AGENDA ITEM A: WELCOME & INTRODUCTIONS

Michael Chiume
AGENDA ITEM B:
PROJECT STATUS / SCHEDULE

Bob Donnelly
Project Status / Schedule

• See GANTT Chart – Schedule / Progress
• About 65% complete
• Major data updates – SED, Counts, Tolls, etc. completed

**NYBPM 2010 Update: Working Stage 1.0** version now completed → transition to final Stage 2 version with for further enhancements and validation, pending:

• Completion of substantial parallel efforts critical to a successfully integrated final **NYBPM 2010 Update – Final Version 2.0**
  • Improved Truck and CV models
  • Highway network conflation, attribution and integration
  • Second pass at TAZ system: Census 2010 tract-based – major expansion in number of zones in NY (Tier 1.2)
  • External Out-of-Region analysis and forecasting methods
  • Transit (EHR) transit assignment calibration

• Overall project completion extended two months to the end of January 2014, with focused and coordinated project activities required.
<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>Task 1</strong>: Model Development and Schedule</td>
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AGENDA ITEM C:
TASK 13: INSTALLATION: BPM 2010 STAGE 1.0 WORKING / TH-TDFM 2010

Jim Lam, Yuri Teleshevsky
Added Stage 1 Features

- Flexible number of zones
- User specified data folder
- Procedures to handle missing highway skim values
- Changes in transit network settings and bus penalties (AECOM)
- Integration of conflated transit routes from New Jersey, and conflation of commuter rail routes
- Added NJ Commute Sector aggregations
- Special handling for Lincoln Tunnel bus preloads
- Added special generators
- Added air passenger transit trips to PAP/TOD procedure and transit assignment
- Uncongested/Congested transit assignment
- Bug fixes
NYBPM 2010 INSTALLATION
NYBPM 2010 INSTALLATION
Creating Stage 1 Installation

- PB, AECOM, Caliper, commits clean set of 2010N data files into SVN
- Extraction of SVN files to clean folder
- Creation of installer from clean folder
- Installer will ask for TransCAD program folder and destination folder for Stage 1 model
- Test run model
- Test run reports, display, utilities
Model Version Control

- **TortoiseSVN** - Software for programmers to manage different versions of source code
- Management of BPM code and data
- Features
  - Keeps track of data and code by version and date
  - Full audit tracking and commentary
  - Can extract any version of code and data
  - Easy to compare different versions with each other
  - Easy to collaborate between multiple developers
  - Can handle large datasets
BPM Use of TortoiseSVN

- Model and data repository is online currently on a Caliper server
- Full BPM install folder structure is on SVN
- User access to modify files is controlled to the development team (currently Caliper, PB, and AECOM)
- Checkout of full set of files is about an hour online
- Subsequent check-ins of modifications is a few minutes
- Installation can be made directly from files in SVN
TortoiseSVN Interface
TortoiseSVN Interface
TortoiseSVN Interface
AGENDA ITEM D:
TASK 6: UPDATE: STAGE 1 (2010N) TO STAGE 2 WITH CONFLATED BASE NETWORK (2020T)

Bob Donnelly, Jim Lam, Sandra Forte
Status – Highway Network Development

• Task 6: Caliper has delivered 2010T(1)_Merged in April
  • Line conflation of prior 2005 BPM network completed
  • Ground truth / orthographic sources
  • Included new NJTPA component of network (TH-TDFM/ 2010N BPM Stage 1)
  • Links found only in current 2010N added
  • Current attributes in 2010N (Stage 1) transferred
  • LID991111 -> MATCHING_ID included

• NYMTC/PB (PSA) is developing 2010T(2)
  • Manual review and revisions to complete Line Conflation
  • Attribute review and correction

• Task 6: PB/Caliper to complete merge of 2010N (Stage 1 BPM) with 2010T(2) → 2010TN (Stage 2 BPM)
Caliper: Starting Datasets

- **2005T BPM Network**
  - Starting network used for BPM 2G development

- **Partially conflated network based on 2005T**
  - Conflation of freeways and some major roads done by Caliper in 2007/2008 in the 5 borough area
  - Most link and node attributes from 2005T preserved

- **2010N TH-TDFM / BPM Stage 1 Network**
  - Used to identify links absent and different from 2005T

- **USDA NAIP 1-meter 2011/2012 SIDs**
  - County-wide MRSID 1-meter images from 2011 for NY and 2012 for CT counties
  - More recent than 2009/2010 images from NYDOT
  - More easily accessible given timeframe of work
Caliper’s Conflation Procedure

• Start from 2005T conflated network

• Attributes and Setup
  1. Remove New Jersey section (already conflated)
  2. Remove centroids and connectors
  3. Identify existing link and node attributes to preserve
  4. Settings to preserve attribute values during splits and joins

• Conflation
  1. Overlay 2005T conflated network with USDA Imagery
  2. Use TransCAD map editing tools and conflate one county at a time (i.e. rework line and node geography based on aerial imagery)
  3. Verify conflation as necessary using street layer and Google Earth
  4. Overlay with 2010N TH-TDFM Network and add in links and attributes existing in 2010N but not in 2005
Caliper’s Conflation Procedure

- Conflation

  5. Identify inaccurate links/interchanges and fix as necessary
  6. Identify and add completely new streets that do not exist in either 2005 or 2010
  7. Merge back in New Jersey portion of network
  8. Merge back in centroid connectors, moving endpoints of connectors as necessary
  9. Add fields to keep track of links and nodes that were added and moved, and their original link or node ids
PB/NYMTTC - Manual Conflation Principles

- Conflation accuracy of within 10-15 meters for links
- BPM conflation correspond most closely with NY Full Streets
- Link topology – revise current link representation, or add missing links with functional class of minor arterials and above (except Lower Manhattan)
- All highway projects completed before 2010 need to be incorporated
Manual Conflation Environment

- Manual conflation in TransCAD
- BPM Network: 2010T Caliper Conflated Network with all centroid connectors
- Primary Data Source:
  - NYS Full Streets
  - NYS Roadway Inventory
  - TIGER shape files for Connecticut (Fairfield, New Haven)
  - 2006 NYS Aerophoto Imagery Data
  - 2010 NAIP data with 1 meter resolution for Connecticut
- Secondary Data Source:
  - Google Maps
  - Microsoft Bing Maps
  - NAVTEQ data
Manual Conflation Status

• 100% Manual conflation finished

• About 60% of QA/QC review-revisions completed
  • All of NYC: Manhattan; Bronx; Queens, Brooklyn; & Richmond
  • Other NY and CT yet to finish

• Target Completion for QA/QC review-revisions
  • Date: Mid-July
Manual Conflation Steps

- **Manual Conflation**
  - Review all problematic links from previous QA/QC on 2010T
  - Major Manual Conflation Fields:
    - MC_Action: “y” or “n”. “y” means manually conflated needed; “n” means “No”.
    - MC_Type: manual conflation types including “deleted”, “new”, “realignment”, “split”, “change direction” etc.
    - MC_User

- **QA/QC: QA/QC on manual conflation**
  - To ensure quality control, one person will QA/QC another person’s manual conflation work.
  - Major Manual Conflation Fields:
    - QAQC_Action: “y” or “n”. “y” means manual conflation is correct; “n” means manual conflation need to be revisited
    - QAQC_User

- **Two Key Concerns being addressed:**
  - Correction of incorrect link flow direction
  - Single line coding of divided arterials (e.g. Queens Blvd.) – add turn prohibitions to block impossible on to off ramp paths.
Another Key Issue Addressed:
Link topological and flow direction

- Links have two directions: topological direction (links’ coordinates stored), and traffic flow direction.
- TransCAD uses Dir field to handle topological direction and flow direction.
  - Dir = 0: Bidirectional
  - Dir = 1: One Way, Flow and Topological directions same.
  - Dir = -1: One Way, Flow and Topological directions opposite.
- GIS and network reviewers users can be confused about directional attributes (AB_, BA_) such as Speed, Volumes etc.
Solution Adopted:
Geographic Link Topology Recoded

- Handle three categories differently using TransCAD GISDK functions
- One Way Links with Dir = 1; leave as is.
- One Way Links with Dir = -1; flip the link, and directional attributes (AB_, BA_)
- Two Way Links (Dir = 0), special handling.
Proposed Geographic Link Coding

Reset all from/to nodes and AB/BAAs to have the following hierarchy for 2-way links:
1. AB direction always EB or NB
2. EB/WB dominant over NB/SB

Consequence:
All one way links = dir 1
All AB/BA fields always in the same direction:
(EB or NB for AB, WB or SB for BA)
Route code needed for winding 2-way links
Manhattan East-West Links Improvement

Analyzed network North of 14th St.
21 East West lanes added
(30 if count Central Park Split)
Re-Balanced lanes in Midtown (+1)
Added detail in UES (+9) and UWS (+10)
Added detail in Harlem (+10)

Consequence:
No big change in assignment volumes
Slight reduction in speed
Better count fit at N-S screen lines

Next steps:
Revise centroid connections
(were not modified, new TAZ system)
List of Manhattan Improvements

• Midtown (+1)
  • Added 3 extra lanes EB on new 26th St. link from 9A (west Side Hwy) to 5th and from Park to 2nd (+3)
  • Added 1 extra lane on 30th all the way (total 3) (+1)
  • Extended 30th St to FDR (2 lanes)
  • Extended 29th to 1st Av. (only 2 lanes) and reduced from 8 to 5 lanes (-3)
  • Transferred one lane in each direction from 49th St (becomes 3/4 lanes instead of 4/5) to 55th (2/2)

• Upper East Side (UES +9)
  • Extended 63rd WB to 5th Ave
  • Made 65th and 66th 2 lanes/dir each
  • Added 2 lanes between 66th and 72nd (+2)
  • Added 3 lanes (2 EB and 1 WB) on 75th (+3)
  • Extended 84th to 1st Ave, 2 lanes each direction
  • Added 2 lanes EB on 91st to 1st Ave (+2)
  • Added 1 lane WB on 102nd and on 110th, from 1st to 5th (+2)
List of Manhattan Improvements (cont.)

• Upper West Side (UWS +10)
  • Added one lane each direction on 106th St (+2)
  • Added 100th St one lane each direction (+2)
  • 91st increased to 3 lanes each way, same for 79th and 81st (+3)
  • Added 2 lanes EB on 75th (+2)
  • Added 1 lane at 65th and 66th (+1)

• Harlem (+10)
  • Added one lane each way on 116th west of 1st Ave (+2)
  • Added one lane WB on 125th (+1)
  • Added 131st between St. Nicholas and Park, 2 lanes each way (+4)
  • Extended 138th to St. Nicholas, made 2 lanes each way (+3)
Results of Initial Testing

• 2010 Base trip tables assigned to current BPM
  2010 Stage 1 Highway network with Manhattan cross-town street improved coding
• Slight improvement overall
  • VMT and VHT increase somewhat
  • Average speeds decrease
  • Fewer locations with extreme V/C values
• Next step: Adjust centroid connectors
  • Connection to added network links for new Tier 1.2 Manhattan zones
Next Steps:
To Adapt 2010T as Stage 2 BPM 2010 Network:

• QA/QC review of accuracy/adequacy for continued modeling network functionality development, focused on:
  • Investigation of Added Links (about 4,000) links – not in any prior BPM networks
  • Completeness of current 2010N attribute transfer
  • Integrity of ID’s / management and correspondence
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<td>Most recurring Matching ID</td>
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<td>47686</td>
<td>14</td>
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<tr>
<td>2010N links not represented in 2010T</td>
<td>2,014</td>
</tr>
<tr>
<td>Links with LID different from ID in 2010T</td>
<td>7,953</td>
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</tbody>
</table>
MATCHING_IDs in 2010T

- Generally represent the current ID in 2010N
- Exceptions // Value of MATCHING_ID
  - New links added // missing - about 4,000
  - Split links / duplicate values (of 2010N ID)
  - Other: Invalid values / varies
- BPM Stage 2 base/foundation network
  - IDs – new system will be formulated for both modeling and for relational data processing with external data sources of road way attributes
  - Scripting and manual verification/correction methods to reconcile existing liberation of future road system improvements – Project/Change files for Net Build
Next Steps: To Adapt 2010T as Stage 2 BPM

2010 Network:

• Further network development processing for a functional modeling network:
  
  • Centroids and connectors have been transferred
  • Re-processing for 2010 Census-based TAZs (Tier 1.2)
  • Need unique, stable IDs for model application for Stage 2 new “base”, and for
  • Future improvements network building (project/change) system for ongoing revisions and future networks
AGENDA ITEM E:
TASK 6: UPDATE: ALIGNING BPM TAZ’S WITH 2010 CENSUS TRACT BOUNDARIES

Bob Donnelly, Yuri Teleshevsky
NYMTC’s Guidelines for Tier 1.2 TAZ System

1. Match NYMTC current TAZs to 2010 census tract boundaries
2. Assign at least one zone for each census tract.
3. Convert existing SED forecasts at TAZ level to the new zone system. In this process Development inventory also needs to be taken into account.
4. Create a tool to convert the TAZ level SED forecast into correct format for NYBPM. Also, develop a procedure for interpolating the SED forecasts for any interim year. (this task is part of the current contract)
5. Revise the highway networks to reflect the new zone system.
6. Revise the transit system to reflect the new zone system.
7. Convert all the future year Proj and Change files to reflect new zone system
8. Convert the future year Transit projects also
9. Convert the future year ITS projects also
Consideration of Schedule & Budget Constraints

- Aim to complete all tasks in 6-8 weeks
  - Minimize impact on BPM 2010 Update delivery schedule
  - Manageable level of effort: 200–300 hours / $25 - $40K budget?
- Major Steps in Include:
  - GIS processing of zone layers
  - Correspondence file development
  - SED data processing
  - Base highway and transit network modifications
  - BPM scenario procedures – future year inputs
  - Core model testing
    - Dimensioning of key components
    - Base year calibration
    - processing times
1. Match NYMTC current TAZs to 2010 census tract boundaries

- Corrects current shift in TAZ boundaries layer and establishes “ground truth” geography
- Most improvement will be in Queens, Brooklyn, and Manhattan – other counties fairly closely aligned
- Consistent with other BPM GIS-based components
- Current 2000 Census-based TAZs will be:
  - Split – where tracts have been divided into 2 or more new tracts
  - Reformed – where boundaries have have been moved
  - Aggregated (in most cases) – where tracts have been joined into one new tract
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- Aggregated (in most cases) – where tracts have been joined into one new tract
- Reformed – where boundaries have have been moved
## Estimated # of Tier 1.2 TAZs

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<tr>
<th></th>
<th># of Counties</th>
<th>GIS: Census 2010</th>
<th># of Tracts: Census 2010</th>
<th># of TAZs Current BPM 2010 TAZs</th>
<th>Max # of TAZs in Revised BPM 2010 TAZs</th>
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* Includes 48 additional TAZs in Manhattan, due to split Tracts
### Current TAZ and Census Tracts

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<th>Census Tracts 2000</th>
<th>Census Tracts 2010</th>
<th># of TAZ</th>
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<th>County</th>
<th>Census Tracts 2000</th>
<th>Census Tracts 2010</th>
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### NYBPM Base Year Update & Validation - 2010

#### NYMTC 10 Counties
- **STEP**: Develop Correspondence between Tier 1.1 TAZ IDs and 2010 Census Tracts
- **Comments**: Correspondence tables between Tier 1.1 TAZ IDs and 2010 Census Tracts (Area, residential and workplace allocation factors)

#### NI 14
- **STEP**: Develop Correspondence between revised NYMTC 2010 TAZ and 2010 Census Tracts
- **Comments**: Correspondence between NYMTC 2010 TAZs and 2010 Census Tracts n/a n/a

#### Comments
- 1. Correspondence between Tier 1.1 and 2000 Census Tracts
- 2. Correspondence between 2000 and 2010 Census Tracts based on the Census relation file

### HIGHWAY AND TRANSIT NETWORKS

#### Comments
- Assuming the conflated highway network is built, verified and filled with all attributes
- Here, we ignore Tier 1.1 TAZs that are aggregated onto Tier 1.2 TAZs – leaving respective inter-zonal trips that become intra-zonal.

### MODELING PROCEDURES

#### Comments
- Review and test transit modeling procedures
- Test network preparation and assignment procedures, core and ancillary models

### DOCUMENTATION

#### Comments
- Prepare Draft and Final TM
2010 TAZ DELINEATION – OVERVIEW

- GEOGRAPHY
- ATTRIBUTES AND SED DATA
- HIGHWAY AND TRANSIT NETWORKS
- MODELING PROCEDURES
- TESTING AND REVISING
2010 TAZ DELINEATION – OVERVIEW

• GEOGRAPHY
  - Components GIS layers
    - NYMTC 2010 TAZ Layer
      - 10 NYMTC counties
    - 2010 Census Tract Layer
      - New York – 2 counties
        - Orange, Dutchess
      - Connecticut – 2 counties
        - Fairfield, New Haven
    - Tier 1.1 TAZ Layer
      - New Jersey - 14 counties

• WORK STEPS
  - Components GIS layers
    - Review and Revise
    - Keep all single 2010 census tracts
    - Keep split tracts in Manhattan
    - Join split tracts Elsewhere
    - Split in Manhattan for Tier 1.1
    - Merge three components
    - Rnumber TAZs:
      - Starting in county code order
        - Continuous within counties
      - Adjacent numbering for splits
Keep split census tracts in Manhattan
2010 TAZ DELINEATION – OVERVIEW

**TAZ DATA** = SED + Zone attributes (ID, Area, ...)

- Correspondences for: Area, Residential, and Workplace allocation factors
  - Tier 1.2 TAZ to 2010 Census Tracts and Block Groups
  - Tier 1.2 TAZ to Tier 1.1 TAZ
- Convert SED data to new TAZ Tier 1.2

**WORK STEPS**

**TAZ Data**

- Correspondence between:
  - Tier 1.1 TAZ and 2000 Census Tracts
  - Tier 1.1 TAZ and 2010 Census Tracts using relation file between 2000 and 2010 census tracts
  - Tier 1.2 TAZ and Tier 1.1
- Convert SED data by each GIS component and combine into new Tier 1.2 TAZ layer data set
2010 TAZ DELINEATION – OVERVIEW

**HIGHWAY & TRANSIT NETWORKS**

- Combine with 2010T Highway Network
- Identifying and Post-Processing intra-zonal trips
- Combine with Transit “Walk links” GIS layer

**WORK STEPS**

- Highway and Transit Networks
  - Develop procedure and build Highway Network Centroids and Centroid Connectors
  - Develop procedure and build Transit Network (“Walk”) Centroids and Centroid Connectors
  - Review both highway and transit network centroid connectors and network connectivity
2010 TAZ DELINEATION – OVERVIEW

**MODELING PROCEDURES**

- Revise and update all zone-based look-up files
- Revise and edit all zone-based supporting GIS layers
- Renumber PTZ zones. Test transit module functionality
- Complex testing of:
  - Highway and transit network preparation
  - Core models
  - Ancillary models
  - Highway and transit assignment procedures
  - Reporting system
AGENDA ITEM F:
TASK 4: UPDATE VEHICLE CLASS COUNTS – 2010 UPDATE COMPLETED

Chrissy Bernardo
Vehicle Class Data Status

Truck Counts:
Vehicle Class Data Status

Commercial Van Counts:
New CBD Vehicle Class Data Description

- Data from NYCDOT with vehicle class counts for various locations in the CBD (2005-2011)
- Some counts on exact screenline link locations, some a few blocks away
- AM, some MD, and PM periods
- All locations have Truck counts, some have Commercial Van
- Overall, added class count data at 68 locations in the CBD
Methodology

- For screenline locations with outdated (i.e. 1996, 1998, 2002) or synthetic counts, new class counts replaced the existing counts (if 3 TOD periods available)

- For locations with recent count data (i.e. 2010 Hub-bound report, 2012/2013 NYCDOT ATR Counts), the proportion of trucks in the new class counts was used to estimate truck/CV counts

- For new counts with only AM and PM period class counts, MD truck proportions were estimated using the ratio of MD to peak period truck proportions at nearby locations
New CBD Vehicle Class Data: Analysis

<table>
<thead>
<tr>
<th>Percent of new count locations</th>
<th>TOD</th>
<th>Commercial Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>~33%</td>
<td>AM &amp; PM only (MD estimated)</td>
<td>Truck &amp; Commercial Van</td>
</tr>
<tr>
<td>~67%</td>
<td>AM, MD, &amp; PM</td>
<td>Truck only</td>
</tr>
</tbody>
</table>
New CBD Count Locations
New Jersey Truck Data: Status

• Received from PANYNJ:
  • 2011 WIM Station 24-hour hourly counts at ~40 locations in the BPM network
  • Medium & Heavy truck classes (no total vehicle count; only includes WIM lanes)

• Expected from NJDOT:
  • Classification counts at 80 locations in Northern/Central NJ

• Possible additional data:
  • NJDOT website – numerous 24-hour classified count locations – no single database, time-consuming data extraction/processing
New NJ Count Locations (WIM)
Possible Additional NJ Counts
AGENDA ITEM G:
TASK 8: HIGHWAY NETWORK UPDATE:
TRUCK ROUTES – 28 COUNTY REGIONAL NETWORK

Chrissy Bernardo
Truck Route Coding in BPM

- Network field–TRUCK:
  - 1 = Trucks Allowed
  - 2 = Trucks Restricted (prohibited except for local access)
  - 3 = Trucks Prohibited (strictly)

- If a link is not designated as either 1 or 3, value is set to 2
Truck Route Data

• 1996 Original
  • Based on NYC Truck Route maps, NYSDOT Region 8 truck frequency data, Westchester County truck restrictions, and parkways

• 2005 Update
  • Updated based on NYS designated Truck Routes
Existing Truck Routes in Network
Truck Routing Inputs

- Area Type, PLT
- Toll, TT, Length

TRUCK

Truck Penalty

Link Impedance

Path Building & Assignment

Look-up Table

Equation
Truck Route Update

- Verify existing truck route and restriction coding in 10-county NYMTC area
- Update based on new:
  - NYC Truck Route maps (shp),
  - NYS Designated Truck Routes (list),
  - parkway information
- Code as Project

- Other possible sources of GIS-based truck route data:
  - Navteq
  - FAF3?
AGENDA ITEM H:
TASK 14: MODEL REFINEMENTS: UPDATE TRUCK AND OTHER SMALL COMMERCIAL VEHICLES MODEL

Pascal Volet
Commercial Van Improvement

• The major impediment to CV model improvement is the lack of data

• Will have to rely on percentages (Manhattan)
  • Auto/Taxi/Truck/CV - 50-80%/10-30%/4-8%/5-15%

• Out of Manhattan – NYC and Rest will also have overall classification rates

• Actual Trip Generation (TG) rates based on Phoenix 1992 and adapted to BPM. Will need to be revisited.
Commercial Van Improvement

- Actual Trip Generation (TG) rates based on Phoenix 1992 and adapted to BPM

- Current model very close at 60th Street Cordon
  - 24h class shares = 73/14/7/6 (Auto/Taxi/Truck/CV)

- At all other Midtown and Lower Manhattan screen lines, CV share is high (>15%), as in Upper Manh

- A new base CV trip table will eliminate large internal over-generation of trips
Commercial Van Improvement

- Car occupancy counts at PANYNJ, source for CV (dated October 2008, EB only)

- Currently testing ODME setup, still waiting for NJ counts for final results

- Preliminary tests on Manhattan shows reduction of over 100,000 out of 350,000 trips
Truck Model Improvement

- Received PANYNJ 2009 Truck OD Survey last month
  - Only recent truck survey, as MTA truck survey cancelled

- Access granted to GI Transearch Truck Data for NY
  - In addition to FAF3 data, providing forecasts for commodity flows, which will be transformed to long distance truck trips.

- Longitudinal Employer-Household Dynamics (LEHD) Survey provides census tract NAICS employment data, will be very useful in the regression analysis as Manufacturing and Transportation/Warehousing are separated out.
Truck Model Improvement

- Methodology additions
  - County-wide K-factors to fit to screenline truck counts
  - ODME will still be available from intermediate step for base year simulations
- Count based trip generation extraction/validation
  - Using new truck counts and select-link analysis
  - Two Mid-town mega-zones show different patterns
  - Shift from AM peak to NT peak
  - Applied to other locations, revealing the need for truck model upgrade
### Observation:
Shift of Trucking Activities From AM to NT

Trucking flows based on 1996 seed matrix, Counts observed in 2009-2010

<table>
<thead>
<tr>
<th></th>
<th>With Counts</th>
<th>Productions</th>
<th>Attractions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>MD</td>
<td>PM</td>
</tr>
<tr>
<td>60th - 48th</td>
<td>5,289</td>
<td>8,187</td>
<td>2,838</td>
</tr>
<tr>
<td>48th - 29th</td>
<td>5,770</td>
<td>8,195</td>
<td>3,039</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>With Flows</th>
<th>Productions</th>
<th>Attractions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>MD</td>
<td>PM</td>
</tr>
<tr>
<td>60th - 48th</td>
<td>8,112</td>
<td>9,194</td>
<td>3,107</td>
</tr>
<tr>
<td>48th - 29th</td>
<td>8,155</td>
<td>8,716</td>
<td>2,945</td>
</tr>
</tbody>
</table>
## Other Trip Generation Locations

### Staten Island

<table>
<thead>
<tr>
<th></th>
<th>Productions</th>
<th>Attractions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AM</td>
<td>MD</td>
</tr>
<tr>
<td>Using Counts and estimate of through traffic based on SLA</td>
<td>2,450</td>
<td>7,620</td>
</tr>
<tr>
<td>Using Modeled Flows</td>
<td>3,783</td>
<td>4,634</td>
</tr>
<tr>
<td>% Diff</td>
<td>54%</td>
<td>-39%</td>
</tr>
</tbody>
</table>

### Hunt's Point

<table>
<thead>
<tr>
<th></th>
<th>Productions</th>
<th>Attractions</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>AM</td>
<td>MD</td>
</tr>
<tr>
<td>Using Count Data:</td>
<td>2301</td>
<td>2510</td>
</tr>
<tr>
<td>Using Modeled Flows:</td>
<td>1562</td>
<td>1894</td>
</tr>
<tr>
<td>% Diff:</td>
<td>-32%</td>
<td>-25%</td>
</tr>
</tbody>
</table>

Note: Count data is from June 2003
AGENDA ITEM I: OTHER DISCUSSION

BRIEF STATUS REPORT:
SED FORECASTING MODIFICATION PROPOSED TO NYMTC BY PANYNJ
AGENDA ITEM J: NEXT STEPS / NEXT MEETING
POST MEETING
RECOMMENDATIONS FOR NEXT ROUND OF SCREENLINE COUNT PROGRAM

Pascal Volet
Count Program in NY Counties

Establish priorities given status of current screenline database

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Both directional hourly and daily volumes are synthesized due to lack of available data.</td>
</tr>
<tr>
<td>4</td>
<td>Daily volumes are available from actual counts and hourly volumes are synthesized.</td>
</tr>
<tr>
<td>3</td>
<td>Observed or agency estimates are available for two-way ADT/AADT and directional and daily volumes are synthesized.</td>
</tr>
<tr>
<td>4</td>
<td>Daily volumes available from actual counts for the BA direction and hourly counts for the BA direction are synthesized. Both hourly and daily volumes for the AB direction are synthesized.</td>
</tr>
<tr>
<td>4</td>
<td>Daily volumes available from actual counts for the AB direction and hourly counts for the AB direction are synthesized. Both hourly and daily volumes for the BA direction are synthesized.</td>
</tr>
<tr>
<td>3</td>
<td>Daily and hourly volumes are available from actual counts for the BA direction and hourly and daily volumes for the AB direction are synthesized.</td>
</tr>
<tr>
<td>3</td>
<td>Daily and hourly volumes are available from actual counts for the AB direction and hourly and daily volumes for the BA direction are synthesized.</td>
</tr>
<tr>
<td>2</td>
<td>Observed daily and hourly volumes are available for the BA direction and observed daily volume is available for the AB direction. Hourly volumes for the AB direction are synthesized.</td>
</tr>
<tr>
<td>2</td>
<td>Observed daily and hourly volumes are available for the AB direction and observed daily volume is available for the BA direction. Hourly volumes for the BA direction are synthesized.</td>
</tr>
<tr>
<td>1</td>
<td>Both hourly and daily volumes are available from actual counts.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>All</th>
<th>COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CODE</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>22</td>
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<tr>
<td>4</td>
<td>33</td>
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<tr>
<td>3</td>
<td>7</td>
</tr>
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<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>179</td>
</tr>
<tr>
<td>Total</td>
<td>241</td>
</tr>
</tbody>
</table>

County
6=Nassau
7=Suffolk
8=Westchester
9=Rockland
10=Putnam

Update needs = 218
## Priorities by type

<table>
<thead>
<tr>
<th>Prio=1</th>
<th>COUNTY</th>
</tr>
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<tbody>
<tr>
<td>CODE</td>
<td>6</td>
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<tr>
<td>5</td>
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<td>4</td>
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<td>3</td>
<td>2</td>
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<tr>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
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</table>

<table>
<thead>
<tr>
<th>Prio=2</th>
<th>COUNTY</th>
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</thead>
<tbody>
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<td>5</td>
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<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>95</td>
</tr>
<tr>
<td>Total</td>
<td>121</td>
</tr>
</tbody>
</table>

Priority 1 = Inter County SL  
Priority 2 = Intra Count SL  
Priority 3 = Other

### Year < 2005

Year < 2005

<table>
<thead>
<tr>
<th>Prio=1</th>
<th>COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>CODE</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
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<td>2</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
</tr>
</tbody>
</table>

Primary needs = 38+46+49=133  
Secondary needs = 44