



INSTITUTE OF TRANSPORTATION ENGINEERS
BYU STUDENT CHAPTER

November 21, 2016

Amit Kothari
Technical Committee Chair
ITE Western District

RE: 2017 Data Collection Project Proposal

Dear Mr. Kothari,

Thank you for the opportunity to submit a proposal for the Institute of Transportation Engineers (ITE) Western District 2017 Data Collection Project. As members of the Brigham Young University (BYU) Student Chapter of ITE, we understand the importance of reliable transportation data for planning and operations in the transportation field and are excited to have the opportunity to submit this proposal for data collection.

Attached, please find our proposal to collect trip generation and parking demand data for the Lehi Frontrunner Station located in Lehi, Utah. This is an intermodal transit hub where commuter rail, bus service, and a park-and-ride all coincide. This site was chosen because there is not a land use involving commuter rail in the *ITE Trip Generation Manual*. In addition, beginning data collection on this new land use would help improve the depth of information available in the *ITE Trip Generation Manual*. The proposal contains the scope of work to be completed, mentoring for the project, a proposed schedule for the work, the anticipated level of effort in person-hours to complete the project, project management contract information and a brief summary of how the funds will be used. As requested, the statement to hold ITE harmless is included in the proposal.

We are confident that our student chapter can submit accurate data and a thorough, professionally prepared report. Our goal will be to use these funds for participation in ITE events at the Chapter, Section, and/or District levels. Specifically, these funds will be used to help students attend and participate in the 2017 Western District Annual Meeting in San Diego, California.

Thank you for considering our proposal to complete this data collection project and receive data collection funds. If you have any questions about our proposal please feel free contact me by email at marlee.seat@gmail.com or by telephone at (262) 506-4649.

Sincerely,

Marlee Seat
Vice President
BYU ITE Student Chapter

Data Collection Proposal Scope

The Brigham Young University Institute of Transportation Engineers (BYU ITE) student chapter proposes to collect trip generation and parking demand data for the Fronrunner Station located in Lehi, Utah. This site, shown in Figure 1, does not fit into any land use outlined in the 9th Edition of the *ITE Trip Generation Manual*; but is related to a park-and-ride lot with bus service (land use #090) and light rail transit station with parking (land use #093), which are included in the manual. It is proposed that a new land use; intermodal transit hub with commuter rail, bus service, and a park-and-ride be created or considered.



Figure 1: Lehi Station (maps.google.com)

In 2008, the first phase of the Utah Transit Authority (UTA) Fronrunner commuter rail project was complete. This section connected Salt Lake City to Ogden. Shortly after, ground broke on the southern expansion of the project; connecting Salt Lake City to Provo. Upon its completion, the Lehi Station opened in 2012. The Lehi Station is located within the Thanksgiving Point business park at 3101 North Ashton Boulevard. Three large parking lots and six bus turnouts are located at this facility. Through estimation, the northwest parking lot has 285 spaces, while the northeast parking lot has 153

spaces, and the south parking lot has 254. The student chapter will be in contact with UTA to ask permission for BYU ITE to conduct a trip generation study on the site.

To facilitate accurate counting, BYU ITE will place its video-enabled data collection trailer at the location to monitor the parking lot access and the adjacent roadway, and then review the recorded video to obtain hourly counts. The data collection trailer has two cameras; one camera will capture the north access while the other camera will record the more southern access to this site. BYU ITE will report the trip generation with separate counts for automobiles, trucks, buses, pedestrians, and bicycles. At this location, automobiles could include kiss-and-ride vehicles and park-and-ride vehicles; BYU ITE would like to account for each of these separately, if possible.

Trip generation will be counted between the hours of 6:00 a.m. to 7:00 p.m. on a Tuesday, Wednesday, and Thursday. Parking data will be counted by BYU students for one day, one time each hour for 13 consecutive hours. The BYU ITE team members will be flexible to change these hours based on the selection committee's input. Data will not be collected during weeks that include holidays or periods of inclement weather, as travel patterns may be affected during those times. UTA will be informed on the specific dates of data collection.

The summarized data will conform to the formats of the ITE "Trip Generation Data Form." In addition to counts for automobiles, trucks, buses, pedestrians, and bicycles, BYU ITE will include pertinent information regarding the independent variable(s). The independent variables for the related land uses are total and occupied parking spaces; therefore, to be consistent with the related land uses, these will be the independent variables for this study. Ridership data would be useful data and will be included if UTA can provide that data. The draft and final reports will be provided according to the dates specified in the schedule outlined in Table 1.

Mentoring

Ryan Hales, P.E., PTOE, AICP and Jeremy Searle, P.E., PTOE have agreed to mentor BYU ITE by training those who will collect, reduce, and analyze the data, responding to questions or problems that arise, and reviewing the results and final report. Mr. Hales and Mr. Searle will submit the draft abstract of findings, response to comments from the evaluation committee, and the final abstract of findings to the Data Fund Collection Committee.

BYU faculty members Dr. Grant Schultz, P.E., PTOE (BYU ITE Chapter Faculty Advisor) and Dr. Mitsuru Saito, P.E. will also provide assistance to BYU ITE during this data collection project.

Schedule

BYU ITE will complete this project by June 10, 2017, according to the schedule shown in Table 1. The actual dates of data collection will be contingent on inclement weather.

Table 1: Work Schedule

Date	Work to be Completed
December 12, 2016	Selection of Awarded Grants
March 7 to 9, 2017	Data collection
March 10 to March 29	Data reduction and analysis
March 30 to April 20	Write summary and report
April 24	Submit draft abstract and data
May 15	Comments from committee
May 29	Submit final abstract and data
June 10	Upload data to ITE's online data submittal portal

Level of Effort

BYU ITE anticipates spending approximately 85 person-hours on this project. These hours will be allocated as summarized in Table 2. BYU ITE student members and other civil engineering students will be encouraged to participate in the data collection efforts. Those enrolled in the undergraduate seminar course will be given participation credit for their assistance. The data collection and reduction efforts will also allow students to be introduced to ITE and the transportation engineering profession.

Table 2: Projected Level of Effort

Task	Number of Students	Hours per Student	Total Hours
Training	10	1	10
Data collection (trailer setup)	4	3	12
Parking Data Collection	6	3	18
Data reduction and analysis	10	3	30
Writing and revision	3	5	15
Total			85

Project Management

Table 3 provides contact information for individuals that will provide project management services.

Table 3: Project Management Contact Information

Student Coordinator	Primary Mentor	Faculty Members
Marlee Seat, E.I.T. 221 Wymount Terrace Provo, UT 84604 262-506-4649 marlee.seat@gmail.com	Ryan Hales, P.E., PTOE, AICP Jeremy Searle, P.E., PTOE Hales Engineering 1220 N 500 W, Ste. 202 Lehi, UT 84043 801-766-4343 ryan@halesengineering.com jeremy@halesengineering.com	Grant Schultz, Ph.D., P.E., PTOE Mitsuru Saito, Ph.D., P.E. 368 Clyde Building Brigham Young University Provo, UT 84602 801-422-6332 gschultz@byu.edu msaito@byu.edu

BYU ITE plans to use these funds to help existing and new student members participate in ITE activities at the Chapter, Section, and District levels. Specifically, we hope to foster participation at the Intermountain Section Meeting and send at least 4 students to the 2017 Western District Annual Meeting in San Diego, California. These funds will help with one of these goals.

Agreement to Hold Harmless

The BYU ITE Student Chapter holds harmless and indemnifies the ITE Western District from any and all liability associated with the conduct and completion of this proposal, data collection, and associated activity.