

RESOLUTION NO. \_\_\_\_\_

A RESOLUTION AUTHORIZING THE ADMINISTRATOR FOR THE DEPARTMENT OF TRANSPORTATION, ON BEHALF OF THE CHATTANOOGA AREA REGIONAL TRANSPORTATION AUTHORITY (CARTA), TO APPLY FOR A MOBILITY ON DEMAND (MOD) SANDBOX PROGRAM GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION TO IMPLEMENT A MICROTRANSIT AND MOBILE FARE PAYMENT PROJECT, WITH THE CITY'S PORTION FOR AN AMOUNT NOT TO EXCEED SEVENTY-FIVE THOUSAND DOLLARS (\$75,000.00), FOR A TOTAL AMOUNT NOT TO EXCEED SEVEN HUNDRED FIFTY THOUSAND DOLLARS (\$750,000.00).

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BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHATTANOOGA, TENNESSEE, That it is hereby authorizing the Administrator for the Department of Transportation, on behalf of the Chattanooga Area Regional Transportation Authority (CARTA), to apply for a Mobility on Demand (MOD) Sandbox Program Grant from the Federal Transit Administration to implement a Microtransit and Mobile Fare Payment Project, with the City's portion for an amount not to exceed \$75,000.00, for a total amount not to exceed \$750,000.00.

If this grant is awarded, acceptance of the grant will be dependent upon inclusion in the Capital Budget and approval by City Council.

ADOPTED: \_\_\_\_\_, 2016

/mem

# City of Chattanooga



## Resolution/Ordinance Request Form

**Date Prepared: June 08, 2016**

**Preparer: Blythe Bailey**

**Department: Transportation**

Brief Description of Purpose for Resolution/Ordinance: **Res./Ord. #** \_\_\_\_\_ **Council District #** \_\_\_\_\_

A resolution authorizing the Administrator of the Department of Transportation, on behalf of the Chattanooga Area Regional Transportation Authority (ARTA) to apply for a Mobility on Demand (MOD) Sandbox Program grant from the Federal Transit Administration to implement a Microtransit and Mobile Fare Payment project, for an amount not to exceed \$750,000.00 with the City's portion not to exceed \$75,000.00. If awarded, acceptance of the grant will be dependent upon inclusion in the Capital Budget and approval by City Council.

Name of Vendor/Contractor/Grant, etc.	<u>MOD Sandbox Program</u>	New Contract/Project? (Yes or No)	<u>Yes</u>
Total project cost	\$ <u>750,000.00</u>	Funds Budgeted? (YES or NO)	<u>No</u>
Total City of Chattanooga Portion	\$ <u>75,000.00</u>	Provide <u>Fund</u>	
City Amount Funded	\$ <u>-</u>	Provide <u>Cost Center</u>	
New City Funding Required	\$ <u>75,000.00</u>	Proposed Funding Source if not budgeted	
City's Match Percentage %	<u>10%</u>	Grant Period (if applicable)	

**List all other funding sources and amount for each contributor.**

<u>Amount(s)</u>	<u>Grantor(s)</u>
\$600,000.00	Federal Transit Administration
\$75,000.00	Tennessee Department of Transportation Multimodal Grant

**Agency Grant Number** \_\_\_\_\_

**CFDA Number if known** \_\_\_\_\_

**Other comments: (Include contingency amount, contractor, and other information useful in preparing resolution)**

Approved by: \_\_\_\_\_

Reviewed by: FINANCE OFFICE

DESIGNATED OFFICIAL/ADMINISTRATOR

Please submit completed form to @budget, City Attorney and City Finance Officer

Revised: October, 2011

CARTA believes that the best way to keep providing a cost effective, efficient and safe multimodal transit system for the citizens, visitors, and businesses of Chattanooga in the future is to evolve towards a Mobility as a Service (MaaS) model. For CARTA, MaaS would combine transportation services from public and private transportation partners through a unified gateway that creates and manages the trip, which users can pay for with a single account, offering travelers mobility solutions based on their unique travel needs.

This memorandum describes the content of a milestone project for the advancement of the MaaS initiative: A Microtransit project with the capability of mobile fare payment. See below for the content of the project and its goals.

## **Microtransit and Mobile Fare Payment**

With MaaS as a long term vision, CARTA aims to start facing the challenges by providing a range of cost efficient mobility alternatives that will:

1. Increase the mobility coverage area;
2. Offer timely and on-demand mobility services through the use of more technologically sophisticated and user-friendly options for its neighborhood connector services;
3. Diversify the range of mobility modes available to customers; and
4. Reinvigorate public transit in Chattanooga by modernizing the way we do business and fostering a connected, multimodal transportation system that will benefit the citizens of Chattanooga and the outlying areas

Without considerable financial support, it is difficult for traditional fixed-route transit to simultaneously provide both frequent service and to provide service to a large service area. CARTA already operates two routes within its current system that help supplement fixed route transit; these are CARTA's Dial-A-Ride routes. These routes operate a zone-based demand response service that connects to CARTA's fixed route service at common transfer points every 30-40 minutes. Pick-up schedule and routes are determined by the operator when they are notified of passenger pickup locations every 30-40 minutes.

The two routes (Route 5 and 6) are operated by five smaller vehicles, owned and operated by CARTA, to better negotiate through smaller neighborhoods. These two routes will be served in a first phase of Microtransit deployment and will be utilizing the current fleet serving the routes. Customers owning a smartphone will simply book their trip through the use of an app by entering their pick-up location and destination. Alerts will then be sent to customers to notify them of their pick-up time and location. The Microtransit project will use dynamic scheduling and route generating software to manage and optimize routes. The software will find the optimal routes for an operator based on the requested pick-up and drop-off locations for each time window. This process will simplify trip scheduling for both customers and CARTA employees. Customers without a smartphone will still be capable of using the Dial-A-Ride to book their trips. When using Dial-A-Ride, CARTA employees will assist customers and provide them with the pick-up time and location based on the information generated by the software. It is CARTA's intention as a part of this project to integrate with the Chattanooga Department of Transportation's Advanced Transportation Management System (ATMS) to further the goal of achieving an integrated transportation system.

The Microtransit project will require the procurement of hardware, software and communication devices to enable, operate and manage the system. The hardware, software and communication components of the system are listed below:

- Hardware:

- **Smartphones or Tablets:** will be utilized by operators to view their schedule and proposed route, notify CARTA of the customer's pick-up status and communicate with CARTA and customers.
- **Mounting Equipment:** will be used to mount the Smartphone or Tablet in the vehicle allowing the operator to view and read information hands-free.
- **Workstations:** will allow CARTA employees to perform their tasks such as using the software to schedule trips, receive Dial-A-Ride calls and communicate with operators when needed.
- Software:
  - **Operators' App:** will be used by operators to receive their schedules and routes and communicate with CARTA employees and customers
  - **Users' App:** will be used by customers to reserve a trip and receive pick-up related information
  - **Dynamic Scheduling and Route Generating Software:** will be used by CARTA employees at their workstations to schedule and generate trips in real-time based on pick-up and destination information received from customers
- Communication:
  - **WiFi and Cellular:** A communication system consisting of both of these will be required to send and receive data as well as calls between customers, operators and CARTA employees.

In the future, CARTA will look at using this technology to operate new routes in surrounding areas with no service, to operate a better paratransit service, and to generate ridership in neighborhoods that are underserved or that underutilize transit.

CARTA's long term vision for fare payment includes an integrated fare system that will allow customers to access multiple mobility services in Chattanooga (i.e. bike share, car share, and public transportation) with one single account available on a mobile app and other media (e.g. Smartcard, SmartTicket). To progress to this ultimate goal, CARTA intends to apply for a pilot mobile ticketing component to enhance its microtransit project. Being able to offer modernized scheduling and payment technologies on CARTA's current Dial-A-Ride routes will enable CARTA to test these technologies in a controlled way, evaluate how well they work, and eventually expand the deployment to create a truly integrated multimodal system.

The proposed fare system pilot project could support one or more of the following payment methods:

- Cash
- Smart Card
- SmartTicket
- Application-based fare payment including:
  - Flash passes
  - Barcode
  - Near Field Communication