

# COG/TPB GEN3 TRAVEL MODEL

---

## Status report from COG/TPB staff

Feng Xie  
TPB Transportation Engineer

TPB Travel Forecasting Subcommittee  
March 20, 2026

# Overview

---

- Feedback from the Beta testing of the Gen3 Model
- Status of the official release of the Gen3 Model
- Next steps



# Feedback from Beta Testing: Overview

---

- Following the beta release of the Gen3/Ver. 1.0.5 Model on November 7, we have received and fulfilled 11 requests for the beta model from various public and private agencies.
- On January 14, we followed up with the model recipients and solicited their feedback with an online survey.
- To date, we have received 8 survey responses from the beta testers; Two public agencies and two private agencies successfully ran the beta model.

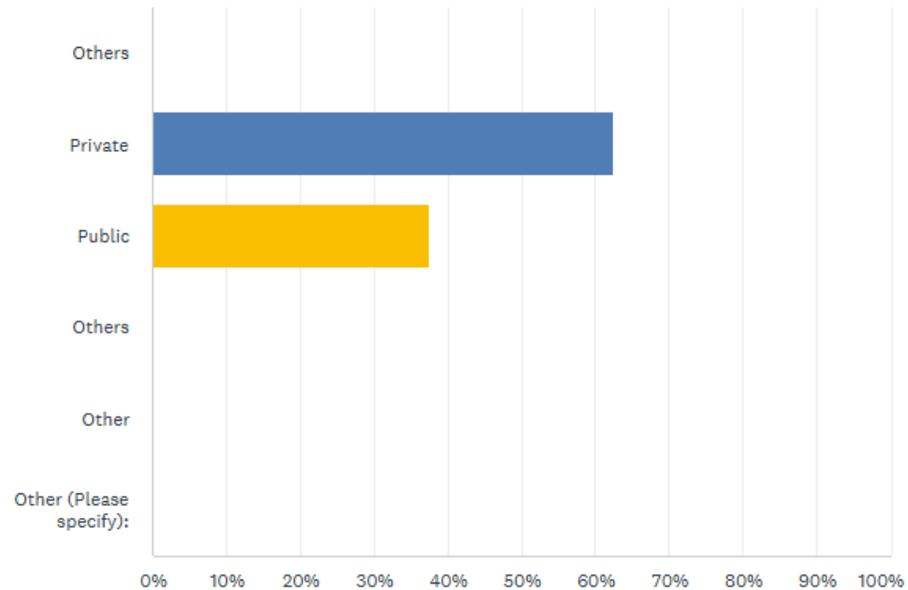


# Feedback from Beta Testing: Survey Responses

Q1

Which agency do you work for?

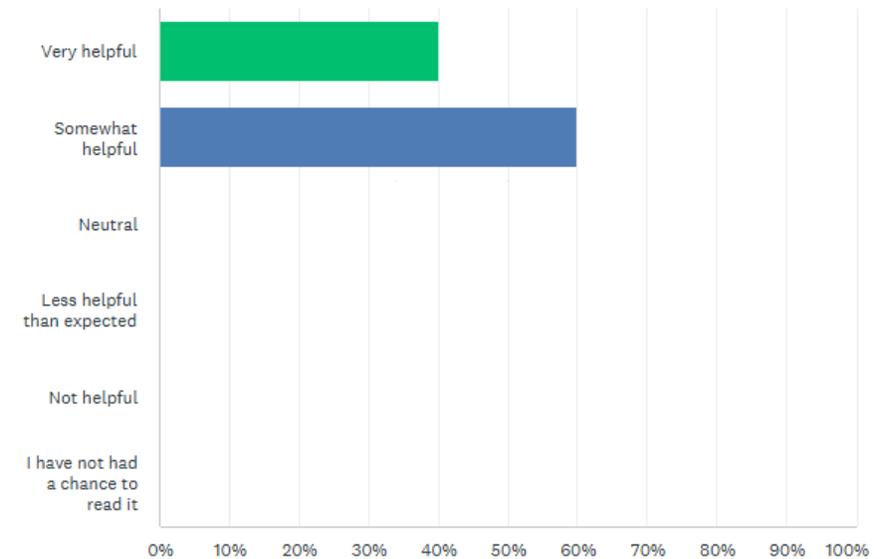
Answered: 8 Skipped: 0



Q2

Did you find the documentation included in the model transmittal package helpful?

Answered: 5 Skipped: 3



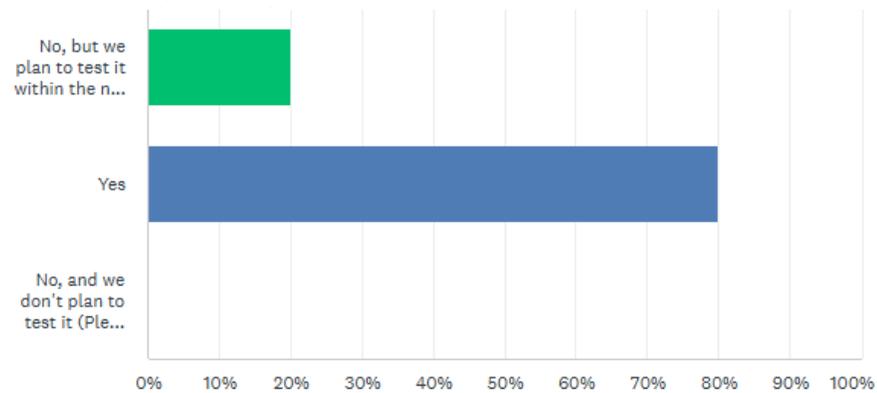
# Feedback from Beta Testing: Survey Responses

Q3



Have you had a chance to test the Gen3 Model after you received it from us?

Answered: 5 Skipped: 3

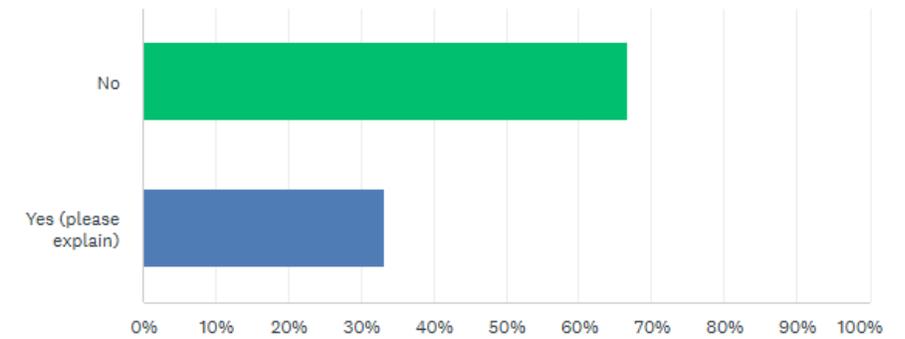


Q4



Did you experience any challenges in acquiring the required hardware specified on pages 16 and 17 of the Gen3 Version 1.0.5 Travel Demand Forecasting Model User's Guide?

Answered: 3 Skipped: 5



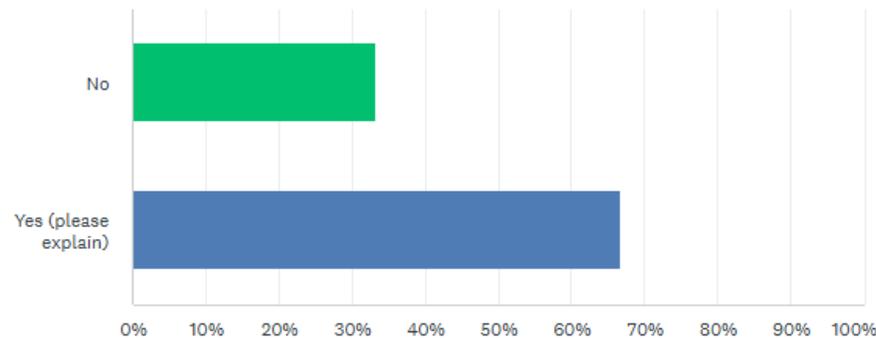
# Feedback from Beta Testing: Survey Responses

Q5



Did you encounter any issues installing required software (e.g., Anaconda, ActivitySim)?

Answered: 3 Skipped: 5

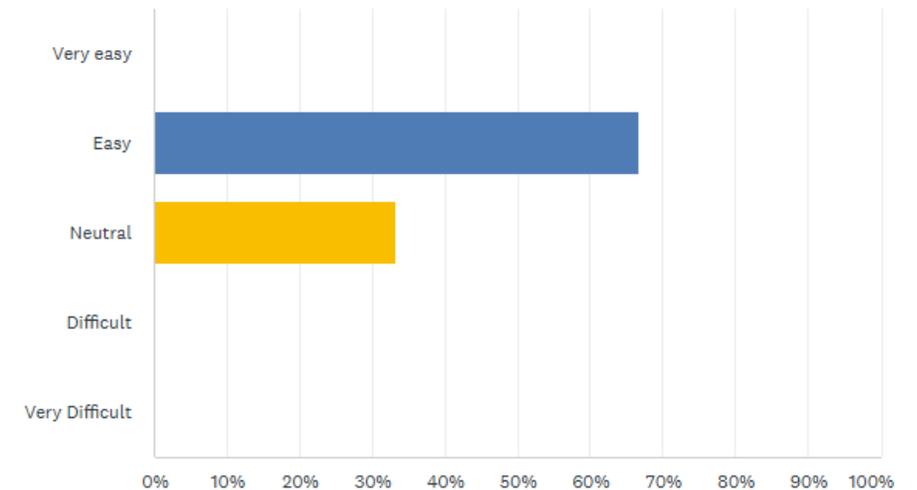


Q6



How easy was it to set up and launch a Gen3 Model run?

Answered: 3 Skipped: 5

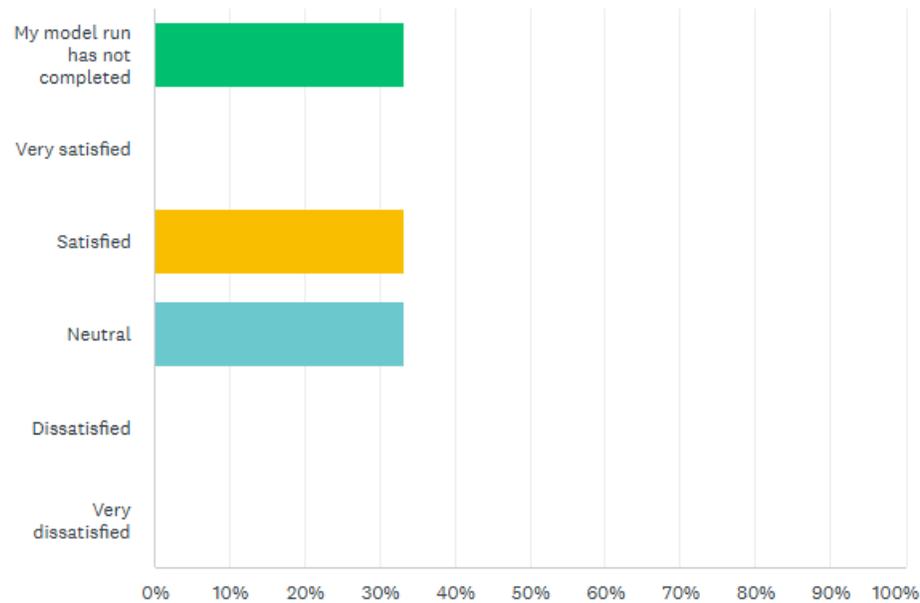


# Feedback from Beta Testing: Survey Responses

Q7

How satisfied are you with the runtime and reliability of the Gen3 Model on your system?

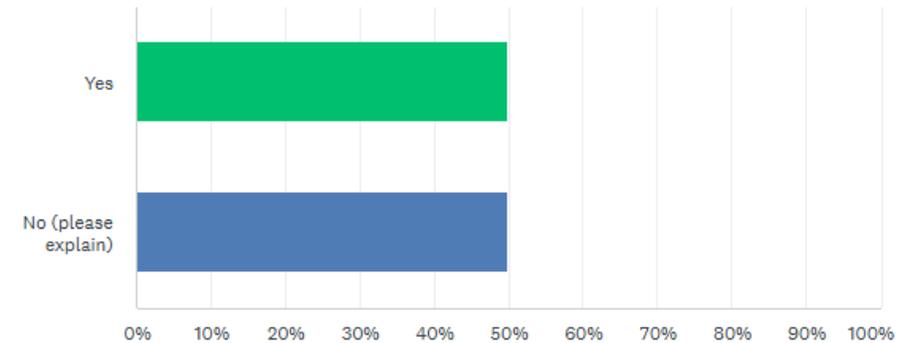
Answered: 3 Skipped: 5



Q8

Was it easy to locate model outputs of interest?

Answered: 2 Skipped: 6



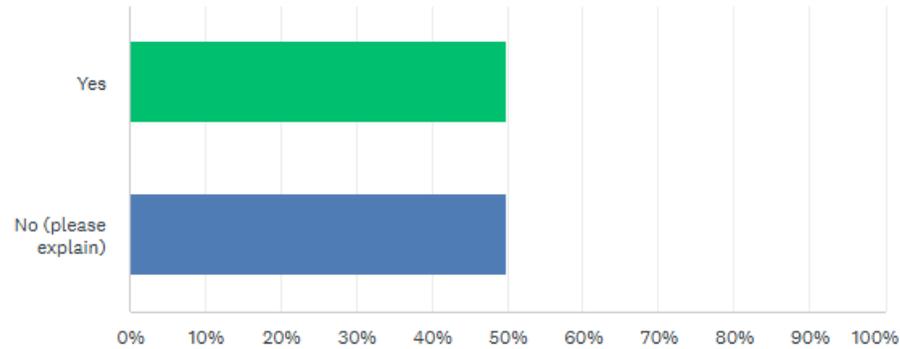
# Feedback from Beta Testing: Survey Responses

Q9



Were the outputs easy to interpret and analyze?

Answered: 2 Skipped: 6

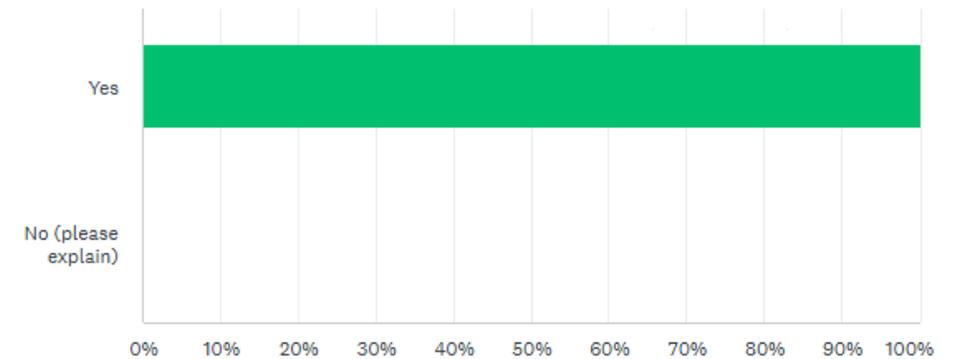


Q10



Do the model outputs appear reasonable?

Answered: 2 Skipped: 6



# Feedback from Beta Testing: Positive Comments

---

- Model documentation
  - “With the documentation, it became easy to identify the correct files.”
  - “Especially after subsequent review of documentation, the process became quite clear.”
  - “The user's guide looks sufficient for Gen3, if one has used Gen2.”
  - “There were some points of confusion in the user guide, but they have been clarified.”
- Model setup and execution
  - “Once an appropriately sized machine with the required memory was picked, the model ran smoothly.”
  - “Once we had gotten clarification on the other points described in this survey it was trivial to run.”
- Potential model applications
  - “We plan to integrate it with a DTA model.”
  - “Corridor/ interchange traffic forecast”
  - “We will try to use it in transportation planning and analysis tasks.”
- Other comments
  - “Kudos to the COG/TPB staff for championing the development and dissemination of the Gen3 model.”



# Feedback from Beta Testing: Issues and Solutions

---

- The original environment.yaml file unintentionally contained Anaconda-related elements, which prevented some beta testers from installing the conda environment needed to run the Gen3 Model, even when using MiniForge as the package manager (Anaconda requires a subscription for agencies with more than 200 employees, while Miniforge is free to all).
  - Solution: A revised yaml file with the Anaconda elements removed solved the problem.
  - Solution: The official model switches from conda to UV, avoiding this issue altogether.
- One tester successfully ran the beta model on an old machine, but could not run it on a new machine, likely due to a network security roadblock enforced by the agency's IT department.
  - Solution: Contact your IT department to determine what specifically blocked the download, installation, or execution of the Gen3 Model, and ask whether the user can be whitelisted. For example, TPB staff had to ask their IT department to whitelist all modelers in ThreatLocker, an endpoint security application, so they could run the model.



# Feedback from Beta Testing: Issues and Solutions

---

- One tester's initial test run failed because their machine did not meet the minimum requirements for running the Gen3 Model, but no related error message was displayed. This occurred because when a user double-clicks the main batch file to start the model run, the batch file window automatically closes if a fatal model error occurs.
  - Solution: TPB staff modified the main batch file so that if a model run encounters a fatal error, the window remains open and displays the error messages.
  - Solution: The tester successfully ran the model once the machine was upgraded to satisfy the minimum hardware requirements (i.e., 206+ GB of RAM, 16+ CPU cores).
- One tester reported that during the model run, some folders were created and later removed under the scenario root directory, which led to confusion.
  - Solution: To reduce user confusion, TPB staff revised the model so that all the temporary folders/files are now written to \Outputs\runtime, which is deleted at the end of a model run.



# Official Release – Checklist from Last Meeting

---

- Continue to distribute the beta version of the Gen3 Model per request: **Done**
- Continue to improve the model based on feedback received from beta testing: **Done**
- Complete post-beta model updates and tag the new model as Version 1.1.0: **Done**
- Update model documentation (e.g., User’s Guide, model flowcharts, calibration and validation report) in accordance with post-beta model updates: **In Progress**
- Export network files in PT format from the final Visualize 2050 network database and perform additional QA/QC checks: **Done**
- Prepare other year-specific model inputs: **Done**
- Conduct model runs for analysis years contained in the transmittal package: **In Progress**
- Work with the new contractor and develop scopes for other Gen3-related tasks: **In Progress**



# Official Release – Post-Beta Model Improvements

---

Relative to the beta version (Ver. 1.0.5), the Gen3/Ver. 1.1.0 Model features:

- A newer version of ActivitySim (v.1.5.1),
- A new environment and package manager (UV) and a much-streamlined and expedited environment installation process associated with it,
- Much “cleaner” Visualizer inputs,
- Reduced RAM usage due to removal of duplicative skims,
- Improved use experience due to model updates addressing issues identified from beta testing, and
- Improved model sensitivities regarding transit subsidy, free parking and PNR parking cost, due to additional model calibration or bugfix.



# Next Steps

---

- In the next couple of months, TPB staff will:
  - Finish the modeling work associated with the official release.
  - Finish the model documentation (e.g., User's Guide, model flowcharts, calibration and validation documentation, COG webpages).
  - Prepare the official release model transmittal package.
  - Announce the release of the official Gen3 Travel Model for production use.
  - Prepare for stakeholder model training.



# Acknowledgement

---

- Special thanks to the project team:
  - COG/TPB: Ray Ngo, Glenn Lang, Bahar Shahverdi, Jim Yin, Mark Moran, Dusan Vuksan, and others.

## Feng Xie

TPB Program Manager, Model Development

(202) 962-3259

[fxie@mwkog.org](mailto:fxie@mwkog.org)

[mwkog.org](http://mwkog.org)

---

777 North Capitol Street NE, Suite 300

Washington, DC 20002



National Capital Region  
**Transportation Planning Board**