2020 UDOT RESEARCH PROBLEM STATEMENT

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

All submitted problem statements become the property of UDOT and authors are not guaranteed a contract for related work.

Title: Statewide Ride-click Investigation	**No. (Office Use): 20.07.08**

Written By: Dan Anderson **Organization:** Cambridge Systematics **Email:** Danderson@camsys.com **Phone:** 702-303-5419

Submitted By UDOT Employee: Tim Boschert   **Email:** tboschert@utah.gov   **Phone:** 801-870-4770

UDOT Champion (if different):   **Email:**   **Phone:**

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 project will investigate and test a framework for a statewide software system or application connecting service information for transit and mobility providers, allowing riders to move from one service provider to another, and especially enabling users to connect from rural systems to fixed route urban systems such as UTA. Such a system could be based on UTA's existing Ride Link 1-Click trip planner and build on the national best practices for state wide mobility information sharing promoted by the National Center for Mobility Management (NCMM).

2. **Explain the problem and why this research is important:** (*Importance reflects 50% of the statement score*)
   For Utah residents outside urban centers, understanding the range of mobility options beyond private vehicles can be a challenge. Access to information about services, eligibilities, and cost can be limited or fragmented, particularly for the over 50 demand response agencies in the state that collectively provide approximately 1 million annual trips.

   For the UTA service region along the Wasatch Front, UTA Ride Link (based on the open source 1-Click platform) was created to assist in standardization and discovery of all available transportation options and has proved a valuable resource, particularly for human services transportation needs. This research aims to determine how a similar approach might benefit all Utah residents, with a focus on rural areas served by demand response agencies. While there have been successful deployments of regional trip discovery platforms in suburban areas, a statewide system covering rural areas is largely unresearched.

   Sharing information in a standardized format can enable discovery of options via trip planning, which is in turn a foundation for "mobility-as-a-service" (MaaS), the emerging transportation industry goal of providing seamless multimodal travel that includes integrated payments. As data standards evolve to encompass demand response services in addition to fixed route transit, and as mobile payments become more prevalent, the potential benefits of MaaS could apply to riders in broader geographies beyond the urban core.

   Finally, in addition to improving the rider experience, trip planning information can also help to identify service gaps where desired trips are not well served, such as trips across jurisdictional boundaries, and create a data-driven case for identifying opportunities for service improvements.

3. **Describe how the research results will be implemented and benefit Utah:** (*Implementation reflects 50% of the statement score*)
   The proposed research effort will: 1. Understand the current landscape and level of effort needed for data consolidation, sharing, and possibly standardization 3. Correlate information gathered with national best practices and 2. Define the actions needed to as a possible next/future step deploy a live pilot oriented towards bridging theory and practice to standardize and publicize information about transit and mobility options to all residents of Utah.

   It is likely that the research will discover that the potential expansion of the Ride Link system would be a cost-effective approach to offering multimodal mobility information statewide, including services that are not commonly represented in third party software such as Google Maps. The standardized data that could be created as part of a subsequent effort will be a valuable resource for future planning purposes, creating a single database of information about service times, coverage areas, as well as eligibilities (if relevant) and accommodations provided (such as accessible vehicles).

   This research also provides the foundation for providing mobility information statewide and building towards an open framework to provide Mobility-as-a-Service. Public transit options should serve as the backbone for a MaaS framework. Integration with other transportation options is facilitated by open data, open exchange standards for payments, and clear reporting requirements to enable policy decisions.

4. List the major research tasks:

1. Research and Understand Needs and Objectives.

   a) This initial information gathering phase will involve direct engagement with transit providers via survey with follow-up phone calls where needed. The project will target smaller cities and rural areas, including fixed route and demand-responsive providers. The survey will gather information covering:

   - Services offered by each provider;
   - What transportation patterns are relevant for their patrons;
   - What technologies they currently use, including scheduling, real-time information, or other;
   - What are their greatest challenges and how might a trip discovery platform based on Ride Link help address them.

   b) A second survey instrument will be drafted for the transit providers to solicit input from their customers that will be useful for understanding the needs of an integrated transit information platform.

   c) In addition, the project will conduct research and literature review of one-call/one-click systems nationwide to identify lessons for broader statewide coverage.

2. Propose Framework for Expanded Transit Information. Based on the first task as well as UDOT stakeholder input, the project will create clear goals and objectives for an expanded transit information system, and a framework for achieving those goals, including a potential future targeted live pilot.

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

The deliverables of the project will be:

1. A document summarizing survey results and research findings
2. A data catalogue describing service parameters for mobility options across Utah
3. Next steps for implementing a pilot of a state wide system

6. Requested from UDOT: $35,000   **Other/Matching Funds:** $ **Total Cost:** $35,000
Briefly explain funding sources:

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

Based on the assumption of a start date at the beginning of June 2020, the proposed schedule and milestones are:

6/1/2020	Kickoff with UDOT Technical Advisory Committee
June – July 2020	Literature Review and Agency Surveys
August - September 2020	Data Input, Pilot Design, Coordination and Final Reports