STOPS FAQ List

(Reoccurring questions from FDOT's Guidebook for Florida STOPS Application workshops)
December 3, 2016

1. **Do we even need to use a regional model any more for transit forecasting?**

   Yes. Transit models are still needed in regional travel models to forecast transit usage and multimodal impacts from long-range options and plans. In contrast, STOPS' primary purpose is to estimate ridership and automobile VMT impacts from transit corridor projects for Capital Investment Grant ("New/Small Starts") funding. While many agencies are using STOPS for purposes beyond its primary one, most of those uses are transit-specific and do not generally involve assessing the full range of regional impacts such as auto congestion, air quality and other aspects.

2. **Why would you want to invest in a transit travel survey if FTA does not require one for STOPS?**

   The key benefit of a transit travel survey is having a clear understanding how transit riders use the system. This benefit applies not only to STOPS applications, but also regional models and other transportation efforts. In our experience, we have also found that incorporating transit travel survey data in STOPS makes the local calibration much easier than without the same data.

   Without incorporating survey transit trips, STOPS uses the CTPP flows (year 2000 or 2006-2010 ACS) as the basis for the travel patterns. In some areas, the transit patterns may have changed drastically since the CTPP year. In other areas, STOPS may happen to do a poor job of reflecting transit travel patterns. So directly incorporating survey transit trips is a great way to improve STOPS results in these cases.

3. **Can STOPS be used for future year analyses?**

   Yes, STOPS can be used for future year analyses. But, the following things should be kept in mind:

   a. STOPS is based heavily on existing travel patterns and uses population/employment forecasts to scale the travel flows for the future year. So any major changes in the socio-economic data between the current and future years should be dealt with carefully.
   b. Coding the intricate GTFS networks can be cumbersome, so it may not be feasible to code future year transit networks that are radically different from existing services. Simplified approaches such as modifying only the transit services critical for the corridor can be followed for modeling future years in STOPS.

4. How should major transfer centers be coded in STOPS?

GTFS files sometimes have the major transfer centers coded with multiple stops to distinguish the various transit routes serving the transfer center.

Editing GTFS files can be a cumbersome process, and it may not be feasible to separate out the stops by bus route at a major transfer center. But, at the minimum, all project stations and fixed guideway stations should be coded with unique stops at a transfer center.

5. Should special market travel data originate from a transit survey or some other survey?

Special market data can be from either a transit survey or any other survey that captures the travel patterns of the special market. It should be noted that STOPS has the capability to model both 'transit-only' trips and 'all person' trips for special markets. The input is a TAZ-to-TAZ flow table containing trips for special markets.

6. If you don't have a 'good' survey, can it still be used for STOPS?

Yes, data at an aggregate level can still be used for "Synthetic" STOPS application. One of the inputs to STOPS are the aggregate linked transit trips by trip purpose (HBW, HBO and NHB) and auto availability (0, 1 and 2+-car households). This can be obtained from the survey. Also, the system-wide transfer rate in STOPS can be calibrated by using the total linked transit trips and unlinked transit trips from the survey.

7. Should National Transit Database (NTD) or American Public Transit Association (APTA) data be used for systemwide boardings?

NTD publishes annual ridership reports whereas APTA publishes quarterly reports. APTA generally has more recent data than NTD due to the frequency of APTA reports. The choice usually depends on the current year being modeled in STOPS. Any large differences, if any, between the ridership reported by NTD and by APTA should be reconciled with the transit agencies or FTA.

8. Why does STOPS need GIS software (ArcMap or TransCAD)?

STOPS uses the GIS software, either ArcMap or TransCAD, in many ways. First, it uses it to coordinate the geographic input data, including CTPP, MPO population and employment data and other data. CTPP data is provided at the TAZ level. The MPO's population and employment data is also provided at a TAZ-level, but these data generally use TAZs different from those used by CTPP.

Second, it uses the GIS software to describe the transit accessibility and walkability of the area. It creates buffers around each transit station/stop. These buffers identify which CTPP and MPO TAZs utilize transit service at each station/stop. STOPS also uses GIS software to

create a Pedestrian Environment metric by estimating the number of Census blocks within each unit of CTPP geography. This metric is used to describe the walkability of each CTPP TAZ.

Third, STOPS uses GIS software for reporting purposes. Many maps can be easily created using the STOPS Mapping Menu.

9. **Is STOPS a regional-based model or a corridor-based model? What are the geographic limits of a STOPS model?**

There is no geographic limitation per se in STOPS, though the current version of the software is constrained by certain technical limits mentioned below:
   a. Number of TAZs (or tracts or block groups depending on Census Geography) is 9,000
   b. Number of stations (or bus stops identified as stations) with counts that can be used for station group calibration is 10,000
   c. Number of new stations (or other stations where station-to-station flows are reported) is 250
   d. Number of GTFS file sets for each scenario is 20

Even with these constraints, STOPS should be able to reflect the same geographic extent of your district wide or regional travel model in most cases.

Please contact FTA to acquire the most recent version of STOPS. The constraints shown here reflect the 2016 version of STOPS v2.00.

10. **Where can I learn more about the GTFS format?**

A good site is https://developers.google.com/transit/gtfs/. This site includes examples and validation tools.

11. **Fares are part of the GTFS specification. Does STOPS use that information?**

Fare information is indeed part of the GTFS specification. This information is not used by STOPS because it is inconsistently supplied by transit agencies. However, fares can potentially be implemented using time penalties in STOPS in situations where it may be necessary.

12. **Can I use travel information from other sources, such as AirSage, in lieu of CTPP?**

One of the biggest advantages of using STOPS is that FTA requires substantially less review time of STOPS ridership forecasts for CIG (FTA's Capital Investment Grant program) projects. Specifically, since the software is developed by FTA itself, they do not have to review the properties of the travel model and the associated transit riders survey data used for calibrating the mode choice and path choice elements of STOPS. Using travel information from other sources in lieu of CTPP has two major drawbacks:

a. Since the CTPP flows are being replaced, the data being used in lieu of CTPP will undergo a substantial scrutiny by FTA. This may negate a key advantage of using STOPS.

b. The data replacing CTPP must be coded in a STOPS readable format. This may not be feasible in many cases. One such conversion may involve converting the Origin-Destination (O/D) format data from AirSage to Production-Attraction (P/A) format of CTPP Journey to Work data. This might be impossible to achieve or, at the very least, this step can potentially add significant delays to the schedule.

13. What are the egress modes STOPS analyzes? Does it analyze trips utilizing Transportation Network Companies?

STOPS estimates a walk egress mode only.

14. How do I determine whether a set of travel is a special market and when I should collect data?

Conventional markets in STOPS comprise routine weekday travel made by area residents and reasonably represented by employment size. On the other hand, special markets are not routine (example: air passengers), not by residents (example: visitors) or not scaled to jobs (example: college commuting by students).

The data collected should ideally match the current year being modeled in STOPS. Slightly older data can also be used if the travel patterns of the special market haven't changed significantly since the time the survey was conducted. In such situations, the older survey should be re-expanded to the current year.

15. Can STOPS be used for weekend travel?

Although the GTFS files include weekend transit schedules, STOPS should not be used to model weekend travel. This is because STOPS uses the CTPP Journey-to-Work (JTW) flows as the basis for modeling person-travel patterns and these JTW flows represent the work travel on an average weekday. Also, the calibration targets and parameters used by STOPS represent travel for an average weekday. Hence, by design, STOPS doesn't have a proper understanding of weekend travel patterns.