

C2  
Advances in Data Collection and Analytics

ALTERNATE METHODOLOGIES FOR ORIGIN-DESTINATION DATA COLLECTION

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Today there are a wide range of origin/destination (O/D) data sources, approaches, technologies, and techniques that did not exist even 10 years ago. Many of these are “passive” data extraction techniques that make use of devices with built in global positioning systems (GPS). Anonymous tracking of GPS signals provides for considerable savings in data collection and allows for much larger sample sizes than would be achievable using traditional O/D survey techniques.

There are a multitude of considerations in evaluating and selecting approaches to collecting data on trip origins and destinations. The most obvious of these is cost, although this is perhaps the most difficult consideration to nail down. While data vendors usually have a standard cost template that includes a variety of factors, the competitive nature of data acquisition also means there is some level of flexibility on the part of vendors in order to win the job.

Some of the most important criteria in selecting an O/D data collection approach would include the study area size and geography, the type of information needed, trip purposes to be covered, and the transportation modes of interest. The study area size and geography are crucial considerations in selecting the best approach as different travel patterns might dominate within a single transportation corridor vs. a subarea vs. an entire region. The type of information needed can vary as well; for example, the best data source for general trip origins and destinations may differ from a study that needs information on auto occupancy. Likewise, collecting information on trip purpose necessitates different methodologies than studies limited to general traffic. Focus on specific travel modes is also an important consideration as different data collection methodologies are used to collect data on autos vs. trucks vs. transit vehicles.

This proposed presentation will cover a wide range of data sources and considerations in selecting appropriate methodologies including vendor/product name, approach, sampling unit, survey periods, relative vintage, pros/benefits, cons/disadvantages, and relative cost. This information was obtained through Stantec experience using these alternative methodologies in toll corridor feasibility studies, demonstrations and discussions with vendors, and a project for the Polk County Transportation Planning Organization focused on comparing alternative methodologies.