

## Demand Responsive Technology Platform – 2020 COVID-19

Durham Region Transit (DRT) is looking to procure a demand responsive technology platform to deliver transit services in low-demand areas as part of its service recovery plan.

### Context

DRT has experienced significant reduction in boardings on its transit network due to the COVID-19 pandemic. In April, a 73% reduction in boardings was observed resulting in 20% of scheduled trips not reporting boardings and another 50% with five or less. As part of its post-pandemic pre-vaccine service restoration plans DRT will be leveraging demand responsive and reservation based scheduled service. To do this, a technology platform is required to manage the booking and deployment of these new service delivery models in areas of the Region where ridership demand is low.

### Timelines

- Tuesday June 16, 2020: invitation to submit a quote based on statement of work
- Tuesday June 30, 2020: 12:00 (EDT): quotes and confirmation of understanding and ability to meet statement of work, and Region's standard terms, conditions and insurance.
- Earliest estimated date of launch of demand responsive: July 27, 2020 (subject to change)
- Estimated date of launch of reservation based scheduled service: September 8, 2020
- End date of service: February 28, 2021

### Technology platform requirements

- Provides deployment of demand responsive and reservation based scheduled service.
- A customer login will be provided to register for the service, including the ability indicating accessibility requirements.
- Seamless integration with TransitApp.
- Application and desktop booking
- The operator interface must be able to operate in tandem with other applications. The minimum device requirements provided:
  - o Support Android 4.4.4 or 7.1
  - o Memory - 1 GB RAM minimum 30 MB available for APK storage
  - o Network - Device cellular or Wi-Fi enabled
  - o Screen Resolution - Minimum resolution of 1024x600 (MDPI category)
  - o USB Type - Tablet must have a Micro-USB B port
- Demand responsive:
  - o All trips booked will be accommodated within a two-hour window.
  - o Trips requiring accessible vehicles will be dispatched as required.
  - o Provides trip solutions within zones as presented in the service area characteristics.
    - Stop to stop services within the urban area
    - Curb to curb/stop/hub within the rural area
  - o Provide solutions that pool customer trips. Maximum capacity should be a variable that can be changed.
  - o The technology platform should display a drop-off time range.

- The technology platform should display a pick-up window to customers when a trip is booked. Using real-time information, the pick-up window should become more accurate the closer the driver is to the pick-up location.
- Where a trip is connecting from a scheduled service, the technology platform should be dynamic, where it flexes or readjusts trips based on the real-time arrival of the scheduled service.
- The technology platform should have the ability to allow DRT or contracted staff to book rides on behalf of customers who register for an account and do not have a smartphone.
- Reservation based scheduled service
  - Account for ambulatory and accessibility requirements for trip capacity.
  - Contactless validation of trip reservation for boarding.
  - Provides real-time arrival and departure information to customers.

### Service areas characteristics

#### Demand responsive

DRT's service recovery plan includes three phases where ridership across the system is expected to grow over time. The demand responsive service will evolve as the transit network moves from phase to phase.

Phase A will be launched first with transitions to subsequent phases B and C based on observed ridership levels. Demand estimates for the demand responsive service for each of the phases is provided in Appendix B. The demand data is presented by zone, day type and period of day. Maps of the zones for each phase are provided in Appendix C.

#### Reservation scheduled service

This new service delivery model will be deployed to meet market specific destinations where customers will match themselves to available capacity. The objective is to optimize capacity by having customers pre-select, reserve, space on the desired trips.

The reservation based scheduled service would be launched on September 8, 2020. The anticipated levels of service for each line are presented in the table below.

Route	Westbound	Eastbound
291	Monday to Friday: 0800 to 1600 every two hours Weekend: 1000 to 1600 every two hours	Monday to Friday: 0900 to 1700 every two hours Weekend: 1000 to 1600 every two hours
X-47	Monday to Friday: 0730 to 2200 every 30 minutes	Monday to Friday: 0700 to 2130 every 30 minutes
X-91	Monday to Friday: 1500 to 1900 every 30 minutes	Monday to Friday: 0700 to 1000 every 30 minutes

Maps of the routes are provided under Appendix D.