2013 UDOT RESEARCH PROBLEM STATEMENT

****** Problem statement deadline is March 25, 2013. Submit statements to Steve Bagley at sbagley@utah.gov ******

Problem Title: Developing a Rubric and Best Practices for Conducting Bicycle Counts **No. : UT-13.06.01**

Submitted By: Shaunna K. Burbidge, PhD **Organization:** Active Planning

Email: burbidge@walkbikeplan.com **Phone:** 801-336-7991

UDOT Champion (suggested): Evelyn Tuddenham

Select a Subject Area

- ☐ Materials/Pavements
- ☐ Maintenance
- ☒ Traffic Mgmt/Safety
- ☐ Geotechnical
- ☐ Preconstruction
- ☒ Planning/Asset Mgmt
- ☒ Transportation Innovation

1. Describe the problem to be addressed.

Recent local research has identified an increase in both the use of bicycles for transportation as well as demand for bicycle friendly infrastructure. However, UDOT does not have current reliable data identifying the most popular cycling routes or cyclist volumes along those routes. Additionally, it is not clear which tools/methods would be most effective to gather this data and present it in a way that would be meaningful and would allow UDOT to improved bicycle planning.

2. Describe why this research is important and how it is unique.

This research will identify industry best practices for conducting bicycle counts including which technologies would be most appropriate for conducting bicycle counts across Utah's diverse urban and rural environments. By examining which tools and methods have been effective elsewhere and testing them locally, this research will develop a rubric for conducting bicycle counts as well as guidelines for analyzing the resulting data to provide meaningful results for UDOT planners.

3. List the research objective(s) to be accomplished:

1. Identify industry best practices for conducting bicycle counts including methods and technologies
2. Perform experimental case studies of various locations to determine which methods are most appropriate for each environment
3. Identify locally effective methods
4. Create a rubric to guide regions in conducting bicycle counts; including guidelines for interpreting and using outputs

4. List the major tasks to accomplish the research objective(s):

1. Create an inventory of existing methods for conducting bicycle counts in urban and rural areas and classify their appropriateness and applicability in Utah
2. Interview local agencies who have previously conducted bicycle counts to discuss the pros and cons of the methods they employed

3. Select the top 3 most appropriate methods from Task 1and select local test sites based on input from UDOT
4. Conduct bicycle counts at each test site and review output/data; determine which methods were the most effective
5. Create a rubric and guidelines to assist UDOT in conducting and utilizing data from bicycle counts

5. List the deliverable(s) to come to UDOT from this research study:

1. List of appropriate methods/tools for conducting bicycle counts in Utah
2. Output/count data for specific test sites
3. Detailed guidelines for conducting bicycle counts and interpreting data

6. Describe how the results of this study will be implemented at UDOT.

Each of the UDOT regions will be able to use the guidelines resulting from this research to identify appropriate locations for conducting bicycle counts as well as which tools/methods should be used at each site type. Additionally, the guidelines will outline what the output data will look like and how it can be analyzed and packaged to be useful in informing future planning.

7. Estimated cost - Total: $40,000* **UDOT Share:** $30,000 **Other/Matching Funds:** $10,000

8. Outline the proposed schedule for this study, including estimated start date, duration, and major event dates.

Study Start Date: July 1, 2013

Study Duration: 15 moths

Research Schedule

July 2013- Notice to Proceed granted from UDOT

Aug-Oct 2013- Conduct literature review and analysis of existing bicycle count tools and methods. Determine which methods would be most useful for UDOT based on Utah's diverse transportation environments.

-Interview local agencies, municipalities, or interest groups who have used existing technologies to conduct counts and identify the pros and cons they encountered with each method.

Oct-Dec 2013- Identify test sites with input from UDOT and purchase/secure necessary equipment* to conduct counts

Jan-Feb 2014- Conduct counts in Southern Utah (if identified as test sites by UDOT)

Mar-May 2014- Conduct bicycle counts in Northern Utah

Jun-Jul 2014- Conduct additional counts as needed (if utilizing rolling count dates due to limitations on equipment)

Aug-Sept- Compile count data and identify which methods were the most effective based on local conditions; Draft guidelines for conducting counts, based on equipment specifications and data outputs; Create guidelines for interpreting and utilizing final data outputs.

Oct 2014- Submit and present final report and guidelines to UDOT

*The budget for this project only includes the research time and expenses associated with this project and does not include purchasing the equipment to conduct the bicycle counts. Depending on the costs of the tools /methods identified in Task 1, an appropriate budget will need to be identified to secure equipment to conduct the counts at each test sites. This may include purchasing/securing a small number of counters/etc. and conducting the test site counts on a rolling basis in order to limit the initial investment while still acquiring meaningful data. There is also potential to borrow or rent equipment from other jurisdictions for pilot testing on an evaluative basis.