Item #4

Development and Application Assistance for TPB Travel Model

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May 18, 2012

2012 Task Orders

- T.O. 1 – meetings and general support
- T.O. 2 – potential transit model improvements
  - Complete
- T.O. 3 – transit summaries and access coding
- T.O. 4 – parallel processing
  - Complete (address comments in the final report)
- T.O. 5 – begin converting TRNBUILD to PT
- T.O. 6 – special transit trips – Phase 1
  - Subcontracted to Stump Hausman/Bill Allen

Task Order 1: Remaining Deliverables

- Brief MWCOG on the new WMATA post-processing model for v2.3
  - AEMS → ModeChoice software, new PEF concepts, recalibrated without geographic market segments, Metrorail parking constraints, parallel processing, etc.
- Cube assignments
  - Review memos and assignment convergence tests
- Final report
  - Prepare a composite document from the task reports
  - Summarize consultant findings and recommendations

Task Order 3: Summaries and Access

- Scope of work
  - Update the LineSum software, add features and address applications concerns identified by MWCOG
    - Improve user interface and documentation
  - Propose new coding rules to capture Metrorail access
    - Walk, bus, park-&-ride, kiss-&-ride, commuter rail, etc.
- Status
  - ~85% complete

LineSum Software

- Original software
  - Developed in 2000 for New Jersey Transit
    - Used in most TPPlus/Cube models developed by AECOM
  - Version 1.8 included in MWCOG v2.3.38 model
- MWCOG Testing
  - AECOM addressed problems with v2.3 applications
    - Special characters in line names
    - Line summary problems for routes with unusual peak/offpeak configurations and for routes combined in different directions
    - Added option to summarize station access data by mode
    - 5 rounds of refinements: version 1.8 → 2.3

New LineSum Software

- Built on TRANSIMS Version 5 system library
  - Open Source C++ console-based program
    - 32 bit and 64 bit Windows and Linux operating systems
  - User interface tools and standards
    - Control keys, help messages, summary reports and file I/O
- Additional functionality
  - Merges ridership files (replaces LineVol)
  - Additional selection options and range controls
  - Outputs combined ridership data in ArcGIS format
  - Identifies transit network differences
- Preparing Quick Reference and User's Guide

Task Order 5: Begin Converting to PT

- Scope of Work
  - Total link ridership summaries and bandwidth plots
    - ArcGIS and Cube-compatible file formats
  - TRNBUILD to PT network conversion
    - Convert route data and test path building features
    - Prepare a work plan for completing the transition in FY 2013
- Status
  - ~30% complete

Ridership Summaries

- Integrated into LineSum program
  - Combines link ridership for mode and line ranges
  - Riders and headway by peak/offpeak/daily and AB/BA
- Includes performance statistics
  - Peak and offpeak hours of operation and peaking factor
  - PMT/PHT and VMT/VHT by peak/offpeak/daily
  - Peak hour riders and load factor
- Multiple output options
  - Tab delimited, dBase, or ArcGIS formats

TRNBUILD to PT

- Route conversions straightforward
  - FREQ → HEADWAY
- Access link complications
  - Used scripts to convert TRNBUILD access links to PT
  - Should re-build the MWCOG access generation tools
- Testing path building options
  - Build and compare paths generated using TRNBUILD with paths generated by PT
- Estimate the level of effort required to replicate the current model results

Task Order 6: Special Transit Trips

- Scope of Work
  - Air passenger travel
    - Use Baltimore's air passenger model to estimate Metrorail trips
  - External transit trips
    - Use the 2007 Metrorail survey to estimate station-to-station trips that originate outside of the modeled region
  - Visitor travel by transit
    - Use the 2007 Metrorail survey to estimate station-to-station trips made by visitors to the region
- Status
  - ~75% complete

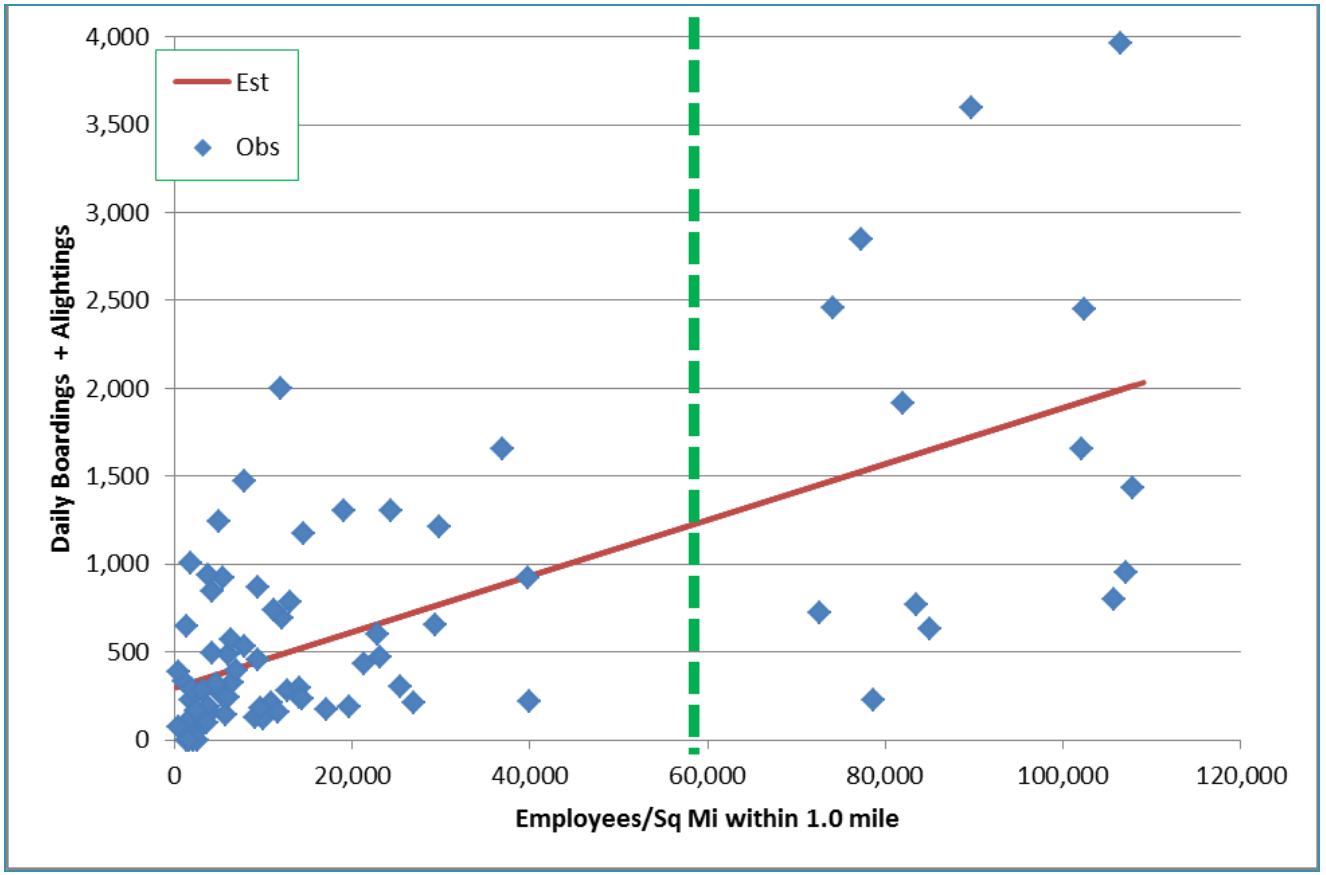
Non-Resident Metrorail Trips

- 2007 Metrorail survey

Travel Market	Trips
E/I Commuters, auto access	3,092
E/I Non-Work, auto access	1,649
E/I Commuters, walk access/train transfer	8,980
E/I Non-Work, walk access/train transfer	2,940
NHB Visitors (walk access)	10,645
NHB Business (walk access)	3,980
Air Passengers (walk access)	1,678
Total	**32,964**

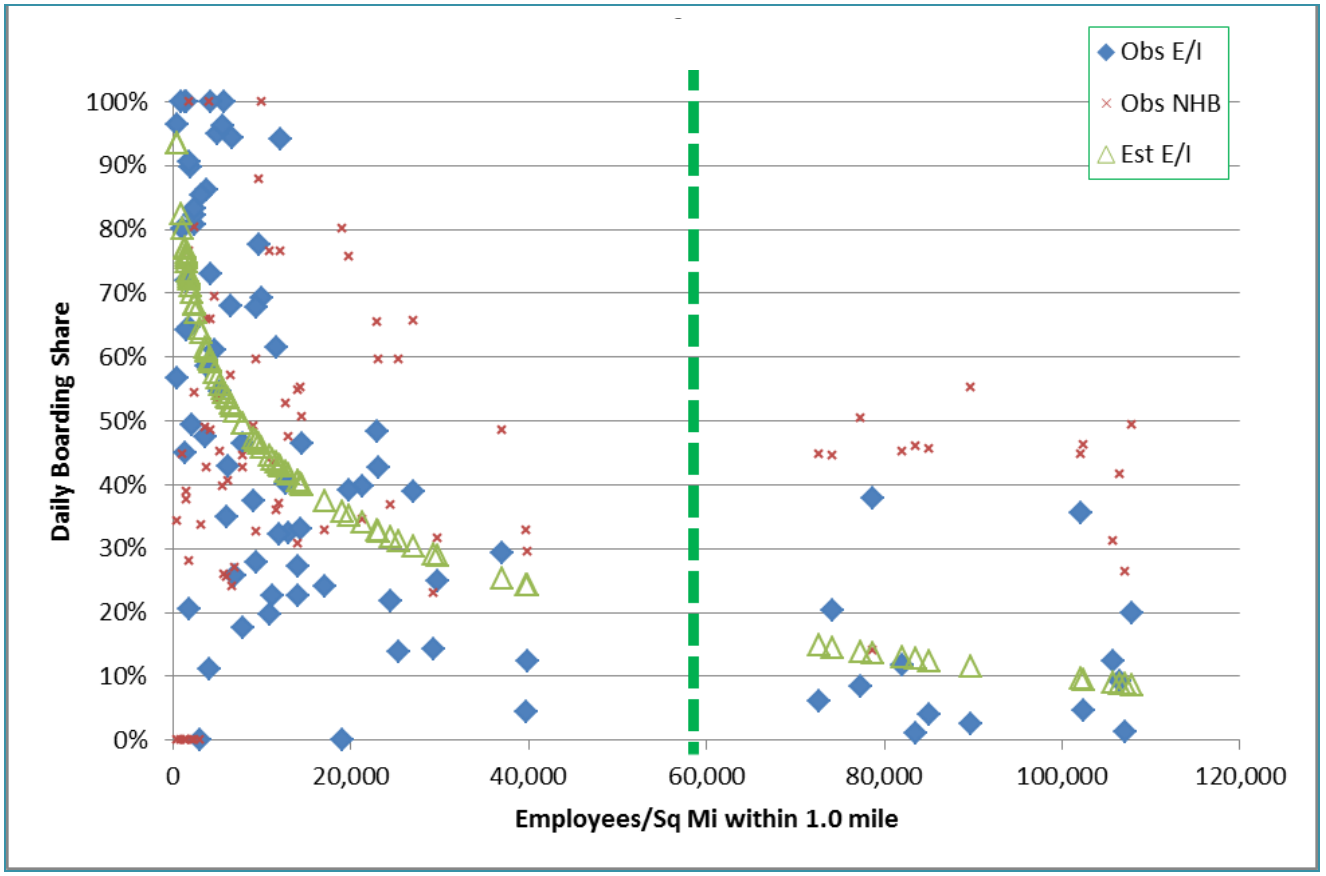
Non-Resident Trips at New Stations

- Use employment density to estimate trips



Percent Boardings by Non-Residents

- E/I and NHB boardings by employment density



Next Steps

- Deliver LineSum program and documentation
  - Make refinements and respond to commands
- Meet with MWCOG to discuss and complete:
  - WMATA mode choice model briefing
  - Proposed transit access coding methods
  - Initial PT findings and proposed work plan
- Respond to comments on the draft model for external and visitor trips
  - Deliver the airport passenger model
- Prepare the final report