2020/21 – Q2
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.

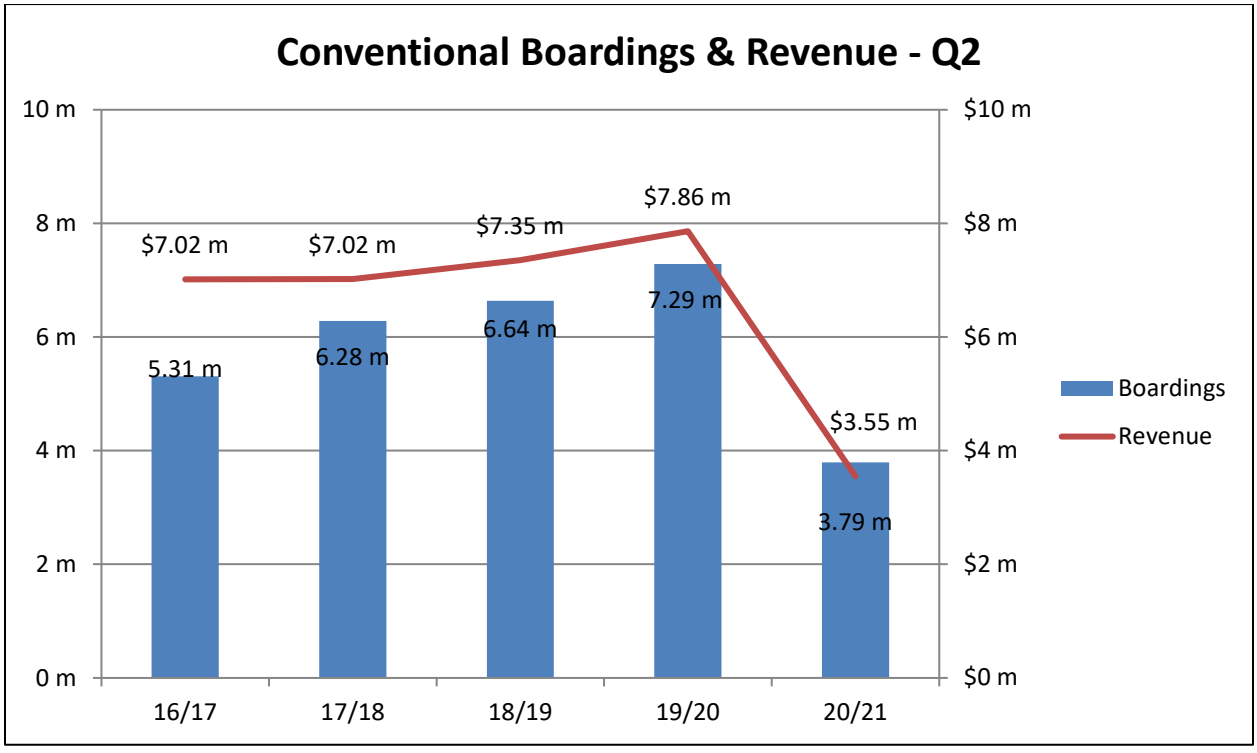
Boardings & Revenue

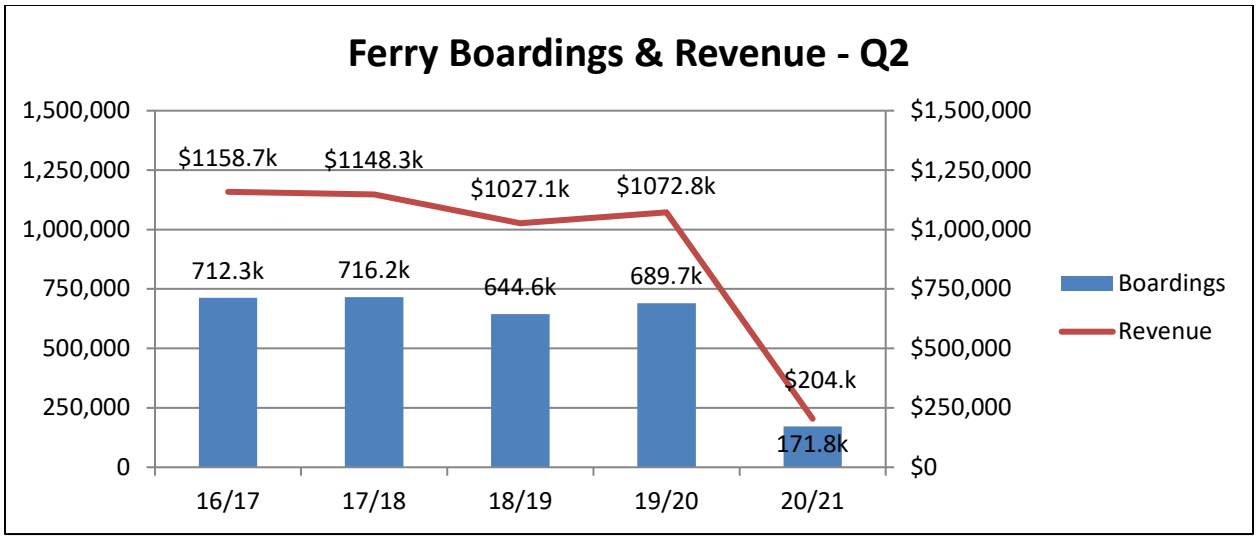
Revenue and boardings are reported to demonstrate how well transit services were used over the quarter, in comparison to the same quarter the previous year.

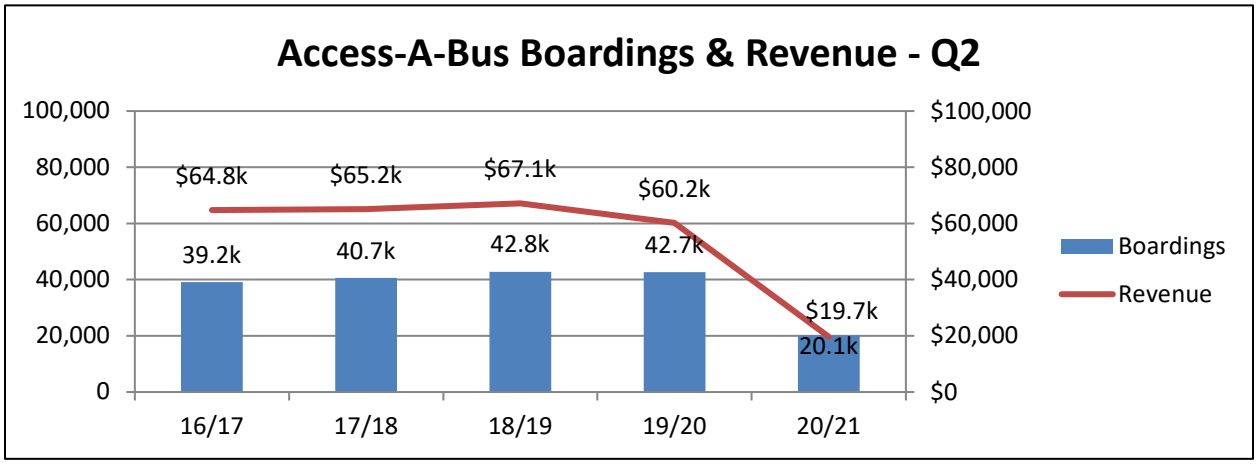
By installing Automatic Passenger Counter (APC) systems throughout the network in the 2017/18 fiscal year, Halifax Transit is now able to track the number of boardings by counting passengers entering the bus at each stop, instead of estimating boardings from revenue. Therefore, the data source for boardings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

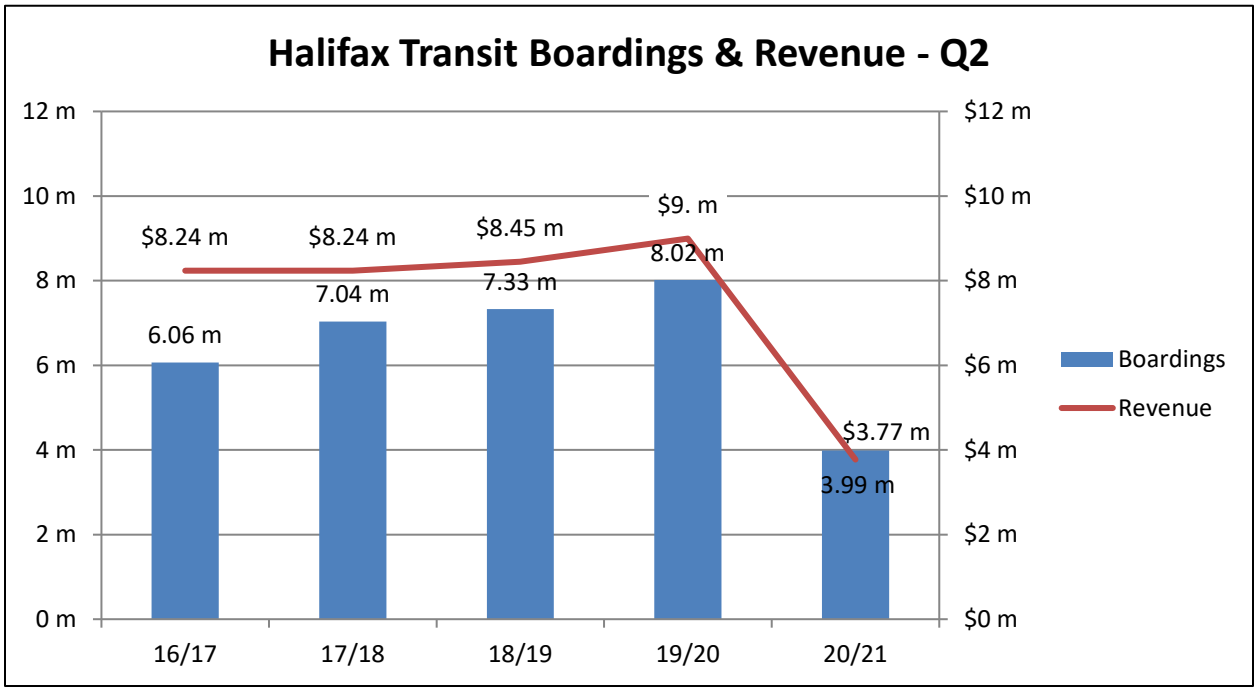
COVID-19 continued to have a significant impact during the second quarter of 2020/21.Conventional boardings decreased 47.9% from this quarter last year, Ferry boardings decreased 75.1% and Access-A-Bus boardings decreased 52.8%. Overall, system wide boardings decreased this quarter by 50.8% compared to last year. Fare collection resumed mid second quarter on August 1, 2020. Overall revenue this quarter decreased 58.1% from last year.

Historical Boardings & Revenue




Ferry Boardings & Revenue - Q2
1,500,000
1,250,000
1,000,000
750,000
500,000
250,000
0
$1,500,000
$1,250,000
$1,000,000
$750,000
$500,000
$250,000
$0
$1158.7k
$1148.3k
$1027.1k
$1072.8k
$204.k
171.8k
712.3k
716.2k
644.6k
689.7k
16/17
17/18
18/19
19/20
20/21
Boardings
Revenue

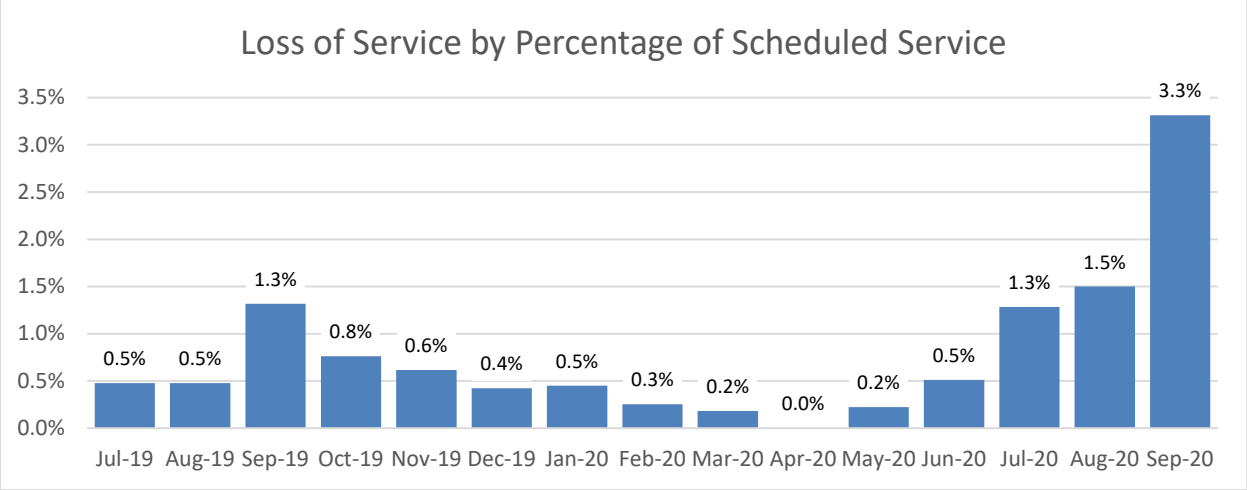

Access-A-Bus Boardings & Revenue - Q2
100,000
80,000
60,000
40,000
20,000
0
$100,000
$80,000
$60,000
$40,000
$20,000
$0
$64.8k
$65.2k
$67.1k
$60.2k
$19.7k
20.1k
39.2k
40.7k
42.8k
42.7k
16/17
17/18
18/19
19/20
20/21
Boardings
Revenue


Halifax Transit Boardings & Revenue - Q2
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
$8.24 m
$8.24 m
$8.45 m
$9. m
$3.77 m
3.99 m
6.06 m
7.04 m
7.33 m
8.02 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 second quarter, the total loss of service was 4131 hours and 48 minutes, which is 2.06% of the quarterly revenue hours. The table below shows the total loss of service for each month.

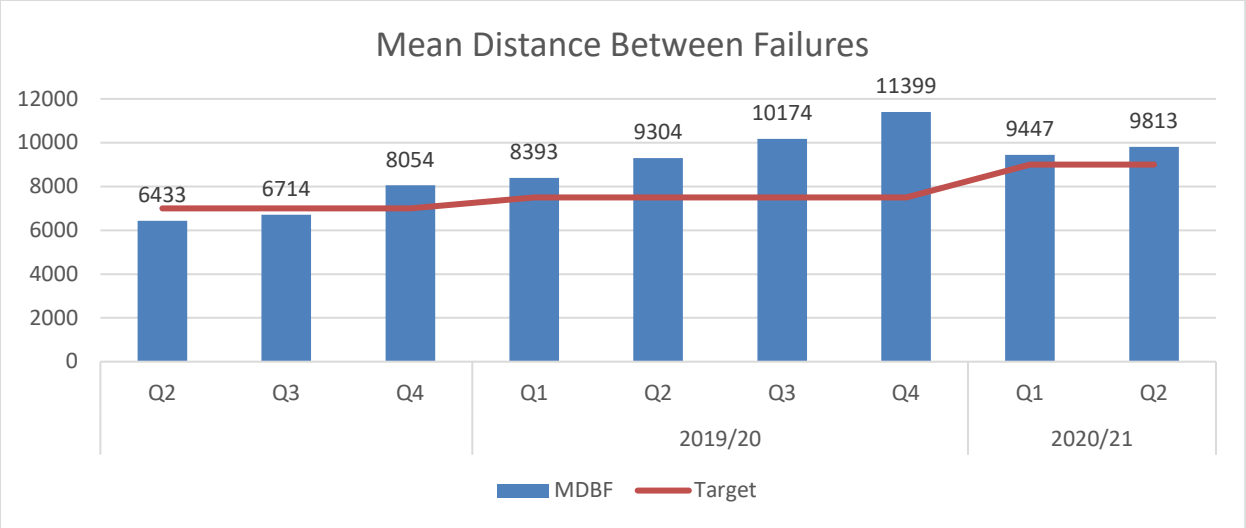


Mean Distance Between Failures

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.

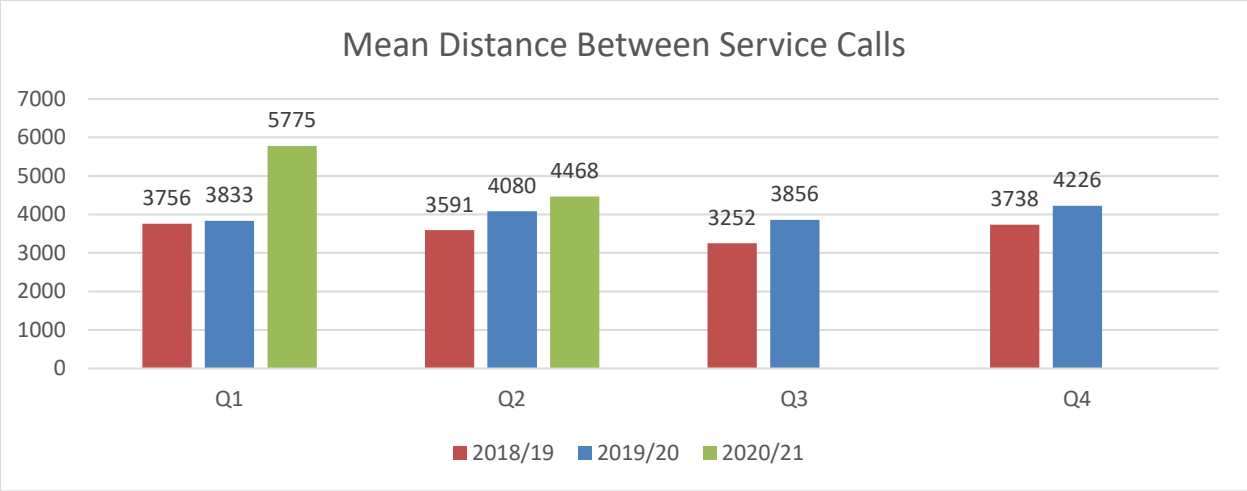
For the second quarter of 2020/21, the MDBF for conventional transit was 9,813 kms. This is equivalent to a 5% improvement from the second quarter of the previous year (2019/20). Bus Maintenance will continue to monitor this KPI and has implemented new preventative maintenance measures to reduce aftertreatment and cooling system defects.



Mean Distance Between Service Calls

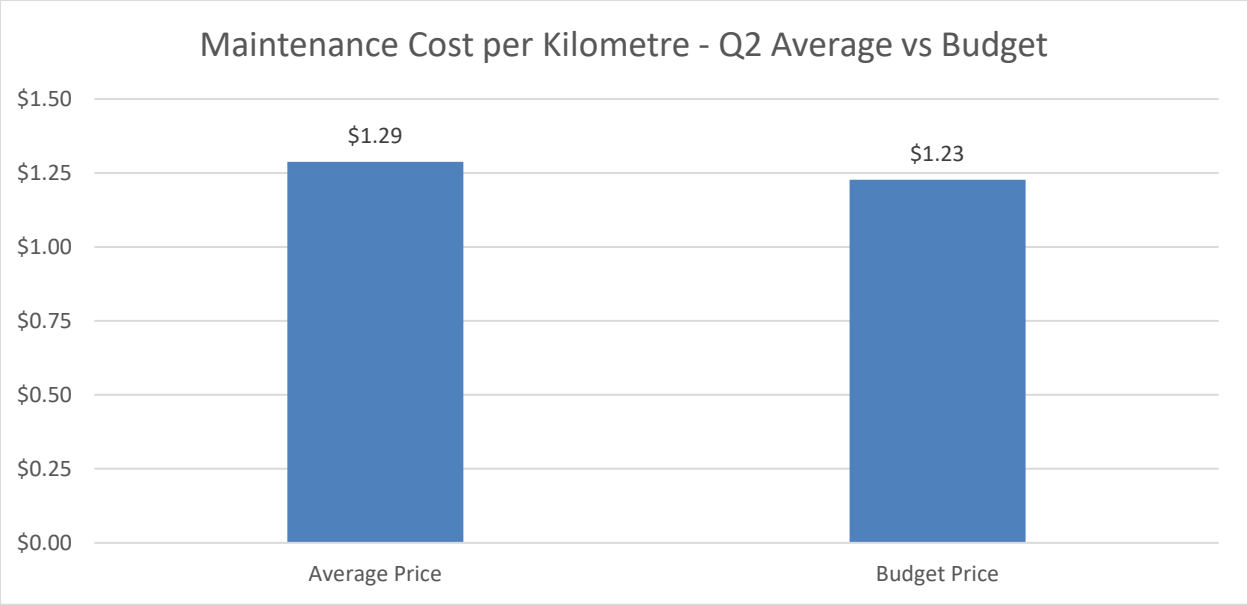
Mean Distance Between Service Calls (MDBS) reflects the average distance in kilometres covered between maintenance service calls. This metric includes all instances of service calls, including issues with secondary equipment, passenger-related events and damages to the bus resulting from minor accidents.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

For the second quarter of 2020/21, the MDBS for conventional transit was 4,468 kms. In comparison to the second quarter of 2019/20 (4,080), this is an improvement of 10%. Overall, the Mean Distance Between Service Calls has improved by 29% in 2020/21 over 2019/20. Therefore, bus reliability for conventional transit continues to improve significantly. The MDBS for Access-A-Bus service was 28,533 kms. Bus Maintenance will continue to monitor this metric in order to reduce service calls.



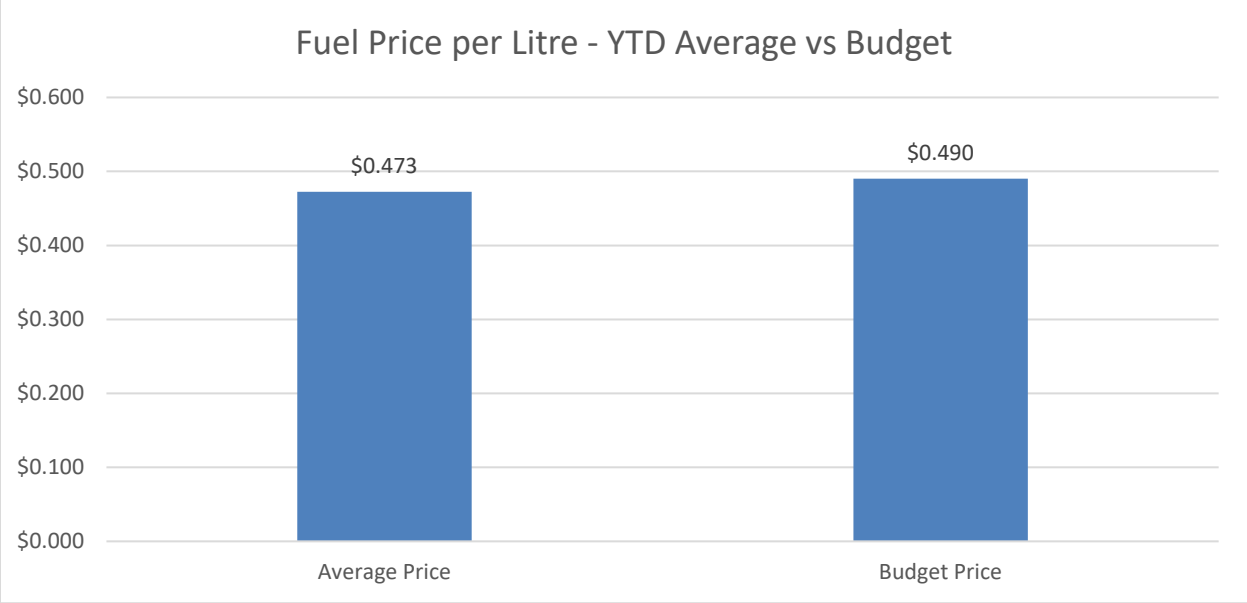
Bus Maintenance Cost – Quarter Average vs Budget

In the second quarter maintenance costs were $1.29/km, while the budgeted maintenance cost was $1.23/km. The largest contributors to the increase in this metric are overtime and commercial repairs. These are required because Bus Maintenance has seen an increase in absences. 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 second quarter, the average fuel price was 47 cents/litre, 2 cents lower than the budgeted cost per litre.

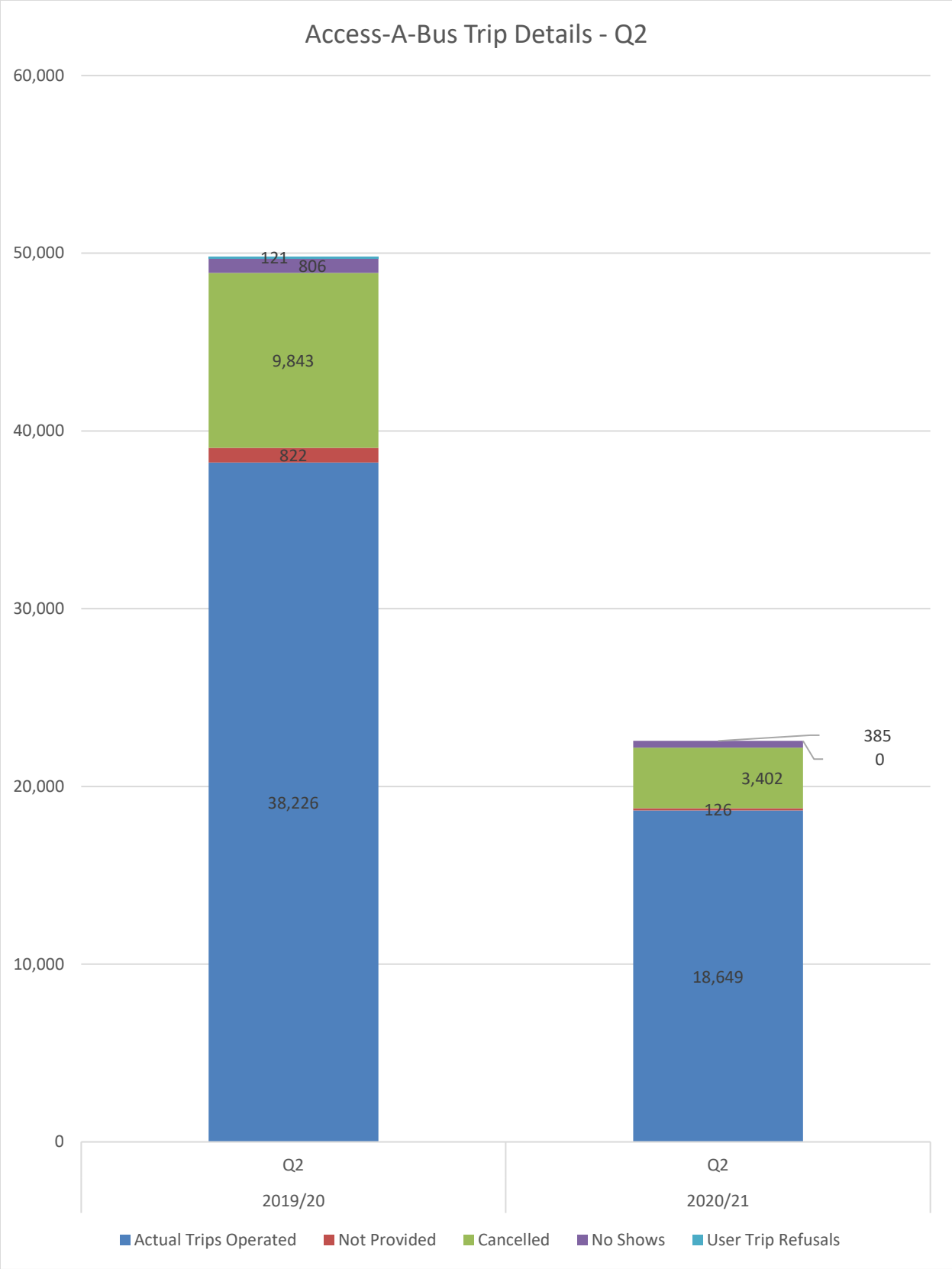


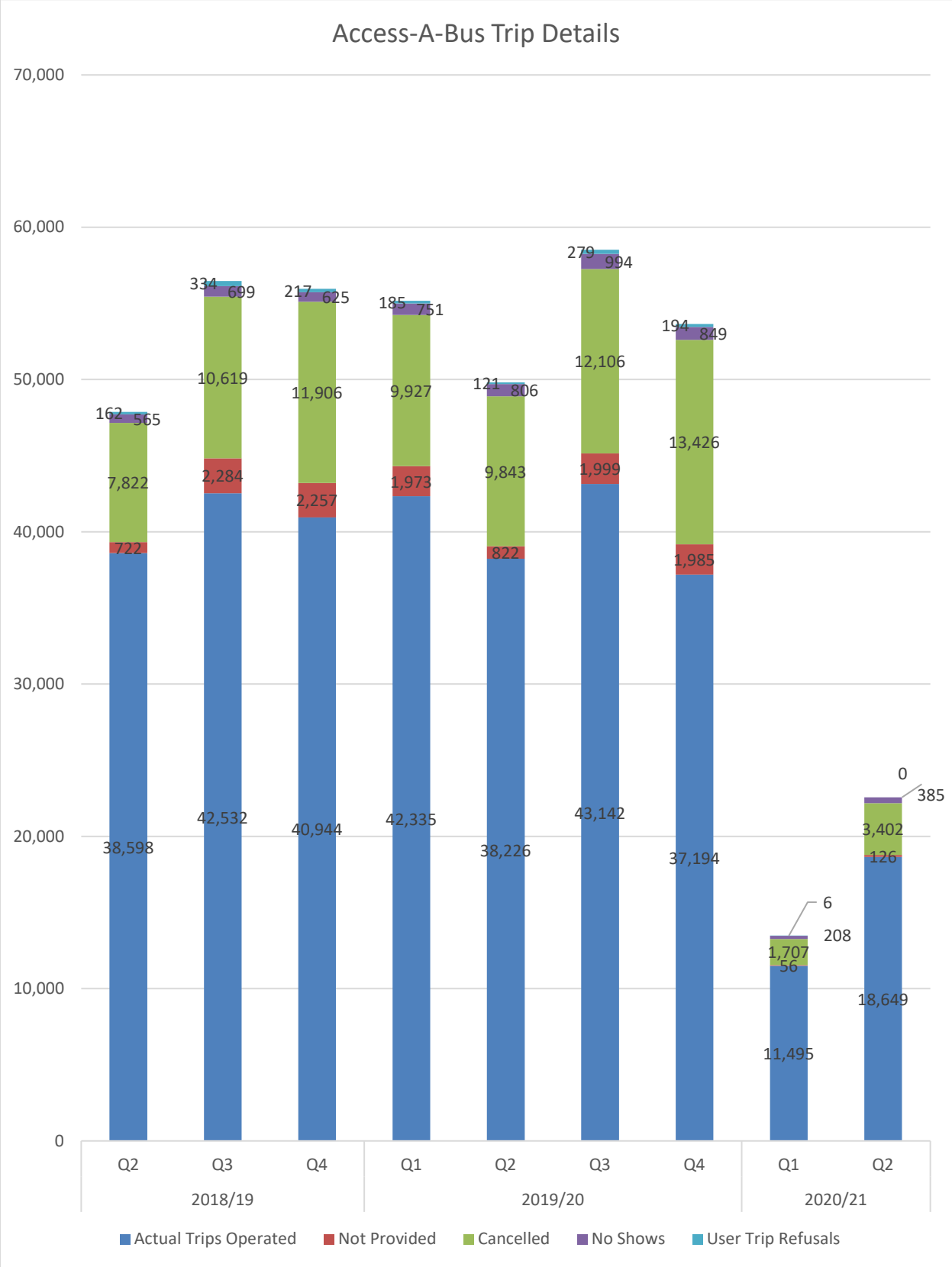
Access-A-Bus Trip Details

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 second quarter of 2020/21 the COVID-19 pandemic continued to affect ridership significantly. 19,577 fewer trips were operated compared to the second quarter last year, a decrease of 12%. The trips that were not provided decreased by 12%, compared to this quarter last year.


Access-A-Bus Trip Details - Q2
60,000
50,000
40,000
30,000
20,000
10,000
0
121
806
9,843
822
38,226
385
0
3,402
126
18,649
Q2
2019/20
Q2
2020/21
Actual Trips Operated
Not Provided
Cancelled
No Shows
User Trip Refusals

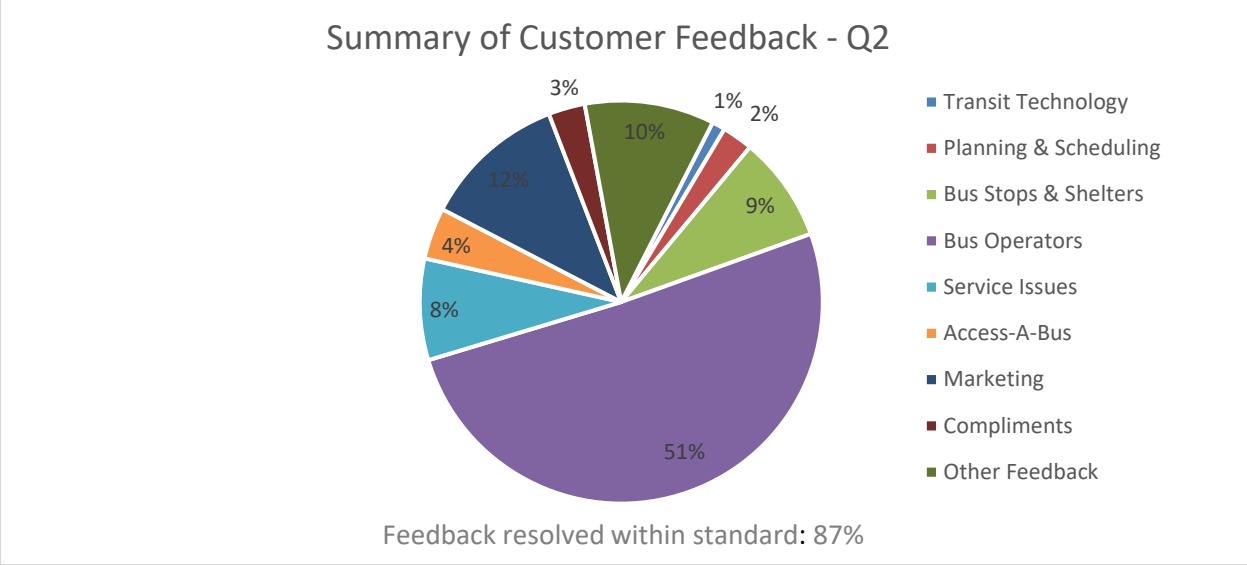

Access-A-Bus Trip Details
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Q2
Q3
Q4
Q1
Q2
Q3
Q4
Q1
Q2
2018/19
2019/20
2020/21
162
565
7,822
722
38,598
334
699
10,619
2,284
42,532
217
625
11,906
2,257
40,944
185
751
9,927
1,973
42,335
121
806
9,843
822
38,226
279
994
12,106
1,999
43,142
194
849
13,426
1,985
37,194
6
208
1,707
56
11,495
0
385
3,402
126
18,649
Actual Trips Operated
Not Provided
Cancelled
No Shows
User Trip Refusals

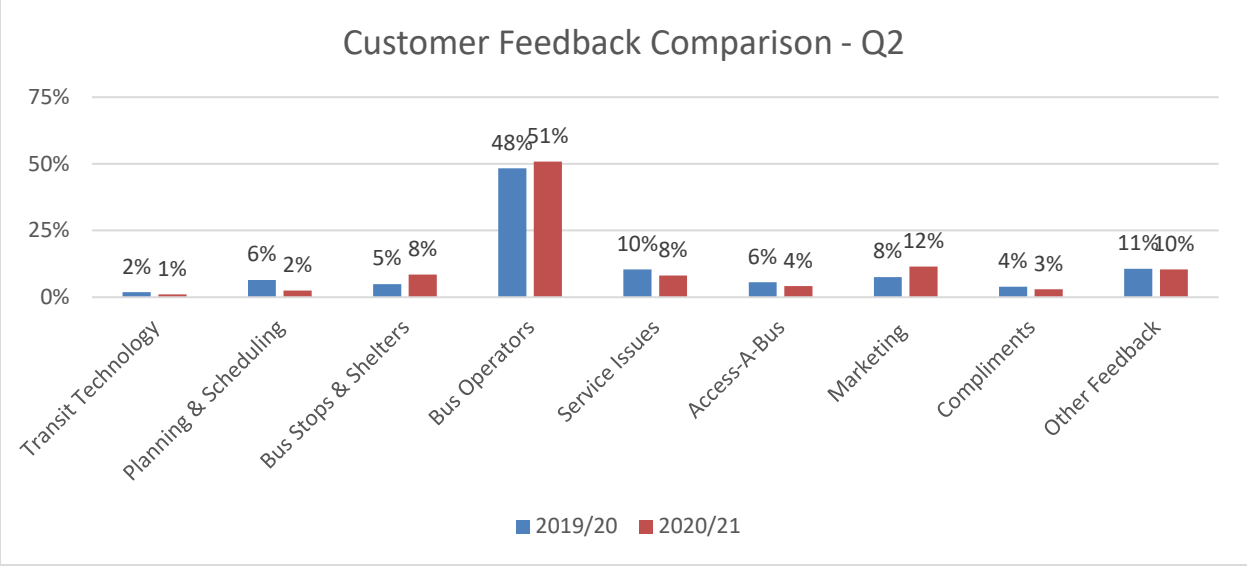
Customer Service – All Services

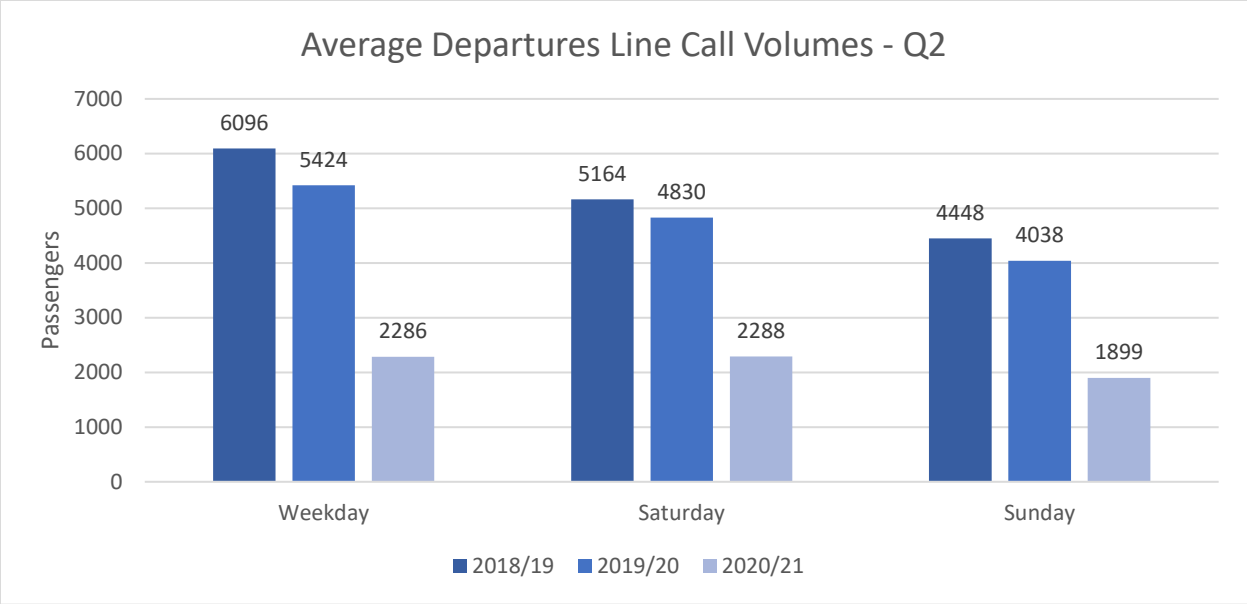
Customer service statistics are measured monthly using the Hansen Customer Relationship Management software along with Crystal Reports. Feedback is first categorized by subject matter and then divided into two categories: feedback resolved within service standard and feedback resolved outside service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

In the second 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 87% 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 second 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.







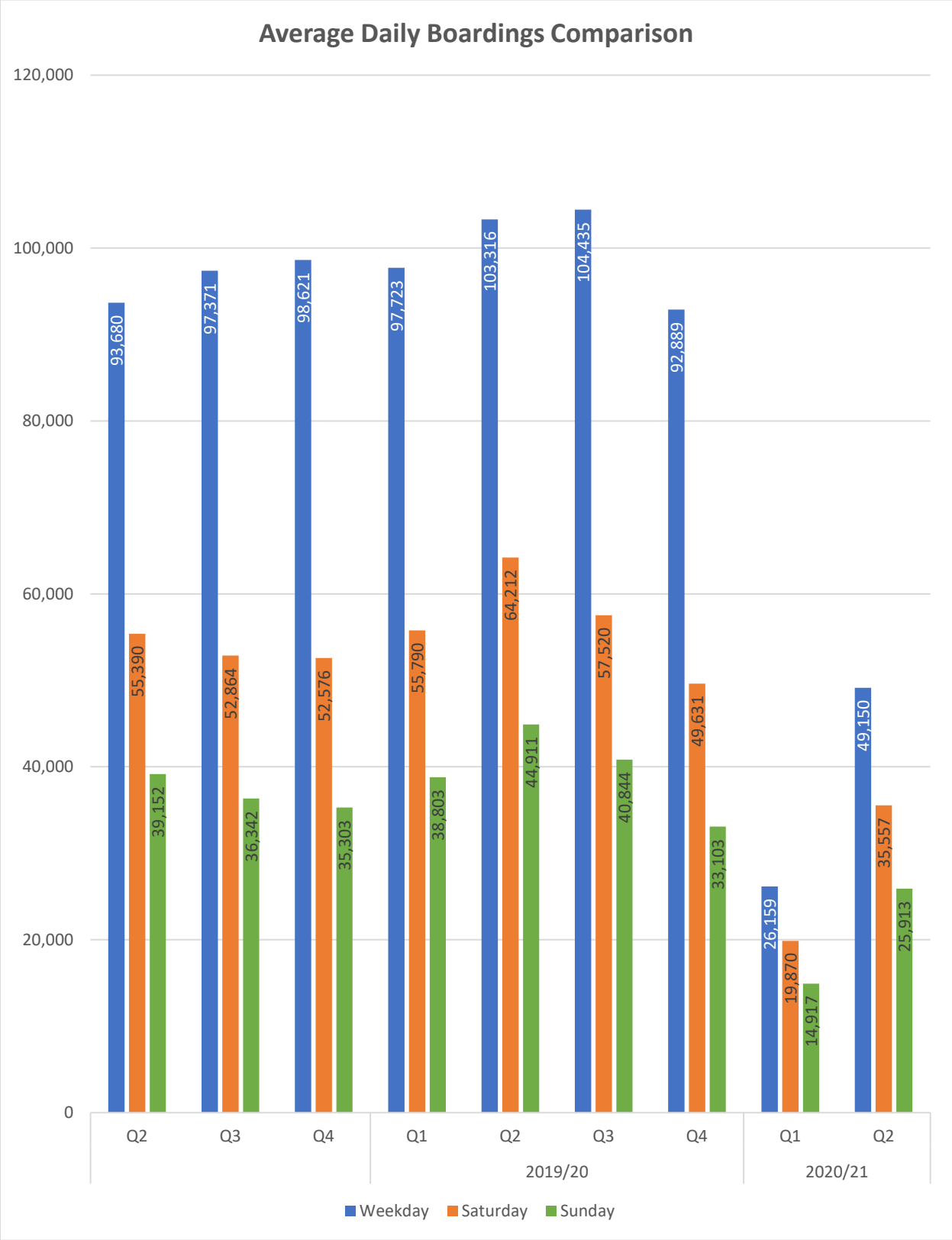
Service Utilization

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 second quarter were 49,150 ± 5,753 (11.7% variance). Average Saturday boardings this quarter were 35,557 ± 2,304 (6.5% variance). Average Sunday boardings this quarter were 25,913 ± 1,522 (5.9% variance).

Average Daily Boardings by Service Day

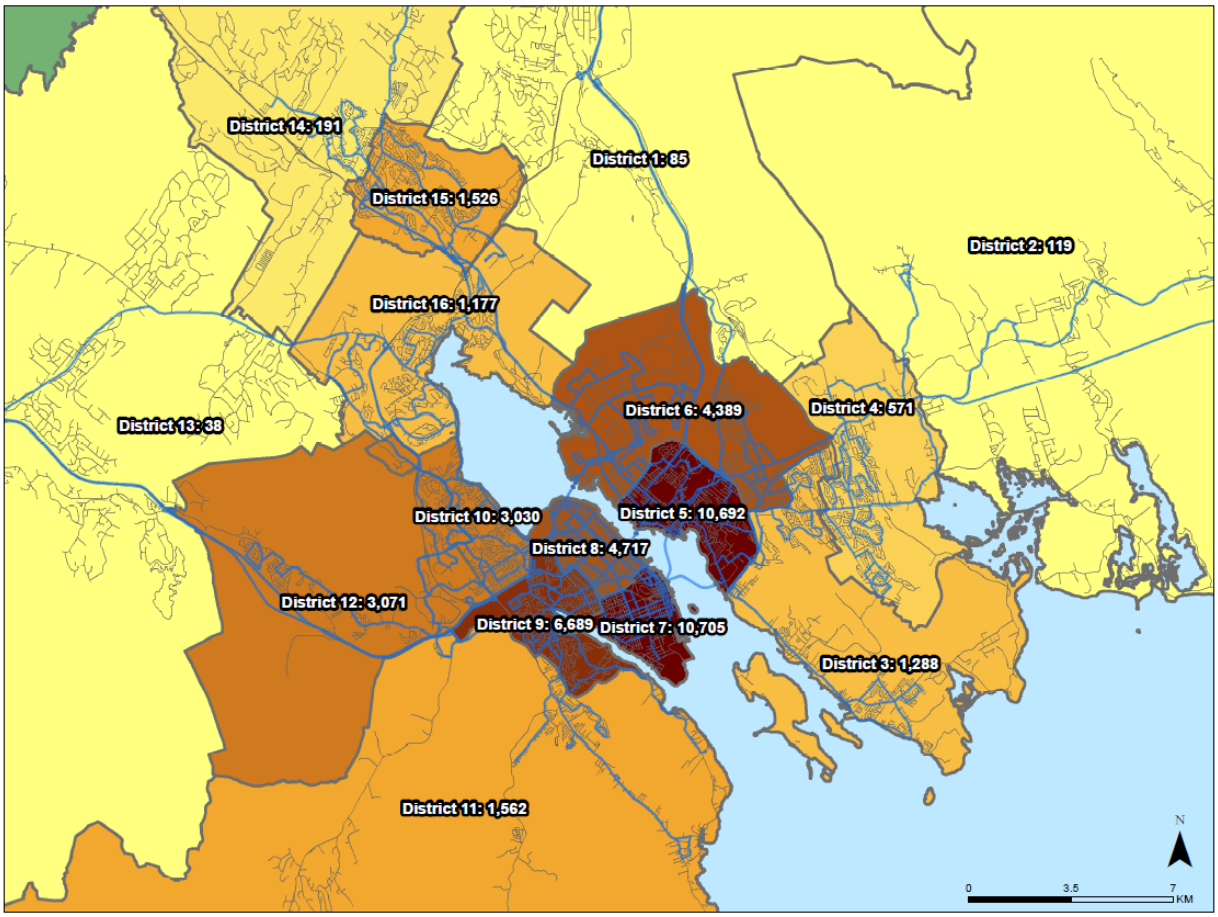


Boardings by District

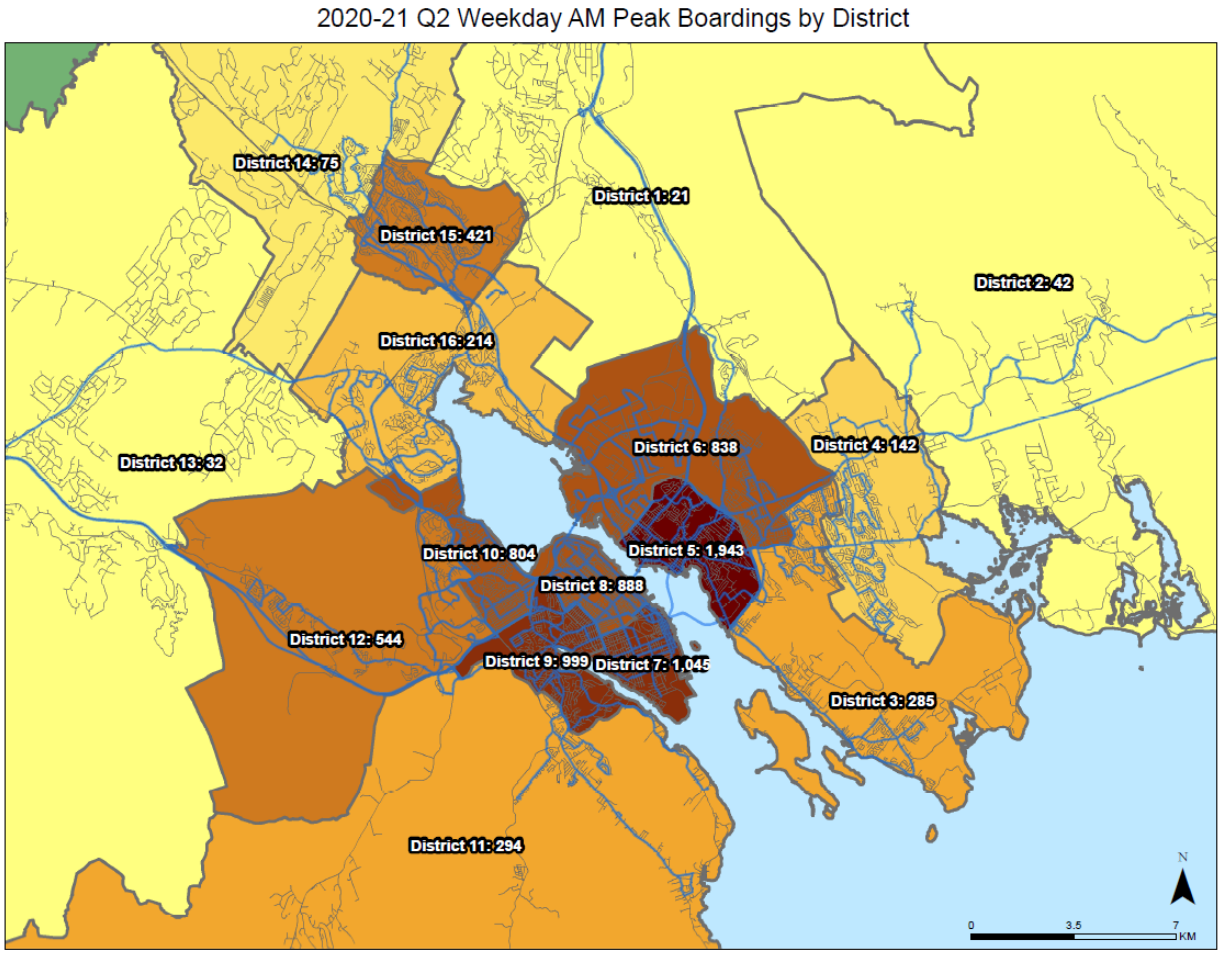
To assist in visualizing where ridership demands exist, boardings have been mapped by district. The all-day boardings map illustrates typical boardings over an entire service day, whereas the AM Peak Period map represents boardings during the morning peak period only and therefore generally illustrates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

Weekday Boardings by District – All Day

2020-21 Q2 Weekday Boardings by District



Weekday Boardings by District – AM Peak Period



Passengers per Hour

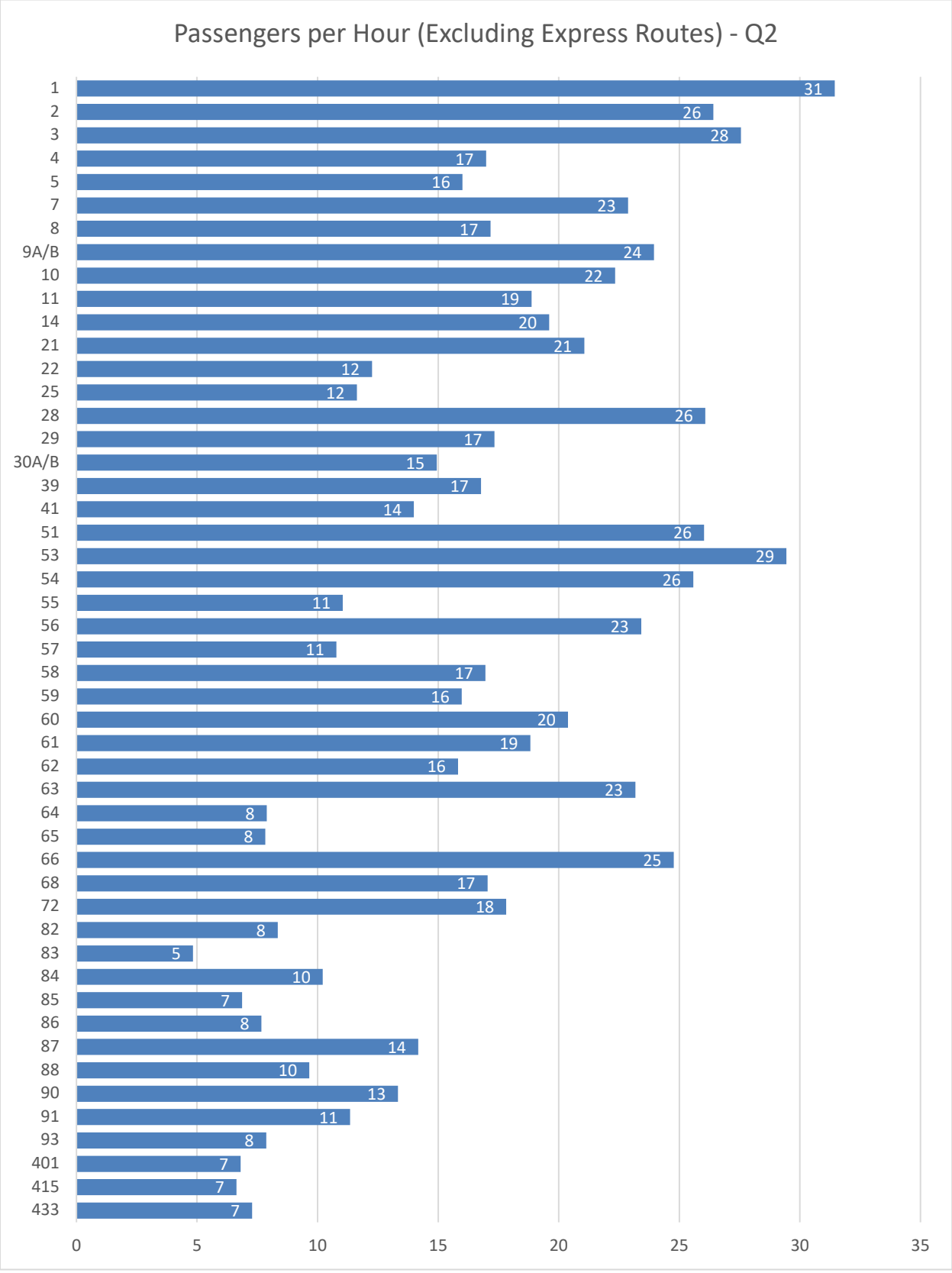
Passengers per hour measures the volume of passengers carried per service hour by route. Due to differences in service model/design, Express Routes are measured instead by passengers per trip. Ridership fluctuates significantly by season and therefore figures are compared to the same quarter in the previous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

Q2 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	9,903	63	4,933	31	7,844	68	4,268	37	5,484	63	2,726	31
2	5,005	47	2,897	26	4,555	45	2,827	28	2,817	37	1,770	25
3	6,998	46	4,183	28	3,751	43	2,408	27	4,043	42	2,530	26
4	4,672	37	2,233	17	2,101	42	1,077	22	1,875	41	1,017	22
7	4,972	43	2,424	23	3,503	37	2,032	22	2,104	40	1,207	22
8	4,572	36	2,444	17	3,844	36	1,942	17	3,010	33	1,594	15
9A/B	7,097	42	4,097	24	4,258	57	2,459	34	3,301	46	2,063	28
9A	4,775	43	2,748	25	1,963	55	1,237	35	1,371	40	872	25
9B	2,322	39	1,349	23	2,294	58	1,222	33	1,930	52	1,191	32
10	4,728	43	1,897	22	3,104	41	1,722	23	2,042	42	1,211	25
11	113	51	50	19								
14	2,609	40	1,223	20	1,334	40	744	23	1,121	38	641	22
21	1,087	36	664	21	831	24	612	18	564	32	422	23
22	638	20	412	12	521	16	363	11	421	12	288	8
25			206	12			174	11			146	13
28	1,606	42	1,125	26	1,517	37	1,006	23	734	40	493	24
29	3,340	37	1,599	17	2,045	33	1,094	17	1,614	27	886	15
30A/B	807	22	522	15	572	17	422	12	391	20	262	15
30A	429	23	266	15	303	17	215	13	177	16	123	14
30B	378	21	257	15	269	16	206	12	214	24	139	15
39	1,314	29	752	17	975	19	717	14	450	21	306	14
41	1,341	40	471	14								
51	1,135	47	616	26	622	38	362	23	366	42	198	19
53	1,266	48	755	29	836	54	520	34	388	48	261	31
54	869	40	447	26	597	38	389	25	318	31	185	19
55	437	20	197	11	300	19	160	10	245	16	130	8
56	1,121	34	801	23	1,104	31	865	24	719	22	564	17
57	612	15	361	11	293	10	234	8	168	9	150	8
58	726	24	472	17	542	29	278	15	452	25	254	15

Q2 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	2,059	26	644	16	887	38	541	23	610	26	390	16
60	2,850	37	1,560	20	2,147	53	1,250	31	1,471	50	905	31
61	2,321	30	1,459	19	1,305	33	773	19	1,129	30	673	17
62	812	26	401	16	596	26	369	16	296	18	183	11
63	807	46	447	23								
64	605	33	345	8								
65	258	15	117	8	100	8	72	5	64	10	39	6
66	1,614	26	772	25	529	33	417	26	403	25	253	16
68	1,378	28	820	17	885	31	499	17	619	22	379	12
72	1,458	32	836	18	1,148	24	807	18	564	21	376	14
82			149	8			104	7			86	5
83			70	5			56	6			45	4
84	862	29	576	10			226	6			181	6
85			91	7			68	7			49	6
86	197	15	119	8	76	11	86	5	63	8	71	5
87	1,311	29	811	14	1,241	25	562	11	598	20	355	12
88	111	19	137	10	69	13	111	7	21	9	67	5
90	1,440	30	874	13	1,060	23	677	11	539	21	363	10
91			355	11			239	11			220	8
93			86	8								
401	164	13	86	7								
415	252	17	43	7	165	16			185	15		
433	56	11	40	7								
Alderney	5,423	181	1,489	87	7,953	454	1,866	179	4,942	282	1,289	115
Woodside	2,582	123	553	56								

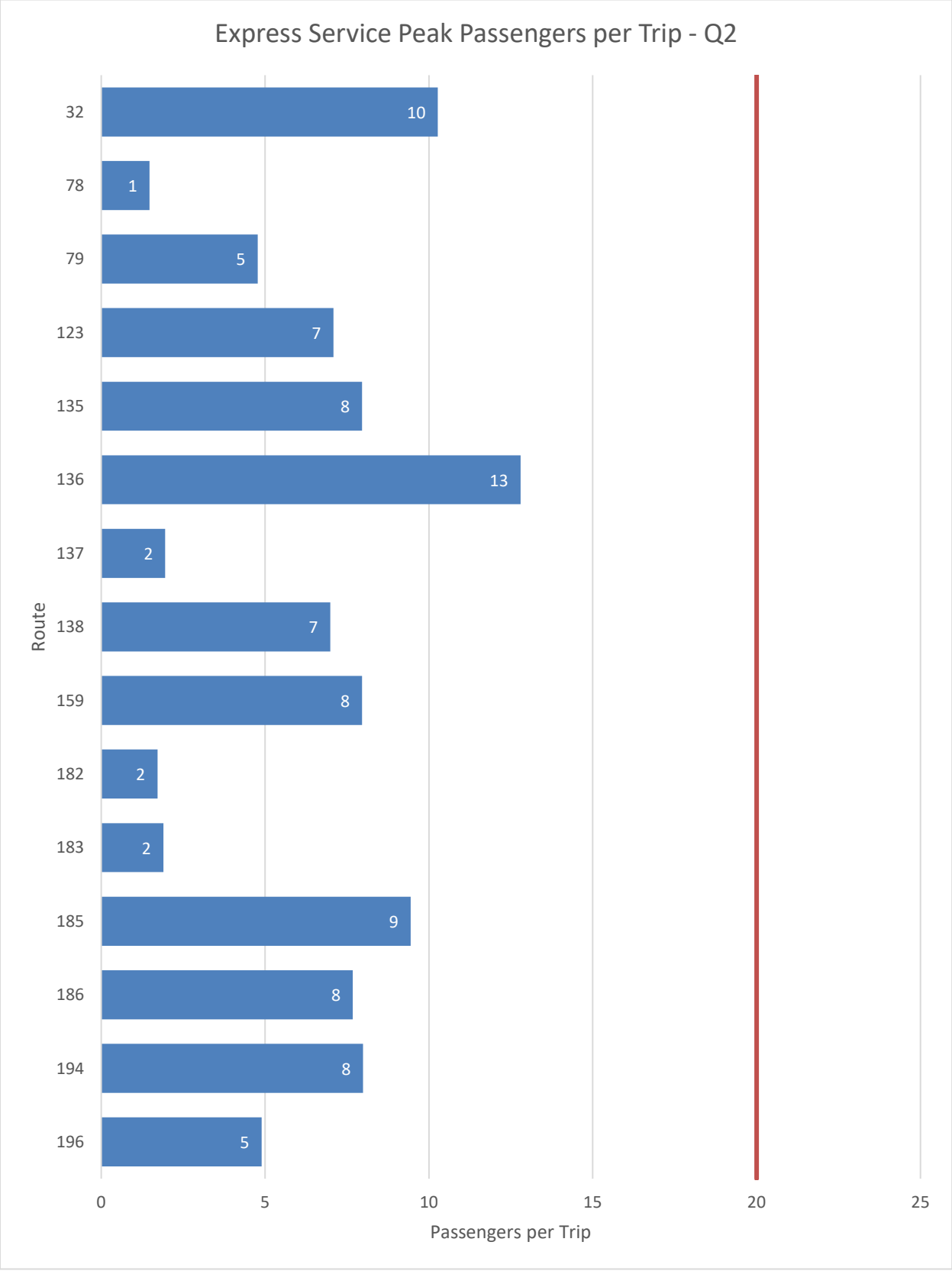
Passengers per Hour by Route



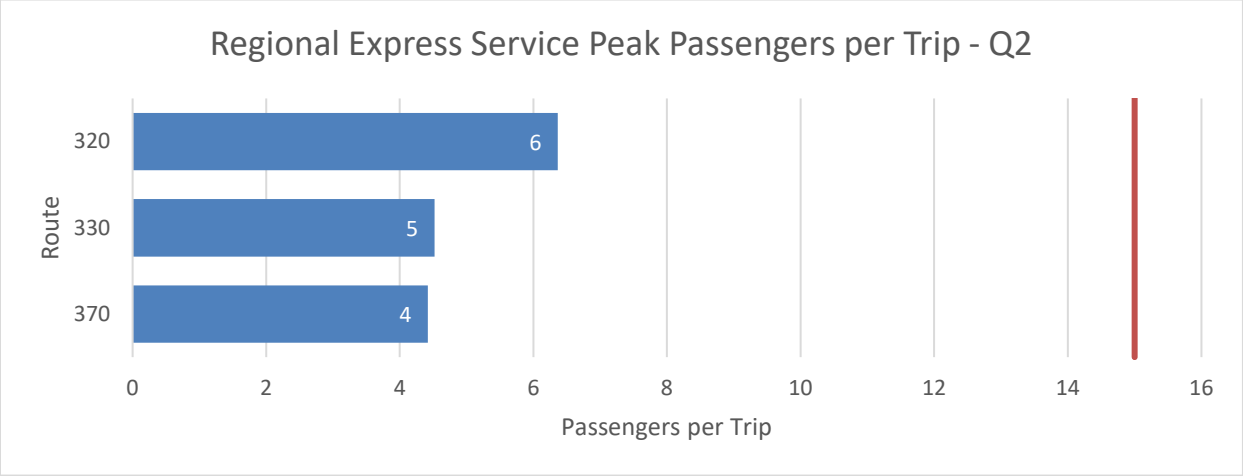
Express Service Peak Boardings and Passengers per Trip

Q2 Comparison - Average Daily Peak Boardings by Express Route				
Route	Weekday			
	19/20		20/21	
	Boardings	Pass/Trip	Boardings	Pass/Trip
78	53	7	31	1
79	41	7	65	5
123	156	20	119	7
135	300	37	111	8
136	308	37	205	13
137	186	32	20	2
138	279	38	98	7
182			41	2
183			25	2
185			246	9
186			92	8
194	81	20	64	8
196	67	29	20	5
320	110	19	108	6
330	196	17	114	5
370	54	9	65	4

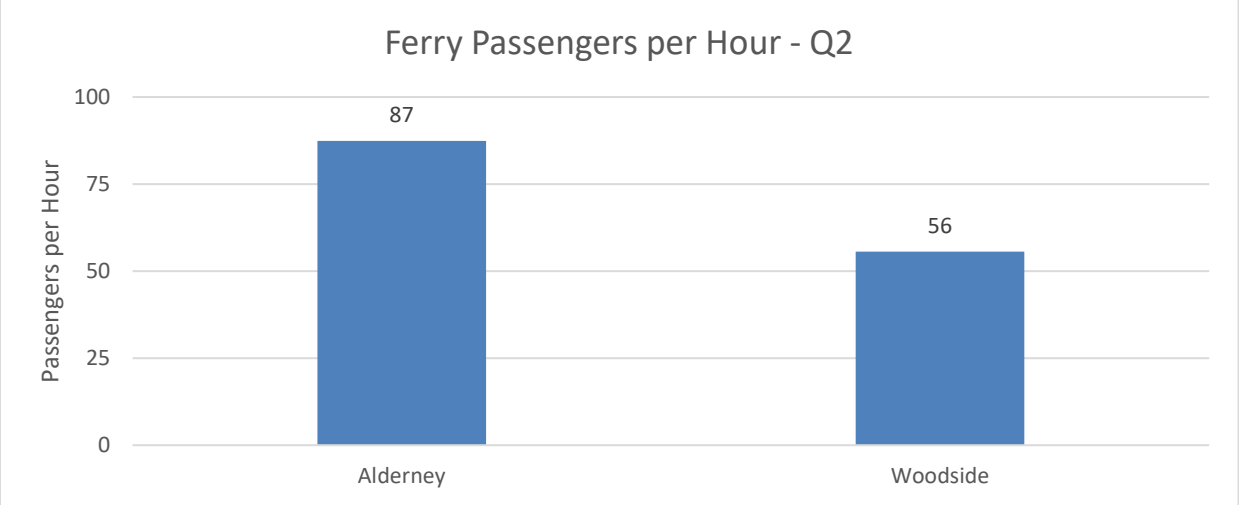
Express Service Peak Passengers per Trip by Route



Regional Express Peak Passengers per Trip by Route



Ferry Passengers per Hour

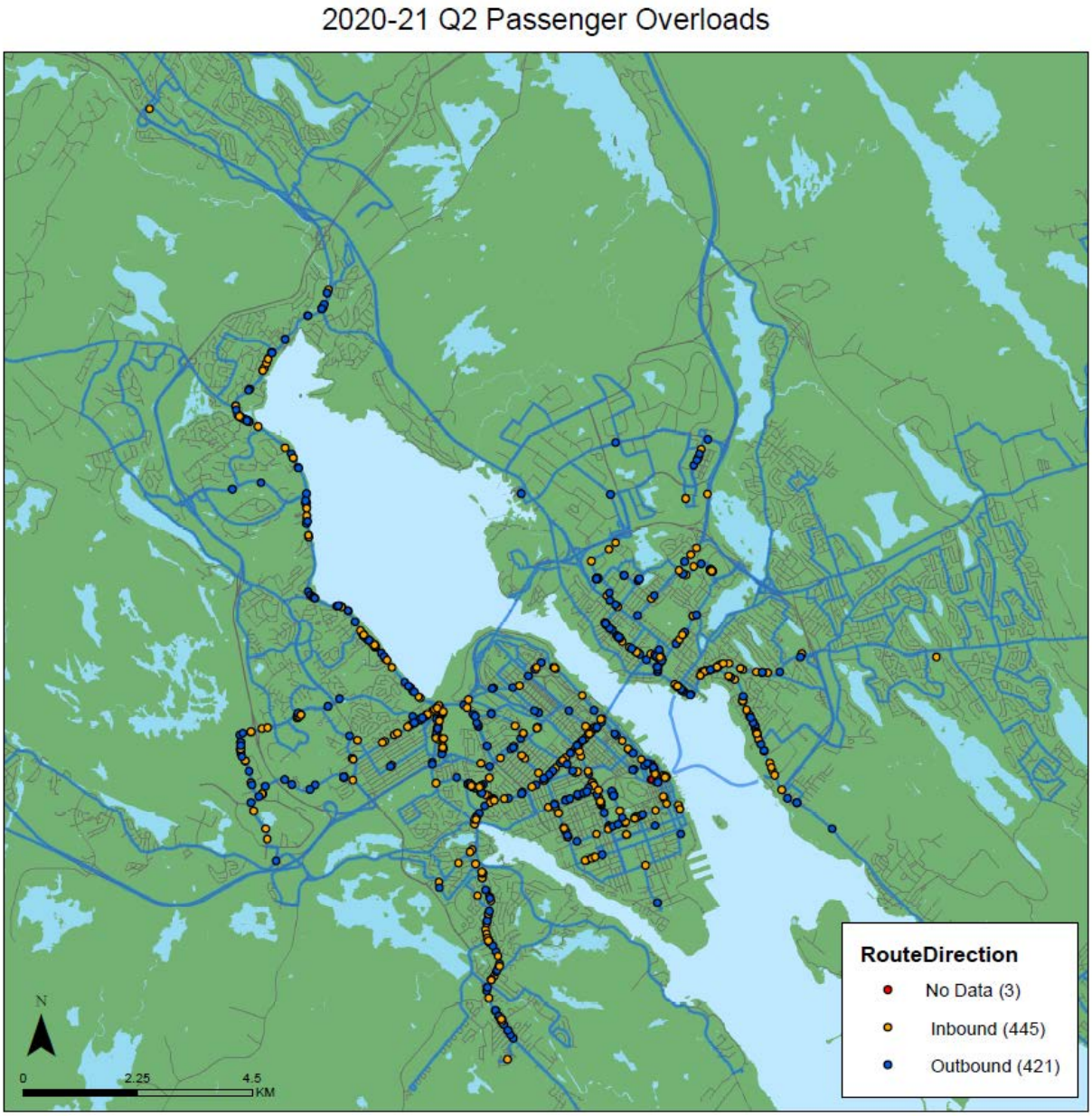


Passenger Overloads

Halifax Transit tracks overloads that are reported to help match scheduling requirements to passenger demands. Work is underway to improve the reporting process to ensure the data provides a more accurate reflection of actual conditions. All overloads may not be included, as many go unreported for a number of reasons.

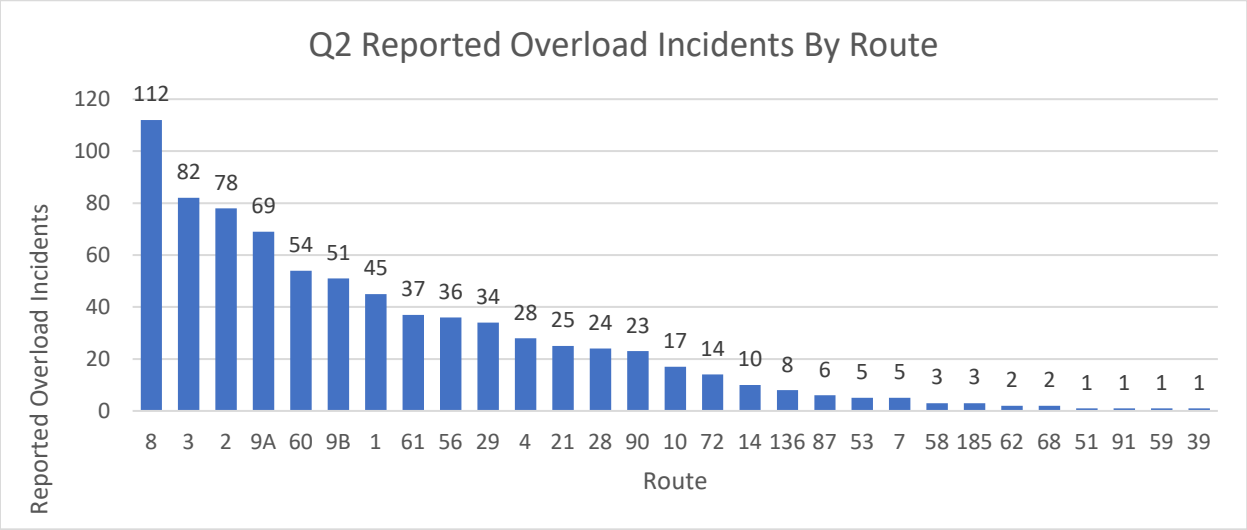
Passenger Overloads by Area

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



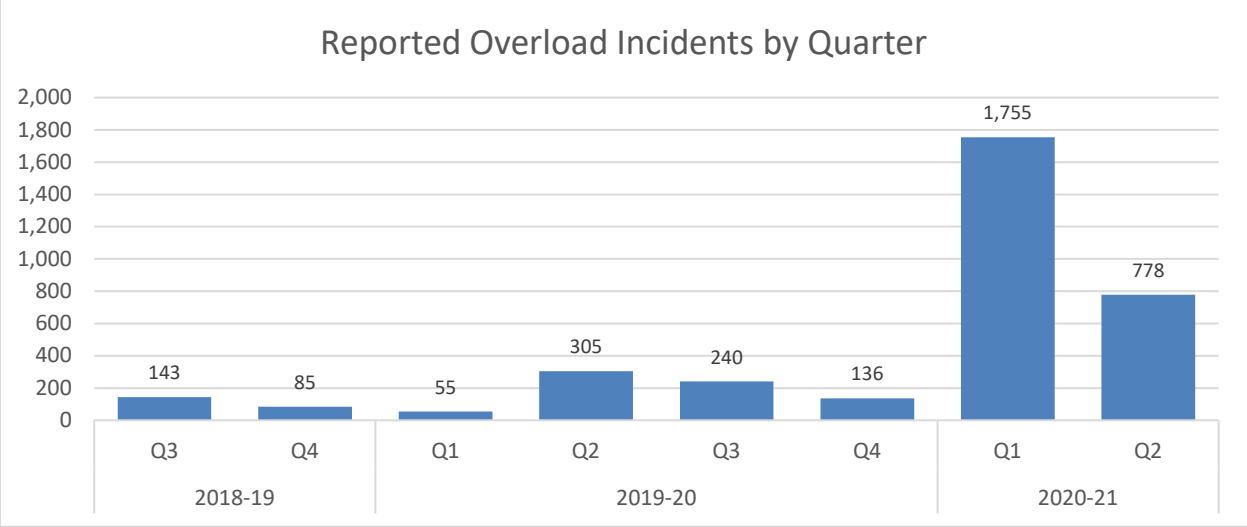
Passenger Overloads by Route

The following graph shows overloaded routes during the second quarter. 777 overloads incidents were reported during the second quarter of 2020/21. This increase resulted from significantly reduced capacity available aboard buses with the temporary physical distancing requirements during the COVID-19 pandemic, including limits on standees and seating.



Passenger Overloads by Quarter

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

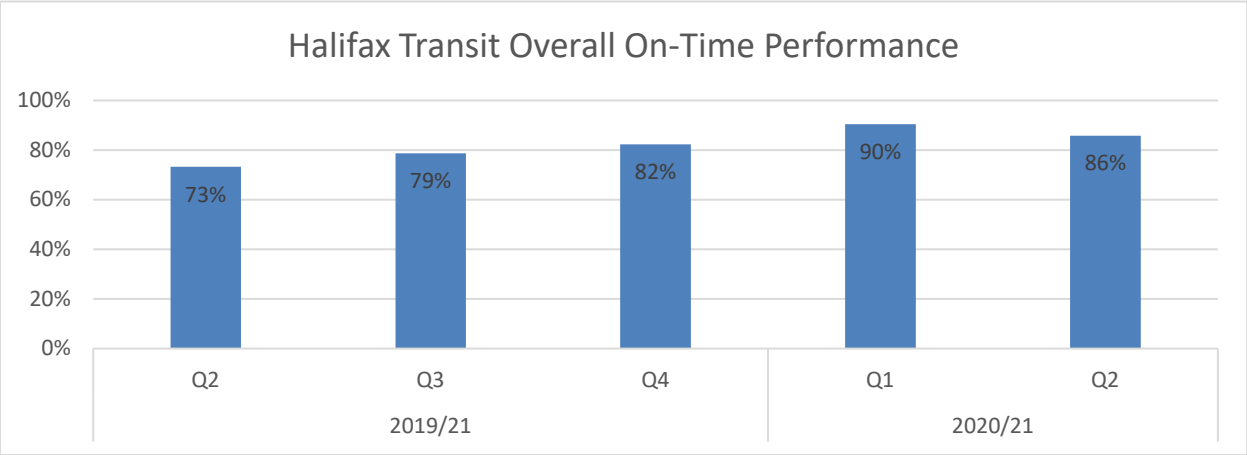


On-Time Performance

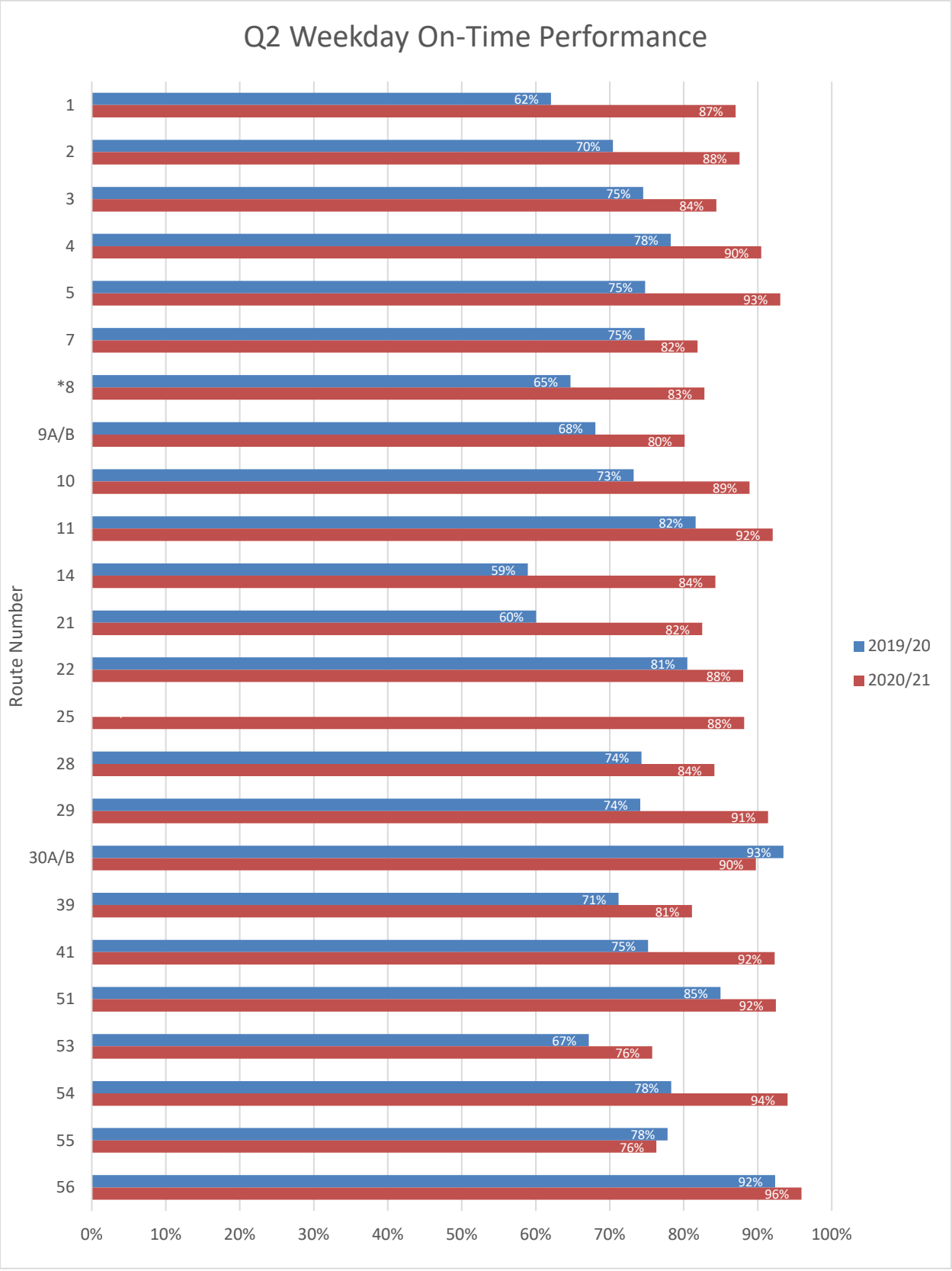
On-time performance is a measure of route reliability and is tracked monthly to demonstrate schedule adherence across the network of routes. Terminals and select bus stops along each route are classified as timepoints and have assigned and publicized scheduled arrival times. On-time performance demonstrates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

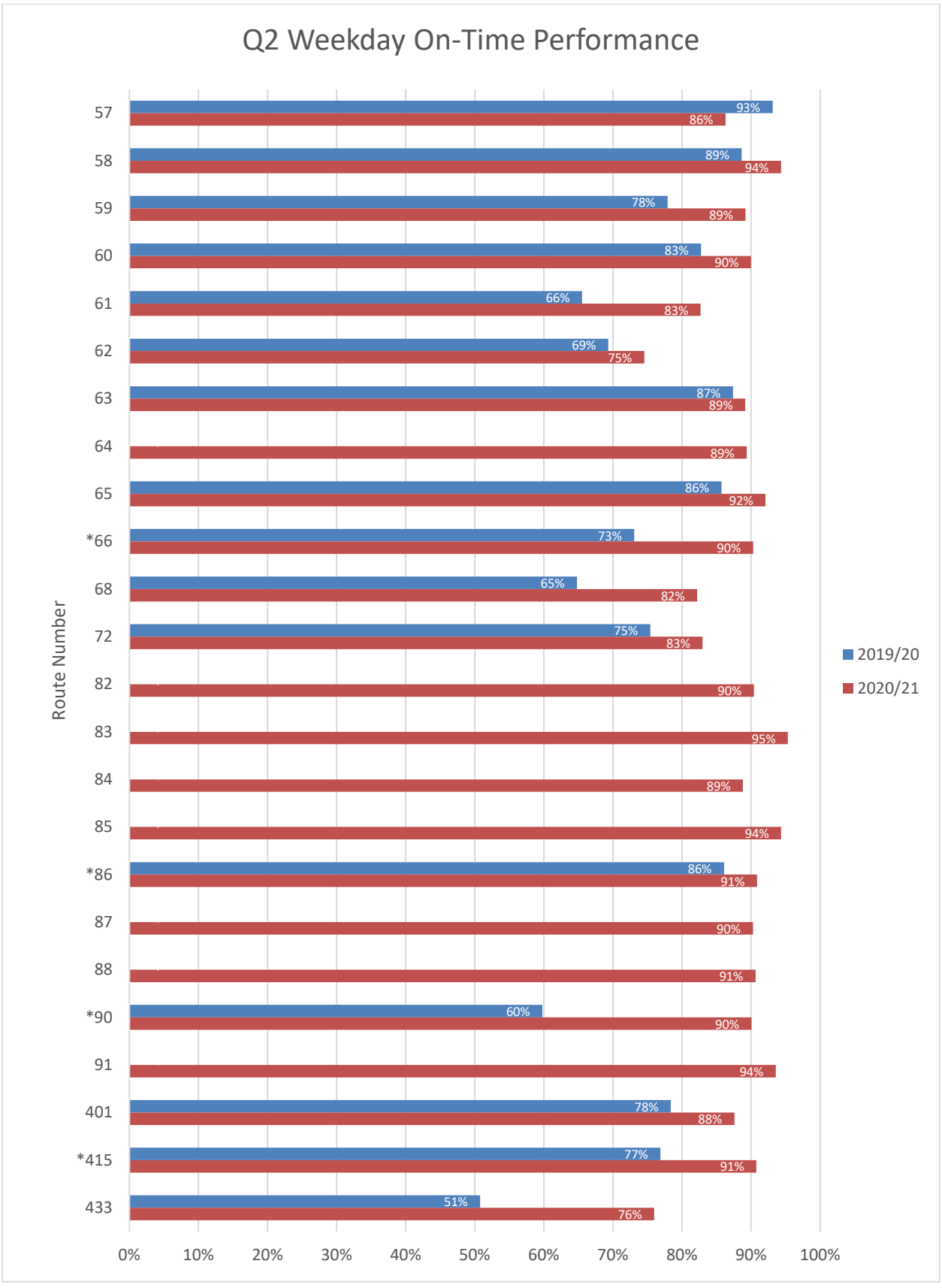
Transit industry standard targets for on-time performance tend to range between 85% and 90%, although service types are not always comparably grouped, nor are schedule adherence definitions consistent between agencies. Halifax Transit will analyze on-time performance across the network in order to establish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

Overall Network On-Time Performance



Weekday On-Time Performance




Q2 Weekday On-Time Performance
Route Number
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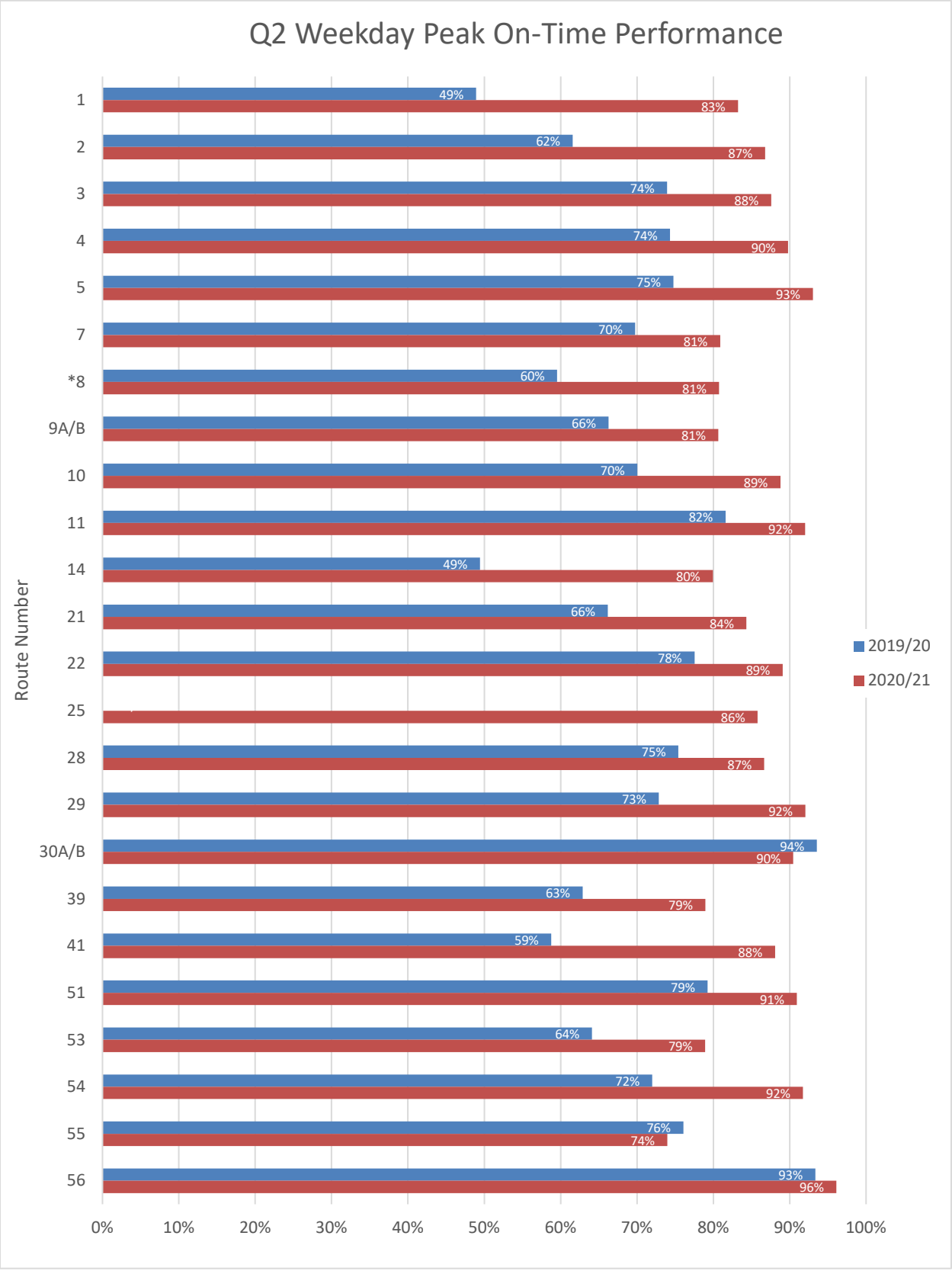
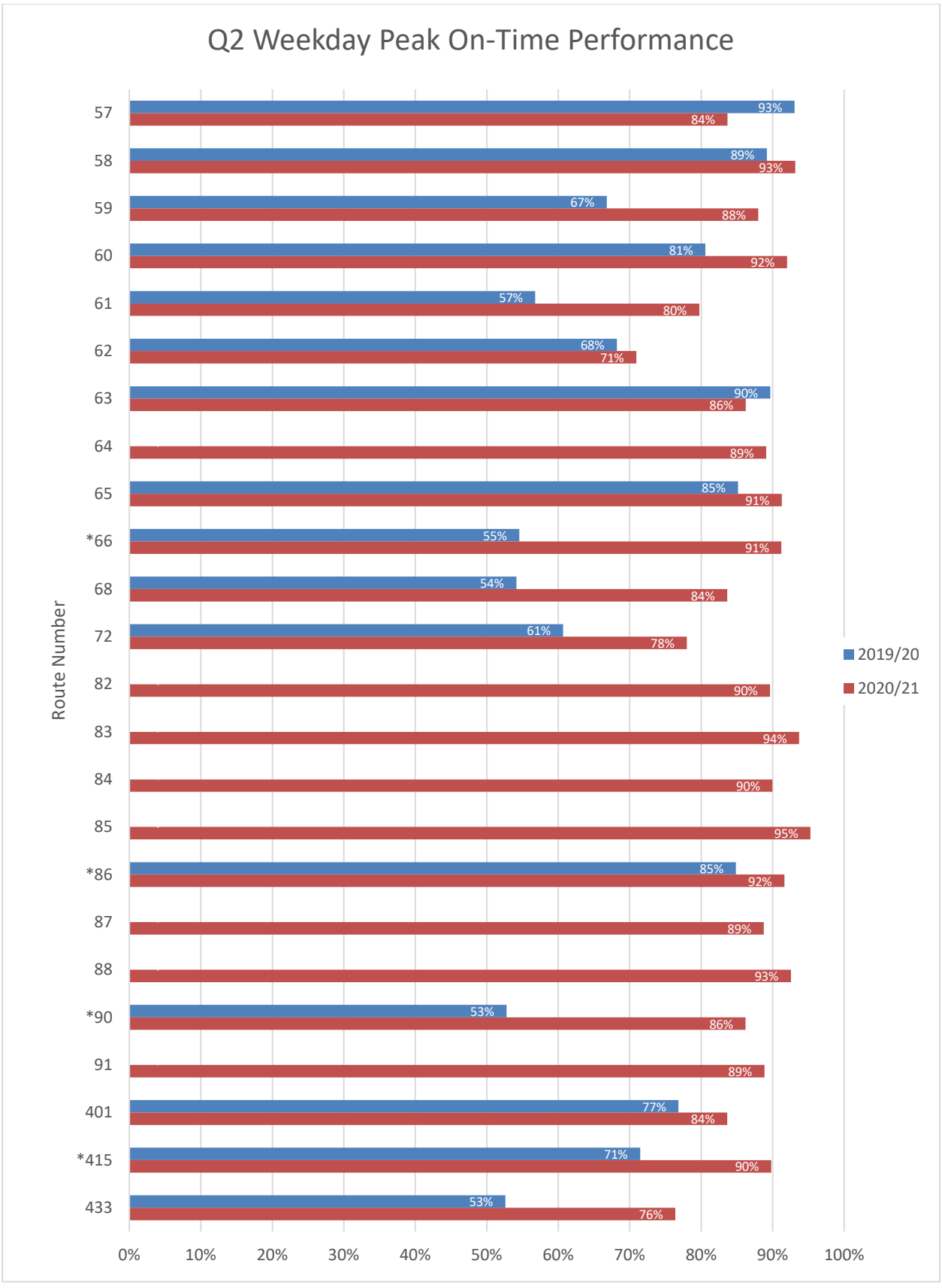
70%
80%
90%
100%
2019/20
2020/21

Weekday Peak Period On-Time Performance




Q2 Weekday Peak On-Time Performance
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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.