MOBILITY INNOVATION

THE CASE FOR FEDERAL INVESTMENT AND SUPPORT





AMERICAN PUBLIC TRANSPORTATION ASSOCIATION

APTA retained AECOM, one of the world's premier infrastructure consulting firms, to conduct the research for this report.



MOBILITY INNOVATION CASE STUDIES

Executive Summary

The pace of innovation in the public transportation industry has accelerated over the past five years. The COVID-19 pandemic has forced us, as individuals and organizations, to pivot and find new and innovative ways to work, serve customers, deliver programs—and ultimately adapt to new ways of doing things.

A July 2020 survey of 899 corporate executives conducted by McKinsey concluded that "companies have accelerated the digitization of their customer and supply-chain interactions and of their internal operations by three to four years. And the share of digital or digitally enabled products in their portfolios has accelerated by a shocking seven years." If we have learned anything since the beginning of the pandemic, it's that our patterns of daily life and the institutions where we work are more adaptable than we would have ever anticipated.

While the private sector's role in innovation makes frequent headlines—think of Silicon Valley for example—public sector agencies don't appear to receive as much recognition for their innovative practices. Public sector innovations tend to focus on developing new approaches to providing necessary services to meet a community's needs. They are frequently local in nature so unless one stands back to look for a pattern across locations, it is difficult to see the innovative potential of local public agencies. The innovation may improve the quality of service, allow for the service to be provided more efficiently, or identify a way to serve a new sector of the community. These are pragmatic innovations that improve people's lives.

The six case studies in this report illustrate the true innovative potential of the public transit industry in the United States today. These programs focus on serving sectors of the market most in need of help: people living in areas that are currently underserved by transit, those who require wheelchair access, and those who commute during off-peak late-night hours. These programs epitomize how transportation services can be used to foster more equitable and inclusive communities.

As summarized in Table ES1, each of the agencies profiled here developed a new service model to address a need they saw in their community. The innovation was developed in response to a specific unmet demand or gap in service. As a result, the solution is tailored to the conditions in the local market. Many public sector organizations do not innovate until outside pressures force them to change; but the industry leaders are proactive, pushing themselves to do more than business as usual by tracking new trends and customer demands, and by finding new uses for data and technologies.

U.S. transit agencies are readily experimenting with their traditional service models—finding approaches to offer services in new ways or offer entirely new services. As Congress considers the provisions in the surface transportation authorization/infrastructure bill, finding the means to nurture and support transit's creative capacity is critical to the continued development of this essential service, which also is a means to improve social inequities.

What follows are six case studies of successful innovations by APTA-member transit agencies.



Rides to Wellness

Providing Access to the Building Blocks of Health FLINT, MICHIGAN

Overview

Mass Transportation Authority (MTA) Flint provides eligible residents in Genesee County, Michigan, with reliable non-emergency medical transportation services through the Rides to Wellness (R2W) program, and has successfully provided more than 300,000 trips since 2016. Using cutting-edge technology and a ride-hailing-like model, R2W provides same-day, door-through-door service, usually within 30 minutes of a traveler's request for health- and wellnessrelated appointments. R2W riders can schedule trips to grocery stores, farmers markets, pharmacies, government agencies, non-profits, laundromats, or senior centers. The service is being provided using smaller passenger vehicles, such as sedans and mini-vans.

Initially serving elderly, disabled or transportation-disadvantaged-community members, this highly successful program was recently expanded to U.S. veterans and their spouses through the R2W umbrella program, Vet to Wellness (V2W). With more than 6.2% of the regional population classified as veterans, coordinating and providing services targeted toward meeting veterans' specific needs has become crucial.

This public service would not have been possible without initial seed money from a Federal Transit Administration (FTA)-funded Rides to Wellness Demonstration and Innovative Coordinated Access and Mobility grant in 2015 (\$310,040) at the height of Flint's water crisis, which enabled MTA Flint to offer trips to water centers and supported immediate lead testing. Currently, R2W is primarily providing through service agreements with 14 local agencies and medical providers who reimburse MTA Flint for the trips provided, demonstrating a willingness to pay for an efficient on-demand transportation service that meets customer needs. R2W is also available to the general public for an established fare.

Community Impacts and Opportunities



Riders enjoy better access to medical and non-medical appointments. Hospital and medical providers see a reduction in no-show appointments. ECONOMIC IMPACTS Hospitals discharging patients select R2W services instead of private services. 2019 annual operating revenues mostly covered operating costs of \$2 million. SAVINGS R2W jobs grew 800% between 2016 and 2019. Program supported by 14 local agencies and medical PARTNERSHIPS providers.



<u>©</u>

COST

JOBS

 Program serves community needs in previously underserved/ unserved areas; delivered approximately 125,000 rides in 2019.

R2W has proven a resounding success—delivering new service to underserved and never-before-served communities. In 2019, 61% of trips served users in need of dialysis and other medical requests; 34% of trips provided access to grocery stores, pharmacies, and non-profit agencies; and the remainder of the trips provided access to water distribution sites.

R2W fills gaps that are often difficult to fill with traditional bus routes and Americans with Disabilities Act (ADA) services. Under the program, riders are able to schedule intermediate stops, such as at a pharmacy after a doctor's visit. By providing better access to grocery stores, pharmacies, and non-profit agencies, R2W riders collectively save \$32,000 per month.

R2W dialysis riders experience better service, translating to \$51,000 per month in benefits. These riders would otherwise have to rely on service that is pre-scheduled, requires a shared ride and is less convenient.

It is estimated that hospitals and medical providers together realize \$62,000 per month in cost savings through a reduction in no-show appointments. In the absence of R2W, users might forgo non-emergency medical trips due to lack of effective transportation options.

R2W provides \$16,000 per month in cost savings for hospitals discharging patients using R2W, who might otherwise have to use a private medi-van service.

In addition, R2W has created job opportunities for its largely unionized staff. Since 2016, more than 150 new jobs were created.

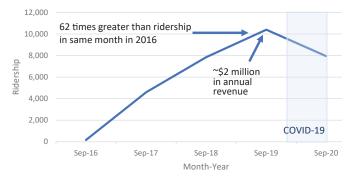
Future Outlook

MTA Flint has developed a service that expands the market for public transit by providing new high-quality transportation options. Since the program's inception, user eligibility under R2W has expanded, with the addition of dialysis patients in 2016, senior residents in 2018 and U.S. veterans and their spouses in 2019. Overall program satisfaction ranks high; a recent V2W survey showed that 90% of participants were completely satisfied or satisfied with the service. MTA Flint's leadership and the local community see opportunities to further build on R2W's current success and expand into new markets, such as serving workers who do not have set hours and where fixed-route options may not be available (e.g., restaurant workers, retail workers, home caregivers).

In 2019, R2W's annual operating revenues mostly covered its operating costs of \$2 million. MTA Flint understands how important it is to offer a service that is successful from the participants' point of view and at the same time sustain itself financially.

Finally, as the service is operated exclusively by MTA Flint using its own unionized work force, the success of R2W has

Rides to Wellness Program Monthly Ridership



led to the expansion of current and future employment opportunities.

Program Funding

Since R2W became fully operational in September 2016, operating costs have been funded by fare revenue, local funds through millage (property tax funds) and state formula assistance. Capital costs are funded with FTA capital grants and other state capital and innovation grants, in addition to non-profit donors. MTA Flint purchased vehicles using federal 49 USC 5307 funding, and applied 49 USC 5310 funding and discretionary grants to hardware and software costs. Capital costs are eligible for federal funding as R2W complies with ADA requirements.

Conclusion

To realize the full benefits and broaden this innovative and highly successful program, the **ability to utilize FTA formula funds without unnecessary restrictions, such as vehicle size restrictions, is essential.**



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Transportation Disadvantaged Late Shift

Unlocking New Job Opportunities, Safer Travel Options and More Personal Time PINELLAS COUNTY, FLORIDA

Overview

Pinellas Suncoast Transit Authority (PSTA) created its Transportation Disadvantaged (TD) Late Shift program in partnership with mobility providers (i.e., Uber, Lyft, a local taxi company and a wheelchair transport provider) to help low-income residents travel to and from work when regular bus service is not available. Launched in mid-2016, TD Late Shift provides fully subsidized, on-demand, door-to-door service to or from a place of work within the county limits during nighttime hours, with an average response time of 5-7 minutes.

TD Late Shift is part of Pinellas County's Transportation Disadvantaged (TD) Program, which provides low-cost transportation throughout the county to residents who qualify as "Transportation Disadvantaged." To qualify for TD, participants must: a) live in Pinellas County; b) have no other means of transportation, including family and friends; and c) have an annual income no greater than 150% of the federal poverty level (i.e., \$19,757 for a single person and \$39,742 for a family of four in 2020). Participants who qualify for TD can qualify for TD Late Shift if they have a job that begins or ends between 9 p.m. and 6 a.m. any day of the week. Once authorized to access TD Late Shift benefits, participants pay \$20 per month, which covers an unlimited bus pass and up to 25 late shift trips per month. TD Late Shift provides access to new job opportunities by allowing second- and third-shift employees to work full time and get safe, reliable rides between work and home.

A recent PSTA survey of **TD Late Shift participants showed a 96% positive evaluation of the service**. Respondents agreed that TD Late Shift provides a) access to new job opportunities or work shifts (57%); b) a safer nighttime travel option (23%); and c) more personal and family time (14%).

Community Impacts and Opportunities

TD Late Shift supports underserved and unserved communities by providing effective on-demand transportation to work when public transit service is unavailable.

TD Late Shift offers access to new jobs and/or more work shifts. In an average month, **TD Late Shift provided 235 unique customers with access to new jobs/work shifts during nighttime hours in FY 2019-2020. TD Late Shift riders collectively realized \$296,000 per month in benefits linked to new job opportunities and increased work shifts.** The program benefits the economy by allowing more people to work during hours that were previously inaccessible due to limited or nonexistent public transportation options.

Residents working during nighttime hours need a safe means of transportation. TD Late Shift offers a safer commute option to disadvantaged communities. Twenty-three percent of survey respondents indicated that using TD Late Shift offered a safer option to get to and from work during night hours.

By providing an efficient and reliable mode of transportation, TD Late Shift affords participants with more personal time that otherwise would have been spent commuting. **TD Late Shift participants value this additional time that can be spent with family and friends and on leisure activities, collectively valued at \$11,000 per month.**

	late shift
ECONOMIC IMPACTS	 57% of survey respondents indicated that using TD Late Shift offered access to new job opportunities or work shifts. TD Late Shift participants collectively experience more personal and leisure time, valued at \$11,000 per month.
COST SAVINGS	 PSTA saves \$613,000 per month in operating costs by providing on-demand service to unserved communities in lieu of new fixed routes.
JOBS	• TD Late Shift unlocked new job opportunities, generating \$296,000 per month in benefits.
PARTNERSHIPS	 The program is supported by partnership providers, including two mobility, one taxi and one wheelchair transport provider.
EQUITY	 TD Late Shift benefits unserved and underserved populations, previously not served during nighttime hours. On average, TD Late Shift served 235 unique customers per month in 2019.

PSTA would need \$8 million per year to operate a nighttime bus service for late-shift workers. In contrast, it costs \$650,000 annually to operate TD Late Shift. **PSTA saves approximately \$7.35 million a year by offering door-todoor transportation services, in lieu of new fixed routes, to unserved communities.** In other words, the cost of running a bus service that would support TD Late Shift users is 12 times greater than the cost of the current partnership with mobility providers.

Future Outlook

PSTA's partnerships with mobility providers complement transit in Pinellas County. In February 2020 (before COVID-19), TD Late Shift reached nearly 3,800 trips per month. On average, approximately 3,064 monthly trips (14 night trips per participant per month) were delivered in 2019.

PSTA leveraged its pre-existing TD program and utilized already-verified information on participants' residence and income to create TD Late Shift. To validate that participants are using TD Late Shift as intended (i.e., to get to and from work), PSTA successfully negotiated with its private partners on sharing origin and destination information. PSTA notes that it is important to agree on data-sharing expectations with private partners during initial contract negotiations to minimize program abuse such as ensuring that riders do not request trips outside the county or request a luxury vehicle.

TD Late Shift Monthly Ridership



With State Funds maxed out, limits on new participants in the program were implemented during 2018.

Program Funding

The statewide Florida Commission for the Transportation Disadvantaged funds 90% of TD Late Shift, with PSTA providing a 10% local match. Specifically, TD Late Shift is funded with an annual state grant (i.e., Innovative Services Development Grant), which is limited by authorization to expend funds once the state grant contract is executed. In the past, to avoid interruption in service and TD Late Shift suspension due to contract delays, PSTA has used local agency operating funds to pay private partners the negotiated fixed rates, per trip taken.

Conclusion

PSTA would like to expand TD Late Shift to a broader pool of users, including college students, healthcare workers and seniors with medical needs. Access to federal funding and continued access to state funding is essential to support the expansion of TD Late Shift to meet community demand for these services.



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RTA Connect On-Demand



Overview

Greater Dayton Regional Transit Authority (RTA) Connect On-Demand is a 24-hour, 7-day per week, year-round service available to any RTA customer traveling within designated service areas (zones) in the Greater Dayton area. The service was designed to provide transportation options where fixed-route service is either limited or unavailable. The service is free of cost to riders. Launched in June 2017 as a pilot program, Connect On-Demand was approved as a regular RTA service in February 2021 by RTA's Board of Trustees. The program uses RTA's Americans with Disabilities Act (ADA) paratransit drivers and vehicles, along with mobility providers such as Lyft and Uber, and a local taxi provider. For rides to be dispatched, customers can use the mobility provider's phone application or dial the RTA call center directly. Connect On-Demand reinforces RTA's ability to develop a service that is well-designed and leverages operational adjustments to improve direct access to jobs, educational institutions, grocery stores, and healthcare facilities, while delivering high customer satisfaction. Based on 2019 data, 58% of Connect On-Demand trips were provided by Lyft or Uber, 22% by a local taxi provider and 20% by RTA's paratransit service. Connect On-Demand strives to improve mobility accessibility for previously underserved and unserved communities in a manner that complements existing RTA services and creates systemwide transportation efficiencies.

Community Impacts and Opportunities

Connect On-Demand provides first-mile and last-mile connections to existing mobility services in the region. Based on 2019 data, 70% of all Connect On-Demand trips (i.e., 350 riders per day) were first- and last-mile connections to bus routes, boosting ridership on fixed-route service.

In 2019, the remaining 30% of trips (i.e., 150 riders per day) were new pointto-point trips made solely within specific zones, which likely would not have occurred without Connect On-Demand. **These new point-to-point trips drove approximately \$113,000 of additional economic activity per month that would have been missed in the absence of Connect On-Demand.**

Due to Connect On-Demand's low operating cost, RTA was able to balance its overall agency budget and redirect approximately \$380,000 in operating funds per month to create a new route, The Flyer. The Flyer is RTA's free downtown circulator service and is in the top five of all RTA routes for its



high ridership. The Flyer service includes nine full-time RTA drivers and five agency buses that were reallocated to support operations. This reallocation was accomplished by eliminating previously unproductive bus routes and replacing them with Connect On-Demand.

Additionally, RTA has been able to maximize utilization and increase productivity of its ADA paratransit service, with 20% of all on-demand trips to date being operated by RTA operators.

Future Outlook

Connect On-Demand offers greater transportation efficiencies by creating opportunities for more flexible planning, service development and route optimization. RTA utilizes the data from mobility providers on how residents travel within the zones to improve overall transit and mobility planning efforts. Before COVID-19, more than 500 unique customers used Connect On-Demand, with an average trip length of 3.5 miles to reach their destinations or connect to fixed-route services. In December 2019, ridership was 96 times greater than at the program's inception in June 2017.

RTA expanded available mobility options county-wide by developing strategic public-private partnerships and assuring long-term financial sustainability. Connect On-Demand showcases how an on-demand option can be successful in lower-density, underserved, and unserved areas where demand is too low to justify fixed-route services. **RTA's vision includes expanding Connect On-Demand in the Greater Dayton area**, where there is no 24/7 public transit service, and to offer first- and last-mile connections in unserved areas.

Program Funding

Connect On-Demand's annual operating budget is \$600,000 and the program is funded through local restricted operating funds. RTA did not acquire additional

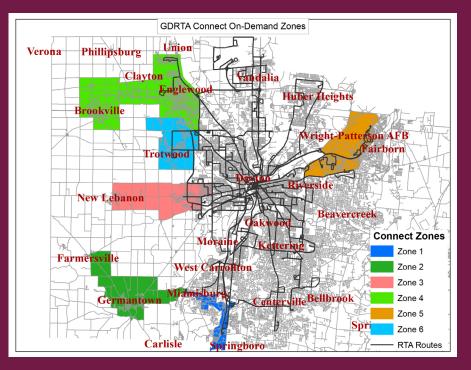
Connect On-Demand Program Monthly Ridership



vehicles or hire drivers to provide on-demand service; it estimates a \$15 per trip cost, which is reflected in the total operating cost. RTA uses federal formula funds for its ADA paratransit services; some of those services are also utilized in the Connect On-Demand program.

Conclusion

RTA's Connect On-Demand demonstrates the ability of transit agencies to use mobility innovation to improve and expand transit service in previously underserved areas, with direct benefits to fixed-route services – in this case, the creation of The Flyer using RTA drivers and buses. Federal funding is essential to broaden RTA's on-demand services to meet community demand and to improve existing service routes.



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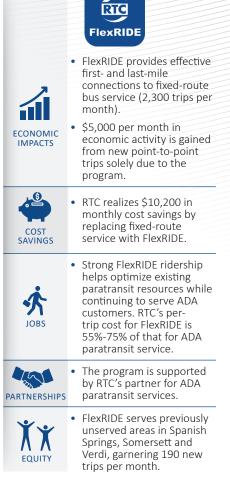
RTC FlexRIDE

Leveraging Paratransit Services to Create an Effective On-Demand Program and Expand Transit Presence WASHOE COUNTY, NEVADA

Overview

The Regional Transportation Commission (RTC) of Washoe County, Nevada, offers its FlexRIDE program in unincorporated areas of Washoe County. As of the early part of 2019, two RTC RIDE fixed bus routes in Sparks were experiencing low ridership levels, making the service inefficient and unsustainable. To better serve users with access to jobs, education, medical services, and grocery stores, RTC introduced FlexRIDE in partnership with MTM Transit, RTC's partner for Americans with Disabilities Act (ADA) paratransit services. This micro transit system replaced the inefficient fixed routes with on-demand service. MTM Transit uses a software application to identify pick-up and drop-off locations and manages the driver dispatch, schedule and route optimization for the service. RTC uses its existing paratransit contracted services and vehicles to provide the on-demand service.

FlexRIDE is a 7-day per week, shared-ride, on-demand transit service that provides riders with curb-to-curb service within delineated zones. FlexRIDE users can travel anywhere within each zone or connect with RTC RIDE fixedroute service at select locations. To book a FlexRIDE trip, riders can use the RTC smartphone application, or schedule the trip by dialing the RTC call center. Once scheduled, the FlexRIDE vehicle arrives within 15 minutes. Passengers can track the arrival of their rides in real time using the smartphone application. Users can also approach a FlexRIDE vehicle on the street and request a ride. Regular fare for each one-way trip on FlexRIDE is \$2.00. The reduced fare is \$1.00 per ride, which is same as the RTC fixed-route fares. However, users can purchase a \$3.00 day pass to use the FlexRIDE and regular fixed-route services, translating to a minimum discounted fare of \$1.50 per ride.



FlexRIDE service was launched in November 2019, initially as a six-month pilot serving the Sparks area. The success of FlexRIDE in Sparks, coupled with the need to respond to the COVID-19 pandemic, prompted RTC to introduce a second FlexRIDE service area in North Valleys in May 2020. The North Valleys FlexRIDE service replaced an existing fixed-route service with low ridership.

In October 2020, the Sparks service area was expanded to include Spanish Springs, and a third new service area was added to serve Somersett and Verdi. These three areas were previously unserved by transit (and paratransit) and were selected based on feedback from the community.

Community Impacts and Opportunities

FlexRIDE provides first- and last-mile connections to existing transit services in the region. In 2020, approximately **50% of all FlexRIDE trips (i.e., 2,300 trips per month) were first- and last-mile connections to bus routes, boosting ridership on fixed-route service**. The remaining 50% of trips were point-to-point trips within the designated zones.

RTC eliminated approximately 12,200 annual fixed-route service hours in Sparks and North Valleys that were unproductive and replaced them with a more effective on-demand transit service in a cost-efficient manner. **RTC realizes \$10,200 in monthly cost savings by replacing fixed-route service with FlexRIDE**.

FlexRIDE provides a new transportation option for residents in Spanish Springs, Somersett and Verdi, as these areas were

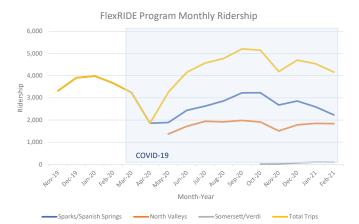
not previously served by transit. From October 2020 to February 2021, approximately 190 trips per month on FlexRIDE were made from these newly served areas, which likely would not have occurred without the program. Collectively, the new trips from zones in Spanish Springs, Somersett and Verdi translate into approximately \$5,000 of additional economic activity per month that would have been missed in the absence of FlexRIDE.

FlexRIDE's lower cost per trip, compared with the cost of RTC's existing ADA paratransit service, demonstrates that FlexRIDE is a successful program. RTC's existing ADA paratransit service costs \$30.29 per trip, while FlexRIDE costs in the range of \$17-\$22 per trip (i.e., 55% to 75% of the per-trip cost of ADA paratransit service). Because RTC utilizes its ADA paratransit vehicles and drivers to provide FlexRIDE service, the operating cost per hour for ADA paratransit and FlexRIDE is the same. However, strong ridership on FlexRIDE creates opportunities to optimize existing paratransit resources while continuing to serve ADA customers. Furthermore, if 10% of existing ADA customers in the designated zones switch to FlexRIDE, RTC will save around \$5,000 in differential trip cost each month.

Future Outlook

FlexRIDE is a true success story in the growing micro transit trend, as it helps passengers gain greater and more efficient access to their community on demand. FlexRIDE delivers high customer satisfaction by providing users with flexibility in scheduling rides, the capability to request pick-up and drop-off exactly where they want and engaged drivers who have completed thorough customer service training.

Since the program's inception, the average ridership on FlexRIDE is 4,000 per month, reaching a maximum ridership of 5,200 in September 2020. To meet FlexRIDE's increasing ridership, the number of vehicles used for the service increased from two in 2019 to 10 by the end of 2020. Over the last decade, the Reno-Sparks area has attracted several



new businesses to the region. In 2020, 30 new companies moved to Northern Nevada, with 11 of them moving their corporate headquarters to the region. To meet the growing demand, RTC anticipates a need to expand FlexRIDE to other areas in the region.

Program Funding

FlexRIDE's annual operating budget is \$2 million, and the current cost is nearly \$1.5 million. RTC applies 5307 federal formula funding to purchase and maintain FlexRIDE ADA vehicles. FlexRIDE operations are funded with local sales tax dollars, except for service in Spanish Springs and Somersett/Verdi, which are currently being funded with Congestion Mitigation and Air Quality (CMAQ) funds at a 95% federal and 5% local match ratio. After October 2023, operations in Spanish Springs and Somersett/Verdi will also be funded with local sales tax dollars.

Conclusion

RTC's initiative to leverage paratransit services and expand transit options to its community has translated to numerous benefits. FlexRIDE is possible due to 5307 federal formula funding available to purchase and maintain program vehicles. **Restrictions on use of federal funding can jeopardize FlexRIDE's continuity and expansion, while deterring essential transportation services to Nevada residents.**



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RideKC Micro Transit

Offering an Efficient and Convenient Transit Option to Low-Density Communities JOHNSON COUNTY, KANSAS

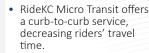
Overview

RideKC partner jurisdiction Johnson County, Kansas launched the RideKC Micro Transit in January 2019 in partnership with TransLoc (a software company owned by Ford) and Kansas City Taxi Group. The pilot program grew out of the Kansas City Area Transportation Authority's (KCATA) previous one-year pilot called RideKC Bridj, launched in 2016. In 2018, TransLoc approached KCATA with an unsolicited proposal to plan a new on-demand program, and KCATA invited Johnson County to partner with them.

RideKC Micro Transit offers curb-to-curb service within the service area boundaries in parts of Overland Park, Merriam, Shawnee and Lenexa. Service hours are from 6:00 am to 8:00 pm Monday through Saturday. Reservations can be made via a mobile application, website or by phone and pre-registration is not needed. Trips are planned to be as direct as possible and may include other riders. Currently, riders pay \$1.50 per one-way trip, the same fare as riding a bus. The trip can be paid through the RideKC Micro Transit mobile application, bus pass card or with exact cash on board. Participants transferring to or from other transit services outside the service area do not pay for their RideKC Micro Transit

RideKC MICRO TRANSIT

 Participants have shorter wait times of 15 minutes, compared to typical fixed-route headways of 30 minutes (peak hours) to one hour (non-peak hours).



 The program provides an affordable ride-hailing transportation option to previously unserved populations.



ECONOMIC

The program serves previously unserved areas. It has expanded its service area by 25% and added Saturday service.

trips. With the program's success, Johnson County extended RideKC Micro Transit beyond the initial six-month pilot timeframe, offering a Saturday service and expanding the service area. Wheelchair-accessible transportation is provided upon request and drivers are trained to comply with the requirements of the Americans with Disabilities Act (ADA).

RideKC Micro Transit's partners have well-defined roles. KCATA manages the contracted service and day-to-day activities of its public transportation network. Johnson County provides vehicles and operations funding and makes policy decisions regarding service provision within its jurisdiction. TransLoc provides the route and ridership planning technology software, and Kansas City Taxi Group offers drivers and dispatch services.

RideKC Micro Transit's monthly ridership has been more than 15 times higher than the RideKC Bridj pilot. From January to July 2019, more than 12,000 trips were taken. Based on a 2020 customer survey, 51% of respondents noted that work was the primary reason to use RideKC Micro Transit and 38% of respondents noted grocery/family needs to be the primary trip purpose. RideKC Micro Transit supports and boosts fixed-route service ridership and there has been a strong transfer volume between the micro transit and fixed-route services.

Community Impacts and Opportunities

RideKC Micro Transit offers transportation using large vans accommodating more than one rider. Because Johnson County is largely suburban, providing efficient transportation options through traditional transit service is challenging. During the COVID-19 pandemic, trips were limited to two passengers at a time and currently only 40% of trips are shared trips.

From the user and community perspective, the program offers reduced wait time, less travel time and an affordable ridehailing transportation option. Compared to the typical fixed-route headways of 30 minutes during the am/pm peak hours and one hour during non-peak hours, RideKC Micro Transit users experience a 15-minute wait time to access service. Furthermore, because RideKC Micro Transit offers a direct curb-to-curb service and trips are planned efficiently, users experience overall travel time savings. RideKC Micro Transit's latest expansions support vulnerable low-density communities. In September 2020, the area served increased from 40 square miles to 50 square miles and a Saturday service was introduced. KCATA and Johnson County used U.S. Census data and details on population clusters to identify expansion zones to better serve senior, low-income and disabled populations.

Future Outlook

RideKC Micro Transit drew lessons from the RideKC Bridj pilot to make several important changes to the service design. These lessons included not limiting service to peak hours and offering curb-to-curb service so passengers do not have to walk to a stop/location.

In 2020, KCATA partnered with Wyandotte County to replace a fixed-route service operating at one-hour headway with micro transit to better align with customers' travel needs in the service area. The transition from fixed-route to micro transit service was cost-neutral.

Program Funding

The RideKC Micro Transit program's initial budget was \$250,000 for a six-month period and was funded by Johnson County. Some of the RideKC Micro Transit vehicles were originally purchased for the RideKC Bridj pilot and were reallocated to RideKC Micro Transit. The current annual operational budget is estimated at \$1,500,000. RideKC Micro Transit funds its operations through Johnson County and with a State of Kansas innovation grant. Johnson County purchases the vehicles with local funds. In December 2020, Johnson County and KCATA were awarded a \$59,000 Innovation and Technology Grant from the



96% of participants are

with the experience.

Kansas Department of Transportation to integrate micro transit into RideKC's official application, thereby enabling riders to use the app to plan multimodal trips that combine micro transit with fixed-route service.

Conclusion

RideKC Micro Transit offers riders efficient and affordable transportation services and fosters fixed-route services. KCATA would like to replicate the success of RideKC Micro Transit by expanding micro transit to other parts of the Kansas City metro area to serve low-density communities that otherwise would not have access to transit services. **Ensuring that federal funding is available for these activities is essential to expanding this successful mobility program.**



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Increasing Access and Opportunities by Easing Barriers to Transit LOS ANGELES, CALIFORNIA

Overview

The Los Angeles County Metropolitan Transportation Authority (Metro) began exploring on-demand transit technologies with the development of two pilot projects from the Office of Extraordinary Innovation (OEI). The first, Mobility On Demand (LA MOD), a two-year, shared-ride service to or from select Metro and Metrolink stations, was launched in January 2019 in partnership with private partner Via. The second, Metro Micro, a multi-year, shared-ride operation designed and implemented under a Pre-Development Agreement Public Private partnership (PDA-P3) with technology firm RideCo Inc., launched in December 2020. In January of 2021, remaining LA MOD passenger services were absorbed by Metro Micro.

LA MOD was designed with equity and access in mind and offered on-demand first/last-mile trips operated by Via driver partners in their own personal vehicles. Initially, LA MOD launched with fares set at \$1.75 per trip with an LA Metro fare card (or \$3.75 per trip without a card). Each rider was granted two free rides when signing up. Participants in the LIFE program (i.e., a fare subsidy program for low-income riders) could ride for free. The service quickly moved to include transfers to/from the LA Metro system to align with Metro's transfer policy. LA MOD passengers could book a seat in a shared vehicle either by using the Via mobile app or calling Via's call center. In the first year of the pilot, the service was offered Monday through Friday, 6 a.m. through 8 p.m., in three areas—North Hollywood, El Monte, and Compton/Artesia. The hours of operation expanded to late night and weekend service during the second year, and the pilot shifted to providing food delivery for vulnerable families during the COVID-19 pandemic. The community impacts and opportunities described below were estimated based on LA MOD data.

Соломіс Імрасть	• LA MOD provided effective first/last-mile connections to fixed-route transit service and point-to-point trips.
COST SAVINGS	• \$67,000 per month in economic activity was gained from new trips as a result of LA MOD.
JOBS	• On average, per month, approx. 5,500 trips were for commuting, 2,200 trips for recreation, 1,700 trips to run errands and 1,500 trips to access school.
PARTNERSHIPS	 The program was supported by private company Via.
K EQUITY	 LA MOD served three equity-challenged areas around LA Metro stations. LA MOD began with 6 square miles (sqm) of service catchment area for each station. The service area grew over the two years of operation—North Hollywood to 13 sqm, Compton/Artesia to 18 sqm, and El Monte to 23 sqm.

LA Metro Mobility On-Demand Overview. LA MOD users experienced an average wait time of 10 minutes. The overall average travel time from origin to destination was less than 20 minutes, which is approximately the same as driving to/ from the closest transit station. Data shows that LA MOD weekday trip requests were evenly distributed across service hours (between 6 a.m. and 8 p.m.). LA MOD provided an equivalent level of service for requests from customers with disabilities, including those with service animals, wheelchairs, or a need for additional assistance to board or alight. Customers who needed translation services could use the call center to request rides or for customer service. LA Metro designed LA MOD as a shared-ride service; however, when no ride matches were available, passengers traveled by themselves. Most of the rides hailed were single-person rides (90.5%), with 7.6% of the trips being shared rides with two passengers and less than 2% of trips being shared rides with three or more passengers. Approximately 50% of LA MOD trips were made to access work, 20% for recreation, 16% to run errands, and 14% to access school.

In response to the COVID-19 crisis, LA MOD discontinued shared rides, allowed point-to-point trips anywhere within each zone (not just to/from transit stations), and added essential destinations outside of the zone boundaries. Additionally, LA Metro redirected LA MOD drivers and vehicles to provide emergency food and essential goods deliveries, which will continue through February 2022.

Community Impacts and Opportunities

In its two years of operation, LA MOD provided **more than 270,000 rides** and met or exceeded program goals, including average wait times, ridership, and customer experience. LA MOD earned an average ride rating of **4.9 out of 5 stars** throughout the entirety of the service, showcasing the program's high customer satisfaction. Even with the COVID-19 pandemic, ridership grew by **178% in 2020 compared to 2019**, demonstrating the value and importance of on-demand technology in providing transportation options for essential trips.

Survey data showed that 33% of LA MOD trips were previously completed by bus, 17% by Lyft or Uber, 16% by driving and 11% by walking. LA MOD trips proved to be faster than walking or taking the bus. Users who previously used the bus, or walked to/from transit stations, realized more than \$15,000 in travel time savings per month as a result of LA MOD. Data also indicated that approximately 7% of LA MOD users did not use LA Metro transit stations before the program. These new trips drove approximately \$67,000 of additional economic activity per month that would have been missed without LA MOD. During the COVID-19 pandemic, LA Metro expanded LA MOD to include essential destinations outside of the zones, such as grocery stores and hospitals, while continuing to offer rides at no cost. In partnership with First 5 LA, an independent public agency, and its Best Start Communities Network, LA Metro leveraged LA MOD to deliver food and essential goods to families in need as the pandemic progressed.

Future Outlook

LA MOD provided important lessons learned for Metro prior to launching Micro. Metro Micro complements Metro's recently restructured bus network and uses newly hired SMART-TD operators, AFSCME supervisors and noncontract management similar to fixed-route operations.

Metro Micro trips can be booked through a new mobile app, online, or by dialing a call center. The introductory fare is set at \$1.00 per ride and the program has achieved 4.8 of 5 start rating from customers. Metro Micro has successfully launched 7 zones since December 2020, with an additional

LA MOD Program Monthly Ridership



2 slated for launch in 2021. When fully operational, Metro Micro is on track to be the largest on-demand transit service in the United States.

LA MOD and Metro Micro are in line with the LA Metro Vision 2028 Strategic Plan to reduce single-occupancy car trips. These on-demand programs help LA Metro inform future ride-sharing innovations at the agency.

Program Funding

The annual operational budget for LA MOD was \$3.4 million. LA MOD was funded by three sources: a \$1.35 million grant from the FTA Mobility on Demand Sandbox Demonstration program, \$1.75 million through Metro operating dollars, and nearly \$300,000 through Via's risk sharing contribution. Micro is part of Metro's annual operations budget and the contract value with RideCo is set at \$35 million.

Conclusion

Aligning on-demand transportation programs with existing transit service can be challenging; however, establishing collaborative partnerships can result in much better outcomes for customers, agencies, and service providers alike. LA MOD and Metro Micro are clear examples of successful partnerships that have leveraged prior experiences to improve service and evolved to meet changing needs. Ensuring that federal policies supporting mobility innovation allow for flexibility in establishing collaborative partnerships is key to supporting community demand for these services.



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Case Studies Challenges and Findings

 Table ES1: Case Studies Challenges and Findings

Program Name / Agency / Location	Transportation Challenge	Key Findings
Rides to Wellness Mass Transportation Authority <i>Flint, Michigan</i>	 Filling gaps in the existing service network. Improving quality of service offered and customer satisfaction. 	 Attracting riders to the existing fixed route transit service and expanding opportunities for existing workforce achieved through innovative R2W service. Innovation does not stop with the pilot program. Continued funding, either through the ability to use federal formula funds, or an extended grant program is valuable.
Transportation Disadvantaged Late Shift Pinellas Suncoast Transit Authority <i>Pinellas County, Florida</i>	 Providing late-night service, closing a gap in service. Meeting a previously unserved market. 	 Securing data from the private sector is valuable for market/service planning or operations.
Connect On-Demand Greater Dayton Regional Transit Authority Dayton, Ohio	 Filling in first- and last- mile connection gaps. Creating a curb-to-curb service in a budget friendly way. 	 Importance of securing data from the private sector is valuable for market/service planning. Supporting ridership on existing services. Expanding opportunity for existing transit workforce.
FlexRIDE Regional Transportation Commission Washoe County, Nevada	 Improving quality of service and customer satisfaction for mobility on demand. Leveraging existing paratransit service. 	 Using existing contracted paratransit service to deliver new micro-transit service. Expanding service to new physical markets can be an expansion of work opportunities for the existing transit workforce.

Program Name / Agency / Location	Transportation Challenge	Key Findings
RideKC Micro Transit Johnson County Government Johnson County, Kansas	 Providing curb-to-curb service in a low-density community. Expanding to serve areas not previously served with fixed route service. 	 Innovation does not stop with the pilot program. Continued funding, either through the ability to use formula funds, or an extended grant program is valuable.
LA Mobility On-Demand / Metro Micro Los Angeles Metro Los Angeles, California	 Improving equity and access to transit. Providing a higher-quality level of service. 	 Pilot service attracted riders to the existing service and expanded opportunities for existing transit workforce.

Even as policymakers work to develop programs that foster quality transit service, analysis and understanding of what allows transit agencies to be successful innovators is fragmented. By their nature, local transit innovations are specific to a particular market; these innovations are not announced in a national marketing campaign like the next iPhone. Describing what makes a successful transit innovation, the enabling factors, typical challenges faced, and the range of beneficial outcomes achieved when the innovation succeeds, helps policymakers understand how to foster future transit innovation.

The map at the end of the document is illustrative and reflects available data on 36 on-demand programs serving communities in the United States as of July 1, 2021. Transit agencies continue to develop these programs at a rapid pace, some of which may not be reflected in this map.

Lessons Learned

In the discussion below, the overlapping nature of the factors that enable transit innovation is highlighted.

I. Funding Resources

The most common theme across all of the case studies is the value of reliable, flexible funding that could be applied to these pilot programs and the programs that grow out of the successful pilots. In fact, some of the innovations highlighted started under special funding programs. While highly valuable, these programs typically provide support for a fixed period of time—allowing for a proof of concept. However, the innovation does not stop with the first iteration of the program. Just as consumer products are frequently re-invented or offer new features, many of the programs showcased here continue to innovate, building on "Lessons Learned".

For example, in Flint, Michigan, the Rides to Wellness (R2W) program has broadened its customer base. Initially serving elderly, those with disabilities, or transportation-disadvantaged-community members, this highly successful program was recently expanded to U.S. veterans and their spouses through the R2W umbrella program called Vets to Wellness (V2W). RideKC Micro Transit in Johnson County, Kansas drew lessons from the RideKC Bridj pilot to make several important changes to the service design. The ability to direct federal formula funds or otherwise secure longer-term federal grant funding for proven concepts such as these successful programs would allow the transit industry to accelerate innovation.

II. Organizational Resistance

While financial resources are critical for these programs, it is just one factor in ensuring success. Transit agencies, like many public sector organizations, face challenges to innovation due to the context in which they operate. Many are under public scrutiny and must demonstrate that they are good stewards of the public's resources. This can make doing "something new" and unproven difficult at times. This is why knowledge and information sharing within organizations and among them (as with this report) can help agencies overcome internal resistance and secure staffing and financial resources to move forward.

Information sharing also allows transit planners to identify new markets. For example, the Greater Dayton Regional Transit Authority (RTA's) Connect On Demand program in Dayton, Ohio offers enhanced transportation efficiencies by creating opportunities for more flexible planning, service development and route optimization. RTA Connect on Demand uses data from private mobility providers on how residents travel within the zones and uses it to improve overall transit and mobility planning efforts. This has allowed RTA to greatly expand ridership. The value of partnering with the private sector for market data is a recurring theme across the case studies.

III. Monitoring Innovation

Measuring and tracking new programs also supports transit industry innovations. Data efforts should include cost impacts and efficiency gains and include broader or more qualitative indicators that describe how the innovation allows the agency to better meet its goals. For example, the Regional Transit Commission's (RTC's) FlexRIDE program in Washoe County (Reno), Nevada was able to serve a sparse transit-dependent customer base by transitioning from traditional fixed routes to a new curb-to-curb micro transit service. The increase in service quality, in turn, attracted new riders. Reporting information

on pilot programs to the Federal Transit Administration's National Transit Database (NTD) will help ensure that diverse programs will be described with a set of common, agreed-upon metrics, and to enhance knowledge-sharing across programs.

An additional theme across the case studies is that often the trips under these programs are frequently not captured in the NTD and thus do not count for determining federal formula funding. For example, some agencies use taxi vehicles to meet demand and reduce wait time. However, taxi trips are excluded from the NTD. Similarly, any first- or last-mile connections are excluded from NTD even though they improve accessibility and customer experience. Pinellas Suncoast Transit Authority's TD Late Shift program in Pinellas County, Florida (part of the Tampa-St. Petersburg-Clearwater metro area) offers trips through Uber, Lyft, United Taxi, or Wheelchair Transport, to or from work anytime regular bus service is not running. Although this innovative service improves job access in a popular tourist area —where latenight bars, restaurants and shift work are prevalent—these trips are not counted in the NTD's tally of the authority's delivered service.

IV. Leveraging Traditional Relationships

Innovation, by its nature, can be disruptive and spark a restructuring of traditional organizational or industry relationships. Fostering new partnerships can appear to pose a challenge to the existing workforce, which can lead to resistance to new models of service.

However, one of the more striking findings of the case studies is that these innovations can be delivered with the existing workforce and can benefit these employees by providing additional opportunities. For example, MTA Flint operates exclusively using its own workforce, and its successful R2W service has led to the expansion of current and future employment opportunities. RTA's Connect on Demand program provided the means to create a new route, The Flyer, which uses RTA drivers and buses to operate. In LA Metro's Mobility on Demand (LA MOD) program in Los Angeles, California, data indicated that about seven percent of the LA MOD users did not use LA Metro transit services before the program. Thus, the new mobility program increased demand for traditional transit service, supporting the existing workforce while improving customer satisfaction.

What Have the Innovations Achieved?

Looking across the six case studies presented in this report, it becomes clear that the innovations are having an important impact on people's lives.

- Nearly every service innovation allows the agency to fill a service gap, either by providing service to a physical location not previously served, or at a time of day when service was limited, to non-existent.
- The implementation of these new services has expanded job opportunities by providing access to employers in a wider range of physical locations, and by allowing workers to seek "late-shift" opportunities when that is a preferred work schedule.
- Transportation-disadvantaged communities have benefited directly from these new innovations both through service expansion and higher quality service. In the case of Flint, access to health care improved in a measurable way with program participants receiving care more reliably.

- In many cases, the new service innovation complemented existing transit services, increasing demand and workforce opportunities for existing transit workers.
- All of the services provided support for their local economies by meeting previously unmet demand for shopping trips, facilitating access to routine health care visits, and expanding physical and temporal access to work opportunities not otherwise available to households.

Table ES2 summarizes the main types of outcomes and beneficiaries; quantitative estimates are available in the individual case studies.

Table ES2: Summary of the Benefits Generated by These Innovative Programs

Program Name / Agency / Location	Range of Outcomes Achieved and Beneficiaries
Rides to Wellness Mass Transportation Authority	 Delivered 125,000 trips in underserved/ unserved areas.
Flint, Michigan	 Improved service for elderly, disabled, and transit-disadvantaged.
	 Hospitals and medical providers saw a decrease in "no shows" for appointments supporting.
	 Program created 150 jobs for existing transit workforce.
Transportation Disadvantaged Late Shift Pinellas Suncoast Transit Authority	 Filled late night gap in service to meet previously unmet travel demand.
Pinellas County, Florida	 Provided a safe means to access "second and third shift" jobs without a car.
	 Served the transportation-disadvantaged population of Pinellas County.
	 Offered access to new jobs and/or more work shifts.
Connect On-Demand Greater Dayton Regional Transit Authority Dayton, Ohio	 Service provided to previously unserved/ underserved area (areas where fixed route service is unavailable).
	 Supported economic activity with trips for jobs, education, grocery shopping and health appointments.
	 Supported demand for existing transit service—70 percent of trips on new service were first- or last-mile connections to bus routes.
FlexRIDE Regional Transportation Commission Washoe County, Nevada	 Service provided to previously unserved/ underserved area (transit and paratransit).
	 Led to greater demand for existing transit service.

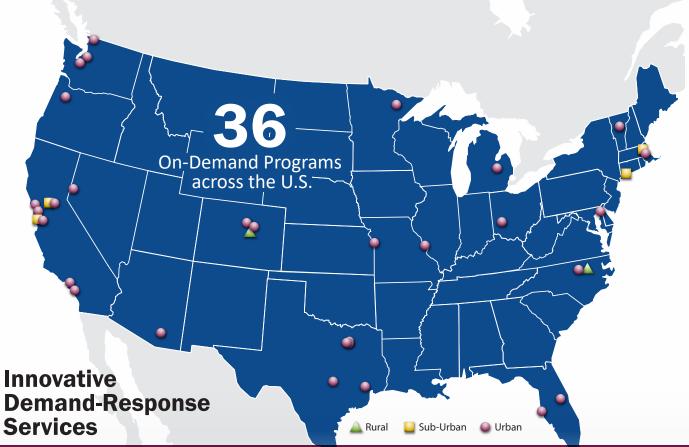
Program Name / Agency / Location	Range of Outcomes Achieved and Beneficiaries
RideKC Micro Transit Johnson County Government	 Service provided to previously unserved/ underserved area (low density areas).
Johnson County, Kansas	 Twelve (12) percent of trips would not have been made without the service.
LA Mobility On-Demand Los Angeles Metro Los Angeles, California	 Served equity-challenged neighborhoods. Provided service for essential trips. Seven (7) percent of program riders did not use LA Metro prior to the program.

Today, our nation and our industry are determined to remedy past racial injustices and support the creation of a more equitable society. This is the backdrop to the Congressional debate on how to shape this next surface transportation authorization/infrastructure bill. One of the key themes to emerge in this national conversation is how to use transportation infrastructure policy to affect larger socioeconomic change and greater equity.

Social change is driven by new technologies and services, the evolution of laws and policies, the identification of new markets, and changes in behavior. The case studies profiled here capture much of that process. At their heart, they describe the application of new technologies that allow previously unmet market demand to be served, often at a higher quality than could be achieved with a traditional approach. Implementation of the programs allowed for new behaviors—fewer "no shows" to medical appointments, greater and more widespread travel, and pursuit of an expanded range of job opportunities. The next step is to ensure that the laws and policies that govern public transportation are supportive of, and enable, continued innovation to spur this evolution. When we have all of these factors working in complementary ways, we improve our chances of realizing the potential to leverage transportation infrastructure to achieve more equitable and inclusive communities.

Key Takeaways

- Transit innovation does not end when the pilot program ends. Creative transit programs take the "Lessons Learned" from the pilot to create the next incarnation of the program. The ability to direct federal formula funds or otherwise secure longer-term federal grant funding for proven concepts such as these successful programs allows the transit industry to accelerate innovation.
- 2. While funding is critical, data and information are important elements that enable innovation. In addition, private sector partnerships yield data that allows service planners to see markets in new ways.
- 3. Innovations that fill gaps in service can translate into greater use of the transit network overall, expanding demand for existing service as well as the new transit venture.



Map ES1: A Snapshot of 2021 Transit Industry Innovation

ARIZONA AMORE Regional Transportation Authority of Pima County Pima County

CALIFORNIA

Connect Marin County Transit District San Rafael

SmaRT Ride Sacramento Regional Transit Sacramento

Metro Micro Los Angeles County Metropolitan Transportation Authority Los Angeles

Flex Santa Clara Valley Transportation Authority San Jose

AC Transit Flex Alameda-Contra Costa Transit District Alameda

West Sacramento On-Demand City of West Sacramento West Sacramento

OC Flex Orange County Transportation Authority Orange

Via-Cupertino City of Cupertino *Cupertino* COLORADO FLEXRIDE

Denver Regional Transportation District Denver

Link On Demand City of Lone Tree Lone Tree

D2D City of Boulder Boulder

CONNECTICUT WHEELS 2U

Norwalk Transit District Norwalk

FLORIDA NeighborLink Central Florida Regional Transportation Authority Orlando

Transportation Disadvantaged Late Shift Pinellas Suncoast Transit Authority Pinellas County

KANSAS RideKC Micro Transit Johnson County Government Johnson County

MARYLAND On-Demand Response Cecil Transit Cecil County

MASSACHUSETTS

NewMo City of Newton Newton

On-Demand Paratransit Massachusetts Bay Transportation Authority *Boston*

MICHIGAN

Rides to Wellness Mass Transportation Authority *Flint*

MINNESOTA

Dial-A-Ride Arrowhead Transit *Virginia*

MISSOURI

Via Metro STL St. Louis Metro Transit St. Louis

NEVADA

RTC FlexRIDE Regional Transportation Commission Washoe County

NORTH CAROLINA

Go OnDemand Shuttles GoTriangle Raleigh

RIDE City of Wilson *Wilson*

OHIO

RTA Connect On-Demand Greater Dayton Regional Transit Authority *Dayton* **OREGON** Cherriots Shop and Ride

Salem Area Mass Transit District Salem

TEXAS

Pickup Capital Metropolitan Transportation Authority Austin

METROLift Houston METRO Houston

GoLink Dallas Area Rapid Transit Dallas

DART Connect Dallas Area Rapid Transit Dallas

First and Last Mile Solution Dallas Area Rapid Transit Dallas

VERMONT

Statewide FlexibleTripPlanner Vermont Agency of Transportation Barre

WASHINGTON

Rideshare King County Metro Seattle

Limited Access Connections Pierce Transit Lakewood

Bus-on-Demand Whatcom Transportation Authority Lynden

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Transit Agency	Name / Title
Mass Transportation Authority Flint Edgar Benning General Manager/Chief Executive Officer	Harmony Lloyd Chief Operating Officer – Planning and Innovation
Pinellas Suncoast Transit Authority Brad Miller Chief Executive Officer	Heather Sobush Director of Planning Bonnie Epstein Director of Mobility Services
Greater Dayton Regional Transit Authority Bob Ruzinsky Chief Executive Officer	Brandon Policicchio <i>Chief Customer and Business Development Officer</i>
Regional Transportation Commission of Washoe County, Nevada William A. Thomas, AICP RTC Executive Director	Mark Maloney Director of Public Transportation
Kansas City Area Transportation Authority Robbie Makinen President and Chief Executive Officer Janee Hanzlick Commissioner, Johnson County, Kansas	Josh Powers Business Liaison, Johnson County Government David Johnson Vice President, Planning and Strategy Dick Jarrold Vice President, Regional Planning and Development
Los Angeles Metro Stephanie Wiggins Chief Executive Officer	Joshua Schank Chief Innovation Officer Emma Huang Principal Transportation Planner, Office of Extraordinary Innovation Monica Waggoner Administrative Analyst Rani Narula-Woods Sr. Director, Special Projects