



REGIONAL COORDINATION OF TRANSIT ON-BOARD SURVEYS

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Background

- TPB has released a beta version of the next-generation, activity-based regional travel demand model (“Gen3 Model”), which should improve the model's ability to explore policy questions by representing phenomena such as pricing, telecommuting, and vehicle choice
- Observed transit trip data needed for Model Development
 1. Origin & destination (O/D) location and purpose
 2. Access & egress mode (walk, bike, park and ride, kiss and ride, other)
 3. First boarding/alighting transit stops and sequence of transit routes taken
 4. Sociodemographic characteristics (auto ownership, auto sufficiency, income, person type, etc.)
- Data can be obtained through a regionally-coordinated effort to conduct Transit On-Board Surveys (TOBS) among the TPB planning region’s public transportation providers



Goals of Regional Coordination of TOBS

- Provide data that is needed by transit agencies, e.g.,
 - Title VI information for federal reporting purposes (every 5 years)
 - Customer satisfaction data
 - Subsidy allocation data
- Provide data that is needed by COG/TPB staff to estimate, calibrate, and validate regional travel demand forecasting models, which are used by COG/TPB staff and other modeling stakeholders to forecast both public and private transportation demand
- Provide data that is regionally consistent and available on a regular, on-going basis



Benefits

- TOBS data can be used to:
 - Understand transit market segmented by O/D location and purpose, access and egress mode, and other sociodemographic characteristics
 - Understand transfer rates within and between modes/operators and convert unlinked transit trips to “linked” trips
 - Test transit network and path-building parameters by assigning linked trips onto the transit network
 - Create model estimation, calibration, and validation targets
 - Understand external/visitor transit trip characteristics
 - Provide data that is regionally consistent and available on a regular, on-going basis



Previous Approaches

- While household travel surveys such as the Regional Travel Survey (RTS) collect similar information (for all trips), transit trips account for too small a percentage of total individual trips to sufficiently represent travel patterns of transit users
- While transit operators often collect information for Title VI compliance, customer satisfaction, and subsidy allocation, these surveys often do not include data needed to calibrate a travel model, such as O/D information
- Regionally coordinated transit on-board surveys have not been a common practice in the metropolitan Washington region
 - 2008 – (1) TPB conducted a regional bus survey for all major bus operators, except for Fairfax Connector; (2) Contractor conducted Metrorail Passenger Survey for MTA and WMATA
 - 2014 – TPB conducted Metrobus Passenger Survey for WMATA



Proposed Approach

- TPB can play a key role in coordinating agencies' efforts to collect and develop a consistent TOBS dataset that can be used to support modeling and other identified data needs.
- Partnership role envisioned where TPB provides technical support and potentially other resources to other transit operators.
- TPB staff engaged in preliminary discussions with WMATA to consider the inclusion of additional transit data questions in WMATA's bus survey and plans to continue these discussions.
- Staff initiated outreach and conducted initial discussions with some transit operators in summer 2025 and intends to continue engaging transit operators individually as well as through the TPB Regional Public Transportation Subcommittee.
- Staff intends to coordinate with the travel modeling community via the TPB Travel Forecasting Subcommittee.



Possible Resources and Support to Transit Operators

In exchange for considering additional questions required for Gen 3 model development, TPB could provide transit operators with additional resources and support, such as:

1. Limited cost sharing or financial assistance through TPB's technical assistance resources
2. Providing guidance on developing sampling plans and survey instruments for future transit on-board surveys
3. Leveraging the process and structure from the TPB Public Transportation Subcommittee
4. Processing survey data to develop a final survey dataset and performing data analysis
5. Providing additional resources and creating a repository for resources which can be examples of best practices in transit on-board surveys



Next Steps

As we embark on this process, one of the first critical steps is to meet with transit operators to initiate coordination between TPB and transit operators and to develop an approach in which transit on-board surveys can be used to create a regional dataset while ensuring that transit operators' requirements are met.

In the short run: Work with transit operators to identify opportunities to include questions in upcoming transit on-board surveys that would provide the data needed to calibrate and validate regional travel demand forecasting models.

In the long run: Work with transit operators across the metropolitan Washington region to improve regional coordination of transit on-board surveys and encourage broad adoption of these questions, with the goal of producing a robust, comprehensive regional transit trip dataset.



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