COG/TPB GEN3 TRAVEL MODEL

Status report

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Travel Forecasting Subcommittee
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National Capital Region
Transportation Planning Board

Overview

- Completion of Gen3 Model, Phase 2, development

- Status of Gen3 Model, Phase 3, development, led by COG

  - Continuous model enhancements and bug fixes (status update)

  - Usability testing (status update)

  - Training and model release

  - On-call support from RSG/BMG

- Next Steps

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Phase 2 Development

- As of March 4, Phase 2 documentation have been finalized and uploaded to COG website.

- On March 5, COG staff approved RSG's final pull request (PR) for the Gen3 Model and subsequently tagged the model as Version 1.0.0.

- In review of the final PR, COG and RSG staff made a series of model updates, e.g.,
  - Fixes to several model calibration scripts
  - Improved handling of Visualizer run-time error
  - Investigation of and fix to a random error occurring during ActivitySim multiprocessing
  - Removal of a redundant input file
  - Fix to a traffic assignment relative gap error

- Version 1.0.0, the final deliverable from RSG/BMG, marks the completion of Gen3 Model, Phase 2, Development!

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Phase 3 Development: Model Updates

- On top of Version 1.0.0, COG staff integrated toll setting and tagged the revised model as Version 1.0.1.

  - Users will have the option to turn on or off toll setting in the model.

    - When toll setting is turned off, which is the default, toll inputs from the latest LRTP analysis will be used.

    - When toll setting is turned on, the same heuristic toll searching process as in Gen2 Model will be executed to update the toll inputs.

  - COG's toll setting process, aiming to provide "planning-grade" toll estimates that indicate travel demand patterns on the regional toll lanes system, is NOT validated to the observed data and should NOT be directly used for operational studies.

- Fixed a software issue with Population Synthesizer, with RSG's assistance.

- Updating model flowcharts for both Version 1.0.0 and Version 1.0.1.

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Phase 3 Development: Usability Testing

- COG staff started to assemble model inputs for the upcoming usability testing:

  - Generated synthetic populations based on Round 10.0 Cooperative Forecasts land use data.

  - Generating exogenous/external trip tables based on Round 10.0 land use for the use of both Gen2 and Gen3 Models.

  - Will develop school enrollment projections based on the synthetic population data.

  - Will update transportation networks, transit fares, tolls and CPI files based on the inputs of Visualize 2050, COG's next LRTP.

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Next Steps

- COG staff will continue to make updates to the model, as needed, with the assistance of RSG.

- COG staff will continue to assemble model inputs for the upcoming usability tests.

- Starting in May, COG staff will run the latest Gen3 Model (Version 1.0.1 or its successor) side by side with Gen2/Version 2.4.6 Model for the Air Quality Conformity analysis of Visualize 2050.

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