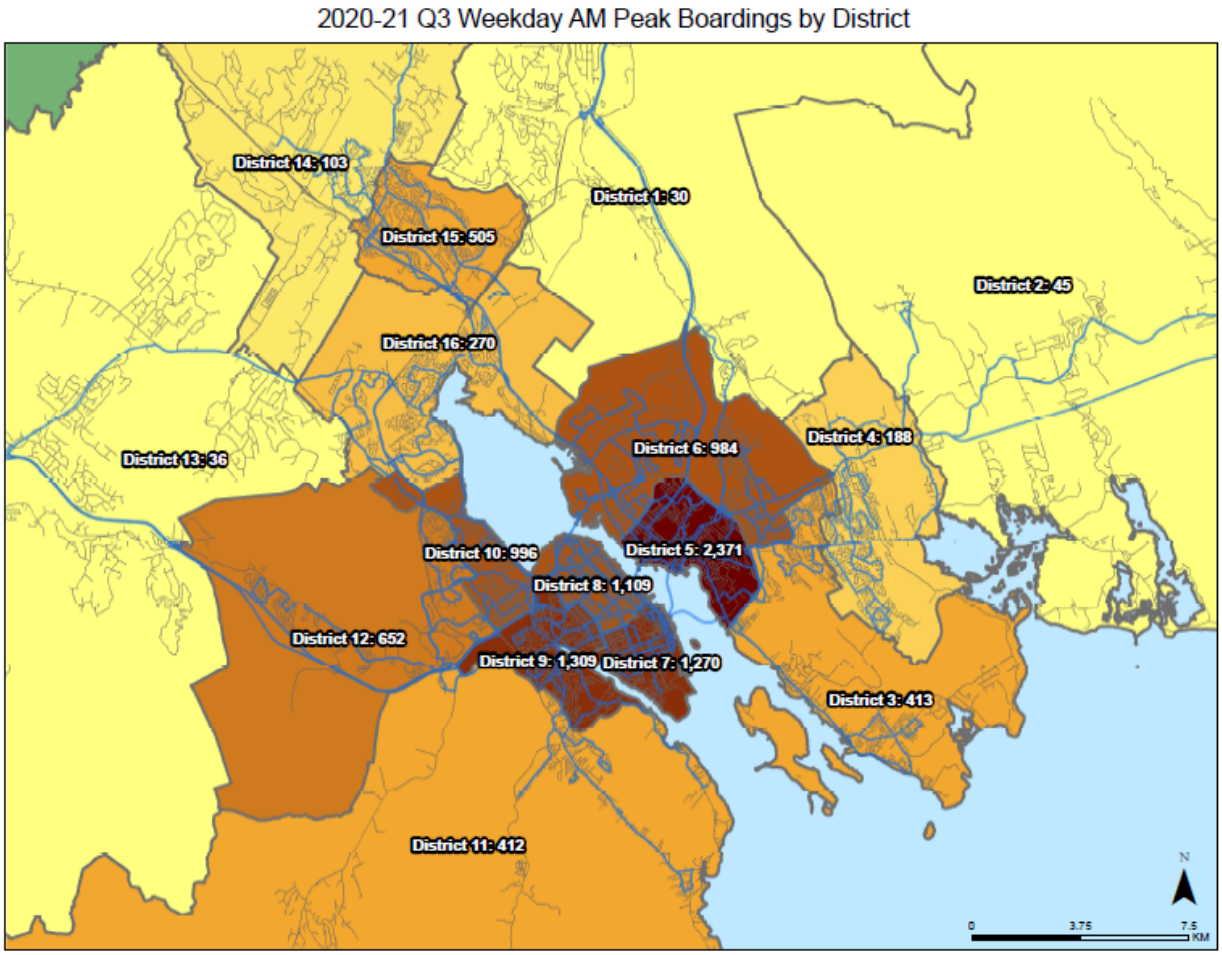
Boardings by District

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



Weekday Boardings by District – AM Peak Period



Passengers per Hour

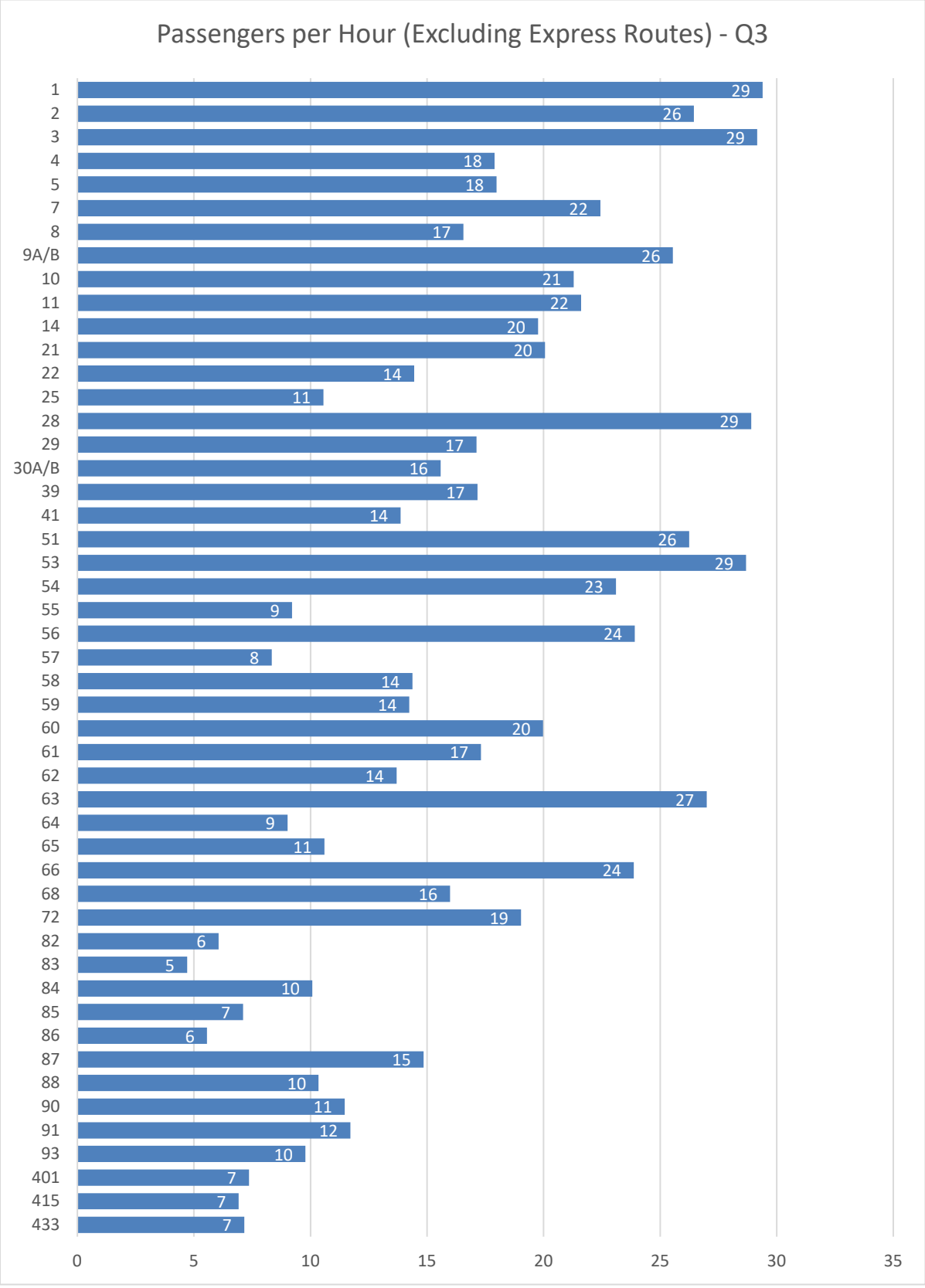
Passengers per hour measures the volume of passengers carried per service hour by route. Due to differences in service model/design, Express Routes are measured instead by passengers per trip. Ridership fluctuates significantly by season and therefore figures are compared to the same quarter in the previous 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

Q3 Comparison - Average Daily Boardings by Route												
Route	Weekday				Saturday				Sunday			
	19/20		20/21		19/20		20/21		19/20		20/21	
	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr
1	10,907	69	4,600	29	8,398	75	4,267	38	5,400	51	2,598	31
2	4,966	46	2,856	26	4,199	42	2,622	26	2,599	29	1,596	23
3	6,980	46	4,388	29	3,590	41	2,355	27	3,876	33	2,321	25
4	5,383	42	2,299	18	2,196	44	1,123	23	1,816	33	928	20
7	5,469	48	2,578	22	3,593	38	1,875	20	2,202	34	982	18
8	4,798	38	2,290	17	3,872	37	1,798	16	2,852	25	1,336	12
9A/B	7,391	44	4,273	26	3,902	53	2,265	31	3,041	35	1,768	25
9A	5,024	45	2,902	27	1,907	54	984	28	1,350	32	806	23
9B	2,367	40	1,371	24	1,994	53	1,281	34	1,691	37	962	26
10	5,340	49	2,304	21	3,732	50	1,807	25	2,202	37	1,126	23
11	115	45	54	22								
14	2,988	46	1,227	20	1,566	46	753	23	1,262	34	549	19
21	958	32	619	20	811	24	589	17	587	26	375	21
22	649	20	464	14	466	14	328	10	391	9	260	7
25	343	15	233	11	167	10	162	10	199	15	104	10
28	1,589	42	1,083	29	1,461	35	985	22	753	32	468	23
29	3,346	36	1,587	17	2,020	32	1,094	17	1,450	20	749	12
30A/B	929	26	557	16	576	17	387	11	405	17	236	13
30A	501	27	318	18	292	17	208	12	179	14	107	12
30B	428	24	239	13	284	16	179	10	226	21	129	14
39	1,374	30	768	17	967	19	718	15	426	16	277	13
41	1,590	47	473	14								
51	1,103	46	628	26	515	32	366	23	309	27	183	18
53	1,344	50	738	29	722	47	497	33	377	37	203	25
54	907	42	495	23	452	29	350	22	260	21	161	16
55	429	20	205	9	283	18	133	9	188	10	99	6
56	1,063	33	766	24	1,061	30	863	24	731	19	496	15
57	612	15	336	8	263	9	218	7	157	7	120	7
58	753	27	400	14	483	26	258	14	368	17	195	11

Q3 Comparison - Average Daily Boardings by Route												
Route	Weekday				Saturday				Sunday			
	19/20		20/21		19/20		20/21		19/20		20/21	
	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr	Boardings	Pass/Hr
59	2,013	26	1,110	14	756	33	492	21	541	19	334	14
60	2,967	39	1,509	20	1,822	45	1,127	28	1,390	41	714	25
61	2,307	30	1,347	17	1,266	32	761	19	1,029	22	521	14
62	823	26	437	14	528	23	311	14	290	15	139	9
63	894	53	456	27								
64	582	15	355	9								
65	294	18	176	11	96	7	59	4	58	8	32	5
66	1,016	33	729	24	465	29	382	24	337	18	232	15
68	1,350	28	770	16	756	26	468	15	546	15	330	11
72	1,433	31	877	19	1,064	23	709	16	512	15	367	14
82	206	10	126	6	147	9	99	6	118	6	75	5
83	78	6	65	5	69	7	51	5	51	4	37	3
84	874	15	574	10	318	9	234	7	247	7	175	6
85	127	9	96	7	100	12	58	6	74	8	43	5
86	154	10	85	6	114	7	76	5	82	5	65	5
87	1,266	23	813	15	790	15	513	10	457	13	283	11
88	136	10	142	10	118	8	114	7	75	5	72	5
90	1,521	22	794	11	1,013	16	631	10	472	11	299	9
91	597	15	444	12	259	12	235	10	261	8	193	7
93	251	23	103	10								
401	136	11	93	7								
415	60	10	40	7								
433	64	11	38	7								
Alderney	2,935	98	865	31	2,863	164	818	63	1,093	62	427	37
Woodside	2,401	114	744	36								

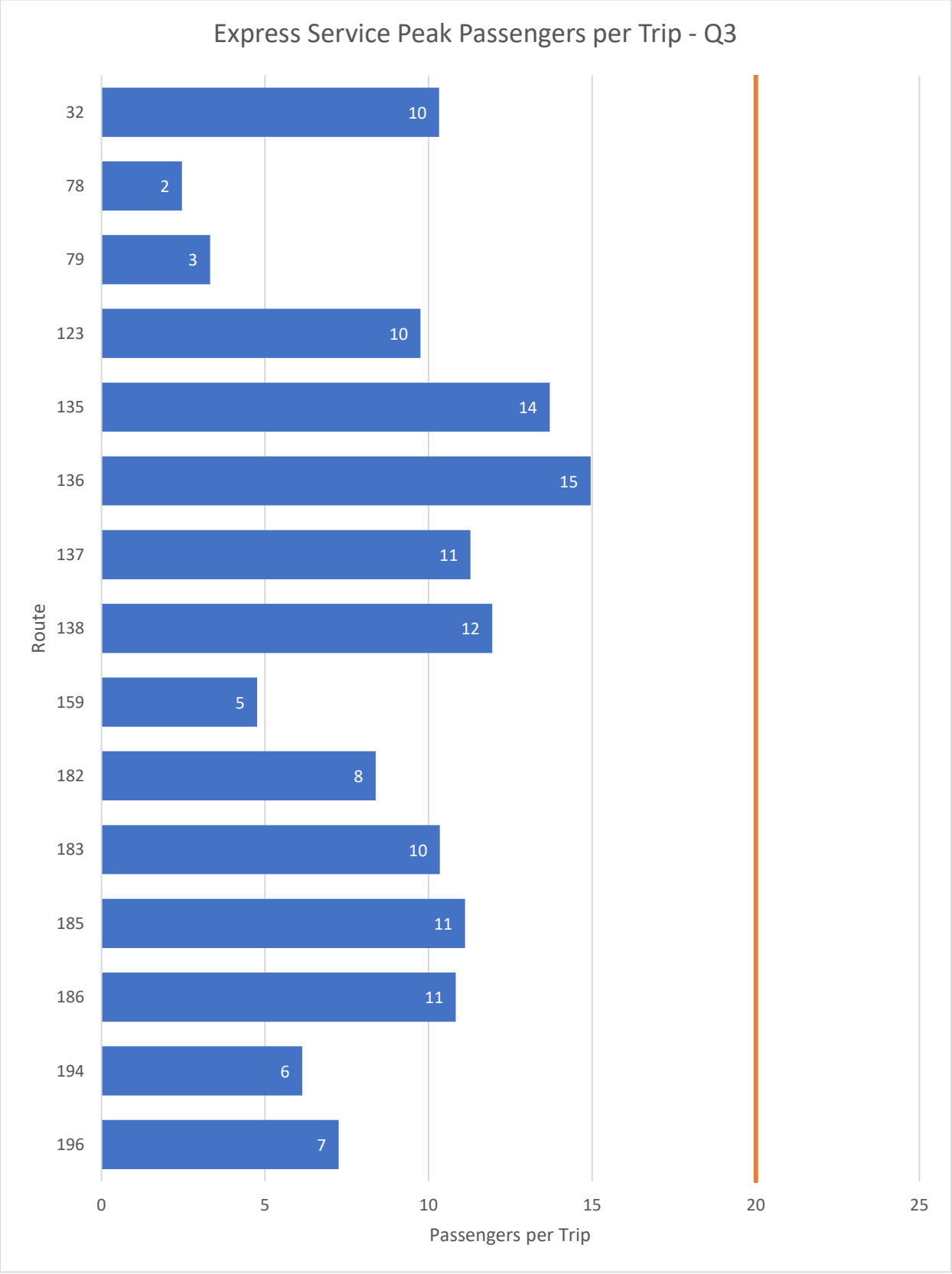
Passengers per Hour by Route



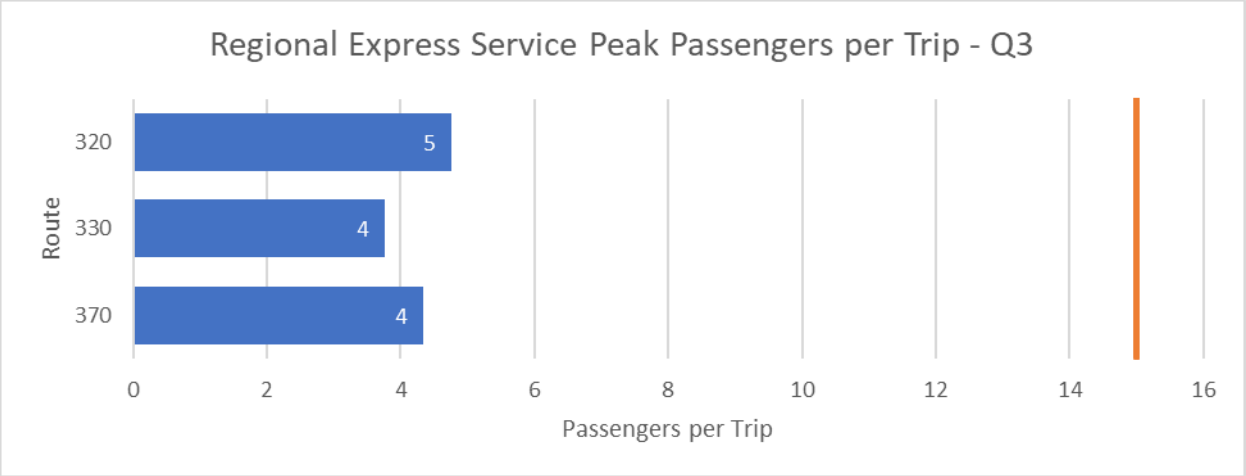
Express Service Peak Boardings and Passengers per Trip

Q3 Comparison - Average Daily Peak Boardings by Express Route				
Route	Weekday			
	19/20		20/21	
	Boardings	Pass/Trip	Boardings	Pass/Trip
78	112	8	36	2
79	90	8	40	3
123	318	23	141	10
135	555	40	192	14
136	631	40	239	15
137	392	33	135	11
138	530	39	167	12
182	489	19	235	8
183	274	22	134	10
185	802	25	289	11
186	244	21	130	11
194	182	23	49	6
196	125	31	29	7
320	185	18	67	5
330	367	18	83	4
370	102	10	69	4

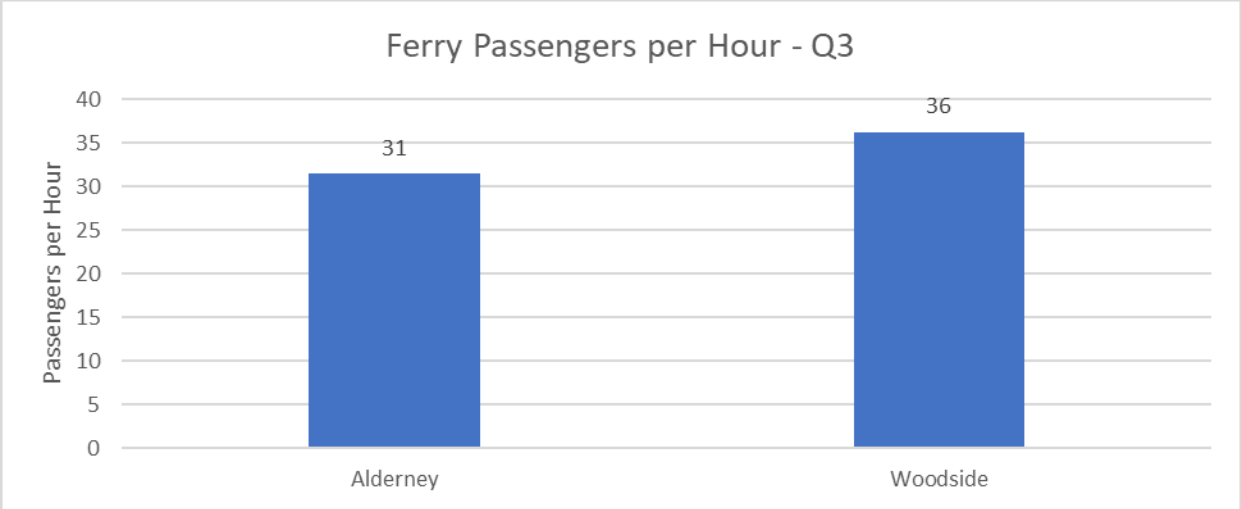
Express Service Peak Passengers per Trip by Route



Regional Express Peak Passengers per Trip by Route



Ferry Passengers per Hour

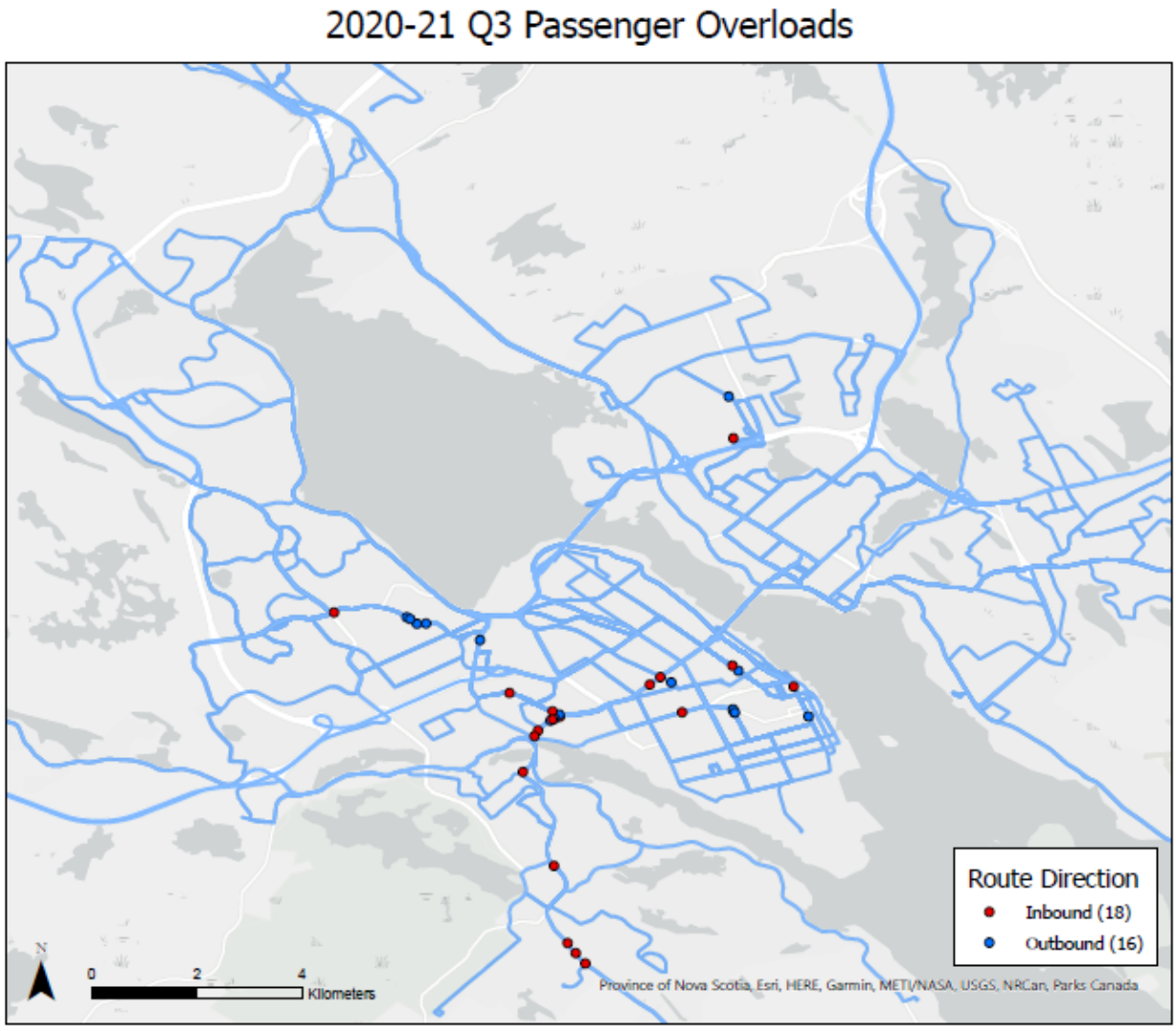


Passenger Overloads

Halifax Transit tracks overloads that are reported to help match scheduling requirements to passenger demands.

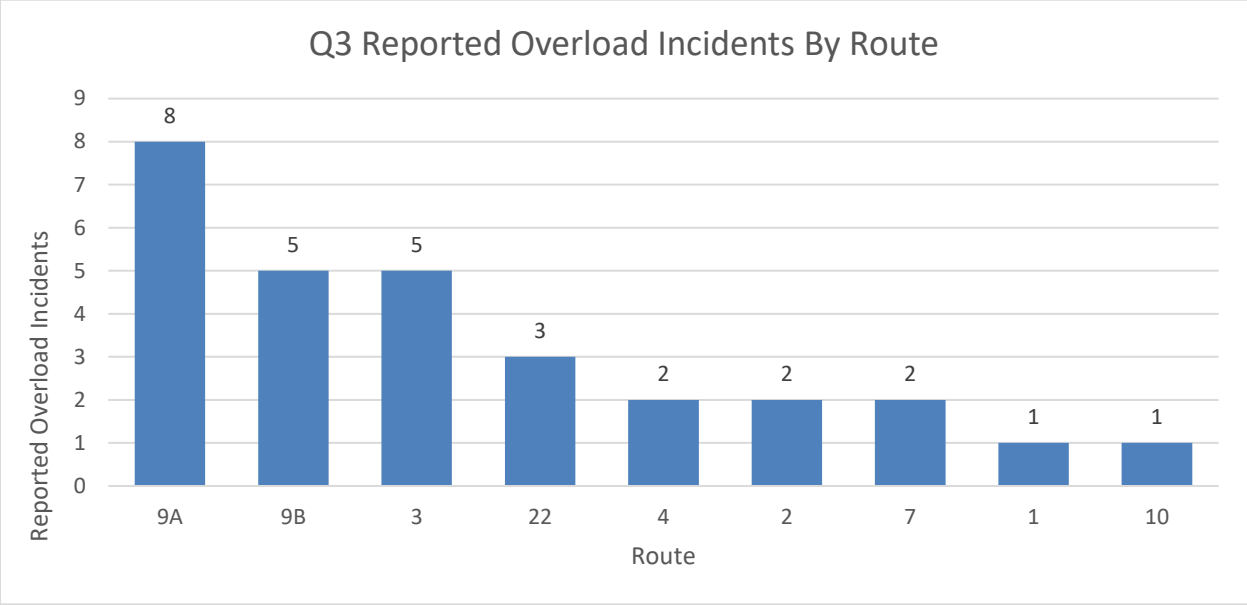
Passenger Overloads by Area

The figure below shows the locations of reported overloads during the third quarter.



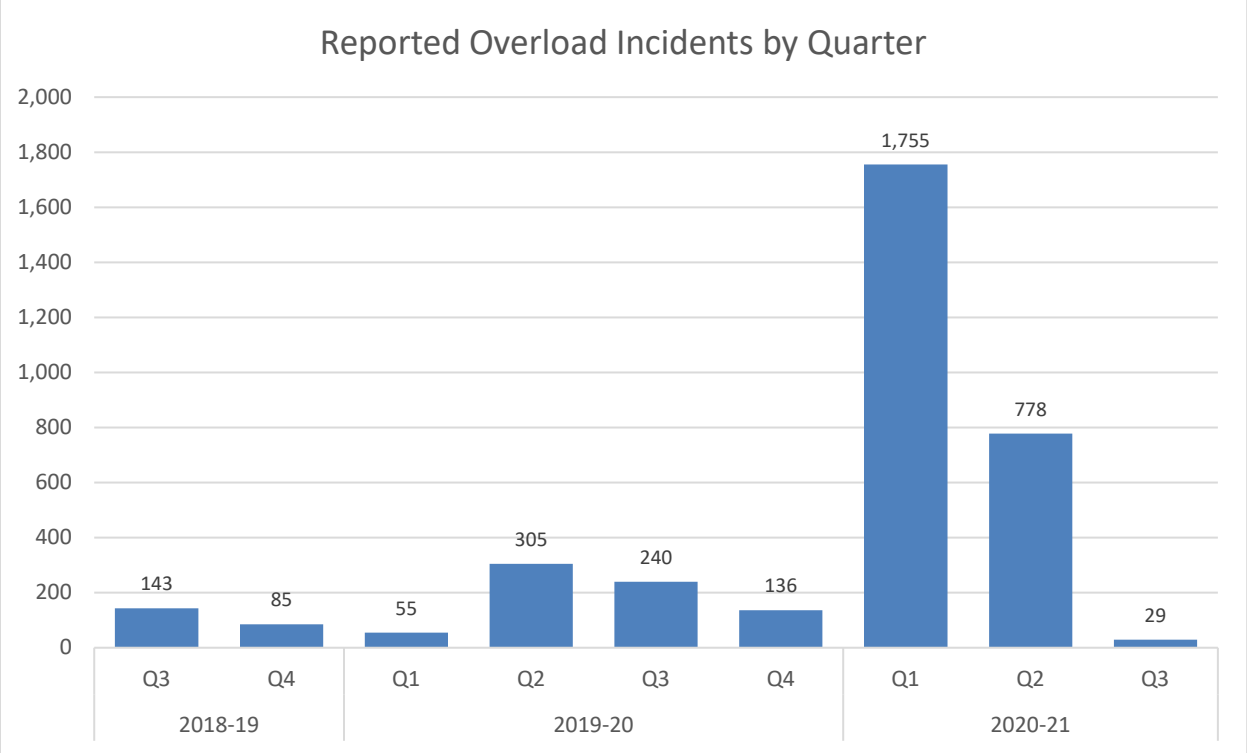
Passenger Overloads by Route

The following graph shows overloaded routes during the third quarter. 29 overload incidents were reported during the third quarter of 2020/21.



Passenger Overloads by Quarter

The following graph shows reported overload incidents over the past two years.

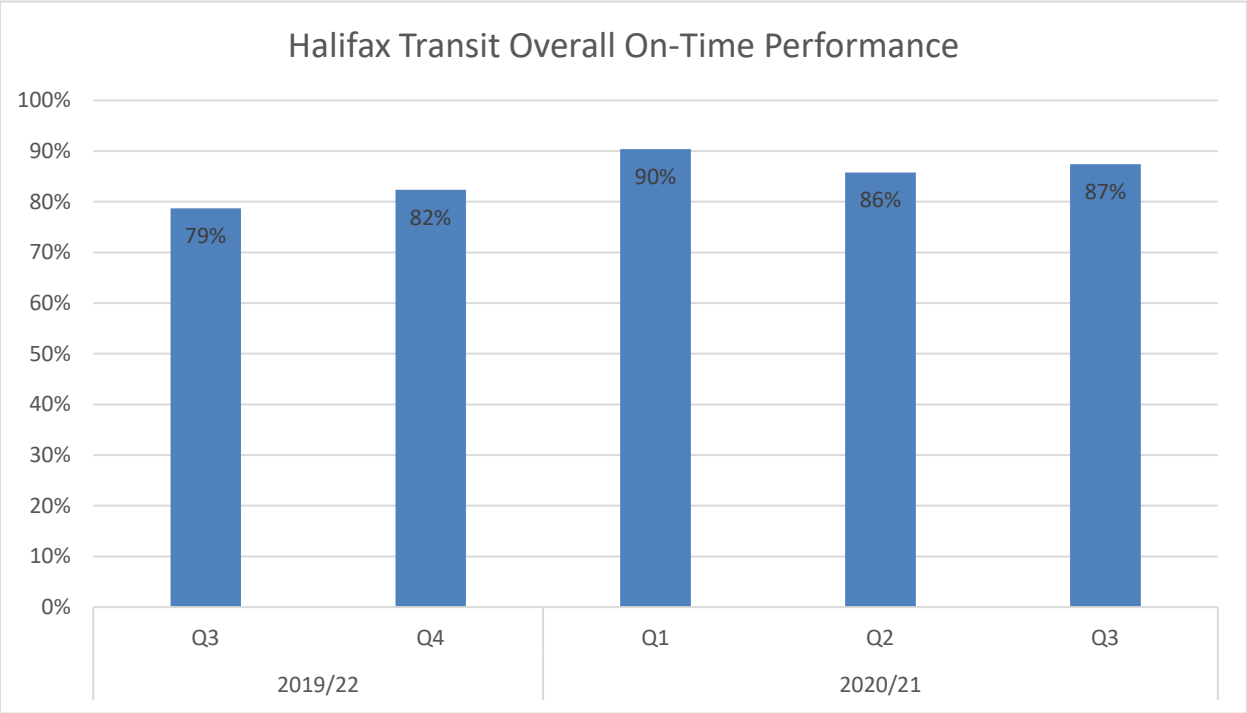


On-Time Performance

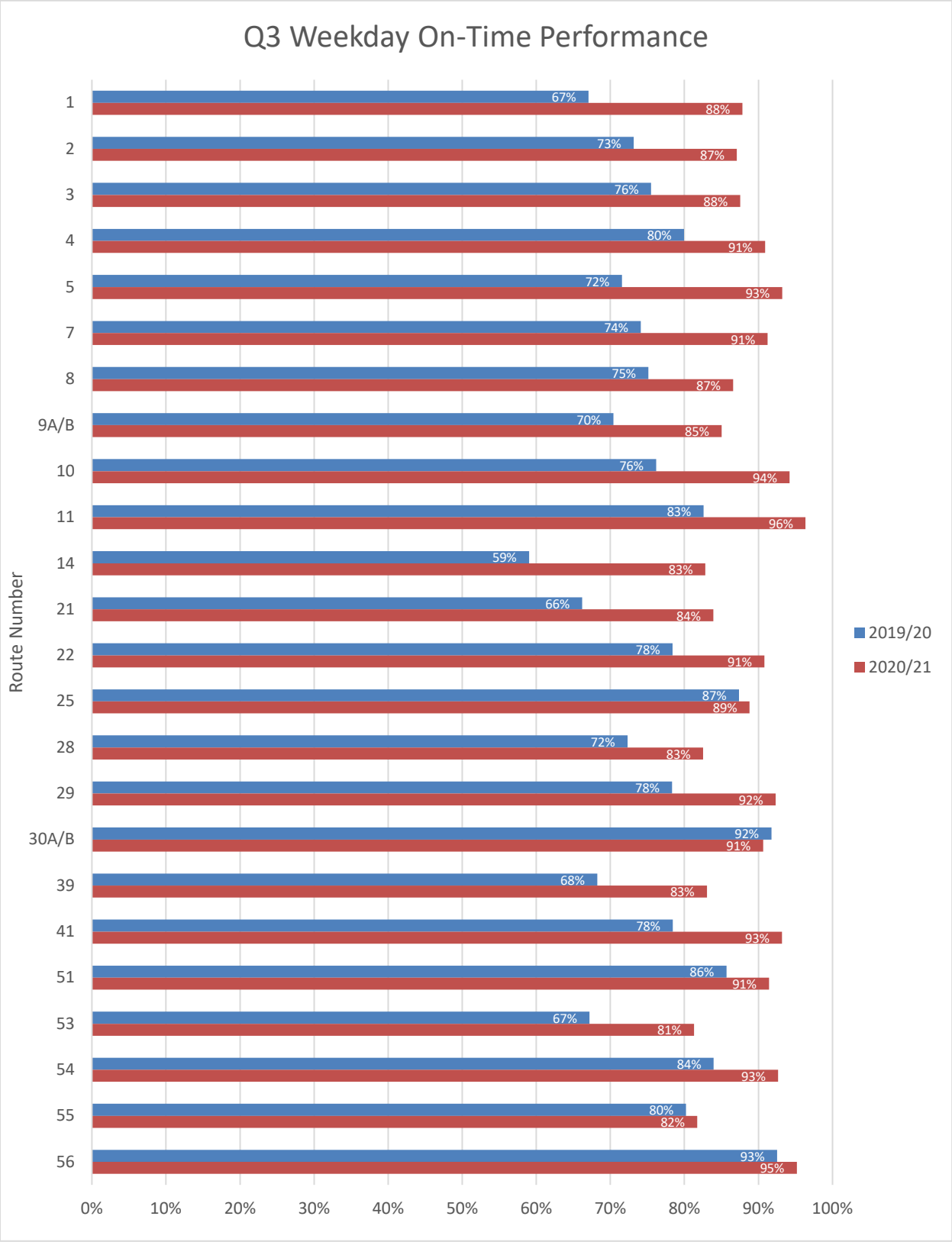
On-time performance is a measure of route reliability and is tracked monthly to demonstrate schedule adherence across the network of routes. Terminals and select bus stops along each route are classified as timepoints and have assigned and publicized scheduled arrival times. On-time performance demonstrates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

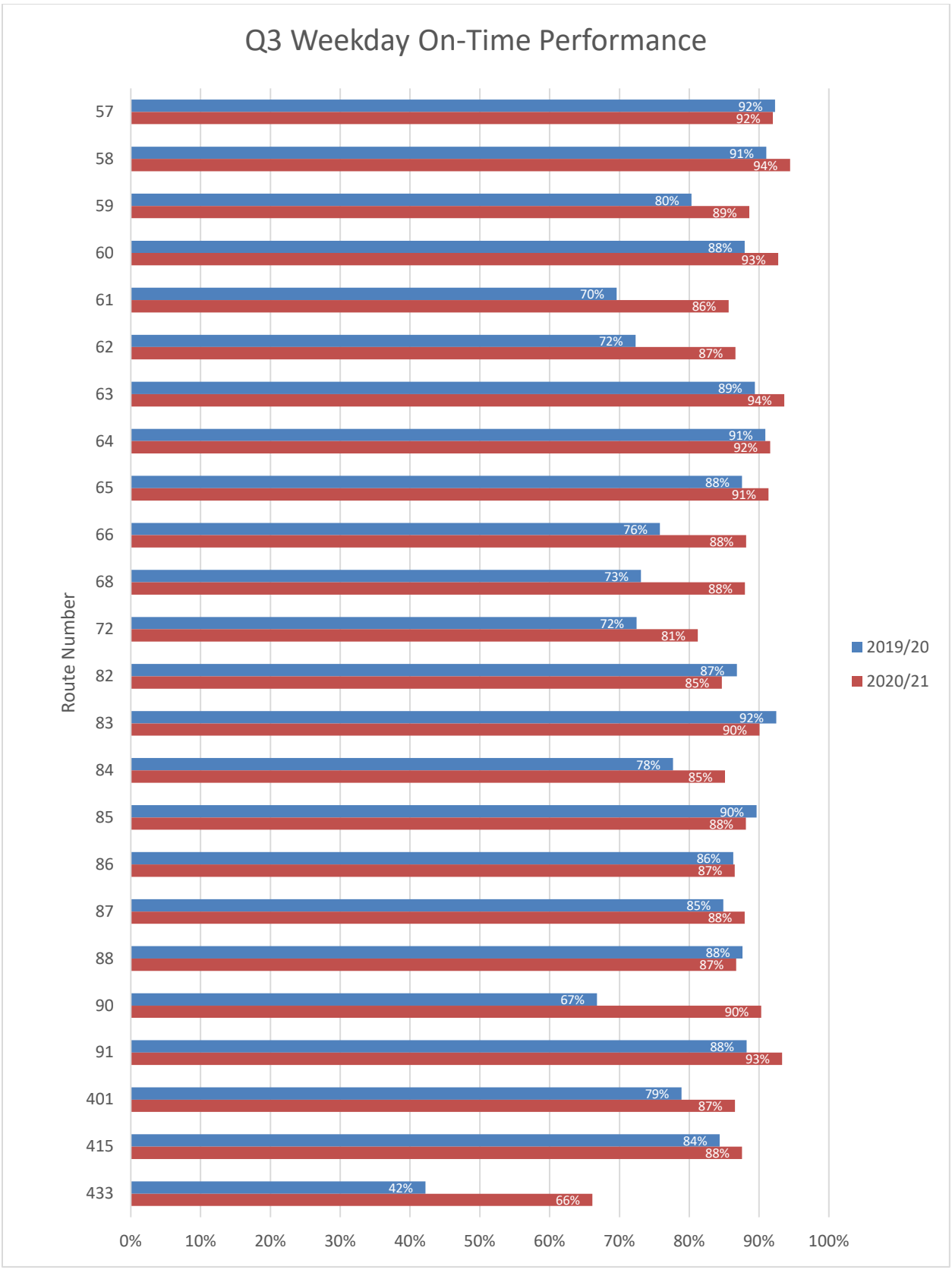
Transit industry standard targets for on-time performance tend to range between 85% and 90%, although service types are not always comparably grouped, nor are schedule adherence definitions consistent between agencies. Halifax Transit will analyze on-time performance across the network in order to establish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

Overall Network On-Time Performance



Weekday On-Time Performance




Q3 Weekday On-Time Performance
Route Number
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42%
66%
0%
10%
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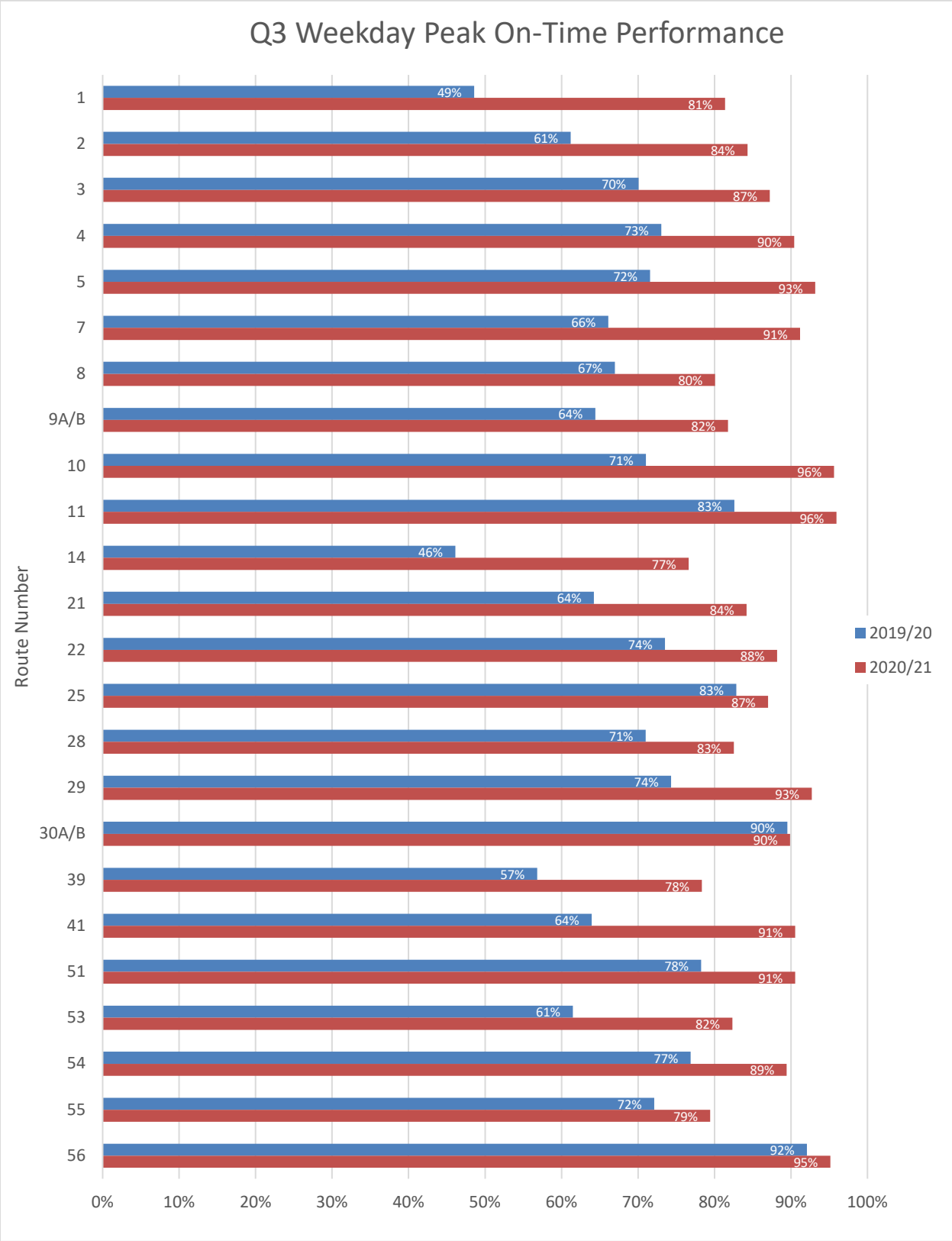
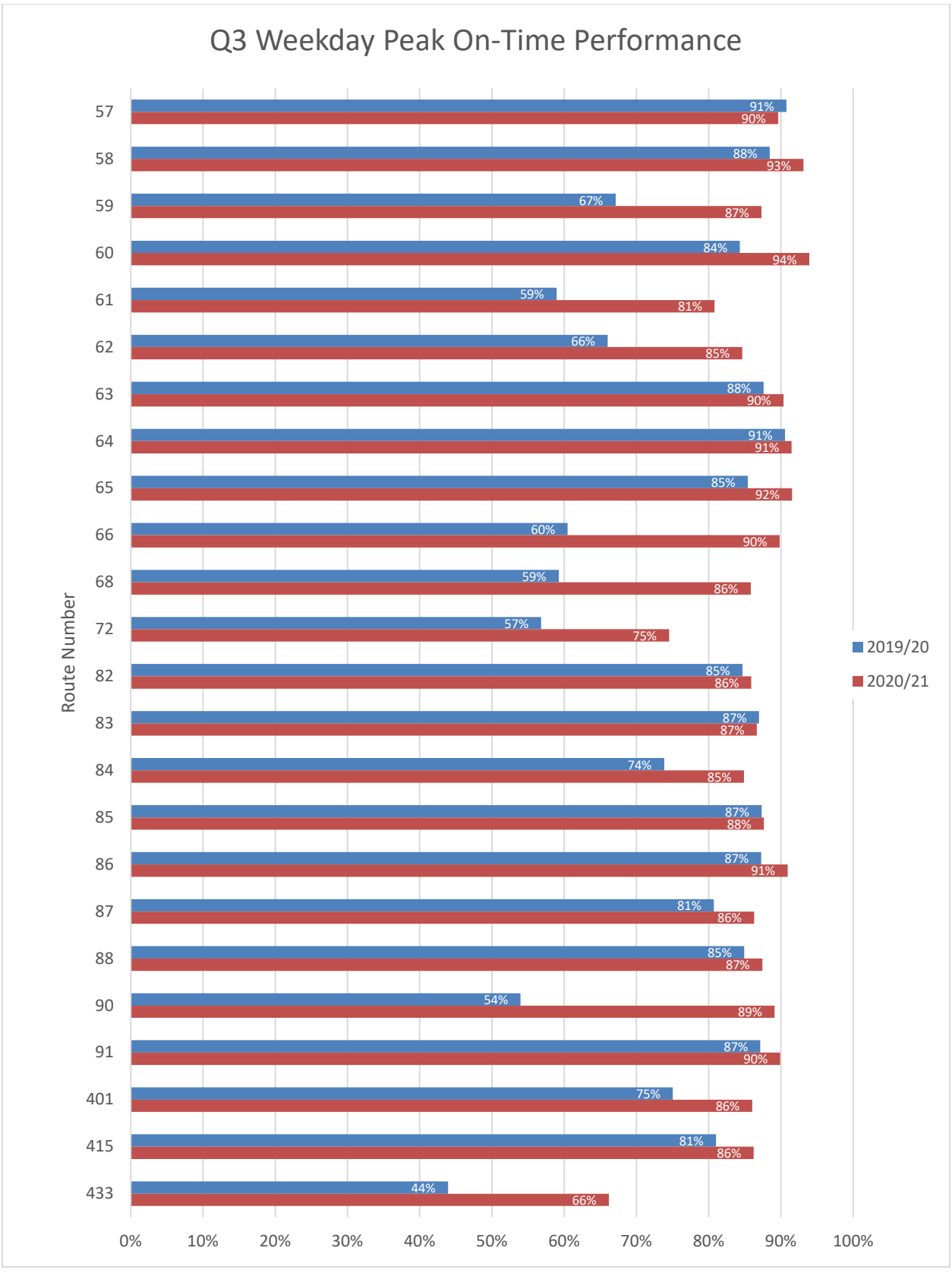
70%
80%
90%
100%
2019/20
2020/21

Weekday Peak Period On-Time Performance




Q3 Weekday Peak On-Time Performance
Route Number
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20%
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40%
50%
60%
70%
80%
90%
100%
2019/20
2020/21

Express Service On-Time Performance

On-time performance demonstrates the percentage of timepoint arrivals that are between one minute early and three minutes late. When route schedules are created, the variability of travel times between timepoints is taken into account. Generally, routes are scheduled at the higher end of observed travel times in order to be on time. This means that on some trips, buses will layover at timepoints to avoid departing early. Schedules for express routes were created based on shorter travel times to keep buses moving toward destinations and prevent them from laying over.

The graph below demonstrates on-time performance for express routes based on timepoints at the beginning and end of the routes, as well as any terminals and park and rides. This includes Scotia Square, Summer Street, and the future Wrights Cove Terminal location on Marketplace Drive, but does not include other on-street timepoints.