

# **EXHIBIT X**

# Existing Transportation Network Companies Used as a Part of Basic Mobility: White Paper



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11/26/18

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*Disclaimer*

TTI performed this research on behalf of the Texas Department of Transportation - Public Transportation Division. The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the Texas Department of Transportation. This report does not constitute a standard, specification, or regulation.

## **Existing Transportation Network Companies Used as a Part of Basic Mobility – Executive Summary**

This paper documents examples of public transit agency partnerships with transportation network companies (TNCs) and how the emerging service model is used to support existing public transportation operations. The paper examines existing types of service models along with in depth examples of case studies within and outside the State of Texas, describing issues and opportunities, regulatory concerns, and performance and cost effectiveness measures of pilot projects. The paper discusses key aspects of the pilot projects through synthesizing online information with staff perspectives.

The purpose of the paper is to share the experiences of transit agencies in partnership with TNCs and technology companies, particularly agencies in rural or small urban settings and pilots designed to replace existing services. The paper includes the following five major sections:

*Emerging Mobility Service Models.* This section discusses several service models where partnerships with TNCs might increase transit ridership by connecting passengers to transit stations, such as creating first-and-last mile connections in areas with limited transit service/frequency and/or low-density residential neighborhoods, filling gaps in traditional transit service, flexible-route microtransit, paratransit, late night service, and data and technology integration.

*Background for Case Study Research.* This section outlines the methodology used to develop the case study protocol and select transit agencies with pilot TNC partnerships to document. Texas A&M Transportation Institute (TTI) prepared background information about transit/TNC pilot projects in North America and, with guidance from PTN, prioritized pilots that aligned closest with the research objectives. Pilots were categorized according to aspects of current status and federal funding, agency area type, service model, replacement vs. new service, agency operators and vehicles, and customer markets. Case study research prioritized agencies in rural or small urban areas, replacing existing service with shared mobility, or focusing pilots on service persons with disabilities. TTI researchers developed a discussion guide that was provided to transit agencies with a formal email invitation to participate in the case study research. TTI contacted staff members at each agency and established discussion times with the agency contacts. Researchers conducted a one-hour informal interview with each agency using the discussion guide of questions.

*Case Study Examples.* This section provides the six case studies that TTI conducted with transit agencies to describe and detail aspects of TNC partnerships including issues and opportunities for a pilot project, regulatory concerns and how they were addressed, and service issues addressed including performance and cost effectiveness, as information is available. The agencies selected for this research are:

- Austin, Texas – Capital Metropolitan Transit Authority.
- Arlington, Texas – City of Arlington.
- Denton, Texas – Denton County Transportation Authority.
- Eden Prairie, Minnesota – SouthWest Transit.

- Innisfil, Ontario – Town of Innisfil.
- Temple, Texas – City of Temple/Heart of Central Texas Independent Living Center, Inc.

The case studies selected represent a variety of transit agency sizes and location, as well as types of TNC partnerships. Key takeaways from the case studies include:

- Data sharing has the potential to challenge and limit partnerships with TNCs. Data can provide meaningful information to understand the role of TNCs and to inform decision making about transportation policy. However, due to concerns about privacy and competition, data-sharing agreements have not been common between TNCs and government agencies. It is imperative to clearly state data sharing needs/requirements in the beginning in writing and understand privacy concerns of the TNC.
- The development of a metric to measure cost that accounts for the unique service conditions appropriate for TNC-style service is important, as cost per passenger is not capable of telling the entire story.
- Outreach and training can be critical for service adoption of pilot services. Word-of-mouth is the best form of advertisement for riders to use services, but initial efforts at the beginning of the pilot to educate customers about the service are also worthwhile.
- Third party software for dispatch and routing of transit agency vehicles has the potential to be more efficient than traditional demand-response dispatching models while avoiding the need for extended reservation lead times by providing on-demand service.
- Transit agencies must ensure that enough TNC drivers are available to meet demand for requested trips.
- The exploration of additional funding opportunities is critical in order to continue, improve, and expand the service/partnership in the future.
- Transit agencies must understand the capabilities of rapidly evolving TNCs and adjust to working with companies that have a very rapid pace of innovation that does not always coincide with traditional procurement and contracting processes.
- Partnerships with TNCs have been a mechanism for the transit agency to provide a diverse set of options and innovations to best serve customers, for example transit dependent riders in low-density environments, workers who need first and last mile connections, and student populations.

*Policies and Regulations.* This section discusses policies and regulations that govern TNCs at the federal and state levels, as well as regulations in Texas. There are still not clear rules from the Federal Transit Administration regarding working with TNCs, particularly on how regulatory and funding obligations of transit agencies extend to TNC partners. As of June 2018, 48 states and Washington, D.C., have passed at least one piece of legislation regulating some aspect of TNCs. Legislation and policy introduced across states varies, there are some common trends. The policies most frequently introduced at the state-level are meeting insurance requirements, conducting background check requirement for drivers, disclosure of rates to passengers, and preempting local authority to regulate TNCs.

*Appendices.* This section includes additional reports and resources from transit agency case studies. Examples of information in the appendices include background reports, agreement scope of services, local by-laws, and software specifications.

## **Existing Transportation Network Companies Used as a Part of Basic Mobility**

This paper documents examples of public transit agency partnerships with transportation network companies (TNCs) and how the emerging service model is used to support existing public transportation operations. The paper examines existing types of service models along with case studies providing partnership examples within and outside the State of Texas. The paper describes issues and opportunities, regulatory concerns, and performance and cost effectiveness measures of pilot projects.

The purpose of the paper is to share the experiences of transit agencies in partnership with TNCs and technology companies, particularly agencies in rural or small urban settings and pilots designed to replace existing services. The paper discusses key aspects of the pilot projects by synthesizing online information with staff perspectives. The information in this paper will assist Texas Department of Transportation (TxDOT) Public Transportation Division (PTN) in drafting a call for proposals to develop pilot projects to demonstrate and evaluate how TNCs might be used in support of existing public transportation operations.

The content of this paper includes the following:

- Emerging Mobility Service Models.
- Background for Case Study Research.
- Case Study Examples.
  - Austin, Texas – Capital Metropolitan Transit Authority.
  - Arlington, Texas – City of Arlington.
  - Denton, Texas – Denton County Transportation Authority.
  - Eden Prairie, Minnesota – SouthWest Transit.
  - Innisfil, Ontario – Town of Innisfil.
  - Temple, Texas – City of Temple/Heart of Central Texas Independent Living Center, Inc.
- Policies and Regulations.
- Appendices.

## *White Paper on TNCs and Transit Mobility*

### **Emerging Mobility Service Models**

Conceptually, coordination agreements and partnerships with TNCs can benefit transit agencies by helping increase service efficiency and reduce operational costs. Partnerships between transit agencies and TNCs might increase transit ridership by connecting passengers to transit stations and creating first-and-last mile connections in areas with limited transit service/frequency and/or low-density residential neighborhoods.

An American Public Transportation Association (APTA) study found TNC users to be more likely to use public transportation than people that do not use TNCs<sup>1</sup>. TNC users can request TNC trips to drop them off near a transit stop or station to connect with transit service, lowering overall trip costs using both services rather than a TNC ride for the entire trip. TNCs also have greater operational flexibility than traditional transit by providing gap service during late hours when public transit services are less frequent or closed.

Transit Cooperative Research Program (TCRP) Research Report 195 researched how TNCs are affecting the use of public transit and personal automobiles across several regions<sup>2</sup>. The report found that TNC use did not impact transit ridership use in the peak-hour commute times and that TNCs were used most heavily for short distances during off peak-hours in concentrated downtown neighborhoods, especially on weekend nights. Recommendations from the research include integrating TNCs into transit programs such as “guaranteed ride home”, paratransit, and demand-responsive transit services.

### **First-Last Mile Connections**

First-last mile connections are one of the primary possible benefits for transit agencies to partner with TNCs, helping agencies connect customers who live beyond a comfortable walking distance to a bus stop to access transit. Service programs can be set up to define eligible trips by a geofence, a specific geographic area coded into the technology platform.

### **Gap Service**

Gap service partnerships address the challenges of providing adequate and cost-effective transit in areas that are difficult to serve or with low population densities. Transit agencies sometimes reduce service frequency outside of central business districts and on nights and weekends. In gap service partnerships, TNCs provide service for customers in a designated zone. The transit agency subsidizes the trip fare to save on operating expenses by using TNC vehicles and drivers rather than a transit vehicle.

### **Microtransit**

Microtransit is an emerging service model providing demand responsive or flexible-route trips in a defined service zone by matching customers to vehicles through real-time trip requests. Microtransit is intended to serve areas that are typically difficult for fixed-route transit to serve, such as low-density suburban development, and provide improved quality of service for riders.

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<sup>1</sup> <http://newsmanager.commpartners.com/aptapt/issues/2016-03-18/index.html>

<sup>2</sup> <http://www.trb.org/Main/Blurbs/177112.aspx>



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### **Americans with Disabilities Act (ADA) Paratransit**

On-demand paratransit service is ADA demand response paratransit for customers with disabilities but available for trip reservations in real-time through trip requests rather than calling in trip reservation in advance. Real-time requests are made either through a mobile app or through a representative using an online platform. Available vehicles are immediately matched to the trip and dispatched to pick up the customer.

### **Late-Night Service**

Partnering with a TNC for late night service can help transit agencies provide a service option for customers outside of the agency's standard operating hours. Late night service is particularly useful for customers trying to reach late night destinations or work shifts outside of normal hours.

### **Data and Technology Integration**

Improved technology along with connections between mobile apps and data feeds have become an important component of the shared mobility conversation. Public and private providers working together on technology platforms is a key component of the movement toward a mobility as a service (MaaS) model. MaaS will create seamless multimodal trips for customers and optimize payment integration systems between providers for the same trip.

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### **Background for Case Study Research**

Texas A&M Transportation Institute (TTI) conducted six case studies of transit providers working with TNCs to provide services in Texas or the U.S., with a priority on rural and small urbanized. The case studies describe and detail aspects of the partnerships including issues and opportunities for a pilot project, regulatory concerns and how they were addressed, and service issues addressed including performance and cost effectiveness, as information is available.

TTI drafted a list of questions to guide conversations with staff at case study agencies about the agency's experiences with TNC partnerships/pilots. The questions focused on aspects of the project's history/initiation, regulatory concerns, and performance measurement. Appendix A includes the full list of questions used by TTI researchers for guidance in case study research.

TTI has prepared background information about transit/TNC pilot projects in North America and worked with PTN to prioritize the pilots that aligned closest with the research objectives. Pilots were categorized according to aspects of current status and federal funding, agency area type, service model, replacement vs. new service, agency operators and vehicles, and customer markets. Case study research prioritized agencies in rural or small urban areas, replacing existing service with shared mobility, or focusing pilots on service persons with disabilities.

TTI researchers sent the list of questions as a discussion guide to agencies along with a formal email invitation for transit agencies and cities to participate in the case study research. TTI contacted staff members at the agencies determined to be associated with the TNC project through relevant media coverage. Appendix B includes the email invitation to participate in the research.

TTI established discussion times with the agency contacts as convenient and conducted an approximately one-hour informal interview with each using the discussion guide of questions. The discussions allowed TTI to discover or clarify information from available online materials about the pilots for the research objectives of the white paper. The following sections include the case study summaries for each of the participating agencies.

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### City of Arlington, Texas

Pilot Start: Arlington On-Demand service started in December 2017 and will run through December 2018.

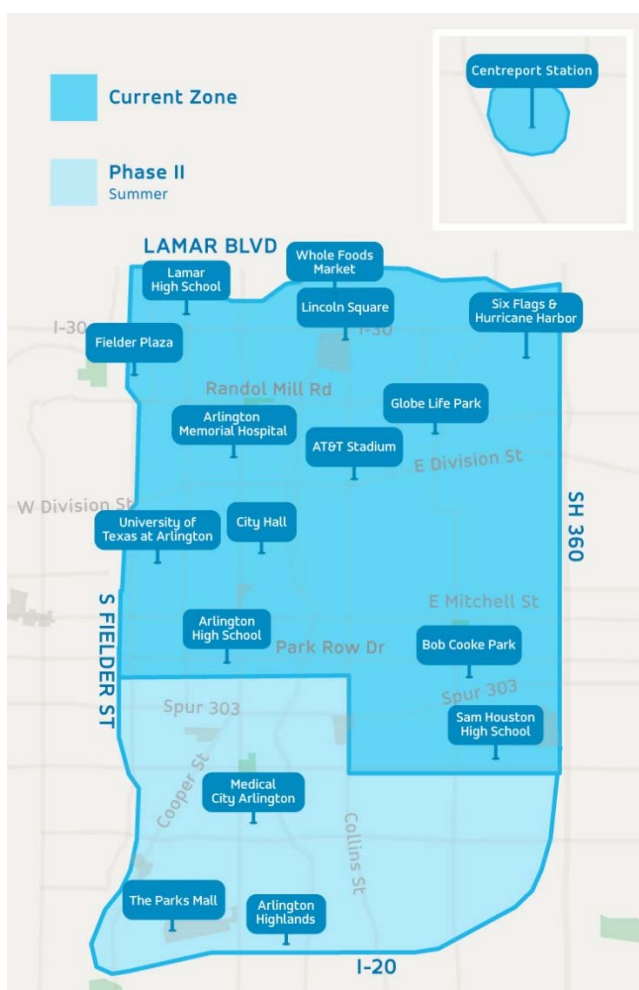
Status: Ongoing – Up for renewal in December 2018.

Partner: Via.

### Project Information and Services

The Arlington On-Demand pilot agreement with Via uses ride-matching service to create flexible fixed-routes and pickup points in real-time using Via’s software. Via operates the service with contracted drivers and 10 vans each seating up to six passengers. Arlington On-Demand has service hours from 7am to 9pm Monday through Friday and 9am to 9pm on Saturdays. Users log into the Via mobile app to request trips, or they can use a call-in center phone number to speak to Via representative for assistance with booking trips. Figure 1 shows the pilot area in Arlington.

Figure 1. Arlington On-Demand Service Area.



Source: City of Arlington

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All standard trips are a \$3 flat fare for customers. Customers can also purchase a ViaPass option, a weekly pass for \$10 in which riders can take up to four trips per day. The Phase 1 zone of the pilot launched in December 2017 includes areas of the Arlington Entertainment District, Downtown Arlington, the University of Texas at Arlington (UTA) campus, and the East Arlington neighborhood. The total cost for the first year of the pilot is \$922,500, supported by the Federal Transit Administration (FTA) grant revenues (two thirds) and local city funding (one third).

### **Project Goals**

In 2016, under the direction of the City Council, Arlington staff assembled a Transportation Advisory Committee with 31 citizens from different areas of the city. The committee was tasked to focus on the vision of what transportation should be in Arlington, exposing them to different transportation service models and technologies. The committee underwent a year-long process to look at information about transportation options available and consider the solutions that would provide the best fit for the city. Aside from paratransit service and a previous commuter bus route, Arlington has not been a part of conventional fixed-route transit systems, and has historically not had interest in becoming a member city of a metropolitan transit authority. Arlington has also resisted making major investments in capital infrastructure such as local rail systems or bus fleets.

At the end of the year-long process, the committee produced a visioning report in September 2017 entitled *Connect Arlington: A Transportation Vision Connecting People and Place*. Guiding principles of the report included a transportation system that offers flexible/adaptable solutions, attracts emerging technologies, is cost-effective, and encourages partnerships. The committee recommended modes for the city transportation system of Demand-Response Rideshare, Bus Rapid Transit/High Intensity Bus, Rubber-Tired Shuttle, and Personal Rapid Transit. The report describes rideshare as having the ability to address mobility needs through a dynamic micro-transportation system with an infinite number of on-demand stops. The report also identified major transportation corridors and hubs in the city. Appendix C includes the final report.

### **Procurement, Planning, and Development**

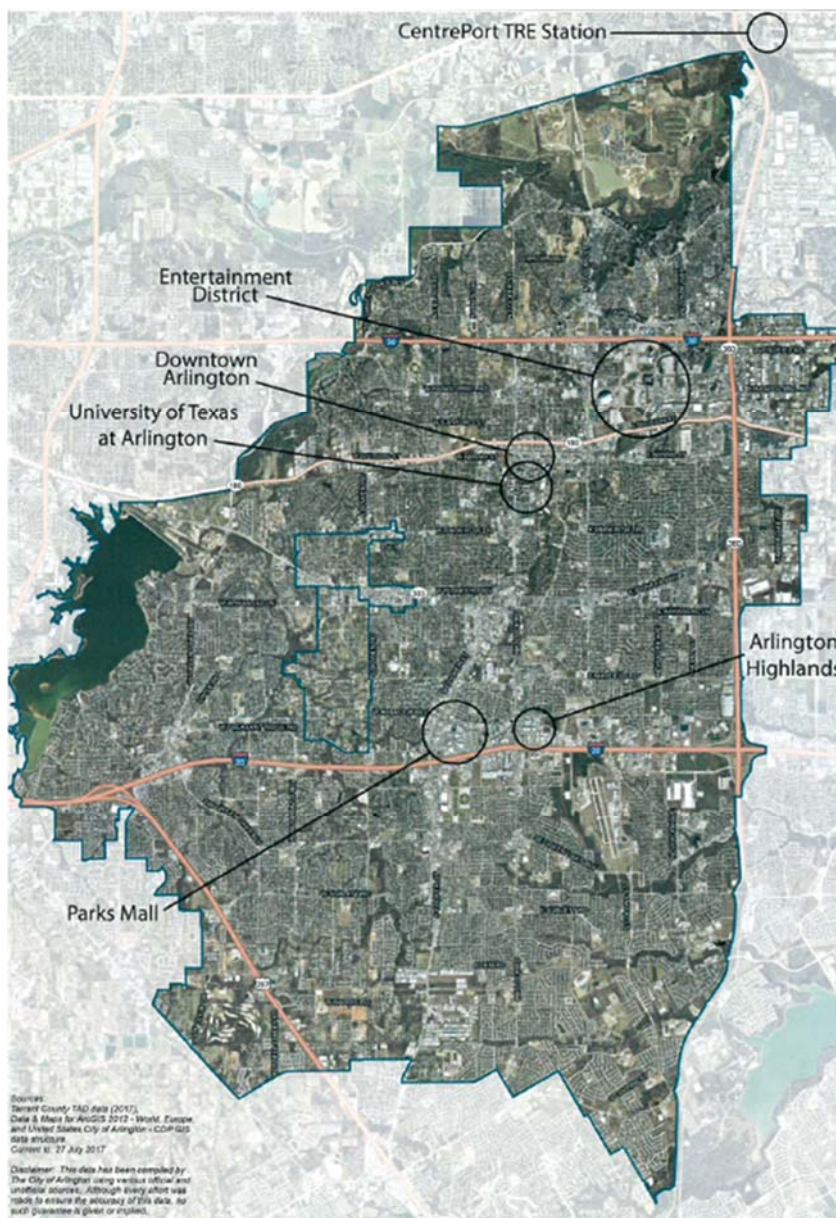
The committee took a particular interest in new models of shared mobility from TNCs as well as autonomous vehicle technologies that would provide improvements in service without large capital investment. City staff reached out to experts from different companies to speak to the committee and received presentations from TNCs such as Via, Lyft, and Uber about their service models and technologies. The committee began to view the rideshare model as a solution for Arlington due to the efficiency of the rideshare model and operating software. City Council directed the Arlington staff to issue a request for proposals (RFP) for rideshare services, which allowed companies to suggest services that would be best in response to the service needs of the city.

The City of Arlington received multiple proposals in response and found Via to have the most qualified, best overall proposal. Via's software is built specifically to address ridesharing and

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optimize routes, and Via’s approach to shared mobility focuses on shared rides with multiple passengers per vehicle. The city did not experience any significant issues in starting up the service after acceptance of the proposal. Since Via had experience providing rideshare service in other cities, Via suggested how many vehicles would be needed to cover service in the Phase 1 area. Normally Arlington On-Demand uses 10 vans for operations, but in times of intense demand, Via will add additional contracted drivers (typically 2 or 3) to the fleet who use their own vehicle along with a “Via” magnet placed on the outside. There was not a need to add any vehicles during the first several months. In Phase 2, Via will add three additional permanent vans to the fleet. Figure 2 shows the map of target destinations for pilot service in the RFP.

Figure 2. Arlington RFP Target Destinations for Pilot.



Source: City of Arlington

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The service area chosen for Phase 1 of the pilot was designed to provide service to areas in Arlington previously covered by The Max commuter bus service. The Max service operated for four years, connecting the Trinity Railway Express Centreport Station to UTA, downtown, and the entertainment district, with potential ridership eventually tapping out. The city wanted a service that would go to downtown as well as employers in the entertainment district, while also providing coverage in East Arlington (a traditionally underserved area). The Phase 2 expansion area to south Arlington will further connect riders to the Parks Mall, Arlington Highlands area, and other destinations along Interstate 20. The entire pilot area provides coverage for service connections to the transportation hub at Centreport Station as well as increasing mobility options to area employers, campuses, and local businesses.

The contract with Via is set up to initially run for one year, with four potential one-year renewals to follow. The terms of the contract such as service area, fleet, and cost can be adjusted in each renewal of the contract. The first year of the contract will end on December 11, 2018, and Arlington expects they will renew the contract for another year.

### **Customer Information and Marketing**

The Arlington On-Demand project has been one of the best received of any transportation projects Arlington has had. Traditionally citizens in the city are very vocal on privatized solutions to issues. Feedback the city has received about Arlington On-Demand has been positive given that the service is a privatized solution with flexibility.

In the first three months of the service, Via and city staff did specific activities and outreach to help customers be aware of the system, including on the ground marketing at activity areas such as Walmart and UTA. Staff would walk around and talk to people about Arlington On-Demand and hand out promotion cards for initial free rides. Arlington did not do any media buys to promote the service, instead pushing out messaging on some social media and emails. Via worked directly with city staff in the Planning Department and Office of Communications to put information about Arlington On-Demand on the City of Arlington website, MyArlingtonTX and social media, public service announcements, and collaboration with key city stakeholders.

One concern of the city is that any huge increase in demand for the pilot service can outstrip the supply. After the first three months, Via found they did not need to do additional marketing. The city has seen increases to new user account sign ups and ridership every week of the pilot. The city is cautiously watching the new service expansion to make sure there is not too much demand for the limited number of vehicles available. Phase 2 of the pilot will launch in September 2018, extending the Arlington On-Demand zone further southward to Interstate 20 to cover destinations such as the Parks Mall and Highlands Village area. Figure 3 depicts the passenger vans used in the pilot.

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Figure 3. Arlington On-Demand Passenger Vans.



Source: Via

### Lessons Learned

The City of Arlington found the planning and procurement of the Arlington On-Demand service to be hassle free and has enjoyed working with Via as a partner to plan and implement the service. Customer marketing has not been an issue, as demand for the service has spread well through word of mouth after initial outreach efforts and online media campaigns. One lesson would be to have contingency plans to scale up vehicle fleet supply in the case of greater than anticipated demand.

### Regulatory and Policy Concerns

Because the pilot uses FTA funding, there are quarterly reporting requirements the city must fulfill, including inspection, maintenance, and ridership reports. The FTA funding supporting the pilot is continuous, meaning it will be available for each possible contract renewal. The funding source Arlington is using for the pilot is revenues to Arlington as a direct recipient from what was previously Job Access and Reverse Commute program funding. The level of FTA funding will be consistent from year to year, and the city may have access to some additional FTA funds in the next year.

In accordance with the terms of the contract, Via makes vehicle inspection reports and proof of insurance requirements available to the city on a regular basis and makes efforts to make independent contractor driver partners make their vehicle maintenance records available. The city can also request other information from Via as needed as has not found any issues in responsiveness or level of information provided.

### State and Local Regulations

The city did not see any regulations at the state level, such as the new house bills governing TNCs, that were of concern regarding potential impacts to Arlington On-Demand. There were some concerns on whether the city's own taxi ordinance would involve the pilot, but the city's attorney determined that the taxi ordinance was not applicable to ridesharing.

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### **Internal Policies**

The city is working on incorporating paratransit service further into the on-demand service model. Arlington Handitran service operates wheelchair accessible vehicles (WAVs) is available to persons in the general public who have disabilities or the elderly. Currently Arlington On-Demand provides WAVs through two Handitran vehicles set aside from regular daily paratransit service. The vehicles can be booked either through the Via app or by calling the regular Handitran dispatch number. When a Handitran vehicle is dispatched from an Arlington On-Demand trip, Handitran drivers operate the vehicle rather than Via-contracted drivers who operate the other vans used in the pilot. Arlington may consider a rideshare pilot to operate all Handitran service trip requests in real-time using rideshare software.

The city also has designed provisions in the Arlington On-Demand program for persons without smartphones and the unbanked. Via has a customer service line with a representative to help callers book trips, taking their information and then booking it on the platform themselves. Unbanked persons can purchase a prepaid credit card from local convenient stores and use it for fare payment either in the smartphone app or by calling in to the customer service line.

### **Challenges**

On the day-to-day public transportation component, Arlington has found funding availability to be a challenge to provide service. The city wants to make sure they have a sustainable transportation system, with the ability to expand the available service area. The city has the vision of Arlington On-Demand eventually going citywide.

The city has found that requirements from the FTA to get funding can be intensive, but the Regional FTA representatives have been very helpful in providing guidance. The requirements are difficult because they are set up for traditional transit services as opposed to rideshare services, particularly when it comes to vehicle types and some of the hiring and personnel practices. The City of Arlington is responsible for basic reporting and retention requirements to FTA and the National Transit Database (NTD). Handitran staff handles the NTD reporting for the city for the entire Arlington On-Demand program. NTD has Arlington breakout information specific to the Handitran program as they have in previous years.

### ***Performance and Cost Effectiveness***

The agreement with Via is set up as a turnkey contract with a flat rate for the year. Via sends the city a bill each month with a portion of the cost for the year based on ridership levels occurring. The total cost of the twelve monthly bills will not exceed the amount of the total agreement cost for the first year. Via does the fare collection and keeps the revenues from fares, which are reinvested into the program. Via provided the city with an increased cost estimate for the program next year if the contract is renewed, based on the full service area with Phases 1 and 2 and observed trends in demand. The city initially tried to negotiate the number with Via, but the city will stick with Via's cost estimate for the contract renewal for year two of the service.



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### **Pilot Indicators**

The city prepares monthly performance standards reports for the city with daily and weekly ridership information. The city mainly focuses on pilot indicators of ridership, new accounts signups, and rider wait times in order to monitor performance. The basic daily ridership goal is between 250 and 500 rides per day. This goal was set based on the service that The Max was performing previously. Arlington On-Demand hit 250 daily rides near the beginning of the program and is now up to 400 daily.

The goal for median time of arrival of vehicles after the requested trip is confirmed by Via is no more than 12 minutes. Via and the city worked together to determine the 12-minute wait time goal based on both customer service quality and reasonable expectations for vehicle availability. The average wait time for the service is under the 12-minute goal, though sometimes wait times during the morning or evening rush hour can be longer. The city will sometimes look at a traditional farebox recovery ratio as well in order to approach performance of the pilot as a standard transit service.

### **Data Availability**

According to the contract terms, the City of Arlington and Via co-own all customer data input by end users. Via owns all de-identified anonymized and/or aggregated data. Data categories include the following:

#### *Individual ride data.*

- Requested origin.
- Requested destination.
- Number of passengers.
- Time and length of ride.

#### *Aggregated service data.*

- Completed rides.
- Active drivers.
- Drivers' hours.
- Utilization (rides per vehicle per hour).
- Average trip duration (minutes).

#### *Performance standards.*

- Average estimated time of arrival (ETA) to pick-up.
- Percentage of on-time rides.
- Percentage completed rides.
- Rider satisfaction metrics.

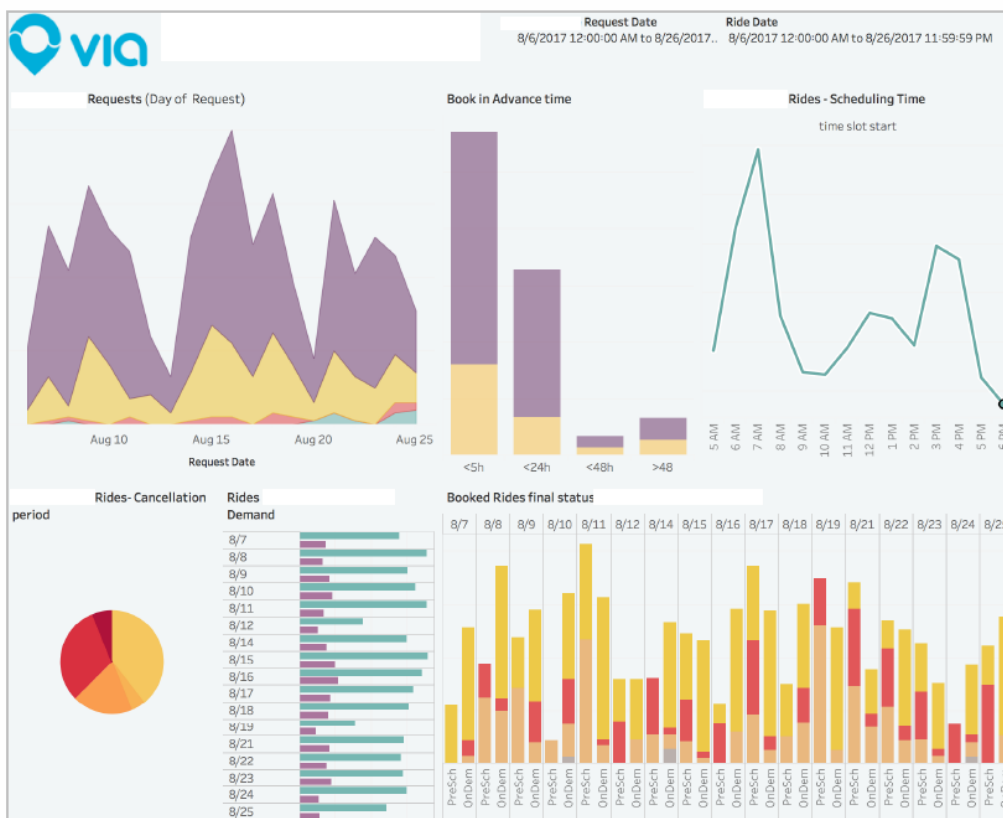
#### *Historical trends.*

- Overall ride volume/growth.
- Top requested origins and destinations.
- Demand heat maps.

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The city has found Via to be very responsive to data requests. City staff have access to a wide variety of data, as Via has an online data portal with customized views bookmarked to query certain types of data (Figure 4). Typically the city can access and run reports on the data themselves without having to make the request to Via. The city uses the online data portal to create reports to present to the council.

*Figure 4. Example of Via Data Platform.*



*Source. Via*

### Service Performance

Arlington staff are pleased with the service performance of the Arlington On-Demand pilot in all aspects of the main key indicators. Daily ridership within the goal ridership range, and average wait time is lower than the goal of 12 minutes. Figure 5 shows pilot indicator statistics reported to the City Council in an August 2018 report.

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*Figure 5. Pilot Indicator Statistics, August 2018 Report.*

Since Service Launch:

- 41,389 rides
- 5,775 Via accounts set up
- 18,509 ViaPass rides
- Average wait time of 10.18 minutes after booking a ride
- Average driver rating of 97%

For the month of April (prior to UTA summer break):

- 321 rides per day, on average, Monday through Friday
- 171 rides per day, on average, on Saturdays
- 59% of rides were being shared by the end of April

For the month of July (UTA out for summer break):

- 280 rides per day, on average, Monday through Friday
- 170 rides per day, on average, on Saturdays
- 61% of rides were being shared by the end of July

*Source: City of Arlington*

### ***Key Takeaways***

The following list outlines key takeaways from Arlington's experience with the Arlington On-Demand service operated by Via.

- Arlington developed the pilot by gathering information and hearing presentations on available transportation options available, then designing the RFP based on desired goals for service.
- Data availability with their partner allowed city staff to have ready access to service data on aggregate as well as the trip level and to submit requests for additional data queries as well.
- Indicators of ridership, new user accounts, and average wait times measure the success of the pilot. Overall cost for the service is determined through projections of demand and expenses calculated from the partner.

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### **City of Austin – Capital Metropolitan Transit Authority**

Pilot Start: Pickup started in June 2017 and ended in June 2018; Ride|Austin started service in June 2018 and runs through December 2018.

Status: Ongoing (Ride|Austin).

Partner: Via (for Pickup) and Ride|Austin.

### ***Project Information and Services***

Since 2017, the Capital Metropolitan Transportation Authority (Capital Metro) has implemented two pilot transportation services that include an on-demand TNC component—Pickup (June 2017-June 2018) and Ride|Austin (June 2018-December 2018) to provide service in Austin, Texas.

#### *Pickup*

Pickup served three neighborhoods in place of Capital Metro’s Upper Eastside flex route, providing on-demand service for origins and destinations in a geofenced area including the Mueller, Windsor Park, and Coronado Hills subdivisions. Capital Metro provided all vehicles (fully ADA compliant) and drivers, but the Via software dispatched the service according to that company’s proprietary algorithms. Riders requested trips via the transit agency’s app or call center. When the service launched, it operated Tuesday, Thursday, and Saturday from 9am to 6pm but transitioned to a six-day per week schedule with additional service the transit agency’s MLK commuter rail station to test first/last-mile service—Monday through Friday 7am-7pm and Saturday 10am-5pm. During the pilot period, Pickup service did not charge a fare. Figure 6 presents a Capital Metro Pickup vehicle, Figure 7 presents an example of the Pickup app, and Figure 8 presents the original and amended Pickup service areas. Appendix D presents Capital Metro’s detailed description of the pilot.

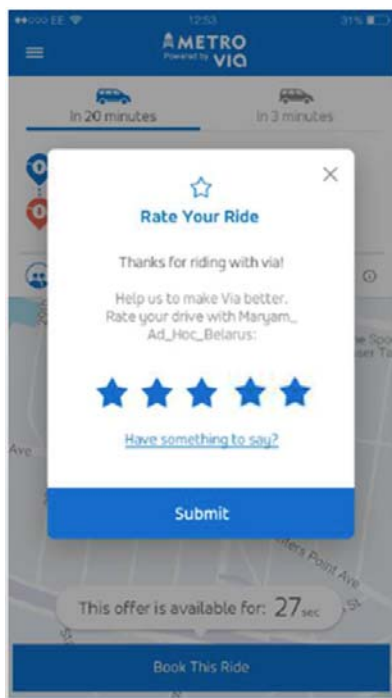
*Figure 6. Pickup Vehicle.*



*Source: Capital Metropolitan Transportation Authority*

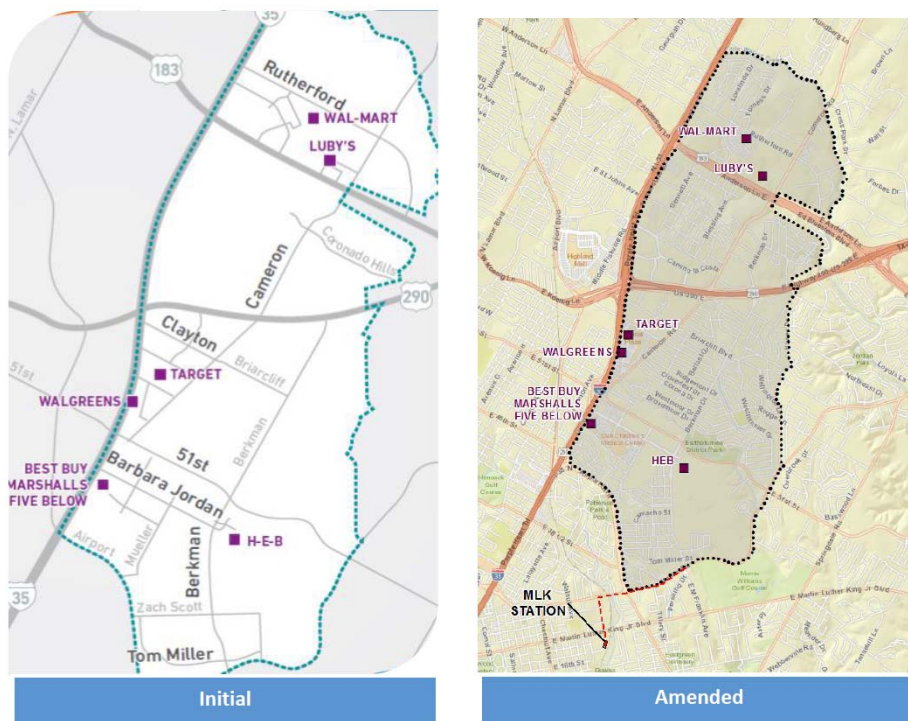
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Figure 7. Pickup App Screenshot.



Source: Capital Metropolitan Transportation Authority

Figure 8. Pickup Service Area: Initial and Amended.



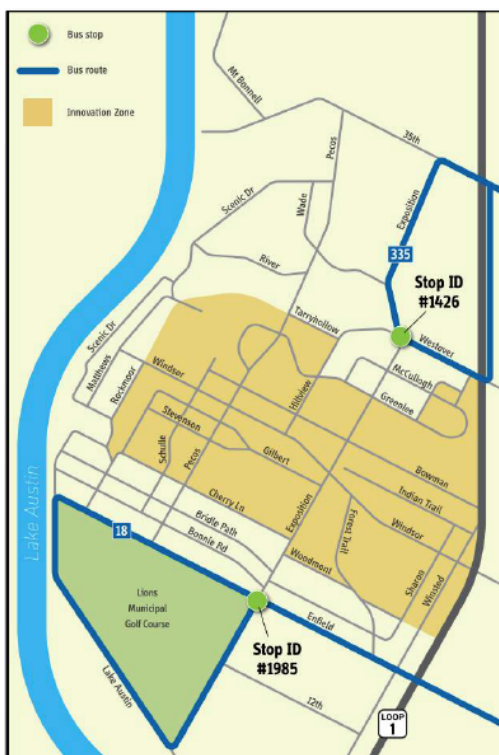
Source: Capital Metropolitan Transportation Authority

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### Ride|Austin

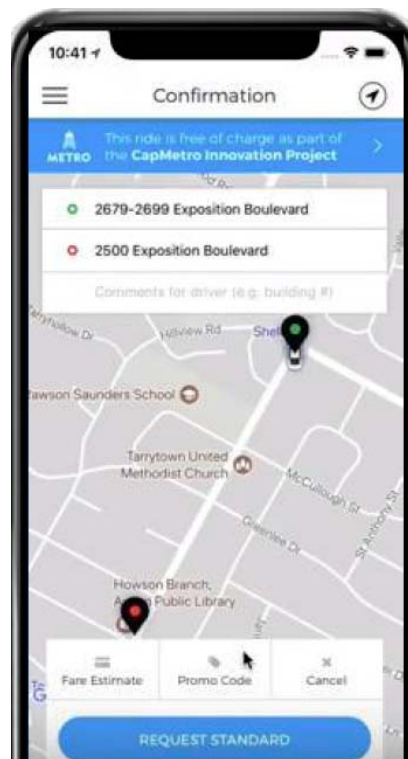
Capital Metro’s Ride|Austin service resulted from the transit agency’s recent service changes as a mitigation for loss of service in the area of Austin that is not conducive to traditional transit. Figure 9 presents this service zone, referred to as the Innovation Zone. Riders request service via the Ride|Austin app, as presented in Figure 10 and, if the trip originates within the zone and ends at one of the two bus stops at Enfield and Exposition (stop ID #1985) or Westover and Exposition (stop ID #1426), or the reverse, it will automatically be free for the rider (funded by Capital Metro general fund). Trips that do not include one of the two designated bus stops and do not fall within the geofenced service area are charged at Ride|Austin’s prevailing service rate for the time of service requested.

Figure 9. Ride|Austin Service Area.



Source: Capital Metropolitan Transportation Authority

Figure 10. Ride|Austin App Screenshot.



Source: Capital Metropolitan Transportation Authority

## *White Paper on TNCs and Transit Mobility*

### **Project Goals**

In 2016, Capital Metro began researching options to use microtransit style service as a means of improving service and encouraging paratransit customers to use non-paratransit service. The goal of this type of service was to provide service in area with a concentration of paratransit riders, retail and other short trip destinations, and without a lot of fixed route service. The service was originally launched as a traditional flex-route service that followed a specific route but allowed riders to request a route deviation for pickup or dropoff within a set distance from the route. However, the transit agency found that the riders did not frequently request deviations from the standard route and, therefore, were not benefitting from the flexibility. While Capital Metro was researching options to improve the flex-route service, Via proposed to integrate its dispatching software into Capital Metro's service concept to alleviate the need for fixed routes and make the service operate according to real-time demand.

The goal of Capital Metro's Ride|Austin service is to reduce the impact of reduced service within a specific part of the transit agency's service area by providing direct access to two fixed routes (Route 18 and 335).

For all of Capital Metro's new services the agency strives to achieve the highest level/amount of service for the lowest cost, regardless of service mode.

### **Procurement, Planning, and Development**

When Capital Metro was developing the flex-route that became Pickup, the transit agency's staff called other transit agencies with similar service to learn more about industry experience. According to the information collected in these calls, Capital Metro developed a service that included routes that were no more than eight miles long and limited deviations from the route to a maximum distance of 0.75 miles to limit cost and appeal to riders. When Via joined the project, the company implemented its proprietary dispatching and routing software to facilitate real-time routing and dispatching within the Capital Metro designated service area.

Via operated under a contract for service during the Pickup pilot project. For future service, Capital Metro is preparing a RFP to initiate the new Pickup-style service in other areas around Austin and in partnership with other communities in Travis County to expand service in areas that are not conducive to traditional fixed route transit.

Capital Metro's partnership with Ride|Austin developed due to the need to mitigate a loss of service that resulted from Capital Metro's Cap ReMap service changes in June 2018. Currently, the service concept is considered a pilot, but Capital Metro intends to make it a regular service for those impacted by the ReMap service changes. To award the contract for service, Capital Metro executed a standard procurement process to obtain bids for service opening the opportunity to all potential respondents and specifically inviting Ride|Austin, Lyft, and Uber to respond. Capital Metro's RFP for this service included specific language that outlines the transit agency's "option to extend to other service areas" beyond the service area identified in the initial RFP scope of services (see Appendix E).

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### **Customer Information and Marketing**

Capital Metro introduced both the Pickup and Ride|Austin services via the transit agency's website and social media and through press releases. Both services were developed as a result of customer feedback in the respective service areas and Capital Metro's efforts to identify opportunities to improve service. As part of Capital Metro's Innovative Mobility effort, staff reports to the transit agency's board of directors about the status of each service on a regular basis (see example report in Appendix F). For the Pickup service, Capital Metro conducted targeted outreach with communities that might experience additional challenges using an app-based service (older adults and people with low incomes).

### **Lessons Learned**

During the Pickup pilot Capital Metro learned that early outreach with potential users, especially those with potentially limited experience using on-demand services such as older adults and people low incomes, is critical. Specifically, Capital Metro learned that it is important to teach these users how to use the app to reduce the demand for phone-based dispatching and improve customer access to service. To do this, Capital Metro initially began with large group sessions and then, as needed, conducted one-on-one trainings with users. Additionally, when Pickup was introduced, Capital Metro experienced challenges related to training drivers due to the need for drivers to respond to routing instructions on-demand instead of developing their own routes based on a list of predetermined destinations.

When implementing the Ride|Austin service, the time for public outreach was very limited (approximately two months). Capital Metro learned that a six to nine-month period to incorporate public involvement would be ideal to inform the RFP process and ensure the new service meets the needs of the potential riders.

For both services, Capital Metro learned that more time for development and outreach would be beneficial.

### ***Regulatory and Policy Concerns***

TNC service may regulated by laws at the state and/or local level. As of August 2018, neither the State of Texas nor the City of Austin (where Capital Metro is based) have TNC regulations relevant to partnerships with transit service. At the federal level, transit operators must undergo drug and alcohol testing and have fingerprint-based background checks and public transit service must be accessible to people with disabilities.

### **State and Federal Regulations**

For the Pickup service, Capital Metro operated with contracted transit drivers and paratransit-style vehicles, therefore state regulations for TNC service were not relevant and the program aligned with federal level requirements for transit operators. Ride|Austin does drug and alcohol testing on their drivers and conducts fingerprint-based background checks so that service aligns with federal regulations for transit operators. However, Ride|Austin does not have wheelchair accessible vehicles available at all times so Capital Metro augments the service with paratransit



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vehicles for those riders that request a wheelchair accessible ride to ensure the service follows the ADA requirements for public transit service.

### **Internal Policies**

Capital Metro's policies regarding drug and alcohol testing are the only relevant internal policies for the Pickup and Ride|Austin services and these policies did not challenge either pilot.

### **Challenges**

Looking forward, Capital Metro is anticipating challenges associated with fare payments and equity due to the app-based method of fare payment. In anticipation of the need to provide options for riders to pay fares that do not have access to credit or digital banking, Capital Metro is considering an account-based system that can be linked directly with the service app. Additionally, the agency is considering providing first/last-mile services without fares to facilitate access to fixed route service and avoid creating barriers to access. Additionally, the transit agency is considering using traditional fareboxes that will accept cash as well as payment via credit cards and cell phones/apps.

At the time of this research, Capital Metro was challenged by the fact that the Federal Transit Administration is not clear about what is required for this type of service.

### ***Performance and Cost Effectiveness***

Tracking the performance and cost effectiveness of pilot services is key to assessing whether the concept has long-term potential. Capital Metro actively tracks a variety of metrics to assess both the Pickup and Ride|Austin services.

### **Pilot Indicators**

Capital Metro uses some traditional transit metrics to assess the performance of the Pickup and Ride|Austin pilots as well as non-traditional options. Specifically, Capital Metro tracks:

- Ridership.
- Passenger per hour.
- Cost per passenger, mile, and hour.
- Response time (the time between request and pickup).
- Wheelchair lift use per day.
- Percent of rides shared between multiple users.
- App downloads (for Pickup).
- Reservation calls compared to app usage.
- Customer feedback via five-point rating scale and comments in the service app as well as traditional transit feedback channels (phone, email, social media, etc.).

Additionally, for the Ride|Austin service, the target cost per trip is \$6.00 and Capital Metro tracks actual costs to assess performance.

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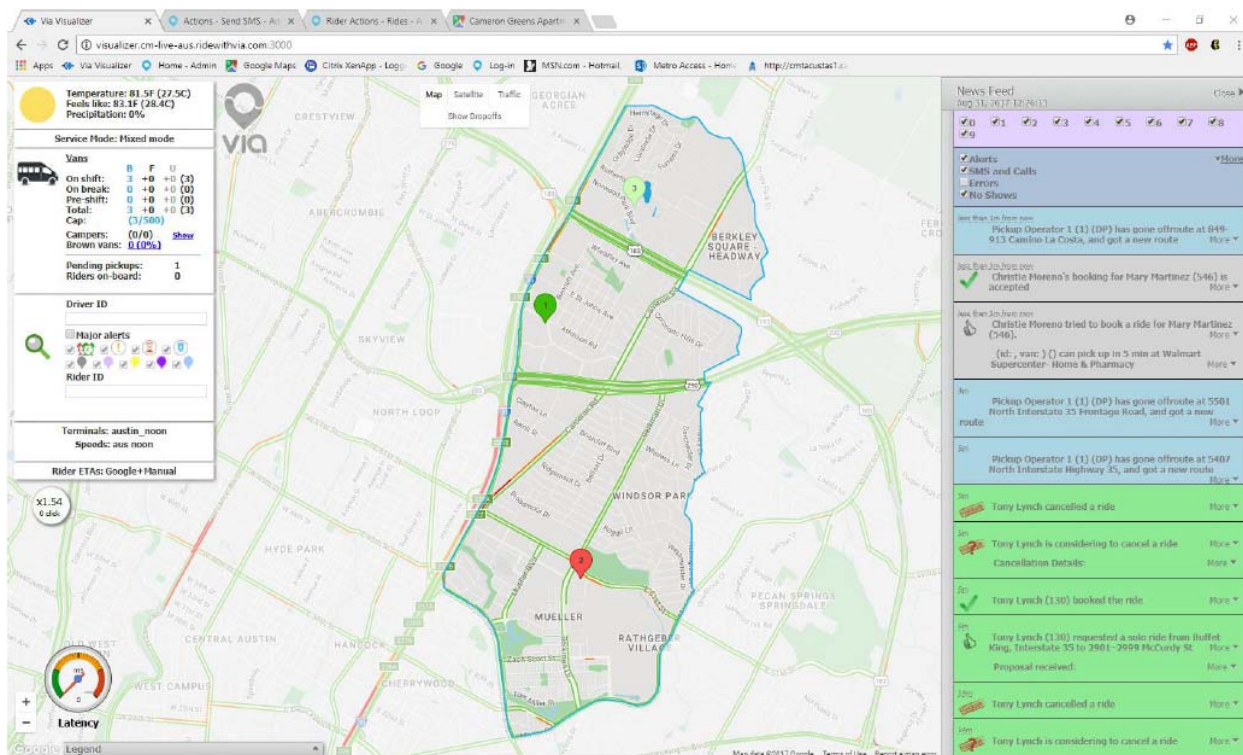
### Data Availability

Both of Capital Metro’s service partners, Via and Ride|Austin, provide data for all of the pilot indicators through online portals and regular reporting including Tableau based dashboards for some metrics related to the Pickup service. Capital Metro owns the rest of the Pickup service data according to the contract. For the Ride|Austin service, the service provider allows Capital Metro direct access to all data related to the Capital Metro service as well as service throughout Austin.

Both partners also provide the exact location of all pickups and dropoffs. For Pickup, location information is derived from Capital Metro’s vehicle and is not data that the agency needs Via to provide, however, during the procurement process for the Ride|Austin service, none of the other TNCs that bid stated willingness to share exact location information except Ride|Austin.

Figure 11 presents the real time service dashboard for Pickup service and Figure 12 presents an example of a Pickup shift report.

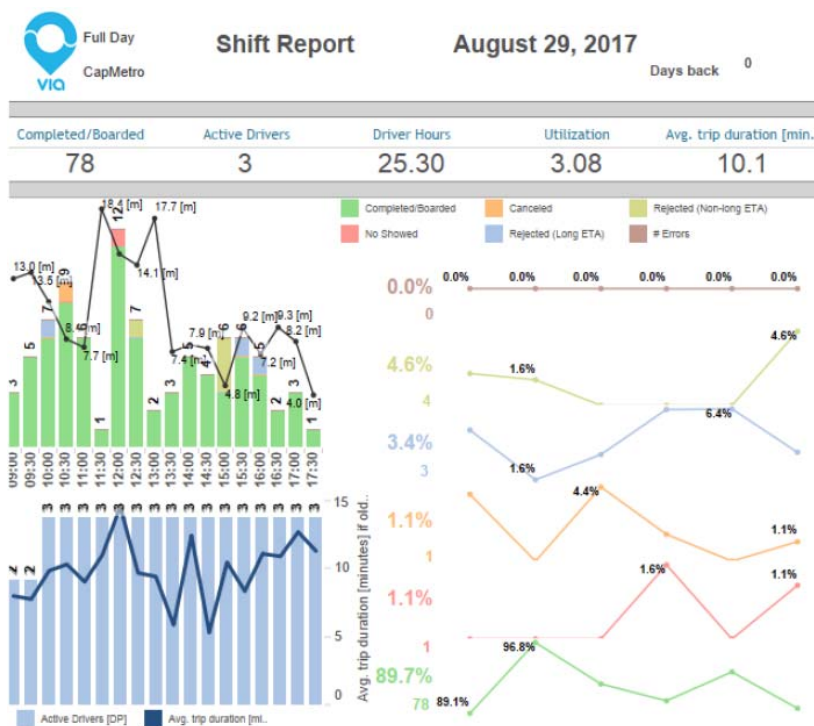
Figure 11. Pickup Real Time Service Dashboard Screenshot.



Source: Capital Metropolitan Transportation Authority

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Figure 12. Pickup Shift Report.



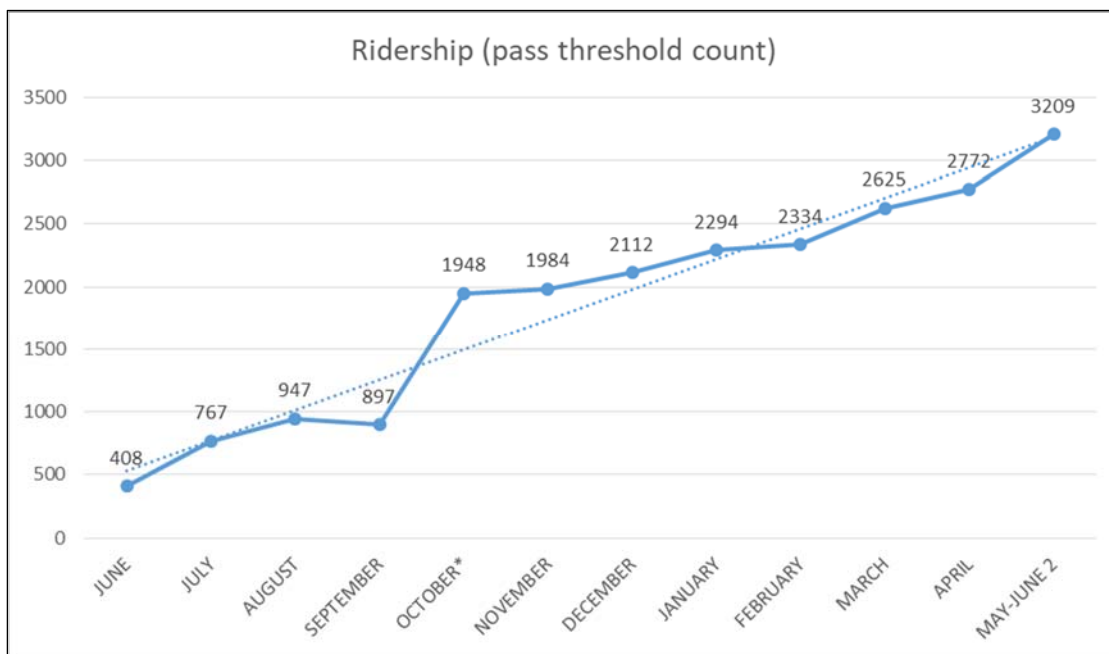
*Source: Capital Metropolitan Transportation Authority*

### Service Performance

Capital Metro acknowledges that the Pickup and Ride|Austin service are not designed to replace fixed route service nor do the services perform at the level of efficiency typical of fixed route service. However, compared to traditional demand response or flex route service, the efficiency of the pilots is improved. When the Pickup pilot ended, the service was at its most efficient—it cost \$18 per passenger compared to Capital Metro’s average (for the whole service area) fixed route cost per passenger of approximately \$5. To get a more direct comparison of costs Capital Metro used Remix transit planning software to develop a cost estimation for fixed route service in the Pickup service area. The software estimated that fixed route service would cost approximately \$775,000 per year to operate whereas pickup cost \$600,000 for the pilot year. The following figures (Figure 13, Figure 14, Figure 15, Figure 16, and Figure 17) document Pickup performance during the pilot service year. Notably, during the pilot, Capital Metro tracked metrics that are not typically seen in transit performance measurement including the booking method (see Figure 15) and average customer rating (see Figure 17).

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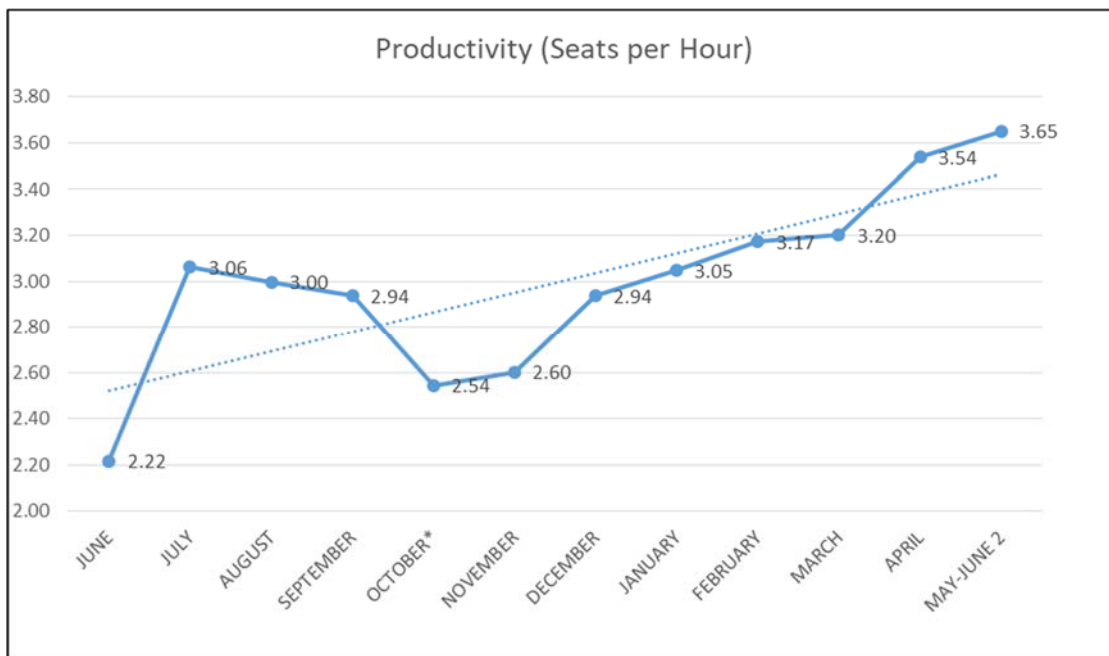
Figure 13. Pickup Ridership: June 2017-June 2018.



Source: Capital Metropolitan Transportation Authority

\* Increased from 3 days per week 9am - 6pm to 6 days a week 7am - 7pm, Sat 10am-5pm.

Figure 14. Pickup Productivity: June 2017-June 2018.

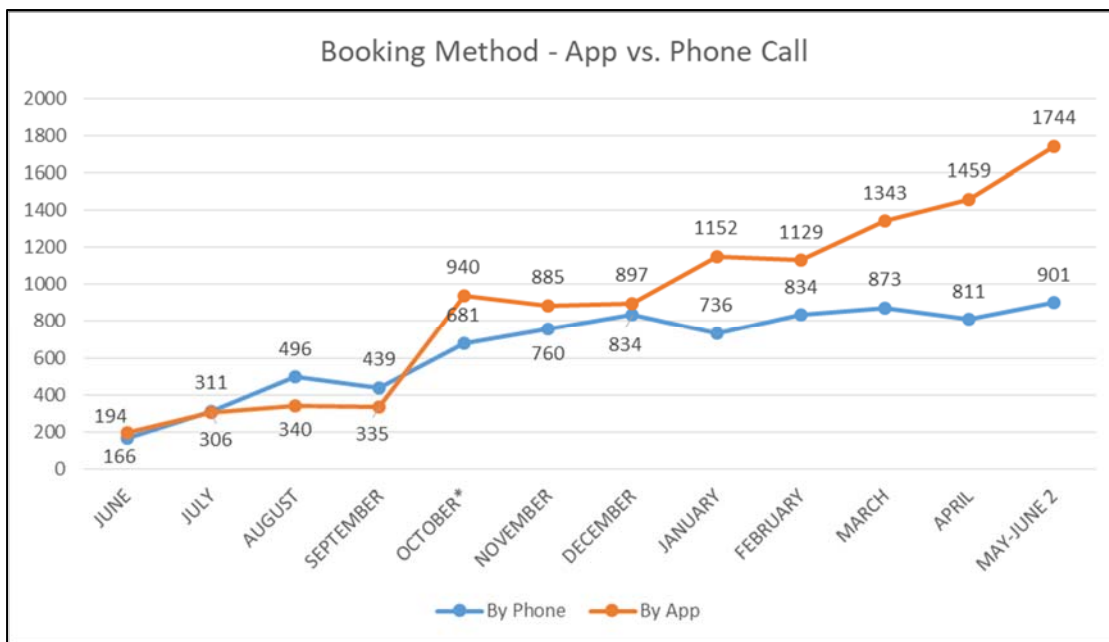


Source: Capital Metropolitan Transportation Authority

\* Increased from 3 days per week 9am - 6pm to 6 days a week 7am - 7pm, Sat 10am-5pm.

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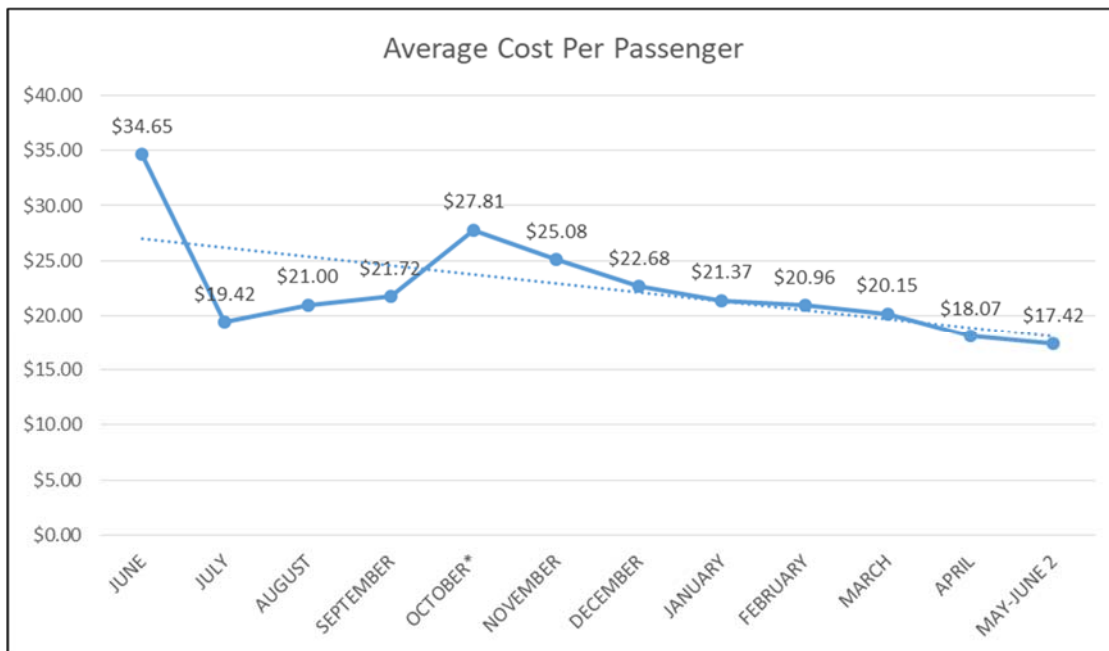
Figure 15. Pickup Booking Method: June 2017-June 2018.



Source: Capital Metropolitan Transportation Authority

\* Increased from 3 days per week 9am - 6pm to 6 days a week 7am - 7pm, Sat 10am-5pm.

Figure 16. Pickup Cost per Passenger: June 2017-June 2018.

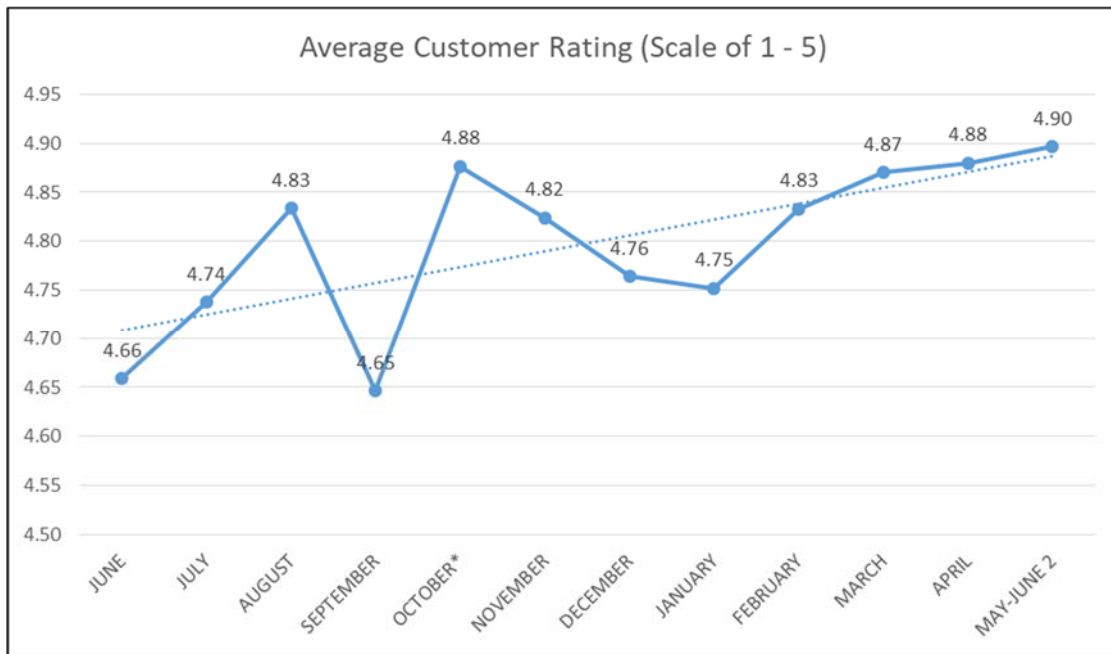


Source: Capital Metropolitan Transportation Authority

\* Increased from 3 days per week 9am - 6pm to 6 days a week 7am - 7pm, Sat 10am-5pm.

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Figure 17. Pickup Average Customer Rating: June 2017-June 2018.



Source: Capital Metropolitan Transportation Authority

\* Increased from 3 days per week 9am - 6pm to 6 days a week 7am - 7pm, Sat 10am-5pm.

### Key Takeaways

The following list outlines key takeaways from Capital Metro's experience with the Pickup and Ride|Austin services.

- Despite data availability from Capital Metro's chosen partners, the Ride|Austin procurement process shows that direct access to service data is an exception to the TNC industry standard of data opacity.
- According to Capital Metro, a metric to measure cost that accounts for the unique service conditions appropriate for TNC-style service is important, as cost per passenger is not capable of telling the entire story.
- Outreach and training are critical to service adoption.
- Use of third party software to dispatch and route transit agency vehicles has the potential to be more efficient than traditional demand-response dispatching models while avoiding the need for extended reservation lead times by providing on-demand service.

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### Denton County Transportation Authority

Pilot Start: January 15, 2018, Denton County Transportation Authority (DCTA) launched a partnership with Lyft to provide discounted fares in the specified Highland Village Lyft Zone.

Status: Ongoing.

Partner: Lyft.

### Project Information and Services

The Denton County Transportation Authority launched a partnership with Lyft in 2018 in an effort to continue providing more transit options for those traveling within Highland Village and north Lewisville. As part of the program, those traveling within the specified Highland Village Lyft Zone receive a \$10 discount for Lyft rides (originally a \$2 discount during the first year of the pilot), providing valuable mobility services around the community as well as first-mile-last-mile connections to transit. Figure 18 depicts the area for the pilot in Highland Village.

Figure 18. Highland Village Lyft Zone.



Source: Denton County Transportation Authority

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This partnership replaced DCTA's previous partnership with Uber. The Lyft discount program specifics remain similar to the agency's previous discount program:

- Service Hours: Monday through Friday from 5:30am to 7:00pm.
- Lyft Zone: Highland Village and Northern Lewisville (same as the previous Uber Zone).
- Rider Discount: a \$10 discount is applied to Lyft rides (discount applied to Lyft trips only—no additional discounts offered on any DCTA bus or train services).

In order to receive a reduced fare, trips must start and/or end in the designated Highland Village Lyft Zone during service hours. Users first enter the program discount code into the Lyft mobile app, and the discount will then be applied to subsequent qualifying trips automatically.

### **Project Goals**

Providing innovative mobility solutions for riders—especially first and last-mile connections—is a major priority for DCTA, so the partnership with Lyft helps the agency continue to provide efficient transit options for the communities they serve. The goal of the partnership program with Lyft is to enhance mobility and access to transit for residents and visitors to the Highland Village community and improve first/last mile travel. The program recently expanded to provide late-night service for students at the University of North Texas.

### **Procurement, Planning, and Development**

The decision to initiate a pilot service program with a TNC in the DCTA service area began as an internal discussion. Transit service in Highland Village, a low-density, suburban community within DCTA's service area, was not the most useful or convenient for users, as was not cost effective for DCTA. The agency realized that a more cost-effective, flexible solution was needed to better serve this market especially during weekday hours. DCTA investigated how best to serve workers who needed transportation to this area, as well as resident connections to A-Train stations. Board leadership approved the idea to pursue “out-of-the-box” solutions, such as TNCs, to address these first and last mile connections.

The first TNC pilot at DCTA was a partnership with Uber in this area, which was somewhat informal and was implemented quickly to just to have something in this area. To formalize the service model, DCTA issued an RFP for a TNC partnership. Uber did not respond to the RFP, but Lyft did responds with a proposal. Lyft was then qualified to do task orders, and a formal partnership was created.

Based on Lyft's user interface platform, DCTA chose to create a common geofenced area to qualify trips within the specified zone, rather than a promotional code, for users to receive the discounted rate. The same discount zone originally developed for Uber is also used for the Lyft partnership.

### **Customer Information and Marketing**

DCTA markets the service through the transit agency's website and social media. The transit agency issues press releases about the program as needed. DCTA welcomes rider feedback



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via GOREquest to optimize the program over time and continue to provide alternative transit solutions for riders.

### **Lessons Learned**

There are several lessons learned from DCTA's partnership with Lyft:

- Transit agencies must understand the capabilities of rapidly evolving TNCs and evolve to work with companies that have a very rapid pace of innovation, which does not always coincide with traditional procurement and contracting processes.
- DCTA received feedback about areas needed to serve and ran the numbers on how the agency would be able to provide service, including ideas coming from the operations staff. DCTA identified service gaps and service needs in their member cities. An example of a service area gap identified is the early morning Alliance Airport area—DCTA imagines this area could be served by a Lyft zone rather than adding another vehicle.
- DCTA has regular dialogue with their TNC partner about technological capabilities, including conversations about improved products that allow for adaptation of their programs. The transit agency must understand available customizations for the user interface and how quickly changes to the program can be made and implemented.

### ***Regulatory and Policy Concerns***

TNC service may be regulated by laws at the state and/or local level. As of August 2018, there are no TNC regulations at the State or local level relevant to partnerships with transit service. DCTA finds it is important to keep programs designed so that any source of federal funding can be used to support the service. From the beginning, transit agencies must understand what funds are planned to be used to support a program.

### **State and Local Regulations**

Service with Lyft requires potential riders to opt in to the service option by accepting specific terms and conditions included when the discount code is delivered. Therefore, similar to requirements for taxi-based paratransit alternatives, the rider may elect to use a service that does not conform to transit-specific regulations. There are no local laws in DCTA member cities pertaining to services provided by TNCs.

### **Internal Policies**

Beyond the requirement for riders to elect to use a TNC service, DCTA does not have internal policies specific to TNC service.

### **Challenges**

The key challenge DCTA faced when implementing partnerships with TNCs is understanding what TNCs can and cannot do, as well as how much administrative time and effort it took to restrict the program and discount code. At this time, there is no set way to use federal funding for this type of service because the FTA has not created a way to do this. Finding a reliable source relationship for funding is critical.

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### ***Performance and Cost Effectiveness***

DCTA does not have performance measures specific to the Lyft program. DCTA only pays for what customers use rather than a standing contract fee. Transit agencies must clearly state data sharing needs/requirements in the beginning of the partnership in writing, while also understanding the TNC's privacy concerns.

### **Data Availability**

Data/reporting requirements were not initially written in the contract for service. However, the RFP laid out details about data needs, such as census tract for origin/destination information, time of day, range of time, monthly reporting template, mileage, and hours of service.

DCTA would like to have the exact origin/destination (can be anonymous) information. This would enable DCTA to understand ridership information for adjacent areas and regions in general so the agency could make more informed decisions about expanding the service area.

### **Service Performance**

At this time, there are no performance measures specific to the Lyft program, as the program does not have enough volume. However, as the partnership evolves and more services are in place, performance measures will be more important. Right now, DCTA uses a budget cap to determine how much the program can manage. DCTA will work to define quality of service measures for the pilot.

### ***Key Takeaways***

The following list outlines key takeaways from DCTA's experience with the Lyft partnership:

- Partnerships with TNCs have been a mechanism for the agency to provide a diverse set of options and innovations to best serve customers, for example transit dependent riders in low-density environments, workers who need first and last mile connections, and student populations.
- It is important not to underestimate the amount of administrative time and effort it takes to impose restrictions on the program and discount code.
- It is imperative to clearly state data sharing needs/requirements in the beginning in writing, and understand privacy concerns of the TNC.

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### Town of Innisfil, Ontario, Canada

Pilot Start: Started service in May 2017 with Stage 1 of the partnership; launched Stage 2 in March 2018 with small changes made to the service structure.

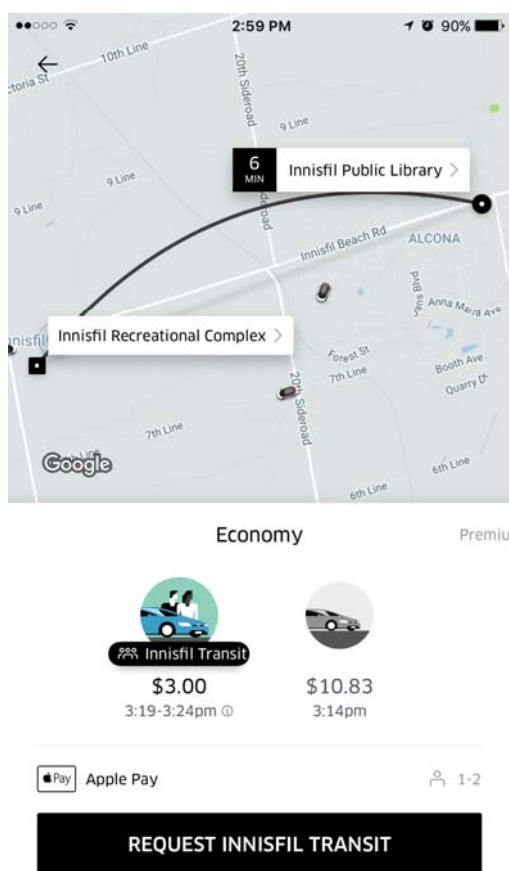
Status: Ongoing.

Partner: Uber.

### Project Information and Services

The service provided under the partnership between the Town of Innisfil and Uber is branded by the town as Innisfil Transit and offered fare rates or fare subsidies for Uber trips determined by the trip request origin and destination points. Customers log into the Uber app, select the Innisfil Transit option in the app, and make the trip request. The Town of Innisfil did not previously have any transit service available within the city. GO Transit in Toronto has one bus route that runs through the town and connects to a rail station just outside of the town boundaries. Figure 19 presents a screenshot of a request for service from Innisfil Transit.

Figure 19. Mobile App Screenshot for Using Innisfil Transit.



Source: City of Innisfil

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The fare rates are determined from based on two categories—key destination requests and custom destination requests. Key destination requests occurred when a trip is booked from within Innisfil to one of the several eligible destinations. When the customer is travelling to one of the eligible destinations that pay a flat fare for the one-way trip. The following are the possible one-way fares based on the destinations:

- \$3 for each trip to/from Innisfil Recreational Complex/Town Hall area, Alcona Lakeshore Library, or Lefroy Community Centre.
- \$4 for each trip to/from GO bus stops along Yonge Street.
- \$5 for each trip to/from Barrie South GO train station.
- \$5 for each trip to/from Innisfil Heights Employment Area.

A custom destination request occurs for any other trips requested that have a start and/or end point within town boundaries. Customers going to a custom destination receive a \$5 fare discount for their Uber trip and then pay any additional costs for the trip themselves. The map below shows circles for eligible key destinations and the blue shaded area within the town boundaries for all other trip requests. Figure 20 depicts the locations of different fare rates for the pilot.

*Figure 20. Innisfil Transit Fare Map.*



*Source: City of Innisfil*

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The \$3 flat fare rates are designated for key destinations or areas around Innisfil that serve as employment or activity areas in the town. The \$4 fare rate for trips to GO bus stops and the \$5 trip rate for trips to the Barrie South GO train station are designed to encourage connections to the regional GO Transit system.

### **Project Goals**

Innisfil has experienced growth in suburban housing and urbanization in the midst of nearby rural farmlands that has increased the need for transportation options in the area. The town conducted a feasibility study to learn more about start-up and operating costs to provide transit service in the city. The study found that fixed-route bus service would cost roughly \$270,000 in start-up net capital and operating expenses for one bus or \$610,000 for two buses. Because of these estimates, the town council directed the staff to look for a demand-based transit solution that would provide greater coverage than one or two routes. The town has goals to use the service provided in partnership with Uber to increase the visibility and success of placemaking while connecting people to key community destinations.

### **Procurement, Planning, and Development**

In 2016, the town issued a Request for Expressions of Interest (RFEOI) for on-demand ridesharing services but were not satisfied with the responses. Afterwards they approached Uber directly to partner on using the UberPool product (two or more customers matched to the same ride) to facilitate ridesharing across the entire town.

The town council initially approved \$100,000 in funding support for 2017 and \$125,000 for 2018 to support the expenses of the partnership agreement. An analysis done by Uber on the potential growth of demand in the service found that total costs to meet demand in 2018 might rise up to \$500,000. Town staff subsequently requested an additional \$350,000 in funding support for 2018 to support Stage 2 of the service. A briefing to the council acknowledged that the 2018 cost of \$500,000 is projected to be higher than the original forecast for the one bus route but lower than for two bus routes, while also providing door-to-door demand response coverage for the entire town.

### **Customer Information and Marketing**

Information is available online at <https://innisfil.ca/living/transit>, which includes information about rates and how to sign up for an account.

Innisfil conducted a survey for Innisfil Transit users from mid-July to September 2017 to obtain community feedback on the service and understand how riders are using the service, any concerns/issues held, and suggestions on how to improve the service. The city received 195 responses with 77 percent of total respondents indicating they were “Satisfied” or “Strongly Satisfied” with the service (10 percent were either “Dissatisfied” or “Strongly Dissatisfied”).

### **Lessons Learned**

From the survey of its riders, Innisfil learned of service challenges, such as the availability of drivers during early mornings or late nights. Data showed that trip completion rates for requested

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trips increased concurrently to service demand from 65 percent over the first two months to 75 percent over the last two months of 2017. Uber is working to provide incentives to drivers to help ensure that trip completion rates in the Innisfil Transit program continue to improve.

In the survey, residents expressed the need for more flat fare destinations. In response, Innisfil Transit will add two additional \$3 fare rate stops at the Alcona Lakeshore Library and the Lefroy Community Centre. Residents identified additional desired flat rate destinations, but staff did not recommend them to the council for Stage 2 because of the higher subsidy that would be required. Some additional locations may be added as eligible for flat fare rates in 2019 as service demand and gas tax funding is anticipated to increase. Staff will also look to explore funding partnerships with local businesses benefitting from the service to support future improvements and additional flat fare stops to the service.

Other improvements made to the service in Stage 2 beginning March 2018 include:

- Rolling out the Innisfil Transit logo and other promotional materials.
- Hosting Uber driver partner information sessions to answer questions and provide guidance to prospective drivers.
- Continuing a call-in registration system for residents until Uber's phone-in service for Innisfil Transit is available.
- Making Uber gift cards available for sale at Town Hall.
- Updating the Innisfil Transit Survey.

### ***Regulatory and Policy Concerns***

The town's agreement with Uber addresses matters such as driver licensing requirements (e.g. ensuring the same requirements are in place in Innisfil as for driver partners in Toronto) and the transference of risk from the town to Uber and its driver partners.

### **State and Local Regulations**

For Stage 2 of the ridesharing transit service as outlined in By-Law No. 031-18 (see Appendix G), town staff recommended to the council that the partnership with Uber be exempt from the town's Taxi By-Law, along with removal of an annual medical check requirement from the law. The removal of the medical check requirement was in response to comments heard from the local taxi companies, helping ensure that similar requirements are in place for local taxi drivers as Uber drivers. The town will still have the ability to require a medical check if there are reasonable grounds to believe that the conduct of a driver may endanger the health or safety of other persons. Innisfil aligned the requirements of their bylaws to match the City of Toronto's current requirements for the licensing of vehicles-for-hire such as Uber.

### **Internal Policies**

Customers requesting a WAV to complete an Innisfil Transit trip are directed to a WAV through Barrie-Innisfil Taxi and charged for service according to the same fare structure. Customers contacting Barrie-Innisfil Taxi directly by phone are advised to provide a few days' notice for the trip request. In the first seven and a half months of service in 2017, there were no WAV trips

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taken through Barrie-Innisfil Taxi. Town staff surmised this might indicate that people with accessible needs either choose to use the Uber service if possible with their mobility device or else use an accessible service provided by the Canadian Red Cross.

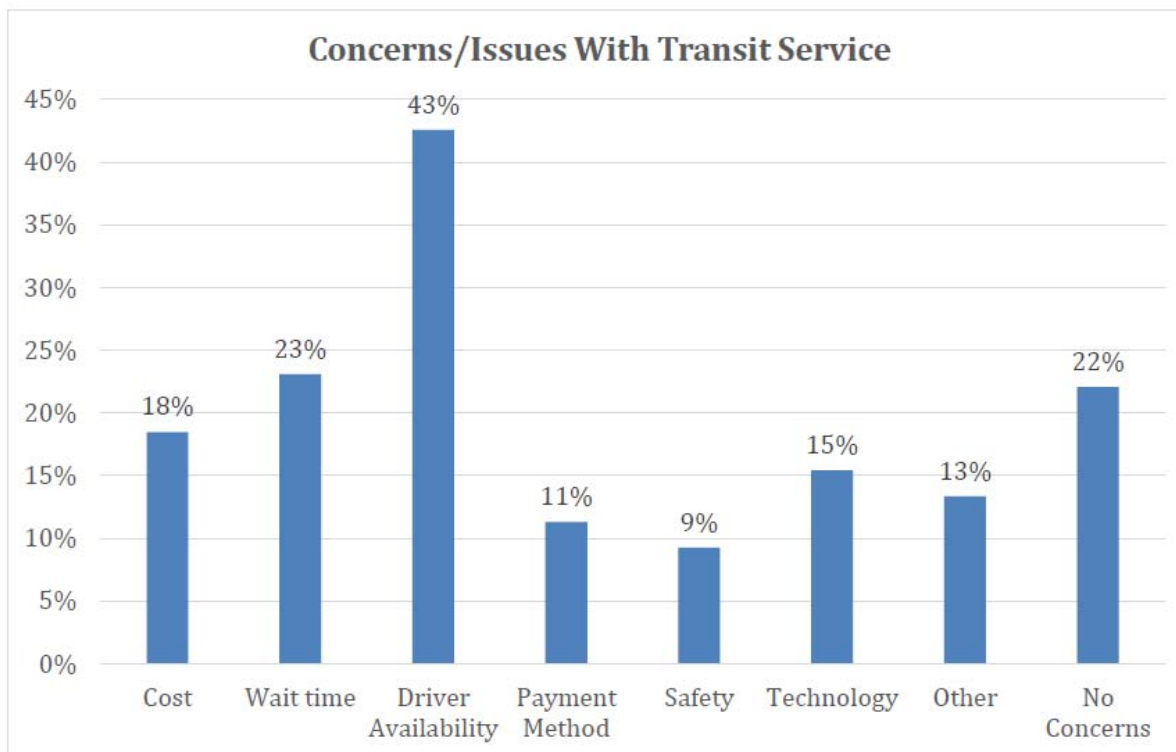
For unbanked populations, customers can purchase an Uber gift card that can be added to their account (available for purchase in stores as well as Innisfil Town Hall). The partnership also provides a promotional incentive for users to try the service—customers can apply a \$20 credit towards their first trip by using promo code "innisfiltransit".

In the survey, some customers made comments about wanting to request up to four seats for group trips. Staff noted that implementing such a feature to the partnership would impact the ability to pool rides within the system, as well as existing alternatives such as multiple ride booking and Uber Central trip platform that can be used to assist families and groups wanting to travel together.

### Challenges

In the survey, Innisfil asked respondents about any issues or concerns about the Innisfil Transit service. The highest concern from respondents was Driver Availability for requested trips (43 percent), while wait time (23 percent) and service cost (18 percent) were the next highest concerns reported. Twenty-two percent of respondents indicated that they had no concerns with the service. Figure 21 depicts responses from the survey.

Figure 21. Innisfil Transit Survey Responses on Service Concerns/Issues.



Source: Innisfil Staff Report DSR-171-17

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### ***Performance and Cost Effectiveness***

In the initial planning for the pilot, Innisfil allocated \$100,000 for Stage 1 of the service to be provided in 2017. Over seven and half months, the total subsidy from the town was paid at \$147,234 to Uber based on demand for trips. Uber projects that service demand in 2018 for the partnership will be approximately \$500,000. The town responded by allocating the same amount of funding support as what Uber suggested for the partnership this year.

### **Pilot Indicators**

Innisfil tracks indicators of ridership, destinations, wait times, and demand to monitor pilot performance and reports to the town council about the pilot. Below are the indicators in the town's March 2018 staff report about Stage 2 of the pilot along with 2017 results for each.

- Total trips: 26,688.
- Total town subsidy: \$147,234 (Canadian dollars).
- Ridership: 3,493 different people.
- Unique drivers: 1,393 unique drivers.
- Top destinations (pickups and dropoffs).
  - Innisfil Heights Employment Area, Innisfil Recreational Complex, Barrie South GO, Innisfil GO Bus Stops.
- Match rates (riders per car).
  - Average of 17 percent trips were matched with two or more riders per car.
- Average wait time: 9 minutes.
- Peak hours for trips.
  - 3-5pm on Weekdays (12 percent of trips).
  - 7-9am on Weekdays (8 percent of trips).
  - 10pm to 2am on Weekends (7 percent of total trips).
- Trip completion rate: 71 percent of requested trips.

### **Data Availability**

Uber provides the town with monthly data that includes information such as the number of trips taken, the town's subsidy/cost of the service, the average distance of trips, and a heat map showing the origins and destinations of trips at a high level. Uber has also accommodated more specific requests from town staff that are included in the update reports provided to the council.

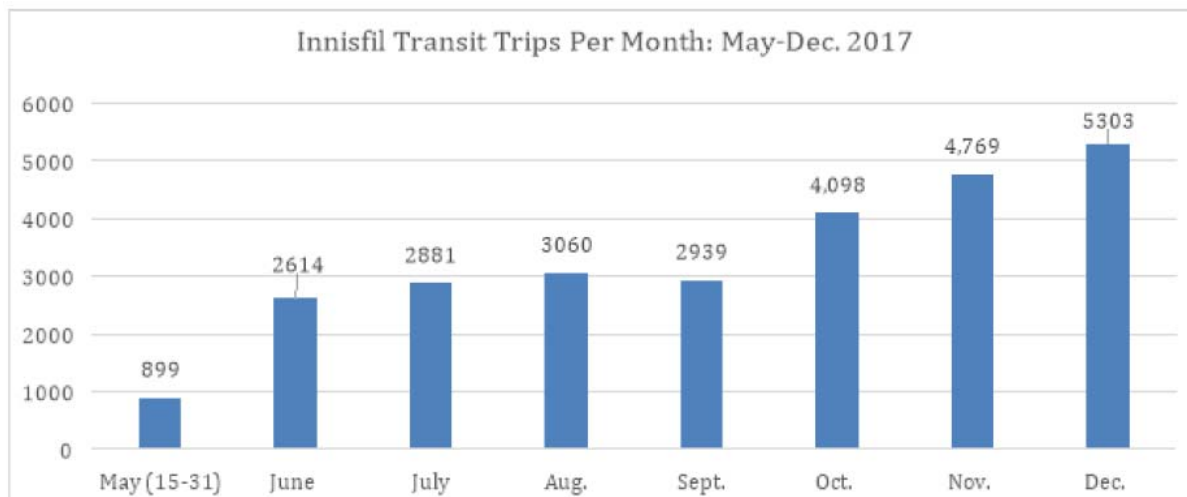
### **Service Performance**

The number of Innisfil Transit trips increased significantly from a monthly average of 2,874 trips from June to September 2017, to an average of 4,723 trips from October to December 2017 (shown in Figure 22). The increase in monthly trips shows the growth in service demand and the driver for the 2017 town subsidy rose to \$150,000 beyond the base allocation of \$100,000 for the first year. The average subsidy was calculated to about \$5.62 per passenger, lower than the estimated \$33 per passenger forecasted for the single bus route option in the initial Transit Feasibility Study conducted by the town.



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Figure 22. Trips per Month in 2017.



Source: *Innisfil Staff Report DSR-171-17*

Uber estimates there will be a total of 90,000 Innisfil transit rides in 2018, representing a subsidy cost from the town of about \$500,000 for the service. Uber also estimates that increases in monthly trip numbers will moderate towards the end of 2018 and into 2019, once the base number of regular Innisfil Transit users reaches about 5 percent of the town's population.

### **Key Takeaways**

The following list outlines key takeaways from Innisfil's experience with the Uber service pilot.

- Service for the Innisfil Transit product exceeded demand in 2017—the town found that service has been successful for providing a transportation option that is more effective than operating one or two bus routes.
- Town staff are working with Uber to ensure that enough drivers are available to meet demand for requested trips and increase the percentage of trip completion rate for Innisfil Transit. Town staff is also exploring additional funding opportunities in order to improve and expand the service in future years.

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### **SouthWest Transit**

Pilot Start: Prime Service launched in July 2015 is not a pilot, but a regular service of the agency. The Lyft service supplement pilot began in May 2018 and will last through December 2018.

Status: Ongoing.

Partner: RideCell and Lyft.

### ***Project Information and Services***

SouthWest Transit, in Eden Prairie, Minnesota, operates the Prime service to fill gaps where traditional transit is not appropriate and solve first/last-mile challenges for riders of the transit agency's commuter services. Prime provides on-demand curb-to-curb trips for riders that make trip requests via the services dedicated app, website, or customer service phone line and ride reservations are confirmed via automated text messages or phone calls (according to the rider's preference). Service is available from 6:30am-6:00pm on weekdays and 8:00am-6:00pm on Saturdays. The Prime service fare is \$4 per trip. If a rider does not show up for their reservation they receive a "no-show" designation and are not eligible to schedule additional rides until they pay the fare for the ride they missed. Fare payments are made with cash, credit cards, a stored payment option on the website, and transfers from other SouthWest service. Prime service is ADA compliant and dispatches wheelchair accessible vehicles according to customer need—12 vehicles are operated during peak and only three are without wheelchair lifts. In some busy locations with multiple potential pickup/dropoff points, Prime operates with designated pickup/dropoff locations to alleviate rider confusion and improve service efficiency. Figure 23 presents a Prime vehicle and Figure 24 presents a screenshot from the Prime app showing user options.

Beginning in May 2018 SouthWest initiated a pilot partnership with Lyft to provide supplemental service to Prime riders during extended wait times. Under this program, customers receive a code valid for a \$4 discount on Lyft service if the wait time for Prime is over 30 minutes. The pilot will last through December 2018.

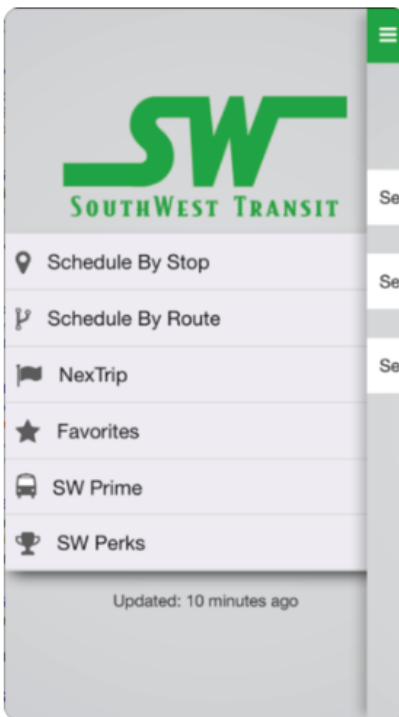
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*Figure 23. Prime Vehicle.*



*Source: SouthWest Transit*

*Figure 24. Prime App Screenshot.*



*Source: SouthWest Transit*

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### **Project Goals**

SouthWest implemented the Prime service to provide first/last-mile service to connect riders to its primary services—express/park-and-ride commuter service. As the service has grown, riders have adopted it as a local circulator option and now travel to and from non-transfer destinations.

SouthWest's ridership goal is three passengers per revenue hour, minimum, and the transit agency strives to keep the total cost of service below \$10 per passenger (currently they operate at an \$8-\$9 per passenger subsidy).

At an agency level, SouthWest tries to make sure they have the highest quality service possible (nicer vehicles, especially on Prime) and the transit agency's motto is "Expect the Best."

At the time of this research, SouthWest is considering some concepts to expand its partnership with Lyft to either add to the current span of service or incorporate new destinations. However, the transit agency is in the early stages of these concepts and does not have any plans to pursue them.

### **Procurement, Planning, and Development**

SouthWest staff identified a need for a service to improve access and, over the years leading up to Prime implementation, tried various circulator services. Using the information gathered from previous services SouthWest planning staff developed a plan for a dial-a-ride style service after learning about a dispatching and routing software (RideCell) that could facilitate greater service efficiencies and on-demand service.

SouthWest staff initiated the initial contract for service with RideCell. After this contract expired, SouthWest issued an open procurement requesting quotes with responses to specific questions (see Appendix H) and decided to continue the transit agency's relationship with RideCell.

### **Customer Information and Marketing**

SouthWest markets Prime service through the transit agency's website and social media. Additionally the transit agency issues press releases about the program as needed. Additionally, Prime has a dedicated app and website that provide service updates to riders.

### ***Regulatory and Policy Concerns***

TNC service may be regulated by laws at the state and/or local level. As of August 2018, neither the State of Minnesota nor the City of Eden Prairie (where SouthWest is based) have TNC regulations relevant to partnerships with transit service. At the federal level, transit operators must undergo drug and alcohol testing and have fingerprint-based background checks and public transit service must be accessible to people with disabilities. While SouthWest's Prime service does not rely on a TNC partner, the transit agency's pilot service with Lyft does. The following sections outline SouthWest's experience with regulations related to the Prime and Lyft service.

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### **State and Local Regulations**

The Prime service operates as a demand response/dial-a-ride service using transit vehicles and drivers; therefore, the service meets all relevant regulations for such service. SouthWest's service with Lyft requires potential riders to opt in to the service option by accepting specific terms and conditions included when the discount code is delivered. Therefore, similar to requirements for taxi-based paratransit alternatives, the rider may elect to use a service that does not conform to transit-specific regulations.

### **Internal Policies**

Beyond the requirement for riders to elect to use a TNC service, SouthWest does not have policies specific to TNC-style service.

### **Challenges**

SouthWest has not experienced any challenges related to regulations as of August 2018. However, after negotiating with Lyft for data access the agency determined that it would be beneficial to have additional regulations requiring TNCs to provide specific with their public partners in order to conform with NTD data reporting requirements, similar to the way taxi companies and other similar transportation providers provide service data.

### ***Performance and Cost Effectiveness***

Tracking the performance and cost effectiveness of pilot services is key to assessing whether the concept has long-term potential. SouthWest actively tracks a variety of metrics to assess service.

### **Pilot Indicators**

SouthWest uses some traditional transit metrics to assess the performance of the Prime service as well as non-traditional options. Specifically, SouthWest tracks the following metrics on a daily basis using RideCell's interface:

- Ridership.
- Passengers per hour.
- Cost per passenger, mile, and hour.
- Response time (the time between request and pickup).
- Trip time (the time between pickup and dropoff).
- Trip reservations and cancellations.
- No-shows.
- Transfers.
- Wheelchair lift use per day.
- Bike rack requests.
- Number of new riders.
- Number of walk on riders.

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- Reservation calls compared to app usage.
- Customer feedback via five-point rating scale and comments in the service app as well as traditional transit feedback channels (phone, email, social media, etc.).

### **Data Availability**

The RideCell software provides data about service performance that is accessible to SouthWest staff as needed. However, data sharing and access for the transit agency's Lyft pilot is not as straightforward. In order to obtain the data SouthWest requires for audit purposes, the transit agency had to negotiate with Lyft. Lyft will provide origin and destination data for all Prime trips at the census tract level and standard billing information.

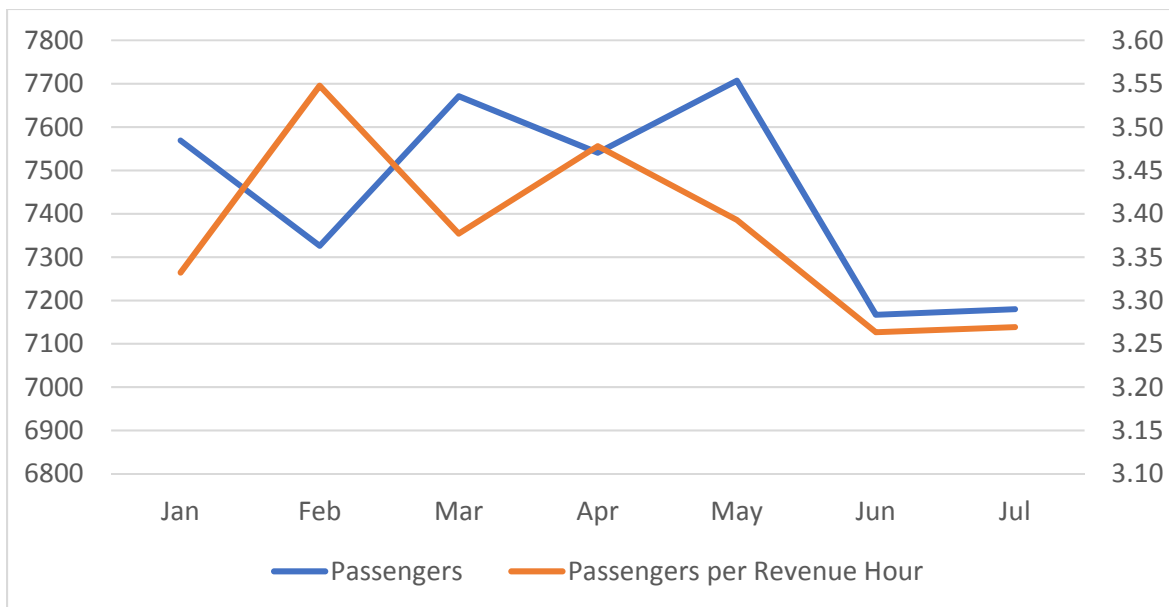
### **Service Performance**

Compared to the regional average for similar service, Prime is exceeding typical performance for passengers per revenue hour—regional average is two passengers per hour and Prime operates at 3.5 per hour. The same is true for subsidy—the regional average subsidy for similar service is approximately \$13 per trip and Prime operates with an \$8 subsidy per trip. As of August 2018, approximately 60 percent of Prime trip requests are made via the app or website with the remainder handled by the call center. Since July 2015 the Prime service has received high ratings through the service's five-star rating system—85 percent of trips resulted in a five out of five review. To encourage a high level of service, SouthWest rewards Prime drivers that achieve high ratings with gift cards and other perks.

In July 2018, Prime completed 6,278 pickups and provided service to 7,180 passengers (approximately 342 per day) with an average wait time of 14.29 minutes and an average trip time of 13.91 minutes. Figure 25 compares Prime's total passengers and passengers per revenue hours.

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Figure 25. Prime Total Passengers and Passengers per Revenue Hour.



Source: TTI Visualization of SouthWest Transit Data

### Key Takeaways

The following list outlines key takeaways from SouthWest's experience with the Prime service and the Lyft service supplement pilot.

- Data sharing has the potential to challenge and limit partnerships with TNCs.
- Use of third party software to dispatch and route transit agency vehicles has the potential to be more efficient than traditional demand-response dispatching models while avoiding the need for extended reservation lead times by providing on-demand service.

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### **City of Temple/Heart of Central Texas Independent Living Center**

Pilot Start: October 2017.

Status: Currently operating, but set to end in September.

Partner: Informal program with Uber.

#### ***Project Information and Services***

Budget cuts caused the Hill Country Transit District, the agency that operates The HOP bus line in Bell County, to reduce door-to-door services in Temple, Belton, and Killeen in late 2017. The organization previously offered the service to persons with disabilities within the entire city limits, but the service is now limited to those living within 0.75 miles of a bus route. To compensate, the Heart of Central Texas Independent Living Center (HOCTIL) partnered with the City of Temple to fund Uber rides for residents. The city awarded a \$10,000 grant to HOCTIL in October 2017 to fund the program through September 2018.

#### **Project Goals**

The goals of this pilot are to meet the needs of aging and persons with disabilities impacted by service cuts at The HOP. The City of Temple wanted to meet the needs of those impacted the most. Initially, users were provided with a \$50 Uber gift card on an as needed basis for non-emergency medical transportation appointments. Now, individuals are given an Uber card with up to \$200 in value to use for any trips without restrictions. HOCTIL does an initial home visit to verify residents live outside The HOP service area. HOCTIL also asks riders to provide the trip map to show evidence that the Uber gift card was spent on rides for the individuals.

#### **Procurement, Planning, and Development**

The City of Temple wanted to assist people who were affected by service cuts to The HOP, so they reached out to HOCTIL and provided a one-time \$10,000 grant to assist individuals who are outside of The HOP coverage area. The program started as a way to get residents to medical appointments, but expanded to include all trips.

The program provides qualifying residents a gift certificate for Uber, averaging \$50 per person to fund several rides depending on distance (which are typically \$15-20 each way). Eligible participants must live within the city limits but outside of The HOP's door-to-door service area. Users who need help scheduling rides can call the center during normal business hours. The program accepts users on a first-come, first-served basis until funding is depleted. Approximately 200 individuals enrolled in the pilot.

This is an informal relationship with Uber. The City of Temple or HOCTIL have signed an official agreement with any TNCs to provide rides in the area. There were already Uber drivers operating in the area who are utilized for this service the same way drivers would be in other markets.



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### **Customer Information and Marketing**

HOCTIL found that word-of-mouth has been the best advertising method for this pilot program and recruiting riders has been a truly grassroots effort. The entire grant amount went to the riders; HOCTIL does not use any money from the grant for administrative costs.

### ***Regulatory and Policy Concerns***

There are no regulatory or policy concerns for this pilot. In the future, if the City of Temple wishes to continue the service and formalize the relationship with Uber or another TNC, a formal agreement will be pursued.

### **State and Local Regulations**

Laws at the state level regulate TNC service. As of August 2018, neither the State of Texas nor the City of Temple have TNC regulations relevant to partnerships with transit service.

### **Internal Policies**

Neither the City of Temple nor HOCTIL have internal policies regulating partnerships with TNCs.

### **Challenges**

This pilot is informal and operates on limited funding. As such, there is no budget available for marketing the service. HOCTIL will not be able to continue the program once funding is no longer available.

### ***Performance and Cost Effectiveness***

Performance and cost effectiveness data is not available for this pilot due to its informal nature. HOCTIL keeps track of ongoing costs for the program but does not have access to data of trips taken with Uber.

### **Pilot Indicators**

Neither the City of Temple nor HOCTIL assess the performance of the partnership with Uber.

### **Data Availability**

Neither the City of Temple nor the HOCTIL collect any data for this pilot. The number of gift cards purchased has been informally tracked, but the origin or destination of trips are unknown. Uber does not provide trip information.

### **Service Performance**

HOCTIL acknowledges that Uber has filled the gap in service, but performance information is not tracked/available for this service.

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### ***Key Takeaways***

The following list outlines key takeaways from HOCTIL's experience with the informal Uber program:

- Although this informal pilot could be improved, over 200 riders in the Temple area have been assisted. HOCTIL is sending City of Temple the final report for the pilot in September 2018 and it will be the City of Temple's decision to renew the grant.
- The program was created as a solution to fill a service gap and provide a transportation option for persons with disabilities and the elderly to fulfill needed trips.

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### **Policies and Regulations**

There are still not clear rules from the FTA regarding working with TNCs, particularly on how regulatory obligations that are applicable to transit agencies extend to TNC partners. Federal and state rulemaking inform how certain grant programs can be used by transit agencies to provide service as well as requirements of service availability and quality. The requirements and goals under these frameworks do not necessarily align with the objectives and performance metrics of TNCs. For example, transit agencies use metrics such as on-time performance, availability of service, and schedule-based frequency for measuring success, while TNCs focus on wait times for vehicles and costs.

### **Federal Guidance on TNC-Transit Partnerships**

In addition, statutory limitations on federal transit funding creates uncertainty about if federal transit funding can be used to subsidize TNC trips in long-term contracting. There are questions regarding training of TNC drivers compared to transit agency drivers, particularly in the case of ADA paratransit service. Other uncertainties that complicate TNC/transit partnerships include:

- The contracting agreements between transit agencies and TNCs are not publicly available but would increase understanding of partnership goals and outcomes.
- FTA has not issued rulemaking for transit agencies to contract for long-term use of TNCs to provide ADA complementary paratransit service.
- Partnerships involving TNC trip subsidies or service provided in lieu of transit have all been pilot programs to test the effectiveness of TNCs roles in transit.
- While there are not FTA rules for TNCs to provide ADA complementary paratransit service, TNCs in these types of partnerships have focused on driver training to work with individuals with disabilities and increased the availability of WAVs.

In December 2016, the U.S. Department of Transportation (USDOT) issued guidance outlining how FTA may address final rules for these agreements. The Dear Colleague letter from this guidance discusses concerns about TNC accessibility for unbanked customers, non-smartphone users, and persons with disabilities with respect to WAVs. The letter also points out that transportation requirements under the ADA apply regardless of whether Federal funding is involved in the agreement and points out the criteria for equivalent service.

Currently this means transit agencies must use non-federal funds rather than support from annually apportioned grant programs to contract with TNCs. Subsequently all transit agency partnerships with TNCs have been on a pilot basis rather than longer-term agreements as agencies wait for final FTA rules. FTA guidance suggests that requirements for working with TNCs will be similar to those FTA has already issued for transit agencies working with taxi companies.

### **Statewide Legislation of TNCs**

As of June 2018, 48 states and Washington, D.C., have passed at least one piece of legislation regulating some aspect of TNCs. State legislatures typically introduced TNC policy to authorize TNC services and, in some cases, clarify the classification of the services in relation to taxi and ridesharing services. State TNC legislation also commonly addresses the following policy areas:

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permitting and fees, insurance and financial responsibility, driver and vehicle requirements, operational requirements, passenger protections, data reporting, and regulatory and rule-making authority. The nature of state legislation related to TNCs currently takes one of three forms: legislation creating a statewide TNC framework, legislation that regulates insurance requirements, and no statewide legislation.

A majority of the existing state legislation overrules, or preempts, the local authority of cities to regulate, tax, or impose rules on TNCs. In several states (including Louisiana, South Dakota, Washington, and Vermont), cities or local governments impose local regulations on TNC operations. As of March 2018, Minnesota has a bill under consideration, which would set TNC laws statewide<sup>3</sup>. The policies introduced at the city-level are often similar to those at the state level.

### ***Most Common Policies in State TNC Legislation***

While the legislation and policy introduced across states varies, there are some common trends.

The policies most frequently introduced at the state-level are:

- Require TNCs and TNC drivers to meet specific minimum insurance requirements.
- Define ride-sourcing companies as “transportation network companies”.
- Require TNCs to conduct or comply with background check requirement for drivers.
- Require TNCs to disclose fares or rates to passengers.
- Pre-empt some or all local authority to regulate TNCs.

### **TNC Regulation in Texas**

Uniform statewide laws that were introduced under two legislative bills currently regulate TNC operations in Texas: House Bill (HB) 1733 and HB 100.

#### ***HB 1733***

In 2015, Texas lawmakers passed HB 1733, which introduced a set of insurance liability requirements for TNCs and TNC drivers. This legislation went into effect on January 1, 2016<sup>4</sup>. The law requires TNC drivers to have primary automobile insurance that allows them to operate as TNC drivers. The TNC, TNC driver, or a combination of both can maintain the automobile insurance. Specifically, the law requires the following:

- TNC drivers must have primary automobile insurance that allows them to operate as TNC drivers. The TNC, TNC driver, or a combination can maintain the automobile insurance.
- When a TNC driver is logged in but not yet engaged in a ride (“between” rides), insurance must provide:
  - Minimum liability coverage of:

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<sup>3</sup> <https://www.lmc.org/page/1/TNCregulationUpdate.jsp?ssl=true>

<sup>4</sup> Texas House Bill 1733. 84th Regular Session, 2015. <https://legiscan.com/TX/bill/HB1733/2015>. Accessed July 17, 2016.

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- \$50,000 for bodily injury/death per person per incident.
- \$100,000 for bodily injury/death per person per incident.
- \$25,000 for damage to or destruction of property of others per incident.
- Uninsured/underinsured motorist coverage as required by Texas insurance code.
- Personal injury protection coverage as required by Texas insurance code.
- From the time a driver accepts a ride until the passenger departs (“engaged” in ride), insurance must provide minimum coverage of:
  - \$1 million total liability for death, bodily injury, and property damage per incident.
  - Uninsured/underinsured motorist coverage as required by Texas insurance code.
  - Personal injury protection coverage as required by Texas insurance code.
- TNC drivers must carry proof of insurance and provide that proof, and must disclose whether they were logged in and/or engaged in a prearranged ride.
- If a TNC driver’s coverage lapses or is insufficient, a TNC shall provide the required coverage.
- TNCs must disclose to TNC drivers the limitations of the TNC insurance coverage and limitations, and must inform drivers that a driver’s personal auto policy may not cover TNC services.

Ensuring minimum insurance requirements for TNC vehicles was an early and widespread priority for state legislatures across the country. Other state laws include similar requirements to the Texas bill.

### ***HB 100***

In 2017, Texas lawmakers passed HB 100, which introduced a more comprehensive statewide regulatory framework for TNCs. HB 100 introduced a set of regulations that require a TNC permit, operational requirements, driver and vehicle standards, and passenger protections. In addition, HB 100 nullified all local TNC regulations and established one set of statewide regulations governing TNCs. HB 100 also clarifies the relationship of TNCs and motor carriers under Texas law, stating in Section 2402.002 “Transportation network companies and drivers logged in to the company’s digital network are not common carriers, contract carriers, or motor carriers”<sup>5</sup>). Table 1 summarizes the regulations introduced under HB 1173 and HB 100.

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<sup>5</sup> Texas House Bill 100. 2017. <https://legiscan.com/TX/bill/HB100/2017>.

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*Table 1: Texas TNC Policies (Enacted by HB 1733 or HB 100).*

Policy Areas and Policies	Policy Enacted in Texas Legislation
<b>Permits and fees</b>	
Define companies as TNCs	x
Require a TNC permit and pay a \$5,000 permit fee	x
Establish or specify a fund for TNC revenue	
Require a permit or license for the TNC driver/operator	
<b>Insurance and financial responsibility</b>	
Meet insurance requirements for the TNC and TNC driver	x
Comply with some definition of employee or workers compensation criteria	x
<b>Driver and vehicle requirements</b>	
Conduct or comply with a background check requirement	x
Meet a set of driver requirements/submit an application to the TNC	x
Comply with a TNC driver age minimum of 18 years old	x
Have a drug and alcohol use prohibition or policy (zero tolerance)	x
Complete a vehicle safety inspection or compliance requirement	x
Establish a driver training program	
<b>Operational requirements</b>	
Disclose fares and rates to passengers	x
Make available driver identifying information to passengers	x
Provide electronic receipt to passengers	x
Prohibit street hails	x
Prohibit cash payments	x
Display a trade dress, logo, or emblem on the TNC vehicle	
Impose a limitation on TNC driver hours	

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Limit dynamic pricing in a state of emergency	
Disclose dynamic pricing and require passenger confirmation	
<b>Passenger protections</b>	
Adopt a nondiscrimination policy	x
Provide passengers an opportunity to request a wheelchair-accessible ride	x
Protect passengers' personally identifying information	x
Collect data on accessible ride requests	
<b>Data reporting</b>	
Retain driver and trip records for two years	x
Comply with additional reporting requirements	
<b>Regulatory and rule-making authority</b>	
Preempt local authority to regulate TNCs (includes partial)	x
Establish airport rule-making authority	x
Establish agency rule-making authority	

***Local TNC Regulation in Texas***

Between 2014 and 2016, 20 Texas cities approved regulations regarding TNCs. These local ordinances addressed many of the same policy areas as state TNC legislation. City-level regulations were nullified by HB100 in 2017. Prior to the introduction of statewide law, TNCs and local regulators clashed over various TNC regulations. TNCs suspended service in several Texas cities where ordinances were enacted. TNC ordinances that required fingerprint-based background checks led Uber to suspend service in Austin, Corpus Christi and Galveston. In May 2016, Uber and Lyft suspended operations in Austin after a public vote affirmed an ordinance that required fingerprint-based background checks, among other requirements. Similar issues arose in other jurisdictions including Houston, Midland, and Galveston. Details of municipal regulations enacted prior to their preemption by state law can be reviewed in a 2016 Policy Brief, Policy Implications of Transportation Network Companies, published by TTI (6).

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<sup>6</sup> Moran, M. (2016). Policy Implications of Transportation Network Companies. College Station, TX : Texas A&M Transportation Institute, 2016. <http://policy-dev.tti.tamu.edu/technology/prc-report-policy-implications-of-transportation-network-companies/>. Accessed July 13, 2017.

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### ***Local TNC Regulation in Minneapolis/St. Paul***

The City of Minneapolis has a code of ordinances requiring TNCs and drivers to meet city standards for operations<sup>7</sup>. The city requires that the company or driver have insurance for the vehicle, trade dress of the company is displayed on the vehicle, drivers carry inspection information, and other common regulations on TNCs. The City of St. Paul has similar regulations but additionally requires TNC drivers to wear IDs while they are actively working for the company<sup>8</sup>.

### **Key TNC Policy and Regulatory Considerations**

In Texas and many other states, legislators were eager to enable the expansion of new transportation services and the potential for economic growth. As such, the regulations do not specifically address the relationship between TNCs and transit directly. Still, TNC policies adopted by state legislation may have implications for the operation, accessibility, and safety of TNCs.

#### ***Background checks***

In Texas and other states, legislative and public discussion about the vetting of TNC drivers raised considerable disagreement about the type of background check policies to require of TNCs. Texas law requires TNCs to have a name-based background check conducted for a TNC driver before, or within a specified amount of time after, that driver is allowed to operate. No state law currently requires fingerprint-based background checks for TNC drivers but nearly every state requires that TNCs, at a minimum, conduct a third-party name-based background check on prospective drivers. While some TNCs strongly opposed fingerprint-based background check regulations in some jurisdictions, some TNCs have elected to include fingerprint in their company policy on driver vetting.

#### ***Non-Discrimination Requirements***

Texas law requires that TNCs adopt a policy that prohibits discrimination based on a passengers, “location or destination, race, color, national origin, religious belief or affiliation, sex, disability, or age.” The policy must also prohibit refusing to provide service due to the presence of a service animal (Section 2402.112).

HB 100 also introduced an Accessibility Pilot Program to conduct 2-year pilots in a large market and report on the program results (Section 2402.113).

#### ***Provide Passenger Opportunity to Request Wheelchair-Accessible Ride***

Texas policy requires that TNCs have an accessibility policy that requires that TNCs provide a way for potential passengers to *request* a WAV. TNCs are not required to directly provide an

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<sup>7</sup> <http://www.ci.minneapolis.mn.us/www/groups/public/@regservices/documents/webcontent/wcmstp-189740.pdf>

<sup>8</sup>

[http://library.municode.com/mn/st.\\_paul/codes/code\\_of\\_ordinances?nodeId=PTIILECO\\_TITXXIXLI\\_CH373TRN\\_ECO\\_S373.13TRNEDRINSUPO](http://library.municode.com/mn/st._paul/codes/code_of_ordinances?nodeId=PTIILECO_TITXXIXLI_CH373TRN_ECO_S373.13TRNEDRINSUPO)



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accessible ride. If they do not have an appropriate service, the TNCs must connect the passenger to another service/option that can, if such an option is available. Other jurisdictions include additional considerations, such as Washington, D.C., requires TNCs to ensure their app is accessible to persons with visual and auditory disabilities.

### ***Collect Data on Accessible Ride Requests***

TNC data can provide meaningful information to understand the role of TNCs and to inform decision making about transportation policy. However, due to TNCs' concerns about privacy and competition, data-sharing agreements have not been common between TNCs and government agencies.

In Texas, HB 100 states “a municipality and a transportation network company may voluntarily enter into an agreement under which the company shares the company's data with the municipality” (Section 2402.154).

Five jurisdictions (four states and Washington, D.C.) require data collection specifically related to wheelchair-accessible ride requests. These policies are designed to provide information on traveler accessibility needs and/or the impact of TNC services on wheelchair-accessible services. For example, Washington D.C. Act 20-489, *Sec. 20f-1. Accessibility of digital dispatch for individuals with disabilities* states, “By January 1, 2016, a company that provides digital dispatch shall... Provide a report to the Council's Committee on Transportation and the Environment, or its successor committee with oversight of for-hire vehicles, on how the company intends to increase access to wheelchair-accessible public or private vehicle-for-hire service to individuals with disabilities.”<sup>9</sup>

### ***Driver Training Requirements***

In addition to basic safety requirements that require a driver to have a valid drivers' license, vehicle registration, and insurance coverage, a small number of states require additional driver training. Texas is not one of them. Driver training is historically common for taxicabs and paratransit providers, and may even include training on how to serve passengers with disabilities. Driver training may be important for transit partnerships, especially those that focus on riders with disabilities. California, Nebraska, and Washington, D.C. require TNCs to establish a driver-training program.

### ***Disclosure or Limitations on Dynamic Pricing***

Transit agencies may need to consider how TNC pricing systems affect their customers. Dynamic pricing is a technique that Uber and Lyft developed as part of their business models to manage the supply of available drivers with the demand for rides. Both companies inform passengers and provide an opportunity to verify acceptance of the rate increase through the app

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<sup>9</sup> Council of the District of Columbia. D.C. Act 20-489 - Vehicle-for-Hire Innovation Amendment Act of 2014, 2014 § (2014). Council of the District of Columbia. Retrieved from <https://trackbill.com/s3/bills/DC/20/B/753/texts/signedact.pdf>. Accessed July 1, 2016.

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in all U.S. markets as company policy. Nebraska is the only state to require by law that TNCs disclose the use of dynamic pricing and provide an opportunity for passengers to confirm that they accept the higher rate<sup>10</sup>.

Three states including Washington, D.C., place a limitation on a TNCs use of dynamic, or surge, pricing during a declared state of emergency. Nevada Assembly Bill 176 gave the Nevada Transportation Authority (NTA) the power to set a maximum fare during an emergency. NTA determined that a TNC “shall not charge a rate in excess of twice the base rate on file with the authority upon the date of the emergency”<sup>11</sup>.

### ***Prohibit Cash Payments***

Texas law prohibits TNC drivers from accepting cash payments for fares. Instead, the TNC application is used to calculate the fare and charge a passenger’s credit card. TNCs offer this cashless app-based payment system as a way to provide a more convenient and hassle-free ride. Cashless transactions may reduce risks of theft or violence for drivers as taxi drivers historically face a high risk of workplace violence. Only accepting credit card payments may exclude individuals who do not have access to a bank account or credit card from being able to use the service.

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<sup>10</sup> Nebraska Legislative Bill 629. 2015. [http://nebraskalegislature.gov/bills/view\\_bill.php?DocumentID=24835](http://nebraskalegislature.gov/bills/view_bill.php?DocumentID=24835). Accessed July 1, 2016.

<sup>11</sup> Nevada Transportation Authority. Regulation and Licensing of Transportation Network Companies. Docket 15-06024, LCB File No. R029-15. 2015. [http://nta.nv.gov/uploadedFiles/ntanvgov/content/About/Meetings/2015/2015-07-16\\_Special\\_General\\_Session\\_and\\_Workshop-Supporting\\_doc.pdf](http://nta.nv.gov/uploadedFiles/ntanvgov/content/About/Meetings/2015/2015-07-16_Special_General_Session_and_Workshop-Supporting_doc.pdf). Accessed July 1, 2016.

*White Paper on TNCs and Transit Mobility*

**Appendix A**

- Describe the project's history/initiation.
  - What prompted the pilot? How was the public involved?
    - What were the service goals/key markets in mind for the pilot?
    - What are some lessons learned/best practices in public involvement?
    - Looking back, what does the agency wish they would have done differently to engage the public?
  - Please describe the process from project concept to launch.
    - Did the agency research/study/model their program from other peer agencies?
    - Did the private partner approach the transit agency or was there a procurement process? Or some other method of establishing a service agreement?
    - Can you share any details about the process/service agreement?
  - What opportunities/benefits did the transit agency identify when initiating the pilot?
    - How was quality of service a driver as an opportunity of the pilot?
  - What about other issues project development?
    - Please describe each and explain how the transit agency overcame them.
  - If starting over, how would the transit agency alter the pilot concept?
    - Please explain.
  - Looking forward, are there other pilot concepts the agency is considering?
    - Either working with TNC partners or using new service models?
- Describe regulatory concerns and how the transit agency addressed these concerns.
  - What state or local laws pertaining to shared mobility services affected the pilot?
  - Does the service require any permits to operate, such as those required for car services, taxis, etc.?
  - How are people with disabilities accommodated? Any equity concerns addressed?
  - What other regulatory challenges did your transit agency face?
  - Were there any other internal/external policy challenges faced?

## *White Paper on TNCs and Transit Mobility*

- What lessons did the transit agency learn from dealing with regulations?
- What laws/regulations could be implemented to make implementing shared mobility easier for your community/agency/area?
- Describe service issues addressed, including performance and cost effectiveness, if available.
  - How does service performance compare to the other transit modes provided by the transit agency?
  - Can you share information about cost per passenger, cost per mile, cost per hour, and other performance measurement data?
  - Were there performance measures specific to the transit agency-operated modes or the shared mobility services?
  - How were factors such as quality of service and customer satisfaction measured/tracked?
  - What data is provided by the private partner?
    - Is there any data that is not available but that the transit agency would like to have access to? Please explain why it's not included and how the transit agency works around this challenge.
  - Does the transit agency have a specific set of performance goals for the pilot service?
    - How is performance tracked/monitored/enforced?

*White Paper on TNCs and Transit Mobility*

**Appendix B**

Dear \_\_\_\_\_:

The Texas Department of Transportation (TxDOT) Public Transportation Division (PTN) has requested technical assistance from the Texas A&M Transportation Institute (TTI) to research examples of transit agency pilot programs/agreements with transportation network companies. PTN recognizes the emergence of partnerships between transit and TNCs in recent years as agencies explore how shared/on-demand mobility concepts can improve service, customer satisfaction, and performance. TTI will research past and current pilots with TNCs to create a white paper for TxDOT PTN summarizing the research findings on issues and opportunities, regulatory concerns, and performance measurement from the pilots. The white paper will assist PTN in working with small urban and rural transit agencies in the State of Texas and planning future support of transportation operations.

**Research Objective.** TNCs are rapidly expanding their operations in linking customers with private operators of on-demand service. Some transit agencies and/or cities have entered pilot agreements with TNCs to improve service options for customers. TxDOT PTN is looking to increase understanding of these pilot agreements, their service goals, and lessons learned, with a particular focus on pilots in small urban/rural areas or service for seniors/persons with disabilities. TTI researchers have prepared background information about pilots with TNCs from publicly available information and news releases. The objective of this research is to discover further information about issues and opportunities for a pilot project, regulatory concerns and how they were addressed, and service issues such as performance and cost effectiveness (if available). TTI will prepare a white paper for TxDOT PTN that will be used internally by the agency summarizing information for each agency.

**Research Approach and Case Studies.** TTI has prepared background information about transit/TNC pilot projects in North America in order to prioritize those that align closest with the research objectives. We are interested in learning more about your pilot project to include in the white paper as a case study about the agency's experience with the pilot. We believe that the best practices and lessons learned from your particular geographic and service situation will be helpful for TxDOT PTN's future assistance with small urban and rural transit agencies in Texas.

Your transit agency/city has been identified for one of these case studies. We would like to speak with you as someone who is knowledgeable about the pilot development/operations. We believe that this research would benefit from a guided, informal discussion with you by telephone in the next couple of weeks as convenient. Your participation in this effort is entirely voluntary.

If you agree to participate, I have attached a list of topic questions we would like to discuss for the research. The discussion should take about an hour. Our research products will not attribute specific comments to specific individuals, but if a question comes up that you feel is sensitive, you may decline to respond. We do not wish to request any information that might be considered confidential.

If you have specific questions about this project or this request to participate in the research, please contact me at \_\_\_\_\_. We look forward to speaking with you and will be in touch with you shortly.

Best regards,

[Name of state case study leader and contact information]

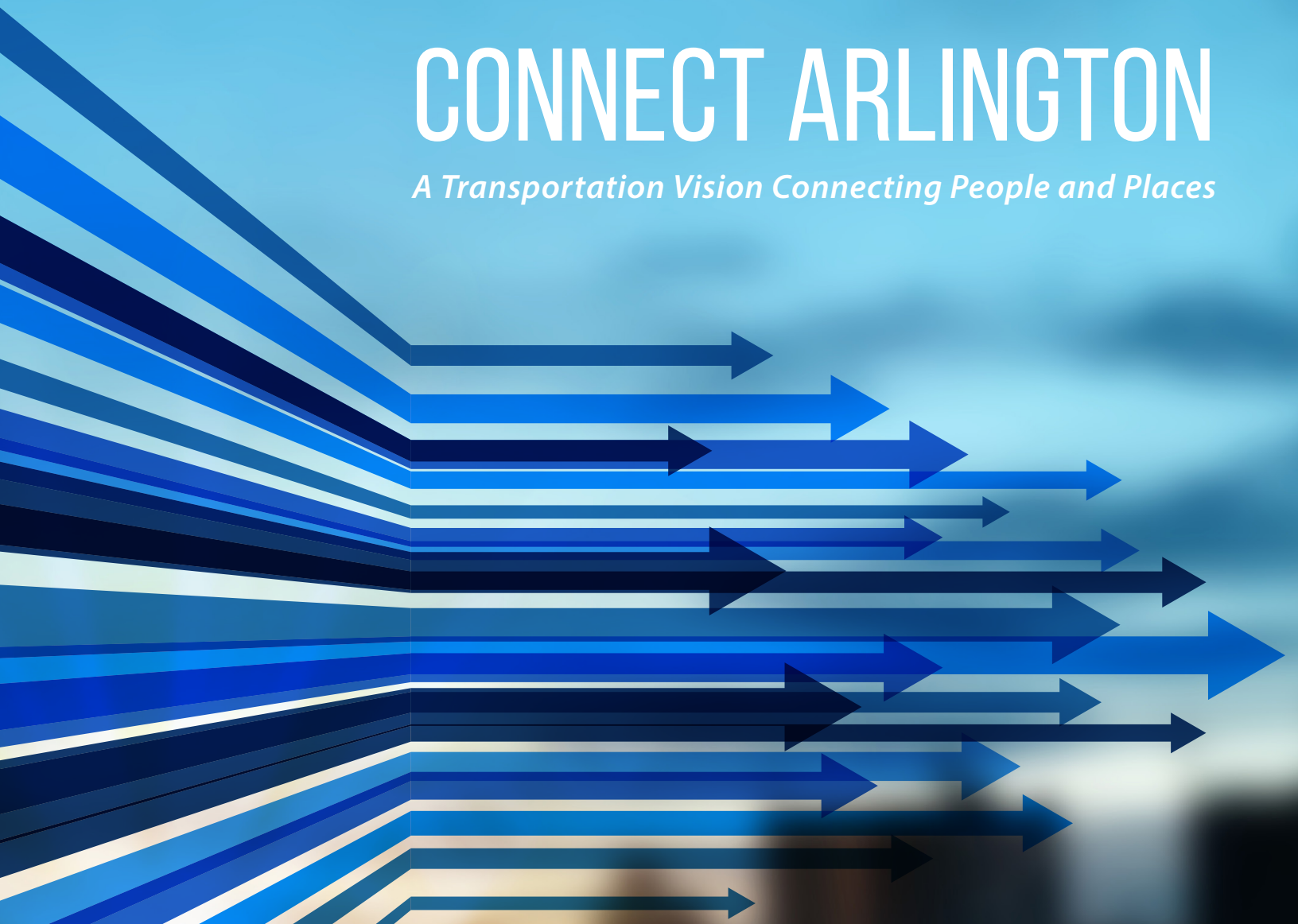
Attachment: Discussion guide

*White Paper on TNCs and Transit Mobility*

**Appendix C**

# CONNECT ARLINGTON

*A Transportation Vision Connecting People and Places*



TRANSPORTATION  
ADVISORY  
COMMITTEE REPORT  
September 2017

# INTRODUCTION

On September 6, 2016, Arlington’s Mayor and City Council formed the Transportation Advisory Committee (TAC), composed of 31 residents and community stakeholders. The Committee was tasked with developing a vision to help shape the future of transportation in the City of Arlington.

Over the course of 12 months, the TAC went through an extensive process to articulate community needs, gather information from a variety of sources, analyze data, and consider potential solutions to Arlington’s transportation challenges. This report is the culmination of that effort.

The following recommendations were formally adopted by the Transportation Advisory Committee and comprise the Committee’s transportation vision for the City of Arlington. The recommendations should serve as guidance for the City Council, as they craft a specific service plan which takes into account funding options, operational constraints and other details that will ultimately impact the service plan. While the Committee discussed various policy issues and developed some guidance on those issues, the long-term vision was the primary focus of the Committee.

## GUIDING PRINCIPLES

The recommendations in this report are based on several guiding principles which helped direct the Committee process and the resulting recommendations. The TAC agrees that a visionary transportation system for Arlington:

- » Provides a long-term transportation vision for the next 20 to 30 years;
- » Offers flexible, adaptable solutions;
- » Enhances and attracts economic growth, factoring in population growth and emerging technologies;
- » Is phaseable, to include both mid-term and long-term solutions;
- » Strives to be cost-effective, maximizing potential funding opportunities for both capital and operating costs;
- » Connects into any current or future regional system and potentially replaces existing transportation services within the City and the University of Texas at Arlington;
- » Encourages partnerships with regional entities, the private sector and neighboring cities;
- » Minimizes impacts to existing traffic;
- » Is environmentally-friendly, minimizing carbon emissions;
- » Supports a high quality of life for the citizens of Arlington;
- » Minimizes trip times and transfer between modes through the City and the region;
- » Considers the opportunity cost of traffic delays.





## TARGET POPULATIONS

From the beginning of the process, the TAC worked to identify the various categories of users who should be served by a transportation system in Arlington. Committee members agreed that the following groups should be served through one or more of the suggested modes described in this report.

- » Employment-Based Commuters
- » Senior Citizens
- » Students
- » Healthcare Access
- » Individuals with Lower Incomes
- » Individuals with Disabilities
- » Tourists
- » Special Event Attendees
- » Regional Commuters
- » Local Shoppers and Diners
- » Travelers to and from the Dallas-Fort Worth International Airport

## MODE OPTIONS

Throughout the process, the Committee received information on transportation services currently available in the City as well as new opportunities they may want to consider. Existing services discussed included Handitran, the Metro ArlingtonXpress (MAX), Mission Arlington transportation services, Ride2Work, the Trinity Railway Express (TRE), the University of Texas at Arlington shuttle, and the Entertainment District Trolley. While the TAC's recommendations do not directly speak to existing services, the Committee did discuss how some of these services may evolve based on the City Council's implementation of the TAC recommendations.

New transportation modes considered by the Committee throughout the process included not less than 16 modes. As the Committee analyzed options throughout the process, mode choices were narrowed down. The recommended modes included in this report were considered the best fit for the needs of the City.

## COMMITTEE RECOMMENDATIONS

The Committee identified populations to be served, key destinations that require service – designated as major and minor hubs, and six priority corridors to fully serve the transportation needs of the City. The TAC then identified those modes which would best connect citizens to and from destination points within the six corridors.

# RECOMMENDED MODES

Examples of the modes included in the TAC recommendations are detailed below.

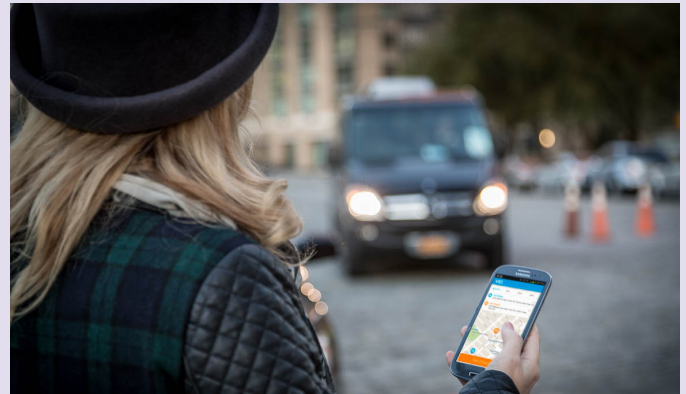
## Demand-Response Rideshare

Demand-Response Rideshare has the ability to address mobility needs through a dynamic micro-transportation system with an infinite number of on-demand stops. This type of service is a technology-based solution that is a flexible,

efficient and cost-effective option for riders traveling for work, pleasure or day-to-day needs. Users can reserve a seat, pay for their trip and track their ride through a smartphone application, although dial-in and web-based options are also available.



*An example of a rideshare vehicle.*



*Demand-Response Rideshare riders can book a ride through a smartphone application.*

## Bus Rapid Transit or High-Intensity Bus

Bus Rapid Transit and High-Intensity Bus are both high-quality, rubber-tired transportation options that are designed to deliver fast, reliable and comfortable service. They typically run in their own dedicated lane and can be given traffic signal priority to improve speed of service. The systems also allow for off-board fare payment, platform-

level boarding and are able to carry a high volume of passengers. They often provide amenities such as free Wi-Fi, high-backed seats and charging stations. Bus Rapid Transit is a localized service, while High-Intensity Bus typically runs longer distances between cities in a managed highway lane.



*The Fort Worth Transportation Authority operates a BRT line named the "Spur" in Fort Worth.*



*An example of a BRT station where passengers can purchase tickets before boarding the vehicle.*

# RECOMMENDED MODES

## Rubber-Tired Shuttle

Rubber-Tired Shuttles offer the flexibility to travel at-grade or on an elevated guideway. Due to their small size, it may be possible to design, simple, lower-cost elevated paths that reduce the overall

cost of the system. Autonomous technology is in its infancy, but future versions of such vehicles are expected to carry passengers and/or freight quickly, safely and cost effectively.



*EasyMile, a leader in low-speed, rubber-tired autonomous shuttle technology, currently operates in Arlington’s Entertainment District.*

*Navya is another low-speed, autonomous shuttle provider.*

## Personal Rapid Transit

Personal Rapid Transit features fully-automated vehicles operating as part of a system on an elevated guideway system. The systems are typically higher-speed and vehicles carry one to six passengers. Simple guideways may reduce

costs and visual impact on the built environment. Stations are located on sidings, allowing for non-stop, point to point travel that bypasses intermediate stations.



*Rendering of SkyTran, an example of a PRT System that uses magnetic levitation instead of wheels.*







*Ultra Pod PRT is a battery-powered system that operates at London Heathrow Airport.*

*Rendering of a proposed PRT system for Austin, Texas.*

# CORRIDORS AND HUBS

## Legend

### Corridor

-  1 - CentrePort TRE to Entertainment District
-  2 - Entertainment District to South Arlington
-  3 - Entertainment District to TCC
-  4 - IH 30
-  5 - IH 20
-  6 - Spur 303 (Pioneer Parkway)



### Major Hub

- A - CentrePort TRE Station
- B - Entertainment District
- C - Downtown / UTA
- D - Parks Mall / Highlands



### Minor Hub

- a - Viridian
- b - Arlington Memorial Hospital
- c - General Motors
- d - Senior Center
- e - Medical District
- f - US 287 / IH 20
- g - IH 20 / SH 360 Industrial Area
- h - Tarrant County College
- i - Mansfield Hub

 TRE Railway

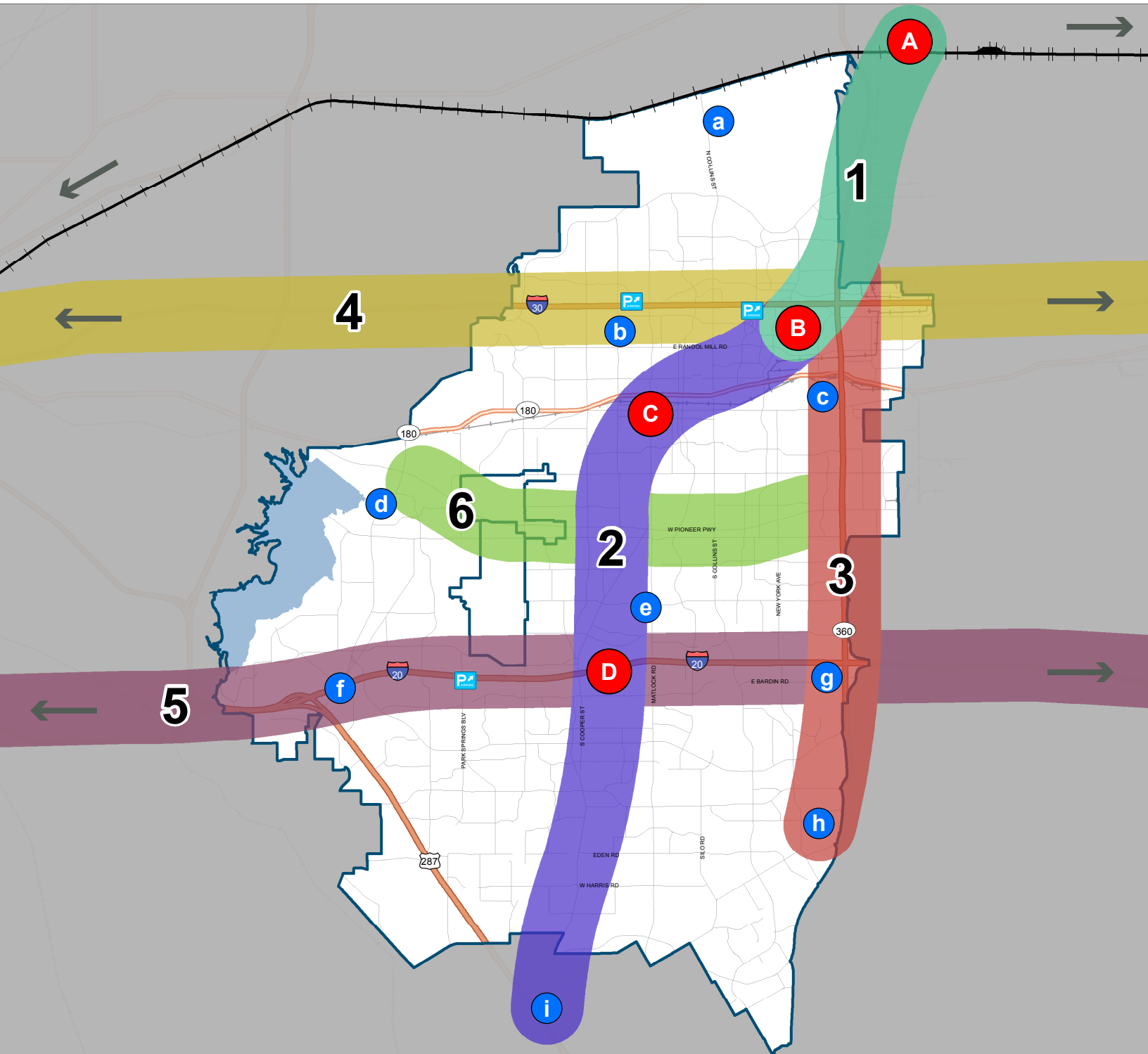
 Park and Ride

 Connection to Fort Worth

 Connection to Dallas

Sources:  
Tarrant County TAD data (2017),  
Data & Maps for ArcGIS 2012 - World, Europe,  
and United States, City of Arlington - CDP GIS  
data structure.  
Current to: 8/10/2017

Disclaimer: This data has been compiled by  
The City of Arlington using various official and  
unofficial sources. Although every effort was  
made to ensure the accuracy of this data, no  
such guarantee is given or implied.



# CORRIDOR RECOMMENDATIONS

## CORRIDOR 1

CentrePort (TRE Station) to Entertainment District

### Desired Service Characteristics

- » Gateway to the City
- » “Signature” type of service
- » Fixed-route service
- » High frequency
- » Elevated to avoid traffic impacts
- » Serves visitors, employees, businesses, and residents

### Mid-term Recommendations

- » Provide Demand-Response Rideshare service within Corridor 1.

### Long-term Recommendations

- » Corridor 1 will be best served by fixed-route service, such as autonomous, rubber-tired shuttles, or Personal Rapid Transit. Any service along this corridor could be elevated to prevent traffic congestion.

## CORRIDOR 2

Entertainment District to South Arlington  
(along Cooper Street)

### Desired Service Characteristics

- » Fixed-route service
- » Express or local service based on demand
- » Serves residents, businesses, and shoppers

### Mid-term Recommendations

- » Provide Demand-Response Rideshare service within Corridor 2.

### Long-term Recommendations

- » Corridor 2 will be best served by fixed-route service such as autonomous, rubber-tired shuttles, or Personal Rapid Transit. Any service along this corridor could be elevated to prevent traffic congestion.

## CORRIDOR 3

Entertainment District to Tarrant County College (along 360)

### Desired Service Characteristics

- » A commuter transportation “spine” connecting northern and southern Arlington
- » Minimal traffic impacts using an elevated or separate guideway
- » Serves internal and external travel focused on work commuters and education-based transportation needs

### Mid-term Recommendations

- » Provide Demand-Response Rideshare service within Corridor 3.

### Long-term Recommendations

- » Corridor 3 will be best served by fixed-route service, such as autonomous, rubber-tired shuttles or Personal Rapid Transit. Any service along this corridor could be elevated to prevent traffic congestion.

# CORRIDOR RECOMMENDATIONS

## CORRIDOR 4

I-30 Corridor

### Desired Service Characteristics

- » Regional connections
- » Express service
- » Commuter service
- » Comfort
- » Amenities
- » Serves commuters to Fort Worth and Dallas, as well as visitors

### Mid-term Recommendations

- » To better move citizens and visitors along Interstate 30, the Committee recommends the implementation of a Bus Rapid Transit or High-Intensity Bus Service.

### Long-term Recommendations

- » The Committee supports High Speed Rail in this Corridor as a long-term solution, if the region is able to complete such a project. If High Speed Rail is not constructed in the Corridor, the Committee recommends Bus Rapid Transit or High Intensity Bus service.

## CORRIDOR 5

IH 20 Corridor

### Desired Service Characteristics

- » Regional Connections
- » Express Service
- » Commuter Service
- » Comfort
- » Amenities
- » Serves commuters and residents

### Mid-term and Long-term Recommendations

- » To better move citizens and visitors along Interstate 20, the Committee recommends the implementation of a Bus Rapid Transit or High-Intensity Bus Service in this Corridor, as both a mid-term and long-term recommendation.

## CORRIDOR 6

Pioneer Parkway – Highway 303

### Desired Service Characteristics

- » Fixed-route Service
- » Provides link to neighboring cities
- » Serves as a reliever for I-30 and I-20
- » Serves residents, businesses, seniors, tourists, and shoppers

### Mid-term Recommendations

- » Provide Demand-Response Rideshare service within Corridor 6.

### Long-term Recommendations

- » Corridor 6 will be best served by fixed-route service, such as autonomous, rubber-tired shuttles, or Personal Rapid Transit. Any service along this Corridor should be elevated to prevent increased traffic congestion.

# ADDITIONAL RECOMMENDATIONS

In addition to the Corridor-specific recommendations, the Committee further recommends the following to amplify the overall transportation vision for the city:

## Demand-Response Rideshare

The Committee recommends citywide Demand-Response Rideshare to allow for connections between the six identified corridors.

## Circulators

The Committee recommends including circulator routes as part of a complete transportation system. These circulators would operate in three key, higher activity locations to facilitate movement within the area, such as from parking lots to destinations. Recommended locations include the Entertainment District, Downtown/UTA and the Parks Mall/Arlington Highlands. Desired service characteristics include a flexible, technologically-advanced service based on demand.

## Multi-Modal Centers

The Committee recommends the incorporation of a Multi-Modal Center as part of a comprehensive transportation system in Arlington. A Multi-Modal Center is a place where passengers can transfer between a variety of modes, such as trains, shuttles, circulators, taxis and more. These Centers can also create economic development opportunities for the surrounding area. The Committee recommends a Multi-Modal Center in the Entertainment District, co-located with the proposed high speed rail station, as well as other locations where operationally efficient.

*An artist's rendering of the Transbay Transit Center in San Francisco.*





# OTHER POLICY CONSIDERATIONS

The Committee recommends the following policy initiatives be considered by the Mayor and Council in implementing the overall transportation vision.

- » Take a citizen-centric approach when developing the detailed transportation plan based upon these recommendations
- » Incorporate innovative emerging technology
- » Support proposed High Speed Rail and develop a transportation system that accommodates a future station
- » Maximize use of existing park and ride lots
- » Invest in infrastructure improvements to maximize success of system, such as sidewalks and other infrastructure improvements that will increase use of service
- » Plan a future direct connection to DFW International Airport
- » Develop an integrated, seamless payment system for citizens
- » Evaluate the operational efficiency of connecting Corridors 1, 2, and 3 as a continuous loop

## TAC MEMBERS

Tim Beary	Kate McGee
Esteban Blanco	Jim Monroe
Bill Coppola	Nesha Morey
Raul Gonzalez	Jan Porter
Syed Hassan	Willie Rankin
Michael Hill	Bryan Roberts
Greg Hladik	Russell Schaffner
Michael Jacobson	Deborah Spell
Cynthia Jensen	David Tesmer
Tom Lehrman	Bethany Tinderholt
Lorie Lisius	Paul Turner
Chad Martindale	Greg Vaquera
Steve Martindale	Bill Verkest, Chair
Peggy Masters	Susan Wright
Rob Matwick	Steve Wurm
Steve McCollum	



*White Paper on TNCs and Transit Mobility*

**Appendix D**

**Project Name:** Transit on Demand – Via Demonstration Pilot      **Initial Date Prepared:** 9/22/2017

**CMTA Branded:** *Pickup* launched 6/6/2017

**Goal:** Proof of concept for future services

### **Demonstration Background**

Capital Metro had initiatives underway, branded as MetroFlex, to offer flexible routing within a geographic zone that would allow customers to request pickup at a location off a fixed route and then for the vehicle to return to the route and continue in this manner throughout the route. Timepoints were assigned to start and end only. Capital Metro had no technology in place to fully automate this and had developed a solution using a combination of existing software and manual processes to provide this service. This service was only available if a customer called 24 hours ahead to reserve the ride.

Capital Metro had also recognized that customers experience issues with first/last mile transportation needs. Many of our transit centers do not have any or adequate parking. Solutions for customers are private transportation such as taxis or ridesharing companies that are expensive, unaffordable to some, and often inconvenient. This pushes people back to their cars straining our transportation infrastructure and the environment.

Pickup in partnership with Via is one more example of the innovation projects Capital Metro has done over the past few years that enable us to try out technology in an innovative way. With transit on demand, we are looking at software outside our traditional fixed route scheduling that might afford us better ways to serve our customers. In this case, we are taking a page out of TNC's playbook, but at the same time, we are partnering with TNCs like rideshare, bikeshare, car share for multimodal trip planning using the transit on demand demonstration project as well as these partnerships to see how they might deliver solutions for first/last mile.

These initiatives are consistent with Capital Metro's Connections 2025 transit plan that will create a more frequent, more reliable and better connected system. It will guide the evolution of our network over the next 5 years and identifies long-range opportunities for the next decade.

### **Demonstration Overview**

Via technology provides an on-demand system that aggregates people traveling from multiple origins to multiple destinations in an exceptionally efficient way. Via currently operates in New York City, Chicago, Washington D.C., and Orange County (as part of a strategic licensing partnership with Mercedes-Benz), cumulatively delivering tens of thousands of rides per day and more than five million rides total since launching in late 2013.

The Via technology will be used to address the challenges Capital Metro faces with demand response services and first/last mile issues.

### **Demonstration Agreement**

A Mutual Nondisclosure agreement with a term of 3 years was signed on February 10, 2016 by Capital Metro and Via, Inc. This allowed us to begin to explore the possibilities of a pilot program. The agreement between Capital Metro and Via, Inc is at no cost to Capital Metro and was signed on January

20, 2017. Via provided software and services for a single defined geographic region, hosted software, and 10 tablets; and Capital Metro provided vehicles, drivers, computers with internet access and other support staff. Marketing plan was developed jointly.

The demonstration period is expected to last 12 months from Go Live, but Capital Metro can terminate early if they so choose. This will give Capital Metro and Via adequate time to make adjustments as needed, measure the viability and impact of the service, the feasibility of the technology, and gauge customer interest and gather feedback.

### **Key Features**

The Via technology includes three major components:

- Customer mobile app
  - App for iOS and Android that allows customers, on-demand, to request transportation and track the progress of their vehicle to their pickup location;
- Scheduling and Dispatch/Coordinator software
  - Software will dynamically assign the most appropriate vehicle to pick the customer up based on the number of vehicles and customer trip destination;
  - Dispatch/coordinator software that allows dispatchers to override and re-route a vehicle to pick up a customer and create trips for passengers who call in;
- Vehicle Hardware/Software
  - Android based tablets that run a mobile app for drivers to receive turn by turn directions to customer pickup and drop-off locations.

### **Service Area**

#### ***Initial –***

5.49- square miles of northeast Austin, from the intersection of Airport Blvd and Manor Rd, north to Cameron Rd and Little Walnut Creek. Bordered by IH-35 to the west and Haney Dr and Wellington Dr to the east. The service area includes the Mueller, Windsor Park and Coronado Hills residential areas.

#### ***Amended –***

7.37 square miles as described above plus an additional pickup/drop-off location at the MLK rail station located approximately a half mile (.5) southwest of the intersection of Airport Blvd and Manor Rd.

### **Vehicles**

2 vehicles are primarily used in delivering the service. They are 2011 Chevy G3500 Champions, retired from Paratransit service and wrapped with Pickup information. Additional vehicles are deployed as needed but are not wrapped. A magnetic sign is placed on the vehicle to identify it as part of the Pickup fleet. Vehicle capacity is 9 which includes 2 two securement areas for riders who use wheelchairs.

### **Operation of Service**

- Tuesday/Thursday/Saturday: 9AM – 6PM (6/6/17 – 9/30/17)
- Monday-Friday: 7AM – 7PM; Saturday: 10AM – 5PM (10/2/17 – present)
- Open to the Public
- 100% ADA-Accessible
- Free fare during Pilot

- 15-minute or better response
- On-App and telephone reservations

### **Schedule**

The geographic region was set March 12, 2017.

The launch took place June 12, 2017.

### **Driver Training**

Driver training took place in two 4 hour sessions. After training, driver behavior was monitored and training reinforced.

### **Dispatcher/Coordinator Training**

Dispatcher/Coordinator training took place in two 4 hour sessions. After training, Dispatcher/Coordinator behavior was monitored and training reinforced.

### **Customer Outreach**

Community Involvement created a Customer Outreach Plan with several goals:

- Increase ridership to 72 daily average (MetroFlex was 45 daily average)
- Reduce the number of riders who request service by phone (currently 50%)
- Expand the audience beyond Paratransit riders

Customer outreach to communities that the business owner identified to include:

- Contacting targeted communities
- Hosting informational sessions to demonstrate the PickUp app (and other Capital Metro services)
- Contacting targeted communities
- Hosting informational sessions to demonstrate the PickUp app (and other Capital Metro services)
- Determine if targeted communities would like to host a Transit Adventure using PickUp

### **Marketing**

Prior to launch several marketing items were developed and rolled out:

- Web page was developed to explain the new service;
- Direct mail pieces were developed in English and Spanish and dropped to homes within the service area twice;
- Posters were designed and deployed to targeted senior communities and key businesses within the service area;
- Sponsored Facebook posts that used keywords associated with the area;

Post launch Via was able to work with us to improve searchability results within the app store. Once the service area was expanded, updates to the web page was made.

### **Media**

Prior to launch a press release was initiated on June 2<sup>nd</sup> to announce the service.

Post launch media inquiries were responded to with interviews. Additionally, Via will be producing a video of the service.

### **Metrics**

Via has provided a reporting system to allow us to track key performance statistics:

- Ridership
- Passengers per Hour
- Cost per Passenger, Mile, Hour, etc.
- Response Time (Request to Pickup)
- App Downloads
- Reservation Calls
- Customer feedback

Goals associated with these metrics have been drafted, but will not be published until the pilot is complete. This includes costs that are being tracked that are associated with some of these metrics.

### **Other Considerations**

There are a number of uses Capital Metro may explore with the Via technology that may help increase ridership, deliver more customer-centered service, and promote fiscal and environmental sustainability:

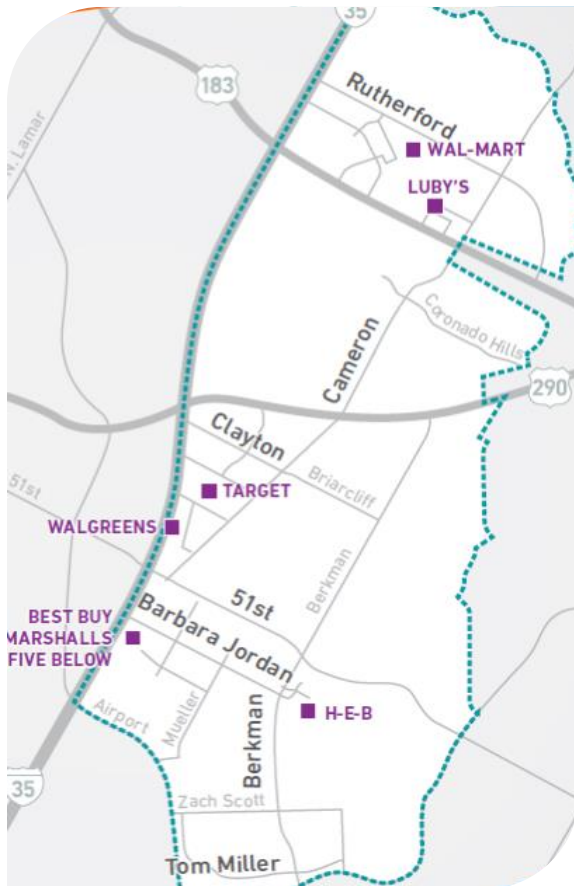
- Paratransit – Act as a complementary service where appropriate to reduce the cost per ride, dramatically improve the customer experience, and expand the reach of service;
- Fixed-route Optimization – Use the technology to calibrate the optimal balance between fixed-route and on-demand mobility by converting underperforming fixed routes during lower-utilization, off-peak hours into on-demand service areas;
- Dial-a-Ride – Reduce resource-intensive services/programs by shifting to an on-demand, real-time system that transports more people per vehicle hour.

### **Demonstration Conclusion**

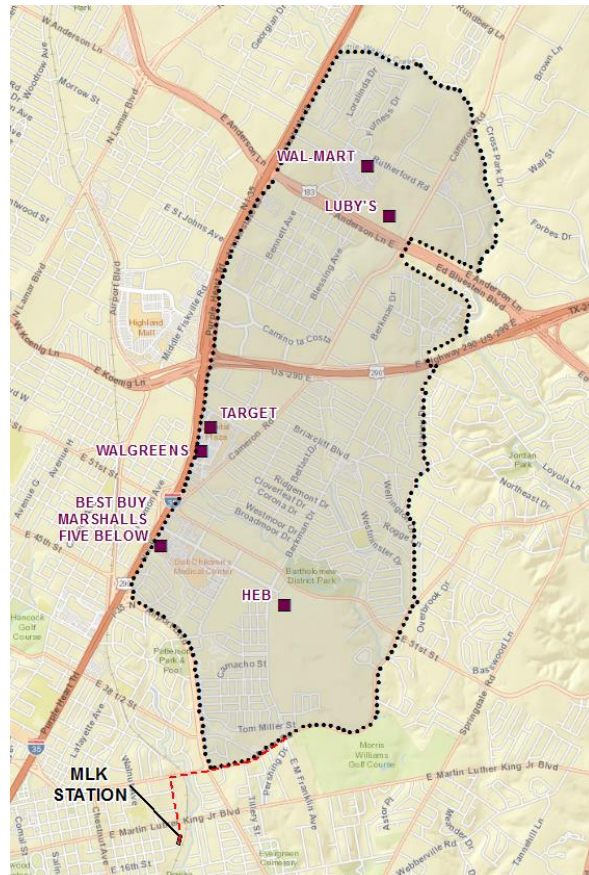
At the conclusion, Capital Metro will be able to determine if a competitive procurement is desired and better be able to determine the comprehensive scope and requirements as a result of this demonstration.

**Additional Information:**

**Service Maps**



**Initial**



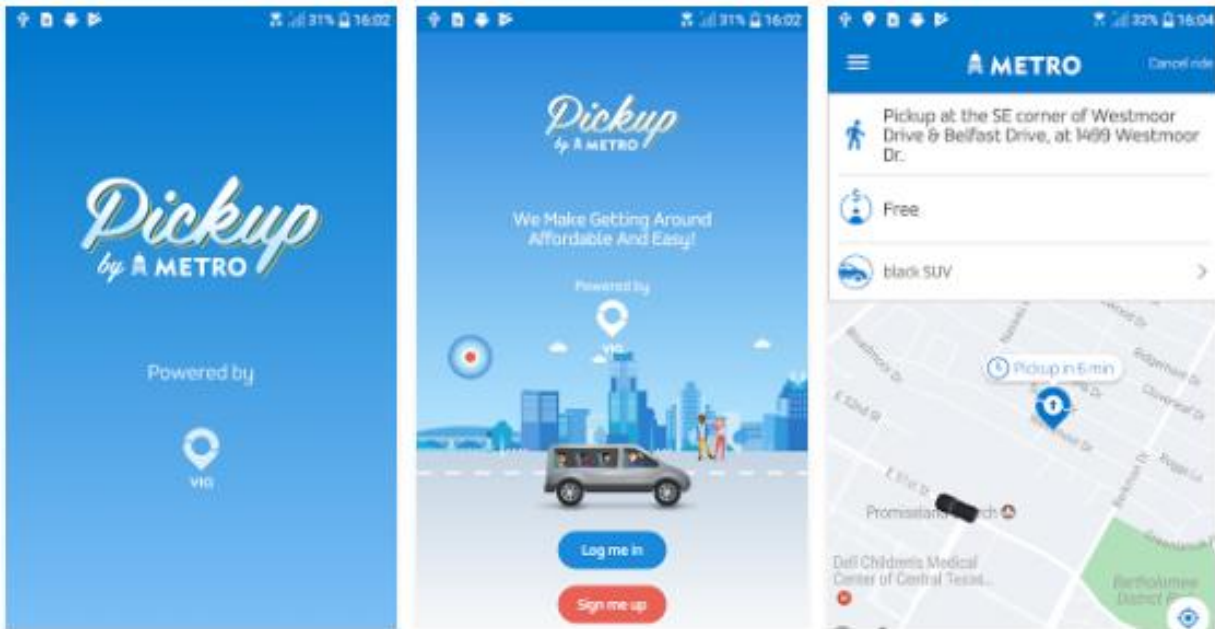
**Amended**



**Additional Information:**

**Customer Mobile App**

**Customer Rating in Google Play and Apple Store: 4+ ★★★★★**



Pickup by CapMetro is a smarter way to get around Austin's Upper East Side. Book a premium ride whenever you want by using the Pickup app. Even better, it's free! Take a ride anywhere within your neighborhood at no cost with just the swipe of your finger.

Our revolutionary service allows you to seamlessly share your ride with other riders also going your way. Book a ride and in under a second our powerful algorithm matches you with a vehicle that can pick you up within 15 minutes. Pickup by CapMetro is a new model of on-demand transit — a tech-enabled bus that comes to you when and where you need it.

Area we serve:

- Austin's Upper East Side and the surrounding area, from the Mueller neighborhood to up north near Rundberg and I-35.

How does Pickup work?

- Pickup is an on-demand transit service that takes multiple passengers heading in the same direction and books them into a shared vehicle. To use the Pickup app, type in your address and your destination and we'll match you with a vehicle going your way. We'll pick you up on a nearby corner and drop you off within a few blocks of your requested destination. Our algorithms provide trip times that are comparable to a taxi, even with multiple pickups along the way.

- Don't have a smartphone? Call 512-369-6200 to request a ride. We'll let you know the pickup and drop-off address of your vehicle, as well as its ETA.

When does it operate?

- The pilot program for Pickup by CapMetro will operate Tuesdays, Thursdays and Saturdays between 9 a.m. and 6 p.m.

How long will I wait?

- Our average wait time is 5 minutes, and you'll always get an accurate estimate of your pick-up ETA before booking. You can also track your car in real-time in the app.

How many passengers will I share a car with?

- The number of passengers you will share a ride with will vary based on capacity and your chosen destination. Our minibuses can easily accommodate up to 12 people.

How much will it cost me?

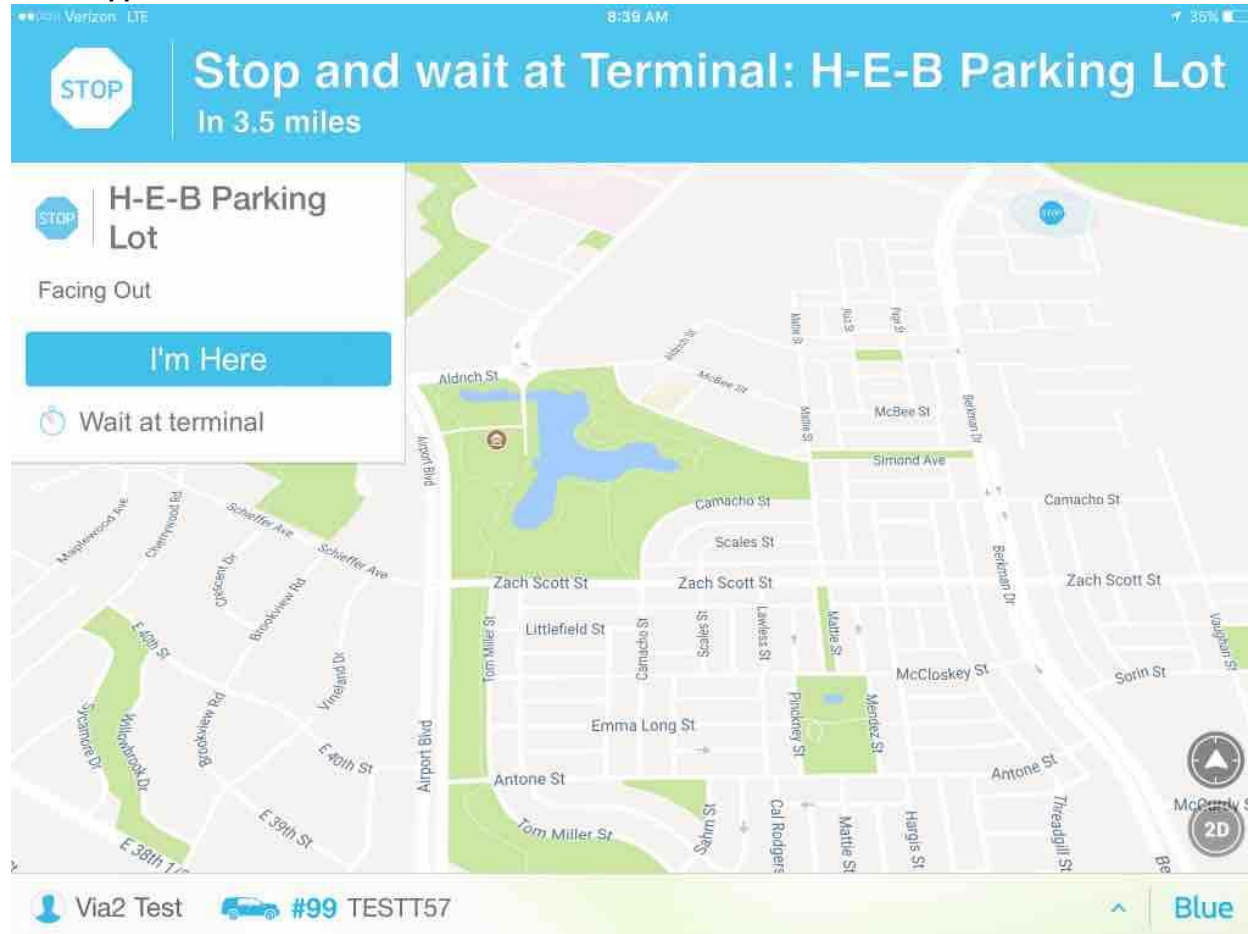
- For the launch of the service, you can ride for free — no credit card or cash collection required.

Try CapMetro's new on-demand service, serving Austin's Upper East Side.

Love our app? Please rate us! Questions? Email us at [customerservice@capmetro.com](mailto:customerservice@capmetro.com).

**Additional Information:**

**Driver App**



**Additional Information:**

**Dispatch/Coordinator Software**  
**Active service details for driver 3**

The screenshot displays the Via Visualizer web application interface. At the top, there are browser tabs and a navigation bar. The main area is a map of Austin, Texas, with a popup window for 'Pickup Operator 3 (ID: 3) (DP)'. The popup contains the following information:

- Driver: Pickup Operator 3 (ID: 3) (DP)
- Driver phone: +1 512-561-7721 [Text driver](#)
- Driver Doesn't have a masked phone!
- Van ID: 63 [Change to unavailable](#) or [Set shift end](#)
- [Set break start](#)
- Van Plate: 1188873
- Van Capacity: 9 (max: 9)
- Battery percentage: 36% (not charging)
- Visual Identifier: Pickup Van
- Window Identifier: 702
- Car Type: Chevy Champions
- iPad app version: 5.8.3
- Riders: [Accept](#) [Reject](#) [Text all riders](#)

Below the popup, another rider is listed: 'Mary Martinez (ID: 546) solo' with options to [use](#), [text](#), [dropoff](#), and [cancel](#).

On the left side of the interface, there is a sidebar with various controls and information:

- Weather: Temperature: 81.5F (27.5C), Feels like: 82.9F (28.3C), Precipitation: 0%
- Service Mode: Mixed mode
- Vans: On shift: 3 +0 +0 (3), On break: 0 +0 +0 (0), Pre-shift: 0 +0 +0 (0), Total: 3 +0 +0 (3), Cap: (3/500)
- Campers: (0/0) [Show](#)
- Brown vans: 0 (0%)
- Pending pickups: 1
- Riders on-board: 0
- Driver ID: [input field]
- Major alerts: [checkboxes for various alerts]
- Rider ID: [input field]
- Terminals: austin\_noon, Speeds: aus noon
- Rider ETAs: Google+Manual
- Latency: X1.54

On the right side, there is a 'News Feed' section for August 31, 2017, 12:29:23. It includes a list of events with checkboxes for 'Alerts', 'SMS and Calls', 'Errors', and 'No Shows'. The feed contains several entries, such as 'Tony Lynch (130) requested a solo ride from 1026 Clayton Lane to Walmart Supercenter, Norwood Park Boulevard' and 'Pickup Operator 3 (3) (DP) has gone offroute at 7833 Clock Tower Drive, and got a new route'.

**Additional Information:**

**Dispatch/Coordinator Software**

**Active Service**

The screenshot displays the VIA Visualizer web application. The main area is a map of Austin, Texas, with several service areas outlined in blue and green. A red pin is located in the Mueller area. On the left side, there is a sidebar with weather information (Temperature: 81.5F (27.5C), Feels like: 83.1F (28.4C), Precipitation: 0%), service mode (Mixed mode), and a table for van status:

Vans			
	B	F	U
On shift:	3	+0	+0 (3)
On break:	0	+0	+0 (0)
Pre-shift:	0	+0	+0 (0)
Total:	3	+0	+0 (3)
Cap:	(3/500)		
Camper:	(0/0) Show		
Brown vans:	0 (0%)		
Pending pickups:	1		
Riders on-board:	0		

Below the table are fields for Driver ID, Major alerts, and Rider ID. At the bottom left, there is a 'Latency' gauge showing 11.54 ms. The right side of the interface features a 'News Feed' with a list of events, including operator offroutes and ride cancellations.

**Additional Information:**

**Reporting**



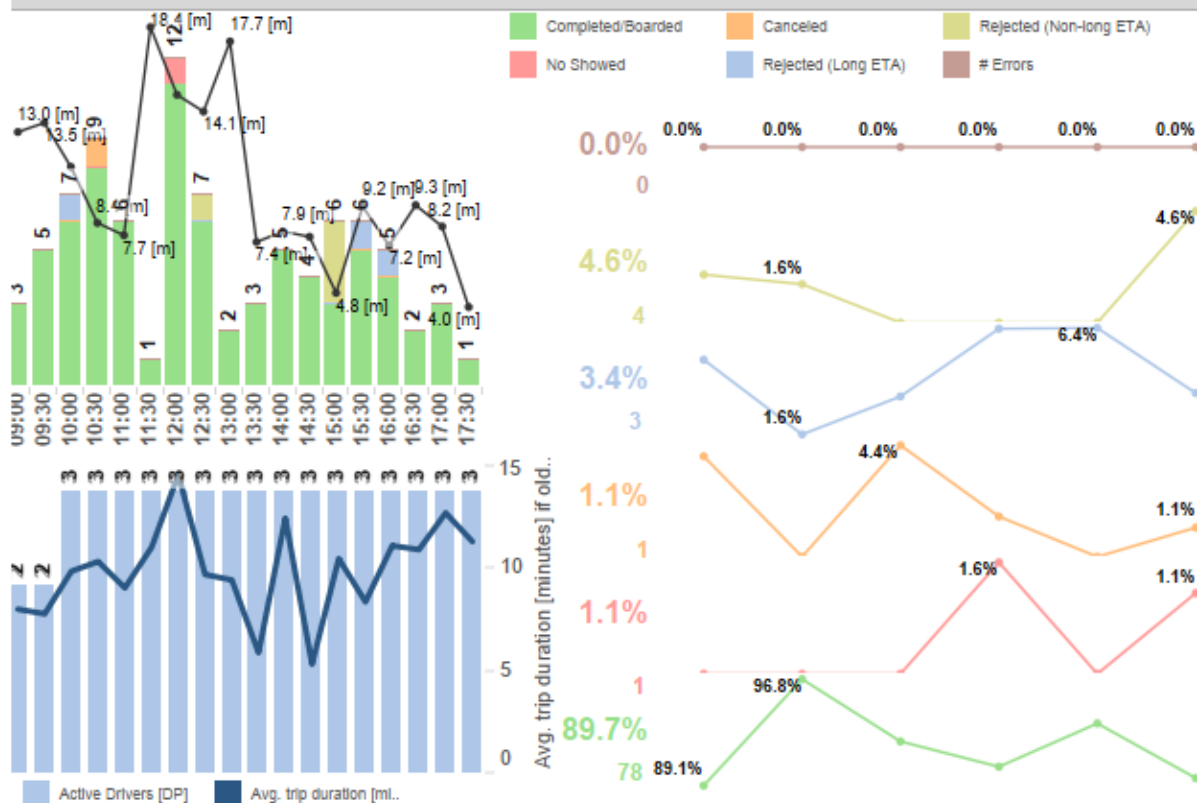
Full Day  
CapMetro

**Shift Report**

**August 29, 2017**

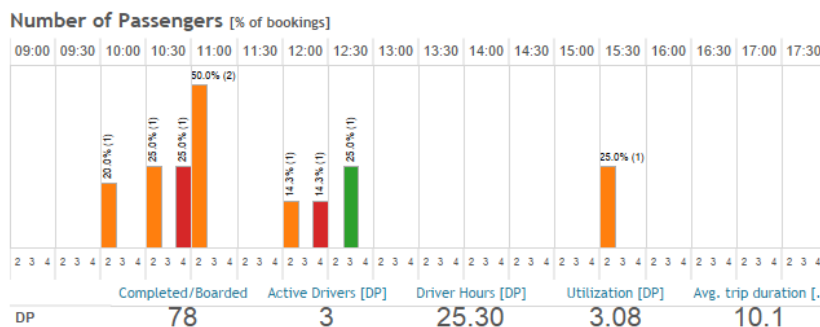
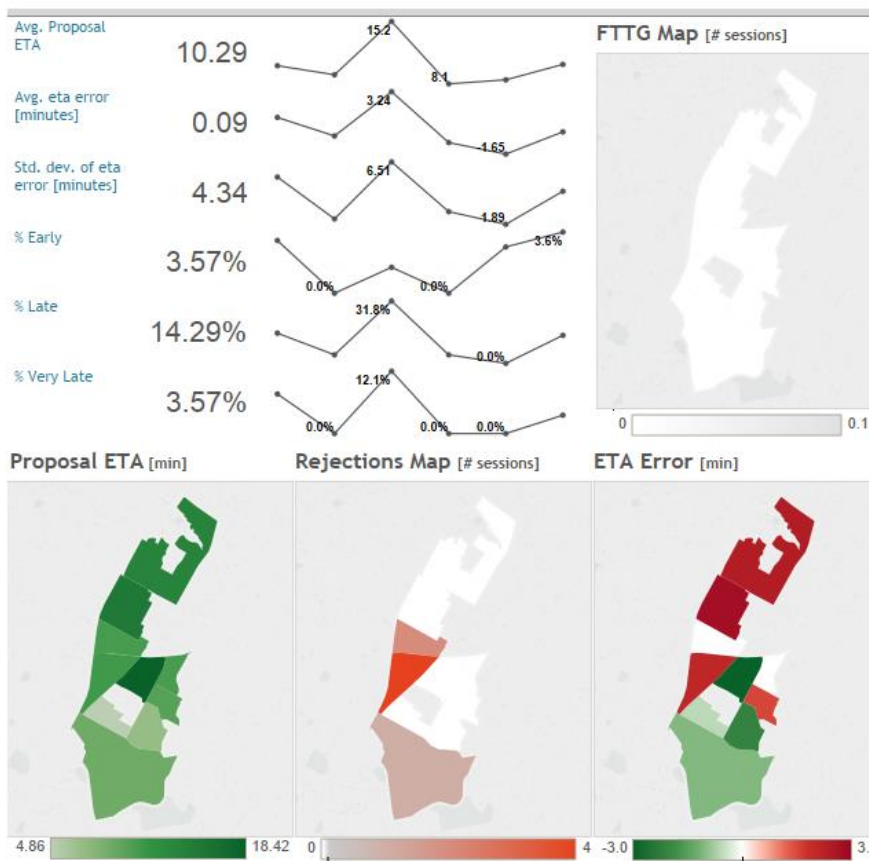
Days back 0

Completed/Boarded	Active Drivers	Driver Hours	Utilization	Avg. trip duration [min..]
78	3	25.30	3.08	10.1



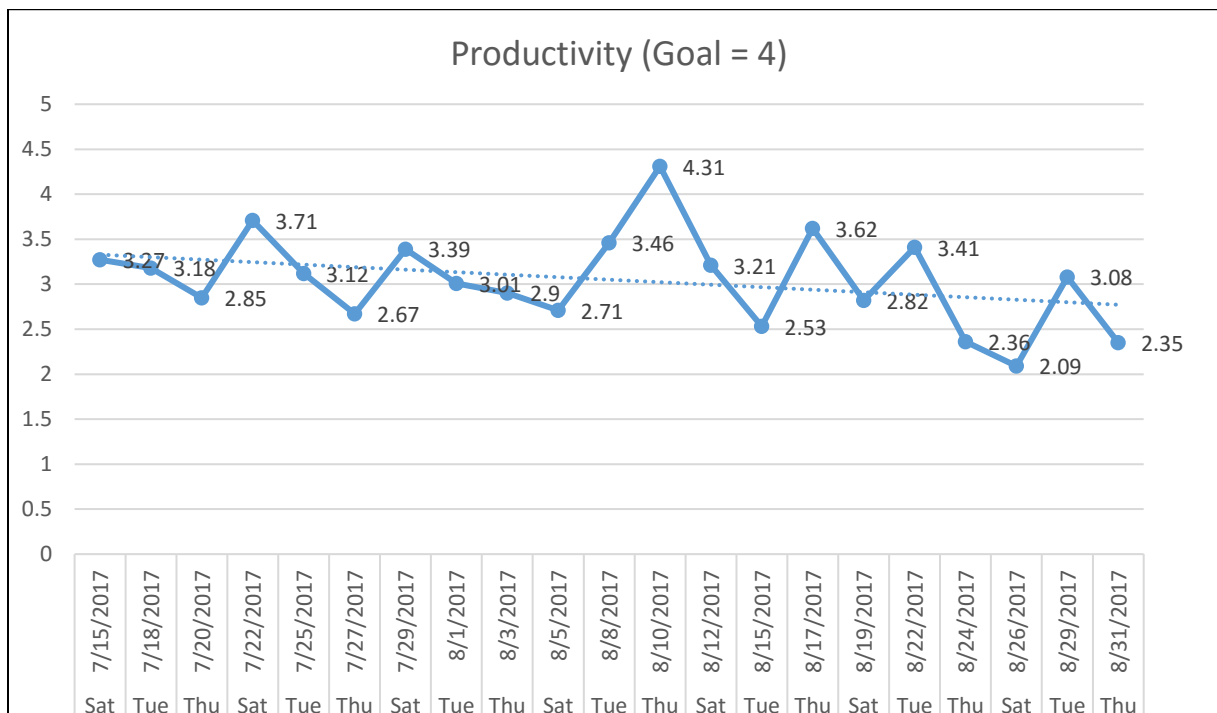
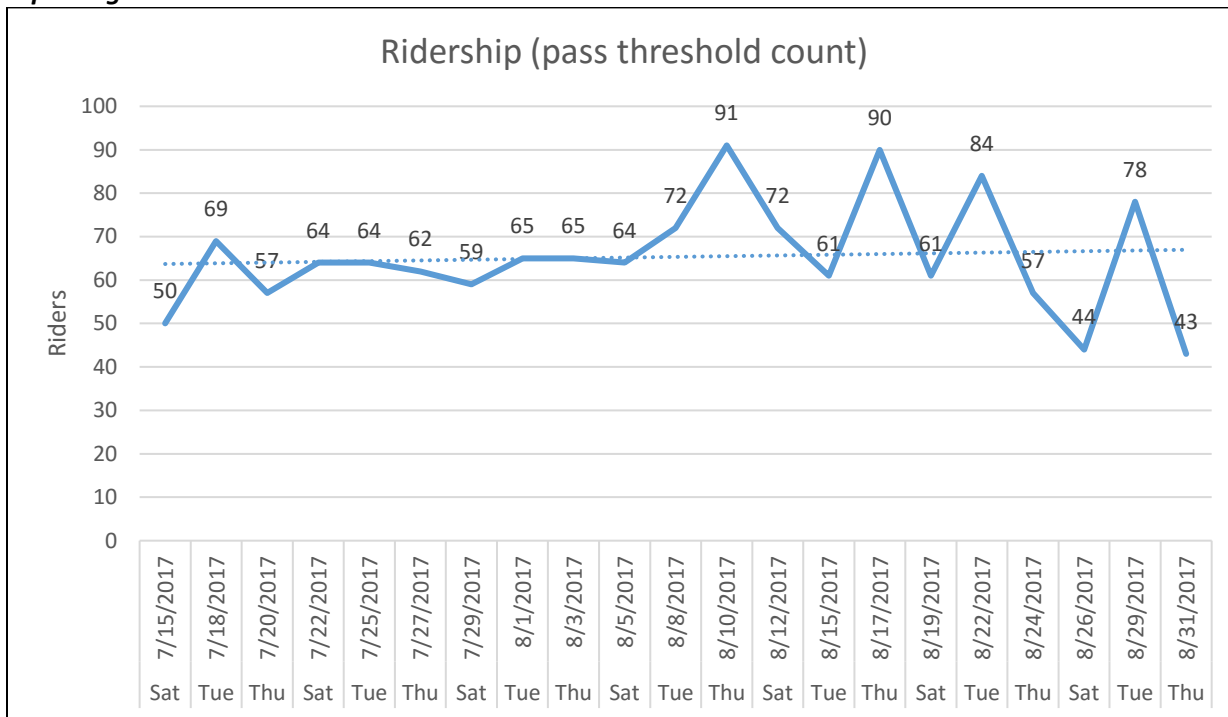
**Additional Information:**

**Reporting**



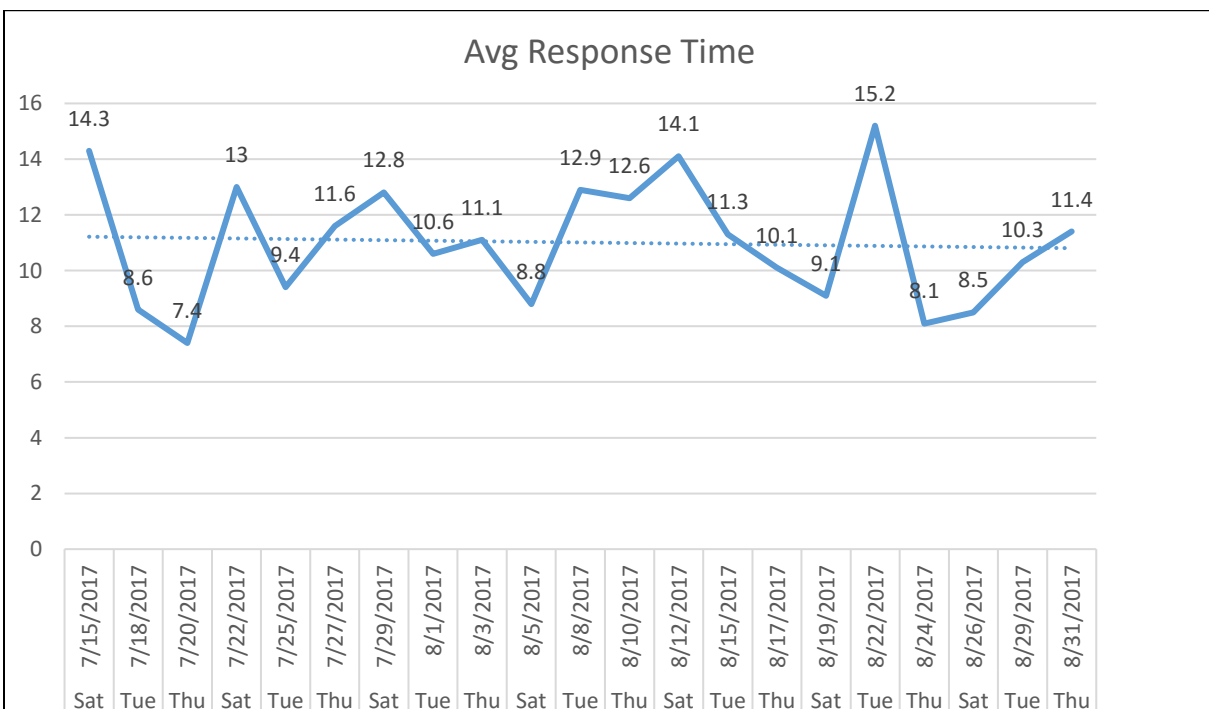
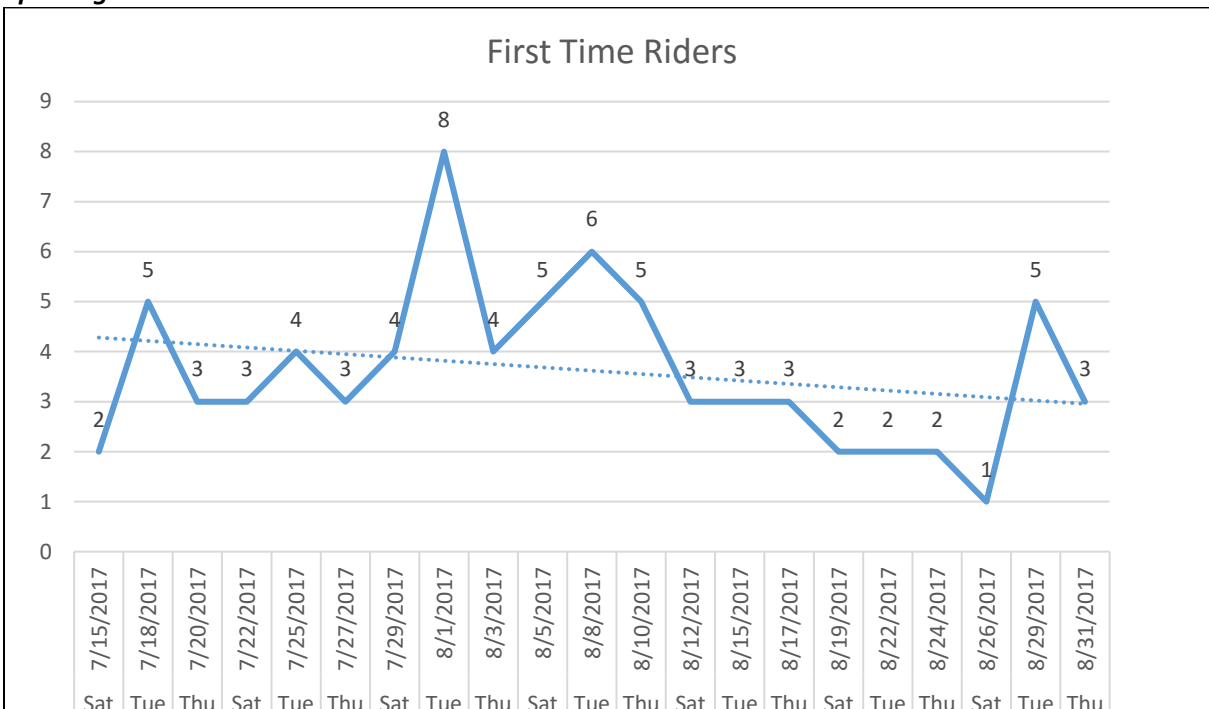
**Additional Information:**

**Reporting**

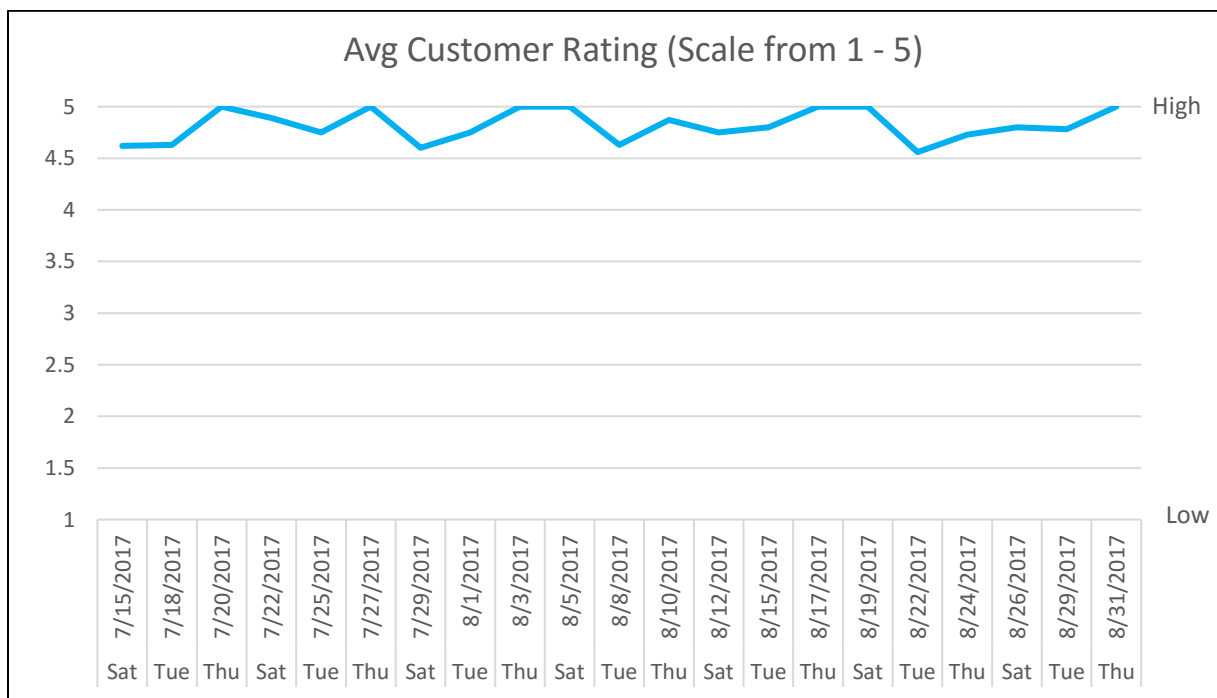
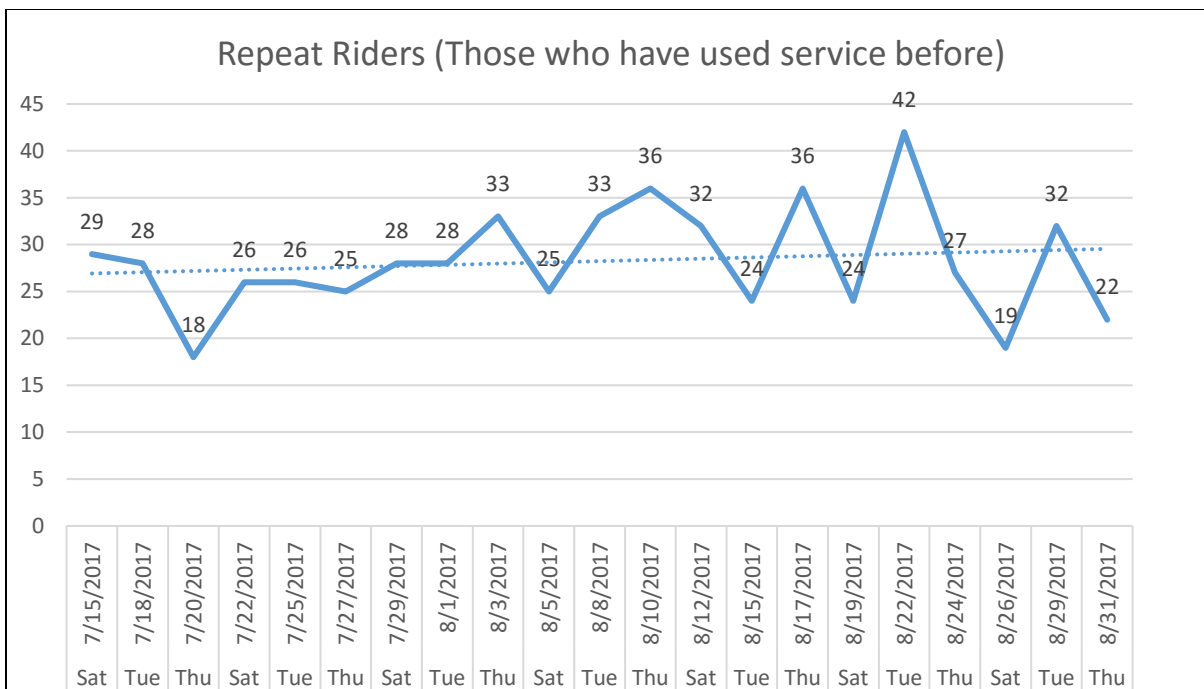


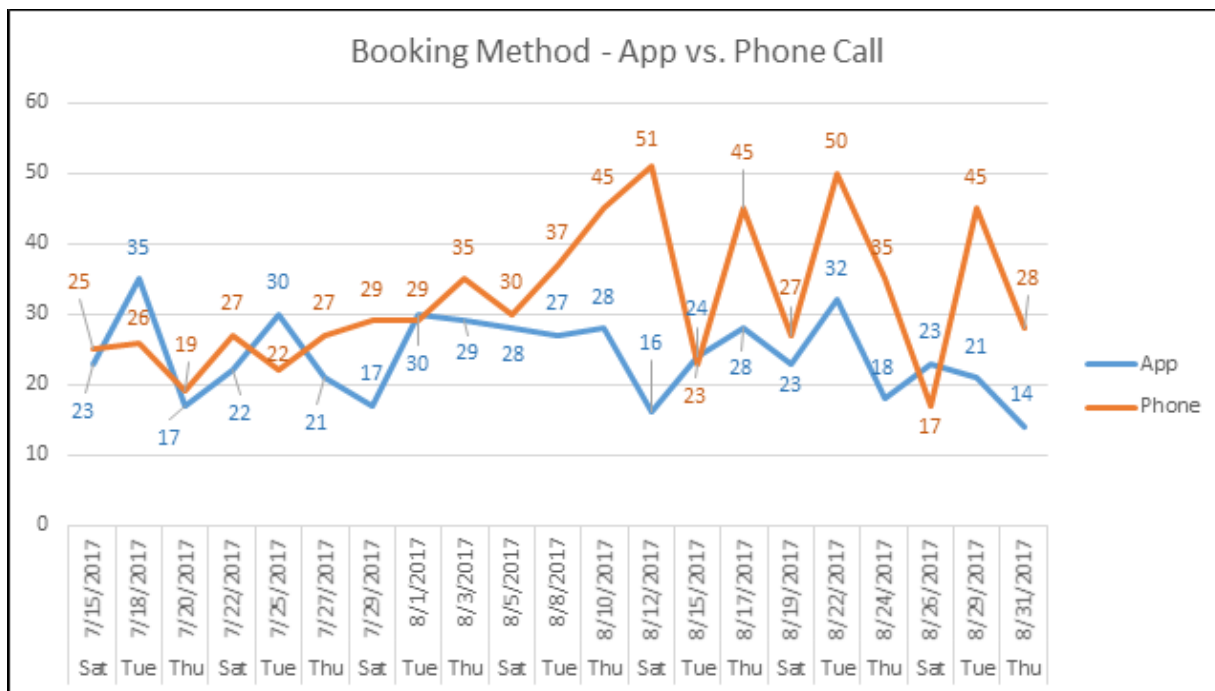
**Additional Information:**

**Reporting**









**Additional Information:**

**Vehicle Wrap**



**Website**

<https://www.capmetro.org/pickup/>

**Say Hello to Pickup!**

Capital Metro is bringing ride hailing to public transportation. With our new Pickup app, you can arrange on-demand transit service from your home to a doctor's appointment, a visit to Batholomew Pool, a trip to Capital Plaza or anywhere within its service zone, available Tuesdays, Thursdays and Saturdays between 9 a.m. and 6 p.m., this pilot program will operate in the Mueller and Windsor Park neighborhoods, new video room off I-80 to the Viers and Lutz's and some ride going to Reagan High School and the St. John Library Branch. Better yet, it's free!

**Service Details**

What? Pickup by Cap Metro is an on-demand service that will take you to anywhere within its service zone. You can request a ride directly from your phone.

Where? The Pickup service will replace Capital Metro's MetroFlex Upper Eastside pilot route (which will be discontinued May 27) and serve the same area of Northwest Aughton from the intersection of Manor Rd. and Aughton Blvd. to the I-80 access road north of Sutherland. It includes the Shalom Development, Capital Plaza, Coronado Hills and Cameron Road near Duke Middle School. See the map for exact boundaries.

When? This pilot program will begin on June 6. Pickup by Cap Metro will be available three days a week: Tuesdays, Thursdays and Saturdays between 9 a.m. and 6 p.m.

How? Download the app from your phone's app store, register for an account and you'll be ready to go. Book a ride and we can be there within 15 minutes. Those without access to the smartphone app may call 512-369-6200.

But how much? Nothing at all! For a limited time, we're offering this service free of charge.

Powered by VIQ

Download the App

See Coverage Map

**Additional Information:**

***Media***

5/22/2017-[Find out when Capital Metro will begin testing out new ride-hailing service in Mueller area](#) – Community Impact  
5/32/2017-[Capital Metro testing new free ride-hailing app in east, northeast Austin](#) - KXAN  
5/24/2017-[CapMetro Pickup Pilot Program](#) – KXAN (Video, 3 runs)  
5/24/2017-[Cap Metro Creates Ride Hailing App](#) – KVUE (Video)  
5/24/2017-[CapMetro Launches Free On-Demand Rides](#) – KLBJ (Audio)  
5/24/2017-[Capital Metro testing new free ride-hailing app in east, northeast Austin](#) – KXAN  
5/31/2017-[CapMetro Launching Ride Hailing Service](#) – KUT  
5/24/2017-[Upcoming Capital Metro Projects](#) – KLBJ (2 runs, corrections requested)  
6/1/2017-[Capital Metro to Launch Free On-Demand Service Called Pickup](#) – Mass Transit  
6/5/2017-[Wear: Cap Metro dabbles in ride-hailing with new 'Pickup' service](#) – Austin American Statesman  
6/5/2017-[Capital Metro launches new ride-hailing service, plus 4 other things you need to know in Central Austin this week](#) – Community Impact  
6/5/2017-[CapMetro Launches On-Demand Service in East Austin](#) – Austin Chronicle  
6/6/2017-[Cap Metro Launches Ride Hailing](#) – KXAN (Video, 3 runs)  
6/5/2017-[Cap Metro Launches Pick-Up](#) – Fox 7 News (Video, 2 runs)  
6/7/2017-[Ridesharing Pilot Program](#) – Fox 7 News (Video)  
6/7/2017-[CapMetro Launches New Ride Sharing Service](#) – KVUE (Video, 2 runs)  
6/7/2017-[If You Can't Beat Em, Join 'Em](#) – Public  
6/7/2017-[Austin's Capital Metro Makes Like Uber and Lets Users Hail Their Ride](#) – Planetizen  
6/12/2017-[New Pick-up App](#) – Fox 7 News (Video)  
6/13/2017-[Why Uber Will Still Dominate](#) – CityLab  
6/19/2017-[Much Ado About Ridesharing](#) – Building ATX  
6/20/2017-[New ride-hailing service arrives in Austin — but it's not like Uber](#) – Culture Map Austin  
6/21/2017-[Public Transit Agencies Take a Lesson From Uber](#) – Wall Street Journal

## **Additional Information:**

### ***Media Talking Points***

#### **Highlights**

- Pickup by Cap Metro is an on-demand transit option that will take you from your front step to anywhere within its service area. You can request a ride directly from your phone with our new Pickup app.
- Capital Metro is the first transit agency to bring ride hailing to public transportation by operating this on-demand service.
- The service will be accessed through an app developed with Capital Metro partner Via, a New York-based company that is providing on-demand public transportation in New York City, Washington, D.C., and Chicago. Pickup by Cap Metro is the company's first venture with a public transit agency.

#### **Details**

- The **free** pilot will go into effect June 4 and will be available three days a week: Tuesdays, Thursdays and Saturdays between 9 a.m. and 6 p.m.
- This **free** pilot program will operate in the Mueller and Windsor Park Neighborhoods, including retail areas in the Mueller Development and Capital Plaza, and taking riders north of 183 to Wal-Mart and Luby's. The Pickup will also be serving students going to Reagan High School and the St. John Branch Library.
- If you'd like to try it, it's very easy: just download the app from your phone's app store, register for an account and you'll be ready to go. Book a ride and we can be there within 15 minutes or plan ahead and arrange a pickup for later.
- Due to Capital Metro's responsibilities as a public transit agency and its need to serve the region's entire population, the Pickup service will also be available by a phone call. Riders without access to a smartphone may arrange a ride by calling 512-369-6200 and providing their pickup and drop-off addresses when making their reservation.
- What further sets us apart from other TNC services: Pickup by Cap Metro is entirely wheelchair accessible.

#### **Moving Forward**

- Pickup by Capital Metro is a pilot program that will operate in the identified area for up to a year.
- After the pilot period, Capital Metro will assess the service's performance and gauge public feedback before reporting back to the board of directors.
- The Pickup service replaces the MetroFlex Upper Eastside pilot program, which operated in the same area of the city. Though both pilot projects were initiated before the final Connections 2025 plan was released, these kinds of innovative services could be included in potential Mobility Innovation Zones provided by the plan.

**Additional Information:**

***Questions Capital Metro hopes to get answered with this pilot demonstration:***

1. Will customers use the app?
2. Is the user experience good and can customers effectively use to travel?
3. Are there differences between users where the user interface may need to be adjusted?
4. Is the mapping for pickup and drop off locations appropriate or is there too much walking?
5. Are any drop offs at inaccessible locations?
6. How well does the software aggregate customer requests to meaningful trips that don't require long wait times or long travel time?
7. Do the travel patterns of customers show a standard route or are patterns very different based on starting and ending points?
8. How could this work with innovation zones?
9. How could this work for first/last mile?

**Additional Information:**

**Schedule**

Description	Owner	Start	End
<b>Testing &amp; Training</b>		<b>4/17/2017</b>	<b>6/20/2017</b>
<b>Internal Product Testing</b>			
End-to-end pickup and drop-off flow (rider & driver)	Via	4/17/2017	4/19/2017
Routing and algorithm performance	Via	4/19/2017	4/21/2017
Scale	Via	4/19/2017	4/21/2017
Account creation	Via	4/19/2017	4/21/2017
Data privacy	Via	4/19/2017	4/23/2017
Pricing and promotional schemes	Via	4/19/2017	4/22/2017
QA & further product fixes	Via	4/22/2017	5/3/2017
<b>Field Testing &amp; Training</b>			
Via internal field testing	Via	5/4/2017	5/7/2017
Final Tweaks & Bug Fixes	Via	5/7/2017	6/1/2017
Onsite driver & operator training	Via	5/15/2017	6/1/2017
Via/client field testing & demonstration	Via/CMTA	5/15/2017	5/19/2017
Iteration & optimization	Via	5/19/2017	5/24/2017
Client sign-off	CMTA	5/24/2017	5/25/2017
App Live	Via	5/24/2017	5/24/2017
Soft Launch Follow-Up Tasks	Via/CMTA	8/30/2017	6/4/2017
<b>Launch Follow-Up</b>		<b>6/6/2017</b>	<b>6/20/2017</b>
<b>Further Product Tweaks</b>			
Pickup Adjustments		6/7/2017	6/12/2017
Book Ride for Rider Adjustments		6/7/2017	6/14/2017
Driver App Adjustments		6/7/2017	6/14/2017
<b>Other</b>			
Post-Launch SMS			
Routing Tweaks			
<b>CapMetro MARCOMM</b>		<b>3/13/2017</b>	<b>6/6/2017</b>
<b>Marketing</b>			
Vehicle Wrap	CMTA	3/13/2017	6/1/2017
Direct Mail 1	CMTA	4/12/2017	4/28/2017
Direct Mail 2	CMTA	5/3/2017	6/15/2017
Fact Sheet for CI Outreach	CMTA	5/15/2017	5/31/2017
Web Page	CMTA	4/24/2017	5/25/2017
<b>Community Involvement</b>			
Identify Stakeholder Groups	CMTA	3/31/2017	4/1/2017
Outreach Activities	CMTA	3/31/2017	6/14/2017
<b>Communications</b>	CMTA		
In-app Messages	CMTA	4/10/2017	4/11/2017
Web/Direct Mail Copy	CMTA	4/21/2017	4/22/2017
Direct Mail #2 Copy Due	CMTA	5/3/2017	5/4/2017
News Release	CMTA	5/29/2017	5/30/2017
Blog Post	CMTA	5/29/2017	5/30/2017
Media Pitching/Interview	CMTA	5/30/2017	6/4/2017
Social Media (first posts)	CMTA	5/19/2017	6/20/2017
Talking Points	CMTA	5/19/2017	5/20/2017
Letter from Linda to employees	CMTA	6/2/2017	6/3/2017
Intranet post	CMTA	6/4/2017	6/5/2017
<b>System live (soft launch)</b>	<b>Via/CMTA</b>	<b>5/25/2017</b>	<b>6/5/2017</b>
<b>Service Launch</b>		<b>6/6/2017</b>	<b>6/6/2017</b>

*White Paper on TNCs and Transit Mobility*

**Appendix E**



CAPITAL METROPOLITAN TRANSPORTATION AUTHORITY  
Procurement Department

## **FIRST MILE/LAST MILE PILOT SCOPE OF SERVICES**

### **INTRODUCTION**

Capital Metro is seeking a Contractor to supply fully automated First/Last Mile type customer transportation service in a 1.1 square mile geofenced area adjacent to Exposition Blvd in the Tarrytown area of Austin, TX.

### **BACKGROUND**

Capital Metro is ending Bus Routes 21 and 22 along Exposition Blvd and residents in the Tarrytown area are requesting an alternative mobility solution. Capital Metro is seeking bids for a service that will deliver its customers to, from and in between two pick up points on Exposition Blvd to/from a 1.1 square mile geofenced service area. These two points are pre-designated Capital Metro bus stops. This is what is deemed as a First/Last Mile Service (See Attached Map) Customers will receive trips that meet the following use cases at no charge:

- Trips from Pickup/Drop Off Point A to Pickup/Drop Off Point B
- Trips from anywhere in the service zone to either Pickup/Drop-Off Point
- Trips from either Pickup/Drop-Off Point to anywhere within the service zone

Capital Metro will reimburse vendor based on weekly reconciliation. Hours of operation will be 7am – 7pm Monday – Friday. Desired start date is June 3, 2018 and will run through December 7, 2018 or until \$24,500 of purchased trips is reached whichever comes first.

### **PRIMARY WORK TASKS**

- Provide a fully automated Transportation Network Company (TNC) style service that includes rider-side app and drivers to provide trips to customers in the service area(s).
- Capability of passengers to notify if accessible vehicle is required.
- Ensure complete data transparency including weekly reporting including all data relating to location of pickup/drop-off, distance, time of day, cost breakdown, driver, rider, pickup time, rating, ride requests fulfilled, both rider side and driver side cancelled rides, any addition data Capital Metro deems necessary to measure success of project.
- Provide weekly invoice with trip counts, total amount due and any additional information Capital Metro deems necessary.
- Capability to turn on/off feature, change day/times and change or add geo-fence boundaries
- Proposer to assume all costs for App development and ongoing support, but Capital Metro will pay for pilot trips at no discount from rates charged to the general public. These trips will be billed to Capital Metro on a weekly basis.

CAPITAL METROPOLITAN TRANSPORTATION AUTHORITY  
Procurement Department

**OTHER WORK TASKS/SERVICES**

Capability to expand to other geofenced areas as needed with limited start up time.

**CONTRACTOR QUALITY ASSURANCE**

Trips will be provided within a goal response time of 15 minutes from customer request through vendor supplied app. Service provider must follow local City of Austin TNC licensing and safety regulations including drug and alcohol testing requirements.

**TECHNICAL REPORTS**

Provide weekly reporting, through an Excel format, including all data relating to location of pickup/drop-off, distance, time of day, cost breakdown, driver, rider, pickup time, rating, ride requests fulfilled, both rider side and driver side cancelled rides, any addition data Capital Metro deems necessary to measure success of project.

*White Paper on TNCs and Transit Mobility*

**Appendix F**

# Innovative Mobility Update

Capital Metro Board of Directors

June 2018

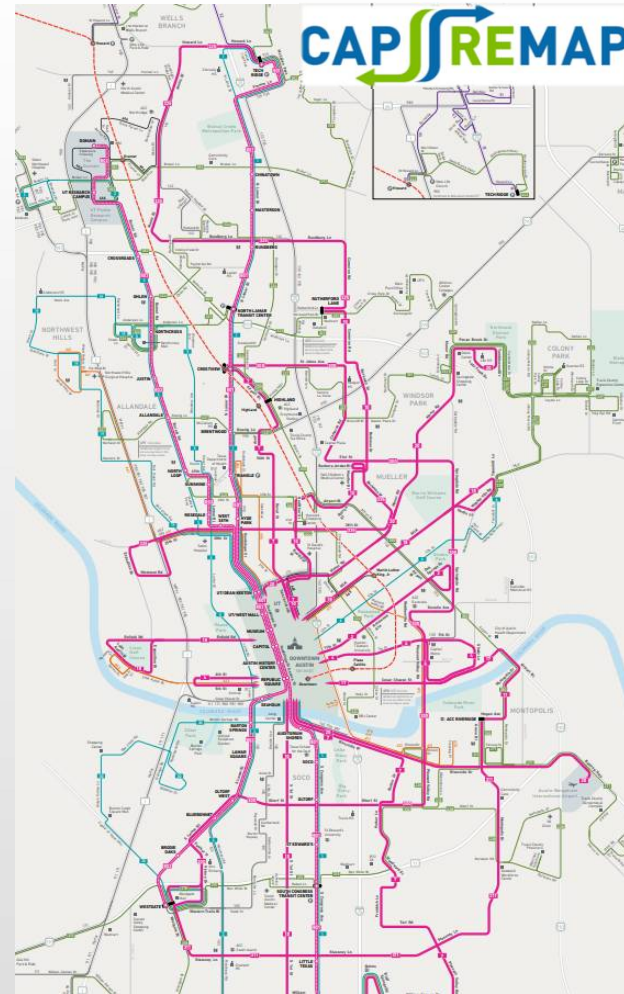
1



# Innovative Mobility Update

## Mobility Innovation Zones

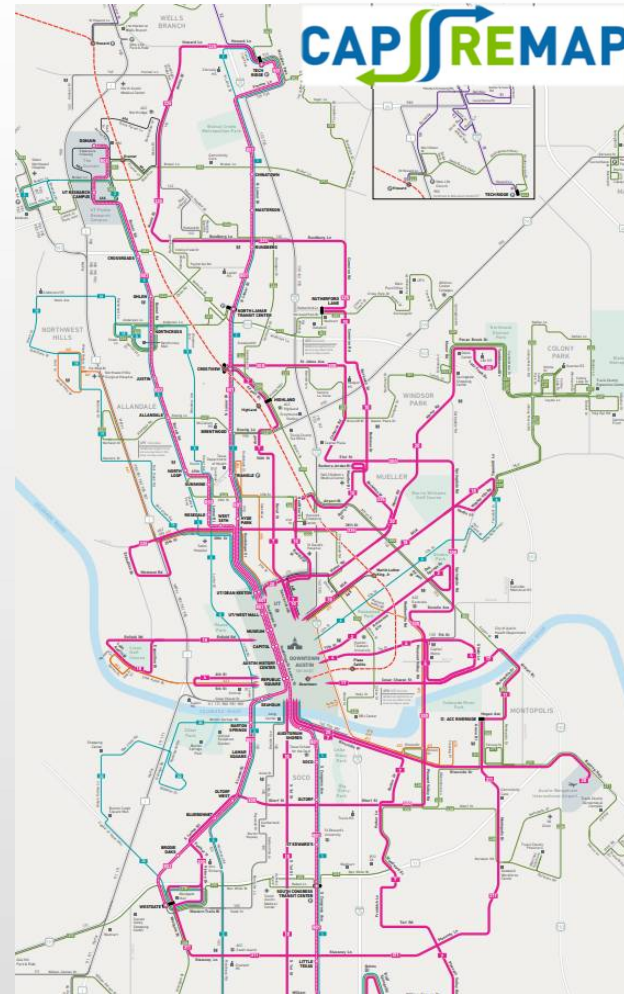
Premise:  
Fixed route services will not meet service standards in these areas, but transit demand still exists.



# Innovative Mobility Update

## Mobility Innovation Zones

- 1) First mile, last mile
- 2) Developing areas not yet ready for high capacity transit
- 3) Low productive service replacement



# Innovative Mobility Update

## Federal Compliance:

- Accessibility (Wheelchairs & mobility devices)
- Equivalent response times
- Drug and alcohol testing requirements
- Title 6 considerations (Smart phones + fares)

## Capital Metro Values:

- Comprehensive sharing of data with partners
- Shared rides
- Driver training
- Peak availability
- Driver background checks

# Innovative Mobility Update

Studying many areas around the region to determine potential locations for future innovative pilots.

- Community Demand
- ADA Customers
- Travis County Needs
- Developing Areas
- Affordable Housing
- CapRemap Feedback



Attachment: Pickup Presentation\_BOD\_JUNE (4142 : Innovative Mobility Update)



# Innovative Mobility Update

Currently evaluating small scale pilots through year's end

+

working with consultants to develop a comprehensive implementation strategy



Attachment: Pickup Presentation\_BOD\_JUNE (4142 : Innovative Mobility Update)

# Innovative Mobility Update



## Pickup Pilot Project Conclusion

June 2017 – June 2018



## Pilot Project Startup

Launched June 4<sup>th</sup>, 2018



## Innovative Mobility Framework

Report August 2018



## Electric Autonomous Circulator Pilot

Launching Late Fall 2018



## Dockless Bike & Scooter Corrals

Summer 2018



## Mobile App Integration

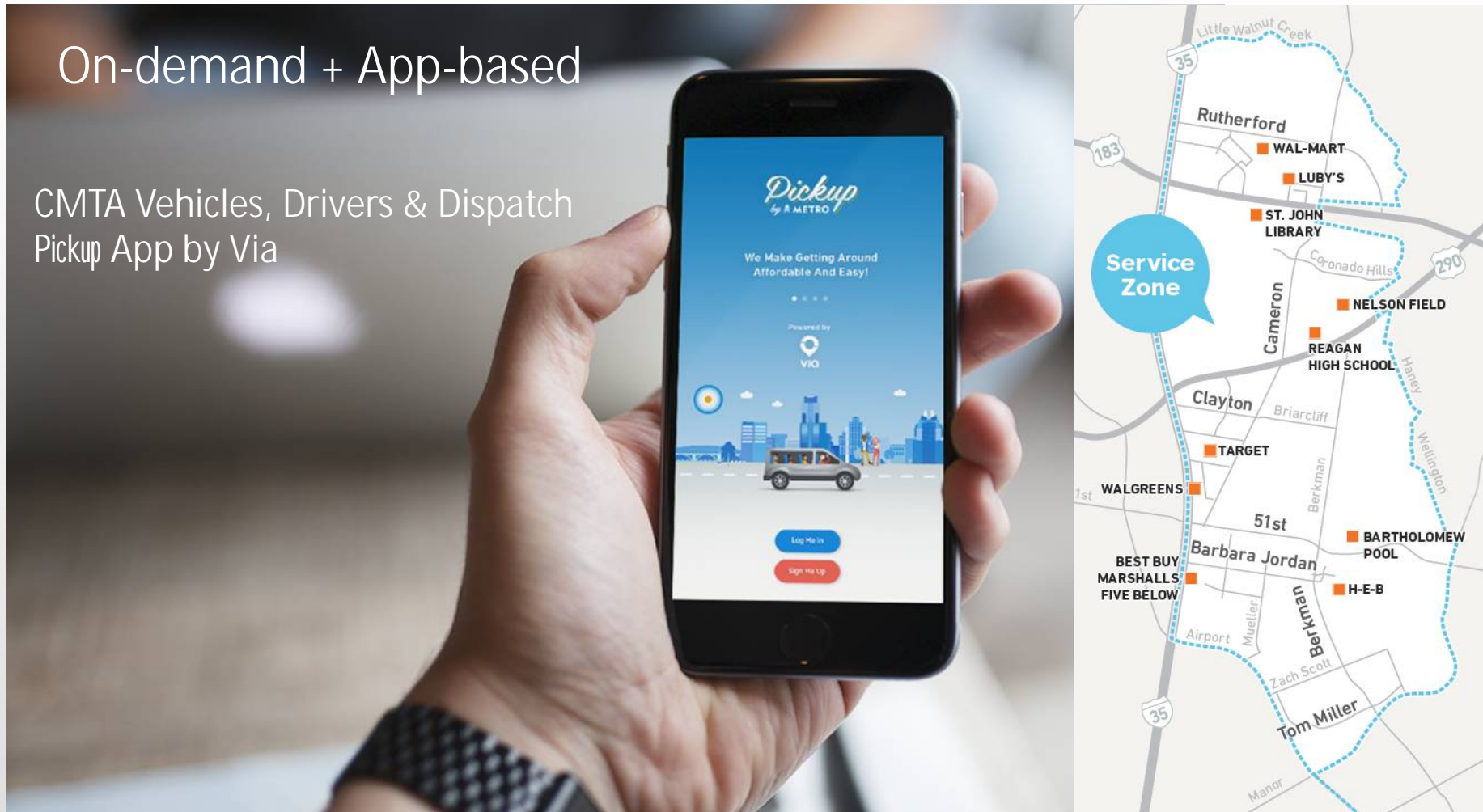
Late Fall 2018

# Pickup by Capital Metro powered by Via



## On-demand + App-based

CMTA Vehicles, Drivers & Dispatch  
Pickup App by Via



Attachment: Pickup Presentation\_BOD\_JUNE (4142 : Innovative Mobility Update)

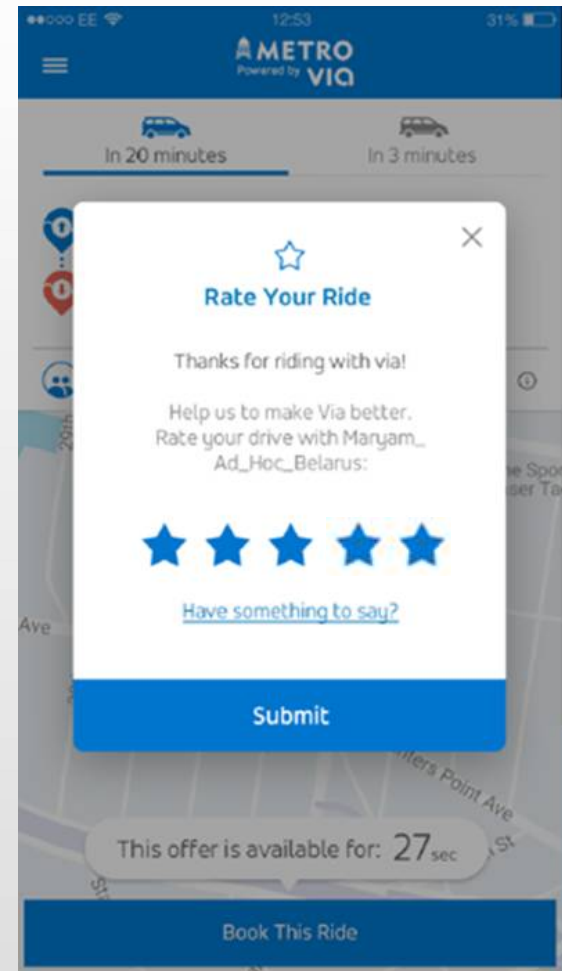
# Pickup by Capital Metro powered by Via



How did it go?

>20,000 rides      99.4% OTP      35% ADA eligible

Customers feedback:  
4.9 of 5 stars

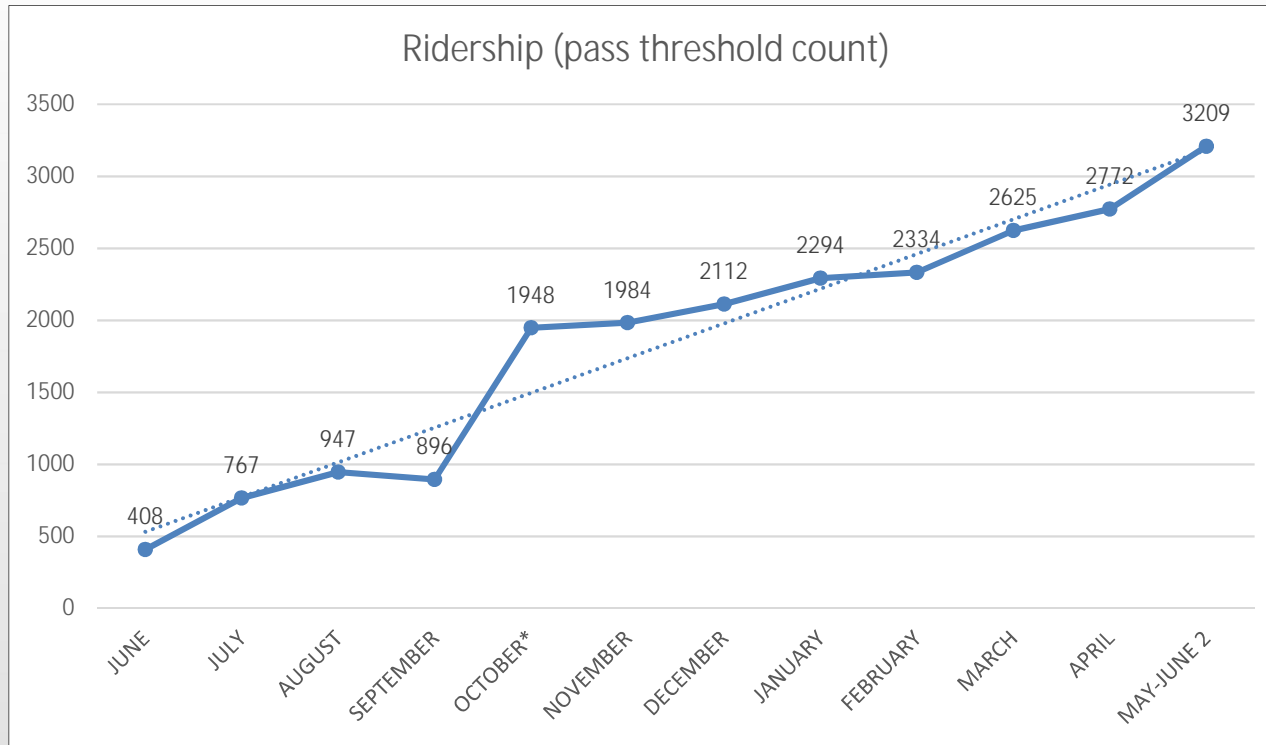


Attachment: Pickup Presentation\_BOD\_JUNE (4142 : Innovative Mobility Update)

# Pickup by Capital Metro powered by Via



## By The Numbers:

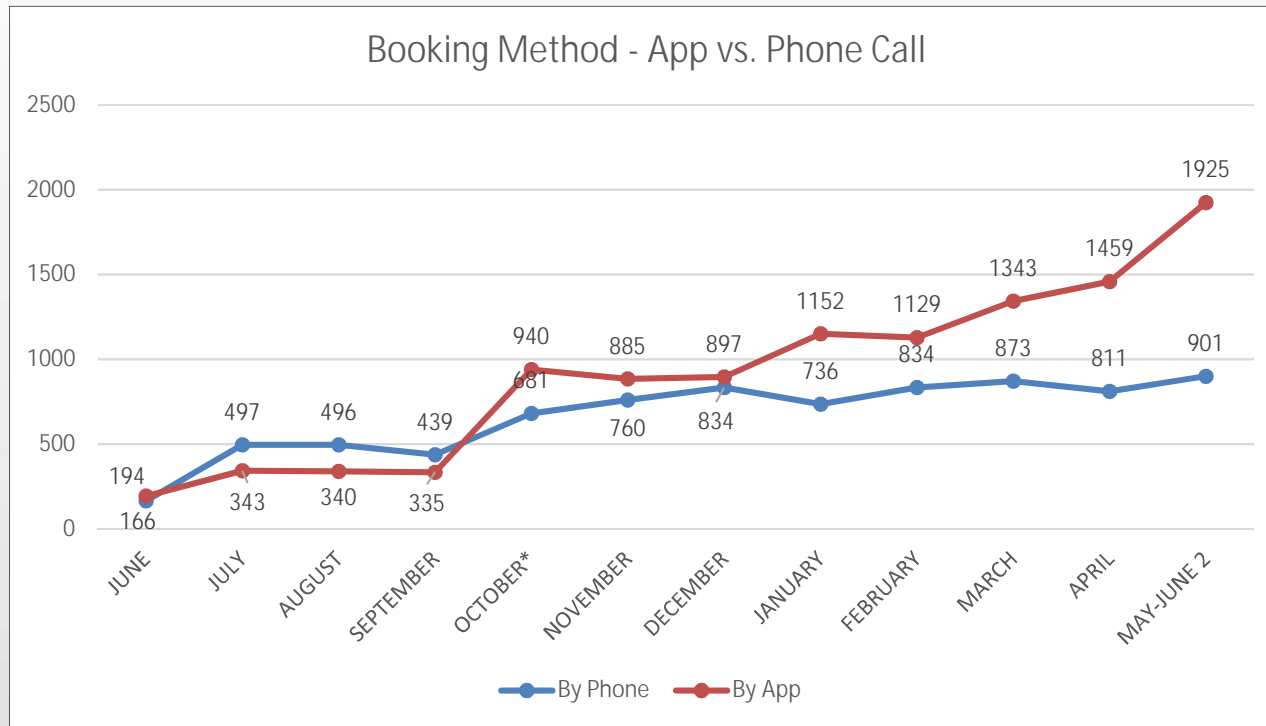


\* Went from 3 days per week to 6 days per week - October

# Pickup by Capital Metro powered by Via



## By The Numbers:



\* Went from 3 days per week to 6 days per week - October

Attachment: Pickup Presentation\_BOD\_JUNE (4142 : Innovative Mobility Update)

# Pickup by Capital Metro powered by Via



## Lessons Learned

- We can do this!
- 100% Federal compliance
- Intuitive customer interface is vital
- Staff dedicated to oversight & constant improvement
- Scalable size and geographic flexibility
- Extension of the high-capacity transit network

## Costs:

- Month #1 @ \$34/pax
- Now benchmarked at < \$11 pax
- Dynamic: response timeframe, density within zones, size of zone, ridership, hours of operation, etc.



Attachment: Pickup Presentation\_BOD\_JUNE (4142 : Innovative Mobility Update)

# Pickup by Capital Metro powered by Via



## Best Uses:

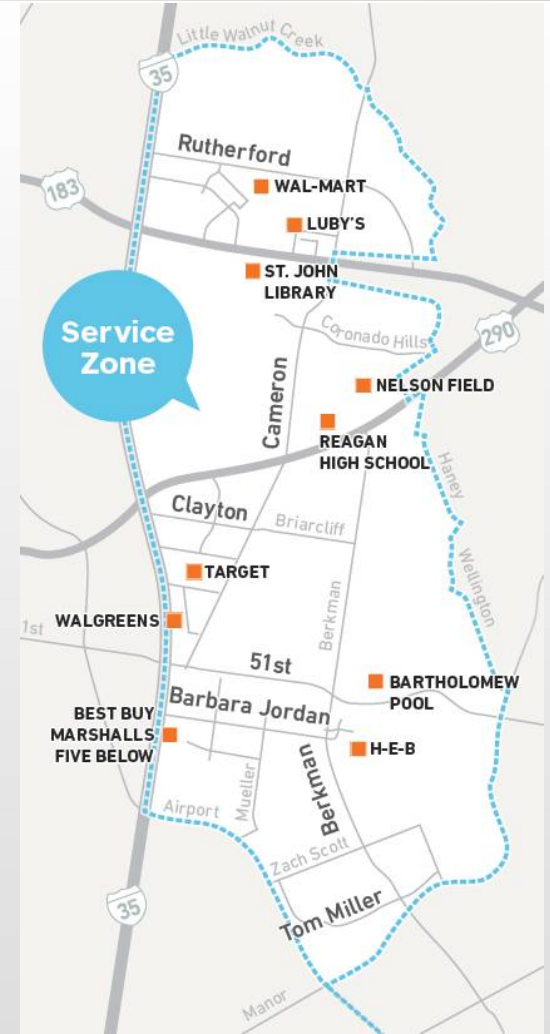
- First/Last Mile
- Growing Areas Not Ready for Bus Yet
- Low Productive Service Replacement

## Conclusions:

- A service solution that can meet specific agency needs.
- Expands the reach of the high-capacity transit system.
- Meets all current Federal compliance requirements.

## Next Steps:

- Procurement of Software
- Public outreach & planning to ID future zones



Attachment: Pickup Presentation\_BOD\_JUNE (4142 : Innovative Mobility Update)



# Innovation Zone Pilot powered by Ride|Austin



**RIDEAUSTIN**  
A nonprofit rideshare built for Austin

RIDE | AUSTIN

10:29

CapMetro VIEW MAP

**METRO INNOVATION ZONE**

CapMetro has partnered with RideAustin to help bring forward the future of mass transit

In this initial pilot stage - CapMetro will be offering free rides to/from the Exposition/ Chicon bus stops to the surrounding community.

The CapMetro Innovation Zone Pilot will and be offered from Monday to Friday from 7am - 7pm.

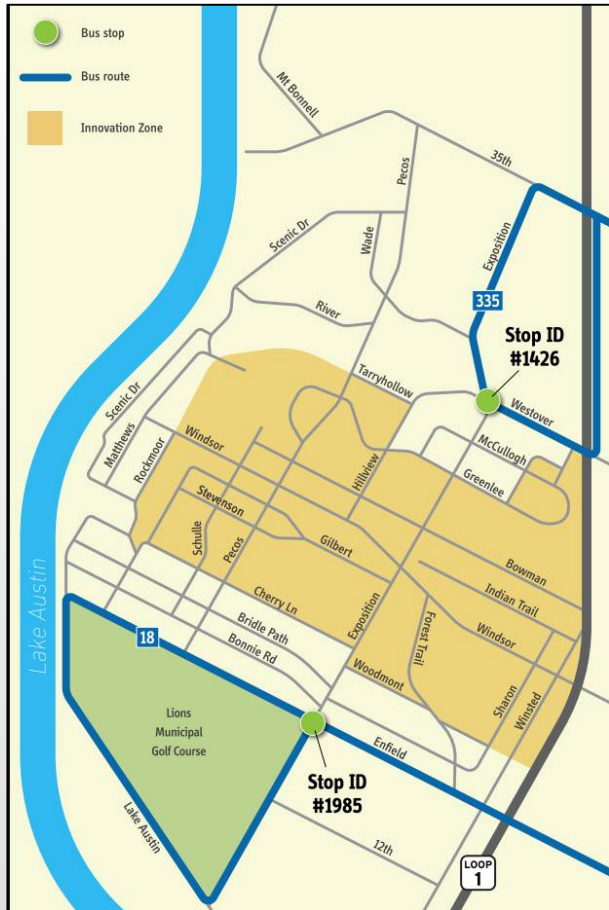
To qualify for a CapMetro Innovation ride - you must be:

- Picked up from either the Exposition or Chicon bus stop and dropped off within the Innovation Zone (see map) or
- Picked up from within the Innovation Zone and dropped off at either the Exposition or Chicon bus stop or
- Picked up at either the Exposition or Chicon bus stop and dropped off at the other bus stop (Exposition or Chicon)

Any qualifying rides will be free of charge

Attachment: Pickup Presentation\_BOD\_JUNE (4142 : Innovative Mobility Update)

# Innovation Zone Pilot powered by Ride|Austin

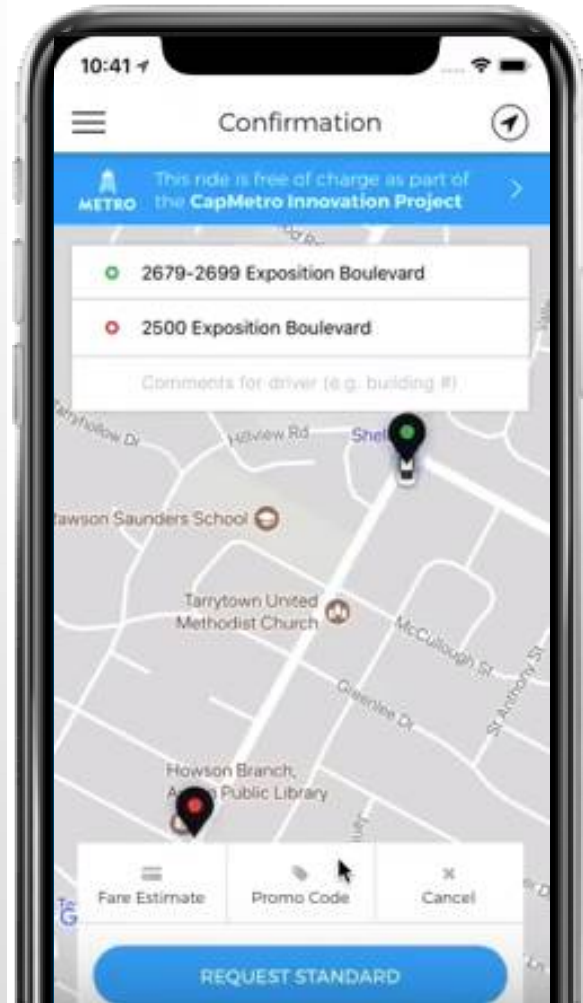


First/Last Mile TNC Pilot

Goal:  
Connect Customers to  
Routes 18 & 335

Fare:  
Included in Fixed Route  
Bus Fare

Examining TNC use in  
context of Federal regs



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*White Paper on TNCs and Transit Mobility*

**Appendix G**

**THE CORPORATION OF THE TOWN OF INNISFIL**

**BY-LAW NO. 031-18**

**A By-Law of The Corporation of the Town of Innisfil to amend the Town's Taxi By-Law (No. 026-04) to exempt its provisions from the Partnership Agreement between the Town of Innisfil and Uber for Stage 2 of the Town's ridesharing transit service, and to remove the annual medical check requirement.**

WHEREAS Section 156 of the *Municipal Act, 2001*, as amended, provides that municipalities may pass by-laws for licensing, regulating and governing of owners and drivers of taxicabs;

WHEREAS the Town's Taxi By-Law (No. 026-04) is currently in force to license, regulate and govern the owners and drivers of taxicabs in the Town of Innisfil;

WHEREAS the Town's Partnership Agreement with Uber has been in effect since May 2017 to provide a ridesharing transit service;

WHEREAS on March 7, 2018, in consideration of DSR-028-18; the Council of the Corporation of the Town of Innisfil passed a resolution to authorize Staff to extend the existing Partnership Agreement with Uber for the duration of Stage 2 of Innisfil Transit;

AND WHEREAS the launch of Stage 2 of the Town's ridesharing transit service will occur on March 15, 2018, the Council of the Corporation of the Town of Innisfil deems it necessary and expedient to amend the Town's Taxi By-Law to exempt its provisions from the Partnership Agreement between the Town of Innisfil and Uber, in addition to waiving the annual medical check requirement.

NOW THEREFORE the Corporation of the Town of Innisfil enacts the following amendments to the Town's Taxi By-Law (No. 026-04) as follows:

1. That the provision in Section 8.1 be replaced with the following:

*"8.1 Notwithstanding anything in this by-law, this by-law does not apply to the activities contemplated in the Partnership Agreement between the Town of Innisfil and Uber that will be in effect for the duration of Stage 2 of the Town's ridesharing transit service, as extended, and outlined in DSR-028-18."*

2. That the existing licensing requirements outlined in Section 11(f) be replaced with the following:

*11 (f) "as may be required by the Town, when there are reasonable grounds to believe that, by reason of illness, injury or any other physical or mental impairment, the conduct of a driver may endanger the health or safety of other persons, the driver shall provide a medical certificate from a medical doctor that he/she is able to undertake their duties with no medical deficiencies which could impair their ability to be a driver."*

That this by-law comes into force and takes effect on the date of passing.

**PASSED THIS 7<sup>th</sup> DAY OF March, 2018.**

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**Gord Wauchope, Mayor**

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**Lee Parkin, Clerk**

*White Paper on TNCs and Transit Mobility*

**Appendix H**

## Appendix H

### SW Prime Software Specifications DRAFT 1

Provide a Fully Automated On-Demand Rideshare Dispatch Software Solution that includes the follow features:

#### Operations Side:

1. Automatic driver assignment and vehicle routing with manual assignment override by dispatcher for any aspect.
2. Ability to set overall service days and hours of operation.
3. Ability to set holidays or outages to prevent booking of rides online.
4. Ability to create multiple services areas (zones) that have date and time dependencies.
5. Service area must be able to support the following rules:
  - a. In zone rides only
  - b. Only pick up or drop off in zone
  - c. Zone to zone rides
6. Ability to automatically force a ride to a transfer point when traveling between zones.
7. Ability to set Max Ride Time.
8. Ability to add custom locations with aliases with custom directions (ie. Gate E or West Door)
9. Allow online credit card payment and keep a credit card on rider account for automatic payments
10. Driver Management: Add or Remove drivers from system
  - a. User name assignable by dispatcher
  - b. User name WILL NOT be forced to be an email address
  - c. Picture of driver will be attached to driver account and will be displayed to the rider.
11. Vehicle Management: Add or Remove Vehicle from system
  - a. Vehicle ID number
  - b. Vehicle Capacity
  - c. Vehicle Type (ability to add or delete types)
    - i. Bus
    - ii. Van
    - iii. SUV
    - iv. Car
  - d. ADA lift equipped (Yes or No)
  - e. Bike Rack equipped (Yes or No)
  - f. Color of Vehicle
  - g. Ability to dedicate vehicle to a service area (zone)
12. Ability to pull reports with the following information:
  - a. Detailed (Manifest for each trip)
    - i. Request time
    - ii. Origin
    - iii. Destination
    - iv. Origin City
    - v. Destination City
    - vi. Rider Name/Email/Phone number
    - vii. # of passengers
    - viii. Driver Assigned Time
    - ix. Driver Arrival time
    - x. Driver Pickup or No-Show time
    - xi. Drop off time
    - xii. Rider wait time
    - xiii. Rider ride time
    - xiv. PMT – Passenger Miles Traveled

## Appendix H

- xv. VMT – Vehicle Miles Traveled
- xvi. Time of Cancel or No Show (if canceled or no-showed)
- xvii. Mode of ride request – Web, App, Dispatch, Kiosk, Walk up
- xviii. Fare payment Method
- xix. Wheelchair/Bike Rack use
- b. Summary
  - i. Total Rides
  - ii. Total Riders
  - iii. Total Cancels
  - iv. Total No shows
  - v. Average Pickup Time
  - vi. Average Ride Time
  - vii. Average PPISH – Passenger per service hour
  - viii. Average PMT – Passenger Miles Traveled
  - ix. Average VMT – Vehicle Miles Traveled
  - x. Total rides from City
  - xi. Total rides to City
  - xii. Total Empty Dead Head Miles (With no passenger(s) on board)
  - xiii. Total Empty Dead Head Time
  - xiv. Total Revenue Miles (When passenger(s) is on board)
  - xv. Total Revenue Time
- 13. Live Map with Vehicle and Passenger locations
  - a. Include ability to view itinerary for each vehicle.
  - b. Display passenger status and location (Unassigned, Assigned, Driver Arrived)
  - c. Display driver/vehicle status and location including load count
  - d. Live Traffic information
  - e. Overlay/Display Service Areas
  - f. Map/Satellite/Street View
  - g. Display routing information on map for each vehicle
- 14. Dispatch Dashboard:
  - a. needs ability to manually enter rides requested via phone, including:
    - i. Phone Number
    - ii. Name of Rider
    - iii. Origin Address
      - 1. Ability to select from most used location list
    - iv. Destination Address
      - 1. Ability to select from most used location list
    - v. Number of Riders
    - vi. Payment Method
    - vii. Comments
    - viii. ADA Lift/Bike Rack needed
  - b. Ability to change Origin or Destination address after it has been booked.
  - c. Needs to show manifest of current live rides (sortable by columns)
    - i. Active Ride Summary
      - 1. Total Active Rides
      - 2. Total Drivers Online
      - 3. Current System ETA
    - ii. Current List of Active Rides with data from 9a. (see above)
    - iii. Ability to change driver tasks from dispatch screen



## Appendix H

1. Arrive
  2. Pickup
  3. Cancel
  4. No-Show
  5. Drop Off
15. Ability to set multiple fare structures including effective time/date (ie. Reduced Fare Day)
  16. No-Show Tracking and passenger blocking
    - a. Ability to track a passenger's no-show history and block that passenger from riding until no-show is paid for.
  17. iPad Kiosks installed at Park and Ride lobbies must allow passenger to book ride with the Origin trip hard coded for that Park and Ride location.
    - a. A temporary PIN will be assigned to the rider for them to:
      - i. see ETA
      - ii. Cancel current ride
  18. All Rides Page
    - a. Searchable database of all trips from start of system.
    - b. to display a Rider's history
  19. Driver App
    - a. iOS/iPad compatible
    - b. Display the current trip information
      - i. Rider Name
      - ii. Number of Passengers
      - iii. Fare Type (s)
      - iv. Fare Total
      - v. Origin Location
      - vi. Destination Location
        1. Including Business Name
      - vii. Map highlighted directions
      - viii. Turn by turn navigation
      - ix. Ability to enter walk up rides
      - x. Audible and pop up alerts of changes in driver itinerary

## Appendix H

### Customer Side:

20. Web access to allow rider:
  - a. Manage Account
    - i. Name
    - ii. Phone Number
    - iii. Email address
    - iv. Home Address
    - v. Favorite Places
    - vi. Credit Card on File
  - b. Request a ride
    - i. Phone Number
    - ii. Name of Rider
    - iii. Origin Address
      1. Ability to use Current Location
      2. Ability to select from most used location list
    - iv. Destination Address
      1. Ability to select from most used location list
    - v. Number of Riders
    - vi. Payment Method
    - vii. Comments (Editable by Dispatcher)
    - viii. ADA Lift/Bike Rack needed
  - c. Track current ride real time on a map with ETA
  - d. Receive notification of bus status via phone call or text
    - i. Arrival of bus
    - ii. No-Show of passenger
  - e. Payment History
  - f. Ride History
  - g. Ability to leave feedback after ride (1 star to 5 star rating and optional comment section)
  - h. Ability to view our Rider Guide and accept it prior to setting up account.
  - i. FAQ Section
21. App Access
  - a. Same as Web Access (item 19) but on a mobile device
    - i. Allow app to run inside our SW Transit app via API or Mobile Web