

2020 UDOT RESEARCH PROBLEM STATEMENT

Problem Statement deadline is March 16, 2020. Submit statements to UTRAC@utah.gov

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Title: UTA Microtransit: Current System, Strategies and Future Deployments

No. (Office Use): 20.07.07

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Select **ONE** Subject Group Materials/Pavements Maintenance Traffic Mgmt/Safety Structures/Geotech
 Planning Aeronautics Public Transportation Other

1. Write a brief research project objective:

This study will assess the current UTA microtransit system using additional performance measures, explore areas for future deployments, and analyze potential operational strategies to be implemented with the current and future systems.

2. Explain the problem and why this research is important: (*Importance reflects 50% of the statement score*)

In November 2019 UTA, in partnership with Via, launched a microtransit pilot service in southern Salt Lake County. It covers about 65 square miles in the cities of Bluffdale, Draper, Herriman, Riverton and South Jordan, and includes seven TRAX and FrontRunner stations. During the first month of service, the average ridership was 224 per weekday, with the utilization of 1.33 px/h/veh. The ridership increased in the second month, with an average ridership of 334 px/weekday and utilization of 2.0 px/h/veh. (UTA Microtransit Pilot Project Evaluation reports, Dec 2019 – Jan 2020). The pilot project is still in its early stages, and further evaluations and updates will be needed to optimize the UTA microtransit service. The lessons learned from the pilot project will present a good starting point for future UTA's microtransit implementations. This research will first assess the current system using additional performance measures, such as unlinked vs. linked multimodal trips, changes in vehicle miles traveled, generalized travel time (GTT), generalized travel time ratio (GTTR), generalized costs (GC) and general cost ratio (GCR) in comparison with regular transit and other modes. Using the available data from the regular transit and microtransit systems, including passenger surveys, the research team will assess the current performance of the microtransit system with respect to changes in ridership between the micro and regular transit systems. In the second phase, the study will analyze potential strategies to be implemented with the current system, as well as with future deployments. This would include options for dynamic pricing (the price of service based on the customer's need and provider's costs, communicated with the customer beforehand); options for multi-day reservations (typically for home-based work and home-based school trip, which occur within the same time during weekdays); options for after hour service (this will be mostly focused on future deployments, depending on the area). In the last phase, the study will analyze the potential for future microtransit deployments. Microtransit is recognized as one of the best solutions for bridging the first mile/last mile gap (TCRP 188, 2016). In 2015, UTA performed the first/last mile study which identified gaps and accessibility inadequacies of its fixed-route system (First/Last Mile Strategies Study, 2015). The study identified several station typologies with recommended first/last mile strategies. Microtransit would be a viable option for some of the identified stations and typologies (e.g. auto-dependent, institutional, urban), leading to increased transit use and reduction in automobile traffic. The research team will use the current planning data from the WFRC in combination with UTA and other data sources to assess the potential of additional areas where microtransit would be a viable option.

3. Describe how the research results will be implemented and benefit Utah: (*Implementation reflects 50% of the statement score*)

The analysis of the current microtransit system will be used to estimate the benefit-cost of the implemented system, and provide additional performance measures that can be used to optimize it, as well as communicate the benefits to the public and other stakeholders. The study will provide, analyze and sort strategies which can be implemented with the current and future systems, with the main goal of making microtransit a competitive mode to private cars for bridging the first-last mile gap by making it more convenient and effective. Finally, the study will analyze and propose areas for future microtransit implementations, as well as some basic operational inputs, which will be used to provide reliable first-last mile transportation and integration with regular transit.

4. List the major research tasks:

- 1) Review of literature and practice
- 2) Data collection (field and available databases)
- 3) Assessment of the current system with additional performance measures
- 4) Assessment of potential areas for future deployment with basic operational inputs
- 5) Assessment of strategies to be implemented with current and future deployments
- 6) Reporting

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5. List the expected research deliverables (reports, manual, specification, design method, training, video, etc.):

- 1) Summary of literature and practice
- 2) Databases
- 3) Summary of operational analysis of the current system
- 4) Specifications and maps of potential future deployments
- 5) Strategies for implementation
- 5) Reports

6. Requested from UDOT: \$35,000
Cost: \$67,000

Other/Matching Funds: \$32,000

Total

Briefly explain funding sources: Mountain Plains Consortium (MPC) University Transportation Center. The matching funds will become available in October 2020.

7. Outline the proposed schedule, including start and major event dates:

The estimated performance period is 15 months: Aug 1, 2020 – October 31, 2021

- 1) Field visits, surveys, data collection: Aug 1 – Oct 31, 2020
- 2) Assessment of the current system, future deployments and implementation strategies: Oct 31, 2020 – Aug 31, 2021
- 3) Literature review: throughout the study
- 4) Report: Sep 1 – Oct 31, 2021

Note: The main UTA study and reporting is expected to be completed within a 12-month period. The additional 3 months will be dedicated to the completion of the MPC portion of the study.