



Transit Advisory Committee Agenda

Council Chambers
Regional Headquarters Building
605 Rossland Road East, Whitby

Tuesday, November 16, 2021

7:00 PM

Please note: In an effort to help mitigate the spread of COVID-19, and to generally comply with the directions from the Government of Ontario, it is requested in the strongest terms that Members participate in the meeting electronically. Regional Headquarters is closed to the public, all members of the public may view the [Committee meeting via live streaming](#), instead of attending the meeting in person. If you wish to register as a delegate regarding an agenda item, you may register in advance of the meeting by noon on the day prior to the meeting by emailing delegations@durham.ca and will be provided with the details to delegate electronically.

1. Roll Call

2. Declarations of Interest

3. Adoption of Minutes

- A) Durham Region Transit Advisory Committee meeting –
September 21, 2021

Pages 3 - 7

4. Presentations

- 4.1 Bill Holmes, General Manager, Durham Region Transit, re: Transition to an amalgamated Demand Responsive Service [2021-DRT-25]
- 4.2 Michael Binetti, Supervisor, Service Design, DRT re: Fall 2021 Service Update

Pages 8 - 16

Pages 17 - 27

5. Correspondence

6. Information Items

- 6.1 General Manager's Report – October 6, 2021 (2021-DRT-24)
- 6.2 Demand Responsive Services (2021-DRT-25)
- 6.3 Social Equity in Transit Planning (2021-DRT-26)

Pages 28 - 41

Pages 42 - 113

Pages 114 - 132

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| 6.4 | General Manager's Report – November 3, 2021 (2021-DRT-27) | Pages 133 - 147 |
| 6.5 | E-Mission Zero: Durham Region Transit Battery Electric Bus and Charging Infrastructure Demonstration Pilot Update (2021-DRT-28) | Pages 148 - 164 |

7. Discussion items

- 7.1 Access to information for Transit Advisory Committee Members
- 7.2 Meeting Presentation guidelines

8. Other Business

9. Date of Next Meeting

- Tuesday, January 18, 2022, 7:00 PM

10. Adjournment

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The Regional Municipality of Durham

MINUTES

TRANSIT ADVISORY COMMITTEE

September 21, 2021

A meeting of the Transit Advisory Committee was held on Tuesday, September 21, 2021 in the Council Chambers, Regional Municipality of Durham Headquarters, 605 Rossland Road East, Whitby at 7:01 PM. In accordance with Provincial legislation, electronic participation was permitted for this meeting.

1. Roll Call

Present: Commissioner Barton, Chair
C. Antram, Ajax
J. Beaton, Whitby
R. Claxton-Oldfield, Clarington
H. Hall, AAC left the meeting at 8:40 PM
J. Hollingsworth, Member at Large
J. Layne, Oshawa left the meeting at 8:50 PM
M. Roche, AAC
J. Sankarlal, Student Association representative, Ontario Tech University,
Durham College and Trent University

***all members of the Committee participated electronically**

Absent: K. Ginter, Member at Large
I. Liang, Scugog
A. Macci, Pickering
J. Martin, Brock
G. Weddel, Uxbridge

Staff

Present: J. Austin, Deputy General Manager, Business Services, Durham Region
Transit
M. Binetti, Supervisor, Transportation Service Design, Durham Region
Transit
B. Holmes, General Manager, Durham Region Transit
R. Inacio, Systems Support Specialist, Corporate Services – IT
A. Labriola, Eligibility Coordinator, Specialized Services, Durham Region
Transit
A. McKinley, Deputy General Manager, Maintenance, Durham Region
Transit
S. Glover, Committee Clerk, Corporate Services – Legislative Services
***all staff except R. Inacio participated electronically**

2. Declarations of Interest

There were no declarations of interest.

3. Adoption of Minutes

Moved by J. Beaton, Seconded by H. Hall,
That the minutes of the regular Durham Region Transit Advisory
Committee meeting held on Tuesday, May 18, 2021, be adopted.
CARRIED

4. Presentations

4.1 Andrea Labriola, Eligibility Coordinator, Specialized Services re: Specialized Transit, Eligibility Review and Appeal Process

Andrea Labriola, Eligibility Coordinator, Specialized Services, provided a PowerPoint presentation regarding Specialized Transit, Eligibility Review and Appeal Process.

Highlights from the presentation included:

- Eligibility Review
- Eligibility Outcomes
- Eligibility Appeals
 - Appeal Process
 - Role of the Appeal Panel
 - Composition of Eligibility Appeal Panel
 - Appeal Panel Decisions
- Eligibility Office

A. Labriola responded to questions from the Committee regarding whether statistics have been collected between the use of the On Demand service over specialized service for individuals with a disability and any potential process differences between the two services; how the representative of the community with a disability who uses Durham Region Transit (DRT) for the eligibility appeal panel is chosen; whether more education can be given to the medical professionals on how to fill out the eligibility review form; whether service agreements for day services are specific to one drop-off destination; how long a residents' eligibility will remain active during COVID and whether that time frame has been increased; what type of registered healthcare professional is required to fill out the eligibility review form and if the applicant needs to see them in person, and instead of a registered healthcare professional, if a staff member of a day program would suffice;; and if barriers have been identified by appellants during the eligibility appeal process.

4.2 Michael Binetti, Supervisor, Service Design, Durham Region Transit re: The Route Ahead, Durham Region Transit 2022-2025 Service Strategy [Item 6.5] (2021-DRT-20)

Michael Binetti, Supervisor, Service Design, Durham Region Transit provided a PowerPoint presentation regarding The Route Ahead, Durham Region Transit 2022-2025 Service Strategy.

Highlights from the presentation included:

- Looking to 2025
- Strategy Pillars
 - Availability
 - Innovation
 - Reliability
 - Safety
 - Growth
- Overview
- The Route Ahead – Growing Ridership
- Integrated Network
- Service Guidelines
 - Span and Service Levels
 - Ridership Productivity
- Local Area Transit Plans
- Infrastructure
- 2025 Network – Urban
- 2025 Network – Rural
- Join Us on The Route Ahead

M. Binetti responded to questions from the Committee regarding what plans Durham Region Transit (DRT) has for improving the rider experience at bus hubs and terminals; what the criteria is for moving from the On Demand service back to a fixed bus route; what percentage of On Demand vehicles are contracted out and what percentage are Regional vehicles; what is DRT's vision for On Demand and what demographic is being targeted; details of the 916 and 920 bus routes; how bus routes are adjusted and how new stops are determined; community consultation plans for the identified growth areas of the Region; and, whether staff have considered a shuttle type service to meet demand for local area connections.

In response to a question from J. Hollingsworth regarding whether a targeted fare incentive meant for people to enjoy recreational activities around Durham Region could be implemented through the Presto E-ticket program, M. Binetti advised that he would look into it and get back to J. Hollingsworth directly.

In response to a concern from J. Beaton regarding the reliability of the autonomous shuttle at the Whitby GO station and whether a communication

piece could be released recommending the use of the On Demand service over the use of the autonomous shuttle for better reliability, M. Binetti advised that staff would look into that.

4.3 Jamie Austin, Deputy General Manager, Durham Region Transit re: E-Mission Zero – Towards Zero Emission Public Transit in Durham Region [Item 6.6] (2021-DRT-21)

Jamie Austin, Deputy General Manager, Durham Region Transit provided a brief PowerPoint presentation regarding E-Mission Zero – Towards Zero Emission Public Transit in Durham Region.

J. Austin provided an overview of Attachment #1 of Report #2021-DRT-21: DRT E-Mission Zero Framework that includes a wide variety of opportunities for residents of Durham to learn more about electric vehicles.

J. Austin advised that the E-Mission Zero program is a suite of initiatives to reduce greenhouse gas emissions from public transit through clean technologies and highlighted the following E-Mission Zero initiatives:

- Battery Electric Bus and Charging Infrastructure Pilot Project
- Whitby Autonomous Vehicle Electric (WAVE) Shuttle Pilot Project
- Zero Emission Bus Fleet and Facility Feasibility Study
- Flagship Transit Operations and Maintenance Facility

J. Austin responded to questions from the Committee regarding whether DRT staff review reports of other agencies that have piloted electric buses in their fleets; and whether the electric buses that Durham Region will be acquiring will become a permanent addition to the Region's fleet.

At 8:50 PM J. Layne left the meeting and quorum was lost.

4.4 Bill Holmes, General Manager, Durham Region Transit re: Transition to an Amalgamated Demand Responsive Service

This item was not considered due to a lack of quorum.

5. Correspondence Items

There were no communication items to be considered.

6. Information Items

6.1 General Manager's Report – June 2, 2021 (2021-DRT-15)

This item was not considered due to a lack of quorum.

6.2 Durham Region Transit Customer Policies Updates (2021-DRT-16)

This item was not considered due to a lack of quorum.

6.3 100,000 On Demand Passenger Promotion (2021-DRT-17)

This item was not considered due to a lack of quorum.

6.4 General Manager's Report – September 8, 2021 (2021-DRT-19)

This item was not considered due to a lack of quorum.

6.5 The Route Ahead, Durham Region Transit 2022-2025 Service Strategy (2021-DRT-20)

This item was not considered due to a lack of quorum.

6.6 E-Mission Zero – Towards Zero Emission Public Transit in Durham (2021-DRT-21)

This item was not considered due to a lack of quorum.

6.7 Administration of U-Pass Agreement (2021-DRT-22)

This item was not considered due to a lack of quorum.

7. Discussion Items

This item was not considered due to a lack of quorum.

8. Other Business

8.1 Access to Information for Transit Advisory Committee Members

This item was not considered due to a lack of quorum.

9. Date of Next Meetings

Tuesday, November 16, 2021 at 7:00 PM

10. Adjournment

The meeting adjourned at 8:55 PM.

D. Barton, Chair, Transit Advisory Committee

S. Glover, Committee Clerk



Transition to an Amalgamated Demand Responsive Service

Transit Advisory Committee

November 16, 2021



Demand Responsive Transit Study

- Funded through Audit and Accountability Fund
- EY was the independent third-party reviewer selected for this work; objective of the work was to make findings and recommendations to help DRT:
 1. Ensure compliance with the Accessibility for Ontarians with Disabilities Act (AODA) requirements specific to Specialized Services.
 2. Reorder demand responsive services (On Demand and Specialized Services) as required to be client centric and outcome focused.
 3. Ensure the equity of access of Specialized Transit is comparable to scheduled and On Demand service models.



Demand and Responsive Transit Study continued

4. Recalibrate the roles and responsibilities of parties throughout the transit system.
5. Identify opportunities for efficiencies and values.
6. Ensure the service model aligns with the strategic priorities of the Region and Durham Region Transit.



Findings

Service delivery and operations

- The process and options available for scheduling and booking spontaneous trips is different depending on the customer's travel ability
- Current contracts with third party operators do not have clear performance standards and metrics to drive a consistent, desired customer experience

Culture and Collaboration

- Legacy ways of working and structure are driving a relatively siloed approach to scheduled, specialized and On Demand services and reducing organizational agility



Findings continued

Technology and Analytics

The current suite of enterprise and operational technologies do not have the functionality needed to enable the desired customer service experience or an ability to track operational and financial performance in an efficient manner

External Communications and Education

Customer awareness and understanding of DRT's services and how they are expected to change is low

Strategy and Key Partnerships

A clear of strategic objectives, target outcomes, and KPIs for delivery of Demand Responsive service that integrates current and On Demand and Specialized Service offerings are yet to be defined



Findings continued

Specialized Services processes/practices and Accessibility for Ontarians with Disabilities Act (AODA) considerations

The study confirmed that the following practices comply with the AODA.

- Application of AODA criteria for unconditional, conditional, and temporary eligibility
- Origin to destination services using integrated services approach (delivery a trip using a combination of specialized service and scheduled service)
- Mandatory requirement for a customer to provide and travel with an attendant (or support person) when the customer is unable to use the service independently
- Current booking practice requiring pre-booking of trips



Recommendations

- Further integrate Specialized Services and On Demand services in compliance with AODA, including scheduling, booking and customer support
- Examine existing workforce communication channels and tools for effectiveness, invest in cross-training, and implement new feedback mechanisms to drive ongoing dialogue and improvements
- Carefully consider and plan for investments in technologies that enable Customer Relations Management, workforce management, and analytics while negotiating for better access to third party data
- Engage stakeholders to access the proposed future state model and design for Demand Responsive transit and allow time to implement educational initiatives alongside marketing campaigns and rebranding efforts



Recommendations continued

- Establish a “One DRT” strategy with underlying objectives and Key Performance Indicators (KPIs), while strengthening cross-boundary partner collaboration and further embedding social equity principles into delivery



Questions

Durham Region Transit
605 Rossland Road East
Whitby, Ontario L1N 6A3
Phone: 1-866-247-0055
durhamregiontransit.com

Fall Service Update

Transit Advisory Committee

November 16, 2021



September Service

Principles

Network updates



A background image showing a white Durham Region Transit bus with 'PULSE' branding and a white car, both with 'Transit' logos, parked in front of a modern building. The image is overlaid with a green gradient.

Principles – The Route Ahead

- Available
- Safe
- Reliable
- Growth
- Innovative



Scheduled service expansion

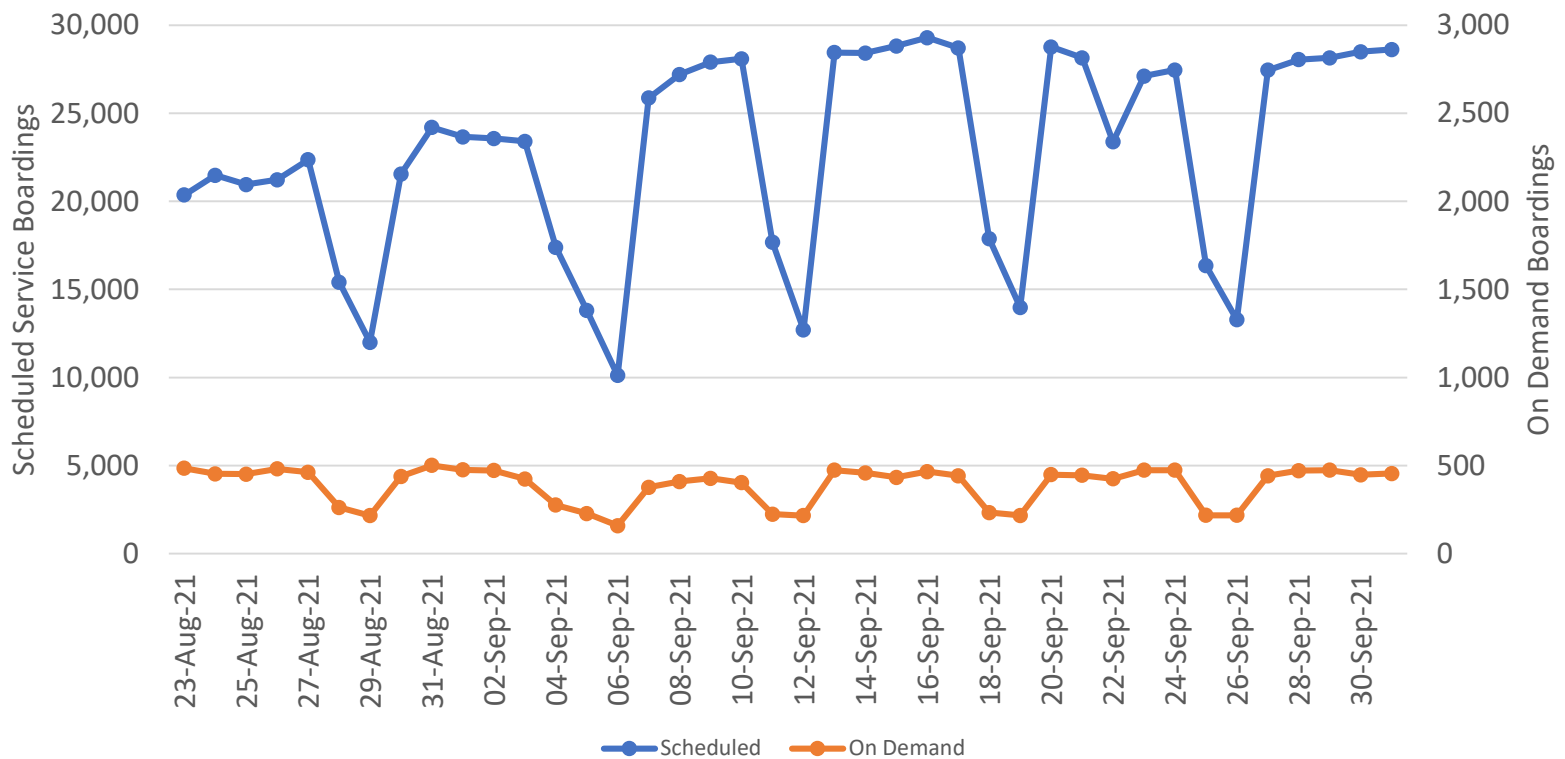
- September 7
 - Route 112 – NEW: Weekdays, every 30 minutes, 0600 to 1900
 - Route 224A – NEW: Weekdays, every 30 minutes, peak periods
 - Route 310 – NEW: Weekdays, every 30 minutes, peak periods
 - Route 392B – UPDATED: Weekdays, every 30 minutes, peak periods
 - Route 405 – UPDATED: Adelaide and Thornton
 - Route 411 – NEW: Weekdays and weekends, every 30 minutes, 0600 to 1900
 - Route 420 – NEW: Weekdays, every 30 minutes, 0600 to 2200
 - Route 905B – UPDATED: Extended to Harmony Terminal
 - Route 920 – NEW: Weekdays, every 30 minutes or better, 0600 to 2200
 - Route N1 – NEW: overnight, every 30 minutes
 - Route N2 – NEW: overnight, every 30 minutes
- October 4
 - Route 103 – NEW: Weekdays, every 30 minutes, 0600 to 1900
 - Route 112 – UPDATED: Two way service, removes “loop” service.
 - Route 411 – UPDATED: increase in service reliability

Ridership

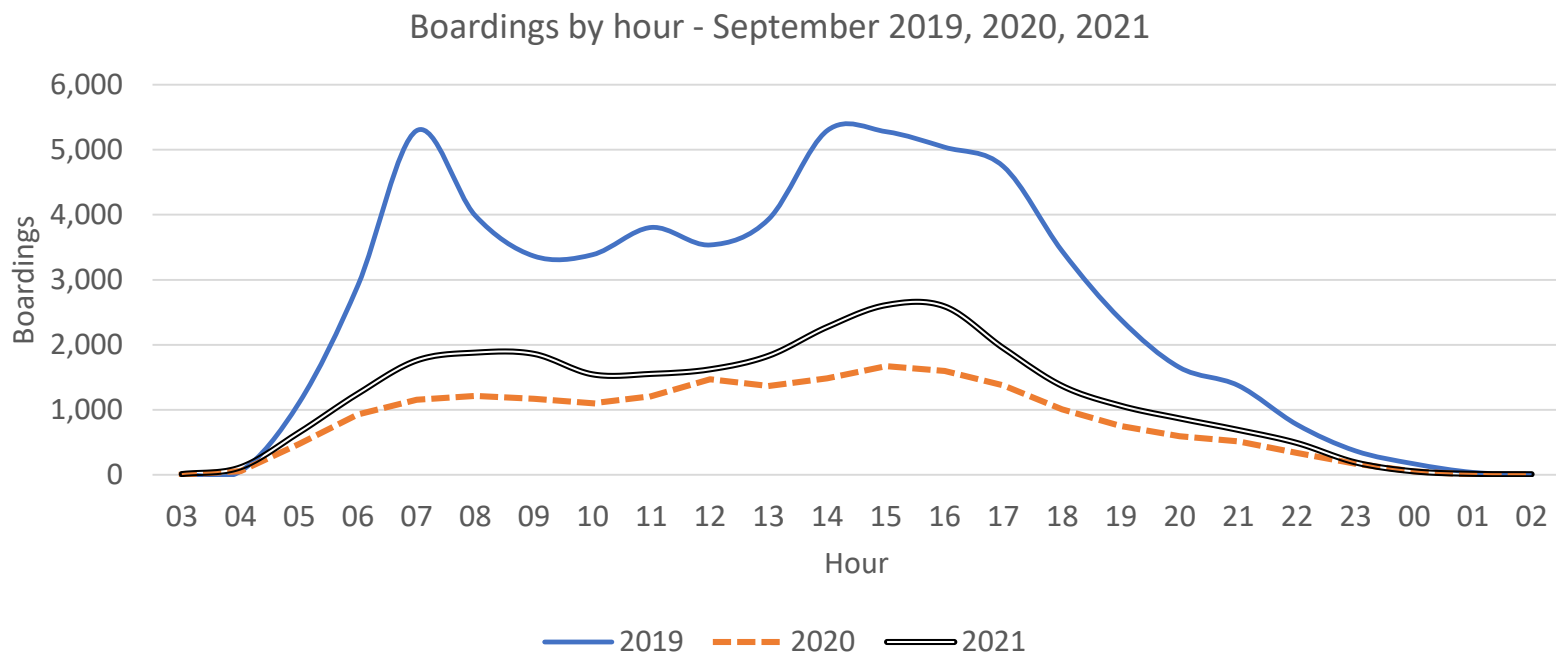
Scheduled
On Demand
Specialized



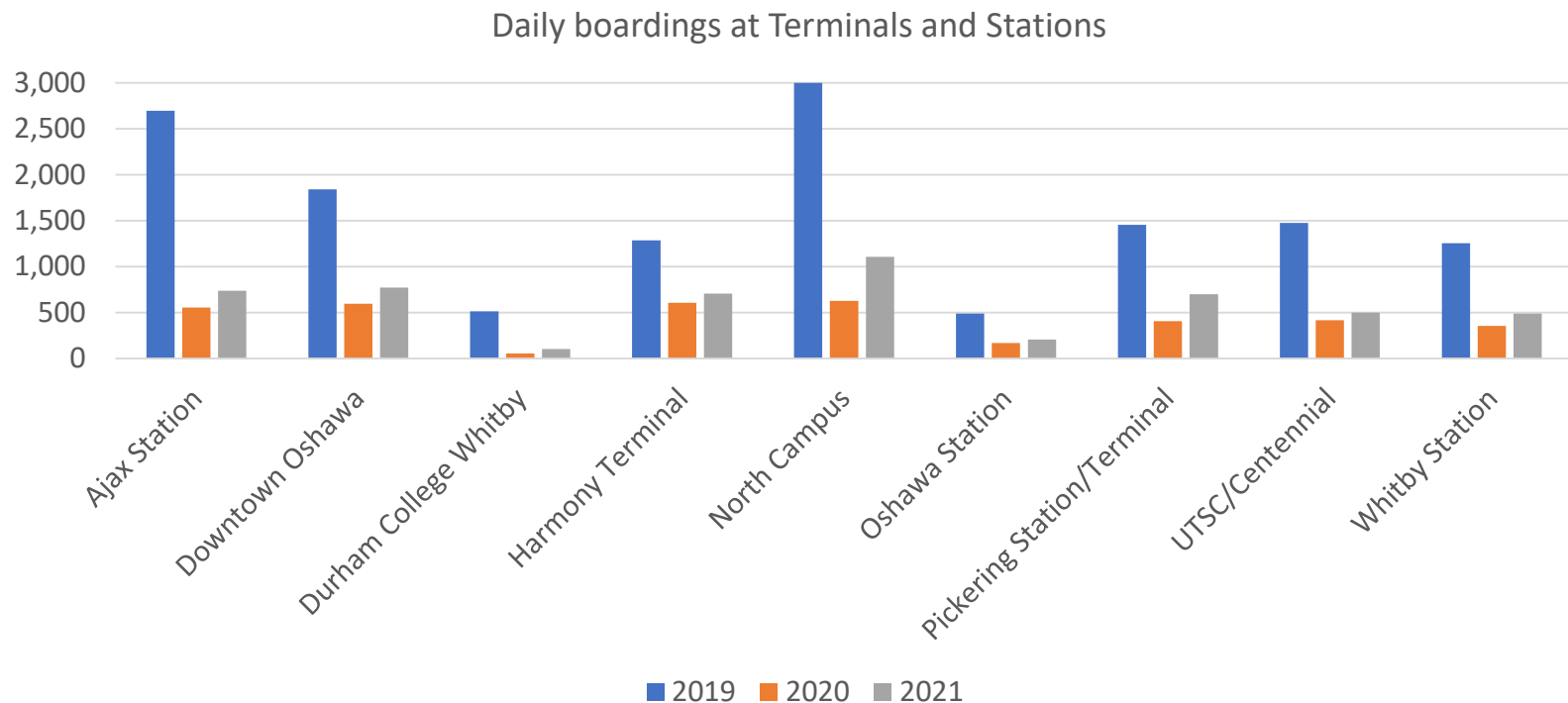
Scheduled and OnDemand boardings



Scheduled service weekday demand



Activity at Terminals and Stations



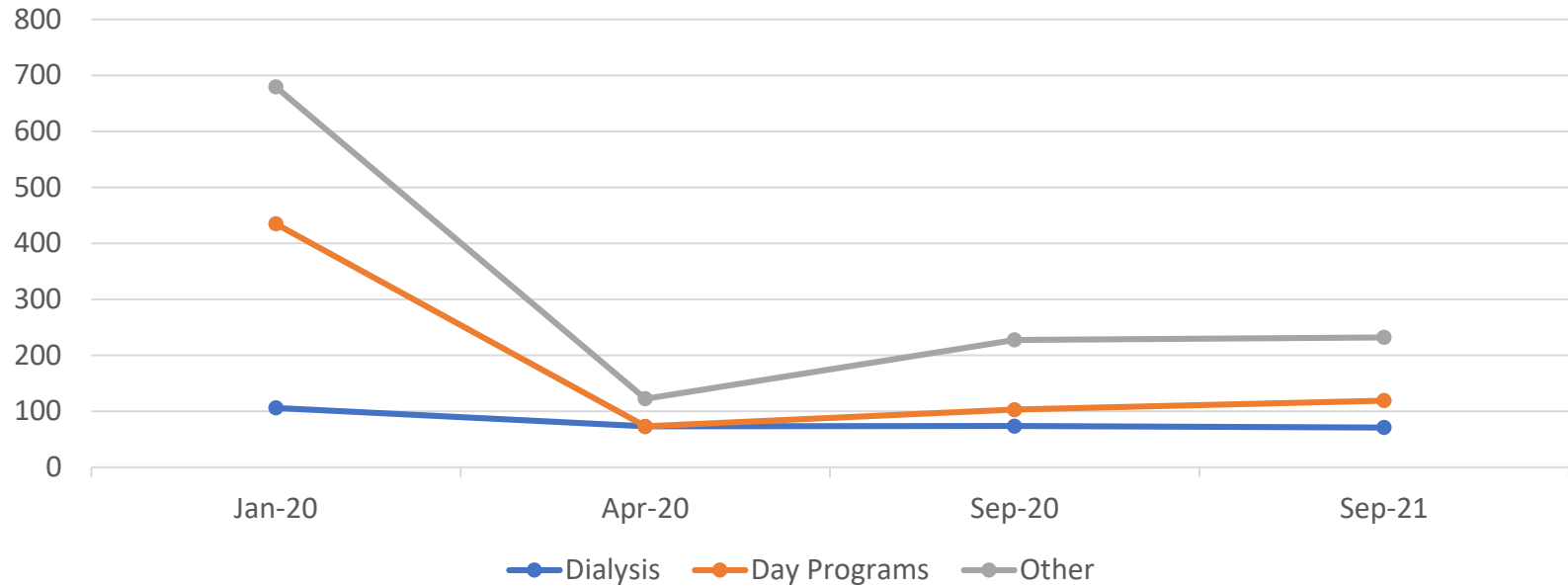


Travel markets – September 2021

- High school
 - 40 per cent of 2019 ridership
 - 600 customer trips made to or from high schools
- Post-secondary
 - 21 per cent of 2019 ridership
 - 3,215 customer trips made to or from at post secondary institutions
- GO Transit – Toronto Central Business District
 - 30 per cent of 2019 ridership
 - 4,500 customer trips made to or from a GO Station

Specialized Transit travel market

Average daily trips by market





Questions

Durham Region Transit
605 Rossland Road East
Whitby, Ontario L1N 6A3
Phone: 1-866-247-0055
durhamregiontransit.com

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 3702



The Regional Municipality of Durham Report

To: Durham Region Transit Executive Committee
From: General Manager, Durham Region Transit
Report: #2021-DRT-24
Date: October 6, 2021

Subject:

General Manager's Report – October 6, 2021

Recommendation:

That the Transit Executive Committee recommends

That this report be received for information.

Report:

1. Purpose

- 1.1 This report is submitted at each Transit Executive Committee (TEC), for information.

2. Background

- 2.1 The General Manager Report provides regular updates on key performance measures and summaries of current activities and transit issues in Attachment #1.

3. Previous Reports and Decisions

- 3.1 Not applicable

4. Financial

- 4.1 The General Manager's Report focuses mainly on performance and service standards. There are no financial impacts associated with TEC's receipt of this report.

5. Relationship to Strategic Plan

5.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:

- a. Service Excellence

6. Conclusion

6.1 For additional information, contact: Bill Holmes, General Manager, at 905-668-7711, extension 3700.

7. Attachments

Attachment #1: General Manager's Report – October 6, 2021

Respectfully submitted,

Original signed by

Bill Holmes
General Manager, DRT

Recommended for Presentation to Committee

Original signed by

Elaine C. Baxter-Trahair
Chief Administrative Officer



General Manager's Report

October 6, 2021

TEC

Attachment #1

Performance Measures Dashboard	<u>2</u>
Safety	<u>3</u>
Ridership	<u>4</u>
Service Delivery	<u>7</u>
Updates	<u>11</u>
General	<u>12</u>

Performance Measures Dashboard

Safety

Key performance indicator	Description	Latest Measure	Current	Target ¹	Current Variance to Target (per cent)	YTD Status ² (per cent)
Collisions	Number preventable collisions per 100,000 km	August	0.34	0.58	✓ -41.4	✓ -14.3

Ridership

Scheduled						
Ridership (x1,000)	Number passengers	August	399	338	✓ 17.9	✗ -38.3
PRESTO Ridership	Customers paying using PRESTO (per cent)	August	77.1	74.9	✓ 2.2	✓ 42.8
Bus full occurrences	Number operator reported occurrences	August	⁶³	573	NA	NA
Demand Responsive						
Ridership - Specialized	Number customer trips	August	5,705	4,684	✓ 21.8	✗ -32.6
Unaccommodated Rate - Specialized	Trip requests not scheduled (per cent)	August	1.0	0.8	⚠ 0.2	✓ -0.2
Ridership – On Demand	Number customer trips	August	10,988	255	NA	NA

Service Delivery

Scheduled						
On time performance	On-time departures from all stops (per cent)	Service Period 3 ⁴	79.9	77.9	✓ 2.0	✓ 0
Service availability	Scheduled service delivered (per cent)	Service Period 3 ⁴	99.0	99.5	⚠ -0.5	✓ 0.1
Mean Distance Between Failure (MDBF)	Average number of revenue service kilometres between occurrences of vehicle defects impacting service (revenue service kilometers)	June	23,480	N/A	N/A	NA

¹Target is 2020 measure for the same period

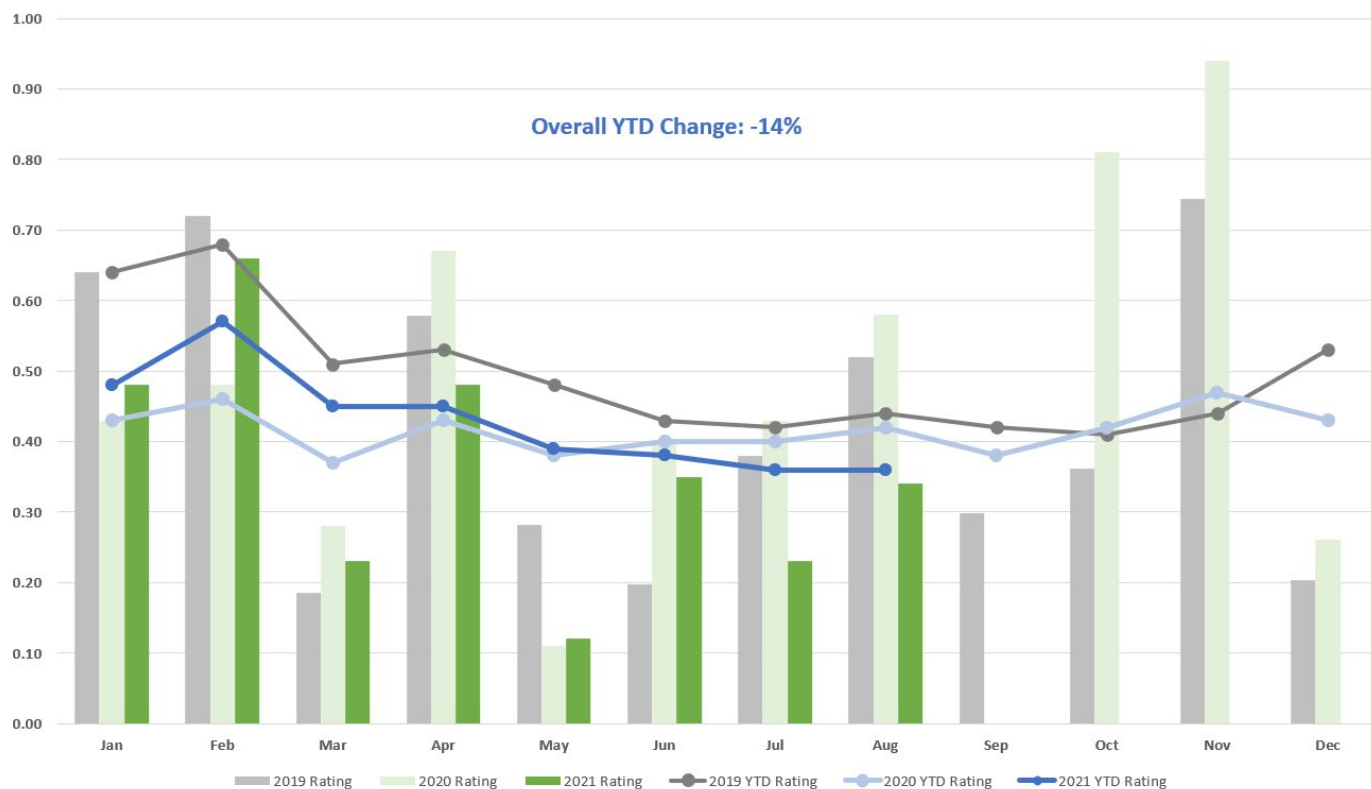
²Year to Date (YTD) compared to previous year

³Bus capacity limited to seated load, reduced ridership during pandemic

⁴June 21 through September 5, 2021

Safety

Preventable collisions rate per 100,000 km



Definition: A preventable collision is one in which the driver failed to do everything reasonable to avoid the collision. The preventable collision rate is the number of preventable collisions per 100,000 kilometres of travel for all Durham Region Transit (DRT) vehicles.

A collision may not be reportable to police based on the Highway Traffic Act, but for DRT purposes all collisions are documented and investigated.

Analysis

The preventable collision rate continues to improve in 2021, with a year-to-date rate 14 per cent lower than last year through August. The positive monthly trend continued in August, 41 per cent lower compared to August 2020.

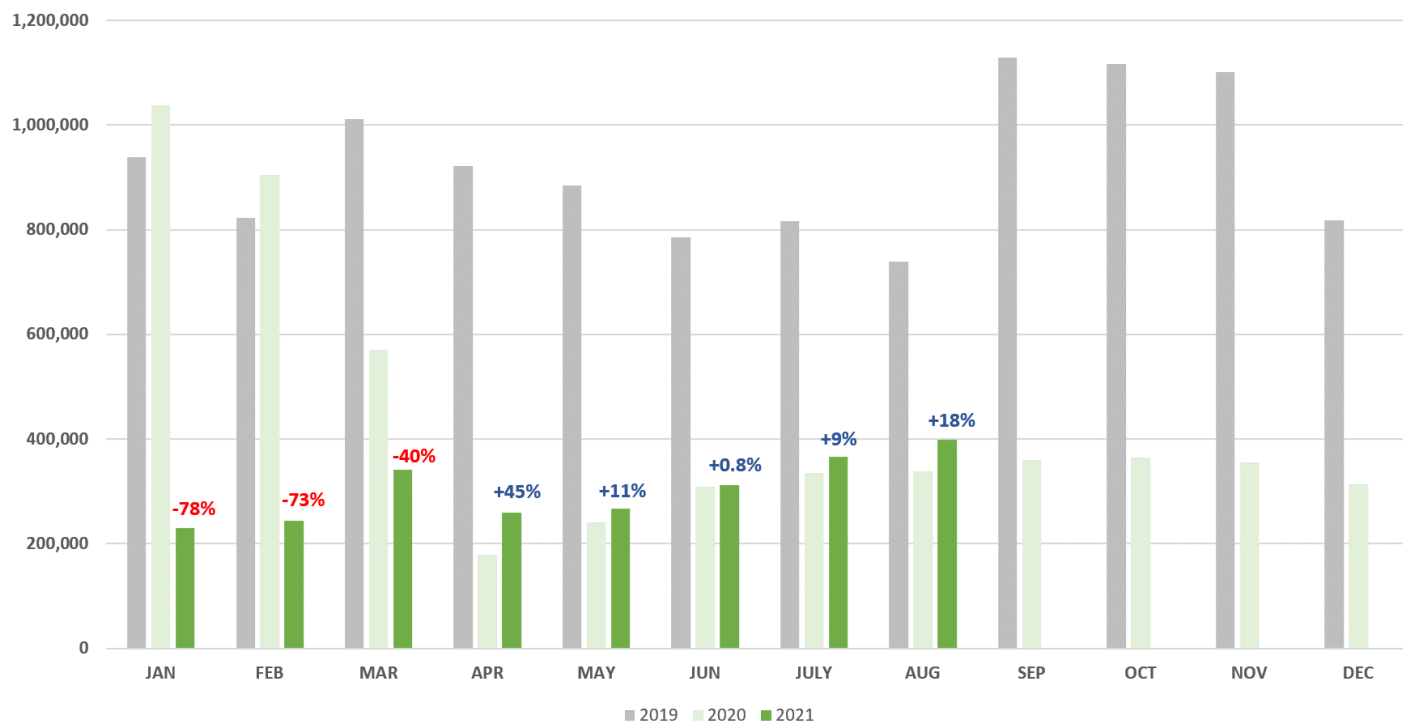
Action Plan

Safety and Training staff have implemented additional measures to curb the trend of increasing monthly collision rate.

- Trainers and mobile supervisors deployed to depots and relief points to host “safety talks” with bus operators, focussing on work preparations and defensive driving habits.

Ridership

Scheduled transit



Definition: Ridership is the sum of all passenger trips. A passenger trip is considered a one-way trip from origin to destination, regardless of the number of transfers that may be required. Ridership data is calculated from fare box data and data from PRESTO, GO Bus One Fare Anywhere, and On Demand.

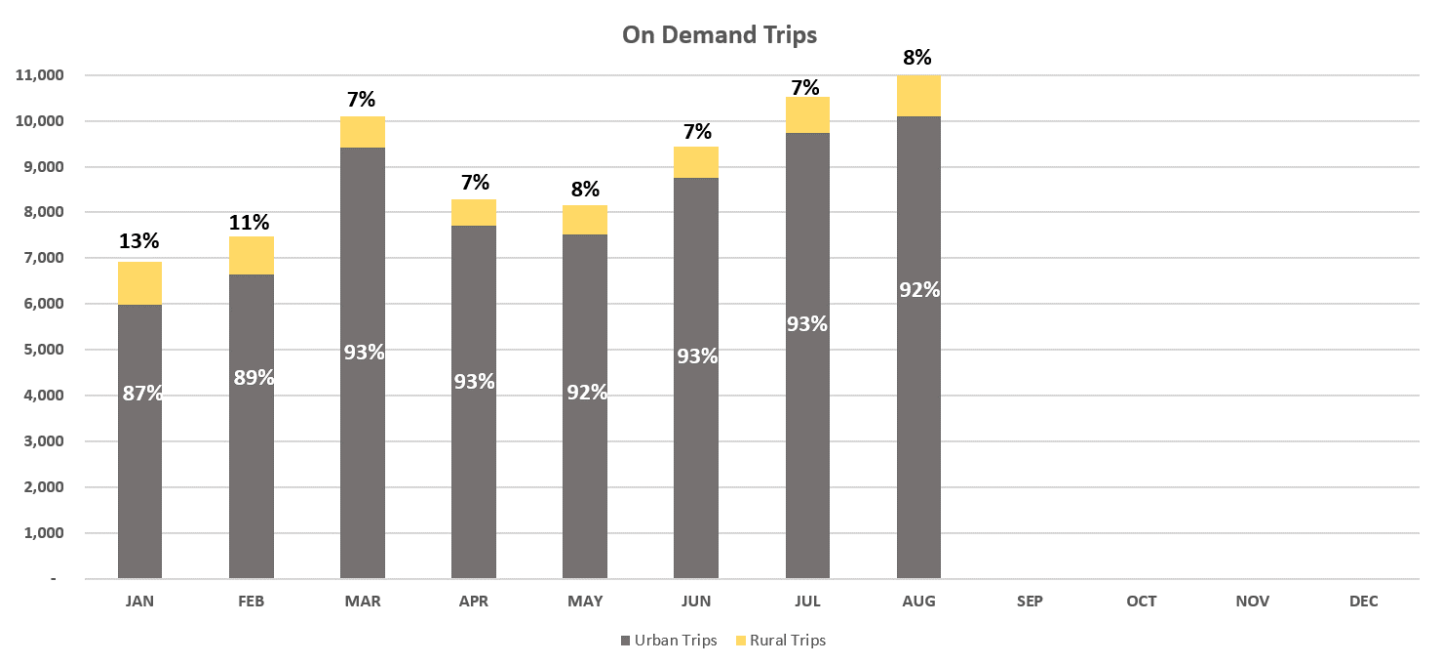
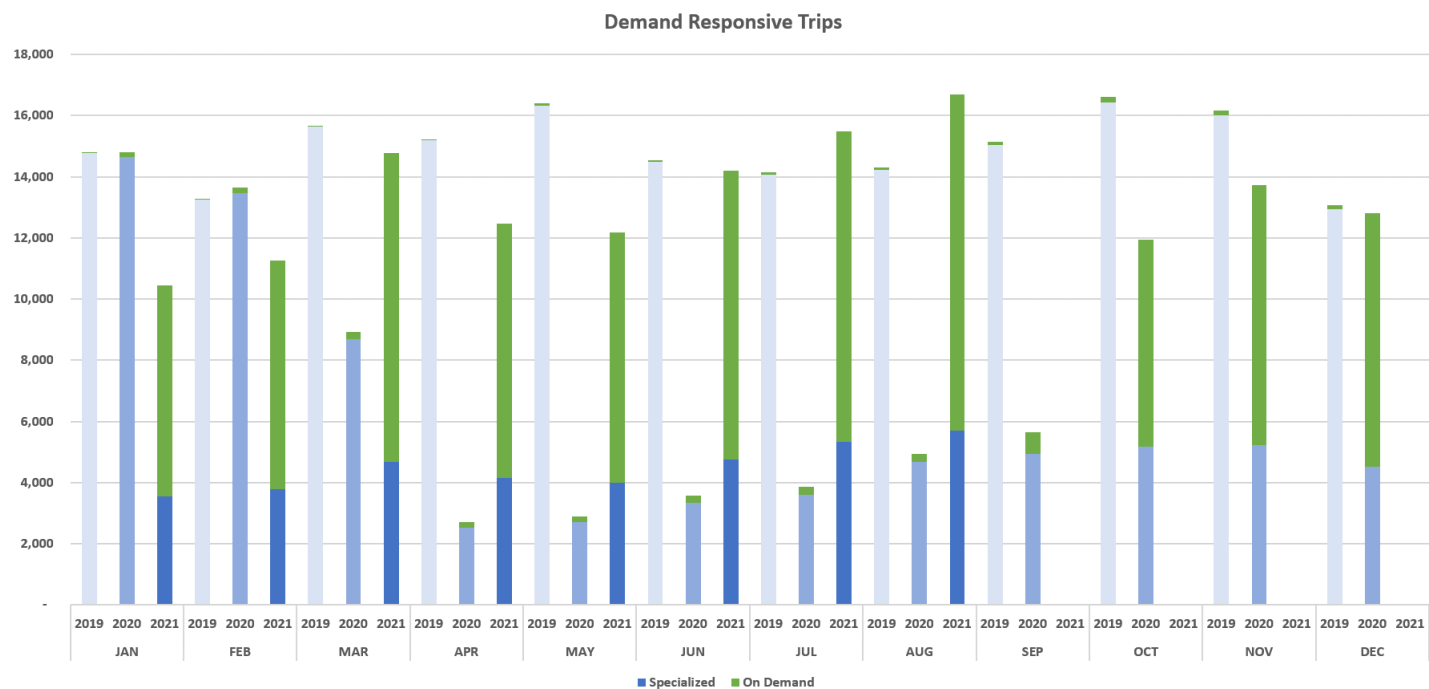
Results

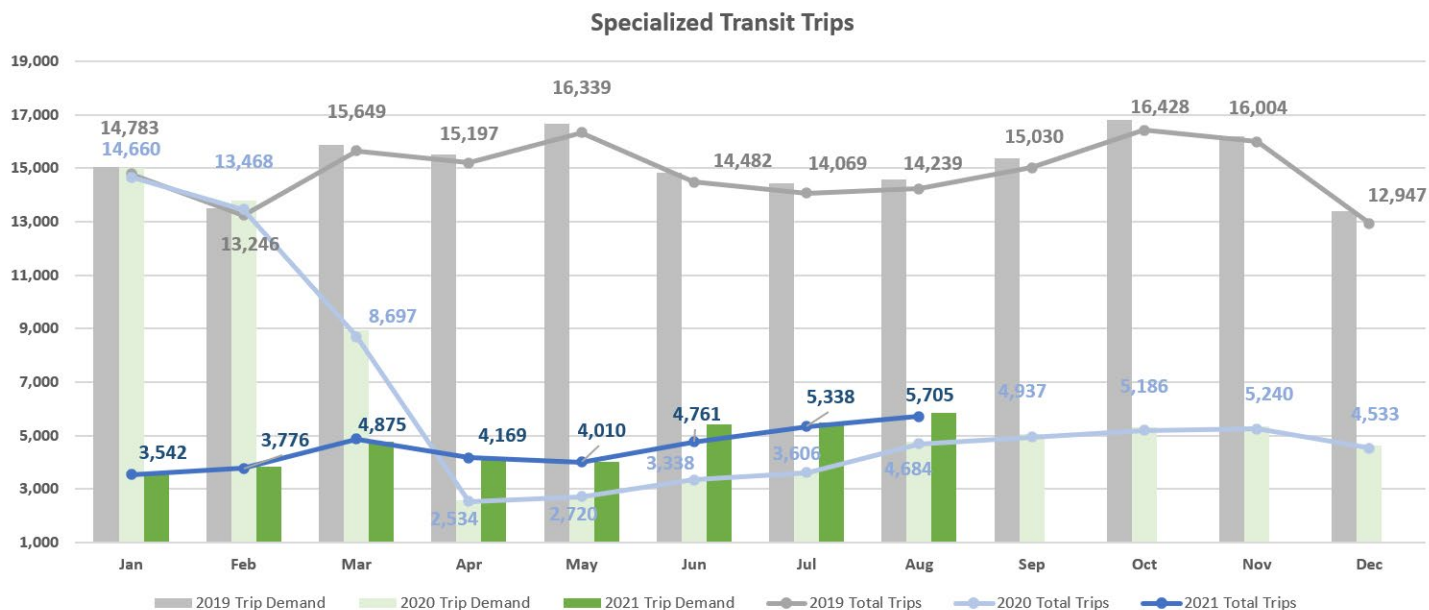
Monthly ridership continues to improve since April; 18 per cent higher in August compared with 2020, and approximately 46 per cent of 2019 ridership levels.

Action Plan

Preliminary ridership analysis of service enhancements implemented September 7, 2021 and considering the return of the U-Pass and on-campus programming at post secondary institutions, a significant ridership increase is expected for September. Details are presented in the accompanying presentation by Service Planning.

Demand Response Transit





Definitions:

Ridership: A trip is considered a one-way passenger trip from origin to destination, regardless of the number of transfers that may be required.

Trip Demand (Specialized): Specialized transit trip demand is the sum of all trips delivered, no-shows and cancelled at the door, and unaccommodated trips.

Unaccommodated Rate (Specialized): An unaccommodated Specialized transit trip is one where DRT is unable to schedule a trip for the specific requirement requested by the customer, or the customer declined to accept the trip option provided by the booking agent.

Results

On Demand continues to experience record monthly ridership, reaching 10,988 monthly trips in August.

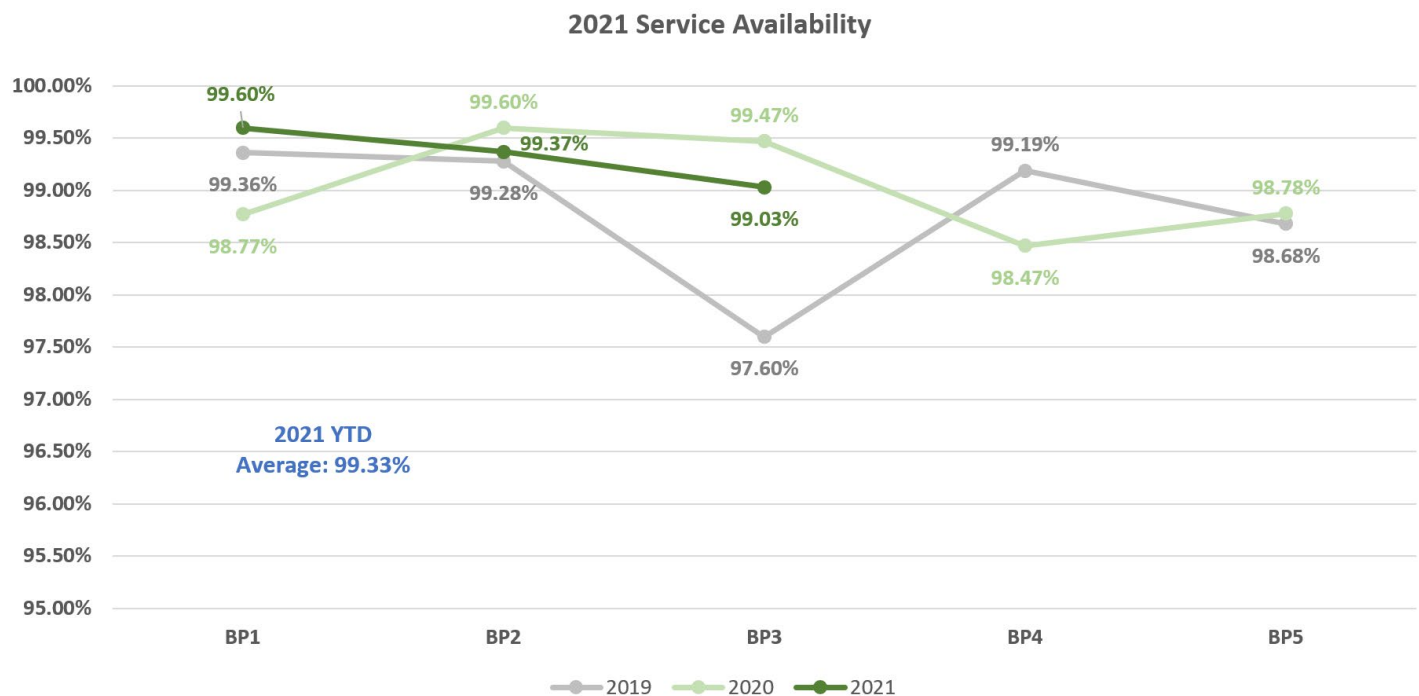
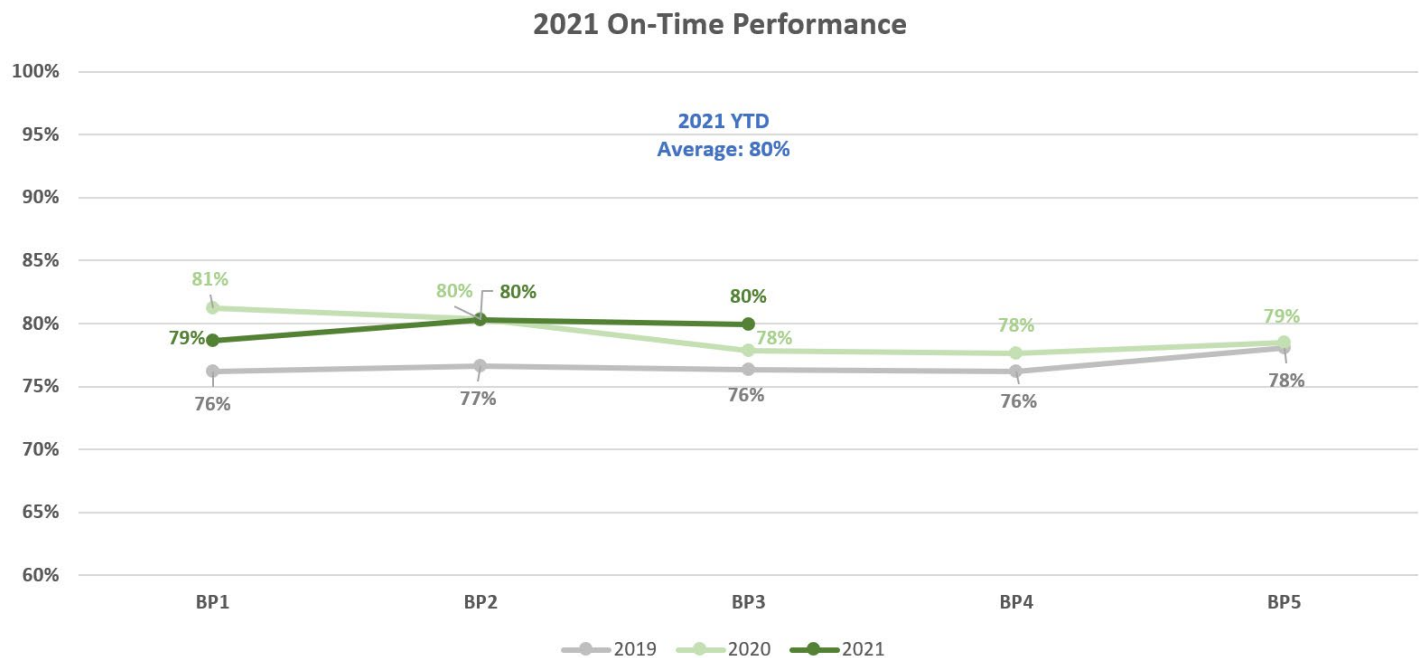
Specialized service ridership continues to slowly improve, with August ridership at 39 per cent of 2019 levels. Specialized transit delivered 99 per cent of trip requests in August.

Action Plan

Staff continue to review ridership trends and the pandemic status to project service level and routing requirements. The ridership monitoring framework supported transition back to some scheduled routes and late adjustments were implemented in time for the service change on September 7, 2021.

Service Delivery

On Time Performance and Availability (conventional)



Definition

On Time Performance (OTP) is a measure of the percentage of buses departing a bus stop no more than zero minutes early and five minutes late. The annual OTP target has increased to 80 per cent. OTP is reported for each service period.

Service availability measures the actual service delivered by DRT compared to the scheduled revenue service. The service availability target is 99.5 per cent. Service availability is reported for each service period.

Results

OTP for 2021 service period 2 (BP2), between April 5 and June 20, improved by one per cent compared to 2021 service period 1, and remained consistent with 2020 service period 2. Year to date OTP is one per cent below the target of 80 per cent.

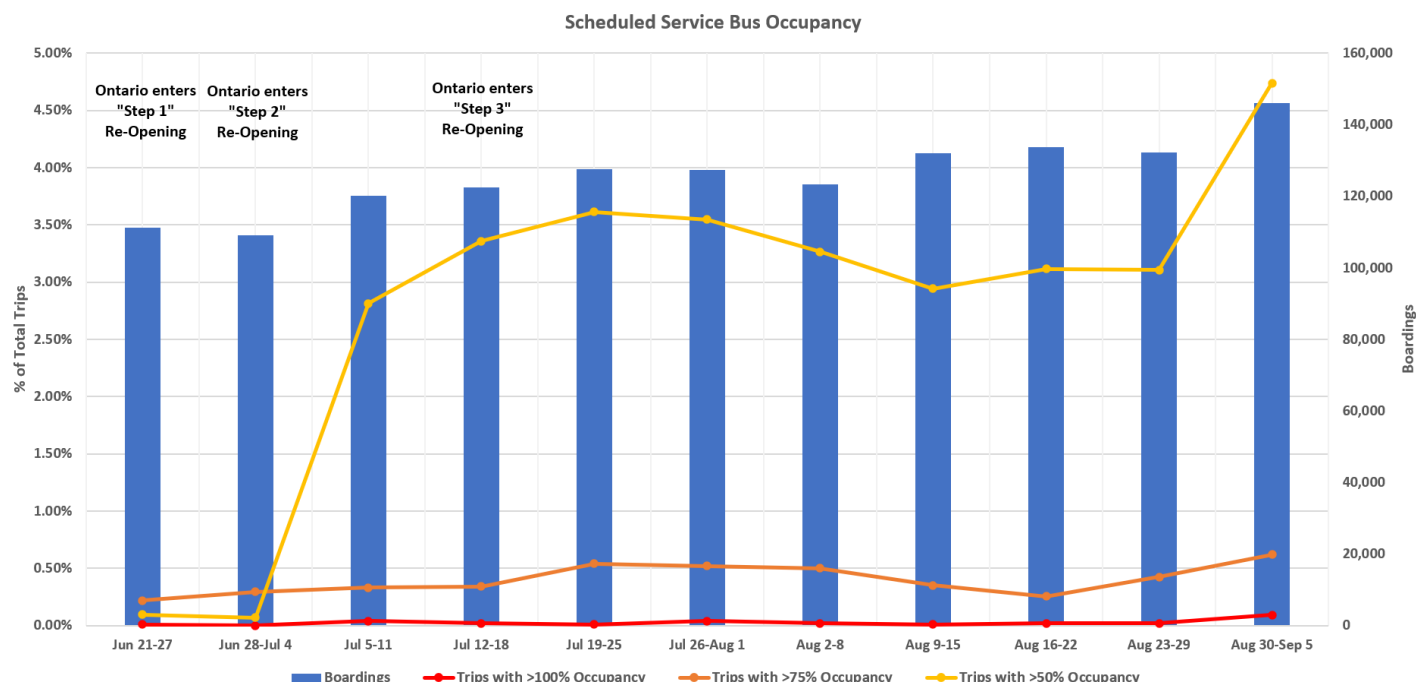
Service availability decreased marginally to 99.4 per cent, 0.2 per cent lower than 2020 and slightly below the target of 99.5 per cent.

Action Plan

Service Planning staff have completed recent run time analysis to update September schedules to reflect actual trip running times which are expected to improve overall OTP.

Service availability is impacted by unplanned events such as on-street conditions impacting service delivery (collisions, detours, etc.) and mechanical defects. Maintenance staff continue to enhance vehicle maintenance activities to mitigate on-street defects, as demonstrated in the Mean Distance Between Defects metric, and operations management continue to use available on-street resources to cover service when unplanned event happen.

Scheduled Service Maximum Bus Occupancy



Definition

Maximum bus occupancy is a measure of the maximum number of riders on a scheduled service vehicle at any point of a trip, currently expressed as a percentage of the seated capacity. The data accounts for the differences in capacity for regular and articulated buses.

For planning purposes, maximum capacity is considered the vehicle seating capacity during the pandemic recovery period. There are no mandated/legislated bus passenger capacity limit and at times capacity on a trip may exceed the maximum seated capacity.

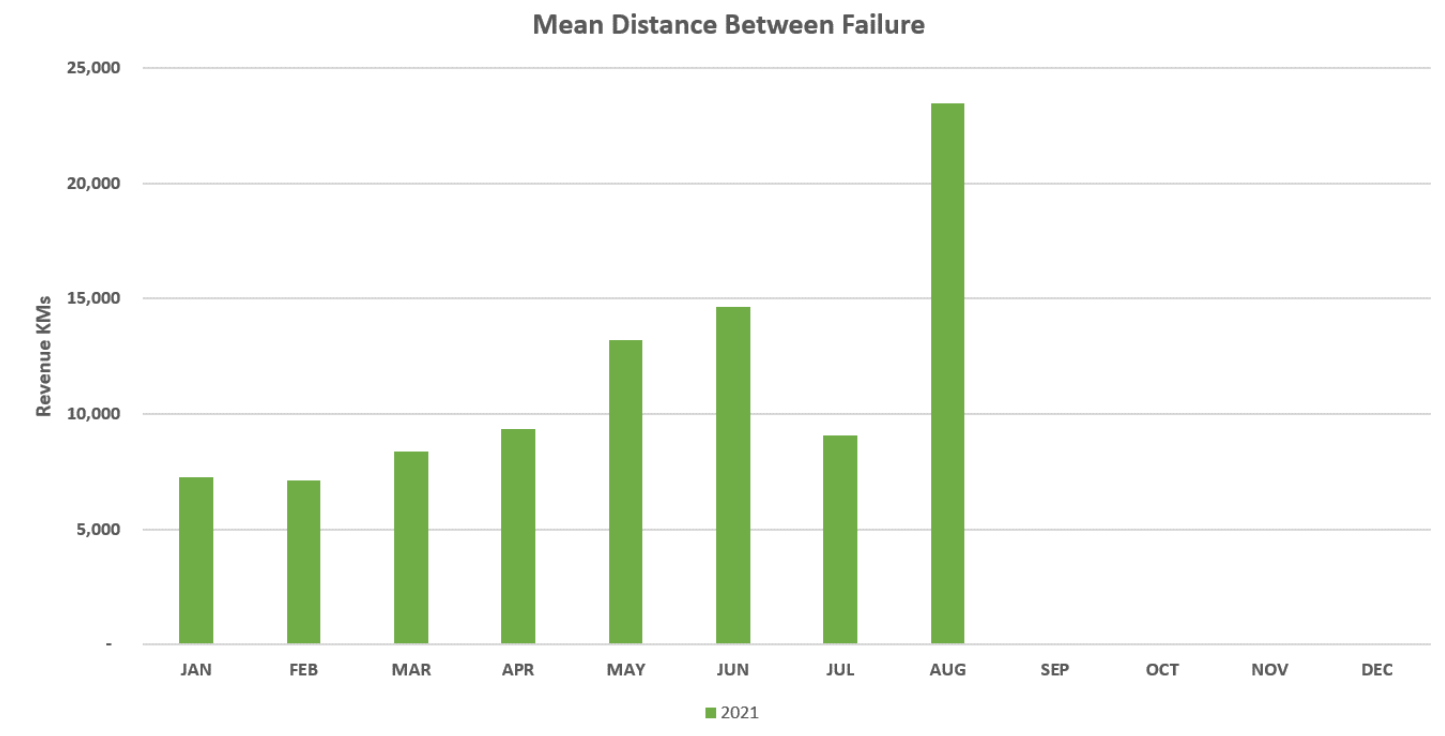
Results

During the last week of August, maximum occupancy was below 50 per cent of seated capacity for approximately 95.25 per cent of all trips, with approximately 0.6 per cent of trips exceeding 75 per cent seated capacity.

Action Plan

The transit network continues to provide adequate capacity for current customer demand. As ridership increases into the fall, DRT will continue to monitor bus occupancy and implement operational controls to increase route capacity where appropriate.

Mean Distance Between Failure (conventional)



Definition

Mean Distance Between Failure (MDBF) measures the reliability of the fleet by tracking the mean distance between bus breakdowns or mechanical failures that result in cancelled or missed service. A bus breakdown or mechanical failure is any incident that precludes a revenue vehicle from completing its trip or beginning its next scheduled trip and is measured by the total number of revenue vehicle kilometers (conventional service fleet) divided by the total number of chargeable vehicle defects during the reporting period.

Chargeable vehicle defects (or chargeable mechanical failures) are consistent with guidelines from the Ontario Public Transit Association (OPTA) and does not consider failures resulting from passenger-related events (i.e., sickness on the bus), farebox or other technology defects such as PRESTO readers.

Service impacts resulting from bus breakdowns are mitigated by assigning an available bus or reassigning a bus from a lower priority trip, to cover all or a portion of the affected trip(s).

Results

MDBF continued to steadily improve, increasing to 23,480 km for August.

Action Plan

DRT will establish an appropriate MDBF target at the end of 2021 with the objective to continuously enhance preventative maintenance practices and improve annual MDBF performance.

Updates

1. Service Changes, October 4, 2021

Based on increasing ridership in September within Pickering, the following service enhancements will be implemented on October 4, 2021.

- Route 103 – NEW
 - Pickering Parkway Terminal to Pickering West via Glenanna, Fairport, Strouds, Whites, Altoona, Valley Ridge.
 - Weekdays, every 30 minutes, 6 AM to 7 PM
- Route 112 – REVISED
 - Two-way service from Pickering Parkway Terminal to Zents via Liverpool, Finch, Valley Farm, Delbrook, Brock. Removes the existing “loop” service.
 - Weekdays, every 30 minutes, 6 AM to 7 PM

On Demand zones will be adjusted accordingly during the hours of operation of the Route 103 and 112.

On Demand remains available before 6 AM and after 7 PM in these areas, providing residents 24-hour access to DRT services.

1. Y10 Update

Based on customer feedback the initial purchase for the Y10 incentive will be extended to October 2021.

As high school students returned to class in early September, some families were uncertain about the return to classes, DRT route changes, and the impacts of the fourth wave of COVID-19 and missed the opportunity to purchase the September Y10 pass and save \$40 saving each month. The Y10 pass available through PRESTO is available through the 17th day of the month, with the next month's passes available for sale 11 days prior to the end of the month.

To support these families, the initial purchase for this years Y10 monthly pass has been extended to October 2021. Youth who purchased a Y10 pass in September or October 2021 will be able to purchase each subsequent monthly Y10 passes for \$54.50.

2. Presentation at Canadian Urban Transit Association conference

During the recent Canadian Urban Transit Association (CUTA) annual fall conference, Jamie Austin, Deputy General Manager, Business Services, and Pri Uthayakumar, Project Manager – Fleet Electrification, were invited to participate on an expert panel and shared DRT's experience to date with electrification of the bus fleet. As highlighted in the E-Mission Zero report today, the electric bus pilot including eight electric buses and associated charging infrastructure and electric equipment is progressing quickly. Similarly, the fleet electrification feasibility study is well underway with a report expected in early 2022 that will recommend the transit fleet transition strategy and the associated timeline and budget estimates for achieving a 100 per cent zero greenhouse gas emission fleet.



The Regional Municipality of Durham Report

To: Durham Region Transit Executive Committee
From: General Manager, Durham Region Transit
Report: #2021-DRT-25
Date: October 6, 2021

Subject:

Demand Responsive Service

Recommendation:

That the Transit Executive Committee recommends

- A) That report #2021-DRT-25 and the Durham Region Transit Demand Responsive Transit Study, be received for information;
 - B) That the amalgamation of Specialized Services and On Demand into a single Demand Responsive Service, be approved; and
 - C) That the General Manager provide regular updates to the Transit Executive Committee on the status of the transition to Demand Responsive Service.
-

Report:

1. Purpose

This report summarizes the findings of the Durham Region Transit Demand Responsive Transit Study funded by the Government of Ontario through the Audit and Accountability Fund. The study recommends that Durham Region Transit (DRT) amalgamate On Demand and Specialized Services into a single Demand Responsive Service to achieve a more spontaneous, equitable, reliable, and customer-focused service.

2. Background

- 2.1 On September 21, 2020, the Phase 1 service plan was launched as part of DRT's ridership recovery framework. The service plan included On Demand, a demand responsive service, operating in low ridership zones within urban areas and rural areas across the Region. DRT On Demand was supported by the launch of a new technology platform encompassing TEC approved recommendations arising from the rural transit review in June 2020, and current industry best practices.
- 2.2 DRT On Demand enhanced transit services across the Region of Durham by providing all residents access to frequent and reliable. Residents within urban On Demand zones are accessing transit within 30 minutes of requesting a trip; rural residents are accessing On Demand within 45 minutes of trip requests. Trip requests are scheduled in real time and the technology platform optimizes available resources and system productivity. Weekly On Demand ridership increased to over 2,400 passengers, with the 100,000th passenger trip being delivered August 28, 2021.
- 2.3 Specialized Services, operating since DRT was formed in 2006, is also a demand responsive service. Registered customers generally telephone a booking agent a minimum of 24 hours and up to seven days in advance of their intended time of travel. Trips are scheduled through a scheduling platform and the daily manifests of trips are assigned to internal and external resources by midnight for the following day. Same day trip bookings may be available pending the availability of vehicle capacity.
- 2.4 The successful launch of DRT's On Demand service in September 2020 enabled customers in low ridership zones to plan and book their trip in real-time and access a frequent and reliable transit service regardless of where they live, work or travel within the Region. Staff recognized the opportunities and synergies with specialized services that would enable all customers to benefit from a unified demand responsive service model that's customer-centric, equitable, and seamless. The Region and DRT are committed to removing barriers to travel such as ongoing investments in accessible buses and onboard systems, infrastructure, building features and pedestrian road crossings. Demand Responsive transit will further foster an inclusive public transit environment in the Region.

2.5 Audit & Accountability Funding

- a. In February 2021 the Government of Ontario, through the Audit and Accountability Fund, approved the DRT funding application for up to \$100,000 towards a Transit Demand Responsive Transit Study. The work was required to be completed by an independent third-party reviewer and to deliver a final report with specific and actionable recommendations for cost-savings and efficiencies by October 15, 2021.
- b. Ernst and Young LLP (EY) was the independent third-party reviewer selected for this work. The provincially approved objective of the work was to make findings and recommendations to help DRT:
 1. Ensure compliance with the *Accessibility for Ontarians with Disabilities Act* (AODA) requirements specific to Specialized Services.
 2. Reorder demand responsive services (On Demand and specialized services) as required to be client centric, and outcome focused.
 3. Ensure that equity of access of Specialized Transit is comparable to scheduled and On Demand service models.
 4. Recalibrate the roles and responsibilities of parties throughout the transit system.
 5. Identify opportunities for efficiencies and value.
 6. Ensure the service model aligns with the strategic priorities of the Region and DRT.

3. Durham Region Transit (DRT) Demand Response Transit Study

- 3.1 The final report from EY (Attachment #1) highlights that the mobility landscape and public transit customer expectations are rapidly shifting, which has been accelerated by the global pandemic and advances in technology. EY evaluated the current state of demand response services at DRT and developed recommendations supporting a single Demand Responsive service model.
 - a. Integrate Specialized and On Demand services in compliance with AODA, including operations, scheduling, booking and customer support.
 - b. Review internal communications for effectiveness, invest in cross-training of staff, and implement new feedback mechanisms to drive ongoing dialogue and improvements across DRT.
 - c. Invest in technologies that enable Customer Relations Management, workforce management, and analytics while negotiating for better access to third party data.

- d. Engage stakeholders to review the future state model and design for Demand Responsive transit and allow time to implement educational initiatives and marketing campaigns.
- e. Establish a “One DRT” transit strategy with underlying objectives and Key Performance Indicators (KPIs), while strengthening cross-boundary partner collaboration and further embedding social equity principles into delivery.

3.2 Summary of current state findings

a. Service delivery and operations

- The process and options available for scheduling and booking spontaneous trips is different depending on the customer’s travel ability
- Current contracts with third party operators do not have clear performance standards and metrics to drive a consistent, desired customer experience

b. Culture and collaboration

- Legacy ways of working and structure are driving a relatively siloed approach to scheduled, specialized and On Demand services and reducing organizational agility
- Third party contactors who deliver a component of On Demand service are not yet accepted as key members of the DRT service delivery team

c. Technology and analytics

- The current suite of enterprise and operational technologies do not have the functionality needed to enable the desired customer service experience or an ability to track operational and financial performance in an efficient manner
- Data collection, analysis and reporting requires significant manual effort by the analytics and service design teams, and limits the ability to derive real-time insights

d. External communications and education

- Increased community outreach efforts will be needed to define customer needs more clearly for the Demand Responsive service
- DRT branding does not accurately reflect the organization’s vision and aspirations to deliver a customer-centric, Demand Responsive service

- Customer awareness and understanding of DRT's services and how they are expected to change is low
- e. Strategy and key partnerships
 - A clear set of strategic objectives, target outcomes, and KPIs for delivery of Demand Responsive service that integrates current and On Demand and Specialized service offerings are yet to be defined

3.3 Jurisdictional scan of leading practices

The study reported on several leading practices for DRT to consider from Australia, Switzerland, Spain, United States, Norway, and Germany.

- a. Combining Specialized services within On Demand service offering and share fleet, operators, and booking that includes an accessible and simple interface
- b. Expand service design and optimize trips by considering high-uptake areas
- c. Consider notifications and COVID screening protocols built into future Demand Responsive app could support contact tracing and transparency for passengers' journeys
- d. Pre-booking options are possible through various software solutions which provides a flexible experience to meet users' needs and necessary in an amalgamated Specialized/On Demand model.
- e. Rethink the user experience and digital interfaces to cater to seniors and other specific populations may create a more customized and simplified experience for customers.
- f. Integrating the DRT On Demand app with the Transit app is already being done – expanding payment options for riders without bank accounts or smartphones could be explored

3.4 Recommended future state of Demand Responsive Services

The study recommends that DRT move forward to implement a Demand Responsive service that amalgamates the existing Specialized and On Demand services, resulting in a service that is more spontaneous, equitable, reliable, and customer focussed.

- a. Service delivery and operations
 - Further integrate Specialized and On Demand services and allow for advanced trip bookings

- Develop robust contract management capacity, streamline operational processes, and improve integration of third-party operators with DRT employed operators to drive a “One DRT” experience
 - Continue maintenance and improvements of bus stops with attention to transfer points to maximize comfort/coordinate with other services and authorities to minimize transfer times
- b. Culture and collaboration
- Establish a clear plan for “One DRT” across the organization, emphasizing integrated operations, booking, dispatch, and fleet management
 - Drive support for “One DRT” through a comprehensive and transparent internal change management strategy centered on actionable goals and defined responsibilities focused on enhancing the user experience
 - Cross-train staff in accordance with an integrated “One DRT” service offering, centered around the customer experience
- c. Technology and analytics
- Analyze the moments that matter across the customer journey by ensuring the new Customer Relations Management software that can best capture and report this customer information
 - Implement an automated dispatching software and related app that allows for the seamless integration of On Demand and Specialized trip bookings that can satisfy both customer and business/operational requirements
 - Invest in new or upgraded operational and enterprise solutions, paying close attention to data accessibility, interoperability, and exportability of data from those systems
- d. External communications and education
- Reimagine how public engagement and consultation is conducted in a post-pandemic world, testing new communication channels and feedback mechanisms
 - Prepare to rebrand DRT services to reflect One DRT vision and customer charter before extending it to infrastructure, fleet, uniforms, and other external facing assets

- Targeted marketing campaigns to educate customers, the community, and members of social equity groups
- e. Strategy and key partnerships
 - Establish One DRT strategy and performance management framework that can be used to monitor progress
 - Increase communication and collaboration between neighboring transit partners and key stakeholder groups with special attention to cross-boundary Specialized Service experience

3.5 Evaluation framework of the future state Demand Responsive Service model

The future state model was evaluated through a framework to highlight benefits and drawbacks.

- a. Customer
 - Provides more seamless, efficient, and equitable movement of people across the Region, resulting in improved customer experience as a result of more direct travel, shorter journey's, reduced wait times, and simplicity of trip planning.
- b. Equity
 - Users with different abilities will ride together and everyone will have greater access to transit and reduced wait times. Overall, users will have more choice when it comes to where they are able to live, work and play.
- c. Service Delivery
 - A Demand Responsive transit service provider is more equipped to action Regional objectives and improve service delivery, facilitating regional mobility on a larger, more integrated, and more equitable scale.
- d. Financial
 - Initially generates operational efficiencies and eventually provide cost saving opportunities to consider for reinvestment in services.

- e. Economic
 - Improves the connectivity and economic growth of the Region by increasing access to employment opportunities, retaining talent, and enhancing the Region's investment profile.
- f. Environmental
 - Allows for the more efficient deployment and management of assets across the network to reduce waste and emissions across the system and supports a mode shift away from personal vehicles thereby reducing overall environmental impact to the Region.

3.6 Financial analysis

The study modelled four scenarios to estimate the operational costs of the future state service delivery costs. The preferred initial/near term scenario is a transition to the Demand Responsive Transit service using the existing resource model of internal and external contracted resources. Maintaining the existing resource model during the transition period will enable DRT to focus on the significant change management considerations and operational improvements related to contract management, controls, processes, communications, information, training, branding and technology.

Following a successful change management program and as the Demand Responsive service matures over the next 24 months, there will be opportunities to realize further efficiencies by considering alternative service delivery models.

3.7 Accessibility and Accessibility for Ontarians with Disabilities Act (AODA) considerations

The study also reviewed current Specialized Services practices which customers and the community have commented are not in compliance with the AODA. The study confirmed that the following practices comply with the AODA.

- a. Application of AODA criteria for unconditional, conditional, and temporary eligibility
- b. Origin to destination services using integrated services approach that includes delivering a trip using a combination of specialized service and scheduled service
- c. Mandatory requirement for a customer to provide and travel with an attendant (or support person) when the customer is unable to use the service independently

- d. Current booking practice requiring pre-booking of trips

4. Path Forward

Staff will thoroughly review, prioritize, and implement the appropriate tactical actions highlighted in the report to support the transition to the Demand Responsive Service model. Key transition activities are summarized below.

Activity	Estimated Timing
Formalize service delivery strategy, metrics, and transition project plan	Q4 2021
Continue collaboration through Ministry of Transportation Fare and Service Integration table, including emphasis on cross-boarder demand responsive trips	Q3 2021 – Q2 2022
Establish performance management framework and key performance indicators (KPI's)	Q4 2021 – Q1 2022
Branding and vehicle livery	Q1- Q2 2022
Realign internal structure and responsibilities, process, and policies	Q2 2022
Market and communicate Demand Responsive Transit to stakeholders and the broader community, including educational materials and collateral to support customers	Q2-Q4 2022
Training and development for staff and third-party service provider(s) for updated procedures, processes, and responsibilities	Q2-Q3 2022
Implement Demand Responsive technology platform within Specialized and On Demand services	Q3 – Q4 2022

Activity	Estimated Timing
Launch Demand Responsive Service	Q3 – Q4 2022
Monitor KPI's and feedback, adjust processes to realize operational efficiencies	Q4 2022 – Q2 2023
Evaluate effectiveness of Demand Responsive Transit and recommend next steps	Q3 2023

5. Previous Reports and Decisions

- 5.1 2020-DRT-12 Review of transit services in rural Durham, June 3, 2020
- 5.2 2021-DRT-19 General Manager Report, September 8, 2021
- 5.3 Transit Executive Meeting Agenda, September 8, 2021, Presentation by Josh Colle, Executive Director for Government and Public Sector practice, Ernst and Young LLP re: Durham Region Transit Demand Responsive Transit Study, Executive Summary

6. Relationship to Strategic Plan

6.1 Environmental Sustainability

- 1.4 Demonstrate leadership in sustainability and addressing climate change

6.2 Service Excellence

- 5.1 Optimize resources and partnerships to deliver exceptional quality services and value
- 5.2 Collaborate for a seamless service experience
- 5.3 Demonstrate commitment to continuous quality improvement and communicating results
- 5.4 Drive organizational success through innovation, a skilled workforce, and modernized services

7. Conclusion

- 7.1 Transition to a single Demand Responsive Service will provide customers a spontaneous, equitable, reliable, and customer-focused service. Amalgamating Specialized and On Demand services will be supported by an effective change management and transition program and education, information, and engagement with stakeholders, customers, and the community. The transition to a mature and accepted service is expected to be achieved by 2024.
- 7.2 Demand Responsive service will generate efficiencies by leveraging a single fleet, co-mingling of demand response riders, centralized operator pools, maintaining a single technology platform, and other staff and resource efficiencies.
- 7.3 Although the service will leverage innovative systems and platforms to realize efficiencies and enhance the experience of customers, existing technologies such as the telephone will continue to be important to support residents who are unable or hesitant to adopt new technologies.

8. Attachments

Attachment #1: Durham Region Transit Demand Responsive Transit Study, Final Report, EY

Respectfully submitted,

Original signed by

Bill Holmes

General Manager, DRT

Recommended for Presentation to Committee

Original signed by

Elaine C. Baxter-Trahair

Chief Administrative Officer



Durham Region Transit (DRT) Demand Responsive Transit Study

Final Report

September 2021



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Executive Summary

Executive Summary

The mobility landscape and public transit customer expectations are rapidly shifting, which has been accelerated by the global pandemic and advances in technology. In response to these changes, DRT has begun to explore and pilot an On Demand transit service. To advance this initiative, DRT contracted EY to evaluate the current state and provide future state recommendations for a Demand Responsive service model. The future state model and recommendations were evaluated against the following accounts under EY’s Transit Evaluation Framework: customer, equity, service provider, financial, economic and environmental. A series of recommendations were generated from this study.

Key Recommendations	1	Further integrate Specialized and On Demand services in compliance with AODA, including scheduling, booking and customer support
	2	Examine existing workforce communication channels and tools for effectiveness, invest in cross-training, and implement new feedback mechanisms to drive ongoing dialogue and improvements
	3	Carefully consider and plan for investments in technologies that enable CRM, workforce management, and analytics while negotiating for better access to 3 rd -party data
	4	Engage stakeholders to assess the proposed future state model and design for Demand Responsive transit and allow time to implement educational initiatives alongside marketing campaigns and rebranding efforts
	5	Establish a “One DRT” strategy with underlying objectives and KPIs, while strengthening cross-boundary partner collaboration and further embedding social equity principles into delivery

The results of this study confirm that DRT should move forward with implementing an AODA compliant integrated Demand Responsive service that is more spontaneous, equitable, reliable, and customer-focused.

Project overview and approach

Context and objectives

The scope of this study was to examine how Demand Responsive services are delivered today and to determine how they can be optimized going forward to deliver a customer-centric, equitable service

Context



- ▶ Durham Region Transit (DRT) delivers a full suite of transit services across Durham Region, including Scheduled, On Demand, and Specialized service offerings
- ▶ In September 2020, DRT successfully launched On Demand service, enabled by the Transit app and DRT On Demand app, which together provide customers with trip planning and real-time booking information about on-demand rides available in their area
- ▶ In launching this new service, DRT affirmed the objective of On Demand service and Specialized service are similar in that they provide flexible, personal service, yet there are opportunities to improve customer service in how they are delivered
- ▶ DRT therefore has initiated this study to examine what the optimal Demand Responsive service delivery model is for On Demand and Specialized service to provide equitable, customer-centric, and spontaneous travel to customers of all abilities

Study Objectives

- ▶ The primary objective of this study is to inform how DRT can continue to improve the quality of service delivered to customers (current and potential) and value to the Region by optimizing how Demand Responsive service is delivered
- ▶ This study will examine what is working well and where there are opportunities to improve service delivery against the backdrop of a review of jurisdictional comparators, leading practice, and analysis of Durham Region customers
- ▶ It will include recommendations that highlight opportunities to improve equity, accessibility, customer experience and operational efficiency, including a proposed future state service delivery model and anticipated change impacts
- ▶ To assess the benefits and viability of the proposed model, it will be assessed against an EY Transit Evaluation Framework via customer, equity, service delivery, financial, economic, and environmental lenses
- ▶ An implementation roadmap will articulate the tactical steps recommended to transition to a more optimized model

Approach to conducting this study

The recommended future state service delivery model was informed, developed, tested, and validated under this approach



Documentation Review

Reviewed documentation provided by Durham Region Transit and the Region of Durham, including (but not limited to):

- ▶ The Transit By-law, Section IV of the Accessibility for Ontarians with Disabilities Act (AODA) and policy listing
- ▶ DRT Organizational chart, top-line budget figures, and recent reports to Transit Executive Committee (TEC)
- ▶ On Demand transit pilot results, customer feedback, and various Durham Region strategic action plans



Current state assessment

- ▶ Conducted 13 interviews to directly engage and gather input from 18 stakeholders from across DRT and the Region
- ▶ Performed a customer analysis using various DRT, government, and 3rd-party sources to assess regional demographics, understand On Demand ridership, and highlight important equity considerations
- ▶ Compared DRT Demand Responsive practices with those of peer comparators across Canada and around the world



Future state design

- ▶ Formulated a set of design principles that were prioritized by DRT staff and leadership, and used to shape the design of a future state service delivery model for Demand Responsive transit
- ▶ Developed recommendations and tactical implementation actions to address current state findings
- ▶ Detailed the proposed model and recommendations with input from two workshops with staff and leadership



Evaluation and considerations

- ▶ Tailored the EY Transit Evaluation Framework to structured analysis of the proposed future state service delivery model across six accounts: financial, transit user, equity, economic, service provider, and environmental lenses
- ▶ Conducted financial modelling to estimate the potential cost / savings of transitioning to the future state model
- ▶ Analyzed and documented the top organizational and customer change impacts anticipated by the transition



Implementation planning

- ▶ Discussed current DRT priority initiatives and target timelines (e.g. procurement of vehicle operator services)
- ▶ Determined the major work packages required to implement future state recommendations and model
- ▶ Articulated the key milestones, high-level activities, estimated durations, and potential dependencies as part of an implementation roadmap for consideration by DRT leadership

Current state assessment

Overview of current state findings

While major progress has been made in offering an On Demand service, there are five key areas of opportunity for DRT in moving to an integrated Demand Responsive Service

THEME

1	2	3	4	5
Service Delivery & Operations	Culture & Collaboration	Technology & Analytics	External Comms & Education	Strategy & Key Partnerships

"What services we provide and how we deliver them"

"How we work together to deliver customer-centric service"

"What tools enable our work and understanding of customers"

"How we meaningfully connect with external stakeholders"

"How we position and enable our services to deliver value"

RECENT PROGRESS

DRT provides 100% service coverage, is launching 24/7 service in the Fall, owns a fully accessible fleet, and continues to see increases in both service demand and use of PRESTO card payment.

DRT has a rich transit history, a complementary mix of new and tenured staff, and culture that prioritizes quality customer service, innovative approaches, and a desire to be a leader in public transit.

DRT was among the first to deploy an integrated app for digital trip planning and booking that includes Demand Responsive service, and is looking for opportunities to tap into better customer insights.

DRT provides multiple avenues for customers to learn about and book On Demand service, despite limitations related to tech, rural access to broadband, and engagement during the pandemic.

DRT envisions spontaneous travel to customers of all abilities, has established social equity principles, and forged relationships with various organizations and advocacy groups.

KEY CURRENT STATE FINDINGS

For a more seamless, inclusive customer experience, DRT can extend existing booking and scheduling capabilities to current customers of Specialized service.

To increase service quality, DRT would benefit from building contract management skills and capacity to better guide 3rd-party operators.

More effective, two-way channels of communication and feedback are needed to enhance coordination and consistency of how DRT service offerings are messaged and understood.

Despite recent organizational changes, there continues to be value in breaking down siloes, cross-training, and knowledge sharing across the business.

There are limitations to the quality of customer, financial, and operational data that can be extracted from DRT's existing suite of technology tools and solutions, which result in significant manual effort to derive meaningful insights.

3rd-party data is largely transactional and manually compiled, analyzed and reported on.

Increased public and targeted engagement is needed to inform the design of a seamlessly integrated, inclusive Demand Responsive service offering.

While DRT plans to refresh branding at the same time, a relatively larger effort will need to be expended on educating beneficiaries of the service on the new offering.

Further work can be done to articulate the vision and strategic objectives for the future of Demand Responsive transit, including what specific initiatives and KPIs should be used to measure the success of the service for both DRT and key partners.



What we heard

"Increase operational efficiency and the equity of the service will follow"

"Booking trips in advance needs to balance elements of flexibility, reliability and spontaneity"

"Processes and policies for On Demand need to be updated to reflect what has been learned"

Key observations

55%

INCREASE IN DAILY ON DEMAND BOOKING AGENT CALLS

100%

SERVICE COVERAGE IN DURHAM REGION

FULLY

ACCESSIBLE FLEET OF DRT OWNED VEHICLES

15-25%

CANCELLATION RATE FOR PRE-BOOKING 7 DAYS IN ADVANCE FOR SPECIALIZED

C1.1 The process and options available for scheduling and booking spontaneous trips is different depending on the customer's travel ability.

While On Demand customers can book a trip in real-time, current customers of Specialized Service must book their trip at least one day in advance. The current On Demand service uses a 15-45 minute pick up window with an ability to see in real-time where the vehicle is on its way; however, Specialized service riders have limited access to online booking and staff must manually book trips in the back-end. Customers of the Specialized service are penalized for "no-shows" whereby their ability to book a trip is suspended after a certain number of points accumulate when trip cancellations are made less than four hours before the time of their trip.

C1.2 Current contracts with 3rd-party operators do not have clear performance standards and metrics to drive a consistent, desired customer experience.

Many customer complaints originate when an On Demand customer is being served by a 3rd-party operator. In 2021, 3rd-party operators were 17% more likely to incur a complaint than DRT operators. This often occurs when the customer requires specific support the operator may not be trained to provide (e.g. assistance entering/exiting a vehicle). Existing contracts for these operators do not appear to specify performance standards in detail, and training for 3rd-party operators is not yet available. Moreover, capacity for service quality inspections is limited

C1.3 There are opportunities to improve the accessibility of physical infrastructure (e.g. Hub stops, shelters and places of drop-off/pick-up).

Hub / integrated stops are important transfer points between services; however there are few across the network. Despite major investments, some bus stops remain to be 'islands' and require involvement of partners to improve. Availability of car seats and bike racks on smaller vehicles represent other current barriers to first mile / last mile mobility experience.

For a more seamless, inclusive customer experience, DRT can extend existing booking and scheduling capabilities to current customers of Specialized service. To increase service quality, DRT would benefit from building contract management practices and capacity to better guide 3rd-party operators.



What we heard

"Complexities drive service siloes: culture, labour relations, target populations, and more"

"DRT needs to show responsibility for 3rd-party contractors and the service they provide"

"Service design does not seem interested in insights from customer service"

Key observations

57%

ON DEMAND TRIPS PROVIDED BY CONTRACTOR / TAXI

55%

INCREASE IN DAILY ON DEMAND BOOKING AGENT CALLS

C2.1 A combination of remote working and speed of roll-out of On Demand service has resulted in an appetite for more collaboration and training.

Across divisional teams, the need for refreshed training on current service offerings (On Demand and Specialized service), succession planning, and cross-training was highlighted as a key opportunity, along with more lead time on cascading service changes from internal to external stakeholders. Customer service and service design teams also expressed a desire for more regular collaboration and knowledge sharing, which both teams agree would help to better manage customer expectations.

C2.2 Legacy ways of working and structure are driving a relatively siloed approach to Conventional, Specialized and On Demand service and reducing organizational agility.

Internal processes, policies, and common definitions of what customer service should 'look like' for each function are still catching up to the evolution of business needs and service offerings which carry with them a rich history and mature collective agreement. This has led to variations in customer service approaches, siloed service delivery, and a tendency by some to "revert back to what they know."

C2.3 3rd-party contractors who deliver a component of On Demand service are not yet accepted as key members of the DRT service delivery team.

While PWT and other contractors have supported the delivery of Scheduled and Specialized service for years before On Demand service was implemented, some DRT staff do not view taxi operators as key members of the DRT extended team. A lack of prominent DRT branding and any customer complaints received may, in part, be contributing to a perception that this service is inferior to others.

More effective, two-way channels of communication and feedback are needed to enhance coordination and consistency of how DRT service offerings are messaged and understood. Despite recent organizational changes, there continues to be value in breaking down siloes, cross-training, and knowledge sharing across the business.



What we heard

"The current CRM limits how customer service is delivered"

"PRESTO card payments and GO integrations lack modernity"

"The request for better data insights grows every year, but the funding and resources does not"

"Without reliable data, customer strategies are limited"

Key observations

90 - 95%

PRESTO USAGE FOR
ON DEMAND TRIPS

**ON DEMAND
TRANSIT APP**

ALGORITHM ALLOWS FOR
AUTOMATED TRIP
PLANNING

C3.1 The current suite of enterprise and operational technologies do not have the functionality needed to enable the desired customer service experience or an ability to track operational and financial performance in an efficient manner.

In particular, the customer resource management tool (CRM) is outdated and cannot be configured to effectively to capture On Demand customer service information. Secondly, there is a lack of a centralized workforce management tool to integrate forecasting, planning and scheduling activities and could be used to drive efficiencies. Furthermore, systems do not capture and consolidate key operational and financial data related to vehicle maintenance, overhead costs, kilometers driven, workforce costs, and revenue received, which reduces organizational agility by making it at times challenging and time-consuming to consolidate and report on this information.

C3.2 Technologies used to enable operations do not fully integrate across neighbouring transit systems and service offerings.

For example, PRESTO and Trapeze are not designed to adequately integrate with all of DRT's 3rd-party service providers, creating inconsistencies in customer experiences and limiting analysis. Similarly, the open air land-based radio process used to contact operators is increasingly being replaced by VOIP systems, which can improve service and communication efficiencies.

C3.3 Data collection, analysis and reporting requires significant manual effort by the analytics team and limits the ability to derive real-time insights.

In many cases customer experience and satisfaction must be inferred from the analysis of transactional data which requires considerable manipulation and cleansing due to a lack of data standardization, which can be improved through negotiation and inclusion of terms written into future contracts with 3rd-parties.

There are limitations to the quality of customer, financial, and operational data that can be extracted from DRT's existing suite of technology tools and solutions, which results in significant manual effort to derive meaningful insights. 3rd-party data is largely transactional and manually compiled, analyzed and reported on.



What we heard

"On Demand is still not visible or well understood by many residents"

"We need to balance the idea that we're an affordable, public transit offering but not an NPO or social service"

"It's important for riders to see One DRT with no difference in service (even if that's the case)"

Key observations

BOOKING KIOSKS

PILOT LAUNCHING SUMMER 2021 TO ENABLE SENIORS AND VULNERABLE POPULATIONS TO BOOK ON DEMAND WITH IPADS

DIGITAL DIVIDE

INVEST DURHAM'S 2020 BROADBAND SURVEY REVEALED DURHAM INTERNET SPEEDS FALL BELOW CRTC MEDIAN STANDARDS

C4.1 Increased community outreach efforts will be needed to more clearly define customer needs for an integrated Demand Responsive service offering.

Public and targeted engagement and On Demand service education has been relatively limited to public info sessions, website and social media updates, and promotion of the app, which may not be effectively reaching rural populations, marginalized groups, or other target segments.

C4.2 DRT branding does not accurately reflect the organization's vision and aspirations to deliver a customer-centric, Demand Responsive service.

As DRT is transformed around the customer - through a well-articulated vision, organizational structure, integrated processes, refreshed policies, and performance management framework - there will be an opportunity for DRT to reimagine how its identity is communicated through a comprehensive approach to branding - both physical and digital. However, resources will limit in-person opportunities to promote the brand.

C4.3 Customer awareness and understanding of DRT's services and how they are expected to change is low.

While DRT's vision for spontaneous travel and emphasis on customer service exists today, some stakeholders are unclear as to how existing current service offerings are changing, who new services are intended to serve, and are confused by nomenclature surrounding these services. There is a lack of a clear definition as to what Demand Responsive service is and what benefits it will provide to customers of varying abilities. This hinders service uptake and creates a potential resistance to adopt the new service. Specifically, Specialized customers and advocates need more information on changes and messaging on how the evolution of Demand Responsive services actually provides them with more spontaneous booking, among other benefits they did not previously have access to.

Increased public and targeted engagement is needed to inform the design of a seamlessly integrated, inclusive Demand Responsive service offering. While DRT plans to refresh branding at the same time, a relatively larger effort will need to be expended on educating beneficiaries of the service on the new offering.



What we heard

"Everyone has the right to travel efficiently and competitively"

"It would be good to have a consistent scorecard approach to DRT services and contractors"

"By March 2022, Demand Responsive service will include On Demand and Specialized service as the vendor contract ends"

Key observations

1ST

TRANSIT AGENCY IN CANADA TO DEVELOP SOCIAL EQUITY TRANSIT REPORT

CROSS-BORDER

TRANSIT TRANSFERS FOR TTC WHEEL TRANS PICKUP PRESENT AS A MAJOR PAINPOINT FOR USERS OF SPECIALIZED SERVICE

C5.1 A clear set of strategic objectives, target outcomes, and KPIs for the delivery of Demand Responsive service that integrates current On Demand and Specialized service offerings are yet to be defined.

While the introduction of an integrated Demand Responsive service (with On Demand and Specialized offerings) serves to further several key priorities in the Durham Region Strategic Plan (e.g. 1.1, 1.5, 3.3, 4.4), an exercise has yet to be taken to articulate in simple terms "what" it is meant to achieve and "why" which can then be used as a communication tool with internal and external stakeholders.

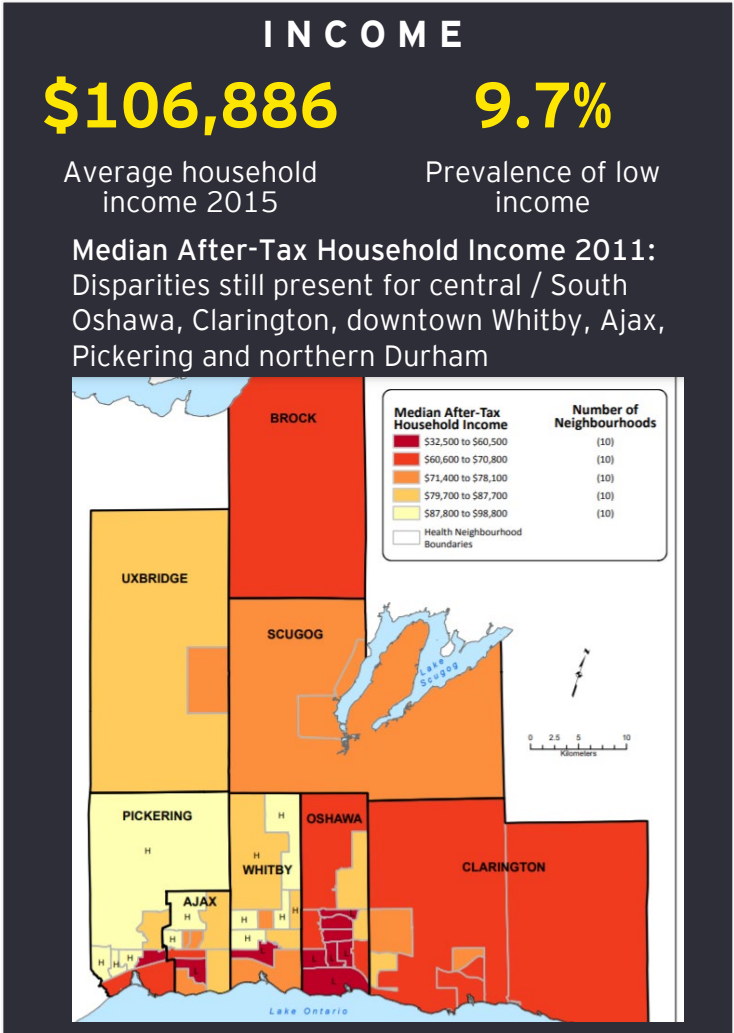
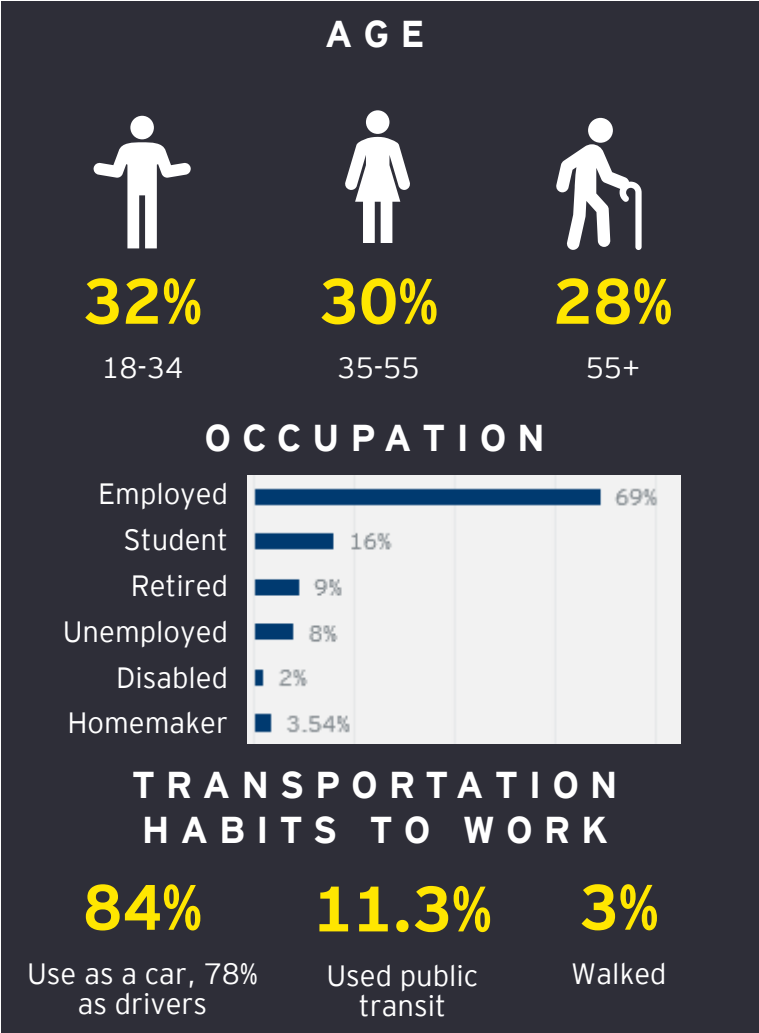
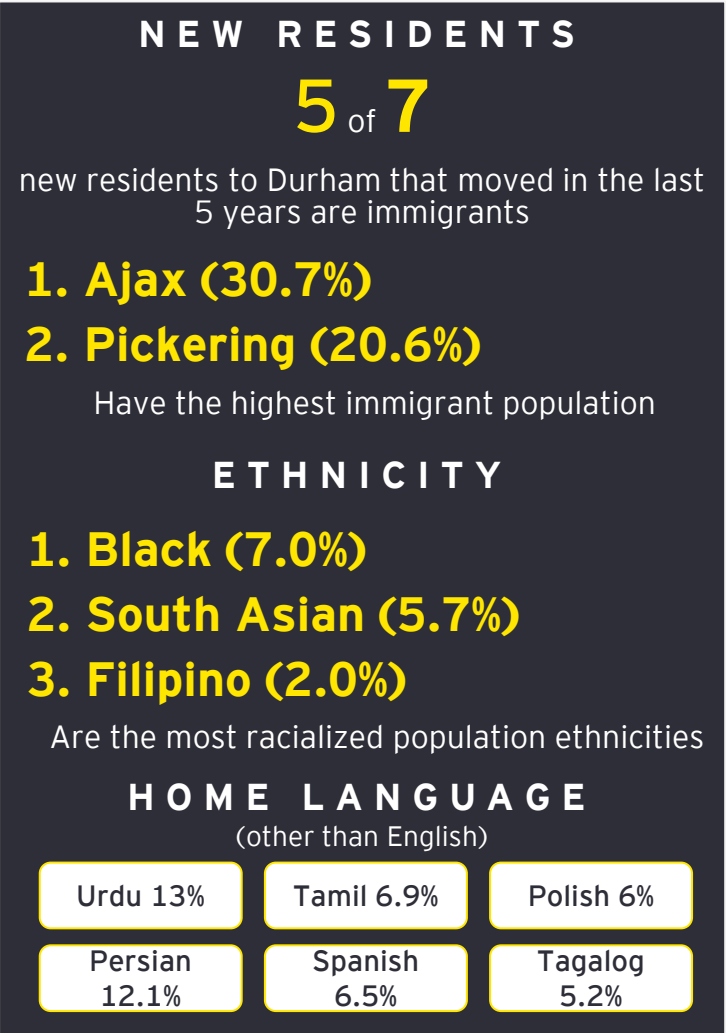
C5.2 Special attention will be required to hone in on points of integration and alignment required with key partners.

DRT's efforts to coordinate with the TTC, YRT, and other local transit providers on delivering a more integrated transit network are critical to the success of an expanded Demand Responsive delivery model. Continued participation at Provincial Fare & Service Integration forums and GTHA regional transit tables will similarly reinforce DRT's efforts to develop an optimal service delivery model. The success of Demand responsive service will be significantly influenced by the future of the GO service and PRESTO payment solutions and could potentially position DRT to move past barriers customers experience with cross-border travel.

Other key partners, such as local universities, major employers, etc. can also accelerate DRT's Demand Responsive strategic initiatives.

Further work can be done to articulate the vision and strategic objectives for the future of Demand Responsive transit, including what specific initiatives and KPIs should be used to measure the success of the service for both DRT and key partners.

Analysis of potential customer base | Durham Region demographics



When considering factors that influence access to transit, such as financial resources, ethnicity, ability to work, and proximity to available work, evidence suggests that social and economic factors have a high potential to exacerbate inequitable access to public transit services given the high rate of population growth and diversity of residents in Durham Region.

Analysis of potential customer base | Equity considerations

Ability to pay

9.7%

Prevalence of low income across Durham Region population

Lone parent families

18%

of households are lone parent families with female parents heading up 80% of these households

New residents, immigrants, refugees

Consideration of

- Limited car ownership for new residents
- Linguistic, cultural differences and new geography for residents

Indigenous communities

2%

Of total population comprised of Indigenous identities (First Nations, Inuit, Métis)

Language diversity

80%

Of people in Durham claimed English as their mother tongue

Age

13.7%

Of residents are aged 65+ as of 2016

Cultural differences

Consideration of

- Cultural differences and distrust of authority and public services from historically disadvantaged communities

Gender

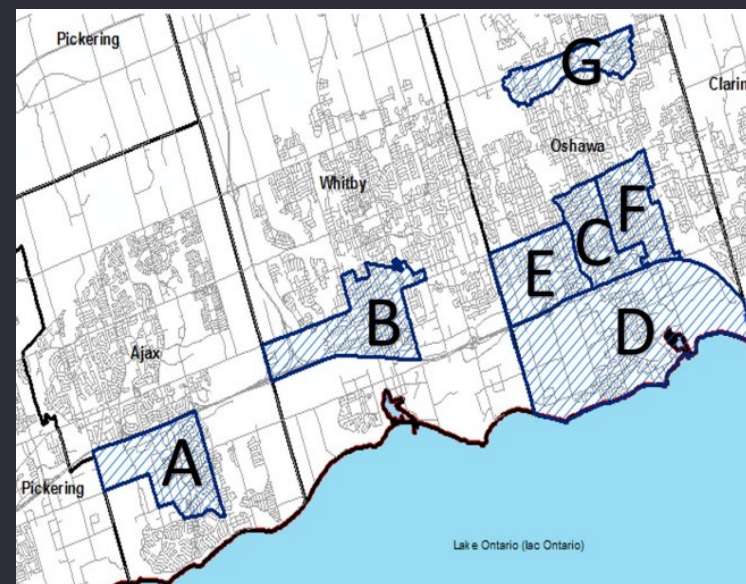
Consideration of

- Security and the creation of safe spaces on transit
- High rates of gender-based violence in private and public spaces

Abilities*

70,000

Residents estimated to have a disability in 2016



'Priority Neighbourhoods' as deemed by DRT, include 90,000 residents

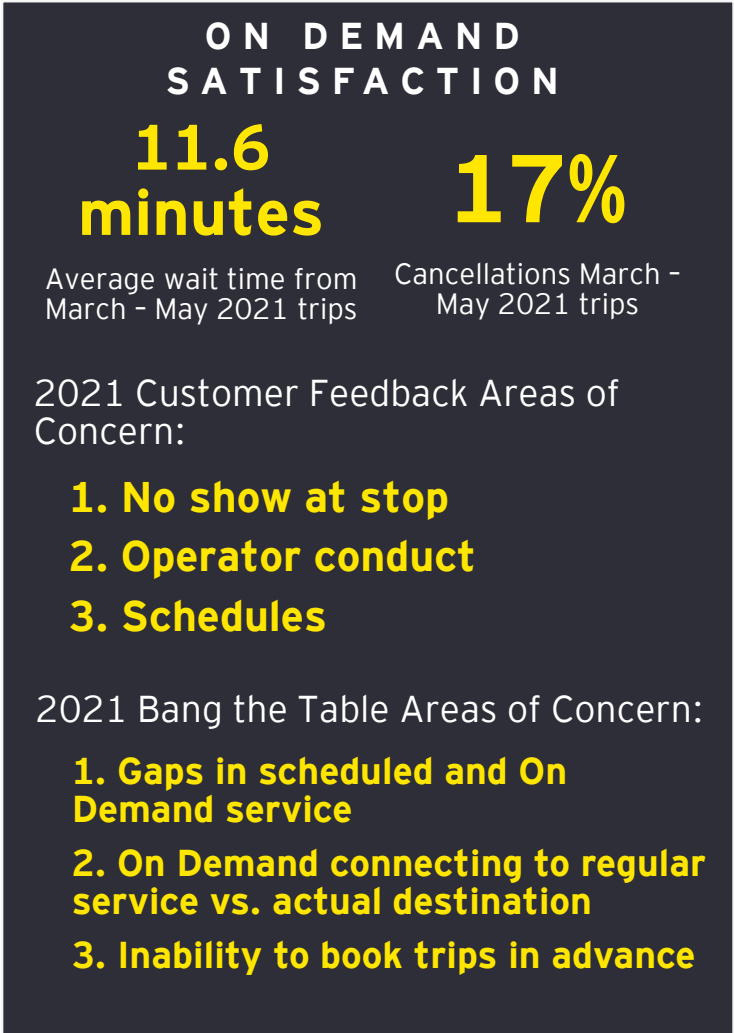
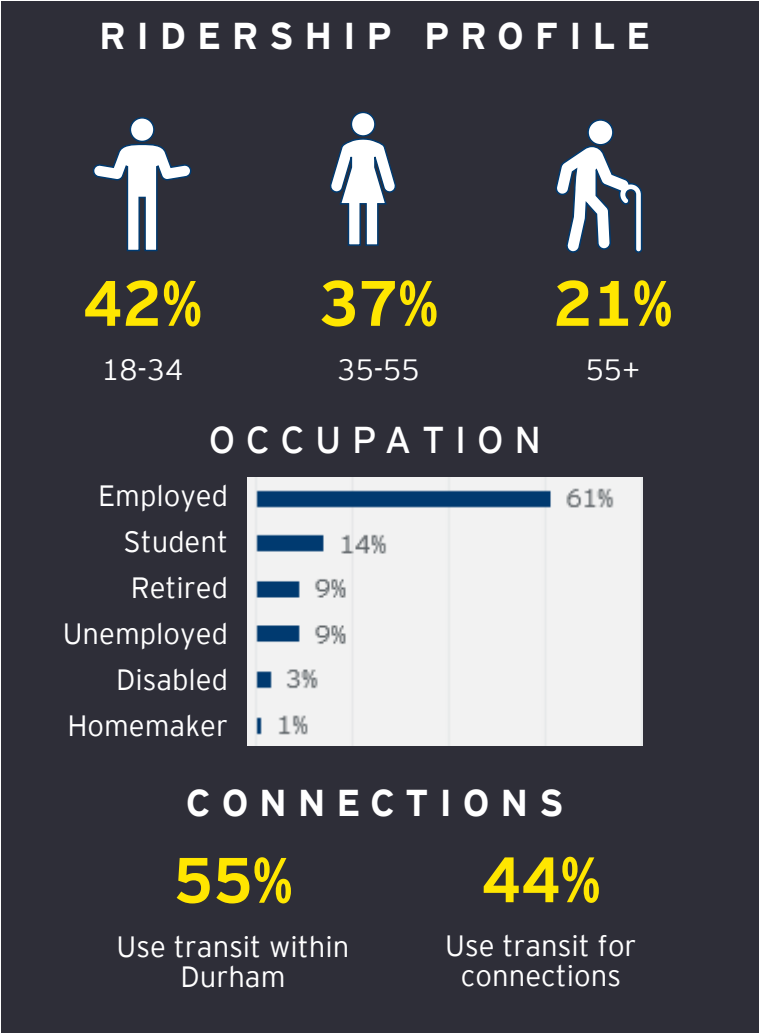
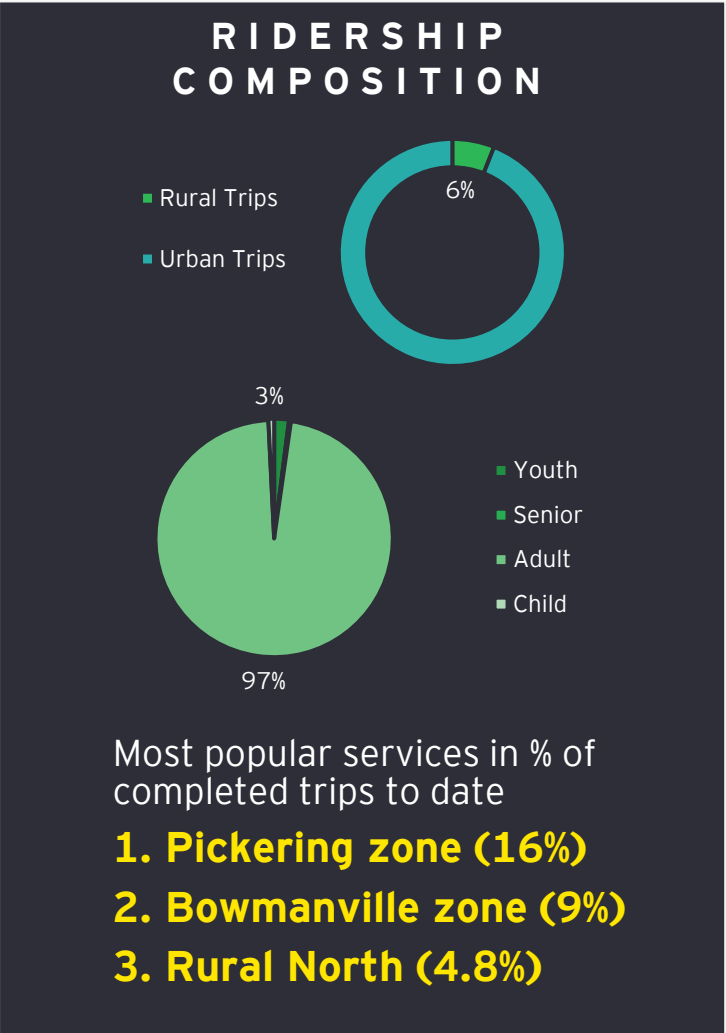
- | | |
|-----------------------------|----------------------------|
| A. Downtown Ajax - Ajax | E. Gibb West - Oshawa |
| B. Downtown Whitby - Whitby | F. Central Park - Oshawa |
| C. Downtown Oshawa - Oshawa | G. Beatrice North - Oshawa |
| D. Lakeview - Oshawa | |

Rural populations*

8.4% of residents live in rural and Northern areas in Durham

With a rapidly-growing region, social and economic equity considerations are vital to the process of imagining, designing, and delivering an exceptional and inclusive customer experience and inform the set of principles used to develop a future state model and recommendations for an integrated Demand Responsive service offering.

Analysis of current customer base | On Demand ridership



Most On Demand trips are still being taken in urban spaces, specifically within the Pickering and Bowmanville zones. Based on the nine priority neighbourhoods listed in DRT's Social Equity Report, heavy communication and education will be required to support communities in need beyond On Demand's current uptake zones. DRT can also focus on resolving gaps in service, On Demand capabilities, and ability to book trips in advance.

Customer analysis | Customer personas and pain-points



SARAH

- 47 years old
- Day program / Part time shift
- Cross-boundary Rider: Ajax to Scarborough

Profile: Sarah lives in Ajax in a congregate care setting and uses a mobility device. She attends medical appointments weekly and has work shifts in Scarborough.

Expectations: Reliable, timely transit and connections to access weekly activities with support from operators to board / exit vehicles.

Frustrations: Lengthy time and delay to access integrated conventional service and delay in accessing cross-boundary Wheel-Trans.

Digital needs: Sarah is seeking a simple way to schedule trips digitally and try the On Demand service.



XAVIER

- 19 years old
- Student at Ontario Tech University
- Internal Rider: Uxbridge to Oshawa

Profile: Xavier is looking forward to studying on campus as COVID restrictions lift. He is a choice rider and can use the car from his family home in rural Uxbridge.

Expectations: Affordable and reliable service to get to class on time. Ability to come home later at night after a long day studying.

Frustrations: Transfers and time it takes to travel from Uxbridge to Oshawa makes the car seem like an easier transportation option.

Digital needs: Xavier seeks an easy digital interface with constant updates on his buses ETA.



GREG

- 80 years old
- Retired, lives in LTC home
- Internal Rider: Oshawa

Profile: Greg lives in an LTC in Oshawa and has seen his scheduled route convert to On Demand. His typical trips to the library and bingo hall have been interrupted as he heard his typical route requires 2 buses and a transfer.

Expectations: An easy route to his typical destinations, support in understanding the new system and support in accessing technology.

Frustrations: Greg doesn't own a smartphone or computer and wants easy options to access activities as facilitates open up from COVID restrictions.

Digital needs: Open to learning simple technology but limited access to devices.



MARIAM

- 34 years old
- Part-time worker
- Internal and Cross-Boundary Rider: Whitby to Toronto

Profile: Mariam recently moved to Durham from Mississauga and is a mother to a 4-year old and caretaker to her elderly parents. She works part-time in downtown Toronto.

Expectations: Transit to support her occasional trips to the office via Whitby GO and easy-to-understand transit options for her elderly parents.

Frustrations: Apprehension around the On Demand service that may lead to her missing her train. Language barriers for her elderly parents to use DRT.

Digital needs: Mariam appreciates the digital app booking and website and frequently books trips for her parents.

The above personas were developed based on current state findings and a holistic review of demographics information, On Demand ridership statistics, and equity considerations for the purposes of highlighting potential pain-points experienced by customers under the current service delivery model. These personas will be revisited and their customer journeys' tested using the proposed future state model for Demand Responsive service.

Jurisdictional scan results | Demand responsive service landscape

The pandemic accelerated uptake of Demand Responsive service models to replace scheduled service where demand is low



To provide context to current Demand Responsive transit practices and approaches being deployed across Canada, the above map has been provided, summarizing some of the key Canadian transit agency comparators for consideration by DRT, along with a spotlight on ETS, Innisfil and Sault Ste. Marie for insights which may be of interest to DRT in informing how existing service offerings may evolve.

Jurisdictional scan results | Leading practices from other agencies

Evidence suggests Demand Responsive service models are quickly evolving to provide better, more accessible service

ENABLING ACCESSIBILITY IN AUSTRALIA



What is Victoria, Australia doing?

- The state of Victoria collaborated with a 3rd-party vendor to create a Demand Responsive solution leveraging virtual bus stops, get-off alerts, and pre-booking for weeks ahead

How is the solution accessible for paratransit?

- The app is optimized with screen reading features, talkback/voiceover capabilities, identification of wheelchair-accessible routes and stations and calculates step-free routes
- The app is also designed with optimized menus and buttons to simplify the user experience

EY Insight

- DRT can consider combining Specialized services within the On Demand service offering and share fleet, operators, and booking that includes an accessible and simple interface

VIRTUAL BUS STOPS IN ZURICH, SWITZERLAND



What are virtual bus stops?

- Zurich launched its On-Demand service called "Pikmi" and introduced 150 virtual bus stops, requiring no new infrastructure and only the smartphone app
- Pikmi is used for last mile trips during later evening hours and the fare is integrated into existing ticket costs

How has this helped Zurich?

- Allowed choice riders to take transit in evenings and transported many passengers in few vehicles to common destinations

EY Insight

- DRT can expand service design and optimize trips by considering high-uptake areas and use virtual bus stops to reduce travel to each stop

ON DEMAND NOTIFICATIONS IN MADRID, SPAIN



What is Madrid's Smart Bus doing?

- Notifications and trip ETAs are available in real-time to customers who have requested On Demand service through the Smart Madrid app
- COVID-19 screening protocols are in place and digitized through an in-app wellness check for every booking
- Contactless payment via app is also available during booking
- The service runs at no cost to riders and specifically serves hospital workers, residents, and patients

EY Insight

- Using notifications and COVID screening protocols built into the future Demand Responsive app could support contact tracing and transparency for riders' journeys

Jurisdictional scan results | Leading practices from other agencies

Evidence suggests Demand Responsive service models are quickly evolving to provide better, more accessible service

PRE-BOOKING TRIPS IN CHEYENNE, WYOMING



How does on-demand pre-booking work?

- Riders are able to pre-book rides, schedule recurring rides in advance, and also book rides on-demand. The algorithm analyzes routes in real-time to schedule advanced and real-time bookings
- The service has also brought paratransit under its On Demand umbrella to allow booking and commingling for various services
- Paratransit passengers with recurring trips are considered subscribers and are also able to schedule trips 48 hours ahead of time

EY Insight

- Pre-booking options are possible through various software solutions which provide a flexible experience to meet users' needs and necessary in an integrated Specialized / On Demand model

ON DEMAND FOR SENIORS IN OSLO, NORWAY



How has Oslo used transit to build an age-friendly city?

- Ruter (Oslo's transit service) and a 3rd-party vendor launched an on-demand, shared, door-to-door transportation service for people aged 67+
- Ruter created a user-friendly digital booking interface tailored to senior users
- The creation of user profiles including favourite locations and default accessibility needs has allowed 20% of seniors to use the service with 88% being very satisfied

EY Insight

- Rethinking the user experience and digital interfaces to cater to seniors and other specific populations may create a more customized and simplified experience for riders

APP INTEGRATION IN BERLIN, GERMANY



What did one of the world's first and largest Demand Responsive offering do?

- Berlin's fleet of 50 accessible, electric vans provide service when options are limited
- Users without a bank account can purchase ride credits through customer centers using cash while riders without smartphones can use the service by booking a ride at designated kiosks in customer centers
- The solution is integrated with BVG trip planning app "Fahrinfo" through an API. Full integration allows BerlKönig to pop up as an option during reduced service and re-routes to BerlKönig app

EY Insight

- Integrating the DRT On Demand app with the Transit app is already being done - expanding payment options for riders without bank accounts or smartphones could be explored

Design principles

Design principles

Several principles were used to guide the design of the future state service delivery model for Demand Responsive transit

What are they?

- ▶ Design principles are governing qualities of a product or service that, when adhered to, provide customers with a consistent experience in interacting with it
- ▶ They are informed by DRT's strategy, stated priorities, and desired outcomes of providing an integrated, personalized and flexible demand responsive service to customers

How have they been used?

- ▶ A set of ten design principles were developed and prioritized according to relative importance with input from the DRT team and leadership
- ▶ 'Customer-centric', 'equitable access', and 'strategic alignment' were considered to be the most important principles of a proposed model
- ▶ The design principles were used to guide the construction of the future state service delivery model for Demand Responsive transit

Design principles

The future state model for Demand Responsive service was designed with emphasis on adhering to the top three principles

1

Customer-centric: To commit to transition from a traditional and transactional transit service offering to one that flexibly meets customer needs, allowing for equitable and accessible mobility

2

Equitable Access: To focus on providing everyone the right to travel efficiently, competitively, in compliance of AODA and regardless of differing individual abilities, socioeconomics factors, or access to mobile technology

3

Strategic Alignment: To facilitate the achievement of strategic objectives and KPIs set out in the Durham Region Strategic Plan and other key strategic initiatives (e.g. such as the myDurham Intelligent Communities Plan and the Corporate Climate Action Plan)

Supporting

Efficiency: To minimize use of limited resources to provide a consistent, repeatable service with little 'waste' and few exceptions to standard practice or delivery approach

Value for Investment: To maximize the quality and extent of services provided relative to the cost to customers, residents, DRT, and other orders of government who contribute funding in support of public transit

Safety and Wellbeing: To promote the physical and mental safety and wellbeing of all stakeholders who interact with DRT services from the public and customers to employees and contractors

Employee-centric: To place staff and employees at the center of business transformation by continuously evaluating workforce needs and driving the evolution of processes, tasks, roles, responsibilities, structure, and employee supports to purposely address those needs

Flexibility: To provide a high degree of organizational agility and nimbleness required to respond to future business and customer needs, such as by using open source technologies, flexible contract terms, use of external resources, etc.

Data driven: To utilize data gathered from internal and external sources to derive insights valuable to improving service delivery and customer satisfaction

Innovative: To encourage an environment of experimentation in what and how services are provided, as a means of keeping DRT 'ahead of the curve' and a leader amongst its comparator organizations

Future state recommendations

Overview of future state recommendations

Recommendations have been developed to align to the five areas of opportunity identified via the current state assessment

CURRENT
STATE FINDINGS

FUTURE STATE
RECOMMENDATIONS

1	2	3	4	5
Service Delivery & Operations	Culture & Collaboration	Technology & Analytics	External Comms & Education	Strategy & Key Partnerships
"What services we provide and how we deliver them"	"How we work together to deliver customer-centric service"	"What tools enable our work and understanding of customers"	"How we meaningfully connect with external stakeholders"	"How we position and enable our services to deliver value"
<p>For a more seamless, inclusive customer experience, DRT can extend existing booking and scheduling capabilities to current customers of Specialized service.</p> <p>To increase service quality, DRT would benefit from building contract management skills and capacity to better guide 3rd - party operators.</p>	<p>More effective, two-way channels of communication and feedback are needed to enhance coordination and consistency of how DRT service offerings are messaged and understood.</p> <p>Despite recent organizational changes, there continues to be value in breaking down siloes, cross-training, and knowledge sharing across the business.</p>	<p>There are limitations to the quality of customer, financial, and operational data that can be extracted from DRT's existing suite of technology tools and solutions, which result in significant manual effort to derive meaningful insights. 3rd-party data is largely transactional and manually compiled, analyzed and reported on.</p>	<p>Increased public and targeted engagement is needed to inform the design of a seamlessly integrated, inclusive Demand Responsive service offering.</p> <p>While DRT plans to refresh branding at the same time, a relatively larger effort will need to be expended on educating beneficiaries of the service on the new offering.</p>	<p>Further work can be done to articulate the vision and strategic objectives for the future of Demand Responsive transit, including what specific initiatives and KPIs should be used to measure the success of the service for both DRT and key partners.</p>
<p>Further integrate Specialized and On Demand services scheduling, booking, dispatch, and customer support. Set clear 3rd-party contract service metrics and continue to invest in physical infrastructure.</p>	<p>Examine existing workforce communication channels and tools for effectiveness, invest in cross-training, and implement new feedback mechanisms to drive ongoing dialogue and improvements.</p>	<p>Carefully consider investments in technologies and resources that enable CRM, workforce management, and analytics while negotiating for better access to 3rd-party data.</p>	<p>Engage stakeholders to assess the proposed future state model and design for demand responsive transit. Allow time to roll out education alongside marketing campaigns and rebranding efforts.</p>	<p>Establish the "One DRT" strategy with underlying objectives and KPIs, while strengthening cross-boundary partner collaboration and embedding social equity principles into delivery.</p>

Future state recommendations | Service delivery and operations

RECAP



PROGRESS TO DATE

DRT provides 100% service coverage, is launching 24/7 service in the Fall, owns a fully accessible fleet, and continues to see increases in both service demand and use of PRESTO card payment.



CURRENT STATE FINDINGS

For a more seamless, inclusive customer experience, DRT can extend existing booking and scheduling capabilities to current customers of Specialized service. To increase service quality, DRT would benefit from building contract management skills and capacity to better guide 3rd-party operators.

FUTURE STATE RECOMMENDATIONS

F1.1 Adjust service delivery and booking capabilities to integrate Specialized Services and On Demand booking and allow for both advance booking for all service types

F1.2 More robust contract management, streamlined operational processes, and improved integration of 3rd-party operators with DRT employed operators to drive a “One DRT” experience

F1.3 Continue maintenance and improvements of bus stops. Specific attention paid to cross-boundary transfer points to maximize comfort / coordinate with other authorities to minimize transfer times, especially for those with disabilities

IMPLEMENTATION ACTIONS

- A. Ensure the new integrated app allows for advance booking required to continue to serve subscription reservations for eligible customers and customers requiring door-to-door service (therefore operationally, there is enough time to reserve a particular vehicle)
- B. Combine dispatching resources under one team for all service types; combine field/mobile supervision (route management) tasks under one team
- C. Add additional dedicated contract management / performance management specialist(s)
- D. Institute ‘ride-along’ inspection process along routes or within zones
- E. Assess feasibility of on-route operator check-ins where timeliness, dress code conformity, bus cleanliness, and all other operator standards are ensured by supervisor
- F. Identify the highest use/problematic bus stops (through current On Demand data and feedback from specialized service operators and customers) to prioritize capital improvements for inclusion in the Durham Region Capital Plan and Accessibility Plan
- G. Conduct a high-level accessibility audit of frequent trip generating locations to identify physical and logistical barriers for operators and customers
- H. Review financial model once service model is stable

Future state recommendations | Culture and collaboration

RECAP



PROGRESS TO DATE

More effective 2-way channels of communication are needed to enhance how DRT service offerings are messaged and understood. Despite recent changes, breaking siloes, cross-training, and knowledge sharing across the business is key



CURRENT STATE FINDINGS

The roll-out of On Demand service has resulted in an appetite for more collaboration and training. Legacy ways of working and structure are driving a relatively siloed approach to service, reducing organizational agility. 3rd-party contractors who deliver a component of On Demand service are viewed as members of the service delivery team.

FUTURE STATE RECOMMENDATIONS

F2.1 Establish a clear plan for “One DRT” across the organization, emphasizing integrated booking, dispatch, and fleet management

F2.2 Drive buy-in for One DRT through a comprehensive and transparent internal change management strategy centred on actionable goals and defined responsibilities that are focused on enhancing user experience

F2.3 Cross-train all customer service and dispatch teams, including mobile supervisors, in accordance with an integrated One DRT service offering, centred around the customer experience

IMPLEMENTATION ACTIONS

- A. Engage staff in a survey (provide an incentive and recognition for participation) in formulating the “One DRT” vision and what customer service means to them and preferred comms channels; have leadership announce the results (vision, key messages, etc.) to build excitement for changes
- B. Develop One DRT Culture Blueprint (should include the core values and what One DRT behaviours in action look like with examples relevant to each function)
- C. Develop Service Delivery Guide (for internal use by DRT) and Customer Charter (internal/external)
- D. To support change management efforts, embark on robust employee and partner engagement program, involving organization-wide calls, townhalls, bulletins, charter release, etc.
- E. Refresh/Realign policies and processes that deal with customer interfaces and/or safety/wellbeing
- F. Leverage the Region’s HR team (with L&D expertise) and commit resources to change management
- G. Develop training materials (e.g. service offering information, ‘what’s changing’, new procedures/policies, customer service scripts, etc.); deliver via a combination of in-person, e-learnings, digital displays in the garage, learning bites in bulletins, etc.
- H. Train/Cross-train workforce on new app, processes/policies, and integrated customer service approach

Future state recommendations | Technology and analytics

RECAP



PROGRESS TO DATE

Customer and operational data are limited by DRT's existing suite of technology tools and solutions. This results in significant manual effort to draw insights. 3rd-party data is largely transactional and also manually compiled.



CURRENT STATE FINDINGS

Current enterprise technology lacks the functionality to enable a modern customer service experience. Technologies used to enable operations do not fully integrate across neighbouring transit systems and service offerings. Data collection, analysis and reporting requires significant manual effort, limiting the ability to derive real-time insights.

FUTURE STATE RECOMMENDATIONS

F3.1 Analyze the moments that matter across the customer journey and procure CRM software that can best capture this customer information

F3.2 Implement an app that allows for the seamless integration of On Demand and Specialized trip booking that can satisfy both customer and business/operational req's

F3.3 In collaboration with neighbouring municipalities, review tech-related opportunities for more seamless cross-boundary travel

F3.4 Invest in new or upgraded operational and enterprise solutions, paying close attention to data accessibility, interoperability, and exportability of data from those systems

IMPLEMENTATION ACTIONS

- A. Analyze and segment customer data to inform a set of personas (ideally one per segment) and have a DRT employee ride-along and document their experience, highlighting positive aspects and pain-points along the customer journey; conduct this activity once pre and post integration service offering under Demand Responsive
- B. Use insights from customer journey analysis and stakeholder/public engagement to inform requirements for the integrated Demand Responsive app RFP under dev.
- C. Select the successful bidder for the RFP (weighting ability to meet customer needs higher than other measures); implement the new app (maintain access to legacy data)
- D. Build data agreement terms into service provider contracts that provides timely, accessible, and relevant data access for DRT
- E. Develop an IT implementation roadmap that considers external parties'/solutions' roadmaps (e.g. PRESTO, York Region) and helps remove tech-related barriers to travel
- F. Procure a centralized workforce management tool and advanced analytics tool (that can be configured to easily digest customer and operational data). Determine timelines to replace fleet radio system with VOIP system to enhance effectiveness of communication with operators, and re-engage Durham Region for an updated CRM system

Future state recommendations | External communications and Education

RECAP



PROGRESS TO DATE

Increased engagement is needed to inform the design of an integrated, inclusive Demand Responsive service. While DRT plans to refresh its branding, a larger effort will be needed to educate beneficiaries on the new service offering.



CURRENT STATE FINDINGS

Increased community outreach efforts will be needed to clearly define customer needs for an integrated Demand Responsive service. DRT branding could better reflect the organization's aspirations to deliver a customer-centric, Demand Responsive service. Customer awareness of DRT's services and how they are expected to change is low.

FUTURE STATE RECOMMENDATIONS

F4.1 Reimagine how public engagement and consultation is conducted in a post-pandemic world, testing new communications channels and feedback mechanisms

F4.2 Prepare to rebrand DRT services to reflect One DRT vision and customer charter before extending it to infrastructure, fleet, uniforms, and other external facing assets

F4.3 Targeted marketing campaigns to educate customers, including internal riders, choice riders, and members of social equity report communities

IMPLEMENTATION ACTIONS

- A. Evaluate the return on investment of past Public Information Centres (PICs) in terms of time invested versus quantity of feedback received, degree of participation, and diversity of customer representation
- B. Engage the Accessibility Advisory Committee (AAC) and Transit Advisory Committee (TAC) for ideas and input on how to engage specific customer segments across the Region (e.g. in-person, via schools, etc.)
- C. Empower staff with survey tools to collect feedback from members of social equity report communities to provide to DRT more robust customer data, test journey maps, and both inform and monitor the transition to a more integrated service offering
- D. Inquire (through the procurement process) what real-time customer information and feedback can be collected from any 3rd-party integrated booking apps beyond post-ride surveys
- E. Consider conducting focus groups, surveys, cold calls, and ride-alongs to identify preferred communications channels and assess current brand sentiment (to inform brand refresh)
- F. Commit marketing and research resources to develop external education and promotional campaigns to drive smooth transition and uptake of Demand Responsive transit, and to measure effectiveness of these efforts
- G. Launch in-person booking kiosks to test feasibility and effectiveness for full roll out of integrated offering

Future state recommendations | Strategy and key partnerships

RECAP



PROGRESS TO DATE

Further work can be done to articulate the vision and strategic objectives for the future of Demand Responsive transit, including what initiatives and KPIs should be used to measure success for both DRT and key partners.



CURRENT STATE FINDINGS

For a more seamless, inclusive customer experience, DRT can extend existing booking and scheduling capabilities to current customers of Specialized service. To increase service quality, DRT would benefit from building contract management skills and capacity to better guide 3rd-party operators.

FUTURE STATE RECOMMENDATIONS

F5.1 Establish One DRT strategy and performance management framework that can be used to monitor progress

F5.2 Increase communication and collaboration between neighbouring transit partners and key stakeholder groups with special attention to cross-boundary Specialized Service experience

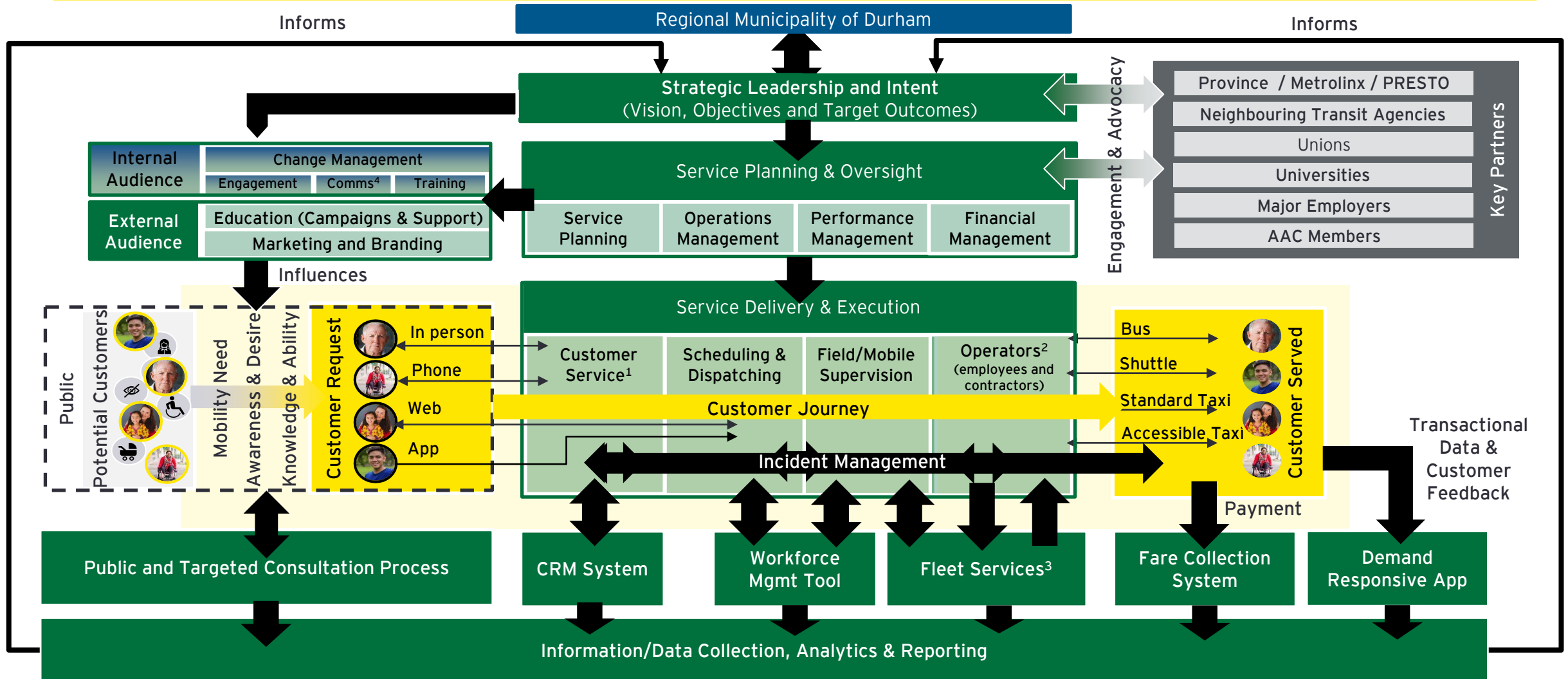
F5.3 Leverage DRT Social Equity Report to feed into strategic objectives and tactical campaign to increase access and equity for One DRT users

IMPLEMENTATION ACTIONS

- A. Hold a visioning session with DRT leadership and drive out the value proposition by stakeholder group for transitioning to the future state model of Scheduled service and integrated Demand Responsive service
- B. Link One DRT vision, objectives, and target outcomes to the Durham Region strategic plan and set KPIs that advance social equity
- C. Tie initiatives in the future state implementation roadmap to strategic objectives; socialize them with leadership from neighbouring transit agencies to drive alignment on shared goals (e.g. cross-border travel)
- D. Develop performance management framework for evaluating both organizational effectiveness (including financial metrics) and major contracts (including specific service level KPIs / service standards for vendors)
- E. Make existing and new commercial arrangements with service providers subject to a vendor audit
- F. Work with partners to ensure that goals are being met, specifically at key interaction points, such as cross-border stops
- G. Hold an executive roadshow with universities, major employers, and other major partners to engage and educate them on the new integrated service offering and benefits to them in promoting use of the service

Demand Responsive future state service delivery model

The following visual illustrates how DRT can deliver integrated services allowing for spontaneous travel for all customers



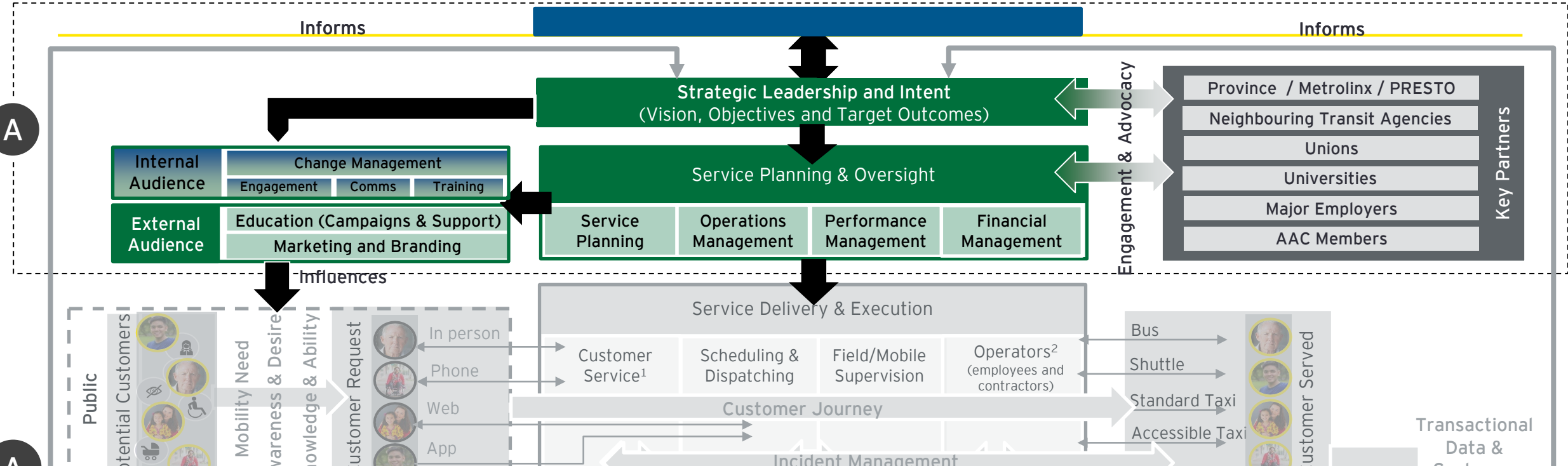
¹Includes booking, trip planning, wayfinding, education, issue resolution, and other support activities for customers of all abilities.

²Note that only DRT operated vehicles utilize fleet services whereas non-DRT owned vehicles are maintained and stored offsite.

³Fleet Services includes activities such as fleet planning, management (incl. asset lifecycle), storage, and maintenance.

⁴While this function represents strategic communications as a key component of change management, all DRT staff have a role to play in effective communications.

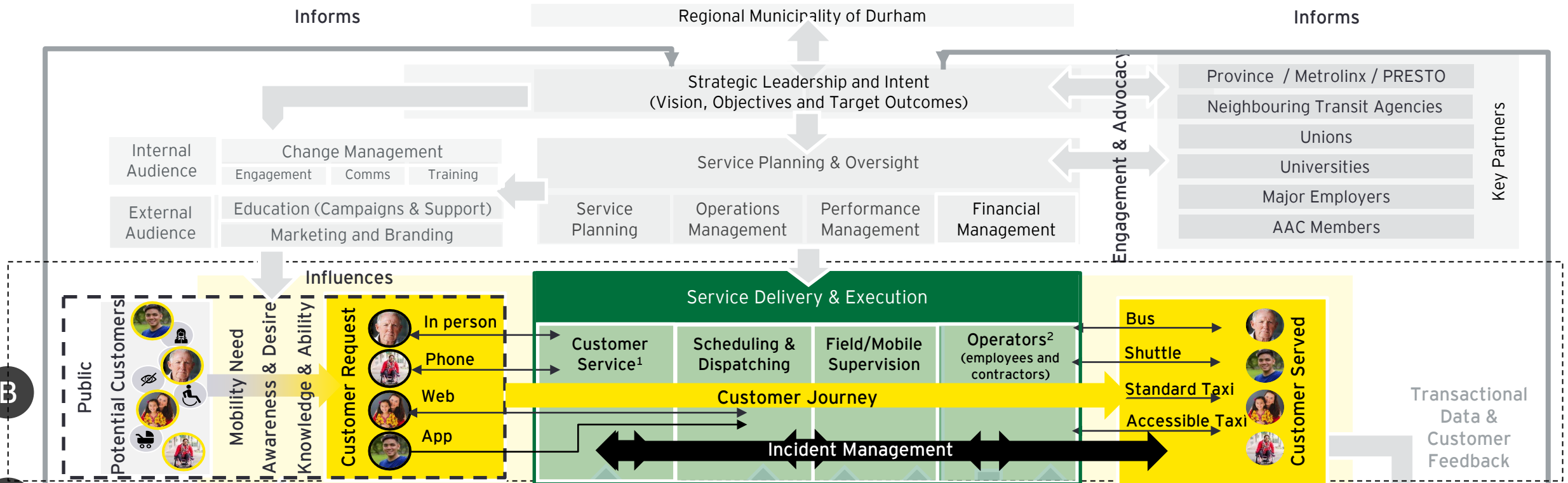
Demand Responsive future state service delivery model



Strategic Management Layer

- ▶ In alignment with Council priorities and the Durham Strategic Plan, the **Transit Executive Committee (TEC)** and the **DRT senior leadership team** affirm the **vision, objectives, and target outcomes** of evolving Demand Responsive services to provide spontaneous travel to customers of all abilities
- ▶ The **strategic intent** behind Demand Responsive service is then **translated into services plans and operational requirements**; service delivery is measured against a set of KPIs tied to target outcomes and the budget and actual costs/revenue of Demand Responsive service services are managed and reported on
- ▶ Change Management functions (engagement, communications, and training) will translate plans, policies, and procedures into learning and development objectives, courses and/or materials for each internal function, delivering them through change management tools and tactics
- ▶ Strategic communications will identify, enable, and moderate two-way channels that can deliver a combination of active and passive communications designed to reach both back-office and front-line operations staff (e.g. organization-wide calls, bulletins, daily stand-ups, etc.), which all staff will have a role in engaging with
- ▶ Marketing and branding activities will drive external awareness and desire by current and potential customers to use Demand Responsive service; educational campaigns and targeted support activities (e.g. in-person booking kiosks) will drive public knowledge and ability to use the service

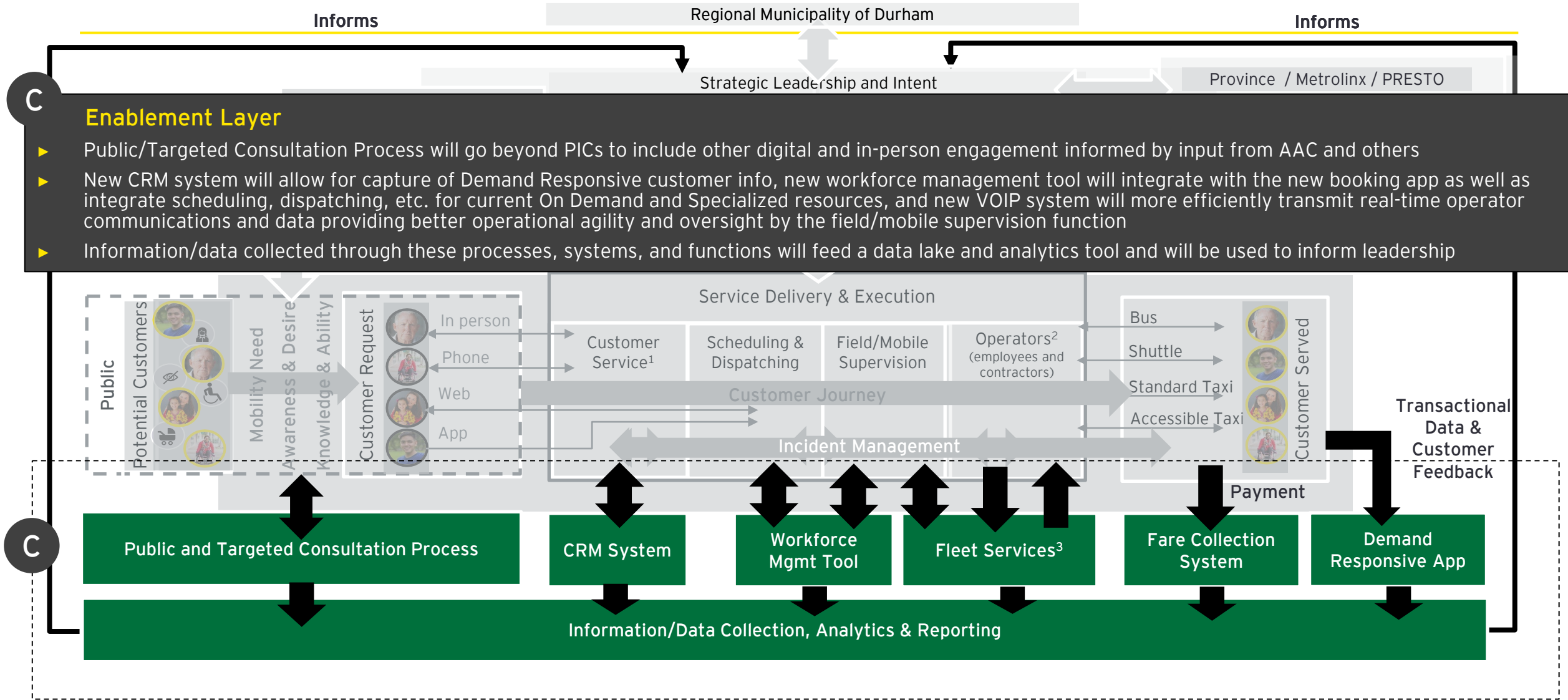
Demand Responsive future state service delivery model



Customer Service Delivery Layer

- ▶ Customers - of all abilities - will be able to request Demand Responsive services via the same request intake channels: in-person, phone, web, and app
- ▶ **Customer service team members will be cross-trained and knowledgeable to handle all customer requests;** this team will be equipped with an integrated Demand Responsive booking solution that allows for advance booking (to reserve vehicles for door-to-door service or book subscription reservations for eligible customers) and an upgraded CRM to capture customer information
- ▶ Scheduling and dispatching for current On Demand and Specialized customers will be combined and team members cross-trained
- ▶ The field (mobile) supervision team will be responsible for key tasks such as route management, inspections, real-time quality checks, and incident investigations/resolutions for current On Demand and Specialized customers (*Specialized dispatch team will no longer handle route management)
- ▶ Fleet will be deployed based on customer mobility needs indicated at the time of booking and demand responsive operators will deliver services

Demand Responsive future state service delivery model



Future state | Customer perspective and experience

The Demand Responsive future state service delivery model is expected to impact Sarah's customer journey as follows



SARAH

- 47 years old
- Day program / Part time shift
- Cross-boundary Rider: Ajax to Scarborough

Profile

Sarah lives in Ajax in a congregate care setting and uses a mobility device. She attends medical appointments weekly and has work shifts in Scarborough.

Frustrations

- Lengthy time and delay to access integrated conventional service and delay in accessing cross-boundary Wheel-Trans.

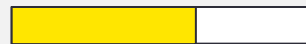
Expectations

- Reliable, timely transit and connections to access weekly activities with support from operators to board / exit vehicles.

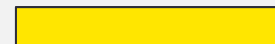
Time sensitivity



Digital savviness



Desired level of communication

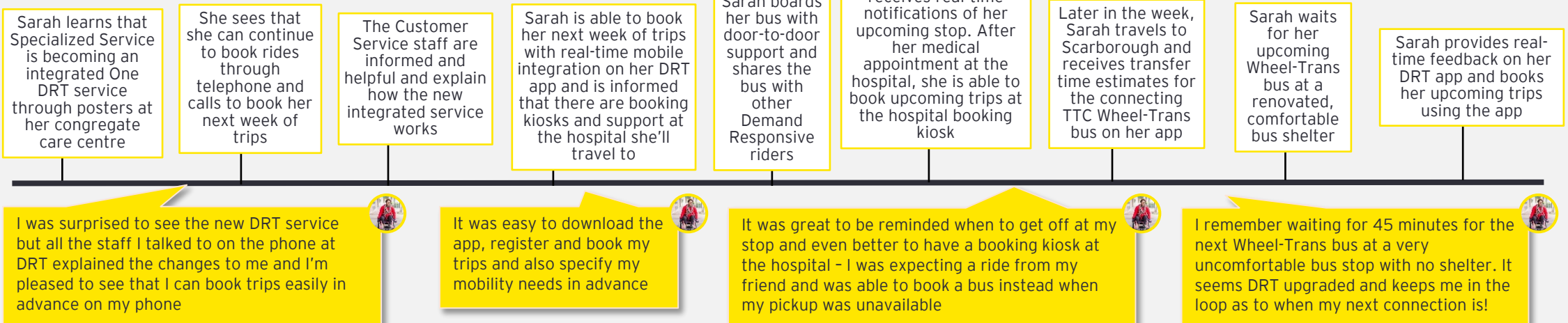


Inclination to self-serve



TARGET FUTURE STATE JOURNEY

Moments that matter Journey Points



Future state | Customer perspective and experience

The Demand Responsive future state service delivery model is expected to impact Greg's customer journey as follows



G R E G

- 80 years old
- Retired, lives in LTC home
- Internal Rider: Oshawa

Profile

Greg lives in an LTC in Oshawa and has seen his scheduled route convert to On Demand. His typical trips to the library and bingo hall have been interrupted as he heard his typical route requires 2 buses and a transfer.

Frustrations

- Greg doesn't own a smartphone or computer and wants easy options to access activities as facilitates open up from COVID restrictions.

Expectations

- An easy route to his typical destinations, support in understanding the new system and support in accessing technology.

Time sensitivity



Digital savviness



Desired level of communication



Inclination to self-serve



TARGET FUTURE STATE JOURNEY

Moments that matter Journey Points

DRT staff visit Greg's LTC and distribute flyers on the new service and answer questions after setting up an iPad and booking station for residents

Greg is able to use the iPad to ask about his route and get maps and information on the exact route

With the iPad tutorial in mind, Greg tries booking his trip for the bingo hall and sees that a bus will come in 10 minutes and another bus will come in 20 at his transfer

Greg boards the bus and follows his flyer map to track when to transfer and does so, waiting at the next stop

Another bus comes to pick up Greg. At the bingo hall, Greg can use the phone to call for another On Demand trip back

Greg speaks with Customer Service staff who book him an immediate bus back and he follows the same route back on his map

I'm quite interested in trying the bus again - it doesn't seem too complicated and a few of my friends will take it with me. I have some resources now to book and plan my trip

The iPad was very simple to use and there were maps and flyers available for me to follow my trip once I booked it - I was amazed that I could order the bus even at night

I was surprised by how fast the bus came after I also ordered it through telephone. The staff were nice and helpful and I followed my same trip back

The new bus system is actually pretty simple and I heard it serves all over Durham. I'll try it next week to visit my family in Beaverton as it even goes up north!

Future state | Customer perspective and experience

The Demand Responsive future state service delivery model is expected to impact Xavier's customer journey as follows



XAVIER

- 19 years old
- Student at Ontario Tech University (Oshawa)
- Internal Rider: Uxbridge to Oshawa

Profile

Xavier is looking forward to studying on campus as COVID restrictions lift. He is a choice rider and can use the car from his family home in rural Uxbridge.

Frustrations

- Transfers and time it takes to travel from Uxbridge to Oshawa makes the car seem like an easier transportation option.

Expectations

- Affordable and reliable service to get to class on time. Ability to come home later at night after a long day studying.

Time sensitivity



Digital savviness



Desired level of communication

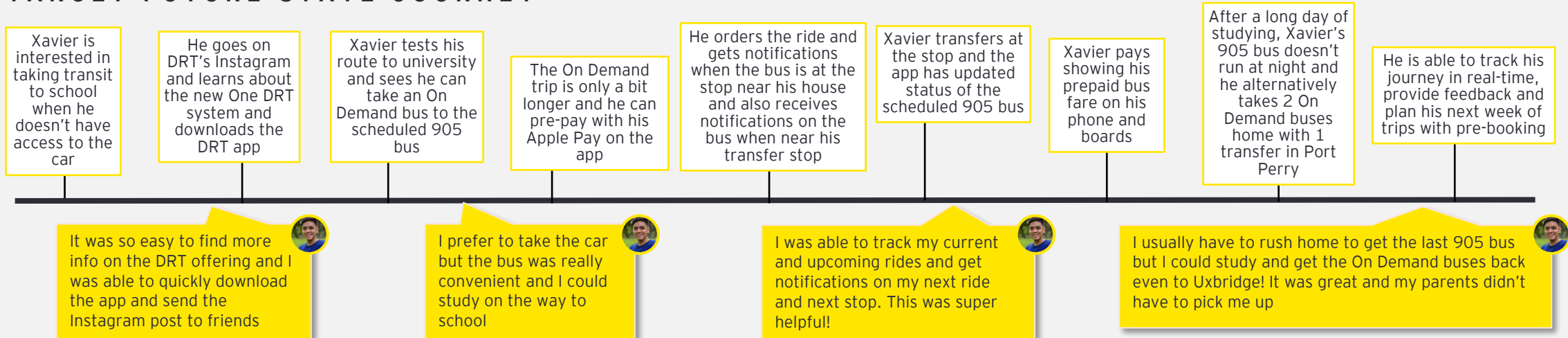


Inclination to self-serve



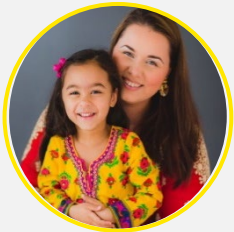
TARGET FUTURE STATE JOURNEY

Moments that matter Journey Points



Future state | Customer perspective and experience

The Demand Responsive future state service delivery model is expected to impact Mariam's customer journey as follows



M A R I A M

- 34 years old
- Part-time worker
- Internal and Cross-Boundary Rider: Whitby to Toronto

Profile

Mariam recently moved to Durham from Mississauga and is a mother to a 4-year old and caretaker to her elderly parents. She works part-time in downtown Toronto.

Frustrations

- Apprehension around the On Demand service that may lead to her missing her train. Language barriers for her elderly parents to use DRT.

Expectations

- Transit to support her occasional trips to the office via Whitby GO and easy-to-understand transit options for her elderly parents.

Time sensitivity



Digital savviness



Desired level of communication

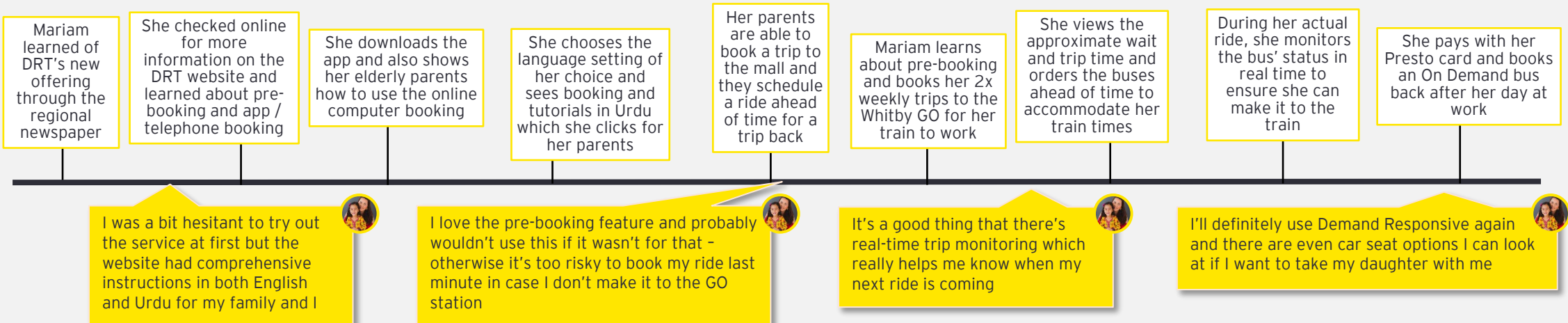


Inclination to self-serve



TARGET FUTURE STATE JOURNEY

Journey Points
Moments that matter



Accessibility and AODA considerations

Current DRT Specialized service practices are compliant with the Accessibility for Ontarians with Disabilities Act (AODA)

Current state observation	AODA* Compliant?	Supporting evidence and future state considerations
Application of eligibility criteria <ul style="list-style-type: none"> DRT uses the three categories of eligibility and associated AODA definitions of those categories to determine who qualifies to receive 'Specialized transportation services' (which is defined under regulation as a public passenger transportation service that is designed to transport persons with disabilities). Often persons with conditional eligibility are scheduled on "integrated trips" that use a Specialized service vehicle for only part of their trip and require one or more vehicle transfers. 	Yes	<ul style="list-style-type: none"> In some cases, customers eligible for Specialized service have been reassessed using the three AODA categories for eligibility, resulting in a perceived "downgrade" in service available to the customer (e.g. from unconditional to conditional or from conditional to not eligible). As per O. Reg 191/11, s. 63 (3), even if a customer of Specialized service is assessed (or reassessed) under the AODA to be a person categorized as having temporary or conditional eligibility for Specialized service, DRT "may deny requests for Specialized transportation services... if the conventional transportation service is accessible to the person and the person has the ability to use it." Ultimately, customers assessed as having conditional or temporary eligibility for Specialized service will have greater flexibility to plan, book and travel via integrated trips under the future state model. DRT will also continue to provide "single vehicle, door-to-door service" to persons assessed as having unconditional eligibility to receive Specialized service because their disability prevents them from using conventional transportation services.
Origin to destination services <ul style="list-style-type: none"> Not all customers eligible for Specialized service receive "single vehicle, door-to-door service". Some Specialized service customers have been receiving "single vehicle, door-to-door service" whose eligibility has been reassessed, resulting in the customer needing to transition to taking an "integrated trip." 	Yes	<ul style="list-style-type: none"> According to O Reg. 191/11, s.48, "origin to destination" services refers to the "overall package of transportation services that allows [DRT] to provide, in a flexible way, transportation services in a manner that best meets the needs of persons with disabilities" and "may include services on any accessible conventional transportation services." DRT's definition of "integrated trips" or "Family of Services" approach to delivering public transit conform to this definition and service level whereby eligible customers receive a Specialized Service vehicle and conventional fleet vehicle on a fixed route each for some portion of their trip. DRT must provide origin to destination services (under the above definition) "that take into account the abilities of its passengers and that accommodates their abilities," which is evidenced by DRT's practice of only scheduling eligible customers on integrated trips if the number of vehicle transfers are within the abilities of the customer, transfer locations are appropriate, and the destinations are more than 3 km from the origin of the trip (otherwise DRT provides a "one-vehicle, door-to-door service).

Accessibility and AODA considerations

Current DRT Specialized service practices are compliant with the Accessibility for Ontarians with Disabilities Act (AODA)

Current state observation	AODA* Compliant?	Supporting evidence and future state considerations
Requirements for attendant ("support person") <ul style="list-style-type: none"> DRT may deny a customer Specialized transportation services to or from a destination if they do not have an "support person" present on the vehicle. A "support person" means, in relation to a person with a disability, another person who accompanies them in order to help with communications, mobility, personal care or medical needs or with access to goods, services or facilities. 	Yes	<ul style="list-style-type: none"> While "it is the responsibility of a person with a disability to demonstrate to [DRT] their need for a support person to accompany them on the conventional or specialized transportation service," the provider may also "may require a person with a disability to be accompanied by a support person when on the premises" according to Part IV.2 Customer Service Standards s. 80.47 (%). However, DRT may require a support person, only if after consulting with the person with a disability and considering the available evidence, determining that: <ol style="list-style-type: none"> A support person is necessary to protect the health or safety of the person with a disability of the health or safety of others on the premises; and, There is no other reasonable way to protect the health or safety of the person with the disability and the health or safety of others on the premises. Evidence suggests that while DRT vehicle operators must be trained about the following: <ol style="list-style-type: none"> How to interact and communicate with persons with various types of disability. How to interact with persons with disabilities who use an assistive device or require the assistance of a guide dog or other service animal or assistance of a support person. How to use equipment or devices available on DRT's premises or otherwise provided by DRT that may help with the provision of goods, services or facilities to a person with a disability. What to do if a person with a particular type of disability is having difficulty accessing DRT's goods, services or facilities. <p>However, there is no requirement for DRT vehicle operators to be trained in activities more appropriately completed by a support person.</p> Under the future state model, support persons will continue to be required whereby the above circumstances are met and procedures completed to create a safe travel experience for all customers.
Booking practices <ul style="list-style-type: none"> Customers who use Specialized service do not have an ability to spontaneously book trips and instead must call customer service unlike customers of On Demand service. 	Yes	<ul style="list-style-type: none"> DRT offers provides same day service to the extent that it is available and accepts advance booking where same day service is not available, which are practices in alignment with O Reg. 191/11. s. 17. Furthermore, by implementing Demand Responsive transit and an integrated, accessible booking app, it is expected that reduced wait times for specialized transport can be achieved which would improve customer service for these individuals and which is in support of O Reg. 191/11 s. 42 (1).

Accessibility and AODA considerations

The future state model will remain compliant with the Accessibility for Ontarians with Disabilities Act (AODA)

Key highlights

- ▶ DRT's current approach to eligibility is AODA-compliant and will be transferred to the future state
- ▶ The future state model provides for increased access to more spontaneous, customer-centric travel for all
- ▶ The recommended Demand Responsive future state model supports Durham Region's Accessibility Policy and the multi-year Accessibility Plan
- ▶ As growth continues, and adoption of the service rises, DRT will need to regularly re-assess the customer centricity and AODA compliance of its service model, including considering the impacts of switching between Scheduled service and Demand Responsive service
- ▶ Considering DRT's anticipated growth model is to leverage 3rd-party service providers, DRT must continue to consult Accessibility Advisory Committee members to assure that the mix of service types and levels continue to meet customer needs in compliance with the AODA

Tactical implementation considerations*

- ▶ Any changes to the Specialized service will need to be clearly communicated and in formats that are accessible to those with differing abilities (as per Clause 34 (1))
- ▶ Those who have conditional or temporary eligibility that take an integrated trip, but need the assistance of an attendant (i.e. "support person"), must be able to book an extra seat for their attendant free of charge (as per Clause 38 (1))
- ▶ DRT already has a number of mediums to manage, evaluate, and take action on customer feedback. However, to modernize the service around the customer and those with disabilities, a wider breadth of channels could be considered to reach a greater number of those with disabilities and ensure equity across the service (as per Clause 41 (1))
- ▶ Those with differing abilities should be able to book trips both spontaneously and in advance; therefore, the scheduling software should effectively optimize these trips (as per Clause 71 (1))
- ▶ Not all stops are accessible, therefore any app solution will need to be configured to consider which stops are accessible depending on the customer profile / mobility needs (Clause 78 (1, 2))
- ▶ Contracts with 3rd-party service providers need to ensure that they do not charge a higher fare for those with disabilities, nor charge a storage fee for mobility aids or assisted devices (Clause 80 (1))

Future state | Change impacts

Changes to organizational structure, roles and expected behaviours represent impacts of transitioning to a new service model

#	Current State Description	Future State Description	Type of Change	Degree of Impact	Stakeholder Group Impacted	Related Recommendations and Actions to Support Transition
1a	Separate teams and systems (Spare and Trapeze) are used to schedule and dispatch services for customers depending on their mobility needs	A single team will be responsible for and equipped to schedule and dispatch service for customers regardless of their eligibility for specialized transport	Structure & Roles	High	<ul style="list-style-type: none"> On Demand and Specialized Scheduling and Dispatching teams 	Engage staff and partners in articulating the One DRT strategy, vision, plan and how transitioning to an integrated demand responsive model will be measured for success (F2.1/2 & F5.1).
1b	One team of mobile supervisors are responsible for field/mobile oversight of conventional, On Demand and Specialized services	A single team will be responsible and equipped to supervise field operations for all DRT services provided, including those delivered via contractors	Structure & Roles	High	<ul style="list-style-type: none"> Conventional, On Demand, and Specialized Field/Mobile Supervision teams 	Proactively inform the union of any potential changes to team structure, roles and responsibilities. Conduct role activity analysis and support employees over the transition via change management, including specific comms and training (F2.D-H).
1c	Customers are routed to different customer service reps depending on whether they require Specialized transportation services or not	All customer service reps will be able to serve customers regardless of customers' mobility needs and/or eligibility for specialized transport	Process & People	Medium	<ul style="list-style-type: none"> Customer Service team Customers 	
2	DRT staff, contractors, and customers have varying levels of understanding and expectations of customer service	All stakeholders understand DRT's service offerings, what to expect for service, and what behaviours are expected of them in using/delivering it	People	Low	<ul style="list-style-type: none"> All DRT, including contractors All customers All partners 	Develop Service Delivery Guide (F2.C), Customer Charter (F2.C), and refreshed policies and processes (F2.E) to give guidance

Future state | Change impacts

A new app allowing current Specialized service customers to book spontaneous trips will be the biggest process/tech change

#	Current State Description	Future State Description	Type of Change	Degree of Impact	Stakeholder Group Impacted	Related Recommendations and Actions to Support Transition
3	Transit users with mobility needs have access to mobility through a system of phone booking that has not changed for many years	Users with mobility issues will experience significant changes to both how they book transit and how the service itself is delivered, requiring high levels of communication and education for users and their families	Process & People	High	<ul style="list-style-type: none"> Customers Customer Service Team Operators Communication Team 	Commit marketing and research resources to develop external education and promotional campaigns to drive smooth transition and uptake of Demand Responsive transit, and to measure effectiveness of these efforts (F4.G)
4	Customers with mobility needs are guided to call the customer service team for booking assistance and are unable to book via the app or a website interface	Customers eligible for Specialized transportation services will be able to book and receive spontaneous travel via the app (web-enabled) based on their mobility needs	Process & Technology	High	<ul style="list-style-type: none"> Customers Customer Service team 	Enable all customers to book via app (F1.1 & 3.2), procure CRM solution to capture customer info (F3.A), assess problematic bus stops (F1.F) and conduct accessibility audit (F1.G).
5	Data collection from the public, customers, and operations is highly manual and cumbersome to analyze due to tool and system constraints	Systems allow for more automated capture and analysis of data and information, which is used to inform decision-making and improve services	Process & Technology	Medium	<ul style="list-style-type: none"> Data & Analytics Service Planning Ops Management Finance 	Build data agreement terms into service provider contracts (F5.D) and invest in new operational and enterprise solutions (F3.4)
6	Public engagement is generally limited to annual engagement on the Accessibility Plan and PICs; only ad hoc engagement with partners	Public and customer feedback will be gathered via several methods, such as PICs, ride-alongs, inspections, digital surveys, and targeted engagement	Process & Technology	Low	<ul style="list-style-type: none"> Customers All partners, including the AAC Service Planning team 	Evaluate PICs (F4.A), engage AAC and TAC for targeted engagement ideas (F4.B), work with staff (F4.C), and hold exec roadshow (F5.G)

Future state | Change impacts

A shift to driving functional teams' accountability for performance management processes and reporting is a major change

#	Current State Description	Future State Description	Type of Change	Degree of Impact	Stakeholder Group Impacted	Related Recommendations and Actions to Support Transition
7	Performance management of 3 rd -party operators is largely responsive and there is minimal capacity to conduct real-time inspections; broader organizational and financial metrics are reported on in an ad hoc manner	3 rd -party contractual agreements include well-defined service levels, KPIs and metrics, which are actively monitored and reported on by DRT. Organization-wide performance metrics are established, ever-present and enable timely reporting to stakeholders	Process	High	<ul style="list-style-type: none"> Operations Management team Financial Management team Field/Mobile Supervision teams 	Build performance management resource capacity (F5.D), perform ride-along inspections (F1.D), and conduct vendor audits (F5.E).
8	DRT staff, contractors, customers, and the public receive information on changes in service offerings and routes largely via one-directional communications channels	DRT will take a fulsome approach to change management to support the DRT workforce in transitioning to the new model; marketing and branding efforts will be more concentrated	Process	Medium	<ul style="list-style-type: none"> All DRT teams, including contractors Comms team Durham Region HR 	Hire a temp change mgmt. specialist (F2.F) to lead change, engagement, comms, and L&D efforts with support from the Region; Hire marketing/research specialist (F4.F)
9	Staff, partners, customers, and partners describe and define DRT services differently	All stakeholders have a strong, clear understanding of what DRTs two primary service offerings are: Scheduled service and Demand Responsive service. They also understand how the service works, who is intended to use it, and what they can expect from using it	Other	Low	<ul style="list-style-type: none"> All DRT teams, including contractors Comms team All partners Customers 	Develop Service Delivery Guide (for internal use by DRT) and Customer Charter (internal/external) (F2.C), develop training materials (F2.G), launch in-person booking kiosks (F4.G), develop external education and promotional campaigns (F4.F)

Future state model evaluation

Transit Evaluation Framework | Overview

Utilizing EY's holistic Transit Evaluation Framework approach to evaluate the future state service delivery model

Context and approach

- ▶ This framework was used to evaluate the benefits and drawbacks of a new future state model that recommends integrating service delivery and organizational structure for On Demand and Specialized services.
- ▶ This new approach will be assessed through customer, equity, service delivery, financial, economic, and environmental lenses
- ▶ Service delivery and operational decisions often have non-monetary considerations, which are reinforced by the priority design principles used to shape the future state model - customer-centric, equitable access, and strategic alignment - and therefore related accounts will be weighted more heavily in arriving at a final decision as to whether DRT should transition to the future state service delivery model for Demand Responsive transit
- ▶ The application of this framework produces conclusions for each evaluation account, which provides a more robust perspective to guide decision making by recognizing the many factors DRT must consider when making significant changes to their service

Overview of the six evaluation accounts

Customer	Equity	Service Delivery	Financial	Economic	Environmental
Assesses the impact to customer service and resulting ridership, considering how the new model provides more opportunities for spontaneous travel in a manner tailored to the needs and expectations of customers	Assesses the impact on broader social policy goals and outcomes and considers to what degree service is AODA-compliant, safe, inclusive, and universally accessible for people of all backgrounds and abilities	Assesses the impact of the new service delivery model on DRT's operational performance, employees, processes, and flexibility to respond to future changes	Assesses the extent of estimated cost impacts from transitioning to the new service delivery model, potentially providing cost savings, generating new revenue, or allowing resources to be reallocated or reinvested	Assesses the impact of transitioning to a new service delivery model and anticipated economic growth and Regional prosperity of connecting more people to opportunities to work, learn, and play	Assesses the environmental impact of transitioning to a new service delivery model, considering how it is expected to impact the rate of resource use and associated emissions

Transit Evaluation Framework | Results

Customer	Equity	Service Delivery
Assesses the impact to customer service and resulting ridership, considering how the new model provides more opportunities for spontaneous travel in a manner tailored to the needs and expectations of customers.	Assesses the impact on broader social policy goals and outcomes and considers to what degree service is AODA-compliant, safe, inclusive, and universally accessible for people of all backgrounds and abilities.	Assesses the impact of the new service delivery model on DRT's operational performance, employees, processes, and flexibility to respond to future changes.
FUTURE STATE MODEL CONSIDERATIONS		
<ul style="list-style-type: none"> ✓ Improved overall customer experience ✓ More streamlined trip planning ✓ Shorter wait times as a result of more responsive service ✓ Greater service coverage and consistency of service levels across the region ⚠ At first, a potential decrease in customer familiarity with the service ⚠ Changes to the service will require customers to take the time to educate themselves on the new service <p>ASSESSMENT: HIGH</p>	<ul style="list-style-type: none"> ✓ Provides transit for everyone in region regardless of geography and/or ability, including reduced wait times for many current Specialized users ✓ Cross-training operators and using accessible vehicles for all Demand Responsive trips will promote safety and accessibility for all passengers, including those with differing abilities, in compliance with the AODA* ✓ Greater resource allocation and reduced wait times for Specialized services for those with unconditional eligibility due to accessibility of On Demand for many users with temporary or conditional eligibility ⚠ Service changes will impact different users at varying degrees of severity, and understanding the changes might be more challenging for certain users <p>ASSESSMENT: HIGH</p>	<ul style="list-style-type: none"> ✓ Strengthening the regional brand identity under a "One DRT" service delivery model that will drive the organization to align around the customer ✓ More streamlined, nimble service model, in which operations are modernized around the customer and equitability, while staff are trained to work across all different user types ✓ Increased analytical capabilities that allow for greater customer insight to be driven, and ideally, operationalized ⚠ Potential for higher customer expectations for improved service delivery which may take longer to realize, or create <p>ASSESSMENT: HIGH</p>
THE BOTTOM LINE		
A Demand Responsive transit network provides more seamless, efficient, and equitable movement of people across the region, resulting in improved customer experience as a result of more direct travel, shorter journeys, reduced wait times, and simplicity of trip planning.	Through the delivery of Demand Responsive transit services, users with different abilities will have greater access to transit and reduced wait times. Overall, all users will have more choice when it comes to where they are able to live, work and play.	A Demand Responsive transit services provider is more equipped to action on Regional objectives and improve service delivery, facilitating regional mobility on a larger, more integrated, and more equitable scale.

Transit Evaluation Framework | Results

Financial	Economic	Environmental
Assesses the extent of estimated cost impacts from transitioning to the new service delivery model, potentially providing cost savings, generating new revenue, or allowing resources to be reallocated or reinvested.	Assesses the impact of transitioning to a new service delivery model and anticipated economic growth and Regional prosperity of connecting more people to opportunities to work, learn, and play.	Assesses the environmental impact of transitioning to a new service delivery model, considering how it is expected to impact the rate of resource use and associated emissions.
FUTURE STATE MODEL CONSIDERATIONS		
<ul style="list-style-type: none"> ✓ Greater opportunity to reduce long term service delivery costs by combining On Demand and Specialized service ✓ Creates capacity to redirect effort to other priority needs while maintaining the quality of service for customers as required by the AODA ⚠ Cross-training employees (from customer service through to operators) will require continued investment in training and L&D ⚠ There may be extra integration costs involved in transitioning to this new service delivery model (internal resources, specialists) 	<ul style="list-style-type: none"> ✓ Potential for increased employment levels or more lucrative employment opportunities as a result of greater regional mobility ✓ Increased attractiveness of business investment in the region due to reach of transit services and ability for customers to reach the business, as well as employee attraction and retention ✓ Reduced infrastructure investment levels will be required to sustain a service level that reaches the entire region ⚠ Could require capital investment/divestiture over the long-term to meet regional needs as transit usage changes, including mode shifts and evolving customer needs 	<ul style="list-style-type: none"> ✓ Reduced Green House Gas (GHG) emissions per rider through more efficient use of service hours across the regional network ✓ Greater flexibility and ability to deploy vehicles across the network so vehicle capacity better matches demand ⚠ Having a larger service area will impact GHG emissions, although this may be offset by reduced single-occupancy vehicle usage and greater pooling for Specialized users ⚠ Users may begin to take trips that they previously would not have taken in any mode, increasing vehicle trips and emissions; however, the shift to electric vehicles is expected to minimize this risk longer term
ASSESSMENT: MEDIUM	ASSESSMENT: MEDIUM	ASSESSMENT: LOW
THE BOTTOM LINE		
An optimized Demand Responsive transit service model will initially generate operational efficiencies and eventually provide cost savings, allowing for reinvestment in other priority areas of Durham Region Transit.	Demand Responsive transit services improve the connectivity and economic growth of the region by increasing access to employment opportunities, retaining talent, and enhancing the Region's investment profile.	A Demand Responsive transit service allows for the more efficient deployment and management of assets across the network to reduce waste and emissions across the system, and supports a mode shift away from personal vehicles, thereby reducing overall environmental impact to the region.

Transit Evaluation Framework | Financial analysis

An integrated Demand Responsive model provides better customer service without increasing the cost of service delivery

Overview

- ▶ Four scenarios have been modelled to provide a snapshot comparison of the current service delivery costs compared to different future state models
- ▶ Transition to Scenario 3 is recommended as the next step in evolving DRT's service offerings, which will provide improved service (e.g. current Specialized service customers will benefit from spontaneous trip booking currently only available to On Demand customers) and allow for operational improvements (i.e. related to contract management, controls, processes, communications, education, and technology) before any major changes are made to service mix
- ▶ As the service matures and evolves, there is potential to meet future growth in demand for integrated Demand Responsive services using additional contractors allowing some extent of Scenario 4 estimated total savings to be realized in the coming years

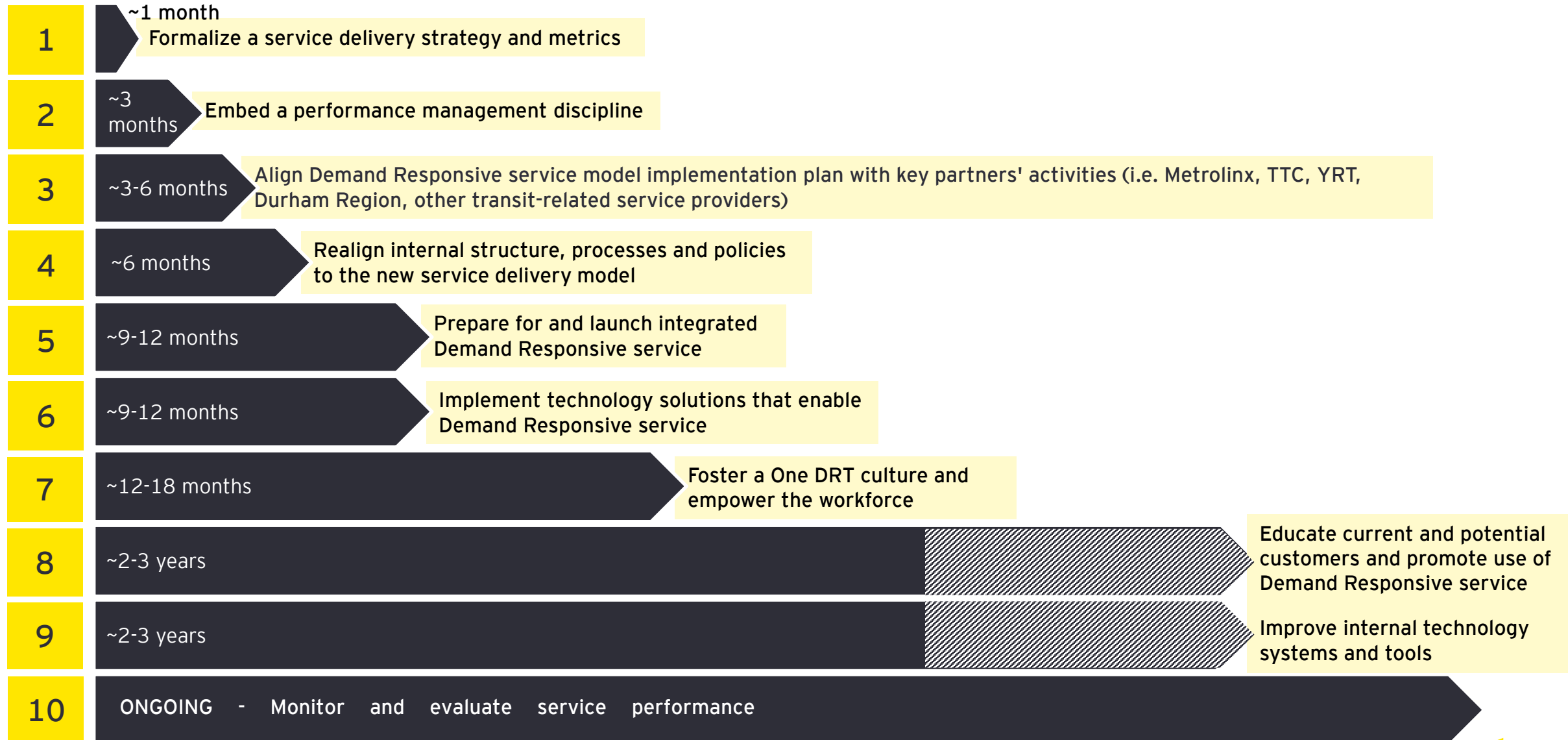
	Scenario 1 Fully Internally Delivered (ILLUSTRATIVE ONLY)	Scenario 2 Current Service Delivery Model	Scenario 3 Future State Model Service Delivery Model (Initial transition)	Scenario 4 Contracted Out Model (ILLUSTRATIVE ONLY)
	<i>All service brought in-house</i>	<i>Mix of internal and external service delivery</i>	<i>Integrated demand responsive service</i>	<i>All demand responsive service delivery is contracted out</i>
Methodology	Replaced contracted service (vehicle hours) with internal service	Calculated (annualized) vehicle hours, vehicle kms, and costs	Recognized benefits from delivering Specialized and On Demand service in an integrated way	Replaced internally delivered service (vehicle hours) with contracted service
Change (Hrs)	- ~40k Contracted Vehicle Hrs + ~40k Internal Vehicle Hrs	N/A	Efficiencies from more flexible fleet deployment, while providing improved customer service	- ~68k Internal Vehicle Hrs + ~68k Contracted Vehicle Hrs
Cost of Service	\$~10.6M	\$~8.3M	\$~8.3M	\$~3.2M
Total Savings	~2.3M/Yr. (28% increase)	N/A	Operational efficiency savings	\$~5.1M/Yr. (62% savings)
			<i>Recommended (near term) transition</i>	<i>Possible (long term) evolution</i>

Under the near-term recommended model, savings from operational efficiencies from a combined specialized and On Demand service is anticipated. As the service matures, DRT could save as much as ~ \$5.1M per year by using contractors to meet future growth in demand.

The path forward

Implementation roadmap | Overview

The following ten major roadmap activities are recommended and sequenced to reflect inherent dependencies



Implementation roadmap | Formalizing strategy and performance management

The following activities represent tactical actions that would support a smooth transition to the new service delivery model

#	Activity and sub-activities	Milestone?	Key dependencies
1	Formalize a service delivery strategy and metrics		
1.1	Socialize and solicit feedback on results of study with key stakeholders	-	Dependent on date of presentation to TEC.
1.2	Engage DRT leadership, staff, partners and the Region in defining customer service metrics	-	Dependent on availability of resources required to issue a survey or engage neighbouring municipal transit agencies.
1.3	Recognize stakeholders for providing feedback and input	-	-
1.4	Hold strategic planning session with leadership	-	-
1.5	One DRT vision, objectives and target outcomes developed	Yes	-
1.6	Announce renewed strategy, vision and value proposition	-	-
2	Embed a performance management discipline		
2.1	Hire contract management / performance measurement specialist	-	-
2.3	Develop performance management framework to evaluate service delivery	-	-
2.4	Create operational, financial, and customer service Key Performance Indicators (KPIs) to measure performance	-	-
2.5	Establish performance metrics based on leadership and Council's needs and public expectations	-	-
2.6	Performance measurement framework and metrics established	Yes	-
2.7	Confirm KPIs and metrics link to higher order strategic action plan(s)	-	-
2.8	Build performance metrics into new contracts with 3 rd -party operators	-	Dependent on timing of release of ongoing RFP process.

Implementation roadmap | Aligning internally and with partners

The following activities represent tactical actions that would support a smooth transition to the new service delivery model

#	Activity and sub-activities	Milestone?	Key dependencies
3	Align Demand Responsive service model implementation plan with key partners' activities (i.e. Metrolinx, TTC, YRT, Durham Region, other transit-related service providers)		
3.1	Communicate the new service delivery model and integrated operating structure with key partners	-	-
3.2	Review neighbouring service providers transit plans to determine alignment with new Demand Responsive model	-	-
3.3	Develop integrated plan based on input from partners who are part of the DRT ecosystem of services	Yes	-
4	Realign internal structure, processes and policies to the new service delivery model		
4.1	Develop Service Delivery Guide (for internal use by DRT) and Customer Charter (internal/external)	Yes	-
4.2	Institutionalize performance management and metrics via regular communications	-	-
4.3	Engage and inform the union of proposed changes to organizational structure, rationale and mitigations	-	-
4.4	Implement organizational structure changes to improve customer service	Yes	-
4.5	Refresh/realign policies and processes that deal with customer interfaces, safety, or wellbeing	-	Dependent on level of information available on new app booking/scheduling solution based on stage of RFP process.

Implementation roadmap | Preparing for Demand Responsive service launch

The following activities represent tactical actions that would support a smooth transition to the new service delivery model

#	Activity and sub-activities	Milestone?	Key dependencies
5	Prepare for and launch integrated Demand Responsive service		
5.1	Procure 3 rd -party vehicle services to deliver integrated Demand Responsive service	-	Dependent on establishment of performance framework and KPIs. This activity must be completed before March 2022, as that is when the contracts are available for renewal.
5.2	Engage the AAC and TAC for ideas and input on how to engage specific customer segments	-	-
5.3	Evaluate the ROI of past Public Information Centres (PICs), identifying opportunities to improve public engagement	-	-
5.4	Perform targeted engagement and hold PIC to inform how service delivery changes are rolled out	Yes	-
5.5	Analyze and segment customer data to inform a baseline customer experience pre-transition	-	-
5.6	Empower staff with survey tools to collect feedback from members pre-and post transition	-	-
5.7	Identify the highest use/problematic bus stops to prioritize capital improvements	-	-
5.8	Conduct a high-level accessibility audit of frequent trip generating locations to inform app business rules	-	-
5.9	Update Accessibility Plan and review with AAC and impacted community members	Yes	-

Implementation roadmap | Implementing technology and empowering staff

The following activities represent tactical actions that would support a smooth transition to the new service delivery model

#	Activity and sub-activities	Milestone?	Key dependencies
6	Implement technology solutions that enable Demand Responsive service		
6.1	Gather business requirements for booking/dispatching app to enable procurement process	-	-
6.2	Prioritize requirements into "must-have", "should have", "could have", and "won't have" categories	-	Dependent on an in-depth review of requirements versus AODA and other legislated or program requirements.
6.3	Confirm "must-have" requirements can be delivered by proponent(s) and their solution(s)	-	-
6.4	Select vendor	Yes	
6.5	Negotiate contract, ensuring data, reporting, and service level/quality terms are included	-	
6.6	Implement new booking/dispatching app	Yes	This activity must be completed before March 2022, as that is when the contracts are available for renewal.
6.7	Continue to work with Metrolinx and PRESTO to confirm ability to support fare payments under the future state model	-	
7	Foster a One DRT culture and empower the workforce		
7.1	Commit resources to develop change management plan and lead execution of activities	-	-
7.2	Develop One DRT Culture Blueprint describing desired behaviours under new model	-	-
7.3	Engage the Region's HR team for learning and development (L&D) support	-	-

Implementation roadmap | Educating and promoting service adoption

The following activities represent tactical actions that would support a smooth transition to the new service delivery model

#	Activity and sub-activities	Milestone?	Key dependencies
7	Foster a One DRT culture and empower the workforce (cont'd)		
7.4	Create robust employee and partner engagement program, involving activities such as all-hands calls, townhalls, bulletins, charter release, etc.	-	-
7.5	Demonstrate measurable benefits of future state model to employees and job functions	-	-
7.6	Train and cross-train workforce on new app, processes, policies and customer service approach	-	Dependent on procurement of new app and development of processes/policies.
8	Educate current and potential customers and promote use of Demand Responsive service		
8.1	Commit resources to marketing and research activities	-	-
8.2	Identify preferred communications channels through focus groups, surveys, etc.	-	-
8.3	Develop accessible educational "how-to" materials and collateral for current and potential customers	Yes	-
8.4	Develop and launch marketing campaigns to deliver key messages and guidance to users	-	-
8.5	Conduct user and consumer research to inform branding refresh	-	-
8.6	Undergo branding refresh	Yes	Dependent on funding available and branding requirements of 3 rd -party operators under contracts.

Implementation roadmap | Improving internal tools and monitoring service

The following activities represent tactical actions that would support a smooth transition to the new service delivery model

#	Activity and sub-activities	Milestone?	Key dependencies
9	Improve internal technology systems and tools		
9.1	Create an IT roadmap addressing enterprise and operational needs, accounting for any dependencies with external solutions	-	-
9.2	Procure a centralized workforce management tool and implement	Yes	-
9.3	Procure an advanced analytics tool and implement	Yes	-
9.4	Upgrade fleet radio system to VOIP system	Yes	-
9.5	Proceed with upgrading the CRM system required to enable an integrated approach to customer service	-	Dependent on Durham Region's stated priority and funds available to update the enterprise CRM, which DRT would utilize.
10	Monitor and evaluate service performance		
10.1	Monitor and report on organizational, financial, and customer service KPIs	-	-
10.2	Conduct periodic vendor audits, as required and acceptable under contract terms	-	-
10.3	Conduct periodic 'ride-along' inspection processes along routes or within zones	-	-
10.4	Institute operator check-ins (pull-outs) for windows, if deemed feasible	-	-

Conclusion | Moving to a Demand Responsive model

The results of the evaluation of the future state model supports DRT shifting to a more integrated Demand Responsive service delivery model to better serve On Demand and Specialized customers. With a priority focus on the customer, equity and service delivery accounts a strong case can be made for proceeding.

Customer Demand Responsive transit services network provides more seamless, efficient, and equitable movement of people across the region, resulting in improved customer experience as a result of more direct travel, shorter journeys, reduced wait times and simplicity of trip planning. Assessment: HIGH	Equity Through the delivery of Demand Responsive transit services, users with different abilities will have greater access to transit and reduced wait times. Overall, all users will have more choice over where they are able to live, work and play. Assessment: HIGH	Service Delivery A Demand Responsive transit services provider is more equipped to action on Regional objectives and improve service delivery, facilitating regional mobility on a larger, more integrated, and more equitable scale. Assessment: HIGH
Financial An optimized Demand Responsive transit service model will initially generate operational efficiencies and eventually provide cost savings, allowing for reinvestment in other priority areas of Durham Region Transit. Assessment: MEDIUM	Economic Demand Responsive transit services improve the connectivity and economic growth of the region by increasing access to employment opportunities, retaining talent, and enhancing the Region's investment profile. Assessment: MEDIUM	Environmental A Demand Responsive transit service allows for the more efficient deployment and management of assets across the network to reduce waste and emissions across the system, and supports a mode shift away from personal vehicles, thereby reducing overall environmental impact to the region. Assessment: LOW

In assessing the future state model through these six accounts, the results of the evaluation provide clear evidence in support of DRT proceeding to adopt the future state model and progress recommendations to transition to an Integrated Demand Responsive Service.

Conclusion | Demand Responsive transit study

- ▶ The current state assessment identified five key areas of opportunity for improvement related to service delivery and operations, culture and collaboration, technology and analytics, external communications and education, and strategy and key partnerships
- ▶ These findings coupled with an analysis of regional demographics, current On Demand ridership metrics, and equity considerations helped to identify potential customer pain-points experienced by current customers
- ▶ Informed by these insights and a review of Demand Responsive service approaches in practice at comparator transit agencies, future state recommendations, actions and a service delivery model was developed based on a set of principles that prioritized customer-centricity, equitable access to service, and overall strategic alignment to DRT and Durham Region goals
- ▶ In applying a customer lens to the recommendations, the future state service delivery model is expected to provide for an improved customer experience based on an analysis of how various customer journeys would be impacted
- ▶ Furthermore, future state recommendations were reviewed for AODA compliance and alignment with Durham Region's Accessibility Policy and the multi-year Accessibility Plan. This review confirmed that DRT's practices related to the application of eligibility categories/guidelines, trip booking, use of all vehicles in providing origin to destination services, and mandatory use of attendants (support persons) when customers are unable to use service independently are compliant with the Act. Looking forward, the new future state model should be reviewed regularly as service grows and customer needs evolve.
- ▶ To provide an additional level of analysis, future state recommendations were closely examined from to identify a list of potential change impacts to both the organization and customers; where notable impacts were identified, a mitigation approach and actions were documented
- ▶ The proposed future state model was effectively tested and refined with input from DRT and Durham Region staff and leadership, as well as evaluated against a multi-account framework to determine its benefits, implications, and viability, which present a compelling case for DRT to proceed with implementing an integrated Demand Responsive service and consider the outputs of financial modelling
- ▶ Finally, a roadmap of sequenced implementation activities has been developed to provided guidance on how recommendations can be tactically actioned, what the key milestones in that roadmap are, and dependencies that will inform their timing

The results of this study confirm that DRT should move forward with implementing an AODA compliant integrated Demand Responsive service that is more spontaneous, equitable, reliable, and customer-focused.

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The Regional Municipality of Durham Report

To: Durham Region Transit Executive Committee
From: General Manager, Durham Region Transit
Report: #2021-DRT-26
Date: October 6, 2021

Subject:

Social Equity in Transit Planning

Recommendation:

That the Transit Executive Committee recommends

That this report be received for information.

Report:

1. Purpose

- 1.1 The purpose of this report is to inform the Transit Executive Committee (TEC) about the Social Equity Guidelines (Guidelines) adopted by Durham Region Transit (DRT) that will influence the design of transit services in Durham Region.

2. Background

- 2.1 Social equity guidelines first appeared in Civil Rights Law in the United States in attempts to ensure that US Federal monies were not used to finance discrimination based on race, colour, or national origin. The guidelines later evolved to include issues such as fare discounts, infrastructure renewal and service management and development.
- 2.2 Beginning in the 1970's, social equity planning was advanced when planners in Cleveland, Ohio, opposed rapid transit expansion plans to middle and higher income communities on the basis that funding should be used to reduce fares and improve bus services in low income communities where residents relied on public transit and had less mobility options.

- 2.3 In the 1990's, the formation of the Bus Riders Union (BRU) in Los Angeles, a civil rights social movement organization, made international news when the group took the Los Angeles County Metropolitan Transit Authority (Metro) to court, on the basis that Metro was spending a higher proportion of their budget on service to higher income, white communities, and spending less in minority, low-income neighbourhoods where public transit was a necessity. BRU and Metro settled out of court, with Metro agreeing to maintain fare discounts, buy new buses, reduce crowding on services, and create new bus services linking priority areas with job centres.
- 2.4 Social equity in Canadian transit planning has only recently become a larger topic of discussion. The Toronto Transit Commission has drafted social equity guidelines that help guide service planning decisions, and Metrolinx and OC Transpo in Ottawa are reviewing social equity. Other transit agencies are expected to consider social equity policies as they become more prevalent in Canada.
- 2.5 Throughout the COVID-19 pandemic, essential workers, businesses and institutions, and residents and families who don't own a private automobile, continued to rely on public transit for travel to essential workplaces, medical appointments, and other essential services that were crucial to the entire Durham population. The pandemic reinforced to transit agencies and municipalities that it's necessary to provide all residents with equitable access to reliable public transit, and that ridership alone should not be the primary determinant in planning and designing the public transit network.

3. Previous Reports and Decisions

3.1 #2016-DRT-03, DRT Servicing and Financing Study, Five Year Service Strategy

In February 2016, TEC approved the implementation of the recommendations and strategy outlined in Report #2016-DRT-03.

- a. The strategies' objective was to develop a transit system that was to be available, consistent, direct, frequent, and seamless, to provide Durham Region residents and visitors with an attractive alternative to the personal car.

3.2 #2020-DRT-12, Review of transit services in rural Durham

In June 2020 TEC approved the implementation of the recommendations and strategy outlined in Report #2020-DRT-12.

- a. Adopt an advanced technology platform that will schedule and dispatch all demand response services (Specialized and On Demand), providing equitable booking and access to mobility for all customers.

4. Social Equity at Durham Region Transit

DRT's service area is composed of diverse communities in both urban and rural settings. Current planning practices are consistent with industry norms and aim to maximize ridership and provide effective area coverage and service frequency, while balancing the priorities of Regional Council. As a result, some residents may experience unintended barriers to accessing transit and the transportation network.

The DRT Social Equity Guideline (Guideline) will enhance DRT's ability to respond to social equity barriers of residents and facilitate equitable access and travel on the transportation network, ensuring residents can access education, jobs, medical services, and other essential community services.

4.1 Guideline Considerations

The Guideline considers eleven equity priority groups, including two communities of focus, when assessing the impacts of changes to transit service (see Attachment #1):

1. Indigenous people
2. People from various ethnic and cultural communities
3. Immigrants, refugees, and undocumented people
4. Lone parent families
5. Persons with disabilities
6. Persons experiencing low income
7. Age (Seniors, Youth, Children)
8. Gender
9. Second language and literacy barriers
- Communities of Focus**
10. Priority neighborhoods
11. Rural Areas

5. Social Equity Guideline in Transit Planning

All Durham residents have access to DRT services from early morning to late evening. Scheduled service operates at frequencies from 10 to 90 minutes depending the route, time of day, and day of week. On Demand frequency, or the wait time, is up to 15 minutes within the urban area, and 45 minutes in rural areas. The combination of availability and frequency or wait time contribute to flexible trip making to access destinations across the Region.

5.1 Ridership Minimums in priority neighbourhoods

- Ridership productivity on a route influences the span and levels of service.
- The Guideline applies a factor of 1.5 to the route minimum average boardings for a route operating within Priority Neighbourhoods.
- The resulting impact will accelerate the deployment of scheduled route services and increase service frequencies during busier times.

5.2 Enhanced Communication:

Timely and meaningful information regarding upcoming changes to transit service updates is key for customers to understand how the changes may change their mobility options. Enhanced communication will be implemented across the network, priority neighbourhoods and locations such as retirement residences, hospitals, community centres, medical centres, and transfer points.

5.3 Infrastructure

The network of bus stops, hubs, terminals, and stations support convenient and accessible customer travel.

Transit shelters at bus stop

- A shelter is generally installed or placed on the priority shelter list when there are more than 20 daily boarding's at a bus stop. A factor of 1.5 will be applied to daily boardings at stops within in priority neighbourhoods. People in these areas may have reduced access to real-time bus information data resulting in longer wait times for buses, and there may be reduced customer mobility and there will be a benefit from a bench within in a shelter. For example, a bus stop with an average of 14 daily boarding's is not considered for a shelter. However,

within the priority neighbourhood areas applying the 1.5 factor results in a daily boarding count of 21, qualifying the stop for a shelter.

- Transit shelters and benches will be installed proactively at locations of sensitive uses such as retirement residences, hospitals, community centres, medical centres, and transfer points. Shelters will be considered at these stops, regardless of actual boardings, because customers may be more vulnerable to weather events based on their abilities or medical conditions.

Real-time information displays

- DRT will research and pilot cost effective real-time information displays at transit stops, hubs and terminals and develop a framework to manage appropriate deployments at stations, terminals, and hubs.
- Design considerations for washrooms will include gender neutral facilities, and spaces for infant changing and/or nursing.
- DRT will explore wi-fi systems to enable customer access to trip planning, information, and real-time departures through mobile devices, electronic customer kiosks, and customer information lines.
- Explore opportunities to provide enhanced wayfinding information, including accessible formats.

Service proximity

DRT will collaborate with regional and municipal partners to influence the removal of physical barriers impeding access to transit services in neighbourhoods by:

- Identifying gaps in the sidewalk network connecting transit stops, hubs, terminals, and stations.
- Develop opportunities for additional protected road crossings.
- Identify opportunities to increase proximity of new and existing neighbourhoods to transit stops through new multi-use pathways.
- DRT will work with our regional and municipal partners to ensure transit service can support the regeneration of

employment areas. Transit service and transportation infrastructure support workers to travel to and from jobs, meeting the needs of current and prospective employees and supporting area redevelopment plans.

5.4 Reporting

As part of the annual business plan, DRT will report on social equity initiatives.

6. Public Engagement

6.1 Stakeholder Meetings

DRT presented the social equity guidelines to all 8 local accessibility committees and the Regional Accessibility Committee, the Age Friendly Durham Committee, and the Age Friendly Ajax Committee.

Feedback from these Committees was positive, with no objections or concerns with the guideline.

6.2 Public Information Centres (PIC)

A virtual PIC was conducted throughout March 2021 with virtual meetings on March 23 and March 25, to enable residents to engage with staff and discuss the draft social equity guideline.

The PIC website received 558 visitors, of which 27 downloaded and viewed the Social Equity information. Three comments were submitted by visitors. However, these comments were related to specific service planning issues, and not Social Equity.

Fourteen people attended the live PIC discussion events. Staff received one comment, which highlighted the importance of ensuring transit service supports shift workers.

7. Relationship to Strategic Plan

7.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:

- a. Environmental Sustainability

- Expand sustainable and active transportation
- b. Community Vitality
 - Revitalize existing neighbourhoods and build complete communities that are walkable, well connect, and have a mix of attainable housing
- c. Economic Prosperity
 - Position Durham Region as the location of choice for business
 - Enhance communication and transportation networks to better connect people and move goods more effectively
- d. Service Excellence
 - Optimize resources and partnerships to deliver exceptional quality services and value

8. Conclusion

- 8.1 The Social Equity Guideline will ensure DRT continues to consider the impacts of social equity barriers during the design planning of transit services in the Region.
- 8.2 The Guideline will influence service design and delivery to enhance residents' access to education, employment, shopping, and leisure travel.
- 8.3 The Guideline fosters a proactive approach to mitigate barriers in the build environment to achieve equitable access to the transportation and transit network.
- 8.4 For additional information, contact: Christopher Norris, Deputy General Manager Operations, 905-668-7711, extension 3752.

9. Attachments

Attachment #1: Social Equity Guidelines

Respectfully submitted,

Original signed by

Bill Holmes
General Manager, DRT

Recommended for Presentation to Committee

Original signed by

Elaine C. Baxter-Trahair
Chief Administrative Officer



Social Equity Guidelines

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Introduction

Equity is an important factor in public transit as planning decisions can significantly impact a resident’s ability to access opportunities in their community. Durham Region Transit (DRT) is taking the steps necessary to ensure our decision making is evidence informed and considers a social equity focussed approach to transit.

As one of Ontario’s largest regional transit systems, DRT serves a diverse population living in urban and rural areas. The impacts of decisions made across the organization must be considered for the various group’s residents across our region.

These social equity guidelines are intended to ensure that when planning and managing the transit system, residents have equitable access to transit services.

Importance of Equity in Transit Planning

Transit can be viewed as a "gateway" service that either breaks down or reinforces factors that lead to a healthy and high-quality way of life. Transit planning decisions have the potential to deepen, create, or alleviate inequities that already exist within our communities.

Equity in service planning considers how services and resources are distributed, ensuring everyone in the community has access to transit, including those that rely on it the most. Social equity considerations adopted as part of the transit planning processes will ensure that the benefits of a reliable and equitable transit network are accessible to the widest range of community members for generations to come.

Transit planning obviously requires technical analysis, but it also requires an equity analysis where planners factor in sociodemographic realities.

Transit Realities and Barriers

DRT is committed to equitable transit investments and removing barriers for users across our Region.

Below is a general overview of some of the realities and barriers faced by equity priority groups when accessing transit services:

- **Newcomers** to Canada can find navigating the transit system challenging, especially for those with language barriers or facing settlement challenges such as isolation, unemployment, underemployment, and untreated trauma.
- The number of **seniors** choosing to age in place is increasing. Over time, medical problems and aging can result in losing the ability to drive. As a result, seniors may be accessing transit for the first time in decades and are faced with navigating a form of travel they are not used to.
- For many residents **experiencing high rates of poverty**, transit is their link to opportunity. They may have no or limited access to a vehicle and rely on transit as their primary means of transport. For this group, transit access means access to jobs, school, childcare, medical appointments, and recreational activities.
- People that identify as **2SLGBTQ+** describe not feeling safe from discrimination and harassment. In addition, the design and location of transit facilities are often not inclusive of all genders.
- Public transit can often be the primary travel mode for **sole parent families** with low incomes. These families are more likely to make “linked trips” which include a stop on the way to another destination such as daycare, work, shopping, and children’s extracurricular activities.
- **Persons with disabilities** or limited mobility often face significant challenges when

snow and ice prevent them from getting to a bus stop to access public transit. Other issues include the lack of benches at bus stops where passengers can rest while waiting for transit, long distances to buses, and long waiting periods¹.

In addition, diverse residents in Durham's underserved or rural neighbourhoods face unique challenges related to the overlapping disadvantages they experience because of their identities and where they live:

- Residents experiencing low income in the Region's seven **priority neighbourhoods**² are more likely to travel by transit to precarious employment with earlier and later start and end times than residents in other communities.
- **Youth in rural areas** have been facing challenges with finding educational and work opportunities, resulting in many young residents commuting to larger communities or leaving rural areas altogether.
- Many **seniors in rural settings** are also choosing to age in place. With more youth seeking opportunities outside of rural areas, these seniors may not have access to a ride with family or friends as was previously more common.
- Rural businesses and farms rely on employees travelling into the rural area from neighbouring cities and towns. For many **rural employees** a car is simply not available, so the lack of transit options makes rural employment unfeasible.

It is imperative that DRT staff factor in these and other transit realities when planning transit services and incorporate a multiplicity of perspectives. This awareness can help develop and deliver services that are responsive and relevant to clients and communities and, ultimately, address unintended barriers within our transit system.

Incorporating an Equity Focus

We tend to design our processes for people who appear similar to us, which allows many exclusionary practices to persist. Instead of "treating people the way that you'd like to be treated," we should instead treat people the way they would like to be treated and avoid providing services based on our own preferences. This approach supports and respects the skills and experiences of diverse Durham residents.

Equity priority groups are communities that have been historically disadvantaged and face barriers to full participation in Canadian society. These disadvantages have been created by attitudinal, historic, social and environmental barriers based on age, ethnicity, disability, economic status, gender, nationality, race, sexual orientation and transgender status, etc.

Equity Priority Groups

There are several groups that that requiring additional consideration when planning DRT services:

- Indigenous people
- People from various ethnic and cultural communities
- Immigrants, refugees, and undocumented people
- Lone parent families
- Persons with disabilities
- Persons experiencing low income
- Age (Seniors, Youth, Children)
- Gender
- Second language and literacy barriers

In naming these equity priority groups; DRT acknowledges that these communities are not mutually exclusive. Individuals may self-identify as belonging to more than one group.

Communities of Focus

Priority Neighbourhoods

The seven priority neighbourhoods identified by Durham Public Health are home to approximately 91,000 residents (15 per cent of Durham Region's population) that require focus to build on health and well-being. These neighbourhoods rank poorly in terms of overall income, education levels, and employment.

The seven priority neighbourhoods are:

1. Downtown Ajax – Ajax
2. Downtown Whitby – Whitby
3. Downtown Oshawa – Oshawa
4. Lakeview – Oshawa
5. Gibb West Oshawa
6. Central Park – Oshawa
7. Beatrice North – Oshawa

Rural Areas

Almost 85 per cent of Durham Region's geography is rural, with the townships of Brock, Scugog and Uxbridge making up the majority of Durham's rural area. Home to about 90,000 residents and 25,000 jobs, the rural areas of Durham face unique challenges.

Rural areas in Durham continue to change, and the following factors have been increasing contributing to mobility challenges.

1. Opportunities for youth

- Many rural areas have faced challenges with maintaining opportunities for young people resulting in many young residents commuting to larger communities for education and work opportunities or moving out of rural areas due to a lack of local work opportunities.
- Public transit access is becoming more important as more youth delay obtaining drivers licences or don't have access to a vehicle due to financial or medical reasons.

Transit can provide access to educational and work opportunities either within a rural area or to neighbouring communities. The availability of transit assists youth living in rural areas to be able to work in their community.

2. Aging in place

- Many residents in rural areas are aging in place, increasing the number of residents that will be unable to drive due to medical or age-related reasons.
- Older adults in rural areas may need to travel to specialized medical care in larger urban centres, and either cannot or do not want to drive into busy areas, such as the downtown Toronto Hospital Row.

Transit can provide older adults with access to shopping, medical, and leisure services in their local community, or in neighbouring communities. Access to transit will help older adults age in place or within the communities that they call home.

3. Non drivers

For some residents in the rural areas, driving is not an option.

Transit can provide access to educational, medical, and work opportunities either within a rural area, or to neighbouring communities. Transit can increase independence, as these residents no longer need to rely on rides from family or friends.

4. Rural businesses

Many rural businesses and farms rely on employees travelling into the rural area from neighbouring urban areas. For many of these employees a car is not available.

Transit provides the link between employees and employers, giving rural employers a larger labour pool to draw from, and the same access to labour as their urban counterparts.

5. First Mile, Last Mile

- Depending on travel needs within the Region, many customers face challenges accessing the transit network due to limited pedestrian networks, road conditions that favour fast moving vehicles, subdivision design, and gravel shoulders.
- DRT will work with Municipal partners to address the accessibility challenges for the first mile, last mile accessible, including in rural areas.

DRT's Equity Checklist

This section introduces a transit equity checklist for service planning. It is a series of considerations to guide us as we seek to understand how our decisions and actions either break down or reinforce barriers and inequities facing the groups identified above. It is not designed to be prescriptive, rather it is a prompt for important front-end considerations. Reviewing this checklist helps to think through and articulate how we're integrating equitable and inclusive approaches into transit planning.

People and Participation

- When identifying the community groups that will benefit from or be impacted by a proposed initiative, have you asked, "who's not here?"
- Have you collaborated with community members and learned their needs?
- Have you identified relevant performance metrics/indicators that address equity and the social wellbeing of the community?

Destinations, Routes, Vehicles and Stations

- Does the proposed project increase access to essential goods and services and/or employment for equity priority groups?
- Have you considered the social and political history of the area?
- Have you considered physical and social safety issues and safety for all genders and abilities?

DRT's Social Equity Goals

Listen and learn

DRT will continue to engage and listen to identified equity priority groups to further understand needs and experiences to support an inclusive and equitable transit system. DRT currently engages with a variety of committees that represent the groups identified, such as the Age Friendly and local accessible committees. To further advance engagement, DRT staff will strive to engage, listen, and learn from relevant groups and organizations.

Train and grow

DRT will continue to seek training opportunities on social equity and inclusion to provide staff with the knowledge and tools to ensure equity planning is a standard practice within our daily operations.

Deliver and set measurable goals

Realistic and measurable goals will ensure DRT delivers on the commitment to social equity.

Social Equity Initiatives

DRT has established the following social equity initiatives to ensure all residents and visitors in Durham Region can rely on transit for their transportation needs.

Service design guidelines

DRT leverage a monitoring framework to establish the type of service delivered (demand response or scheduled routes), and that the service is sustainable and efficient.

Ridership minimums in priority neighbourhoods

The ridership productivity minimums influence the span and levels of service.

The type of service and frequency planned for an area and shelter installations are based on

ridership and boardings. For example, a bus shelter is considered at a bus stop recording 20 or more daily passenger boardings. In priority neighbourhoods, recorded boardings and ridership will be increased by 50 per cent to accelerate the deployment of bus shelters, moving from demand response to a scheduled service, and increases in service frequency during busier times of the day. For example, in a priority neighbourhood, a bus shelter will be considered at a bus stop recording 15 or more daily passenger boardings.

The ridership productivity guidelines for rural service already reflects a lower minimum average boardings due to lower density and greater distances travelled.

Supporting infrastructure

Transit shelters

DRT will install shelters near locations such as retirement residences, hospitals, community centres, medical centres and transfer stops.

Stations, terminals, and hubs

Social equity guidelines will influence amenities and design at terminals by ensuring that equity priority groups' needs are met.

Washroom designs will include gender neutral facilities and spaces for infant changing and nursing.

New initiatives will be implemented to improve access to electronic trip planning, information, and real-time information by considering Wi-Fi access through mobile devices, electronic customer kiosks, real-time information displays and customer information lines.

Wayfinding information will be improved and expanded, including the use of accessible formats.

Service proximity

A customer's journey starts from their home, school, work, or other location, and getting to the transit stop, hub, terminal, or station. Travel experiences will be improved by removing barriers and reducing distances to bus stops and hubs.

DRT will work with Regional and Municipal partners to identify, address, and remove barriers to accessing transit services in their neighbourhoods by:

- Identifying gaps in the sidewalk network connecting transit stops, hubs, terminals, and stations.

- Developing opportunities for additional protected road crossings.
- Identifying opportunities to increase proximity of new and existing neighbourhoods through new multi-use pathways.

Public transit can be an important service to supporting and nurturing underperforming employment zones within the Region. DRT will work with Regional Planning and Economic Development to ensure that our services support the growth and regeneration of existing employment areas.

Measuring progress

DRT use a variety of measurement tools to evaluate effectiveness through an annual monitoring system. On an annual basis, DRT will evaluate Key Performance Indicators (KPI) to improve and enhance equitable transit within Durham Region.

INIT system: The INIT system includes onboard technology and planning and reporting software. In addition, INIT contains automated passenger counting technology which can track DRT ridership and capture accurate data for reporting. This tool can help determine crowding levels and ridership levels within priority neighbourhoods.

GIS data: Using Geographic Information Systems (GIS), DRT analyze data related to land use, transit boarding points, transit routes and demographics. GIS contains geoprocessing tools that perform buffer/distance analysis to determine travel times and walking distances to DRT boarding points.

Statistics Canada census data: Statistics Canada provides information that supports DRT to better understand the population within Durham Region related to its economy, society, and culture. Data reflects average household income, education levels, population numbers, age, and employment status.

Customer service call centre: Calls that generate feedback assist to determine areas for improvements. Each call related to boarding point relocation, safety concerns and route alignment is tracked and reviewed by staff including improvements implemented resulting from customer feedback.

On an annual basis, DRT will report on improvements made to shelter placement, accessibility improvements and transit routes serving established neighbourhoods and On Demand availability improvements.

Conclusion

Equitable, high-quality public transit will ensure Durham residents can increasing access employment, health care and healthy food, childcare, and recreational activities. The DRT transit system will continue to evolve to better reflect the needs and values of Durham's diverse communities.

Equity considerations are not tangential to the success of transit planning but central to the task connecting people and enhancing liveability for generations to come.

¹ Ontario Human Rights Commission. (2002). Human Rights and Public Transit Services in Ontario. Consultation Report. P.14. [Human Right and Public Transit Services in Ontario - Consultation Report](#)

² The seven Priority Neighbourhoods identified by Durham Region Health Department are communities that require focus to build health equity. They are: 1) Downtown Ajax – Ajax, 2) Downtown Whitby – Whitby, 3) Lakeview – Oshawa, 4) Gibb West – Oshawa, 5) Downtown Oshawa – Oshawa, 6) Central Park – Oshawa, 7) Beatrice North – Oshawa. [Making Children the Priority: Early Childhood Development in Priority Neighbourhoods](#)

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 3702



The Regional Municipality of Durham Report

To: Durham Region Transit Executive Committee
From: General Manager, Durham Region Transit
Report: #2021-DRT-27
Date: November 3, 2021

Subject:

General Manager's Report – November 3, 2021

Recommendation:

That the Transit Executive Committee recommends

That this report be received for information.

Report:

1. Purpose

- 1.1 This report is submitted at each Transit Executive Committee (TEC), for information.

2. Background

- 2.1 The General Manager Report provides regular updates on key performance measures and summaries of current activities and transit issues in Attachment #1.

3. Previous Reports and Decisions

- 3.1 Not applicable

4. Financial

- 4.1 The General Manager's Report focuses mainly on performance and service standards. There are no financial impacts associated with TEC's receipt of this report.

5. Relationship to Strategic Plan

5.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:

- a. Service Excellence

6. Conclusion

6.1 For additional information, contact: Bill Holmes, General Manager, at 905-668-7711, extension 3700.

7. Attachments

Attachment #1: General Manager's Report – November 3, 2021

Respectfully submitted,

Original signed by

Bill Holmes
General Manager, DRT

Recommended for Presentation to Committee

Original signed by

Elaine C. Baxter-Trahair
Chief Administrative Officer



General Manager's Report

November 3, 2021

TEC

Attachment #1

Performance Measures Dashboard	<u>2</u>
Safety	<u>3</u>
Ridership	<u>4</u>
Service Delivery	<u>7</u>
Updates	<u>11</u>
General	<u>13</u>

Performance Measures Dashboard

Safety

Key performance indicator	Description	Latest Measure	Current	Target ¹	Current Variance to Target (per cent)	YTD Status ² (per cent)
Collisions	Number preventable collisions per 100,000 km	September	0.62	0.00	✓ 62.0	✗ 2.6

Ridership

Scheduled						
Ridership (x1,000)	Number passengers	September	489	361	✓ 35.4	✗ -32.0
PRESTO Ridership	Customers paying using PRESTO (per cent)	September	80.8	77.9	✓ 2.9	✓ 39.6
Bus full occurrences	Number operator reported occurrences	September	8 ³	164	NA	NA
Demand Responsive						
Ridership - Specialized	Number customer trips	September	6,405	4,937	✓ 29.7	✗ -29.7
Unaccommodated Rate - Specialized	Trip requests not scheduled (per cent)	September	1.2	0.6	✗ 0.6	✓ -0.1
Ridership – On Demand	Number customer trips	September	10,475	1,944	NA	NA

Service Delivery

Scheduled						
On time performance	On-time departures from all stops (per cent)	Service Period 3 ⁴	79.9	77.9	✓ 2.0	✓ 0
Service availability	Scheduled service delivered (per cent)	Service Period 3 ⁴	99.0	99.5	✗ -0.5	✓ 0.1
Mean Distance Between Failure (MDBF)	Average number of revenue service kilometres between occurrences of vehicle defects impacting service (revenue service kilometers)	September	43,225	N/A	N/A	NA

¹Target is 2020 measure for the same period

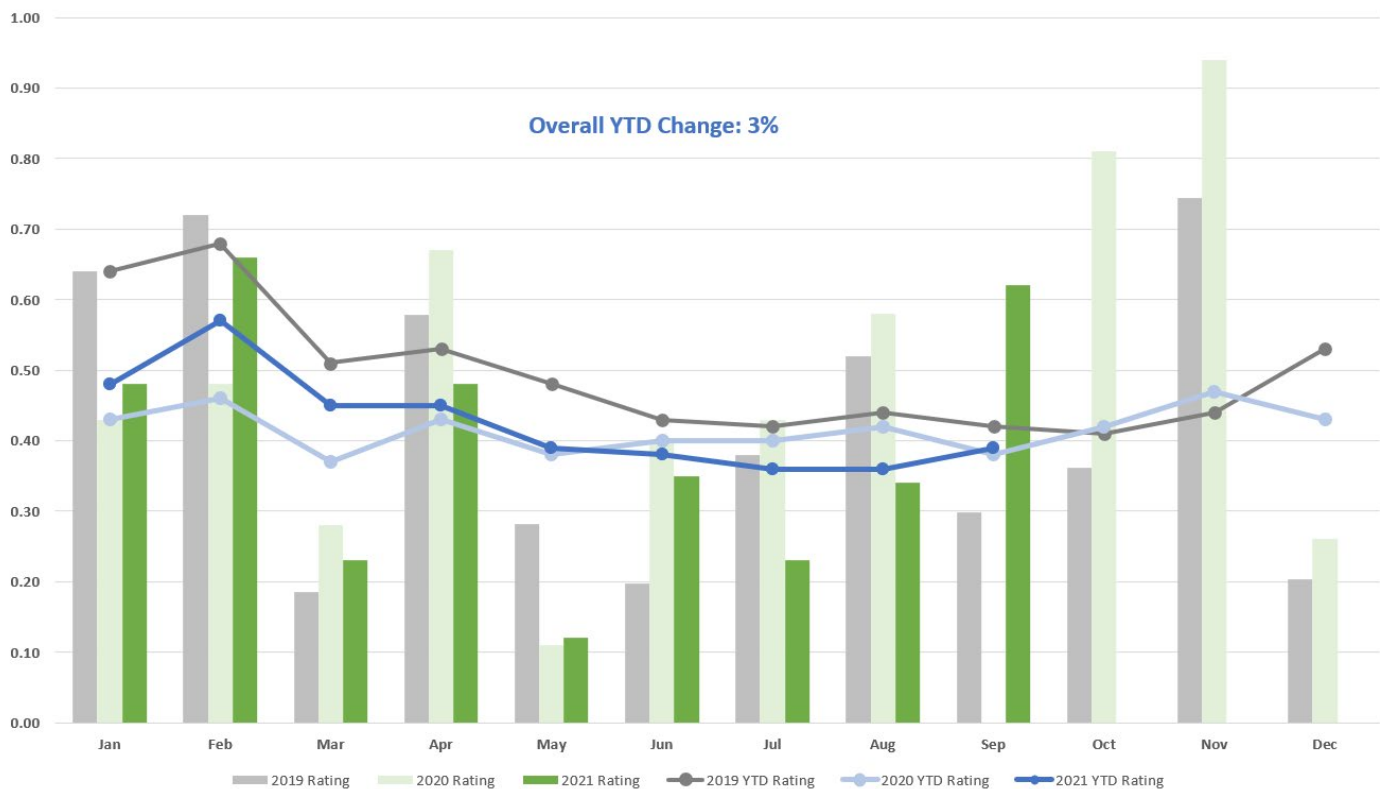
²Year to Date (YTD) compared to previous year

³Bus capacity limited to seated load, reduced ridership during pandemic

⁴June 21 through September 5, 2021

Safety

Preventable collisions rate per 100,000 km



Definition: A preventable collision is one in which the driver failed to do everything reasonable to avoid the collision. The preventable collision rate is the number of preventable collisions per 100,000 kilometres of travel for all Durham Region Transit (DRT) vehicles.

A collision may not be reportable to police based on the Highway Traffic Act, but for DRT purposes all collisions are documented and investigated.

Analysis

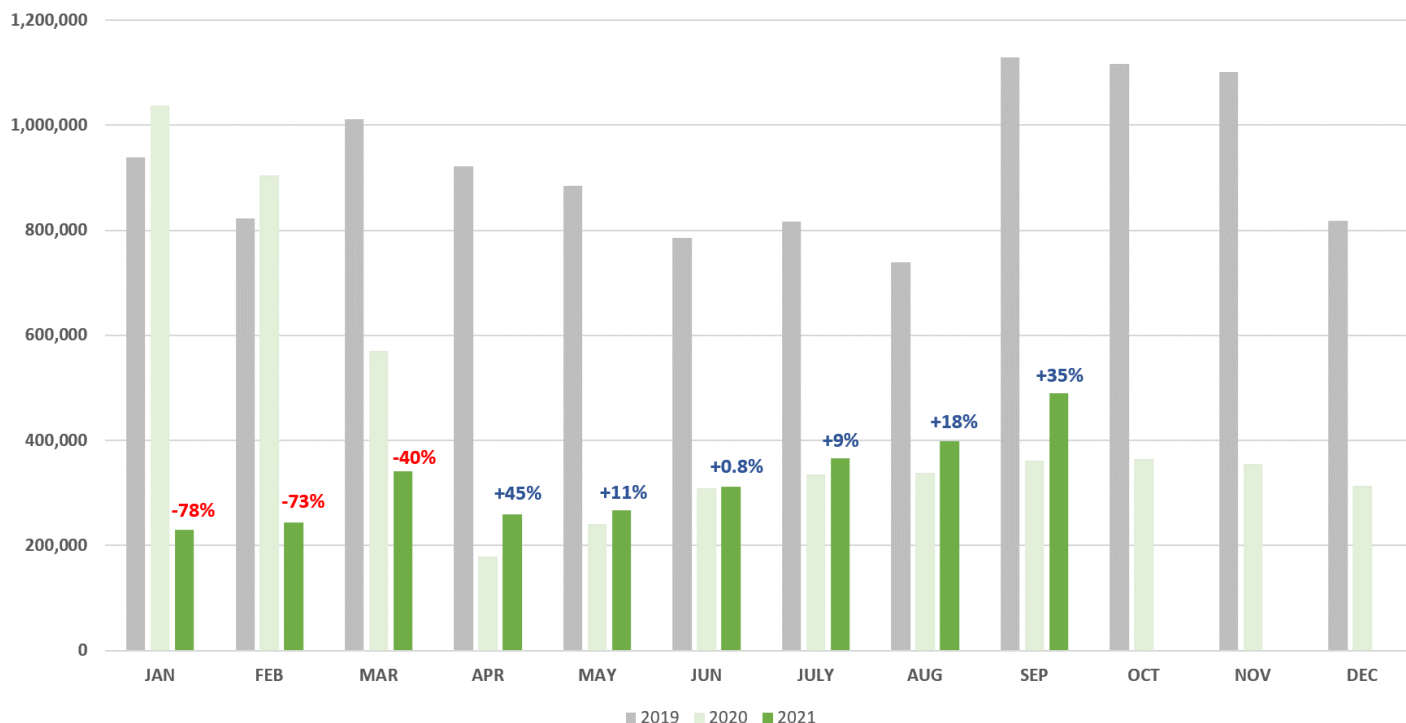
The year-to-date collision rate is 2.6 per cent lower than last year, with a monthly rate of 0.62 in September 2021.

Action Plan

Safety and Training staff continue to review root causes of collisions to identify prevention measures to enhance the safety management system.

Ridership

Scheduled transit



Definition: Ridership is the sum of all passenger trips. A passenger trip is considered a one-way trip from origin to destination, regardless of the number of transfers that may be required. Ridership data is calculated from fare box data and data from PRESTO, GO Bus One Fare Anywhere, and On Demand.

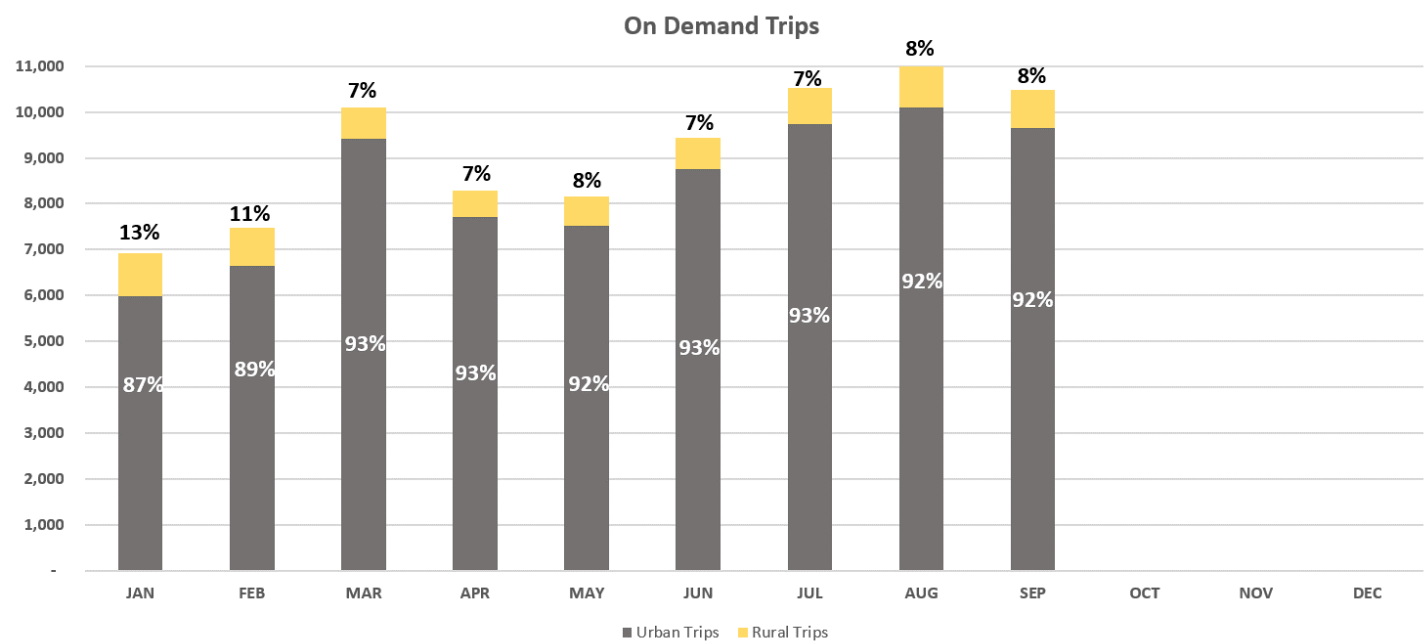
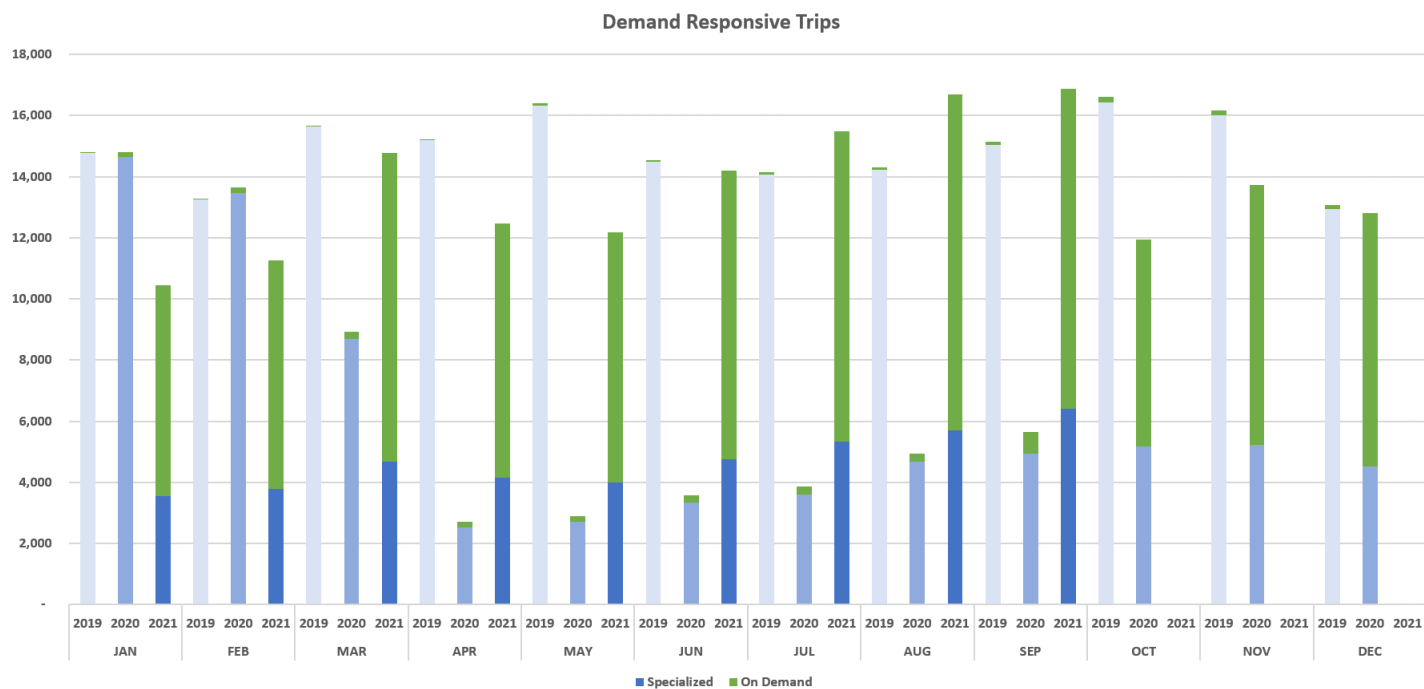
Results

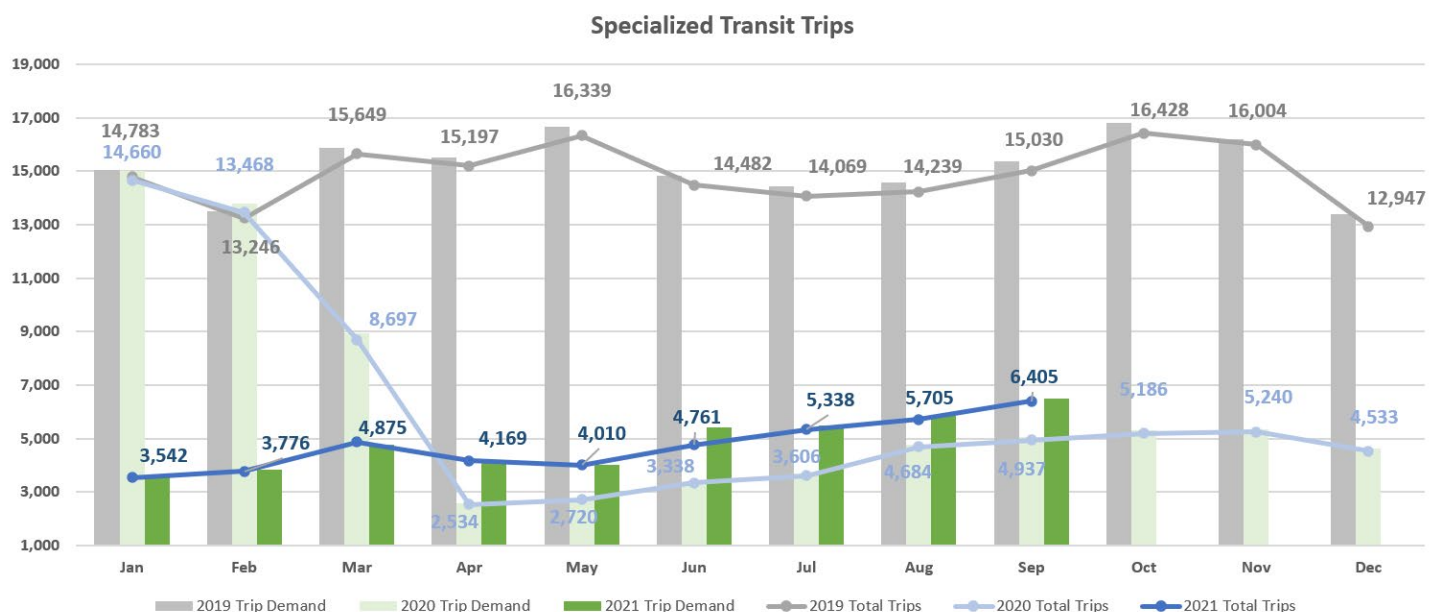
Monthly ridership improved significantly in September, 22 per cent higher in September compared with August, and approximately 35 per cent higher than 2019 ridership. Ridership remains at approximately 45-50 per cent of pre-COVID levels.

Action Plan

Staff continue to monitor ridership trends to plan for expanded service when appropriate.

Demand Response Transit





Definitions:

Ridership: A trip is considered a one-way passenger trip from origin to destination, regardless of the number of transfers that may be required.

Trip Demand (Specialized): Specialized transit trip demand is the sum of all trips delivered, no-shows and cancelled at the door, and unaccommodated trips.

Unaccommodated Rate (Specialized): An unaccommodated Specialized transit trip is one where DRT is unable to schedule a trip for the specific requirement requested by the customer, or the customer declined to accept the trip option provided by the booking agent.

Results

On Demand continues to experience strong ridership, recording 10,475 monthly trips in September. As expected, On Demand trips dropped slightly in September (five per cent) with the reintroduction of some scheduled routes.

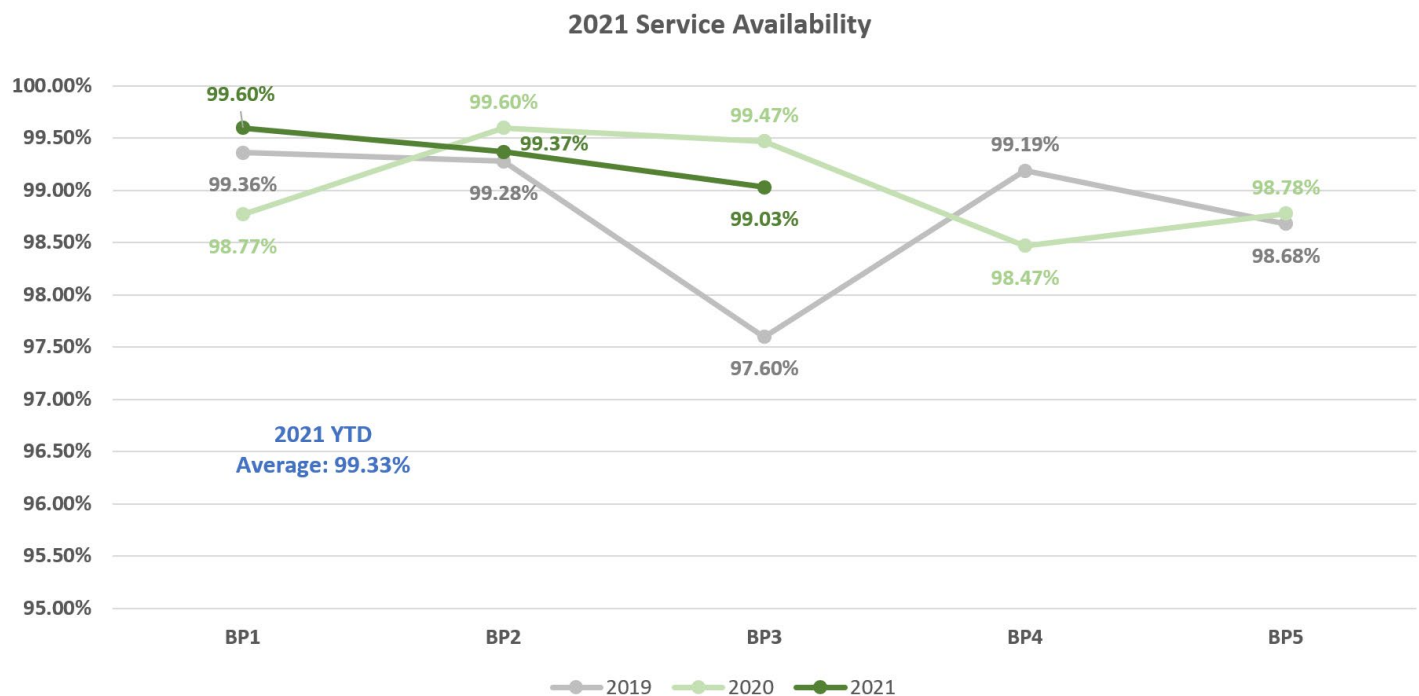
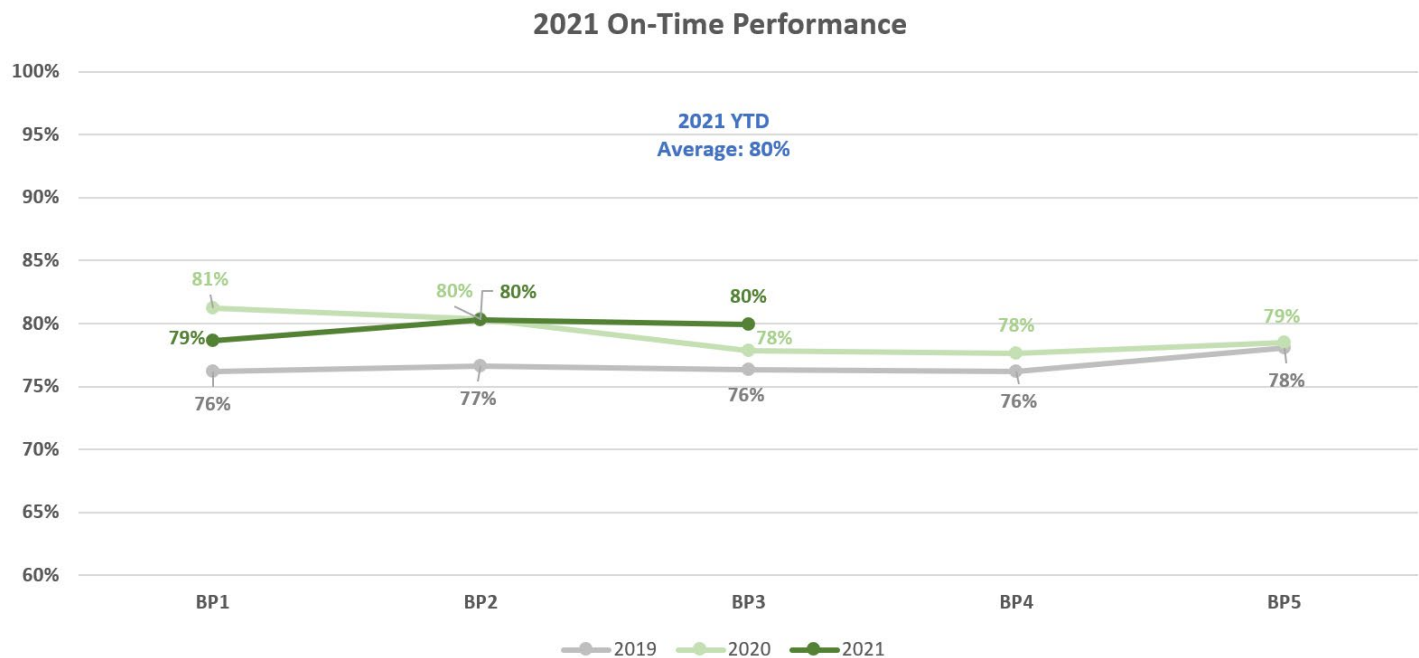
Specialized service ridership continues to improve slowly, with September ridership at 43 per cent of 2019 levels. Specialized transit delivered 98.8 per cent of trip requests in September.

Action Plan

Staff continue to review ridership trends and the pandemic status to project service level and routing requirements. The ridership monitoring framework supported transition back to some scheduled routes and late adjustments were implemented in time for the service change on September 7, 2021, with further introduction of three scheduled service routes on October 4, 2021.

Service Delivery

On Time Performance and Availability (conventional)



Definition

On Time Performance (OTP) is a measure of the percentage of buses departing a bus stop no more than zero minutes early and five minutes late. The annual OTP target has increased to 80 per cent. OTP is reported for each service period.

Service availability measures the actual service delivered by DRT compared to the scheduled revenue service. The service availability target is 99.5 per cent. Service availability is reported for each service period.

Results

OTP for 2021 service period 3 (BP3), between June 21 and September 5, achieved the 80 per cent target. Year to date OTP has also achieved the 80 per cent.

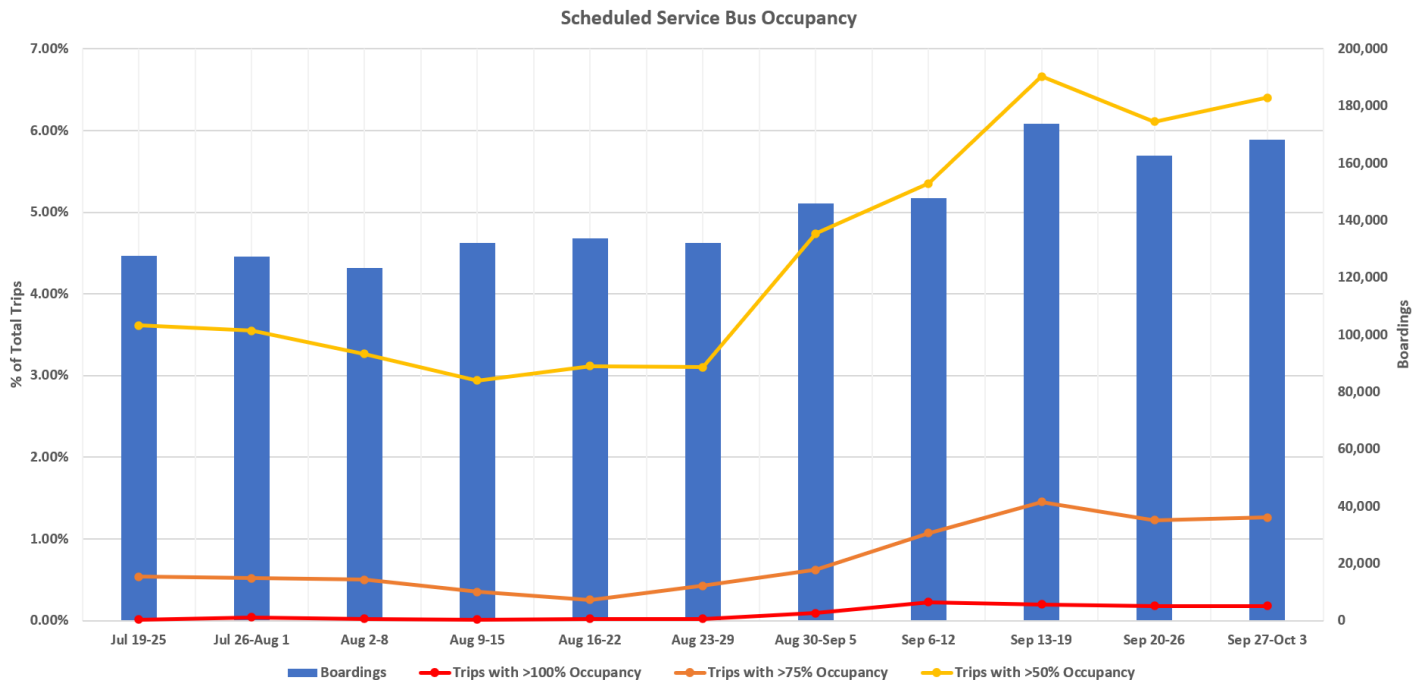
Service availability decreased marginally to 99.03 per cent, slightly below the target of 99.5 per cent.

Action Plan

Service Planning staff continue to complete run time analysis to ensure route running times implemented at the next service change in January 2022 reflect actual trip running times and to improve overall OTP.

Service availability is impacted by unplanned events such as on-street conditions impacting service delivery (collisions, detours, etc.) and mechanical defects. Maintenance staff continue to enhance vehicle maintenance activities to mitigate on-street defects, as demonstrated in the Mean Distance Between Defects metric, and operations management continue to use available on-street resources to cover service when unplanned event happen.

Scheduled Service Maximum Bus Occupancy



Definition

Maximum bus occupancy is a measure of the maximum number of riders on a scheduled service vehicle at any point of a trip, currently expressed as a percentage of the seated capacity. The data accounts for the differences in capacity for regular and articulated buses.

For planning purposes, maximum capacity is considered the vehicle seating capacity during the pandemic recovery period. There are no mandated/legislated bus passenger capacity limit and at times capacity on a trip may exceed the maximum seated capacity.

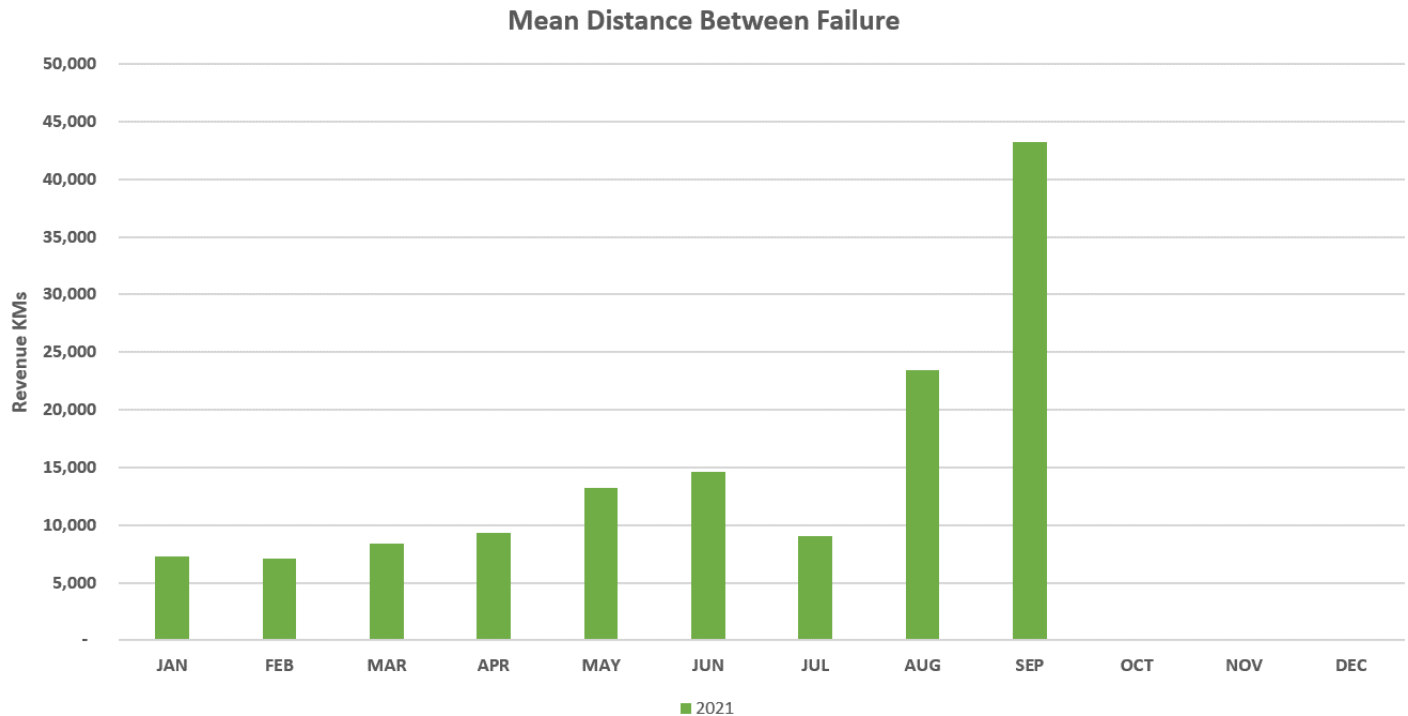
Results

During the last week of September, maximum occupancy was below 50 per cent of seated capacity for approximately 93 per cent of all trips, with approximately 1.2 per cent of trips exceeding 75 per cent seated capacity.

Action Plan

The transit network continues to provide adequate capacity for current customer demand. As ridership increases into the fall and 2022, DRT will continue to monitor bus occupancy and implement operational controls to increase route capacity where appropriate.

Mean Distance Between Failure (conventional)



Definition

Mean Distance Between Failure (MDBF) measures the reliability of the fleet by tracking the mean distance between bus breakdowns or mechanical failures that result in cancelled or missed service. A bus breakdown or mechanical failure is any incident that precludes a revenue vehicle from completing its trip or beginning its next scheduled trip and is measured by the total number of revenue vehicle kilometers (conventional service fleet) divided by the total number of chargeable vehicle defects during the reporting period.

Chargeable vehicle defects (or chargeable mechanical failures) are consistent with guidelines from the Ontario Public Transit Association (OPTA) and does not consider failures resulting from passenger-related events (i.e., sickness on the bus), farebox or other technology defects such as PRESTO readers.

Service impacts resulting from bus breakdowns are mitigated by assigning an available bus or reassigning a bus from a lower priority trip, to cover all or a portion of the affected trip(s).

Results

MDBF continued to steadily improve, increasing to 43,225 km for September.

Action Plan

DRT will establish an appropriate MDBF target at the end of 2021 with the objective to continuously enhance preventative maintenance practices and improve annual MDBF performance.

Updates

1. Open Payment

The PRESTO open payment solution continues to advance, with DRT scheduled to pilot the new fare payment solution; the implementation date will be finalized in the coming weeks. At this time, open payment will be limited to personal credit cards only, at the PRESTO adult concession (currently \$3.25). Fare payment using banking cards and non-reloadable credit cards (such as gift credit cards) are expected to be available after PRESTO resolves existing technical incompatibilities.

2. Customer feedback for new routes

Four online surveys were released in September focused on customers who have recently travelled on the new Routes 112, 224A, 411, and the modified Route 405. The purpose of each survey is to understand the travel patterns of customers prior to service changes on September 7, 2021, and to understand customer concerns or reasons they did not use the On Demand service as their primary mode of transportation prior to the return of the scheduled routes. Understanding our customers' travel needs and collecting their feedback will enable staff to develop appropriate solutions and provide an enhanced customer experience. Posters, which included a QR code and URL link that direct customers to the survey website, were placed at bus stops along route corridors. Additionally, DRT used social media platforms to advertise the surveys to customers and a web banner on trip planning apps so that customers can easily access the surveys directly from their mobile phones. The results of the surveys will be available in December.

3. Vaccination Policy

Throughout the pandemic, the exceptional people who provide DRT service to residents have and continue to be committed to their roles. DRT staff have supported essential workers, students, parents and families who access public transit, allowing riders to safe travel throughout the Region.

In addition to the vigorous health and safety measures to protect the workplace protocols that are currently in place, DRT will implement the Region's vaccination policy. The policy requires all employees to be fully vaccinated by December 20, 2021, except where there is an approved accommodation under the Ontario Human Rights Code. Similarly, employees of third-party contractors that deliver services on behalf of DRT (scheduled, On Demand, and Specialized), will be required to be fully vaccinated.

In our society and in our workplaces, there have been differences in personal views and opinions on decisions and actions associated with the global pandemic, including vaccinations. Staff are currently preparing contingency plans to mitigate customer impacts from potential employee absences due to non-compliance with DRT's vaccination requirements. Further details will be shared in December when there is more certainty in the known resources available to deliver DRT services.

While DRT continues to attract exceptional people to join the organization for an exciting and rewarding career in public transit, there is a limit to the number of new frontline employees, mainly bus operators, that can be hired. With a legislated training requirement of two trainees per instructor, classes of six to eight employees are currently scheduled to complete the five-week licencing and training program. As part of the service contingency plan, the Safety and Training group are enhancing their capacity to increase training class sizes.

Transit agencies have been collaborating to respond to transit issues arising from the different vaccination policies implemented across the Greater Toronto and Hamilton Area. DRT, Metrolinx, Toronto Transit Commission, and York Region Transit have implemented similar vaccination policies, requiring all staff and contractors to be fully vaccinated. Mandatory vaccination dates implemented by Metrolinx, TTC and YRT precede the December 20, 2021 date for DRT employees. Until December 20, DRT staff and contractors will need to comply with transitional requirements when sharing facilities owned by neighbouring agencies, such as using public facilities.

1. Enhancement to E-Tickets

Starting October 18, DRT and Hamilton Street Railway (HSR) customers are able to activate their PRESTO E-Tickets and scan the QR code on the barcode reader on the PRESTO device. This functionality will apply to all U-Pass, monthly pass and single ride E-Tickets. To use the new feature, customers will need to update the PRESTO E-Tickets app to enable QR code scanning.

E-Tickets also enable residents to send a DRT E-Ticket to someone else through the PRESTO E-Tickets app. Customers travelling with family and friends can also buy and activate up to 20 E-Tickets at a time, which can be used to travel with others who do not have the PRESTO E-Tickets App. If purchasing E-Tickets for multiple people, the entire group is expected to stay together on transit, in case they are asked to show proof of payment or if they plan to transfer to another bus during the E-Ticket travel window.

This new functionality will provide DRT with long-awaited accurate ridership data for U-Pass users, that will inform future plans to ensure services are available where and when post-secondary students are travelling.

2. Follow-up COVID-19 customer survey

Leger Consulting will be conducting a Transit Usage and Attitudes survey in November 2021 to follow-up on DRT's initial COVID-19 customer survey in the fall of 2020. The survey will encompass the general population of Durham including current and past transit users within the Region. The initial survey provided an indication of when transit users were expected to resume using DRT services, customer expectations and changing travel patterns. The follow-up survey will consider factors such as service expectations, how return-to-ride expectations may differ between past users, return to transit timelines, positive experiences and pain points. The survey will be conducted on various platforms such as an Interactive Voice Recorded Survey (IVR) over the phone and an open-link online survey. Outcomes from this engagement will be report to TEC in early 2022.



If this information is required in an accessible format, please
contact 1-800-372-1102 ext.3702

Durham Region Transit Report

To: Durham Region Transit Executive Committee
From: General Manager, Durham Region Transit
Report: #2021-DRT-28
Date: November 3, 2021

Subject:

E-Mission Zero: Durham Region Transit Battery Electric Bus and Charging
Infrastructure Demonstration Pilot Update

Recommendations:

That the Transit Executive Committee recommends to Regional Council:

- A) That the execution of a negotiated Design-Build-Operate-Maintain (DBOM) agreement with Oshawa Power and Utilities Corporation (OPUC) for the charging equipment and infrastructure at Durham Region Transit's Oshawa depot to support the charging requirements of the battery electric bus and charging infrastructure demonstration pilot (eBus Pilot), be approved conditional upon Finance and Administration Committee approval of financing. The recommended partnership framework includes the following:
- i) OPUC to supply charging equipment and design and build facility upgrades at the Oshawa depot, at a cost not to exceed \$2.9 million, subject to finalization of OPUC's negotiations with a charging equipment vendor to be selected through a competitive procurement process, to be financed from the existing approved budget of \$900,000 (2019-COW-31) and an additional contribution of \$2.0 million from the one-time Federal Gas Tax revenues received in 2021; and
 - ii) OPUC to operate and maintain the charging equipment for a period of five years, with a mutual option to renew for up to two one-year extensions, at a negotiated

cost to the satisfaction of the Commissioner of Finance and Legal Services, to be funded from annual Durham Region Transit Business Plans and Budget.

- B) That the execution of an agreement with eCamion for the supply of integrated charging and energy storage equipment at the Oshawa depot at no cost to DRT, for testing purposes and to support maintenance operations of the electric buses, be approved.
 - C) That the execution of a negotiated agreement with eCamion for the design and build of facility upgrades at the Oshawa depot, at a net cost of up to \$100,000, to be funded from one-time Federal Gas Tax revenues received in 2021 be approved conditional upon Finance and Administration Committee approval of financing.
 - D) That the General Manager of Transit be authorized to negotiate the commercial terms of agreements, satisfactory to the Commissioner of Finance and Legal Services, with Oshawa Power and Utilities Corporation and eCamion and/or its subsidiaries, as described in this report, to support the design, supply, build, operations and maintenance of charging equipment and infrastructure for the purposes of the eBus Pilot.
-

Report:

1. Purpose

- 1.1 This report outlines the proposed strategy to implement DRT's Electric Bus and Charging Infrastructure Demonstration Pilot (eBus Pilot), including work completed to-date.

2. Background

- 2.1 The 2019 Durham Region Community Energy Plan (DCEP) reported that transportation is responsible for more energy use, costs, and greenhouse gas (GHG) emissions than any other source within the Region. In March 2021, Council approved the Corporate Climate Action Plan with targets to reduce corporate greenhouse gas (GHG) emissions to net zero by 2045. This includes the transition of corporate fleets, such as public transit vehicles, to low carbon alternatives.
- 2.2 The eBus Pilot is part of the broader suite of initiatives that will be managed through DRT's E-Mission Zero Program, which is DRT's commitment to adopt a zero-emission fleet to help reduce overall GHG emissions from the transportation sector in Durham.

3. Previous Reports and Decisions

- 3.1 In November 2019, Regional Council approved the eBus Pilot and purchase of up to eight electric buses and associated charging infrastructure for a total of \$10.1 million funded through one-time Federal Gas Tax revenues (2019-COW-31). This pilot allows for the assessment of battery electric bus and charging technology, including its performance in local conditions to inform long-term fleet transition and deployment. \$900,000 of this approved funding will be used to fund a portion of the charging equipment and design and build facility upgrades at the Oshawa Transit depot estimated to cost \$2.9 million.
- 3.2 In January 2020, a non-binding letter of intent (LOI) was signed with Oshawa Power and Utilities Corporation (OPUC), setting forth the basis upon which OPUC or its affiliates would offer to design, construct, own and operate electric bus charging infrastructure at DRT's Oshawa depot as part of the eBus Pilot. Considerations included pro-bono project design and due diligence investigation of the pilot project by OPUC.
- 3.3 In May 2020, The Atmospheric Fund (TAF) Board of Directors approved \$195,000 in funding over two years to support advancing the eBus Pilot (2020-DRT-13). The grant was awarded to DRT in partnership with OPUC, to fund the program management expertise necessary to develop specifications for the buses and charging infrastructure, and key project components such as training, re-tooling, software, and performance monitoring.
- 3.4 In September 2020, the Canadian Urban Transit Research and Innovation Consortium (CUTRIC) announced its investment of \$999,000 in a project led by eCAMION, an Ontario-based energy storage solution provider (2020-DRT-21). This investment enabled eCAMION to develop a new bus charging technology with integrated energy storage, delivering a product with commercialization potential that will create jobs in Ontario. Durham Region Transit (DRT) was identified as eCamion's first deployment partner, with deployment planned for 2022.
- 3.5 At its meeting on September 8, 2021, TEC received a report on E-Mission Zero – Towards Zero Emission Public Transit in Durham Region (2021-DRT-21). The report and attached E-Mission Zero booklet outlines the suite of initiatives underway at DRT supporting the assessment and deployment of clean technologies aimed at reducing greenhouse gas emissions from public transit in Durham. This includes the battery electric bus and charging infrastructure

demonstration pilot project (the eBus Pilot), the Whitby Autonomous Vehicle and Electric (WAVE) shuttle pilot project, the zero-emission fleet and facility feasibility study, and the development of a new flagship operations and maintenance facility.

4. eBus Pilot Project Status

- 4.1 This report is focused on the charging equipment and infrastructure upgrades required at DRT's Oshawa depot to support the charging requirements of the electric buses. This includes an upgrade to the electrical service, onsite transformer, distribution equipment, energy storage system, charging equipment and pantograph dispensers. There are also extensive facility upgrades required to civil, structural, and electrical systems to install the infrastructure and equipment.
- 4.2 Summarized below are the key planning decisions, proposed scope and delivery models for the project:
- a. Battery Electric Bus - Preparation for Deployment;
 - b. Bus Charging Infrastructure; and
 - c. Maintenance Charging Infrastructure and Energy Storage

Battery Electric Bus – Preparation for Deployment

- 4.3 A feasibility analysis and key planning decisions have been completed and/or currently underway, including:
- a. Completed an industry scan to identify and review specifications of North American bus manufacturers that offer heavy duty battery electric transit buses;
 - b. Selected DRT's Oshawa depot for the eBus pilot considering the recent facility upgrades, the available space for charging equipment and capacity for expansion;
 - c. Selected Pulse routes 900 and 901 for eBus deployment. These preferred routes are consistent with published operating ranges of electric bus technology, experience the highest ridership levels on the DRT network, operate throughout the day, and operate across multiple jurisdictions;

- d. Completed route modelling and simulation exercises to estimate the operating efficiency (kWh/km) and bus battery capacity required to service the selected routes; and
 - e. Identified crucial operations and maintenance requirements prior to launching the eBus Pilot including:
 - Workplace electrical safety program: A program that documents policies and practices to eliminate or reduce the risk of exposure to electrical hazards in the workplace, enable safe operation and maintenance of electrical equipment and provide additional safeguards for those who work near live electrical equipment.
 - Maintenance equipment: Assessment of facility maintenance equipment, tooling and personal protective equipment (PPE) required at the facility.
- 4.4 Development of the bus specifications and contract requirements (e.g. training, warranty, supply chain, etc.) to purchase long range battery electric buses through a competitive procurement process is underway. DRT will consider opportunities to test different bus models and configurations, and to understand operation and maintenance requirements during the eBus Pilot to inform DRT's future bus requirements as electric bus fleet transition scales up.
- 4.5 The GHG emissions savings by displacing up to eight diesel buses as part of the eBus Pilot are estimated to be between 800 to 900 tonnes CO₂e per year.

Bus Depot Charging Infrastructure

- 4.6 Based on DRT's decision to undertake the eBus Pilot at its depot in Oshawa, OPUC was engaged as the local electrical distribution company to identify the electrical service upgrades required to support the eBus Pilot.
- 4.7 Following discussion with and feedback from transit agency peers and associations (Canadian Urban Transit Association, Canadian Urban Transit and Research Innovation Consortium), DRT further explored delivery models where electrical utilities could deliver, own, and operate public transit charging infrastructure.
- 4.8 DRT entered into a non-binding letter of intent (LOI) with OPUC to prepare a business case to design, construct, own and operate electric bus charging

infrastructure solely for the eBus Pilot. OPUC Group is the parent company to Oshawa Power, Oshawa's regulated local electrical distribution company, EnerFORGE a non-regulated independent power producer and energy services company that operates across Ontario and Durham Broadband, Durham's largest fibre optic high-speed communications company. The combination of expertise derived from this structure positions OPUC to support zero GHG emissions vehicle deployment:

- Core competencies in the advanced energy and data sectors, offering turnkey energy and communication services with partial to full asset co-investments;
- Local expertise in the maintenance of high voltage equipment and supporting energy cost savings through specialized analytics and turnkey development of distributed energy resources;
- Broadband fibre optic services to support advanced communications protocols requirements of the charging equipment; and
- Existing multi-million dollar energy and communications projects held by OPUC for governmental clients.

4.9 This approach of working with utility partners for charging infrastructure enabling the testing of emerging zero GHG emission technologies is consistent with the approach taken by other transit systems taking first steps in the transition of their fleets. This enables transit agencies to continue focusing on vehicle operations and performance while the utility partner ensures delivery of reliable energy requirements. Similar examples include:

a. Toronto Transit Commission (TTC)

- In June 2018, the TTC board directed TTC staff to work with Toronto Hydro-Electric System Limited (THESL) on the design and implementation of charging systems infrastructure for the TTC's first 60 electric buses.
- In April 2021, the TTC board approved a framework for agreement between TTC, THESL and Ontario Power Generation (OPG), where THESL is responsible for upgrading the electrical

supply to TTC properties and OPG co-invests, designs, builds, owns and operates electrification infrastructure on TTC property.

- This framework is expected to cover the infrastructure requirements in the TTC capital investment plan from 2021-2035 to implement the TTC Green Bus Program.

b. City of Ottawa

- In June 2021, the City of Ottawa entered into an agreement with Hydro Ottawa to procure, supply, install, and operate for the City the electrical equipment and charging equipment initially in St. Laurent bus garage, and later if necessary, across other locations.
- This work will support the infrastructure requirements for 450 battery electric buses from 2022-2027.

c. York Region

- In 2019, York Region entered into a partnership with a local electrical utility (Newmarket-Tay Power Distribution) for the first time in North America whereby the utility owned and operated an on-route charging system for a public transit agency. This was a limited partnership to support the on-route charging requirements for the six bus pilot.

4.10 OPUC, in collaboration with DRT, Finance and Works (Facilities), has completed preliminary work (due diligence and project pre-design) to develop the charging infrastructure requirements at the Oshawa depot to support the electric bus pilot. This includes:

- a. Industry scan, including an outreach to suppliers to identify the technology that could best align with DRT's requirements and in consideration of anticipated future needs;
- b. Analysis of the power consumption requirements from the buses and the resultant energy profile and electricity demand at the facility;
- c. Grid and connection impact assessment to support overnight charging of up to eight electric buses;

- OPUC has submitted for, and has received, ESA approval to provide a new dedicated service feed that will support the electrical load of the charging equipment
- d. General engineering and technical review of charging equipment for the eBus Pilot;
- Charging systems and a configuration capable of supplying power to a total of eight ceiling-mounted pantograph dispensers to be installed at the bus storage garage;
 - Preliminary design includes adequate space for infrastructure to expand for scale-up in the future;
- e. Preparation and OPUC's release of a Request for Proposal (RFP) through a competitive procurement process for the supply, design and build of charging equipment and infrastructure to obtain certainty on project budget and confirm technical details for project implementation:
- OPUC has provided the Region with a memo, providing an overview of their procurement process, highlighting their obligations as a municipally owned group of companies and their commitment to a fair and open procurement process that follow the guidelines set forth in the Broader Public Sector Procurement Directive (BPSPD);
 - The RFP was reviewed by DRT and the Finance department prior to its release by OPUC on a public procurement website;
 - DRT staff have been included in the selection committee for the charging equipment and infrastructure; and
 - Proposals have been received and are currently under evaluation, requiring further negotiations with the top Proponents for scope clarification and budget certainty. The award is contingent on execution of the negotiated agreement with OPUC.
- 4.11 DRT collaborated with Finance and OPUC to undertake a review and assessment of delivery models for the charging equipment and infrastructure, considering the benefits and risks of each model that can best support the

operational requirements of the eBus Pilot and business needs of the Region.
The range of delivery models included:

- a. Option 1: Energy-as-a-Service (EaaS) model, whereby OPUC would own all assets and deliver the energy required for the buses on site, charging DRT an annual fee for this service;
 - b. Option 2: Design-Build-Operate-Maintain (DBOM) model with shared ownership of assets, an equipment leasing agreement from OPUC and an operations and maintenance (O&M) agreement with OPUC for the charging equipment;
 - c. Option 3: Design-Build-Operate-Maintain (DBOM) model whereby DRT would own all assets, and OPUC would deliver the project and offer an O&M arrangement for the charging equipment; and
 - d. Option 4: Business-as-Usual (BAU) model whereby DRT would procure the equipment and infrastructure, procure a vendor to design-build and either hire staff or retain another vendor to operate and maintain the charging equipment.
- 4.12 Based on this assessment, Option 3: Design-Build-Operate-Maintain (DBOM) model with OPUC was recommended. Under this model, the Region will own the charging equipment and infrastructure, and for the purposes of this Pilot, enter into an arrangement with OPUC on the basis of the following:
- a. The DBOM model offers a “turnkey” approach, where a single entity, OPUC, holds responsibility and contractual risk for all aspects of the build and project delivery (e.g. assessment, engineering, equipment supply, subcontracting, construction, testing and commissioning) and post-construction operations and maintenance of the equipment;
 - b. Clear knowledge of the methods and equipment used for the build, that allows for a tailored maintenance plan, anticipating and addressing potential issues, thereby reducing risk and costs;
 - c. Limited time and resources required by the Region to address operational, and maintenance issues related to the charging equipment;
 - d. Opportunity to pursue alternative operation and maintenance arrangements, as necessary, as scale up of fleet transition progresses;

- e. Alignment of the arrangement with Section 23 of the Durham Region Purchasing By-law (Bylaw 16-2020) related to the adoption of innovative technologies and the piloting or testing of proof of concepts.
- 4.13 The partnership framework with OPUC offers the Region additional benefits with respect to transparency on actual costs for the project and operations, providing an opportunity for shared savings among both parties and a minimized total cost of ownership for DRT.
- 4.14 Based on the work completed to date in further developing DRT's requirements, through industry research and the competitive RFP procurement process with OPUC, the upset cost for the charging equipment and infrastructure at the Raleigh depot in Oshawa is estimated to be \$2.9 million, including:
- a. Charging equipment and a total of eight ceiling-mounted pantograph dispensers, at an estimated cost of \$2 million, with the pantograph approach expected to offer many benefits, including:
 - Ceiling-mounted pantograph dispensers allows for automation of charging, space savings inside of the depot and increased safety from the elimination of cables from plug-in dispensers;
 - The solution is expected to be modular and scalable, allowing for additional pantograph dispensers to be added to the existing configuration for a marginal cost (per unit) as DRT scales-up its transition to zero GHG emission buses; and
 - Based on this early trend in the industry, a standardized and interoperable solution with pantograph dispensers and bus design that can accommodate pantograph charging, offers potential joint procurement opportunities with other transit agencies in the future.
 - b. The infrastructure upgrades required at the Oshawa depot, at an estimated cost of \$900,000, which consists of a new service connection, a new transformer, new distribution equipment, facility upgrades (e.g. structural) and civil works to accommodate the enhanced load and support the charging equipment. These are foundational infrastructure upgrades that will enable future upgrades as additional battery electric buses are acquired.

- 4.15 Upon the approval of this report, DRT will enter into negotiations with OPUC and the equipment suppliers to verify cost assumptions and negotiate the commercial terms of the appropriate agreements, to the satisfaction of Legal Services and the Commissioner of Finance.
- 4.16 The parties are aware that this project is a demonstration pilot, offering opportunities to learn from actual operations and empirical data collection. Additional risks will be managed through the commercial negotiation process, a strong governance structure and an effective project team.

Maintenance Depot Charging Infrastructure and Energy Storage

- 4.17 In addition to the bus storage garage charging infrastructure, DRT requires chargers for maintenance back-up charging and redundancy purposes.
- 4.18 The supply of the charging equipment, including an integrated energy storage system, is being leveraged from eCamion through funding it has received from the Canadian Urban Transit and Research Innovation Consortium (CUTRIC).
- 4.19 eCamion's integrated bus charging solution leverages current grid infrastructure using an energy storage system. The energy storage system acts as a buffer between the grid and the electric bus and enables charging of electric buses at high power without costly grid upgrades. The technology is also intended to help transit agencies reduce peak demand electricity costs for bus charging while providing backup power at times of power outages. Piloting this solution provides an opportunity to assess its performance and ability to mitigate grid upgrade requirements as DRT scales up its fleet transition.
- 4.20 eCamion, in collaboration with DRT, has completed the following preliminary work (feasibility analysis and due diligence) to develop the charging infrastructure requirements which will provide back-up charging during bus maintenance and servicing activities. This includes:
- a. Review and assessment of multiple options to implement the charging solution with integrated energy storage as part of the eBus Pilot;
 - b. Complete a preliminary review of DRT requirements and solution design necessary to support the operational needs; and
 - c. Develop a preliminary scope, division of responsibilities and cost sharing among the project parties.

- 4.21 eCamion has consolidated the information from the preliminary work into a business case proposal, considering the following:
- eCamion will supply DRT with a universal energy hub, with technology components that include battery energy storage, power electronics, a plug-in charging system, an overhead pantograph charging system, software and control systems;
 - The division of responsibilities for the supply of equipment and capital project delivery is described in the table below:

Table 1: eCamion Solution Delivery Model

	DRT	eCamion
Design	C	R/A
Equipment Supply	C	R/A
Build	C	R/A
Capital Investment	R/A	R/A

C = Consult; RA = Responsible/Accountable

- The benefits and risks in pursuing the proposed arrangement with eCamion for the supply of the integrated charging and energy storage solution are summarized below:

Table 2: eCamion Arrangement - Benefits vs Risks Assessment

Benefits	Risks
Limited impact on existing infrastructure and facility load	Lower technology readiness level (purpose of the deployment is to move from prototype to demonstrable technology)
Low-cost installation, minimal investment for DRT	
Demand charge mitigation, operational expense reduction (to be tested through pilot)	Lack of O&M experience (could be offset through opportunities for third party contracting)

Benefits	Risks
<p>Versatile, scalable, and future integration with renewables</p> <p>Future potential revenue generation (feed energy back to grid)</p>	<p>Failure of the technology and replacement with additional infrastructure and equipment.</p>

- 4.22 Although the supply of equipment is subsidized through grant funding, there is an expected capital cost of approximately \$200,000 for the design and installation of the solution. DRT will co-invest with eCamion in this work, with a Regional net capital contribution of up to \$100,000.
- 4.23 Following the expiry of warranty on the equipment, DRT expects to enter into a service contract with an authorized representative for the operations and maintenance of the equipment.
- 4.24 The recommended arrangement is in alignment with Section 23 of the Durham Region Purchasing Bylaw (Bylaw 16-2020) related to innovative technologies and the piloting and testing of proof of concepts.
- 4.25 If DRT were not authorized to proceed with the eCamion solution, DRT will still be required to procure and install chargers at the maintenance facility for back-up charging of the electric buses and for redundancy purposes. The eCamion solution allows DRT to leverage additional charging equipment, including an integrated energy storage system that will provide additional benefits to DRT as described.

5. Relationship to Strategic Plan

- 5.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:
- a. Environmental Sustainability
- 5.2 1.1 Accelerate the adoption of green technologies and clean energy solutions through strategic partnerships and investment.
- 5.3 1.4 Demonstrate leadership in sustainability and addressing climate change.

a. Economic Prosperity

- 5.4 3.4 Capitalize on Durham's strengths in key economic sectors to attract high-quality jobs.

6. Financial Summary

- 6.1 Table 3 outlines the total estimated cost and proposed financing, conditional upon Finance and Administration Committee approval, for the Durham Region Transit eBus Pilot Vehicle Charging Infrastructure.
- 6.2 Operating and maintenance costs for the charging equipment are to be negotiated with OPUC and the equipment suppliers subject to approval of the Commissioner of Finance and Legal Services, and will be included as part of the annual Durham Region Transit Business Plans and Budget.

Table 3: Expense and Financing Summary for DRT eBus Pilot Vehicle Charging Infrastructure

	(\$, '000)
Capital Expenses	
Design, engineering and construction of infrastructure upgrades	\$900
Design, engineering, purchase and install of charging equipment	\$2,000
Design, engineering, construction and install of eCamion charging and energy storage equipment	\$100
Total	\$3,000
Capital Financing	
Federal Gas Tax Funding (Approved through 2019-COW-31)	\$900
One-time Federal Gas Tax revenues (received in 2021)	\$2,100
Total	\$3,000
Estimated Annual Operating Expenses*	
Operating and maintenance of charging equipment**	TBD

	(\$, '000)
Total	TBD

* Operating expenses to be accommodated within DRT's 2022 and subsequent business plans and budgets

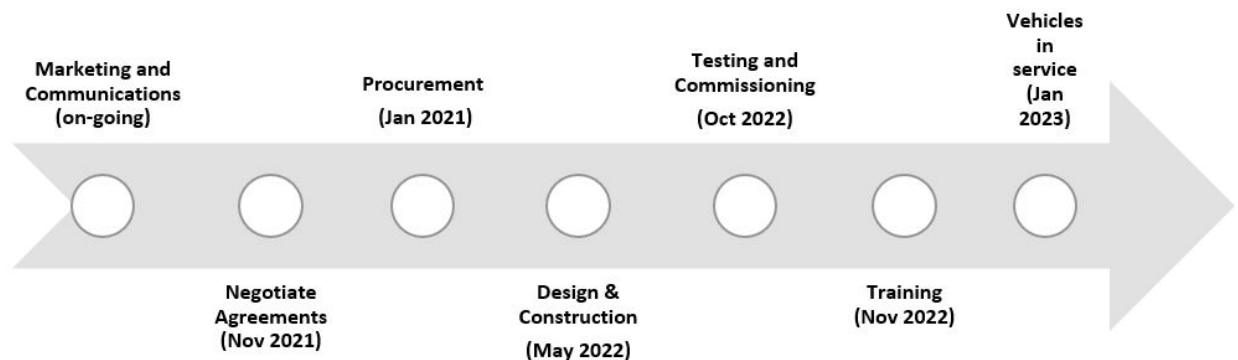
** Expenses related to operation and maintenance of charging equipment to be determined through negotiation and are dependent on the warranty provisions of the charging equipment.

- 6.3 The costs related to mid-life refurbishment of the electric buses and charging equipment (to maintain their useful life of at-least 12 years) have not been included in this report as the technology is still new, and electric buses remain under warranty among other agencies with limited information available regarding refurbishment needs in the industry.
- 6.4 Assessment of additional capital necessary to operationalize bus charging infrastructure, potentially including maintenance equipment, software, protective equipment and hand tools, is underway and any such additional costs will be included in the 2022 Durham Region Transit Business Plans and Budget.
- 6.5 Electric buses could yield up to 35 per cent in operating savings through reduced fuel and maintenance costs over diesel buses, based on an expected life cycle of 12 years. Based on an average of 73,000 km distance travelled by a 40-foot bus each year, this equates to a projected savings of approximately \$40,000 per bus per year.
- 6.6 The Commissioner of Finance and Legal Services have been consulted and concur with the recommendations of this report.
- 6.7 A similar report to seek approval of the financing will be presented to the Finance and Administration Committee on November 9, 2021 and Regional Council on November 24, 2021.

7. Next Steps

- 7.1 Upon approval of the recommendations contained in this report, DRT will proceed into the negotiation phase with OPUC and the equipment suppliers to verify costs assumptions, develop commercial terms and enter into appropriate agreements for the design, build, operations and maintenance of the charging equipment and electrical infrastructure, to the satisfaction of the Commissioner of Finance and Legal Services.

- 7.2 Negotiations will also take place with eCamion to develop commercial terms and enter into appropriate agreements for the supply, design and installation of the integrated charging and energy storage equipment at the Oshawa depot for the maintenance area, to the satisfaction of the Commissioner of Finance and Legal Services.
- 7.3 Key milestones with estimated timelines for the acquisition and roll-out of the battery electric buses and charging equipment are shown below. DRT will report back to TEC with updates as the eBus Pilot advances.



- 7.4 The Zero Emission Bus (ZEB) feasibility study - part of the E-Mission Zero program - is underway to develop a full transition plan and inform the future requirements for the transition of the DRT fleet to zero GHG emissions technology.

8. Conclusion

- 8.1 The eBus pilot is a key initiative that is part of DRT's E-Mission Zero program and will inform our planning and preparations for the transition to a zero GHG emissions fleet.
- 8.2 Approval of the report recommendations is a necessary step to advancing the electrification of the transit fleet starting in late 2022.

For additional information, contact: Jamie Austin, Deputy General Manager, Business Services, Durham Region Transit, at 905-668-7711, extension 2624.

Respectfully submitted,

Original signed by

Bill Holmes

General Manager, DRT

Recommended for Presentation to Committee

Original signed by

Elaine C. Baxter-Trahair

Chief Administrative Office