Ongoing trend indicators:

- **Favourable**
- **Mixed**
- **Unfavourable**
- **Not applicable**

*Represents four-quarter average of actual results*
### TTC performance scorecard – August 2020

#### Key performance indicator

<table>
<thead>
<tr>
<th>Safety and security</th>
<th>Description</th>
<th>Latest measure</th>
<th>Current</th>
<th>Target</th>
<th>Current status</th>
<th>Ongoing trend</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lost-time injuries</td>
<td>Injuries per 100 employees</td>
<td>Q1 2020</td>
<td>4.33</td>
<td>4.55*</td>
<td>✔️</td>
<td>✗</td>
<td>20</td>
</tr>
<tr>
<td>Customer injury incidents</td>
<td>Injury incidents per 1M boardings</td>
<td>Q1 2020</td>
<td>1.08</td>
<td>1.24*</td>
<td>✔️</td>
<td>✗</td>
<td>21</td>
</tr>
<tr>
<td>Offences against customers</td>
<td>Offences per 1M boardings</td>
<td>Q2 2020</td>
<td>2.33</td>
<td>1.00</td>
<td>✗</td>
<td>✗</td>
<td>23</td>
</tr>
<tr>
<td>Offences against staff</td>
<td>Offences per 100 employees</td>
<td>Q2 2020</td>
<td>4.33</td>
<td>4.18</td>
<td>✗</td>
<td>✗</td>
<td>25</td>
</tr>
</tbody>
</table>

#### Ridership

| Ridership                            | Monthly ridership                     | June 2020      | 11.2M   | 51.2M  | ✗              | ✗             | 26   |
| Ridership                            | Year-to-date ridership                | 2020 YTD (to June) | 141.7M | 269.0M | ✗              | ✗             | 26   |

Ongoing trend indicators:  ✔️ Favourable  🔄 Mixed  ✖️ Unfavourable  💡 Not applicable

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<table>
<thead>
<tr>
<th>Key performance indicator</th>
<th>Description</th>
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<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRESTO ridership</td>
<td>Monthly ridership</td>
<td>June 2020</td>
<td>10.7M</td>
<td>46.7M</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td>PRESTO ridership</td>
<td>Year-to-date ridership</td>
<td>2020 YTD (to June)</td>
<td>129.3M</td>
<td>240.9M</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td>Wheel-Trans ridership</td>
<td>Monthly ridership</td>
<td>June 2020</td>
<td>79,648</td>
<td>404,655</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Wheel-Trans ridership</td>
<td>Year-to-date ridership</td>
<td>2020 YTD (to June)</td>
<td>1.0</td>
<td>2.1M</td>
<td>●</td>
<td>●</td>
<td>29</td>
</tr>
<tr>
<td>Customer experience</td>
<td>Customer satisfaction score</td>
<td>Q1 2020</td>
<td>76%</td>
<td>80%</td>
<td>✗</td>
<td>✓</td>
<td>30</td>
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<tr>
<td>Subway services</td>
<td>Scheduled headway performance at end terminals</td>
<td>June 2020</td>
<td>93.1%</td>
<td>90.0%</td>
<td>✓</td>
<td>✓</td>
<td>31</td>
</tr>
<tr>
<td>Subway services</td>
<td>Scheduled headway performance at end terminals</td>
<td>June 2020</td>
<td>96.9%</td>
<td>90.0%</td>
<td>✓</td>
<td>✓</td>
<td>32</td>
</tr>
<tr>
<td>Subway services</td>
<td>Scheduled headway performance at end terminals</td>
<td>June 2020</td>
<td>95.2%</td>
<td>90.0%</td>
<td>✓</td>
<td>✓</td>
<td>33</td>
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</table>

Ongoing trend indicators: 

✓ Favourable 

Mixed 

✗ Unfavourable 

● Not applicable

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<tr>
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<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-time performance Line 4</td>
<td>Scheduled headway performance at end terminals</td>
<td>June 2020</td>
<td>99.4%</td>
<td>90.0%</td>
<td>✓</td>
<td>✓</td>
<td>34</td>
</tr>
<tr>
<td>Capacity Line 1</td>
<td>Trains-per-hour during peak</td>
<td>June 2020</td>
<td>98.3%</td>
<td>96.0%</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Capacity Bloor-Yonge Station</td>
<td>Trains-per-hour (8 a.m. to 9 a.m.)</td>
<td>June 2020</td>
<td>100.0%</td>
<td>96.0%</td>
<td>✓</td>
<td>✓</td>
<td>35</td>
</tr>
<tr>
<td>Capacity St George Station</td>
<td>Trains-per-hour (8 a.m. to 9 a.m.)</td>
<td>June 2020</td>
<td>100.0%</td>
<td>96.0%</td>
<td>✓</td>
<td>✓</td>
<td>35</td>
</tr>
<tr>
<td>Capacity Line 2</td>
<td>Trains-per-hour during peak</td>
<td>June 2020</td>
<td>99.6%</td>
<td>96.0%</td>
<td>✓</td>
<td>✓</td>
<td>36</td>
</tr>
<tr>
<td>Capacity Line 3</td>
<td>Trains-per-hour during peak</td>
<td>June 2020</td>
<td>95.8%</td>
<td>98.0%</td>
<td>✗</td>
<td>✗</td>
<td>37</td>
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<tr>
<td>Capacity Line 4</td>
<td>Trains-per-hour during peak</td>
<td>June 2020</td>
<td>100%</td>
<td>98.0%</td>
<td>✓</td>
<td>✓</td>
<td>38</td>
</tr>
<tr>
<td>Amount of service</td>
<td>Average weekly service hours delivered</td>
<td>May 2020</td>
<td>8,961 h</td>
<td>9,433 h</td>
<td>✗</td>
<td>✗</td>
<td>39</td>
</tr>
<tr>
<td>Vehicle reliability T1 trains</td>
<td>Mean distance between failures</td>
<td>June 2020</td>
<td>292,003 km</td>
<td>300,000 km</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td>Vehicle reliability TR trains</td>
<td>Mean distance between failures</td>
<td>June 2020</td>
<td>434,005 km</td>
<td>600,000 km</td>
<td>✗</td>
<td>✗</td>
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Ongoing trend indicators: ✓ Favourable  ✗ Mixed  ✗ Unfavourable  ✚ Not applicable
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<thead>
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<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service availability</td>
<td>Daily average service delivered</td>
<td>June 2020</td>
<td>100%</td>
<td>100%</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Subway cleanliness</td>
<td>Audit score</td>
<td>Q2 2020</td>
<td>90.0%</td>
<td>90.0%</td>
<td>✓</td>
<td>✓</td>
<td>43</td>
</tr>
<tr>
<td>Streetcar services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streetcar services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-time performance</td>
<td>On-time departures from end terminals</td>
<td>June 2020</td>
<td>81.1%</td>
<td>90.0%</td>
<td>×</td>
<td>✓</td>
<td>44</td>
</tr>
<tr>
<td>Short turns</td>
<td>Monthly total short turns</td>
<td>June 2020</td>
<td>42</td>
<td>296</td>
<td>✓</td>
<td>✓</td>
<td>46</td>
</tr>
<tr>
<td>Amount of service</td>
<td>Average weekly service hours</td>
<td>May 2020</td>
<td>16,174 h</td>
<td>16,016 h</td>
<td>✓</td>
<td>—</td>
<td>47</td>
</tr>
<tr>
<td>Vehicle reliability:</td>
<td>Mean distance between failures</td>
<td>June 2020</td>
<td>68,844 km</td>
<td>35,000 km</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Contractual</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle reliability:</td>
<td>Mean distance between failures</td>
<td>June 2020</td>
<td>37,070 km</td>
<td>35,000 km</td>
<td>✓</td>
<td>✓</td>
<td>49</td>
</tr>
<tr>
<td>Operational</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road calls and change offs</td>
<td>Average daily road calls or vehicle change offs</td>
<td>June 2020</td>
<td>3</td>
<td>2.4</td>
<td>×</td>
<td>✓</td>
<td>51</td>
</tr>
<tr>
<td>Service availability</td>
<td>Daily number of vehicles available for service</td>
<td>June 2020</td>
<td>100%</td>
<td>100%</td>
<td>✓</td>
<td>✓</td>
<td>52</td>
</tr>
</tbody>
</table>

Ongoing trend indicators: ✓ Favourable  – Mixed  – Unfavourable  – Not applicable

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<table>
<thead>
<tr>
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<th>Description</th>
<th>Latest measure</th>
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<th>Target</th>
<th>Current status</th>
<th>Ongoing trend</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streetcar cleanliness: Pre-service</td>
<td>Audit score</td>
<td>Q2 2020</td>
<td>82.6%</td>
<td>90.0%</td>
<td>✗</td>
<td>✗</td>
<td>53</td>
</tr>
<tr>
<td>Streetcar cleanliness: In-service &amp; post-service</td>
<td>Audit score</td>
<td>Q2 2020</td>
<td>78.1%</td>
<td>90.0%</td>
<td>✗</td>
<td>✗</td>
<td>54</td>
</tr>
<tr>
<td><strong>Bus services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-time performance</td>
<td>On-time departures from end terminals</td>
<td>June 2020</td>
<td>87.5%</td>
<td>90.0%</td>
<td>✗</td>
<td>✔</td>
<td>55</td>
</tr>
<tr>
<td>Short turns</td>
<td>Monthly total short turns</td>
<td>June 2020</td>
<td>5</td>
<td>1,350</td>
<td>✔</td>
<td>✔</td>
<td>57</td>
</tr>
<tr>
<td>Amount of service</td>
<td>Average weekly service hours</td>
<td>May 2020</td>
<td>127,245 h</td>
<td>131,724 h</td>
<td>✗</td>
<td>✗</td>
<td>58</td>
</tr>
<tr>
<td>Vehicle reliability: eBus</td>
<td>Mean distance between failures</td>
<td>June 2020</td>
<td>20,000 km</td>
<td>24,000 km</td>
<td>✗</td>
<td>✔</td>
<td>59</td>
</tr>
<tr>
<td>Vehicle reliability: Hybrid</td>
<td>Mean distance between failures</td>
<td>June 2020</td>
<td>30,000 km</td>
<td>24,000 km</td>
<td>✔</td>
<td>✔</td>
<td>60</td>
</tr>
<tr>
<td>Vehicle reliability: Diesel</td>
<td>Mean distance between failures</td>
<td>June 2020</td>
<td>20,000 km</td>
<td>12,000 km</td>
<td>✔</td>
<td>✔</td>
<td>61</td>
</tr>
<tr>
<td>Road calls and change offs</td>
<td>Average daily road calls or vehicle change offs</td>
<td>June 2020</td>
<td>18</td>
<td>24</td>
<td>✔</td>
<td>✔</td>
<td>63</td>
</tr>
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</table>

Ongoing trend indicators: ✔ Favourable ✗ Mixed ✗ Unfavourable ✝ Not applicable

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<table>
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<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service availability</td>
<td>Daily average service delivered</td>
<td>June 2019</td>
<td>128.8%</td>
<td>100%</td>
<td>✓</td>
<td>✓</td>
<td>64</td>
</tr>
<tr>
<td>Bus cleanliness: Pre-service</td>
<td>Audit score</td>
<td>Q2 2020</td>
<td>98.3%</td>
<td>90.0%</td>
<td>✓</td>
<td>✓</td>
<td>65</td>
</tr>
<tr>
<td>Bus cleanliness: In-service &amp; post-service</td>
<td>Audit score</td>
<td>Q2 2020</td>
<td>86.7%</td>
<td>90.0%</td>
<td>✖</td>
<td>✖</td>
<td>66</td>
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</tbody>
</table>

**Wheel-Trans services**

<table>
<thead>
<tr>
<th>Key performance indicator</th>
<th>Description</th>
<th>Latest measure</th>
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<th>Ongoing trend</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-time performance</td>
<td>% within 20 minutes of schedule</td>
<td>June 2020</td>
<td>97.1%</td>
<td>90.0%</td>
<td>✓</td>
<td>✓</td>
<td>67</td>
</tr>
<tr>
<td>Vehicle reliability</td>
<td>Mean distance between failures</td>
<td>June 2020</td>
<td>20,000 km</td>
<td>12,000 km</td>
<td>✓</td>
<td>✓</td>
<td>68</td>
</tr>
<tr>
<td>Accommodation rate</td>
<td>Percentage of requested trips completed</td>
<td>June 2020</td>
<td>99.9%</td>
<td>99.0%</td>
<td>✓</td>
<td>✓</td>
<td>69</td>
</tr>
<tr>
<td>Average wait time</td>
<td>Average amount of time a customer waits before call is answered</td>
<td>June 2020</td>
<td>4.1 min</td>
<td>15 min</td>
<td>✓</td>
<td>✓</td>
<td>70</td>
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</tbody>
</table>

**Station services**

<table>
<thead>
<tr>
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<th>Description</th>
<th>Latest measure</th>
<th>Current</th>
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<th>Current status</th>
<th>Ongoing trend</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station cleanliness</td>
<td>Audit score</td>
<td>Q2 2020</td>
<td>75.8%</td>
<td>75.0%</td>
<td>✓</td>
<td>✖</td>
<td>71</td>
</tr>
</tbody>
</table>

Ongoing trend indicators: ✓ Favourable  ✖ Mixed  ✗ Unfavourable  ◼ Not applicable
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<th>Ongoing trend</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator availability</td>
<td>Per cent available</td>
<td>June 2020</td>
<td>96.4%</td>
<td>98.0%</td>
<td>✗</td>
<td>✓</td>
<td>72</td>
</tr>
<tr>
<td>Escalator availability</td>
<td>Per cent available</td>
<td>June 2020</td>
<td>96.9%</td>
<td>97.0%</td>
<td>✗</td>
<td>✗</td>
<td>73</td>
</tr>
<tr>
<td>Fare gates</td>
<td>Per cent available</td>
<td>May 2020</td>
<td>99.65%</td>
<td>99.50%</td>
<td>✓</td>
<td>✓</td>
<td>74</td>
</tr>
<tr>
<td>PRESTO fare card readers</td>
<td>Per cent available</td>
<td>June 2020</td>
<td>99.11%</td>
<td>99.99%</td>
<td>✗</td>
<td>✓</td>
<td>76</td>
</tr>
<tr>
<td>PRESTO Fare Vending Machines</td>
<td>Per cent available</td>
<td>June 2020</td>
<td>99.26%</td>
<td>95.00%</td>
<td>✓</td>
<td>✓</td>
<td>77</td>
</tr>
<tr>
<td>PRESTO Self-Serve Reload Machines</td>
<td>Per cent available</td>
<td>June 2020</td>
<td>99.89%</td>
<td>95.00%</td>
<td>✓</td>
<td>✓</td>
<td>78</td>
</tr>
<tr>
<td>PRESTO Fares and Transfer Machines</td>
<td>Per cent available</td>
<td>June 2020</td>
<td>99.60%</td>
<td>95.00%</td>
<td>✓</td>
<td>✓</td>
<td>79</td>
</tr>
</tbody>
</table>

Ongoing trend indicators: ✗ Favourable  ❌ Mixed  ✖ Unfavourable  ■ Not applicable

*Represents four-quarter average of actual results
I am extremely pleased to begin this month’s commentary by expressing our appreciation to the provincial and federal government for the first $404 million in recovery and relief funding coming to the TTC under the Safe Restart Agreement. This is the first installment of a two-phase announcement that will help us address the unprecedented revenue losses and unexpected costs we have incurred as a result of the global COVID-19 pandemic.

This is good news for the TTC and we are truly appreciative to know this support is coming soon. We will continue to work closely with all orders of government on the exact details and timing in the weeks to come.

**eBuses**

Even though addressing the COVID-19 pandemic has become a top priority at the TTC this year, we have also been working closely with Toronto Hydro over the past three years to successfully deliver a charging system infrastructure for our first 60 zero-emission battery-electric buses (or eBuses).

This work is recognized across the transit industry as the most critical and challenging aspect of fleet electrification. As we look towards full electrification of our bus, Wheel-Trans and non-revenue fleets over the next two decades, it is clear that we need to continue to build on our work with Toronto Hydro and expand strategic partnerships with our utility providers.

With this in mind, and in preparation for our report back to the TTC
Board, we continue to explore potential partnership opportunities for delivery of eBus infrastructure with Toronto Hydro and Ontario Power Generation (OPG). This has the potential to result in Canada’s first tri-party agreement between a transit agency and its utilities to jointly implement full-fleet electrification.

This agreement would outline the roles and responsibilities for an innovative capital delivery model between public agencies and corporations. Toronto Hydro would deliver increased electrical service capacity to each of our garages ahead of the electrification schedule.

In turn, OPG would design, build, operate and maintain all on-site charging infrastructure under a co-investment and co-ownership model. A high-level overview of this potential opportunity will be included in our report to the TTC Board in October and a settled agreement is tentatively targeted for review and approval by the Board in Q1 2021.

In addition to having the largest fleet of eBuses in North America, the TTC is the only agency with buses from three manufacturers — BYD Canada (BYD), New Flyer Industries (NFI) and Proterra — allowing for the transit industry’s first head-to-head evaluation of long-range eBuses.

Over the next two years, the head-to-head program will include:

- Assessments of customer and employee satisfaction
- Engineering tests of both vehicles and charging system performance
- Evaluation of vendor performance

**Streetcars**

A critical piece of the TTC’s restart and recovery plans is our capacity to accelerate state-of-good-repair and capital projects at a time when ridership is low.

Since the start of the year, when the final low-floor streetcar entered service, TTC streetcar crews have been jointly working with Bombardier to complete outstanding vehicle modification programs, address warranty items and strengthen the inventory supply chain.

The procurement of our first accessible streetcar fleet has been, and continues to be, a major transformation at the TTC. Significant changes were required to infrastructure, processes and employee development. As a result, TTC staff developed a seven-point action plan focusing on the following areas:

- Maintenance facility renovations;
- Streetcar way and overhead conversion;
- Vehicle maintenance state-of-good-repair program
development and implementation;

- Vehicle maintenance tooling, equipment and maintenance systems upgrades;
- Operational process changes;
- Employee training and development; and
- Business transformation review.

Over the last few months, streetcar staff have taken advantage of reduced ridership and service levels to accelerate state-of-good-repair work that falls under both Bombardier’s and the TTC’s areas of responsibility.

Starting with the Major Repair Program, the TTC and Bombardier have been accelerating repairs on the first 67 streetcars. By increasing the number of vehicles in the program to a high of 22 from seven originally, we are advancing the completion of major repairs by two years — to the end of 2021 rather than 2023. Opportunities are being explored to accelerate the program by an additional six months.

**Subway**

With regards to the subway, I wrote previously in my commentary about the extended subway closure we undertook in late June. We continue to take advantage of low ridership. It has proved very productive in the volume of work accomplished to repair and renew tunnel and track infrastructure.

In early August the Automatic Train Control (ATC) Project team performed revenue speed testing for the next phase of the project between Queen and Rosedale. The tests performed bring us one step closer to extending ATC service on Line 1 from Vaughan to Rosedale.

The project is on track for completing the next phase of revenue service to Rosedale in November 2020.

Every year teams of skilled workers carry out complex installations and overhaul of track, signals and other safety-critical equipment across the subway network. Regular repair and renewal of our subway infrastructure and rolling stock is absolutely critical to maintaining safe and reliable service.

I am proud of the work we do here and will continue to advocate that safety remain our priority.
**PRESTO**

In June of last year, a PRESTO update was provided to the TTC Board which highlighted key contract deliverables that had been met as well as some outstanding items that were yet to be delivered as part of the Master E-Fare Agreement. The TTC and Metrolinx have worked with urgency and commitment towards this settlement recognizing that both organizations want to spend time focusing on moving forward and improving the customer experience in fare payment on the TTC.

Over the last five months, the TTC and Metrolinx staff have been participating in ongoing discussions. The discussions have been focused on the following:

- Resolving financial claims related to PRESTO contract as well as other TTC and Metrolinx rapid transit construction issues related to the Eglinton Crosstown and Finch LRT programs
- Receiving from Metrolinx a delivery plan and schedule of the remaining contracted items from the Master E-Fare Agreement
- Developing a new governance structure for the TTC-PRESTO agreement that will ensure effective input and oversight
- Agreeing on improvement to the dispute resolution process to more effectively address future disputes
- Assessing a revised method of managing and reconciling fare revenue collected by the PRESTO system
- Confirming the roadmap and procurement strategy for the modernization of PRESTO technology (including Open Payments) with inputs and direction from the TTC’s 5-Year Fare Policy and 10-Year Fare Collection Strategy

The new governance structure will allow greater bilateral decision-making involving both TTC and Metrolinx.

While there is a great deal of work ahead, progress to date on all these issues has been positive and we will be bringing a PRESTO update to the September Board meeting. The report will update Commissioners on these discussions and highlight the advancements and progress that have been made since the last PRESTO update in 2019.

**Safety**

Since the outbreak of the pandemic, the TTC has proactively increased its scheduled cleaning routines to mitigate the spread of this dreadful disease and protect both our employees and customers. We are disinfecting common touch points on vehicles and in stations multiple times daily.
As we continue to put safety first and foremost, the TTC purchased almost 600 foot-activated hand sanitizer dispensers from a local Canadian company called Canadian Mill Nettclean Supply Inc. to distribute throughout the system.

With Toronto and the rest of the GTA now in Stage 3 of the Province’s economic recovery plan, public transit continues to play a vital role during reopening of our city and region. By wearing a face covering, our customers are doing their part to make sure the virus has nowhere to go.

Nearly 95 per cent of customers riding the TTC are wearing a face covering since they became mandatory on the TTC at the start of July. Even before face coverings became mandatory, our Research & Analytics staff started conducting regular observations at key locations across the system.

Having said that, I need to emphasize that there are exceptions to wearing a face covering on the TTC; for example, people with medical conditions and TTC employees working behind physical barriers. It is important for all of us to keep this top of mind while using our services.

### Accessibility

Last month, accessibility in the subway received a lift — two actually — when a pair of elevators entered service at Wellesley Station.

Wellesley became our 47th accessible subway station. A new emergency exit was also opened at this location. Easier access at Chester and Dupont stations is nearing completion while work continues at Wilson, Runnymede and Bay where elevators are scheduled to be operational by year’s end.

With contracts approved by the Board in July, construction at Donlands and College is scheduled to start in Q3 2020, which will also involve building new emergency exits. Elevator construction continues at Yorkdale, Sherbourne, Keele and Lansdowne.

We have accelerated the Easier Access Phase III Project to ensure that all remaining subway stations become accessible by 2025, in compliance with provincial legislation.

### Russell Hill

This brings me to a deeply tragic episode in the TTC’s long history. On August 11, the TTC lowered our flags to half-staff in remembrance of the three people killed in the Russell Hill subway tragedy 25 years ago.

I want to extend my heartfelt sympathy to the families of the three women who died in the accident. I know that memories of
the accident remain fresh for many. The crash at Russell Hill remains a tragedy and our thoughts are with all those affected by the event. As you know the safety of customers and operators is paramount to all the TTC does. Actions taken by the TTC in the wake of the tragedy included new protocols and procedures for subway operations, the signaling system, track and vehicle maintenance, subway communications and employee training.

Since then, the TTC has made state-of-good-repair a priority for capital investments including an upgrade to the signals on Line 1 to an automatic train control system. In 2019, the TTC produced a $33.5 billion Capital Investment Plan that identifies much-needed infrastructure upgrades and repairs. Earlier this year, the City of Toronto approved a new City Building Fund that will allocate billions of dollars to that work.

And finally, at September’s board meeting we will be bringing forward our third COVID-19 report to provide a full update. Stay safe and I look forward to our meeting on September 24, 2020.

Richard J. Leary
Chief Executive Officer
August 2020
COVID-19 dashboard

2020 YTD ridership and revenue

KEY OBSERVATIONS:

- July ridership and revenue saw a slight increase compared to the pandemic low trends, observed in April.
- Ridership is slowly recovering, currently at approximately 63.5% below budget, with a corresponding increase in revenue, currently at approximately 64.9% below budget.
PRESTO taps (August 7, 2020)

*Stage 1 reopening: May 19, Stage 2 reopening: June 24*
Employee absences

Note: Absences include sickness, AWOL, absences related to occupational injuries, approved and unapproved unpaid leaves, and paid leaves. Year-over-year comparison is done on the same categories and excludes paid leaves such as bereavement, jury duty, etc. Weeks 4 and 10 are lower due to statutory holiday (only 4 days reported). 2019 data aligned by weekday (begins at March 25, 2019). 2019 weeks 5 and 10 are lower due to statutory holiday.
Transit services (August 7, 2020)

<table>
<thead>
<tr>
<th>Service Output (per Planned Service)</th>
<th>Subway Service</th>
<th>Streetcar Service</th>
<th>Bus Service</th>
<th>Wheel-Trans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line 1: 100% Service Line 2: 88.89% Service</td>
<td>92% Service</td>
<td>95.83% Service</td>
<td>Service Reduced</td>
<td></td>
</tr>
</tbody>
</table>

Mitigating steps to meet operational needs:
- Meeting 100% of service at a reduced capacity. ¹
- Meeting 100% of service at a reduced capacity. ¹
- Meeting 100% of service at a reduced capacity. ¹
- Extra buses added to key routes for front line workers
- Service Reduction due to decrease in weekly Ridership (down 71% versus 2020 budget estimates)

<table>
<thead>
<tr>
<th>Operator COVID-19 Related Absences</th>
<th>0</th>
<th>9</th>
<th>40</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19 Absence Rate</td>
<td>0.0%</td>
<td>1.6%</td>
<td>0.9%</td>
<td>0.2%</td>
</tr>
<tr>
<td>OT hours (hh:mm)</td>
<td>0:00 ²</td>
<td>4:00 ²</td>
<td>224:33 ²</td>
<td>0:00</td>
</tr>
</tbody>
</table>

¹ Reduced Capacity is defined in the Ridership Response Service Plan: 77% or greater than that of the pre-COVID-19 service levels, this has been in effect since May 10, 2020.

² Excludes capital overtime.
Wheel-Trans:
Reservations calls per hour (August 7, 2020)

- YOY, total calls between 5-8am and 8-11pm decreased by 64% (-372)
- Majority of these calls can be attributed WT customers travelling less for non essential reasons (leisure activities, day programs etc.)

<table>
<thead>
<tr>
<th>Time Interval</th>
<th>5 - 6 am</th>
<th>6 - 7 am</th>
<th>7 - 8 am</th>
<th>8 - 9 am</th>
<th>9 - 10 am</th>
<th>10 - 11 am</th>
<th>11 - 12 pm</th>
<th>12 - 1 pm</th>
<th>1 - 2 pm</th>
<th>2 - 3 pm</th>
<th>3 - 4 pm</th>
<th>4 - 5 pm</th>
<th>5 - 6 pm</th>
<th>6 - 7 pm</th>
<th>7 - 8 pm</th>
<th>8 - 9 pm</th>
<th>9 - 10 pm</th>
<th>10 - 11 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>8</td>
<td>16</td>
<td>46</td>
<td>38</td>
<td>38</td>
<td>59</td>
<td>38</td>
<td>45</td>
<td>37</td>
<td>40</td>
<td>43</td>
<td>36</td>
<td>40</td>
<td>50</td>
<td>87</td>
<td>56</td>
<td>49</td>
<td>32</td>
</tr>
<tr>
<td>2019</td>
<td>52</td>
<td>73</td>
<td>158</td>
<td>139</td>
<td>149</td>
<td>170</td>
<td>157</td>
<td>151</td>
<td>135</td>
<td>144</td>
<td>130</td>
<td>123</td>
<td>115</td>
<td>90</td>
<td>59</td>
<td>86</td>
<td>143</td>
<td>67</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Call Volumes (Reservations)</th>
<th>698</th>
<th>306,382</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound Calls Accepted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inbound Calls 2019 (for reference)</td>
<td>2,463</td>
<td>407,382</td>
</tr>
<tr>
<td>Variance (#)</td>
<td>(-1,765)</td>
<td>(-101,000)</td>
</tr>
<tr>
<td>Variance (%)</td>
<td>(-72%)</td>
<td>(-25%)</td>
</tr>
</tbody>
</table>
Lost-time injuries rate (LTIR)

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTIR</td>
<td>7.2</td>
<td>6.5</td>
<td>5.8</td>
<td>5.3</td>
<td>5.0</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Definition
Number of lost-time injuries reported per 100 employees.

Contact
Betty Hasserjian, Chief Safety Officer (Acting)

Note: Q2 2020 data will be available in the September CEO’s Report.

Results
The LTIR for Q1 2020 was 4.33 injuries per 100 employees.

Analysis
The LTIR for Q1 was 5% lower than the four-quarter average. However, there has been an upward trend in the LTIR since 2015.

Action plan
Musculoskeletal/ergonomic type injuries (e.g. overexertion, reach/bend/twist, repetition) continue to account for 23% of all lost-time injuries and represent the highest injury event type since 2014.

The Ergonomic Musculoskeletal Disorder Prevention Program, currently being implemented, focuses on preventing such injuries and resolving ergonomic concerns. Specific training modules for high-risk groups (e.g. Elevating Devices, Wheel-Trans Operators and Track Maintenance) have been developed. The train-the-trainer session has been deferred to fall 2020 due to the COVID-19 pandemic.

Note: In January 2018, under the Workplace Safety and Insurance Board Act, the Province introduced two legislative changes: 1) The new policy on Chronic Mental Stress allows for compensation due to work-related stressors like bullying or harassment; 2) The policy on Traumatic Mental Stress is revised to broaden the spectrum of psychological claims. These changes have created an opportunity for an increase in the reporting of claims related to emotional trauma injuries.
### Customer injury incidents rate (CIIR)

**Results**

The CIIR for Q1 2020 was 1.08 injury incidents per one million vehicle boardings.

**Analysis**

The CIIR for Q1 was 13% lower than the first-quarter average rate of 1.24 injury incidents per one million vehicle boardings. Moreover, the four-quarter average line shows there has been a continued downward trend in the CIIR since 2014.

The decrease in the Q1 CIIR was mainly due to the decrease in the bus customer injury rate. This reduction can be partly attributed to the reduction in ridership due to the COVID-19 pandemic. Bus ridership was reduced by 10% in Q1 2020, compared to Q1 2019.

**Action plan**

We will continue to monitor the CIIR and existing customer safety initiatives.

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**Definition**

Number of customer injuries per one million boardings.

**Contact**

Betty Hasserjian,
Chief Safety Officer (Acting)

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*Note: Q2 2020 data will be available in the September CEO’s Report.*
Regulatory compliance

At the May 29, 2019 Audit and Risk Management Committee meeting, a commitment was made to report to the Board on compliance to Safety, Health and Environment regulatory orders and to provide assurance that Commissioners have discharged their legal responsibilities. The table entitled Order compliance, summarizes the number of regulatory orders issued from January 1 to April 4, 2020 and their status.

Contact
Betty Hasserjian,
Chief Safety Officer (Acting)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Orders Issued</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Requirement Orders¹ Non-compliance Orders²</td>
<td></td>
</tr>
<tr>
<td>Ministry of Labour Orders</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Ministry of the Environment, Conservation and Parks Orders</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Technical Standards and Safety Authority Orders</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>City of Toronto - Notice of Violation</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Toronto Fire Services Code Violations</td>
<td>5</td>
<td>34</td>
</tr>
</tbody>
</table>

¹ Orders issued to provide documentation/information.

² Orders issued to remedy contraventions of the Occupational Health and Safety Act or regulations, Environmental Protection Act, City of Toronto Sewers By-Law and Ontario Fire Code.

Note: The next update will be available in the September CEO’s Report.
Offences against customers

Definition
Number of offences against customers per one million vehicle boardings.

Contact
Kathleen Llewellyn-Thomas,
Chief Strategy & Customer Officer

Results
In Q2 2020, the number of crimes against customers per one million vehicle boardings increased to 2.33. This is an 186% increase from last quarter and a 273% increase from the same time last year.

Analysis
The significant increase in this rate is due to reduced ridership numbers during the COVID-19 pandemic. Overall, there was a decrease in the number of offences compared to the previous quarter (107 compared to 179 offences, respectively). However, the reduction in ridership was not proportional to the decrease in offences against customers.

There was a significant decrease in the number of assaults, sexual assaults and robberies while the number of thefts and other offences, such as threats and harassment, remained the same.

Action plan
We continue to monitor these statistics on a regular basis and allocate Transit Special Constables across the network to provide support in the way of special details and initiatives that assist with ongoing and emerging issues.

The Special Constable Service has been doing great work with the City’s Streets to Homes Program. Streets to Homes assists people who may need shelter support or who are experiencing mental health or addiction issues.

Since last April, an innovative partnership has developed between the Special Constable Service’s Community Engagement Unit (CEU) and outreach workers from Streets to Homes. Together, they have been providing support and education to those who require assistance. This partnership has become even more important since the global pandemic has started as they are able to provide further
education to individuals about COVID-19 and how they can stay safe and self-monitor for symptoms.

As of June 4, the team has had nearly 160 interactions with individuals since the start of the pandemic. They've provided shelter space, food vouchers and have arranged for taxi services for those in need of assistance.
Offences against staff

**Definition**
Number of offences per 100 employees.

**Contact**
Kathleen Llewellyn-Thomas,
Chief Strategy & Customer Officer

---

**Results**

In Q2 2020, the number of offences against staff decreased to 4.33 offences per 100 employees. This is a 18% decrease from last quarter and a 11% decrease from the same time last year.

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**Analysis**

There was an overall decrease in offences against staff in Q2 compared to Q1 (166 offences compared to 209 offences, respectively). This decrease was seen particularly in relation to employee assaults, likely due to significantly reduced ridership numbers during the pandemic.

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**Action plan**

We continue to monitor these statistics on a regular basis and allocate Transit Special Constables across the network to provide support in the way of special details and initiatives that assist with ongoing and emerging issues.

---

The Special Constable Service has been doing great work with the City’s Streets to Homes Program. Streets to Homes assists people who may need shelter support or who are experiencing mental health or addiction issues. For more information, please see the “Offences against customers” section on page 23.
Ridership

Period 6 (May 31 to July 4, 2020) revenue ridership totalled 11.237 million or 2.247 million passengers per week. This was a 37.7% increase from period 5 (1.632 million passengers per week). Ridership was 40.012 million below budget (51.249 million) for the period and 39.398 million below the comparable period in 2019.

Year-to-date (periods 1-6) revenue ridership totalled 141.658 million, which was 127.312 million (47.3%) below budget and 124.189 million (46.7%) below the comparable period in 2019.

There were an additional 5.758 million rides lost in March and 1.311 million in April due to reduced monthly pass travel.

Weekly ridership grew from 1.97 million in week 23 (May 31 – June 6 pre-Ontario stage 2) to 2.2 million in week 25 (June 14 – 20, post-Ontario Stage 2). Weekly ridership grew further to 2.6 million in week 27 (June 28-July 4) after Toronto entered Stage 2.

On July 2, the TTC resumed front-door boarding on buses, allowing fare payments with cash, token and tickets, which contributed to the ridership growth.

While period 6 ridership is 77.8% below 2019 results, it represents a 5.87% improvement over period 5, which was 83.7% below 2019 ridership levels. As a result, we’ve seen an improvement from Period 5 to Period 6.

Year-to-date ridership results compared to last year show:

- Adult and post-secondary decreased by 45%.

Contact
Josie La Vita,
Chief Financial Officer
- Senior and youth decreased by 51%.
- Children decreased by 47%.

Ridership is expected to continue to rise, but marginally as the city remains in a state of emergency. Even after the emergency measures are lifted, it is expected that ridership will take time to recover its pre-COVID-19 levels.

**Action plan**

The TTC is in the process of developing the 2021 Annual Service Plan. A status update will be presented at the September Board meeting with the final plan expected to be complete in late 2020.

TTC ridership has started to recover. However, ridership continues to be less than 50% of normal on all modes.

With the objective of matching capacity with demand, the TTC will continue to operate the demand-responsive service plan that was implemented on June 21 through to October 10. Minor service adjustments have been made to take into account seasonal service changes and to accommodate construction projects in the City. The TTC will continue to monitor ridership closely in order to devise service plans for October 11 and beyond.
**PRESTO ridership**

- **Definition**
  Average number of journeys per week using PRESTO fare media, including PRESTO taps and PRESTO pass rides.

- **Contact**
  Josie La Vita, Chief Financial Officer

---

**Results**

Period 6 (May 31 to July 4, 2020)
PRESTO ridership totalled 10.703 million or 2.141 million passengers per week. This was 35.951 million (77.1%) below the budget and 30.251 million below last year's comparable 2019 ridership of 40.954 million.

Year-to-date (periods 1-6) PRESTO ridership totalled 129.274 million or 46.3% below budget and 84.895 million or 39.6% below 2019.

There were an additional 5.293 million rides lost in March and 1.311 million in April due to reduced monthly pass travel.

---

**Analysis**

The PRESTO adoption rate for period 6 dropped slightly to 95.2% from 95.9% in period 5 primarily due to the return of fareboxes on buses starting July 2. This rate will continue to drop as outstanding tickets and tokens (11.7 million units estimated as of July 4) are now accepted on buses.

---

Period pass sales for June of 40,576 saw a slight increase of 3,728 sales over May sales of 36,848. The largest increase was in the adult group (2,067), followed by the post-secondary (1,520), seniors (113) and youth (28).

As the Province’s plan to reopen the economy progresses, period pass sales are expected to increase further in July as more and more customers return to normal activities.

**Action plan**

PRESTO adoption is expected to increase over time as legacy media is phased out, more PRESTO fare options are made available and marketing initiatives encourage further PRESTO adoption.
Wheel-Trans ridership

Definition
Average number of journeys per week using both Wheel-Trans dedicated services and contracted services.

Wheel-Trans ridership is not included in the TTC ridership totals.

Contact
James Ross,
Chief Operating Officer

Results
Ridership in period 6 (May 31 to July 4, 2020) was 79,648 or 15,930 passengers per week. This figure was 80.3% lower than the budgeted 80,931 customers per week.

Period 6 year-to-date (YTD) ridership is 50.7% lower compared to the same period in 2019, and is currently 51.3% (1.083M) under the YTD 2020 budget.

Analysis
As the Province’s reopening plan progresses, there has been an increase in ridership when compared to the previous two months of service during the pandemic. Ridership has increased by 58% when compared to period 5. This remains on target with the adjusted forecast.

Our focus has remained on providing solo rides, special cleans approximately every four hours and personal protective equipment for our operators in order to provide a safe environment.

Action plan
Stage 2 of the Province’s reopening plan was initiated in Toronto on June 24. This stage is having a positive impact on ridership. Wheel-Trans will continue to monitor all aspects of service during the recovery process ensuring that the safety of our customers and staff are the priority.
Customer experience

Customer satisfaction

Results

In Q1 2020, 76% of customers reported high levels of overall satisfaction. This is a decrease from last quarter (81%) and the same time last year (78%).

Analysis

In an effort to expand the reach our Customer Satisfaction Survey (CSS), sampling in Q1 2020 was conducted both by telephone and online — a departure from past waves conducted using only the telephone. As a result of this change in methodology, the CSS is now more representative of the city of Toronto, including a younger demographic and customers living in the GTA.

The decline in satisfaction this quarter is mainly attributed to the shift in methodology. Online respondents are more likely to answer in an unvarnished manner compared to being interviewed over the phone.

March CSS data shows that customer satisfaction was not significantly impacted by the initial COVID-19 emergency response.

Since late March, we have been carrying out customer surveys focused specifically on the COVID-19 pandemic. Results indicate customers are increasingly satisfied with the TTC’s overall response, including safety measures enacted and communication efforts.

Action plan

We will continue to track customer perceptions and changing travel behaviours as the Province begins to reopen the economy.

Note: Q2 2020 data will be available in the September CEO’s Report.

Definition

Overall satisfaction: How satisfied were you overall with the quality of the TTC’s service on the last TTC trip you took?

Contact

Kathleen Llewellyn-Thomas,
Chief Strategy & Customer Officer
Subway services

Line 1 (Finch and Vaughan Metropolitan Centre terminal stations): On-time performance (OTP)

Definition
OTP measures the headway adherence of all service trains at end terminals. Data represents Monday-to-Friday service between 6 a.m. and 2 a.m. To be on time a train must be within 1.5 times of its scheduled headway.

Contact
James Ross,
Chief Operating Officer

Results
In June, this measure improved to 93.1%, up from the 88.5% we recorded in May. Our target of 90% was met.

Analysis
The service schedules were revised on May 11 with a reduced number of trains in place for this board period. Prior to that date, service was reduced in an unscheduled approach that did not align service delivery with our performance measures.

While OTP improved, customers may have noticed slower than usual service on trains towards terminal stations. This is a result of the elimination of step-backs, as noted in previous reports. We are continuing to monitor the risks of reintroducing step-backs during the pandemic, and are increasing management support at the terminals until further changes may be made.

A step-back occurs when an operator enters a train behind the one they arrived on to decrease terminal dwell time and improve throughput.

Action plan
We do not anticipate any significant changes until the September board period at the earliest, but we are constantly monitoring service levels and making adjustments where and when possible to ensure punctual service levels are delivered.
Line 2 (Kennedy and Kipling terminal stations): On-time performance (OTP)

**Definition**
OTP measures the headway adherence of all service trains at end terminals. Data represents Monday-to-Friday service between 6 a.m. and 2 a.m. To be on time a train must be within 1.5 times of its scheduled headway.

**Contact**
James Ross,
Chief Operating Officer

**Results**

In June, this measure improved to 96.9%, up from the 92.7% we recorded in May. Our target of 90% was met.

**Analysis**

The service schedules were revised on May 11 with a reduced number of trains in place for this board period. Prior to that date, service was reduced in an unscheduled approach that did not align service delivery with our performance measures.

Total delay minutes recorded in June on this line decreased by 31.8% from the previous month, mostly due to a significant reduction in unscheduled cancelled service.

**Action plan**

We do not anticipate any significant changes until the September board period at the earliest, but we are constantly monitoring service levels and making adjustments where and when possible to ensure punctual service levels are delivered.
Line 3 (Kennedy and McCowan terminal stations): On-time performance (OTP)

**Definition**
OTP measures the headway adherence of all service trains at end terminals. Data represents Monday-to-Friday service between 6 a.m. and 2 a.m. To be on time a train must be within 1.5 times of its scheduled headway.

**Contact**
James Ross, Chief Operating Officer

|Results|
OTP in June was 95.2%, down from the 96.2% we achieved in May.
Our target of 90% was met.

**Analysis**
As this line is smaller and operates fewer trains, it has not been impacted by service reductions stemming from the pandemic as our other lines have been.
Year-to-date we have recorded 38.6% fewer delay minutes when compared to the same period in 2019, with notable reductions in customer-related incidents and fewer fire/smoke-related delays.

**Action plan**
There are no anticipated changes to service schedules on this line in the coming months.
We are monitoring the impact of temporary speed reductions as a result of the higher summer temperatures, however, across the 20-hour service day these restrictions typically only impact approximately six hours in the afternoons when temperatures exceed 25 degrees Celsius.
Line 4 (Don Mills and Sheppard-Yonge terminal stations): On-time performance (OTP)

Results

OTP in June was 99.4%, virtually unchanged from the 99.3% we achieved in May.

Our 90% target was met.

Analysis

This line did not have the same issues related to capacity or workforce reductions as the other lines and ran service as scheduled.

Action plan

There are no anticipated changes to the service schedules on this line.

Definition

OTP measures the headway adherence of all service trains at end terminals. Data represents Monday-to-Friday service between 6 a.m. and 2 a.m. To be on time a train must be within 1.5 times of its scheduled headway.

Contact

James Ross, Chief Operating Officer
Line 1: Capacity

Definition
Total number of trains that travelled through 12 key sampling points during a.m. and p.m. peak as a percentage of trains scheduled. Data is based on Monday-to-Friday service.

Peak periods: 6 a.m. to 9 a.m. and 3 p.m. to 7 p.m.

Contact
James Ross,
Chief Operating Officer

Results
In June, this measure improved to 98.3%, up from the 94.7% we recorded in May. Our target of 96% was met.

Our peak capacity, recorded southbound through Bloor-Yonge and St George stations, achieved 100% through both locations.

Analysis
The service schedules were revised on May 11 with a reduced number of trains in place for this board period. Prior to that date, service was reduced in an unscheduled approach that did not align service delivery with this measure.

We recorded 47.8% fewer delay minutes this period, and while customers should have seen an improved quality of service throughout the period, a restricted speed zone at the north end of Line 1 did impact average trip times by an average of 10 seconds per trip southbound from Finch. June also had fewer minor work zones during revenue hours, which contributed significantly to the greater than one-minute reduction in trip time from Vaughan Metropolitan Centre Station to Finch Station.

Action plan
Having now stabilized our scheduling to match demand, we do not anticipate any significant changes until the September board period at the earliest. Prior to that, however, we still have the ability to increase service levels when and where required through the use of Run-As-Directed trains.
Line 2: Capacity

Definition
Total number of trains that travelled through 10 key sampling points during a.m. and p.m. peak as a percentage of trains scheduled. Data based on Monday-to-Friday service.

Peak periods: 6 a.m. to 9 a.m. and 3 p.m. to 7 p.m.

Note: Capacity delivered is the actual train count divided by the scheduled train count for each hour at sampled locations. Data is based on weekday service from Monday to Friday.

Contact
James Ross,
Chief Operating Officer

Results
In June, this measure improved to 99.6%, up from the 93.8% we recorded in May. Our target of 96% was met.

Analysis
Similar to Line 1, May’s schedule changes remained in place for all of June. This aligned our performance measure to our schedule, which is reflected in the improvement in performance. Further, a 31.8% reduction in delay minutes helped this line run within 0.7 trains-per-hour of the target during peak periods for all of June.

Action plan
Having now stabilized our scheduling to match demand, we do not anticipate any significant changes until the September board period at the earliest. Prior to that, however, we still have the ability to increase service levels when and where required through the use of Run-As-Directed trains.
Line 3: Capacity

**Definition**

Total number of trains that travelled through two key sampling points during a.m. and p.m. peak as a percentage of trains scheduled. Data is based on Monday to Friday service.

Peak periods: 6 a.m. to 9 a.m. and 3 p.m. to 7 p.m.

**Contact**

James Ross, Chief Operating Officer

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**Results**

Performance on Line 3 improved during the a.m. peak and declined during the p.m. Our peak period average slipped to 95.8%, down from the 96.6% we recorded in May.

Our target of 98% was not met.

**Analysis**

Speed restrictions are put into place periodically on this line when temperatures reach 25 degrees Celsius. In June, the higher temperatures resulted in 14 days of temporary speed restrictions as the temperature climbs throughout the day. This is the reason why the p.m. peaks are so much lower than the a.m. peaks on the same day.

**Action plan**

This line has remained dependable for our customers and the impact of speed restrictions due to high temperatures has a minimal effect on journey times.

It is expected that the p.m. peak periods will continue to negatively impact this measure until at least September when cooler temperatures return.
Line 4: Capacity

**Definition**
Total number of trains that travelled through two key sampling points during a.m. and p.m. peak as a percentage of trains scheduled. Data is based on Monday to Friday service.

_Peak periods: 6 a.m. to 9 a.m. and 3 p.m. to 7 p.m._

**Contact**
James Ross,
Chief Operating Officer

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**Results**

This line continues to perform well and meet target. We achieved 100% in June and our 98% target was met.

**Analysis**

Due to the resilient nature of this line and less demanding schedule, the pandemic has had little effect on its performance.

**Action plan**

It is not anticipated that any future schedule adjustments will impact service levels on this line.
**Subway: Weekly service hours**

Definition  
*Calculated duration of time that all revenue trains are in service.*

Contact  
*Kathleen Llewellyn-Thomas, Chief Strategy & Customer Officer*

<table>
<thead>
<tr>
<th>Results</th>
<th>Action plan</th>
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</thead>
<tbody>
<tr>
<td>In the May 2020 board period, 11,119 subway weekly hours were budgeted for service while 9,433 subway weekly hours were scheduled to operate, which represents a -15.16% variance.</td>
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</tbody>
</table>
| Of the 9,433 subway weekly hours scheduled to operate, 8,961 weekly hours were actually delivered, which represents a variance of -5%.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Scheduled service hours are lower than budgeted as a result of temporary service reductions in response to lower ridership demand due to the COVID-19 pandemic.</td>
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<tr>
<td>Actual service hours are lower than scheduled service hours. The majority of the variance can be attributed to planned subway closures that are required to conduct expedited state-of-good-repair work on subway infrastructure.</td>
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<table>
<thead>
<tr>
<th>Action plan</th>
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<tbody>
<tr>
<td>We will continue to monitor service hours during the pandemic.</td>
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</table>
Subway T1 train:
Mean distance between failures (MDBF)

**Definition**

Total kilometres travelled in month compared to the number of rolling stock equipment incidents resulting in delays of five minutes or more. Includes all seven days of service.

*T1 trains operate on Line 2.*

**Contact**

*Rich Wong,*

*Chief Vehicles Officer*

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**Results**

The MDBF in June was 292,003 kilometres, which is below the target of 300,000 kilometres. The MDBF in May was 478,096 kilometres. The MDBF for June 2019 was 594,311 kilometres with a rolling annual average of 909,718 kilometres.

**Analysis**

In June, there were ten delay incidents greater than or equal to five minutes. The passenger door had four delay incidents, followed by the brake and compressed air systems each with two. The brake and low voltage systems each had one delay incident.

**Action plan**

The passenger door-related incidents were due to a broken door spring, corroded pins on the door control relay panel (DCRP), a faulty door interlock relay and a faulty door lock assembly (DLA). The broken door spring, faulty interlock relay and DLA were replaced, and door systems were all tested to be working properly. The corroded pins on the DCRP were replaced, and the door fault cleared. The doors were cycled tested and the trains were returned back into revenue service with no further issues.

The two brake incidents were a result of a truck over rotation relay (TORR) and a blown F2 fuse. The faulty TORR and blown F2 fuse were replaced, and the brake systems were thoroughly tested. Both vehicles have returned back to revenue service.

The two compressed air incidents were the result of an intermittent failure of the main reservoir safety valve and air compressor failed to start. Carhouse technicians inspected the faults, and found no events indicating the incidents. The main reservoir safety valve was replaced as a preventative measure and the air compressor was also replaced. Both systems were tested and the trains returned back into service.
Subway TR train: Mean distance between failures (MDBF)

![Graph showing Mean Distance Between Failures (MDBF) trends]

**Definition**
Total kilometres travelled in month compared to the number of rolling stock equipment incidents resulting in delays of five minutes or more. Includes all seven days of service.

**TR trains operate on Line 1 and Line 4.**

**Contact**
Rich Wong, Chief Vehicles Officer

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**Results**

The MDBF in June was 434,005 kilometres, which is below the target of 600,000 kilometres. The May MDBF was 398,966 kilometres. The MDBF for June 2019 was 367,856 kilometres with a rolling annual average of 578,022 kilometres.

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**Analysis**

In June, there were ten delay incidents greater or equal to five minutes. The passenger door system had five incidents, followed by the train line with two delay incidents. The HVAC, propulsion invertor, and cab door each had one delay incident.

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**Action plan**

The passenger door-related incidents were a result of one intermittent failing door electronic control unit (DECU), a faulty DECU, two missing clevis pins, and a broken S2 microswitch. The intermittently failing DECU was reset and will be monitored by carhouse technical staff. The faulty DECU was replaced and sent for a failure analysis report.

The two missing clevis pin and lock ring were replaced, and the doors were cycled tested with positive results. The broken S2 microswitch was replaced, and the doors were tested and the train returned back into revenue service with no further incidents.

A door roller program has been developed to address premature failures of this component, which is negatively impacting the reliability of this fleet. This program was scheduled to commence in May 2020, but was delayed due to the COVID-19 pandemic. It is now scheduled to commence in September 2020.

The two train line delay incidents were due to the network being offline. One of the TIMS Vehicle Control Unit - Operation (TVCU-O) was reset and the second was reprogrammed. Both trains have since returned back to revenue service with no further incidents.
Subway: Service availability

Definition
Daily average number of trains put into service (including RADs) compared to the number of trains scheduled for the a.m. peak period. Data represents Monday to Friday only. Holidays excluded.

Contact
Rich Wong, Chief Vehicles Officer

Results
Vehicle availability in June was 100%.

Analysis
We continue to meet the service requirements, meeting the target of 100% vehicle availability. All vehicles were available for service when required.

While ridership has declined due to the COVID-19 pandemic, maintenance staff continue to prepare vehicles to meet 100% of the planned service. Future board periods will be adjusted to match ridership with demand. Decreases in service levels will provide opportunity for increased maintenance.

Action plan
We will continue with the delivery of safe, reliable and clean vehicles to service on all lines.
Subway: Vehicle cleanliness

![Graph showing vehicle cleanliness over quarters]

**Definition**
Average results of third party audit conducted each quarter. Average of “prior” “mid-day” and “end of service” results. Audits conducted weekdays only, excluding holidays.

**Contact**
Rich Wong, Chief Vehicles Officer

**Results**
The target of 90% continued to be met in Q2 2020. This target has been met since Q4 2016.

**Analysis**
Areas of strength in vehicle cleanliness across all fleets and lines were the ceilings, etching/scratchitti, graffiti/stickers and mandatory decals. Factors affecting the quarter-to-quarter overall cleanliness scores in Q2 2020 were overall door cleanliness, windows and exterior. Some trash and debris were documented in the mid-day and end-of-day audits at different stations across all lines.

**Action plan**
Exterior vehicle washes are being performed on all vehicle fleets. Focused power wash program on the T1 fleet will commence in August when a new pressure washer is commissioned. The TR fleet will commence focused power washes in 2021. The floor wash cycle continues to be addressed once every 14 days.

In response to the COVID-19 pandemic we have increased disinfection of all vehicles to twice per day and additional end terminal cleaning on subway vehicles.
Streetcar services

Streetcar: On-time performance (OTP)

Definition
On-time performance measures vehicle departures from end terminals. Vehicles are considered on time if they depart within 59 seconds earlier or five minutes later than their scheduled departure time. Includes all seven days of service. Night routes are excluded.

Contact
James Ross,
Chief Operating Officer

Results
OTP in June was 81.1%, an increase compared to May (77.1%) and a significant increase over the same period last year (60.6%). Our target of 90% was not met.

Analysis
The streetcar OTP in June represents the highest figure achieved over the past five years. Performance started strong for the first two weeks of the period (83.3%). We experienced a drop in performance in the middle of the period during week 25 (the last week of the May board period; 76.8%), but finished relatively strong for the last two weeks of the period (81.1%).

Several planned events brought down the streetcar score for the period. On the first day of the period (May 31), planned inspection work in the Harbourfront tunnel restricted both the 509 Harbourfront and 510 Spadina routes to their scheduled end terminal, Union Station, for the day.

Planned track work also took place along Howard Park Avenue for most of Week 25. With this, the 506 Carlton streetcars operated to Dundas West Station instead of their scheduled end terminal at High Park Loop.

Further, switch repair work to the westbound facing switch on Queen Street at King Street East impacted streetcar operations (June 13 to 26) with both 501 Queen and 504B King streetcars diverting around this area during this time frame.

Finally, overhead repair work at King Street and Shaw Street on the last day of the period (July 4) required both branches of the 504 King route to divert around this location for the day.

On a positive note, the 512 St Clair route met the target over the period (90.3%), while the 511 Bathurst route came in just under the target for the period (89.6%). Also noteworthy is the performance of the 503 Kingston Rd, which began operation on a new streetcar schedule with the start of the June board period (Week 26). During the second week of
operations on the new schedule (Week 27), the performance improved significantly (86.8%) compared to the first week of the new schedule (70.1%).

**Action plan**

The COVID-19 pandemic conditions remain at the forefront of all planning efforts with efforts made to align ridership patterns and service levels for the fall. Efforts to reduce the number of early departures at Union Station will continue. As well, the somewhat poor performance of the 506 Carlton route, as it has returned to bus operations, will be assessed. Finally, a comprehensive review of schedule times to and from streetcar yards is currently being undertaken.
Streetcar: Short turns

Results

There were 42 streetcar short turns in June, an increase compared to May (16) and a decrease from the same period last year (108).

Analysis

June is the 14th consecutive month with short turn figures at significantly decreased levels compared to 2018 or early 2019. The June figure represents approximately one streetcar short turn per day, on average, throughout the network for the period.

The route with the highest number of short turns for the period was the 505 Dundas route (16), while the 501 Queen route was second (14). A majority of the 505 Dundas short turns took place on June 18 and were due to a pantograph-related incident that occurred that day. The 501 Queen short turns were spread throughout the month, and were due to a variety of largely uncontrollable events that impacted service.

Action plan

Route management staff will continue to monitor the need to short turn streetcars with the goal of minimizing these instances as much as possible.

Definition

Total short turns per month. Includes all seven days of service, excluding night routes.

Contact

James Ross,
Chief Operating Officer
Streetcar: Weekly service hours

Definition
Service hours are calculated from the time a streetcar leaves the yard to when it returns to the yard. Measured daily.

Contact
Kathleen Llewellyn-Thomas, Chief Strategy & Customer Officer

Results
In the May 2020 board period, 19,824 streetcar weekly hours were budgeted for service while 16,016 streetcar weekly hours were scheduled to operate, which represents a -19.21% variance.

Of the 16,016 streetcar weekly hours scheduled to operate, 16,174 streetcar weekly hours were actually delivered, which represents a variance of 0.98%.

Analysis
Scheduled streetcar hours are lower than budgeted as a result of temporary service reductions in response to lower ridership demand due to the COVID-19 pandemic.

Actual service hours match scheduled service hours.

Action plan
We will continue to monitor service hours during the pandemic.
Streetcar: Mean distance between failures (MDBF)

Definition
Total kilometres travelled by the Low-Floor Light Rail Vehicle (LFLRV) fleet compared to the number of incidents (defined contractually) resulting in delays of five minutes or more. Includes all seven days of service. A threshold of 35,000 km was established to reflect the manufacturer’s obligations for reliability. The operational MDBF includes incidents defined contractually, as well as delay incidents that are caused by failures of equipment from other vendors and delays caused by TTC operations.

Contact
Rich Wong, Chief Vehicles Officer

Results

The contractual MDBF in June was 68,844 kilometres. This is an increase of 35,307 kilometres compared to May and an increase of 49,439 kilometres when compared to June of last year.

The 12-month average contractual MDBF was 45,300 kilometres. The contractual target of 35,000 kilometres must be met within one year of commissioning of the 204th vehicle.

The operational MDBF in June was 37,070 kilometres. This is an increase of 16,432 kilometres from previous period.

Analysis

In June, there were a total of 14 relevant failures under the contractual reliability method. The top contributors were the train and cab controls system with seven and the communications system with four.

With respect to the operational MDBF method, there were a total of 26 delays. The top contributors, in addition to the contractual reliability failures, include the air conditioning and car body systems with three failures each, and the ramp and vehicle control systems with two failures each.

The number of air conditioning system failures increased from two in May to three in June. The failures were due to a defective climate control master unit in the cab HVAC, a faulty condenser fan and failure of a HVAC compressor unit.

The car body system had three failures recorded, two of which were due to defective operator arm rests requiring adjustments. The other failure was due to a loose interior panel.

Bent side flaps caused both ramp failures. The two failures of the vehicle control system were due to loose connection of the master controller unit and a faulty vigilance button.

Compared to May, contractual system failures decreased by 10 and operational failures by 13. An increase in service mileage along
with a decrease in overall system failures contributed to improved reliability for June.

**Action plan**

Vehicle modification programs designed to address the root cause(s) of failures are at various stages of development and implementation. These reliability improvement programs continue to be refined as service mileage increases and more in-service data becomes available.

**Train and cab control system:** We are continuing to work with Bombardier and its European supplier to review recent failure modes of the master controller and determine corrective actions that will be implemented in a future fleet modification. Unfortunately, there are ongoing delays due to impact of COVID-19 on the supplier. An engineering investigation of other electrical failures is underway.

**Communication system:** A camera modification program that addresses known issues with image quality and stability has faced ongoing delays due to the impact of the pandemic on the supplier. Also, passenger information system failures are under engineering investigation.

**Train control management system:** Bombardier Engineering is investigating the recent failures related to the datalogger and digital diagnostics display.

**Door system:** Failures appear to be electrical-related and are under engineering investigation for root cause. Cab door lock failure is also under engineering investigation and the supplier is performing a root cause analysis.

**High voltage power system:** Multiple modifications aimed to improve various sub-systems are being implemented on the fleet. This includes adjusting the limit switch on the main switch, and replacement of some trolley pole and pantograph components with more robust ones (e.g. bracket and chain).

**Brake system:** Quality control containment and improvements have been implemented at supplier sites. In addition, component improvements (e.g. seals, guidance shaft and locking pins) are in validation and planning stages with implementation targeted for Q1 2021.

In addition to the contractual programs, operational reliability improvements being made to improve MDBF include:

**Air conditioning system:** Continuous implementation and monitoring of HVAC seasonal preventative maintenance practices, along with increased inspection audits and in-service recovery will help reduce seasonal HVAC system-related delays.

**Car body system:** Improved pre-service inspection, along with increased audits to reduce loose panels and operator seat adjustment issues, which include checking functionality of all components.

**Ramp system:** Implement an improved maintenance program to include updated processes as debris-related failures. We will review causes of bent side guards. TTC Engineering will investigate root cause of bent flaps and review design to prevent further failures.
**Vehicle control system:** Increased inspection audits to help reduce issues with vigilance push button functionality during pre-departure. We will review the current working process to ensure proper installation of master controller unit.

In addition, continued improvement of inspection and pre-service maintenance plans, together with more effective application of operational procedures will help increase the operational MDBF.
Streetcar: Road calls and change offs (RCCOs)

Definition
Average daily number of vehicle-equipment failures requiring a road call for service repair or a change off to a repair facility for a replacement vehicle. Includes Monday to Friday only.

Contact
Rich Wong
Chief Vehicles Officer

Results
The target for the maximum number of RCCOs is 1.5% of peak daily service. In June, 2.2% (or 3 of 133 vehicles) of the peak daily service, including Run-As-Directed (RAD) vehicles, resulted in a RCCO.

Analysis
The number of daily RCCOs remains the same as the previous month. Reduced ridership and passenger loading due to the COVID-19 pandemic, which allows for decreased cycling of major systems and continued improvement of preventative maintenance procedures, have contributed to these figures.

Compared to the previous month, there was a decline in failures of the high voltage and vehicle control systems along with communication equipment. Reductions were offset by an increase in failures of the passenger door system, which was affected by door major faults, the air conditioning system, and the camera system, which had defects related to image quality.

Action plan
Staff will continue to monitor and improve inspection and preventative maintenance performance to further reduce failures with a planned increase in tasks for the air conditioning system in the summer months. Bombardier is aware of the issues related to the doors and camera system and is implementing modification programs to address the issues.
Streetcar: Service availability

Definition
Daily average number of streetcars put into service (including RADs) compared to the number of streetcars scheduled for the a.m. peak period. Data represents Monday-to-Friday only. Holidays excluded.

Contact
Rich Wong, Chief Vehicles Officer

Results

The target for streetcar availability is 100% of peak daily service, including Run-As-Directed (RAD) vehicles. In June 2020, the target requirements were met with an average of 133 vehicles available for service.

Analysis

Availability numbers continue to be met in June.

While ridership has declined due to the COVID-19 pandemic, maintenance staff continue to prepare vehicles to meet 100% of the planned service. Future board periods will be adjusted to match ridership with demands. Decreases in service levels will provide opportunity for increased maintenance.

Action plan

The availability target will be achieved with continued pre-service and preventative maintenance practices.
Streetcar: Cleanliness (Pre-service)

**Definition**
Results of third-party audit conducted each quarter. “In-service” and “post-service” cleanliness results. Audits conducted weekdays only, excluding holidays.

**Contact**
Rich Wong, Chief Vehicles Officer

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**Results**

The audit score for streetcar pre-service cleanliness in Q2 2020 was 82.6%. This is a decrease from both Q1 2020 (84.0%) and Q2 2019 (84.8%). Overall performance on streetcar pre-service cleanliness is below the target of 90%.

**Analysis**

Required maintenance to the exterior carwash system prevented regular exterior washes to be completed. In addition, wet conditions in May and June increased the amount of carbon stains on the exterior of the vehicles due to the overhead pantograph and pole systems.

**Action plan**

The exterior carwash system is undergoing upgrades so that washing can be improved. Staff continue to investigate and identify further improvements for floor cleaning, including additional equipment to increase efficiency and frequency of cleaning activities.

In response to the COVID-19 pandemic we have increased disinfection of all vehicles to twice per day.
Streetcar: Cleanliness (In-service & post-service)

Definition
Results of third-party audit conducted each quarter. “In-service” and “post-service” cleanliness results. Audits conducted weekdays only, excluding holidays.

Contact
Rich Wong, Chief Vehicles Officer

Results
The audit score for in-service and post-service cleanliness was 78.1%. This is an increase from both Q1 2020 (77.4%) and Q2 2019 (76.6%). Overall performance on streetcar in-service and post-service cleanliness is below the target of 90%.

Analysis
Accumulation of dirt and sand deposits on the floor due to wet conditions in May and June negatively impacted in-service and post-service cleanliness results for Q2 2020. Floors, walls and vehicle exteriors are identified areas requiring improvement.

Action plan
In response to the COVID-19 pandemic, we are actively undertaking specific disinfecting of vehicles in-service. Staff will continue to monitor and investigate opportunities for in-service cleaning.
Bus services

Bus: On-time performance (OTP)

Definition
OTP measures vehicle departures from end terminals. Vehicles are considered on time if they depart within 59 seconds earlier or up to five minutes later than their scheduled departure time. Includes all seven days of service. Night routes are excluded.

Contact
James Ross,
Chief Operating Officer

Results
OTP in June was 87.5%, an increase compared to May (85.8%) and an increase over the same period last year (74.5%). Our target of 90% was not met.

Analysis
Bus OTP for the June period represents the highest figure achieved over the past five years. Bus performance for June operated at an 87.3% level for the first three weeks of the period, which aligned with the last three weeks of the May board period. Bus performance increased slightly to 87.7% for the final two weeks of the June period, which reflected the first two weeks of the June board period.

With the June board period, 12 bus routes had additional weekday “trippers” scheduled to reduce crowding for customers during the busiest times on key transit corridors. These 12 routes experienced a minor decrease in performance as a whole when comparing the first three weeks of the June period to the last two weeks of the period (85.4% to 84.1%), when considering when the service increase was made. The minor decrease in performance for this group of routes with the start of the June board period was largely attributable to a decrease in performance for the following three of these 12 routes:

- 41 Keele (5.9% decrease),
- 86 Scarborough (7.8% decrease)
- 165 Weston Rd North (5.4% decrease).

As well for the June board period, four bus routes had schedules adjusted due to construction or seasonal reasons. The 7 Bathurst and 92 Woodbine South both saw performance improvements with these changes when comparing the first three weeks of the period to the last two weeks of the period (increase of 82.8% to 87.3% and 75.9% to 93.3% respectively).

However, the 121 Fort York-Esplanade Eastbound saw a performance drop when viewed this way (80.2% to 63.4%). The 175 Bluffers Park has performed
relatively well thus far in the June board period (85.4%).

Two major station projects continued at Keele and Eglinton West Stations through June. The four local services impacted by the Keele Station work (30 High Park, 41 Keele, 80 Queensway, and 89 Weston) combined for a performance score of 81.2% for the period, down from 82.7% in May, but an increase compared to 71.8% for the same period in 2019.

Regarding the routes related to the Eglinton West Station work, the four local services impacted (32 Eglinton West, 63 Ossington, 109 Ranee, and 163 Oakwood) combined for a performance score of 80.6% for the period, up from the 77.4% for May and higher than the 70.8% for the same period of 2019.

**Action plan**

The service adjustments implemented for the June board period continue the recent trend of board period adjustments allowing for a consistent and relatively high bus network OTP score. Reviews and assessments of the network’s poorest performing routes are taking place and will continue moving forward with the goal of attaining the 90% target. Although all routes are continuously monitored, these reviews will focus on the ten worst performing routes overall, as well as the worst performing routes within the list of our busiest bus routes.
**Bus: Short turns**

**Definition**
Total short turns per month. Includes all seven days of service, night routes excluded.

**Contact**
James Ross,
Chief Operating Officer

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**Results**

There were five bus short turns in June, a small increase over May (two), but a significant improvement from the same period last year (634).

**Analysis**

The June period continues the trend of a very low number of short turns throughout the bus network.

**Action plan**

Our Operations Supervisors in Transit Control are continuing their efforts to ensure the number of bus short turns remains low, ensuring buses complete full trips to end terminals as much as possible.
Bus: Weekly service hours

Definition
Service hours are calculated from the time a bus leaves a garage to the time it returns to the garage. Measured daily. Board period total calculated using a weekly average.

Contact
Kathleen Llewellyn-Thomas, Chief Strategy & Customer Officer

Results

In the May 2020 board period, 155,414 bus weekly hours were budgeted for service while 131,724 bus weekly hours were scheduled to operate, which represents a -15.24% variance.

Of the 131,724 bus weekly hours scheduled to operate, 127,245 hours were actually delivered, which represents a variance of -3.4%.

Analysis

Scheduled service hours are lower than budgeted as a result of temporary service reductions in response to lower ridership demand due to the COVID-19 pandemic.

Actual service hours are lower than scheduled service hours. Some service was cancelled due to the pandemic.

Action plan

We will continue to monitor the service hours during the pandemic.
Bus (eBus): Mean distance between failures (MDBF)

Definition
Total kilometres accumulated over the e-Bus fleet compared to the total number of chargeable mechanical road calls. Data included for all seven days of service.

Contact
Rich Wong
Chief Vehicles Officer

Results
The eBus MDBF in June was 20,000 kilometres. The reliability target has been increased from 12,000 kilometres to 24,000 kilometres due to the improved performance of the fleet.

Analysis
In June, there were 22 New Flyer and 10 Proterra buses in service with one BYD bus registering insignificant mileage for analysis during its commissioning.

Due to the limited number of vehicles and ongoing testing programs, the total service kilometres for the eBus fleet remains relatively low. Improved trending analysis will become available with increased experience. Staff will therefore continue to closely monitor the fleet as it gains mileage and provides sufficient failure modes for trend analysis.

Based on the available data, the top failure mode for the Proterra buses was minor body-related failures. These failures are not affecting service and are being corrected through attrition.

For the New Flyer fleet, we experienced a single no-start condition in-service and a few air conditioning-related failures. These failures did not have a significant impact on service provided by the eBuses.

Action plan
Various design change and investigation projects are underway, all stemming from commissioning and monitoring activities.

We are continuing eBus commissioning efforts that include detailed standard operating procedure development for preventive maintenance programs (service check, lube, etc.) for each eBus type as well as other discovered document updates and registrations. Parts are being scaled and registered in the system to support preventative maintenance and running repairs. Garages are supporting site commissioning and investigation activities.
Bus (Hybrid): Mean distance between failures (MDBF)

Definition
Total kilometres accumulated over the e-Bus fleet compared to the total number of chargeable mechanical road calls. Data included for all seven days of service.

Contact
Rich Wong
Chief Vehicles Officer

Results
The hybrid bus MDBF in June was 30,000 kilometres. The reliability target has been increased from 12,000 kilometres to 24,000 kilometres due to the improved performance of the fleet.

Analysis
Apparent no-start and stalling failures are being identified by operators. These calls are mainly attributed to operator training and education as they start to better understand the automated engine shutdown to fully electric mode, and the addition of the idle shutdown functionality. We will continue to closely monitor related failures via our road call root cause analysis program.

There were three cooling system-related failures that are being addressed through attrition by the cooling system state-of-good-repair program.

Action plan
There are numerous active warranty campaigns designed to correct observed failure modes. Highlights of these campaigns include, BAE Hybrid Drive control system software updates to correct nuisance malfunction indicators and fault codes, updated high voltage bracket design, and harness upgrades to correct EMI faults.

The hybrid buses are performing well above target and we foresee a continuation of this trend. Quarterly technical review meetings are taking place with participation from Nova Bus, BAE Systems and TTC staff.
Bus (Diesel): Mean distance between failures (MDBF)

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**Definition**

Total kilometres accumulated over the e-Bus fleet compared to the total number of chargeable mechanical road calls. Data included for all seven days of service.

**Contact**

Rich Wong
Chief Vehicles Officer

**Results**

The diesel bus MDBF in June was 20,000 kilometres.

**Analysis**

Cooling system and hose/clamp failures continue to impact the diesel fleet.

Air conditioning system failures are also impacting all diesel buses. This failure mode is under investigation and being closely monitored during the summer months.

**Action plan**

Cooling system running failures are being addressed through state-of-good-repair cooling system technical packages customized for each order. A cooling system hose/clamp design change retrofit program is being prototyped, and on schedule to be in production for the Nova 8620-8964 bus series and subsequent orders as per allowable schedule.

Root cause investigations are being performed on all air conditioning failures. Additionally, system temperature tests are being performed pre and post service to ensure reliability.

There is continuous communication with Mobile Climate Control (HVAC original equipment manufacturer for the Nova fleet) and our engineering team to clarify gaps and update service manual content with missing critical information required for system maintenance. We are currently investigating the missing signals required for VISION remote monitoring of HVAC units, so that proactive measures can be taken to avoid related interruption to service.

Cummins emission controls and after treatment failures are being addressed through VISION AVM health monitoring and failure exception reports, engine oil analysis, root cause investigations with Cummins and aftermarket warranty group. Additionally, upcoming online training and implementation of Cummins Expert Diagnostic System will lead the coach technician through a
comprehensive fault based diagnosis and repair. This project is on schedule to be implemented by the end of Q4 2020.

Root cause investigation in to the Diesel Particulate Filter (DPF) failures found that the majority of cleaned units received from our current supplier do not meet contractual requirements. Our Bus Maintenance & Shops department is developing its own internal two stage DPF quality control program. Quality control will be performed prior to distribution to local stores, and by the coach tech prior to installation. The successful implementation of this program should significantly improve the performance of the diesel fleet in service.

Notable highlights of current engineering investigations and projects include protective barriers for operators and prototyping, front door sensitive edge sensors, idle shutdown functionality, and auxiliary heater filter design change due to obsolescence.

Overall continuous improvement in reliability of our fleet and assets is achieved through the implementation of several key reliability and retrofits programs. Examples include: state-of-good-repair inspections, road call and change off (RCCO) root cause analysis, special seasonal preventive maintenance programs, engine oil analysis, engineering modifications and upgrades to assets, and various other system specific programs targeting high failure modes.

Finally, we are planning, executing and closely monitoring COVID-19 pandemic requirements and best practices related to our employees, operations, facilities, and assets. Compliance audits are taking place to ensure that all protocols are being followed.
Bus: Road calls and change offs (RCCOs)

**Definition**
Average daily number of vehicle-equipment failures requiring a road call for service repair or a change off to a repair facility for a replacement vehicle. Monday to Friday data only.

**Contact**
Rich Wong, Chief Vehicles Officer

**Results**
The average number of RCCOs in June was 18 per day, well below target of 1.5% of peak service currently set at 24 RCCO target.

**Analysis**
The significant drop in daily average RCCOs was partially caused by reduced ridership due to the COVID-19 pandemic, as we experienced significantly fewer customer-related road calls. We are starting to see a rise in RRCOs as the Province’s reopening plan progresses.

**Action plan**
We continue to monitor and control road calls via daily tracking, gap analysis, reliability programs, and working closely with the Bus Transportation Department and service line contractor to look at opportunities to reduce road calls.
Bus: Service availability

Definition
Daily average number of buses put into service (including RADs) compared to the number of buses scheduled for the a.m. peak period. Data represents Monday to Friday only. Holidays excluded.

Contact
Rich Wong,
Chief Vehicles Officer

Results
The average number of buses available for a.m. peak service in June was 1,663 buses per day or 128.8% of planned service, above the target of 1,291 buses. Note that the number of buses available now includes spare buses.

Analysis
The significant variance between the service requirements in June (1,291) and available vehicles (1,663) is due to temporarily reduced service levels as a result of the COVID-19 pandemic. We expect a recovery in service level requirements and are currently taking the opportunity to complete outstanding retrofit projects on our fleet.

The significant number of new bus procurements from 2016 into period 12, 2019 (~950) has boosted the fleet performance and permitted a higher number of vehicles available for service. The available vehicles are being utilized for training purposes and permitting the continuation of state-of-good-repair preventative maintenance inspections.

Action plan
We will continue to monitor and control all aspects of maintenance that support continuous improvement initiatives.
Bus: Cleanliness (Pre-service)

**Definition**
Results of third party audit conducted each quarter. “Pre-service” cleanliness results. Audits conducted weekdays only, excluding holidays.

**Contact**
Rich Wong,
Chief Vehicles Officer

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**Results**
The pre-service bus cleanliness score in Q2 was 98.3%, which is above the target of 90%.

**Analysis**
The score deduction of 1.7% is due to the wheel assembly cleanliness of buses coming out of the wash rack. The wash rack is not able to perfectly clean the rims, as required by the current contract scoring structure.

**Action plan**
We will be investigating the root cause of the lower audit score for wheel assemblies by reviewing audit criteria, contractor performance and other discovered contributing factors.

We will continue to closely monitor and control cleaning contractor performance.

In response to the COVID-19 pandemic, we are performing specific cleaning and disinfection of all buses at multiple points during service: Post-service, post a.m. rush and during servicing.
Bus: Cleanliness (In-service & post-service)

Results

The in-service and post-service bus cleanliness average audit score in Q2 2020 was 86.7%.

Analysis

The score deduction of approximately 14% is related to trash and debris, gum, and dirty wheel assemblies. These are typical cleanliness side effects of a working bus in service.

Action plan

We will continue to monitor the cleanliness of the fleet to determine whether increasing the frequency of cleaning is required.

In response to the COVID-19 pandemic, we are performing specific cleaning and disinfection of all buses at multiple points during service: Post-service, post a.m. rush and during servicing.

Definition

Results of third party audit conducted each quarter. “In-service” and “post-service” cleanliness results. Audits conducted weekdays only, excluding holidays.

Contact

Rich Wong,
Chief Vehicles Officer
Wheel-Trans Services

Wheel-Trans: On-time performance (OTP)

<table>
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<th>Month</th>
<th>2020 Actual</th>
<th>2020 Target</th>
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**Definition**
Measures on-time performance of all trips conducted by Wheel-Trans buses. Seven days a week, all time periods included. To be on time, the trip must arrive within 20 minutes of its scheduled arrival.

**Contact**
James Ross,
Chief Operating Officer

**Results**
OTP in June decreased by 0.4% from the previous month to 97.1%, and is 3.6% higher than the same time last year.

**Analysis**
As ridership began to increase in June, there was a decrease in OTP due to the continuation of solo ride trip offerings and maximizing our Wheel-Trans buses for trips.

**Action plan**
As we continue to maximize buses, service adjustments are to be made in order to trip match based on location if possible. This will assist in trips being efficient and on time.
Wheel-Trans: Mean distance between failures (MDBF)

**Definition**
Total kilometres accumulated over the entire fleet compared to the total number of chargeable mechanical road calls. Data included for all seven days of service.

**Contact**
Rich Wong, Chief Vehicles Officer

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**Results**

The June MDBF of 20,000 kilometres exceeded the target of 12,000 kilometres. This is a significant reliability improvement from June 2019 (16,567 kilometres).

**Analysis**

The Wheel-Trans fleet currently consists of 129 ProMaster and 125 Friendly buses. Mechanical driveline failures and diesel exhaust fumes detected by operators continue to account for the most road calls and change-offs for the Friendly bus fleet.

**Action plan**

To help mitigate exhaust system issues on the Friendly bus fleet, we continue to perform post-repair exhaust system checks on all Friendly buses. Vehicle software has been updated with improved functionality to perform operator commanded stationary regeneration to minimize exhaust failures.

Lakeshore Garage is currently 60% through a reliability program that focuses on the ProMaster’s most common failure areas. Items such as mud flaps, all door latches and securement belts as well as electrical system components with a high failure rate are inspected and or replaced to avoid costly out-of-service time.
Wheel-Trans: Accommodated service

**Definition**
Accommodated rate is the percentage of passengers requesting Wheel-Trans services that are actually provided trips by either a Wheel-Trans bus, accessible taxi or sedan taxi.

**Contact**
James Ross,
Chief Operating Officer

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**Results**

The accommodated rate in June was 99.9%. This is 0.9% above our target, and consistent with the same period in 2019.

**Analysis**

As the Province’s reopening plan progresses, we are working to ensure that all trip requests are accommodated. It is recognized that Wheel-Trans customers are highly dependent on transportation services, especially for essential and life-sustaining trips. We have been able to maintain an accommodation rate of 99.9% throughout 2020.

**Action plan**

We continue to monitor trip requests during the recovery stages to ensure that trip requests are accommodated.
Wheel-Trans Contact Centre: Average wait time

Definition

The average amount of time a customer waits in the queue before their call is answered.

Contact

James Ross, Chief Operating Officer

Results

The average wait time in June was 4.1 minutes. This is 10.9 minutes lower than the Wheel-Trans target.

Analysis

We continue to experience lower than normal average wait times in Reservations, which is the result of the emergency measures surrounding the COVID-19 pandemic.

Our average wait times have remained well below our target of 15 minutes.

Action plan

We are beginning to see an increase in call volumes and wait times with emergency measures slowly being lifted. However, to ensure minimal pressure is placed on our contact centre, we have re-opened the self-booking website to allow customers to book occasional trips up to seven days in advance.
Station services

Station cleanliness

Definition
Average results of a third party audit conducted each quarter of all 75 stations. Audits are conducted weekdays only, excluding holidays.

Contact
James Ross,
Chief Operating Officer

Results
The Q2 audit results exceeded the target of 75% with an average station score of 75.8%. This is an increase of 1.8% from Q1 (74.1%).

Analysis
Of the 22 components that are scored, 7 increased in their score, 10 remained the same, while only one (public washrooms) saw a slight decrease.

41 stations (55%) met or exceeded the target score, 23 stations (31%) scored between 70.0%-75.0%, while only 11 stations (14%) scored below 70%.

The top three scoring stations in Q2 were York University (95.4%), Pioneer Village (90.3%), and Vaughan Metropolitan Centre (88.2%).

The bottom three scoring stations in Q2 were Woodbine (67.1%), Donlands (67.0%) and Coxwell (66.7%).

Action plan
While seasonal projects have been cancelled for 2020 due to temporary employees not being able to be onboarded, the reduced ridership and warmer weather should allow for some improvements to be gained. Additional focus is being added to stations that scored below 70% with a goal to improve the Q3 audit results by 3%.
Elevator availability

Definition
Percentage of total available subway elevator service hours during subway revenue service in a given month.

Contact
Fort Monaco,
Chief Infrastructure and Engineering Officer

Results

Elevator availability in June was 96.4%, under the target of 98%. Performance increased in June compared to last month (95.8%).

Analysis

The following factors negatively impacted performance in June:

- Continued elevator overhaul work at Kennedy and Scarborough Centre stations.
- An elevator was out of service at Eglinton West Station due to Eglinton Crosstown Light Rail Transit construction.

Action plan

Overhaul work at Scarborough Centre and Kennedy stations is scheduled to be completed by the end of July 2020. The Eglinton West Station elevator is scheduled to be back in service by mid-September 2020.

We will continue performing preventative maintenance to meet reliability and availability targets.
**Escalator availability**

**Definition**
*Percentage of total available escalator service hours during subway revenue service in a given month.*

**Contact**
*Fort Monaco, Chief Infrastructure and Engineering Officer*

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**Results**

Escalator availability in June was 96.9%, under the target of 97%. Performance decreased in June compared to last month (97.2%).

**Analysis**

Construction activities at Broadview, Lansdowne and Lawrence stations negatively impacted escalator service in June.

**Action plan**

Construction work at Broadview and Lansdowne stations was completed in mid-June. Lawrence Station work is still ongoing.

We will continue performing preventative maintenance to meet reliability and availability targets.
Fare gates

**Definition**
Percentage of time fare gates equipped with PRESTO are available for use. Availability data provided by manufacturer for 24 hours a day, seven days a week.

**Contact**
Kathleen Llewellyn-Thomas, Chief Strategy & Customer Officer

**Results**
Fare gate availability averaged 99.65% in May 2020, which represents an increase of 0.14% from last month and an increase of 1.49% of the same time last year. Availability was above the 99.5% target.

**Analysis**
These results reflect the continued ongoing efforts by both the TTC and Scheidt & Bachmann (S&B) to address the hardware and software issues with the fare gates. With the current modification programs in place, we expect performance to continue to improve throughout 2020.

**Action plan**
We continue to work with S&B to address ongoing hardware and software issues. A number of programs have been developed and are currently being implemented. These include:

- The program to replace the industrial computers in the fare gates was completed Q4 2019. It is expected that S&B’s second-generation industrial computer, with a new Solid State Drive, will provide a number of improvements, including:
  - Extending the hard drive capacity, improving and protecting the hard drive sectors, increasing the hard drive speed (faster read/write – start-up time will be improved), extending the data logging, and helping address the USB disconnect issue we are currently having with the fare gates.

- A software update was installed in late Q3 2019. This software update has improved passage detection, leading to a more reliable interface for the customers; provided an upgrade to the motor control interface, improving motor reliability; and resolved an ongoing issue with the card readers on the gates. An additional software update will take place in Q3 2020 to further improve gate reliability.
• Currently, we are in the process of converting and upgrading the control and operating software for the gates. This upgrade will allow for better visibility and reporting functionality.

• S&B development teams are currently completing an in-depth review of ongoing issues with the fare gate motors. The final report has been completed. The team has completed a number of the recommendations from the report and expects continued improvement with the fare gates.

These plans will help to address the following issues: screen freezing, tap/no entry, card reader failures, motor and heater failures. We have additional software and hardware updates scheduled, which will add functionality and provide further fixes to known problems, improving the gate availability for customers.
PRESTO card readers

**Definition**
The total percentage of all PRESTO card readers that are in working order and available for customer use.

PRESTO card readers are devices that are installed onboard TTC surface vehicles (buses and streetcars) and allow customers to pay their fare by tapping on the device.

**Contact**
Kathleen Llewellyn-Thomas, Chief Strategy & Customer Officer

**Results**

PRESTO card reader availability averaged 99.11% in June, which represents a decrease of 0.17% from the previous month. Availability remains below the target of 99.99%.

**Analysis**

The decrease in availability is attributed to an increase in the number of devices that required the software to be reloaded. These issues were identified during diagnostic maintenance activities.

**Action plan**

We will continue to monitor availability.

**Note:** Availability data from Metrolinx may be subject to inaccuracies, as indicated in previous updates and confirmed by the Auditor General’s recent report. We are working with Metrolinx to improve the methodology for determining availability including the frequency at which the devices are polled for availability status. Further updates will be provided.
PRESTO Fare Vending Machines (FVM)

**Definition**
The average percentage of daily availability of PRESTO FVMs are based on duration of identified fault incidents to time of resolution. Cash collection incidents are currently not reflected in the calculation.

PRESTO FVMs allow customers to load funds onto their PRESTO cards via credit or debit payment, purchase new PRESTO cards, view balance and card history and activate any products purchased online. The FVMs are installed at station entrances.

**Contact**
Kathleen Llewellyn-Thomas, Chief Strategy & Customer Officer

**Results**
PRESTO FVM availability averaged 99.26% in June, which represents a decrease of 0.46% from the previous month. Availability remains above the target of 95.00%.

**Analysis**
The decrease in availability is attributed to an increase in the number of issues with the bill handler assembly and the receipt printer. Metrolinx has confirmed there is an ongoing problem with the bill handler assembly and is performing a root cause analysis.

**Action plan**
Metrolinx to identify the root cause of the increased issues with bill handler assembly.

**Note:** Availability data from Metrolinx may be subject to inaccuracies, as indicated in previous updates. We are working with Metrolinx to improve the methodology for determining availability. Further updates will be provided.
PRESTO Self-Serve Reload Machines (SSRM)

**Definition**
The average percentage of daily PRESTO SSRM availability are based on duration of identified fault incidents to time of resolution.

PRESTO SSRMs allow customers to load funds onto their PRESTO cards via credit or debit payment. The device also allows customers to view their balance and card history, and activate any products purchased online. The SSRMs are installed at subway station entrances.

**Contact**
Kathleen Llewellyn-Thomas, Chief Strategy & Customer Officer

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**Results**

PRESTO SSRM availability averaged 99.89% in June, which represents a decrease of 0.10% from the previous month. Availability remains above the target of 95.00%.

**Analysis**

The decrease in availability is attributed to a small increase in the number of printer malfunctions.

**Action plan**

We will continue to monitor availability.

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**Note:** Availability data from Metrolinx may be subject to inaccuracies, as indicated in previous updates. We are working with Metrolinx to improve the methodology for determining availability. Further updates will be provided.
PRESTO Fares and Transfer Machines (FTM)

**Definition**
The average percentage of daily availability of PRESTO FTMs are based on duration of identified fault incidents to time of resolution. Cash collection incidents are currently not reflected in the calculation.

The FTMs are Single Ride Vending Machines (SRVMs), installed on the new TTC streetcars and at selected streetcar stops. These allow customers to purchase Proof of Payment tickets.

**Contact**
Kathleen Llewellyn-Thomas,
Chief Strategy & Customer Officer

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**Results**

PRESTO FTM availability averaged 99.60% in June, which represents a decrease of 0.19% from the previous month. Availability remains above the target of 95.00%.

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**Analysis**

The decrease in availability is attributed to an increase in issues with the touch screens becoming unresponsive. The current nightly vehicle sanitization process has been identified as causing a reduction in the sensitivity of the touch screens.

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**Action plan**

Staff have worked with the vendor performing the nightly sanitization activities, to modify the process to prevent the reduction in touch screen sensitivity. The new process is in place and is being monitored.

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**Note:** Availability data from Metrolinx may be subject to inaccuracies, as indicated in previous updates and confirmed by the Auditor General’s recent report. We are working with Metrolinx to improve the methodology for determining availability. We are also in discussions with Metrolinx to restore the debit/credit payment feature for new streetcars. Further updates will be provided.
For further information on TTC performance, projects and services, please visit ttc.ca