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August 5, 2013

Frances Bisby
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RE: Origin-Destination Presentation Information using AirSage Data

On July 31, 2013 staff from Parsons Brinckerhoff (PB), Clearbox Forecast Group and AirSage gave a presentation to the Moore County Transportation Committee regarding the analysis of the Moore County origin and destination (OD) data. During the presentation, one of the slides (slide #5) stated that we used data from September 20 to October 18, 2012 and that it consisted of 12 weekdays and 8 weekend days. By stating this on the slide it made it seem as though we used all of this data in the OD analysis.

After the presentation, myself and Cy Smith fielded a question from Mr. Stephen Later in which he asked "is there any reason you used a disproportionate number of weekend days? Wouldn't that increase the number of through trips in the region by using the weekend data.?" We responded with "it would depend on the area and the facility but that we are going to check on the use of the data to assure how it was used". Cy also stated that typically they pull the 20 to 30 days worth of data for the regions but that only weekday travel is used but that he needed to ask his staff for clarification.

We were able to verify the following day that indeed AirSage pulled the data for entire month including weekends, as the slide suggests. However, they use the full dataset (all days) to understand the visibility of the mobile devices. These stats deal with how frequently (or not) a given mobile device is visible to AirSage during the course of a day. This information becomes an input for data expansion.

The entire data set is also used to just provide more days to help establish activity patterns like the home and work locations. By having all of the days it makes it much easier to establish the main reference point of the dataset which is the HOME location. Therefore the weekend data adds to the ability to further identify if someone lives outside the region or inside the region and to assure that between 9pm and 7am that their mobile signal is received in the same point, which is assumed to be their home location. The weekend data is therefore only used to help establish the mobile device visibility and to establish home and work locations.

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When the trips were sent to PB, AirSage only packaged and reported trips for the average weekday which for the Moore County project was only Tuesday, Wednesday, Thursday data. To get an average weekday matrix, only the data during the week was used and was factored to get the typical Tuesday through Thursday OD value. The weekend data is left as an entirely separate dataset and we did not do any analysis with that weekend data. AirSage staff verified the settings on the trip matrix assuring what they provided was just an average weekday.

Therefore any of the numbers that were displayed and discussed in our analysis were only for typical weekday traffic—specifically the Tuesday-Thursday timeframe. That means all of the analysis and data presented in the Powerpoint presentation and the document are correct.

I have redone the text in the document and the slides to reflect the weekend data properly so that in the future it is very clear how the data was used in the analysis. I will email you the corrected versions so that you may distribute them to the MCTC.

If you have additional questions or need further clarification please feel free to contact me

Very truly yours,

A handwritten signature in black ink, appearing to read 'Rhett Fussell'. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Rhett Fussell, PE
Project Manager
Enclosures

CC: Scott Walston, PE, Transportation Planning Branch
Mike Bruff, PE, Transportation Planning Branch
Cy Smith, President, AirSage
Craig Gresham, PE, Clearbox Forecast Group