

Project 1: Update Ground Access Forecasts – Phase 2

This project will complete the update of the Ground Access Forecasts begun in the Update Ground Access Forecasts – Phase 1 (FY 2010) ACIP project. In this next phase of the update, the trip generation rates calculated in Phase 1 will be used to develop new forecasts of ground access trips from all local area aviation analysis zones to each of the region's three commercial airports by time of day and major mode of travel used to reach the airport.

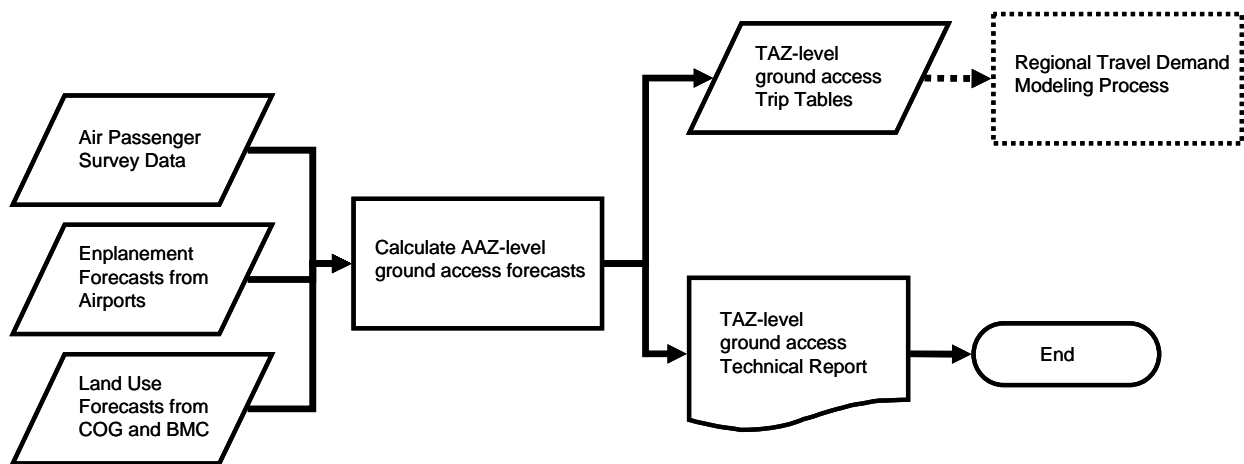
Specific tasks to be completed in Phase 2 are: (1) determination of the time of day distribution of base year and forecast weekday ground access trips to each airport from each Aviation Analysis Zone (AAZ), (2) calculation of base year and forecast average weekday ground access trips to each airport from each AAZ by time of day and major arrival mode, (3) determination of average vehicle occupancy for base year and forecast ground access auto trips and (4) calculation of base year and forecast average weekday auto driver trips to each airport from each AAZ by time of day. These ground access forecasts will then be used as inputs for the update of the TPB's Constrained Long Range Plan (CLRP) and will serve as the basis for revising the Ground Access Element of the Regional Airport System Plan.

This project entails no new data collection activities because all data needed to prepare these forecasts have been obtained through previous CASP projects or are already available from existing COG databases. An exception to this may be updated total enplanement forecasts, if available, and would be provided to COG in a usable format directly by MWAA and MAA staff for their respective airports. As a result, no further surveying activities will be conducted as part of this effort. Only currently-available data will be used to prepare these forecasts, which are developed by processing data through a series of complex statistical calculations and operations.

Three principal datasets to be used in the preparation of these forecasts are as follows:

1. 2009 Washington-Baltimore Regional Air Passenger Survey used to develop home and non-home trip generation rates by mode and time-of-day by AAZ.
2. Base year and forecasts of enplanement through 2040 for BWI, DCA and IAD provided by the airports. These enplanement forecasts will be used as base year (2009) and forecast years enplanement control totals.
3. Most currently-available forecasts of households and employment by TAZ prepared by COG and the Baltimore Metropolitan Council (BMC) for their respective jurisdictions included in the air system planning area.

The following flowchart illustrates a generalized conceptual design of the process and how data from the three datasets are used to prepare the forecasts. The process concludes with finalized TAZ-level ground access forecasts by ground access mode and time of day from each TAZ to each of the planning area's three commercial airports.



Detailed ground access forecasts are calculated by manipulating the input data through a series of statistical operations performed in sequential steps using the SAS statistical software package. The principal steps involved include:

1. Update land use data for the Washington-Baltimore region, and develop household and employment summary by AAZ for the Washington/Baltimore Air System Region using latest COG and BMC land use forecast data.
2. If available, obtain updated enplanement forecast data for BWI, DCA and IAD from airport staff.
3. Using factors obtained from the 2009 Washington-Baltimore Regional Air Passenger Survey, develop mode split and auto occupancy models to determine base and future modal splits of air passengers. Calibrate to 2009 and forecast years' air passenger ground access trips from 161 Aviation Analysis Zones to each of the three airports by mode of access, using the latest land use data.
4. Calibrate 2009 base year and forecast years' air passenger ground access trips from 161 Aviation Analysis Zones to each of the three airports by mode of access and time-of-day, using the latest land use data available from COG and BMC.
5. Calibrate 2009 and forecast years' air passenger ground access trips from 161 Aviation Analysis Zones into the 2,671 TAZs composing the combined Washington-Baltimore Air System Region, and extract those from the COG modeled region to each of the three airports by mode of access and time-of-day as an input to the regional travel demand model.

Extensive data review and cleaning will be performed on all input datasets to ensure data compatibility in the statistical operations. For each of the datasets used in this effort, substantial time will be used to perform data cleaning, which entails confirming geocoding accuracy, file-format and data field compatibility, accuracy in the number of records, and running statistical tests on the datasets to confirm the records are collectively consistent with anticipated control

totals.

Once complete, the forecasts will be used in the regional transportation modeling process and documented in a technical report. The report will be presented to the Aviation Technical Subcommittee (ATS), which includes staff members from both MAA and MWAA. The ATS will receive a briefing on the draft report and have the opportunity to review and provide comments on the draft. COG staff will address comments received through the ATS review and prepare a final report, which will also be presented to the ATS before it is considered final. See Figure 2.

The products of Phase 2 will be base year and forecast ground access trip tables and a report that summarizes the project results and documents the project methodology. These ground access forecasts will then be used as inputs for the update of the TPB's Constrained Long Range Plan and will serve as the basis for revising the Ground Access Element of the Regional Airport System Plan.

The final report and forecast data will be provided to MAA and MWAA staff at the conclusion of the process for their use in future planning studies, conducted either in-house or with consultant support, as well as for their use in preparing publications or other materials containing aviation data for their respective airports. Moreover, these data will be readily available to other stakeholders, upon request. All such data requests will be fulfilled in accordance with the COG Department of Transportation information request procedures.

Project Schedule

The draft project schedule for this effort is shown on the following page. Note: the schedule is subject to refinement through further coordination with the Aviation Technical Subcommittee.

Deliverables

- Draft Report - 22 copies (15 to be presented to the Aviation Technical Subcommittee for review, 5 maintained in project files, and 2 to be submitted to FAA)
- Final Report - 32 copies (15 to be presented to the Aviation Technical Subcommittee for review, 10 to fulfill additional requests, 5 maintained in project files, and 2 to be submitted to FAA). The final report will also be made universally-available on the COG website in PDF format.
- Database - Provided directly in MS Excel format to MWAA, MAA, and COG Transportation Planning staff.