This appendix provides a review of seven microtransit/TNC pilot projects which have been completed or are underway, focusing on the lessons learned through the planning or implementation process.

<u>Microtransit Examples</u>

Kansas City KCATA (Bridj)

Bridj is a private company specializing in microtransit. Beginning with services in Boston and Washington DC, Bridj partnered with the Kansas City Area Transportation Authority (KCATA) to implement an on-demand shuttle service in portions of downtown Kansas City, Hospital Hill, Crown Center, portions of Kansas City's midtown area and the 18th and Vine Jazz District. Passengers could schedule a ride during commute hours (6:30 AM to 9:30 AM and 3:30 PM to 6:30 PM) Monday through Friday. Ford provided Bridj with ten 14-passenger vans for the pilot project. KCATA provided unionized transit employees as drivers. Pick up locations were designed with the intent that passengers wouldn't need to walk more than five to ten minutes but it is likely that many had a longer walk time.

The year-long pilot carried less than 1,500 trips or about 11 trips per day. The average trip distance was three miles and duration was 20 minutes. Passengers were offered their first 10 rides for free and many stopped using the service after 10 rides. The cost for a ride was $1.50 per passenger. Total budget for the program was $1.3 million (including fixed costs). This equates to a total operating cost per trip of nearly $900 per passenger trip. In terms of population density, Kansas City is similar to the urban portions of Placer County with a total population of just under 500,000 and a density of around 1,500 people per square mile.

Lessons Learned

- Better marketing was required
- Service did not go where people wanted to go
- Service focused on work trips and should have been expanded to other trip purposes
- More real-time information should be provided to drivers
- Mostly used by younger and wealthier

Bridj has since ceased operations in the US.

Santa Clara Valley Transportation Authority (VTA) Flex

Santa Clara VTA is an example of where a public transit agency contracted only for the technology portion of an on-demand microtransit type service. VTA operated the Flex program using VTA vehicles and drivers. The private company RideCell developed software and specific algorithms which could assign trips requests to vehicles in real time. The initial objective was to have a program which allowed for both on-demand and advance reservation ride requests but the software was only capable of the on-demand feature. Passengers were able, however, to

call in to a dispatcher to make a reservation. Drivers were provided with tablets to assist with navigation based on real time trip requests.

Pick-up and drop off locations were identified within the five mile diameter service area but routes were flexible. As a cost saving measure, VTA rewrapped six 26 passenger retired buses to use for the Flex service instead of purchasing new vans. Service was operated on weekdays from 5:30 AM until 8:30 PM for a period of six months. Fares were set at $2.00 for off-peak rides and $3.00 for peak rides. The average wait time for a ride (including walking to the stop) was 7.5 minutes. The average travel time on the vehicle was 7.5 minutes.

During the six month trial period a total of 2,714 trips were carried. Initially, a 3 mile service area was defined but this resulted in only 16 boardings per day. Therefore, the service area was expanded to five miles, thereby increasing ridership to 41 boardings per day. With a project budget of around $1.3 million, the operating cost per trip was close to $500. Passenger boardings per revenue hour equated to 0.4 per hour, significantly lower than the VTA standard of 15 per hour.

The service area for Santa Clara VTA Flex included a five mile portion of North San Jose that encompasses major tech employers such as Cisco, Sun Power, San Disk and Qualcomm. The objective was to provide first mile/last mile service to/from light rail. Placer County does not have this level of residential or employment density and therefore would expect lower ridership from a similar type of service.

Lessons Learned

Ultimately, Santa Clara VTA decided that the software program did not provide the technological benefits they were hoping for, so the program was not continued beyond the pilot. Some of the lessons learned included:

- The algorithm prioritized pick-ups resulting in longer in vehicle travel time
- More marketing should have been done
- Using VTA drivers limited the ability to adjust staffing levels between quarterly driver bids. In general, work rules designed for traditional transit service did not fit well with the dynamic nature of a microtransit program, particularly during the startup phase.
- Using VTA vehicles allowed for ADA persons to use the service
- The app was not linked to regional smart card decreasing the seamlessness of travel

SmaRT Ride – Citrus Heights

This microtransit pilot project began in February 2018 by offering door to door on-demand bus service in Citrus Heights in lieu of the previous general public DAR (City Ride). ADA paratransit service continues to operate separately in Citrus Heights. SacRT partnered with TransLoc to develop an app for reserving and routing rides on demand. For $2.75 per trip, passengers can use their smart phone, telephone or computer to request (same day only) a ride to/from

anywhere in the City of Citrus Heights and to two nearby local medical centers. Service is available on weekdays from 7:00 AM to 7:00 PM. SacRT City Ride cutaways were rewrapped to be used for the program and operated by SacRT drivers. This allows for all vehicles to be wheelchair accessible.

SacRT staff are very positive about the pilot project so far and have seen ridership grow just within the two month period the pilot has been operating. The prior DAR service carried on average 30 one-way passenger trips per day (annually) with two dedicated vehicles. During the most recent week of SmaRT Ride operation (as of this writing), daily trips averaged 56 per day using 4 dedicated vehicles. Sac RT staff feel that ridership will continue to increase. In fact, the service area was recently expanded to include the cities of Antelope and Orangevale and service hours were expanded to 6:00 AM -- 9:00 PM.

In terms of cost, the total technology budget for the 6 month pilot was $25,000. As a first step, TransLoc worked with SacRT to use existing origin/destination data from City Ride combined with demographic data available to them to make their propriety app transferable to the Citrus Heights pilot. TransLoc then developed projections of the number of vehicles required to provide SacRT's desired service goal of wait times less than 30 minutes. These projections turned out to be quite accurate. To operate the service, drivers are provided with tablets for routing and to process rider information. As the TransLoc app is cloud based, SacRT is charged a license fee of roughly $500 per vehicle per month for use of the technology. TransLoc assisted with initial planning and driver training which made administrative set up time for SacRT staff much less than expected. The prior DAR service had reached capacity and many trips had to be denied. No trips have been denied for the SmaRT Ride program to date.

As the program is relatively new, SacRT has not yet determined total operating costs for the project but it can be estimated that operating cost per hour and per mile would be similar to the City Ride DAR service. With more vehicles in operation for the SmaRT Ride service, overall operating costs would be higher. As the new microtransit drivers do not need a Class B license, SacRT may negotiate a new wage rate specifically for these drivers, thereby lowering operating costs.

In terms of marketing, SacRT started with a press conference, and a significant amount of media coverage. They conducted "ride-alongs" with the media, outreach at community centers, mass mailers, farmer's market appearances and banner ads. SacRT believe that a complete rewrap of the vehicles was key to marketing efforts and spurred passersby to ask more about the service.

TNC Examples

Go Centennial

The City of Centennial, Colorado tested a six month pilot program to provide first mile/last mile connections to/from light rail with the idea of replacing the existing RTD Call-n-Ride/Access

demand response service with a more cost effective service. With a population of around 100,000 and density of 3,700 persons per square mile, this Denver suburb is similar in characteristics to the urbanized areas of western Placer County.

The service area for the program included a 3.7 square miles area around the Dry Creek light rail station and included roughly 15,000 residents (mostly in single family residences) and 18,880 employees. Service hours were Monday through Friday from 5:30 AM to 7:00 PM. There were two segments to the program: Via was contracted to provide free ADA service using FTA approved vehicles in the defined service area, with at least one vehicle available for ADA service throughout the service day. Lyft was contracted to provide free general public trips. All general public trips were required to either begin or end at the light rail station, while ADA trips were allowed to be anywhere in the service area.

Over the course of six months a total of 1,302 general public trips were provided and only 19 ADA trips. This equates to roughly 11 trips per day total. The program had a budget of $1.5 million paid for by a private grant for app development and operation. The average cost of a general public trip was $5.50, incurring a total operating cost of $7,161. Operating cost for the ADA program was $47,000 or nearly $2,500 per trip. Including a $9,000 hosting, data collection and analysis cost, the average cost per trip for both services was $48.50. Factoring in the development of the app, total cost of the pilot program was $1,100 per trip. When the Go Centennial general public service is compared to the cost of the RTD Call-n-Ride service, the TNC option is cheaper: $5.50 as compared to $20 per trip (not including administrative and start up costs). For ADA purposes, using a TNC was much more expensive ($2,400 per trip vs $47 per trip with RTD Access). This demonstrates that if money is available or not needed for app development, using a TNC to provide **non-ADA trips** in an area where there is not sufficient demand for fixed route service may be more cost efficient.

Lessons Learned

- Needed a longer pilot program to get the word out
- Service area was too small
- Service area did not have adequate population and job density to generate ridership
- The feasibility study applied a seven percent capture rate to estimate ridership, which was too high
- Marketing could be improved. Marketing efforts included:
  - Most Denver news outlets
  - HOAs
  - Ambassadors at light rail station
  - HR of major companies in service area
  - Flyers, posters
  - ADA drivers spoke directly with transit activity generators
- The service did attract regular riders
- Marked pick up/drop off spaces would create greater visibility

- Consider staff time required of many city departments to get pilot started
- Synchronize with light rail schedule
- Have at least a one-year pilot program
- Improve app user experience
- Bottom line: 75% of operating costs came from ADA service with only 19 trips provided in this small service area. It would be more cost effective to provide ADA trips through another existing paratransit service so that one vehicle is not idle for the majority of the service day. However, it is important to ensure equal access so wait times for ADA individuals should be within parameters of the law.

Pinellas Suncoast Transit Authority (PSTA)

The public transit system serving Pinellas County, Florida developed two first mile/last mile partnerships with TNCs. Through the Direct Connect program PSTA pays half the cost of the Uber, United Taxi or Wheelchair Transport ride, up to $5, as long as the TNC trip ends or begins at one of 24 designated locations in the county such as Park and Rides and transit centers. The program started as a pilot with a small service area of Pinellas Park and has since expanded. Passengers may use the downloadable app for either Uber or United Taxi or can call United Taxi directly. Passengers have the option of paying cash for United Taxi rides while Uber riders have a cashless transaction.TD Late Shift is a program designed to provide transportation for economically disadvantaged riders with non-traditional work shifts. Eligible passengers can take an Uber trip anywhere in the County after 9:00 PM and before 6:00 AM.

The Direct Connect program was the first of its kind in the nation. The impetus for the program came after a $.01 transit tax referendum was defeated and the transit system was forced to cut routes or find alternatives. The program started off with a $40,000 budget which came from annual operating costs savings of eliminating a poor performing fixed route. During the first six months, Uber provided 3,167 rides for an average cost per ride to PCTA of $11.48. The program has since been extended beyond the original pilot with a budget of $100,000.

Providing passengers with two TNC options has multiple advantages. First, it makes the service accessible to passengers without a smart phone or who use a wheelchair. Second, the fact that passengers can choose which transportation provider to use eliminates the requirement for the TNCs to follow federal drug and alcohol testing requirements.

Lessons Learned

- Targeted outreach is key – After a slow start to the program, Uber ambassadors went to bus stops in the program area and spoke with passengers and showed them how to use the app. Ridership increased significantly after that.
- Developing a strong public/private partnership is important. PSTA relied on Uber's app so that a large capital outlay to develop a proprietary app was not required. As indicated above, Uber was an important part of the marketing effort.

Go Dublin

The Livermore Amador Valley Transit Authority (LAVTA) provides public transit service in the cities of Dublin, Livermore, Pleasanton and unincorporated portions of Alameda County. Fixed routes were recently restructured with the goal of placing more emphasis on performance instead of service area coverage. Poor performing routes were eliminated and frequency was increased on main lines and BRT routes. This left a significant portion of the City of Dublin without fixed route service. The City of Dublin also has parking issues at the crowded Dublin BART station. Therefore, LAVTA entered into a partnership with Uber, Lyft and De Soto Cab to provide transportation within the City of Dublin.

The one year pilot program paid for half of the TNC fare, up to $5.00, for trips made on Uber Pool, Lyft Line or De Soto Cab. Trips must begin and end in Dublin. Passengers were required to use the ride share version of the TNC services so as to be consistent with public policy to promote carpooling. LVTA received a $100,000 grant for the pilot program, but staff estimate that only 60 – 70 percent of the funds will be used by the end of the program (currently scheduled for the end of June 2018). Go Dublin carries roughly 1,000 to 1,500 rides per month at an average subsidy of $2.80 per trip. The majority of trips begin or end at the BART station. In comparison to the previously operated fixed routes in Dublin, the ridership is similar but the operating subsidy for the discontinued services was greater, on the order of $15 – 20 per trip. LVTA included De Soto Cab in the program as they have wheelchair accessible vehicles. Interestingly, De Soto has yet to receive a request for an accessible vehicle. Part of this could be due to the fact the paratransit service continues to cover the area.

Go Dublin uses existing apps from the TNCs, thereby eliminating significant startup costs that some of the other microtransit programs discussed have incurred. Requesting a ride is also quite simple. Passengers need only to sign up for Uber Pool or Lyft Line and enter the promotion code. The app remembers the promotion code for the next ride. As for marketing, LVTA relied mostly on Uber and Lyft to promote the program with the exception of one postcard mailing. If the program is continued beyond the pilot phase, LVTA will conduct additional marketing efforts and feel that another 1,000 trips per month could be gained. Only two complaints have been received about the program in almost one year.

Lessons Learned

–   As private companies, Uber and Lyft are competitive and reluctant to provide all data collected. For this reason, LTVA only receives each month: 1) the number of trips provided, 2) subsidy per trip 3) Heat map showing pick up/drop off locations. Surveys of riders would provide staff with more detailed information on who is actually using the service and where do they really want to go.

West Sacramento On-Demand Via Partnership

The City of West Sacramento will be implementing a new TNC operated On-Demand transit program in May of 2018. The City has partnered with the rideshare company Via to provide on-demand transportation anywhere within the City of West Sacramento. The program is intended to be dynamic and parameters will be adjusted based on feedback received from passengers. Initially, the service will operate from 7:00 AM to 10:00 PM Monday through Friday and from 9:00 AM to 9:00 PM on Saturday. No set stops have been designated but passengers may be asked to walk 500 feet to a pick up point to make driver logistics (such as U-turns) safer and easier. The fare will be a flat $3.50 for any destination within the City.

The program grew from concerns regarding underperforming fixed routes which operate in the area. The City is also in the process of implementing a Mobility Plan; therefore providing more mobility options for the community through ridesharing would contribute to overall goals. Although the City of West Sacramento is generally a low density suburban area, the city has a few components which make the area attractive for a TNC program. There is a large community of seniors whose quality of life could benefit from increased mobility options. The Riverfront District has some parking demand issues and the City is trying to increase Transit Oriented Development (TOD) in this area.   Other goals of the program are to reduce Vehicle Miles Travelled (VMT) to a level that will make the city eligible for certain grant funding.

The City put out a Request for Proposals (RFP) identifying the problems they wished to solve and asked for creative solutions as a "turnkey" product. Ten responses to the RFP were received from both public and private operators. Via was selected. Vehicles (which were donated by Mercedes Benz) and drivers are provided by VIA. The program will uses Via's propriety app to schedule rides and route drivers. One vehicle will be made wheelchair accessible to serve the disabled population.

Total budget is $720,000 for the one year long pilot. Roughly $80,000 has been spent on technology and start up. Roughly $500,000 is allocated for actual operation of the service. Much like other TNC's, the drivers' pay rate will depend on the level of demand for service. West Sacramento staff estimate that an additional 1,000 hours of staff time have been spent on procuring and administering the start-up of the program. However, as TNC partnerships are becoming more common, administrative set up time could potentially be reduced for other public entities wishing to embark on a similar program.

In terms of marketing, the city plans to work with YoloBus (public transit operator), major employers and the senior community.

Lessons Learned

- Would do the RFP a little differently, perhaps leave it less open ended and discuss revenue sharing and liability earlier in the process.
- It is important to remember that there are more TNC companies than Uber or Lyft

- Using independently contracted drivers will make it easier to make changes to the program as the pilot continues.