2019 UDOT RESEARCH PROBLEM STATEMENT

*** *Problem statement deadline is <u>Feb. 6, 2019</u>. Submit statements to UTRAC@utah.gov.* ***

Title: The impact of the Hive Pass and how to increase its adoption across UTA's service area **No. (Office Use):** 19.07.04

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Select <u>ONE</u> Subject Area ☐ Materials/Pavements ☐ Maintenance   ☐ Traffic Mgmt/Safety ☐ Structures/Geotech
                                ☐ Planning   ☐ Perf Mgmt/Data Analytics ☒ Public Transportation ☐ Other

1. Describe the problem to be addressed:

Utah's Wasatch Front, which spans most of UTA's service area, has significant air quality concerns during both the winter (elevated particulate matter) and summer (high levels of ozone). Approximately 50% of pollutant emissions are from the transportation sector, primarily personal cars and trucks. With the Wasatch Front's consistently high rate of growth, public transportation will become a necessity to address congestion and pollution. Several barriers to more widespread transit use have been presented including cost, convenience, and availability. The Hive Pass program, a collaboration between Salt Lake City and UTA, has provided over 4,500 Salt Lake City residents with subsidized (50% discounted) fare cards for use in UTA services since 2015. These transit users have been shown to take a significant number of trips with their electronic cards (~38/month) while it is known that other fare card users travel significantly less. We propose to study what makes these riders unique, their impact on air quality via reduced car trips, and how to encourage other communities to join Salt Lake City in providing this program to their residents.

2. Write the project objective (25 words or less):

Analyze Hive Pass ridership in order to understand how they behave differently from other farepayers in support of expanding the program and overall transit use.

3. Explain why this research is important:
(In response, consider addressing specific UDOT goals, applicability in Utah or other states, etc.)

The Hive Pass program is an example of a collaboration between a city and a transit agency to reduce the barrier to transit by lowering the cost of entry. Several organizations (centers of education, businesses, religious organizations) provide electronic fare cards to their members, but these are used with less frequency than by Hive Pass users. In order to determine if the Hive Pass program would benefit other communities, the composition and behavior of these users must first be analyzed and understood. These findings would then inform how to best reach additional commuters and encourage widespread transit use.

4. List the major tasks:

1. Compile Hive Pass trips for 2017-2019 from Tap On/Tap Off database.

2. Spatiotemporally analyze trips performed by Hive Pass users and categorize by use (commute or discretional), trip length, number of transfers, to understand ride behavior and quantify pollutant emissions reductions per Hive Pass user.

3. Develop a plan to encourage increased use of transit and expansion of the Hive Pass across Salt Lake County and the Wasatch Front that takes into account potential ridership specific to target areas.

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

1. A final report on the findings will be delivered to UTA.

2. An analysis of potential benefits of Hive Pass expansion will be delivered to UTA to share with stakeholders in communities outside of Salt Lake City. This will include data on projected benefits (mitigation congestion, air quality, mobility) if a similar program were implemented in their community.

3. A scientific manuscript will be produced incorporating the findings of the final report, and a follow up article if other communities decide to implement a similar program.

6. **Describe how the research results will be implemented:**
   (In response, consider addressing UDOT leader support, process or standard improvement, etc.)
   The research will be implemented in collaboration with UTA through the sharing of study findings and implementation plans tailored for each individual community we decide to approach (for a total of 5). These implementation plans will include preparing an informational document and meeting with the transportation or city management team to discuss the potential benefits of implementing a reduced fare program. We will ensure that all stakeholders are educated in the strengths of this program, we will answer their concerns, and help develop a workable plan towards enactment.

7. **Requested from UDOT:** $30,000.00   **Other/Matching Funds:** $30,000.00   **Total Cost:** $30,000 $60,000
   (or UTA for Public Transportation)

8. **Outline the proposed schedule, including start and major event dates:**
   July 2019 – Send request for Tap On/Tap Off data to UTA
   August 2019 – Start processing of Tap On/Tap Off data for 2017-2018
   December 2019 – Meet with UTA team to share results of findings thus far
   February 2020 – Finalize analysis of 2019 data
   April 2020 – Write and deliver first draft of final report of findings to UTA
   May 2020 – Complete final report to UTA
   June 2020 – Identify five communities for expansion of Hive Pass
   July 2020 – Preliminary meetings with the five communities and identify concerns
   September 2020 – Develop implementation plans for the five communities selected
   October 2020 – Present implementation plans to the five communities
   December 2020 – Final report of project to UTA

   It is possible that community engagement will take longer than through the end of 2020. In that case we will generate a final report once all activities are complete.