



Transit Executive Committee Agenda

Council Chambers
Regional Headquarters Building
605 Rossland Road East, Whitby

Wednesday, November 3, 2021

1:30 PM

Please note: In an effort to help mitigate the spread of COVID-19, and to generally comply with the direction from the Government of Ontario whereby all organized public events of more than five people are prohibited, 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 Executive Committee meeting –
October 6, 2021

Pages 3-7

4. Delegations

There are no delegations

5. Presentations

There are no presentations

6. Correspondence

7. Reports

A) General Manager's Report – November 3, 2021 **(2021-DRT-27)**

Pages 8-22

- B) E-Mission Zero: Durham Region Transit Battery Electric Bus and Charging Infrastructure Demonstration Pilot Update (2021-DRT-28)

Pages 23-39

8. Advisory Committee

8.1 Durham Region Transit Advisory Committee Minutes

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

Pages 40-44

9. Confidential Matters

There are no confidential matters to be considered

10. Other Business

11. Date of Next Meeting

Wednesday, December 3, 2021 at 1:30 PM

12. Adjournment

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The Regional Municipality of Durham

MINUTES

DURHAM REGION TRANSIT EXECUTIVE COMMITTEE

Wednesday, October 6, 2021

A regular meeting of the Durham Region Transit Executive Committee was held on Wednesday, October 6, 2021 in the Council Chambers, Regional Headquarters Building, 605 Rossland Road East, Whitby, Ontario at 1:30 PM. Electronic participation was permitted for this meeting.

1. Roll Call

Present: Commissioner Collier, Chair
Commissioner Barton, Vice-Chair
Commissioner Anderson
Commissioner Carter attended the meeting at 1:54 PM
Commissioner Drew
Commissioner Mulcahy
Commissioner Pickles
Commissioner Smith
Regional Chair Henry

Also
Present: Commissioner Crawford

Absent: None

Staff

Present: E. Baxter-Trahair, Chief Administrative Officer
W. Holmes, General Manager, Durham Region Transit
J. Austin, Deputy General Manager, Business Services, Durham Region Transit
L. Huinink, Director, Rapid Transportation & Transit Oriented Development, Office of the Chief Administration Officer
R. Inacio, Systems Support Specialist, Corporate Services – IT
A. McKinley, Deputy General Manager, Maintenance, Durham Region Transit
L. Kubilis, Assistant, Planning, Durham Region Transit
A. Naeem, Solicitor, Corporate Services – Legal Services
C. Norris, Deputy General Manager, Operations, Durham Region Transit
J. Phelan, Assistant, Planning, Durham Region Transit
M. Simpson, Director, Risk Management, Economic Studies and Procurement
N. Prasad, Assistant Secretary to Council, Corporate Services – Legislative Services

S. Glover, Committee Clerk, Corporate Services – Legislative Services

2. Declarations of Interest

There were no declarations of interest.

3. Adoption of Minutes

Moved by Commissioner Smith, Seconded by Commissioner Barton,
(44) That the minutes of the regular Durham Region Transit Executive
Committee meeting held on Wednesday, September 8, 2021, be adopted.
CARRIED

4. Delegations

There were no delegations to be heard.

5. Presentations

5.1 Christopher Norris, Deputy General Manager, Operations, DRT and Michael Binetti, Supervisor, Service Design, DRT re: Fall 2021 Service Update

Christopher Norris, Deputy General Manager, Operations, DRT provided a PowerPoint presentation re: Fall 2021 Service Update.

Highlights from the presentation included:

- Update on September Service Performance
- Principles – The Route Ahead
- Scheduled Service Expansion
- Ridership
 - Scheduled
 - On Demand
 - Specialized
- Scheduled and On Demand Boardings
- Scheduled Service Weekday Demand
- Activity at Terminals and Stations
- Travel Markets – September 2021
- Specialized Transit Travel Market

C. Norris responded to questions from the Committee regarding complaints received from residents with respect to Route 120 in the City of Pickering being late and subsequently dropping children off late at school and what the cause of the lateness could be; and how Durham Region Transit (DRT) Planning staff leverage the data in terms of developing the service plan for bus routes and hours of service.

In response to a question from Commissioner Pickles regarding the new Route 103 in West Pickering and how the route along Valley Farm Road and Brock Road in the City of Pickering is performing, C. Norris advised that he would email Commissioner Pickles the details of the routes and bus schedules directly.

B. Holmes responded to a question from the Committee regarding the threshold required to switch from the On Demand Service to a scheduled bus route.

6. Correspondence

There were no correspondence items to be considered.

7. Reports

A) General Manager's Report – October 6, 2021 (2021-DRT-24)

Report #2021-DRT-24 from B. Holmes, General Manager, Durham Region Transit, was received.

Moved by Regional Chair Henry, Seconded by Commissioner Pickles,
(45) That Report #2021-DRT-24 of the General Manager, Durham Region Transit, be received for information.

CARRIED

B) Demand Responsive Services (2021-DRT-25)

Report #2021-DRT-25 from B. Holmes, General Manager, Durham Region Transit, was received.

Staff responded to questions from the Committee regarding the amalgamation of Specialized Services and On Demand into a single Demand Responsive Service and whether the Specialized Service clients would receive the same level of services; and whether On Demand would remain at a location that wouldn't warrant a scheduled bus route (low ridership zones).

Moved by Commissioner Anderson, Seconded by Commissioner Smith,
(46) A) That Report #2021-DRT-25 of the General Manager, Durham Region Transit, 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.

CARRIED

C) Social Equity in Transit Planning (2021-DRT-26)

Report #2021-DRT-26 from B. Holmes, General Manager, Durham Region Transit, was received.

- Moved by Commissioner Barton, Seconded by Commissioner Carter,
(47) That Report #2021-DRT-26 of the General Manager, Durham Region Transit, be received for information.

CARRIED

8. Advisory Committee Resolutions

There were no advisory committee resolutions to be considered.

9. Confidential Matters

There were no confidential matters to be considered.

10. Other Business

10.1 Whitby Autonomous Vehicle Electric (WAVE) Shuttle Project

J. Austin provided a brief update regarding the Whitby Autonomous Vehicle Electric Shuttle Project. He advised that 2 shuttles arrived in late August 2021 and that on route testing has begun and being overseen through a committee of safety experts. He further advised that the timeframe to begin passenger service will be by the end of October 2021 and an invitation to the launch event will be forthcoming.

J. Austin advised that staff will be looking at holding a community event for residents to view the shuttle before the formal launch.

11. Date of Next Meeting

The next regularly scheduled Durham Region Transit Executive Committee meeting will be held on Wednesday, November 3, 2021 at 1:30 PM in the Council Chambers, Regional Headquarters Building, 605 Rossland Road East, Whitby.

12. Adjournment

- Moved by Commissioner Anderson, Seconded by Commissioner Mulcahy,
(48) That the meeting be adjourned.

CARRIED

The meeting adjourned at 2:03 PM

Respectfully submitted,

S. Collier, Chair

S. Glover, Committee Clerk

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>
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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

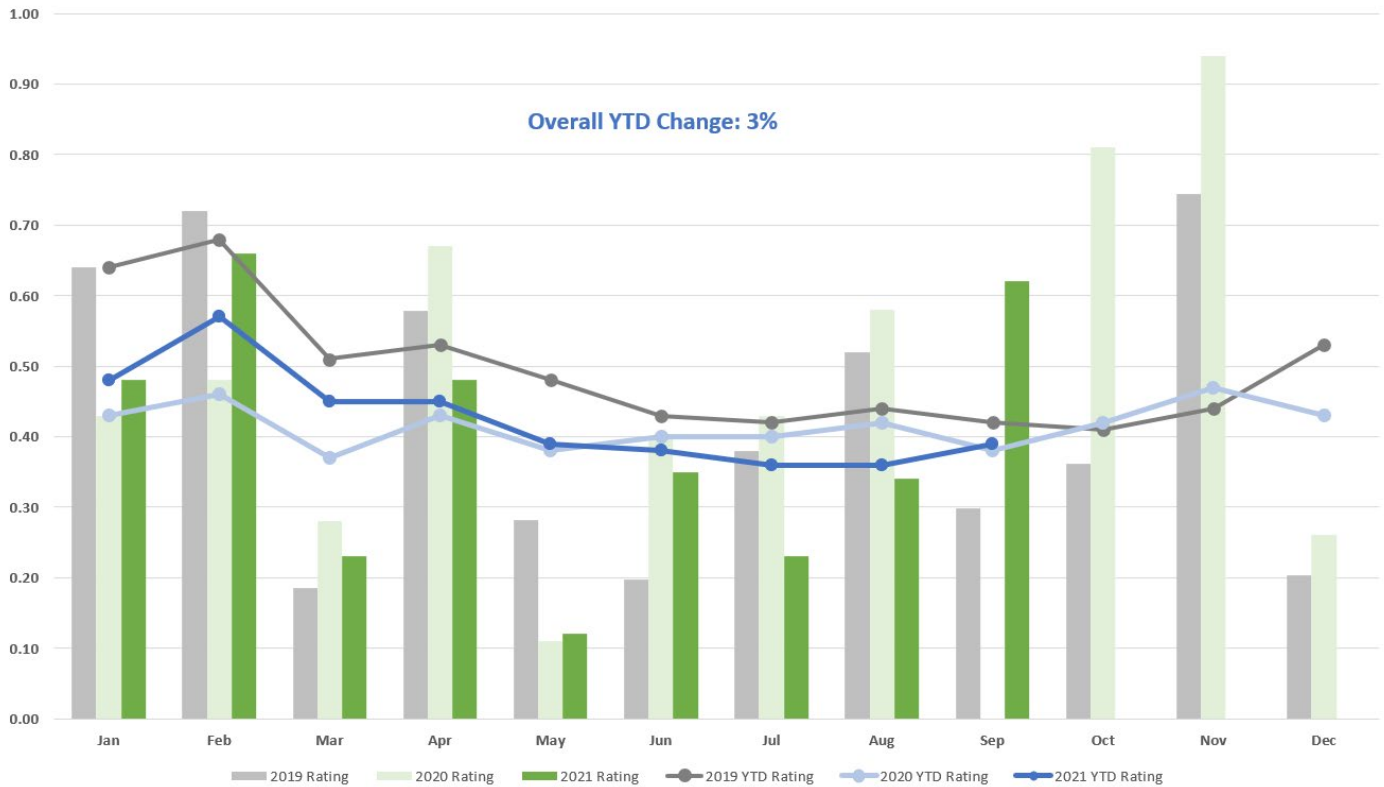
²Year to Date (YTD) compared to previous year

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

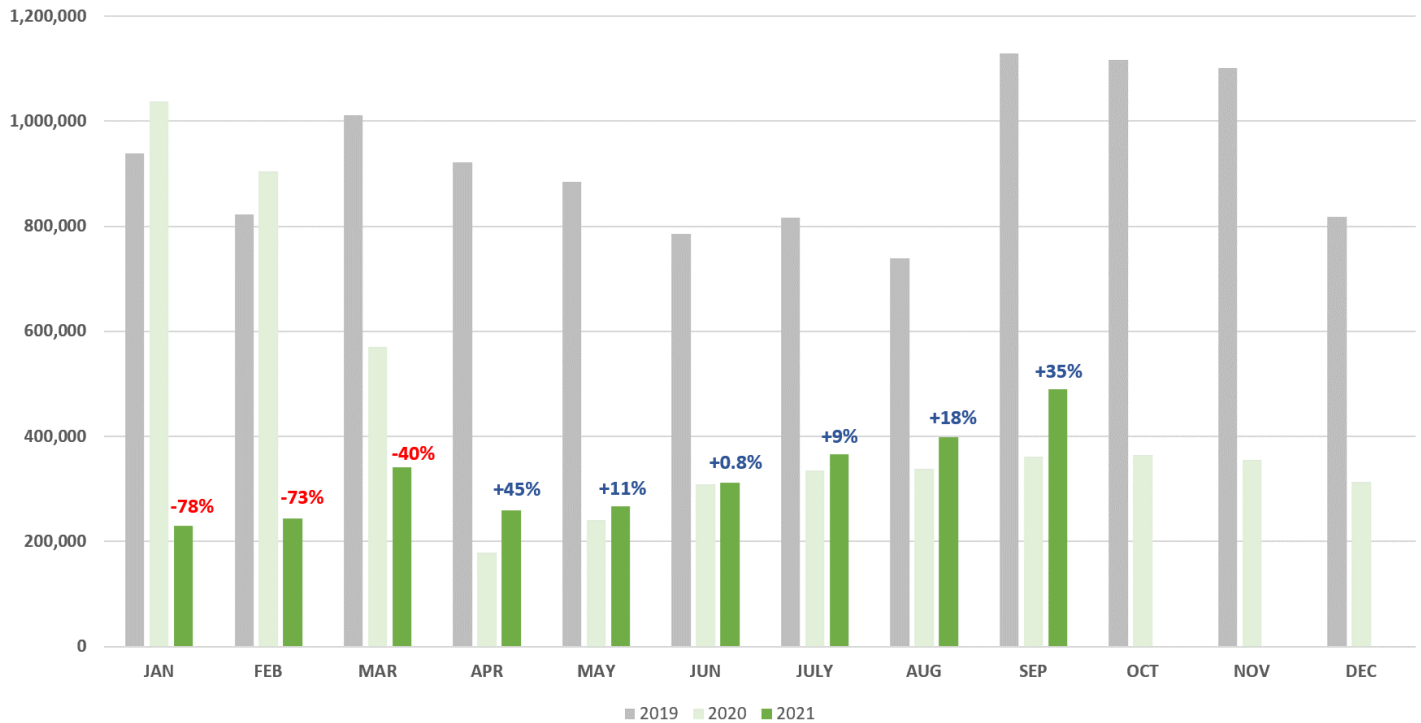
The year-to-date collision rate is 2.6 per cent lower than last year, with a monthly rate of 0.62 in September 2021.

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

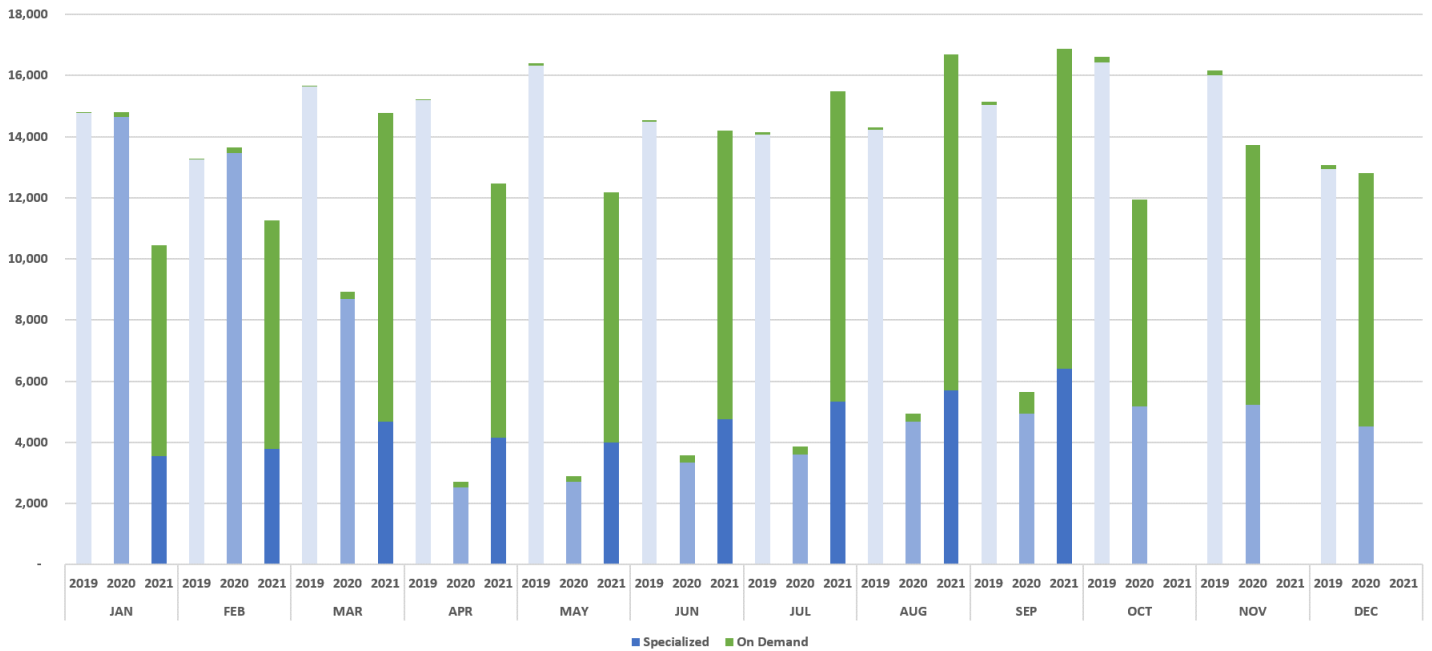
Monthly ridership improved significantly in September, 22 per cent higher in September compared with August, and approximately 35 per cent higher than 2019 ridership. Ridership remains at approximately 45-50 per cent of pre-COVID levels.

Action Plan

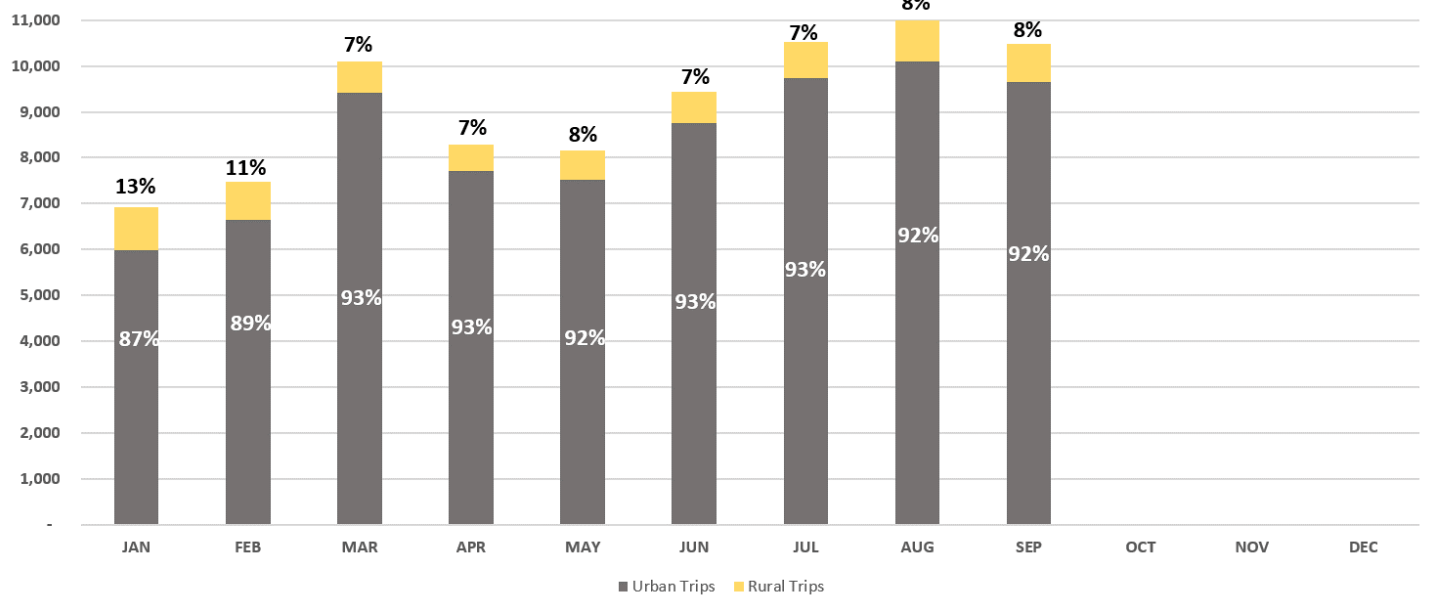
Staff continue to monitor ridership trends to plan for expanded service when appropriate.

Demand Response Transit

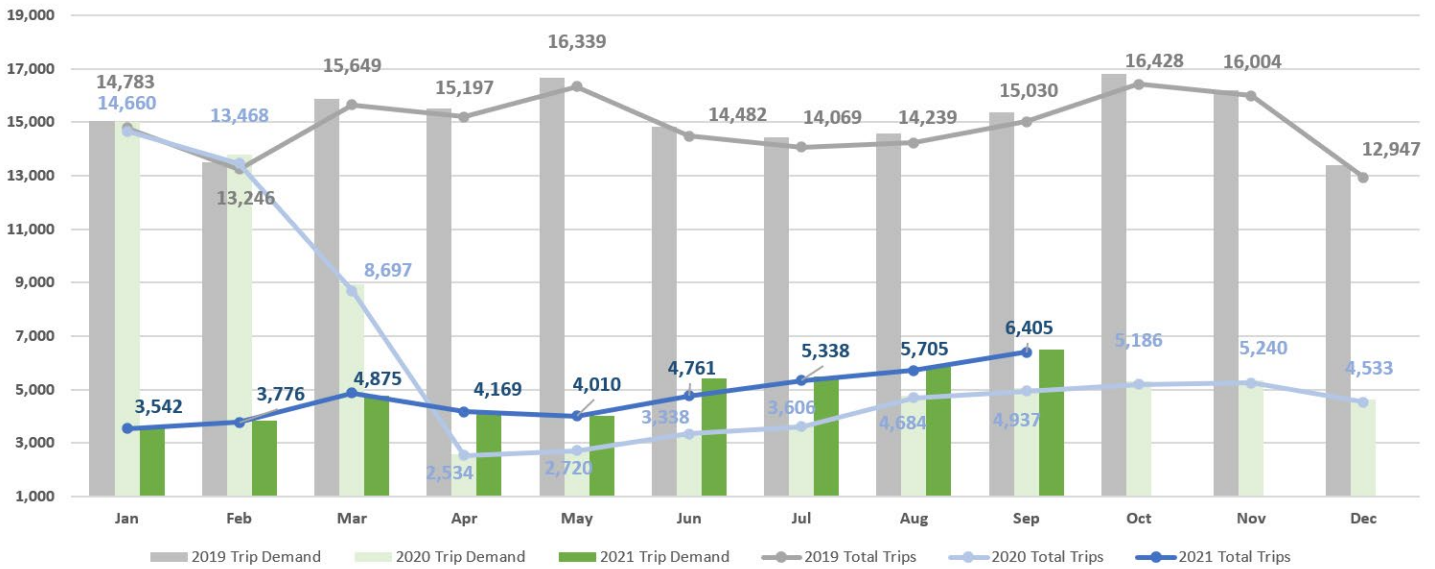
Demand Responsive Trips



On Demand Trips



Specialized Transit Trips



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.

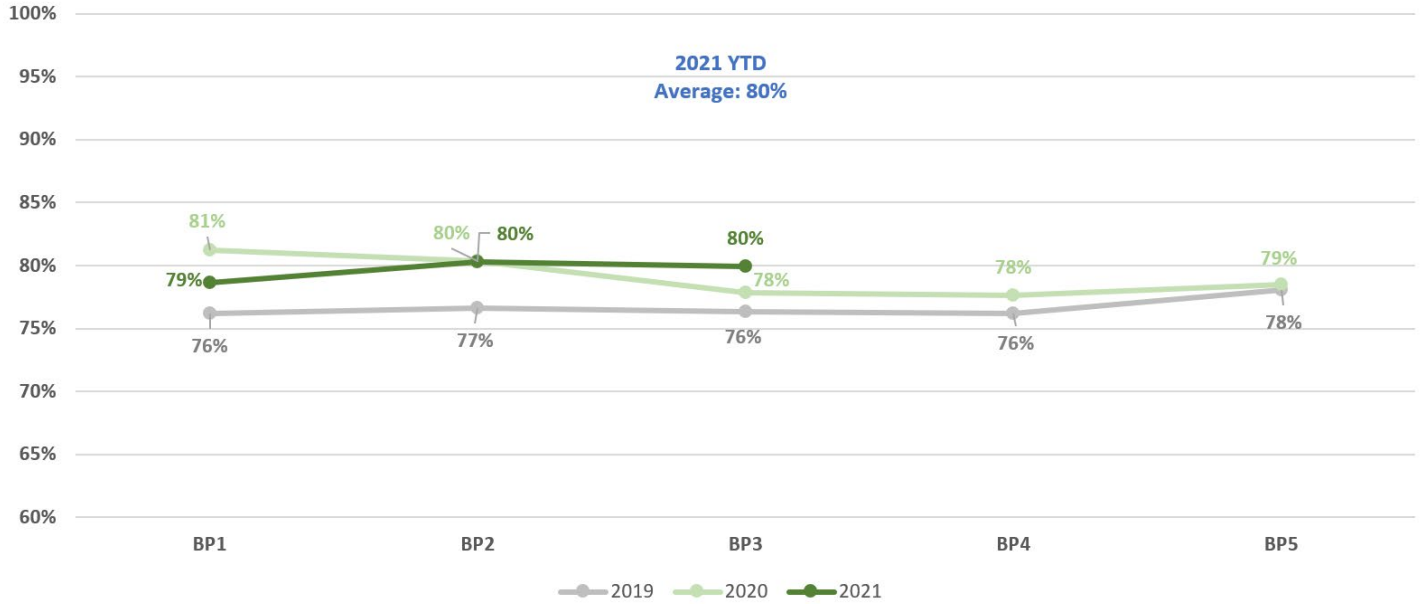
Action Plan

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.

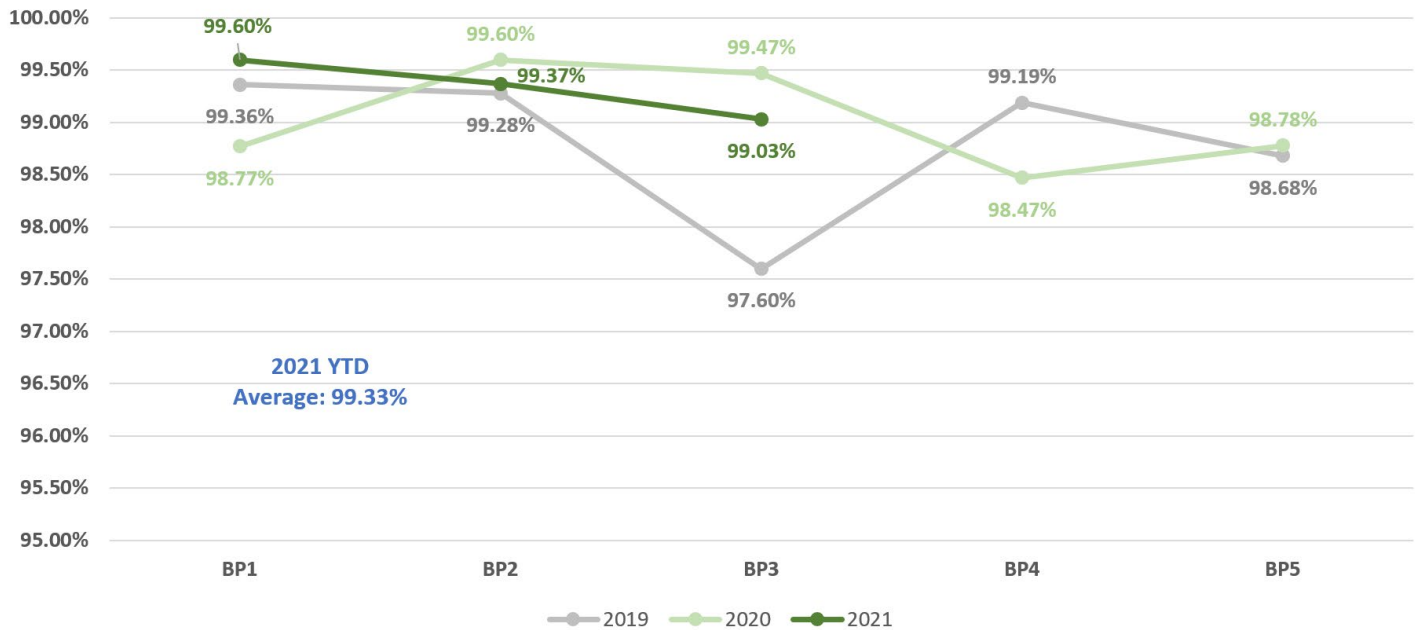
Service Delivery

On Time Performance and Availability (conventional)

2021 On-Time Performance



2021 Service Availability



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.

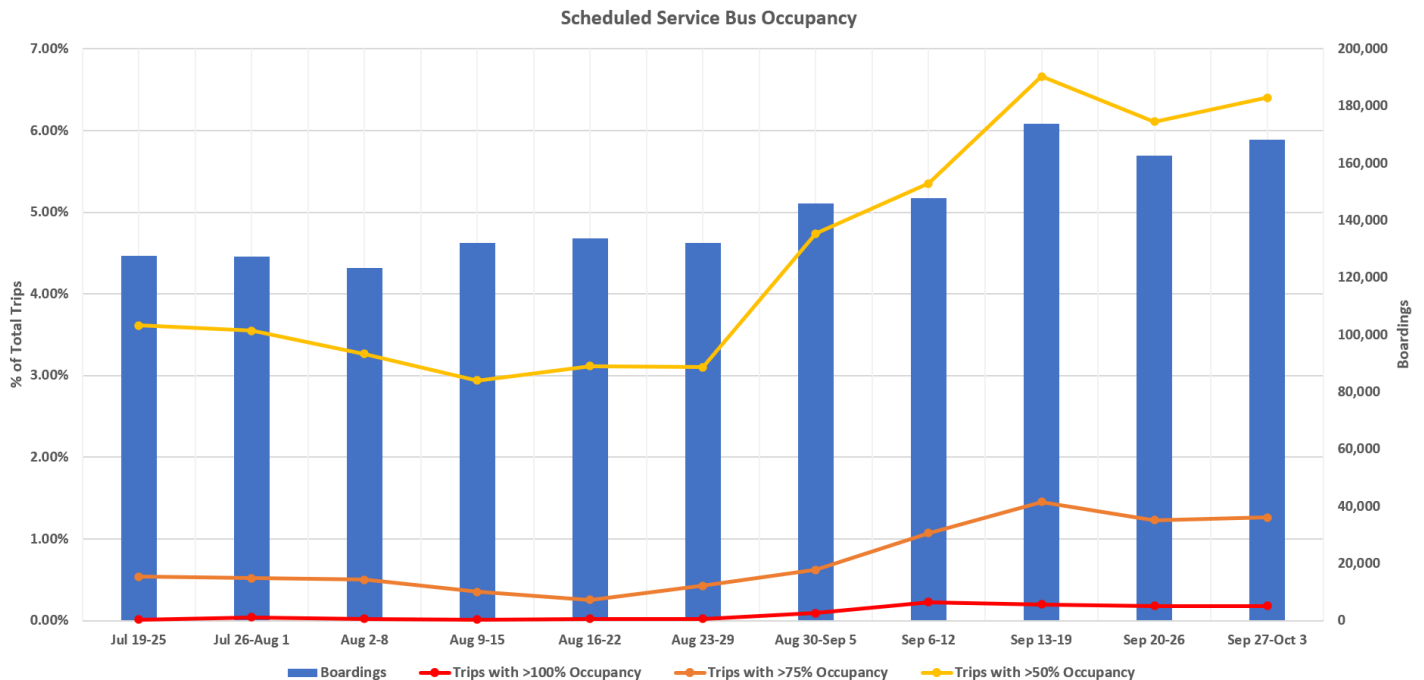
Service availability decreased marginally to 99.03 per cent, slightly below the target of 99.5 per cent.

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.

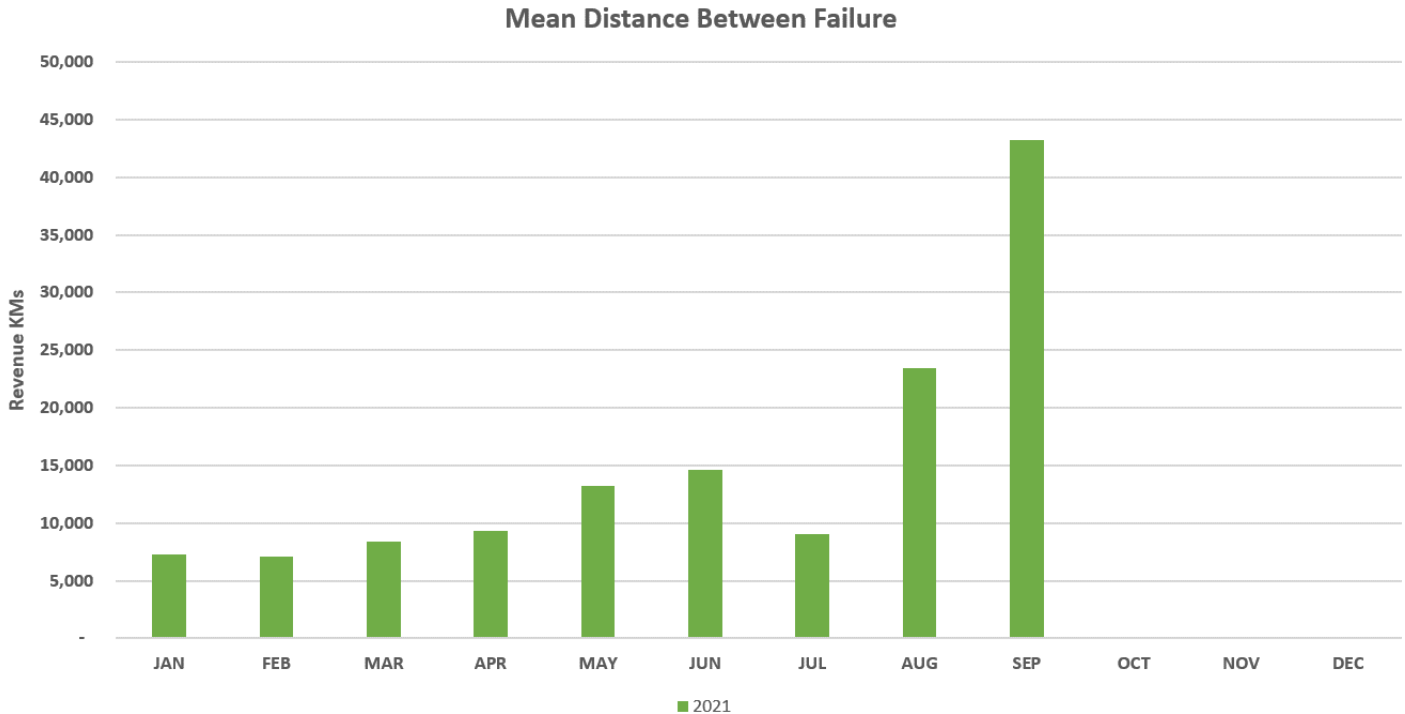
Results

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:

- a. 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;
- b. 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

- c. 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

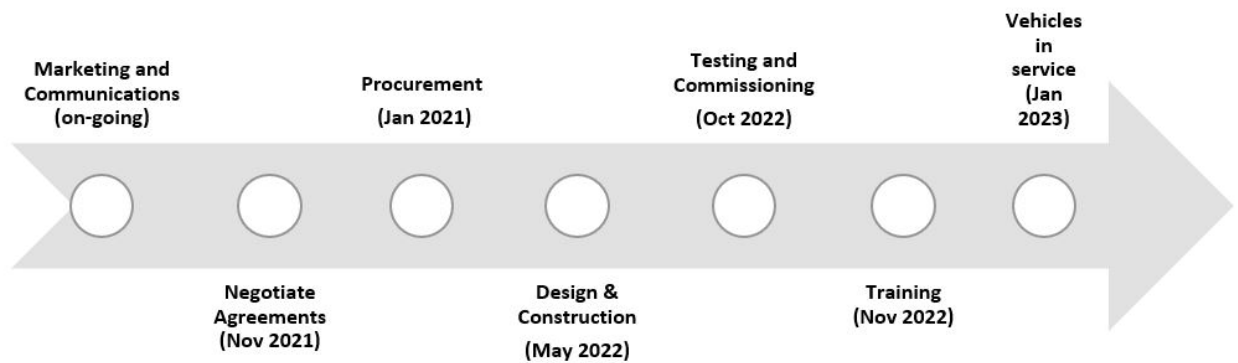
** Expenses related to operation and maintenance of charging equipment to be determined through negotiation and are dependent on the warranty provisions of the charging equipment.

- 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

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 2097.

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