## Project Background

This data set and instrument are from a project we performed in 2013 for the public bus system for a mid-size city. The primary objectives of the study were to:

1. Gain an understanding of the makeup of the people who take the bus. This could include demographics, attitudes, trip characteristics or various combinations of these or other factors.
2. Identify the issues the BUS system should prioritize to give the riders a better experience.

There were also other objectives related to payment, travel patterns, and trip profile that are not part of this assignment.

The data are real, although this set has been truncated to 493 records versus the original 1,678. For this portion of the study, everyone who completed a survey was an actual user of the bus system. These data were gathered through written questionnaires that were completed during people’s commute. Every record (row in the workbook) is from a different respondent.

The Word file titled “Instrument” contains the questionnaire that was completed by the respondent, and the data file uses the same numbering system as the instrument. For confidentiality purposes we removed many of the open ended comments. They should not be necessary for the assignment.

## Instructions

Using the data in the workbook, please answer the following questions using the statistical techniques you find most appropriate. For this assignment, we are interested in understanding your statistical processes as well as the thought process that led you to use those techniques. Finally, we are interested in the conclusions you identify.

Using a report format of 5-8 pages, please write your answers to the following questions.

1. Describe the typical rider and the different rider profiles
2. Identify the overall areas of deficiency with the BUS service
3. Identify how you would prioritize the recommendations for the BUS service (i.e. how would you tell them what they should work on first)?

## Additional Clarification

While the data are being provided to you in Excel, we do not expect you to use Excel as your analysis software. Please let us know which software you use for your analysis.

The column headers in the Excel file should match the instrument numbering process. When there are numbers with an underscore (e.g. 18\_1) the underscore refers to sub questions (e.g. questions on a grid) or check all questions where multiple answers are allowed. Assume that the answers are numbered 1…n going left to right.

If you have any questions on file alignment. Please reach out to Shawn Herbig (sherbig@iqsresearch.com).