

AGENDA ITEM A: **WELCOME & INTRODUCTIONS**

Michael Chiume

AGENDA ITEM B: **PROJECT STATUS / SCHEDULE**

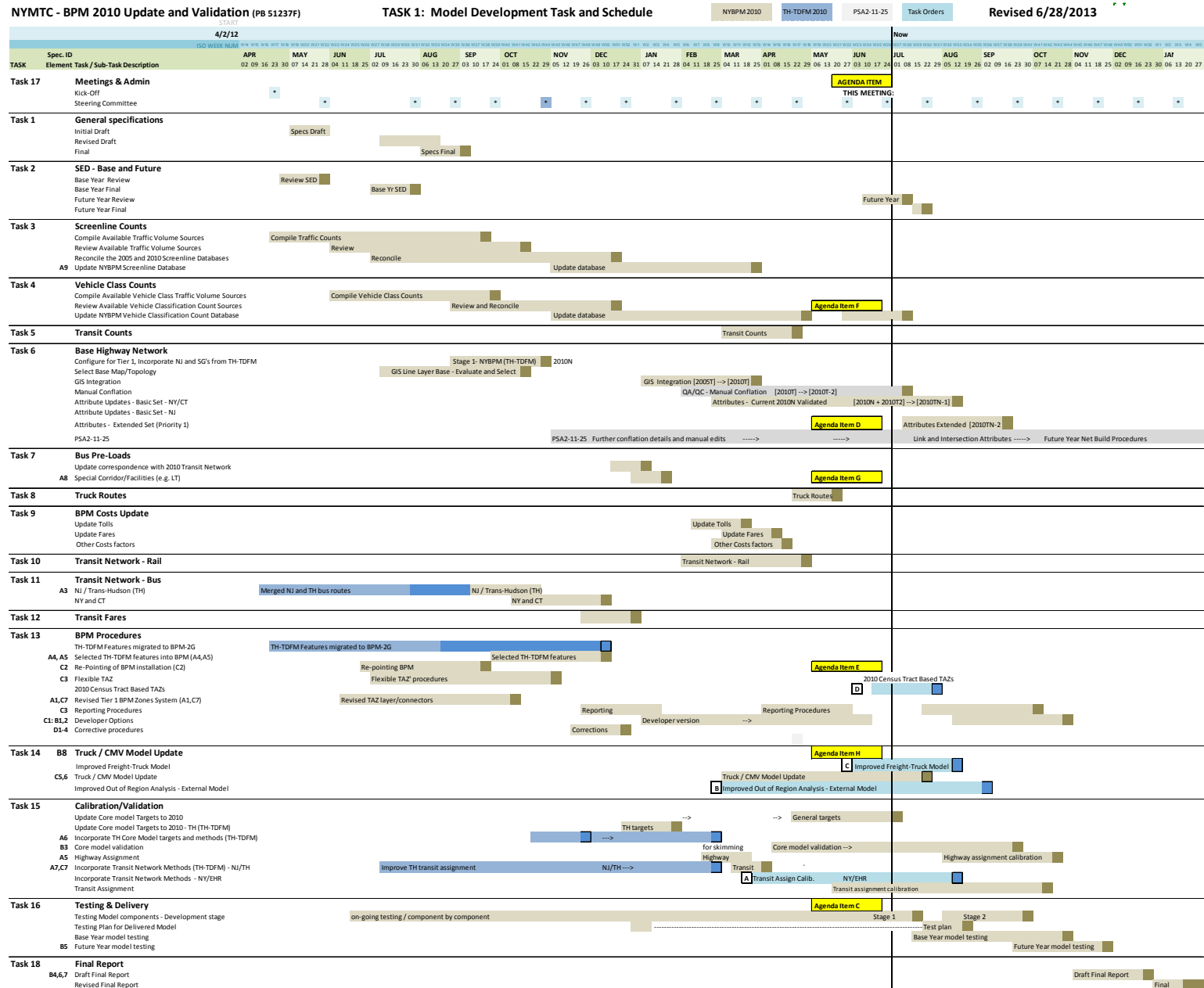
Bob Donnelly

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.

June 28, 2013

NYBPM Base Year Update & Validation - 2010



NYMTC / Steering Committee Meeting

Parsons Brinckerhoff

AGENDA ITEM C:

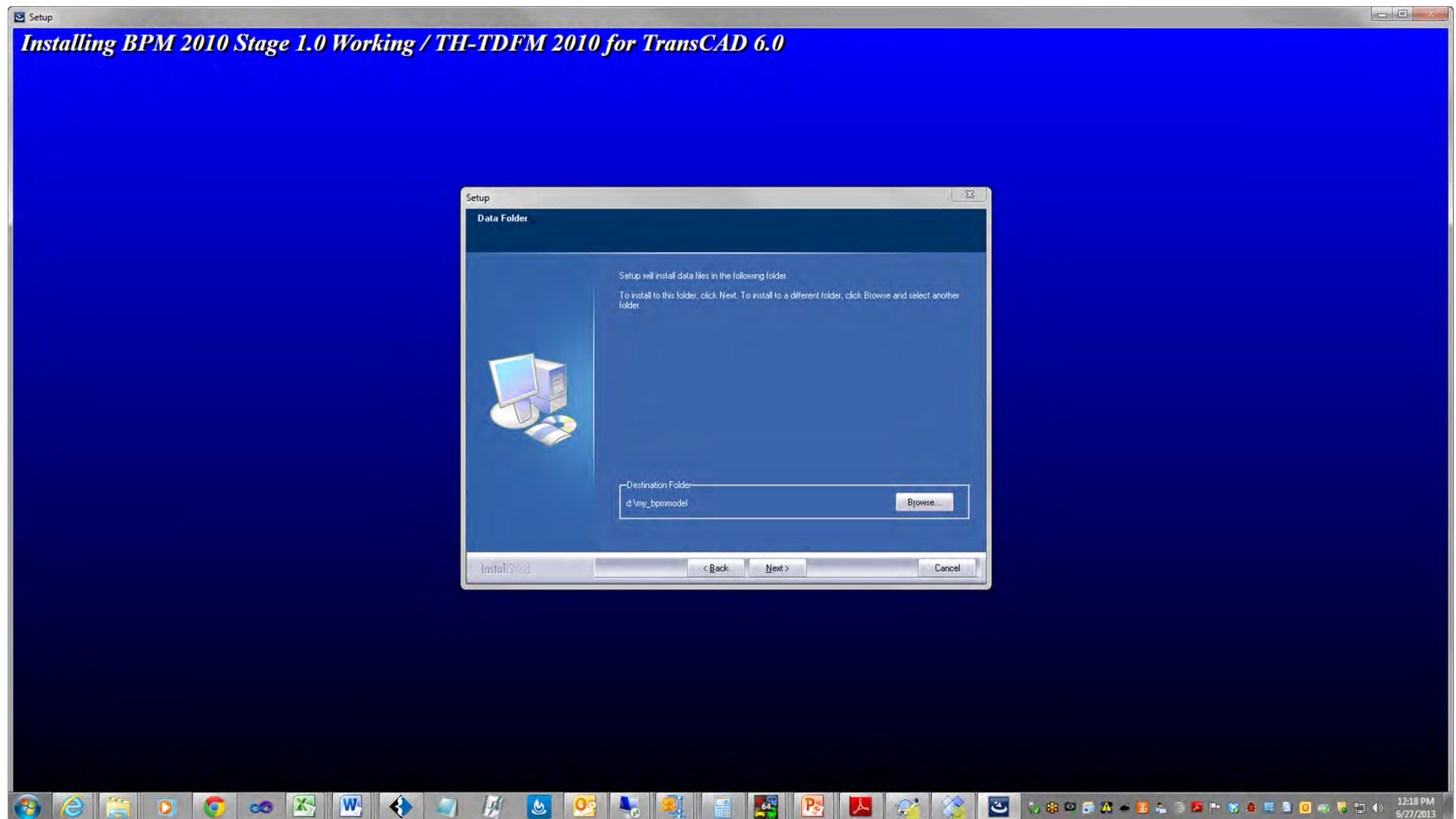
TASK 13: INSTALLATION: BPM 2010 STAGE 1.0 WORKING / TH-TDFM 2010

Jim Lam, Yuri Teleshevsky

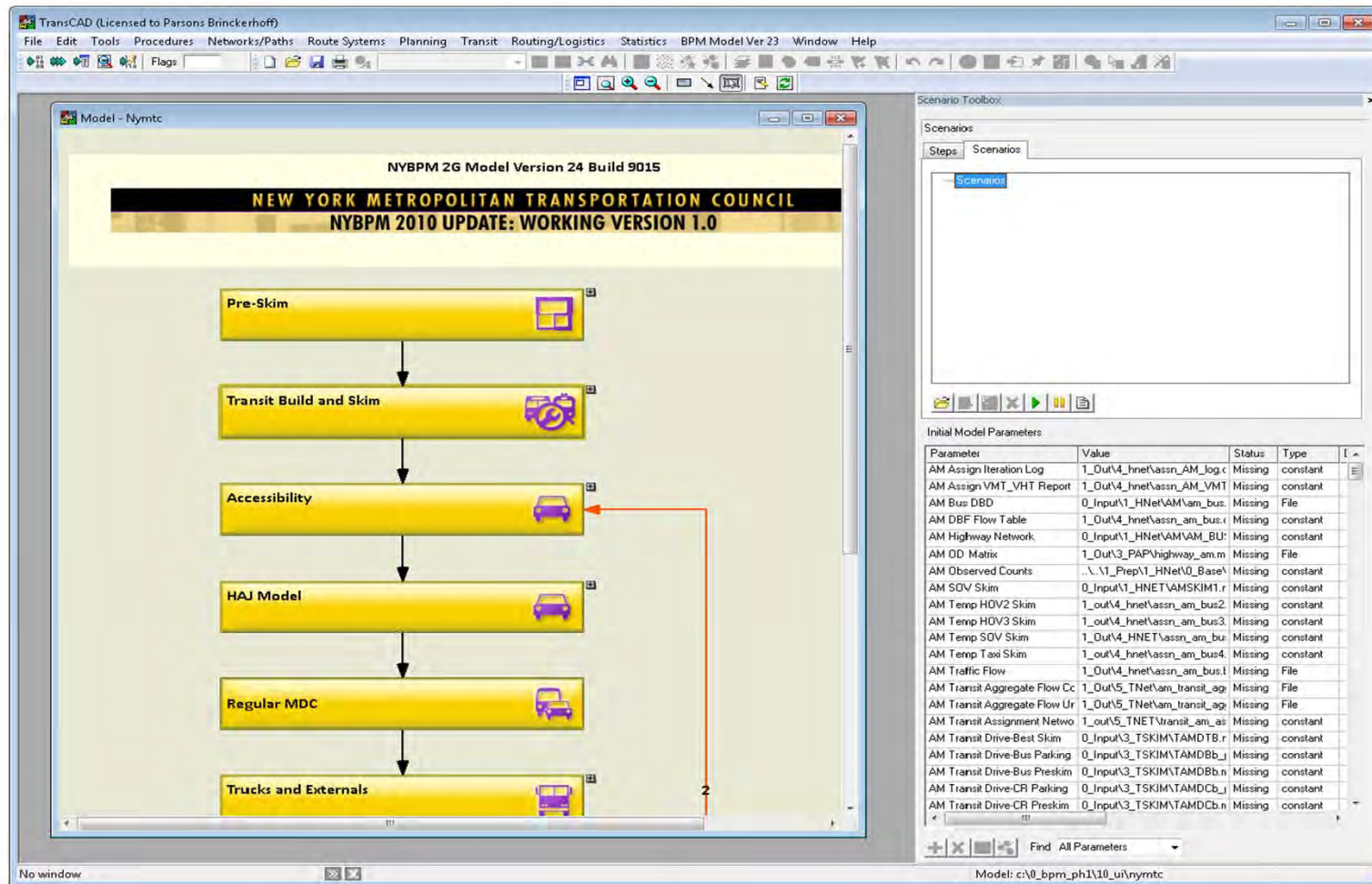
Added Stage 1 Features

- 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

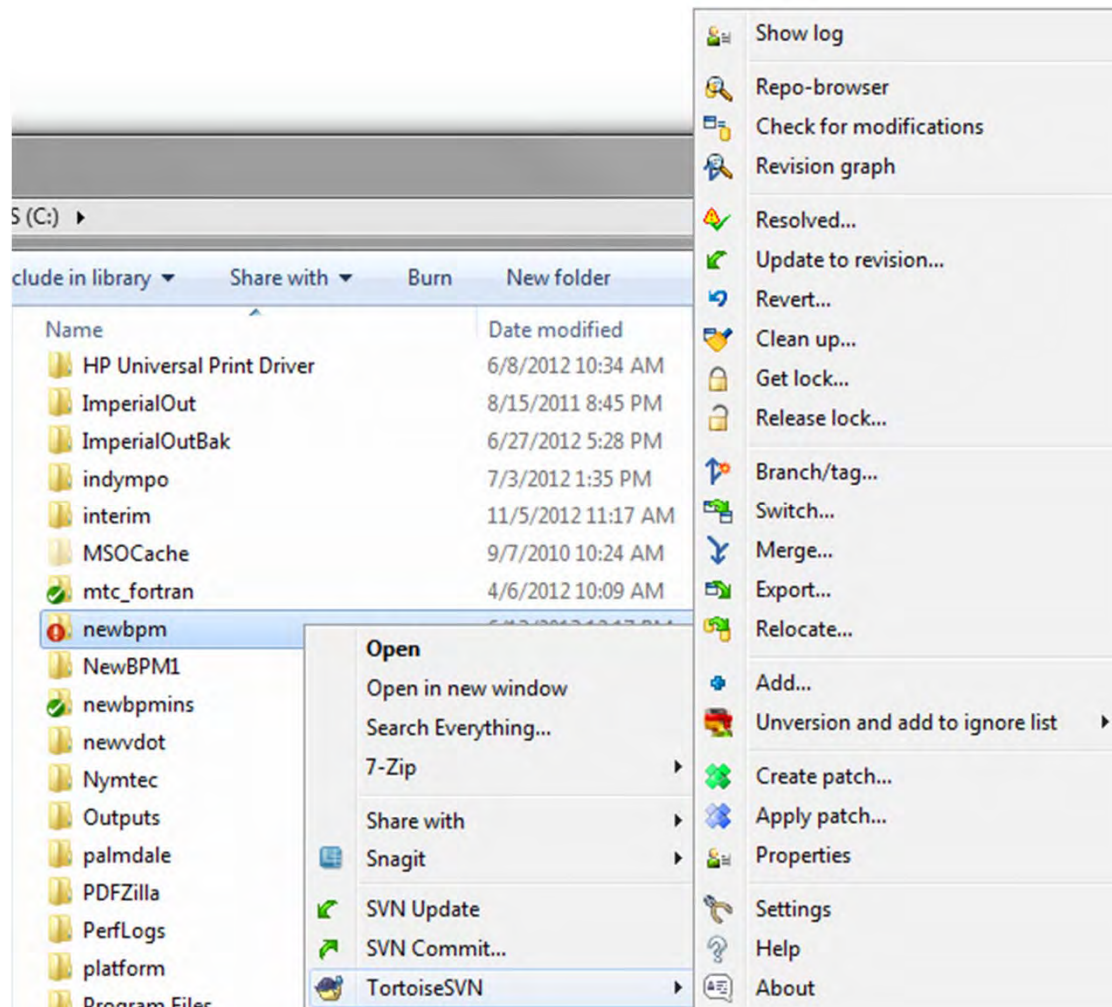
Model Version Control

- **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

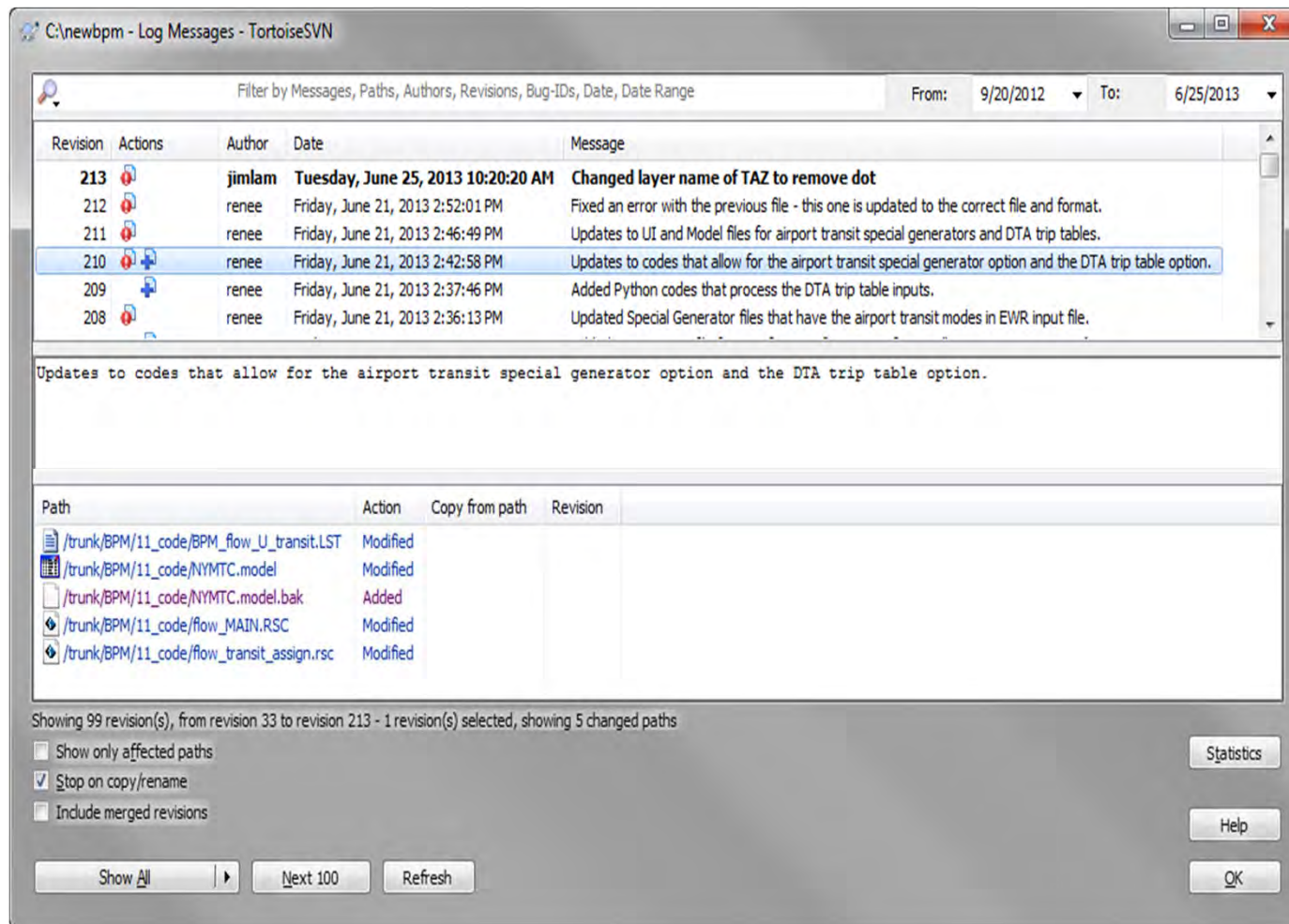
BPM Use of TortoiseSVN

- 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

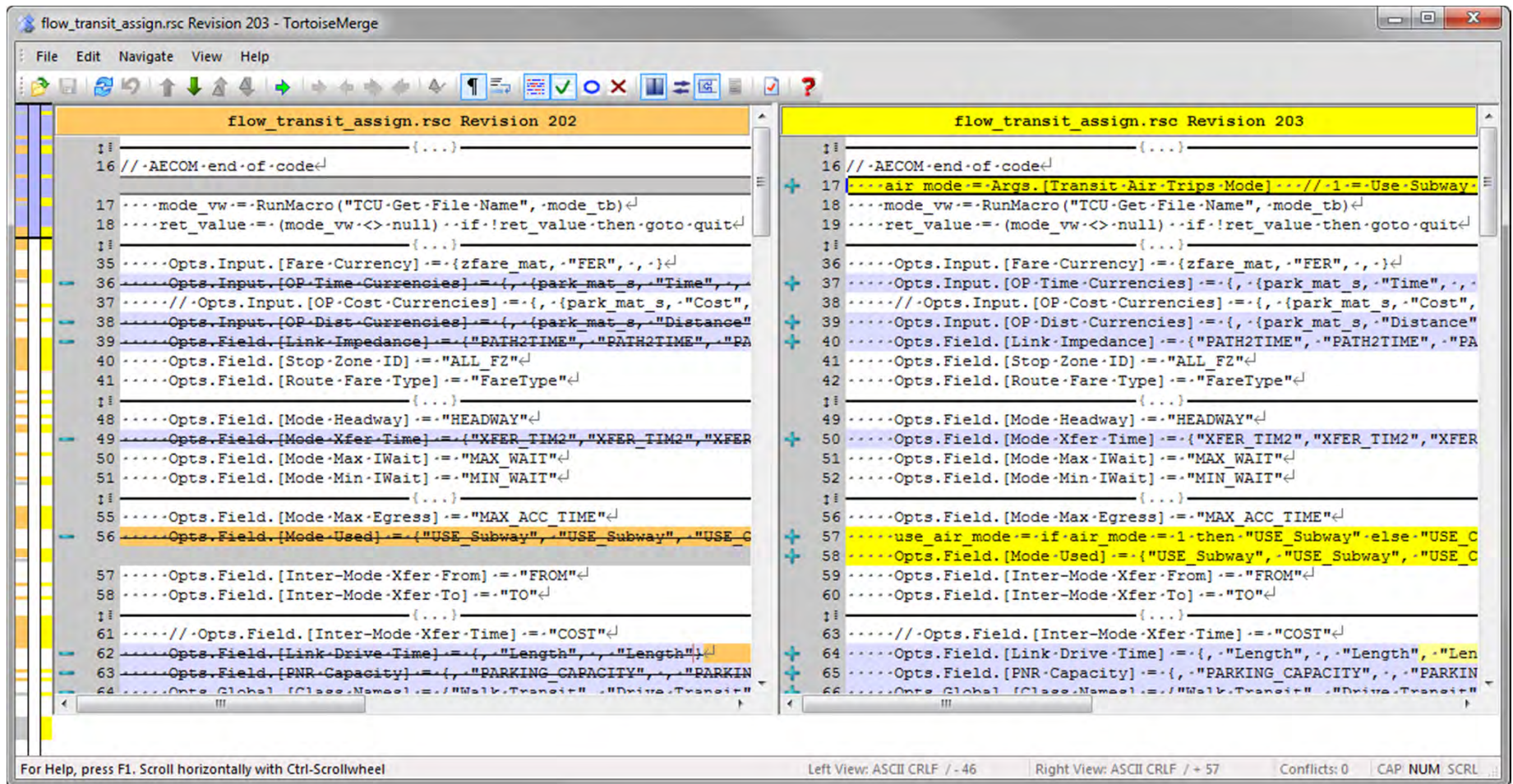
TortoiseSVN Interface



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
 - <http://datagateway.nrcs.usda.gov/GDGOrder.aspx>

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/NYMTC - 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.

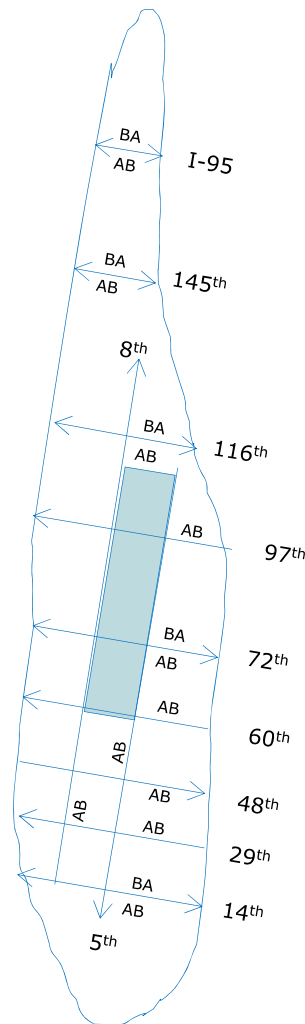
Another Key Issue Addressed: Link topological and flow direction

- 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/BAs to have the following hierarchy for 2-way links:

1. AB direction always EB or NB
2. EB/WB dominant over NB/SB

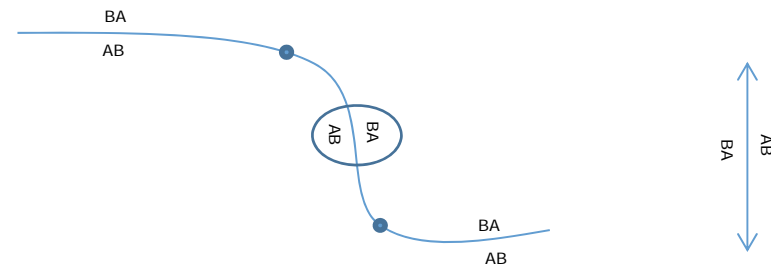
Consequence:

All one way links = dir 1

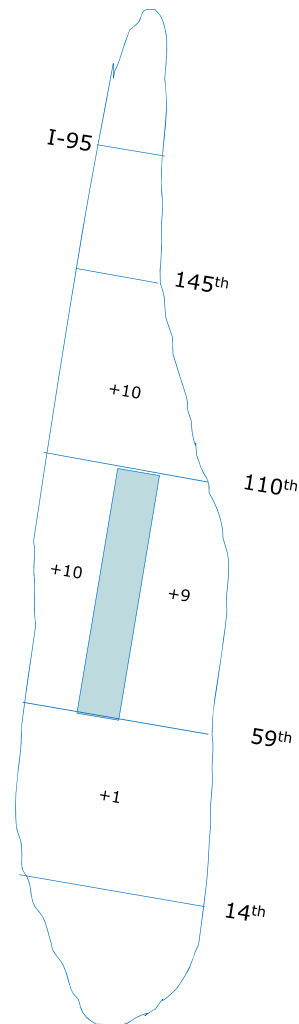
All AB/BA fields always in the same direction:

(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

2010T Conflated and Merged NYMTC Network Statistics	
	# of Links
Total Links	60,584
No Matching IDs	4,301
Duplicate Matching IDs	
1<count<=2	2,480
2<count<=3	550
count>3	14
Most recurring Matching ID	
47686	14
2010N links not represented in 2010T	2,014
Links with LID different from ID in 2010T	7,953



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 libration of future road system imrovements – 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

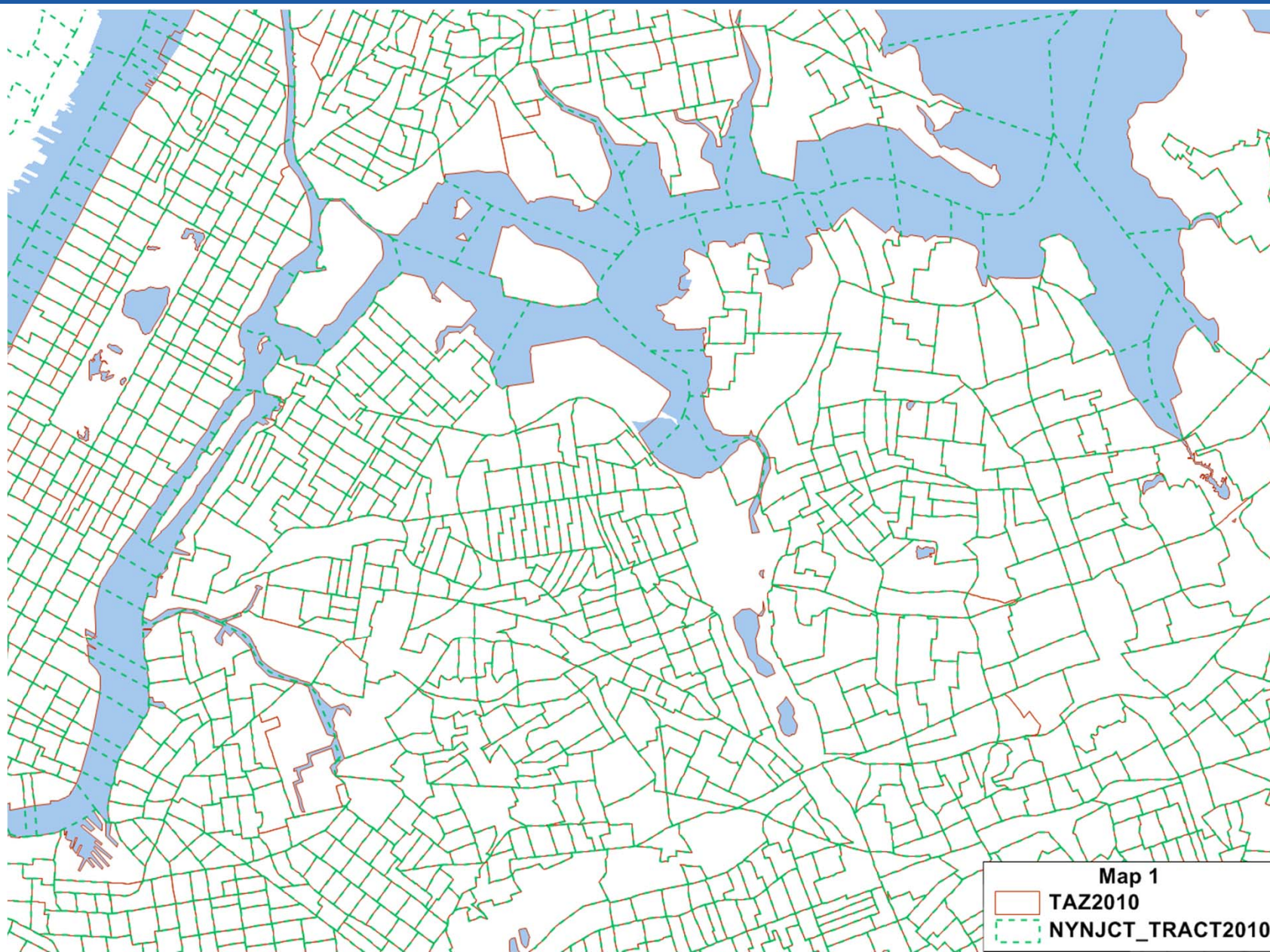
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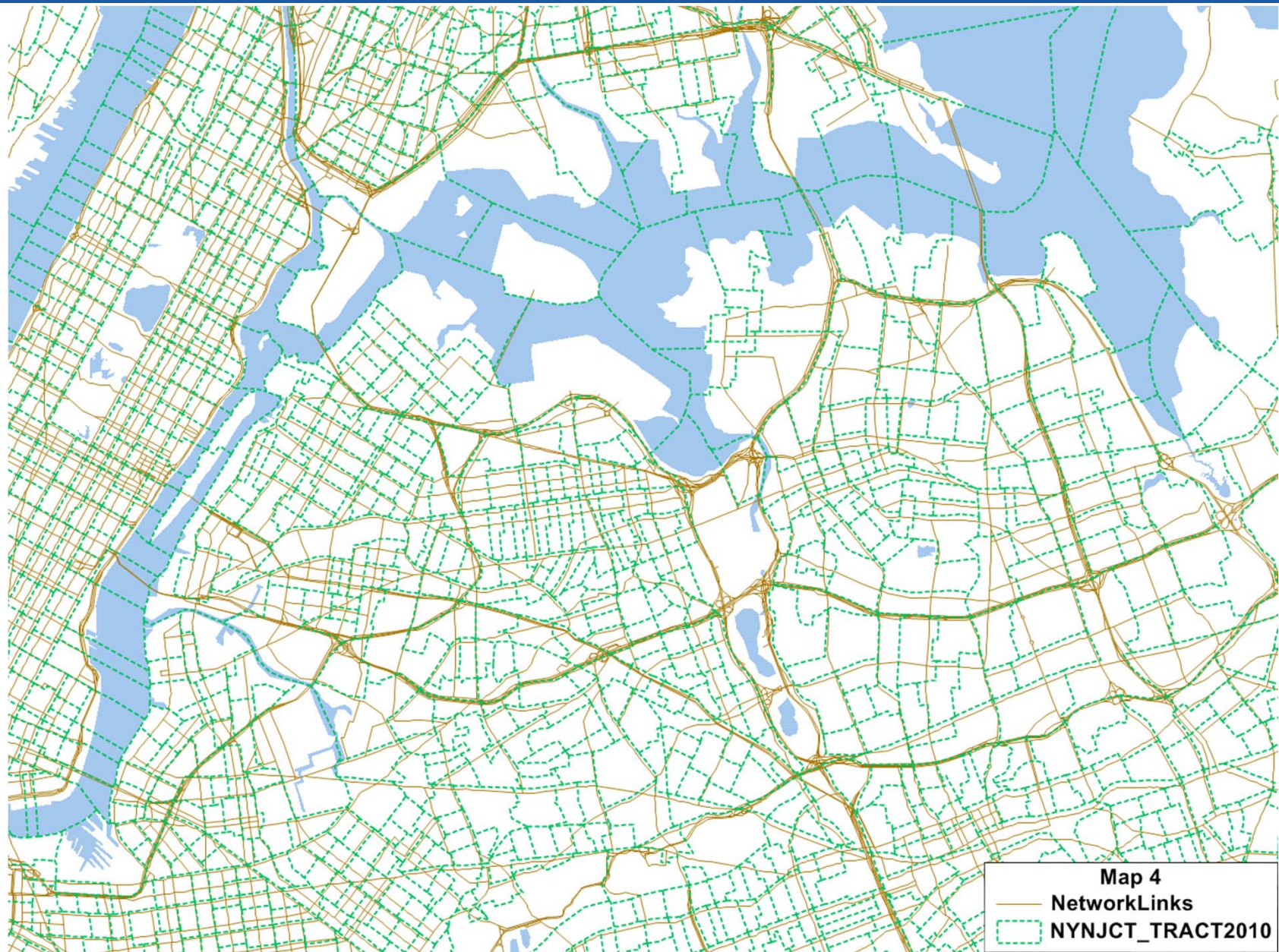
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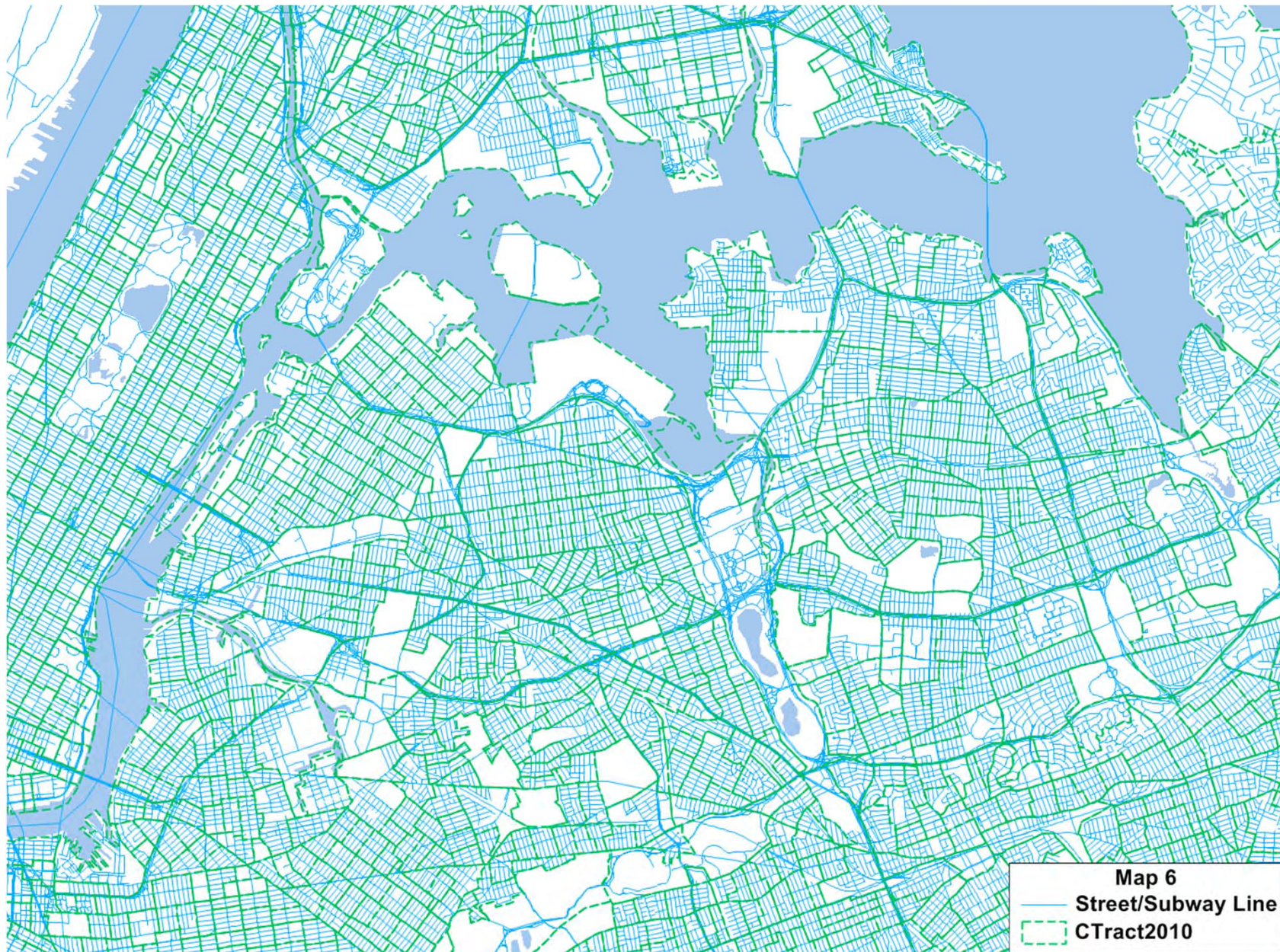


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Estimated # of Tier 1.2 TAZs

	# of Counties	GIS: Census 2010	# of Tracts: Census 2010	# of TAZs Current BPM 2010 TAZs	Max # of TAZs in Revised BPM 2010 TAZs		Add TAZs
NYMTC Counties	10	Yes	3,155	2,341	3,203	*	862
Other NY Counties	2	Yes	158	134	158		24
CT Counties	2	Yes	<u>401</u>	<u>397</u>	401		4
			3,714	2,872	3,762		890
		GIS: NJPTA					
NJ Counties	<u>14</u>	Yes	1,543	952	952		0
	28		5,257	3,824	4,714		890
* Includes 48 additional TAZs in Manhattan, due to split Tracts							

Current TAZ and Census Tracts

County ID	County	Census Tracts 2000	Census Tracts 2010	# of TAZ		County ID	County	Census Tracts 2000	Census Tracts 2010	# of TAZ
1	Manhattan	296	288	336		15	Passaic	85	100	38
2	Queens	672	669	437		16	Hudson	158	166	180
3	Bronx	355	339	273		17	Essex	212	210	224
4	Kings	783	761	515		18	Union	106	108	85
5	Richmond	110	111	85		19	Morris	99	100	39
6	Nassau	274	284	238		20	Somerset	62	68	21
7	Suffolk	313	323	236		21	Middlesex	177	175	63
8	Westchester	221	223	169		22	Monmouth	141	144	53
9	Rockland	58	65	38		23	Ocean	116	126	33
10	Putnam	19	19	14		24	Hunterdon	26	26	26
11	Orange	67	79	68		25	Warren	23	23	23
12	Dutchess	66	79	66		26	Sussex	40	41	24
13	Fairfield	209	211	213		27	New Haven	185	190	184
14	Bergen	163	179	130		28	Mercer	73	77	13
						Grand Total		5,109	5,184	3,824

2010 Census-Based TAZ System for BPM: Development Steps and Methods (Draft)

	STEP	NYMTC 10 Counties	NY 2 + CT 2	NJ 14	COMMENTS
TAZ GEOGRAPHY					
1	Source GIS boundary layers	NYMTC 2010 TAZ (derived from 2010 Census)	Census 2010 Tracts (clipped)	Existing BPM Tier 1.1 TAZ (derived from NJTPA)	
2	Prepare GIS components for merging. Review and revise NYMTC 2010 TAZ GIS layer	Keep all single 2010 census tracts Keep split tracts in Manhattan Join (most) split tracts Elsewhere Split (some) in Manhattan for Tier 1.1	Keep all single 2010 census tracts	Keep Tier 1.1 TAZs	
3	Merge GIS components into single GIS TAZ layer	New Temp = RegTAZ			
4	Renumber TAZ with Tier 1.2 ID by County Codes	Renumber TAZs: Starting in NYM_CO order: Continuous within Counties Adjacent numbering for split Tier 0 TAZ			
		New = RegTAZ_1.20			
TAZ DATA					
5	Develop Correspondence between Tier 1.1 TAZ IDs (3824 zones) and 2010 Census Tracts	Correspondence tables between Tier 1.1 TAZ IDs and 2010 Census Tracts (Area, residential and workplace allocation factors)			1. Correspondence between Tier 1.1 and 2000 Census Tracts 2. Correspondence between 2000 and 2010 Census tracts based on the Census relation file
6	Develop Correspondence between revised NYMTC 2010 TAZ and 2010 Census Tracts	Correspondence between NYMTC 2010 TAZs and 2010 Census Tracts	n/a	n/a	
7	Develop correspondence between Tier 1.2 TAZ and 2010 Census Tracts /Block Groups	Correspondence between Tier 1.2 TAZ and 2010 Census Tracts (Area, residential and workplace allocation factors)			
8	Develop correspondence between Tier 1.2 TAZ and Tier 1.1 TAZ IDs	Correspondence between Tier 1.2 TAZ and Tier 1.1 TAZ IDs (Area, residential and workplace allocation factors)			
9	Convert SED available by TAZ Tier 1.1 to new TAZ Tier 1.2 (Key attributes: HHs, Pop, Jobs)	2010 Census Tracts with splits in Manhattan	2010 Census Tracts	TAZ Tier 1.1	Attributes data source ? If existing TAZ Tier 1.1, need to start with a correspondence table; if 2010 Census (for NY+CT), need to retrieve the data.
10	Merge Data Bases with allocated Key attributes:	Zone Attributes and SED data by new TAZ Tier 1.2			
HIGHWAY AND TRANSIT NETWORKS					
11	Combine with 2010T Highway Network	Develop procedures to build Centroids and Centroid Connectors from new centroids to existing link network loading nodes. Apply the procedure to a 2010T highway network.			Assuming the conflated highway network is built, verified and filled with all attributes
12	For post-processing intra-zonal trips, develop Correspondence Table between split Tier 1.1.TAZs and respective Tier 1.2 TAZ IDs	Correspondence between split Tier 1.1.TAZ and respective Tier 1.2 TAZ IDs			Here, we ignore Tier 1.1 TAZs that are aggregated into Tier 1.2 TAZs -- losing respective inter-zonal trips that become intra-zonal.
13	Combine with Transit "All Links" GIS layer (walk network)	Develop procedure and build Walk access connectors			
MODELING PROCEDURES					
14	Renumber PTZ zones	Review and test transit modeling procedures			
15	Revise all zone-based look-up files	Test network preparation and assignment procedures, core and ancillary models			
16	Revise and edit all zone-based supporting GIS layers				
DOCUMENTATION					
17	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

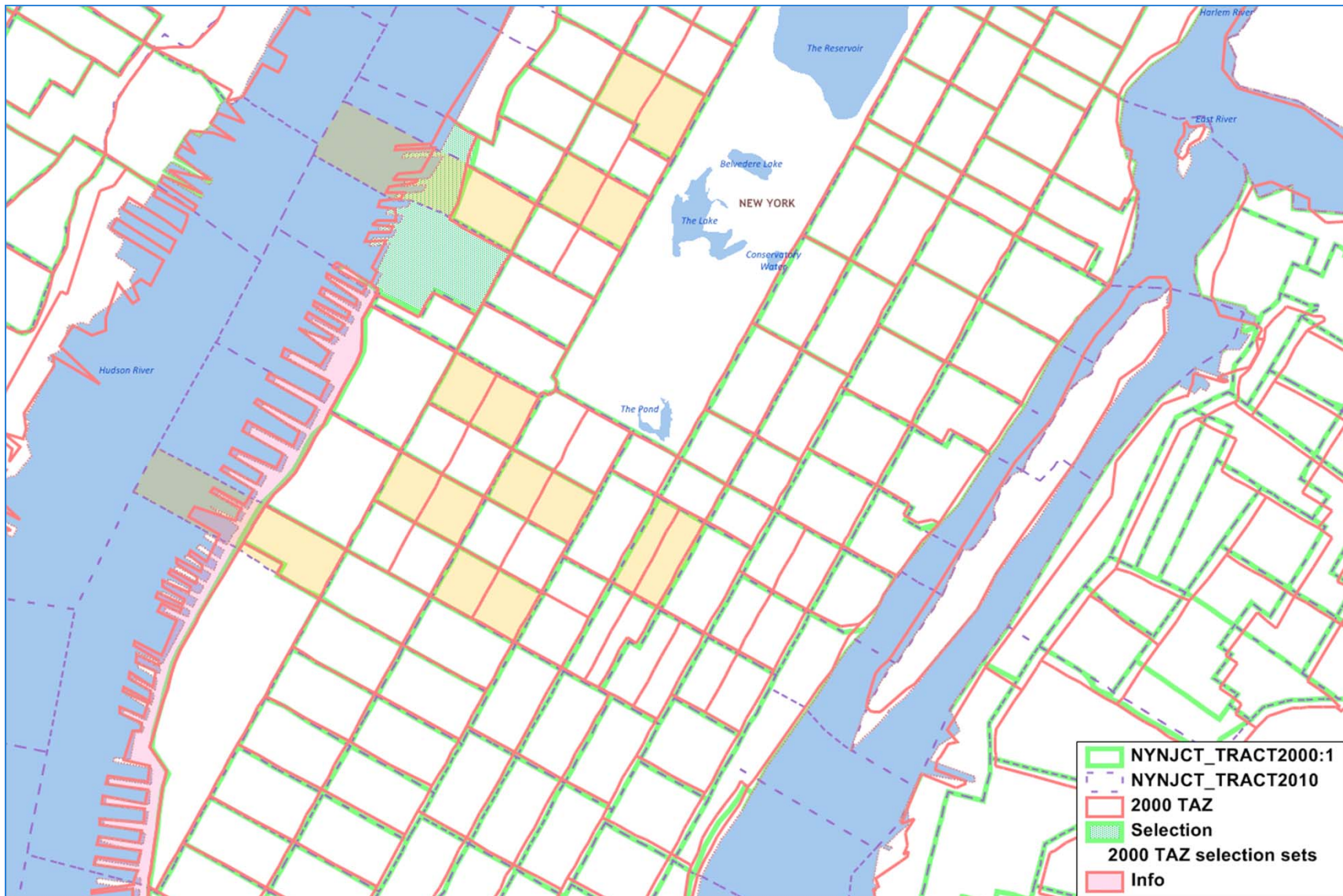
• **GEOGRAPHY**

- 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*
 - *Renumber 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 PORCEDURES**

- 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

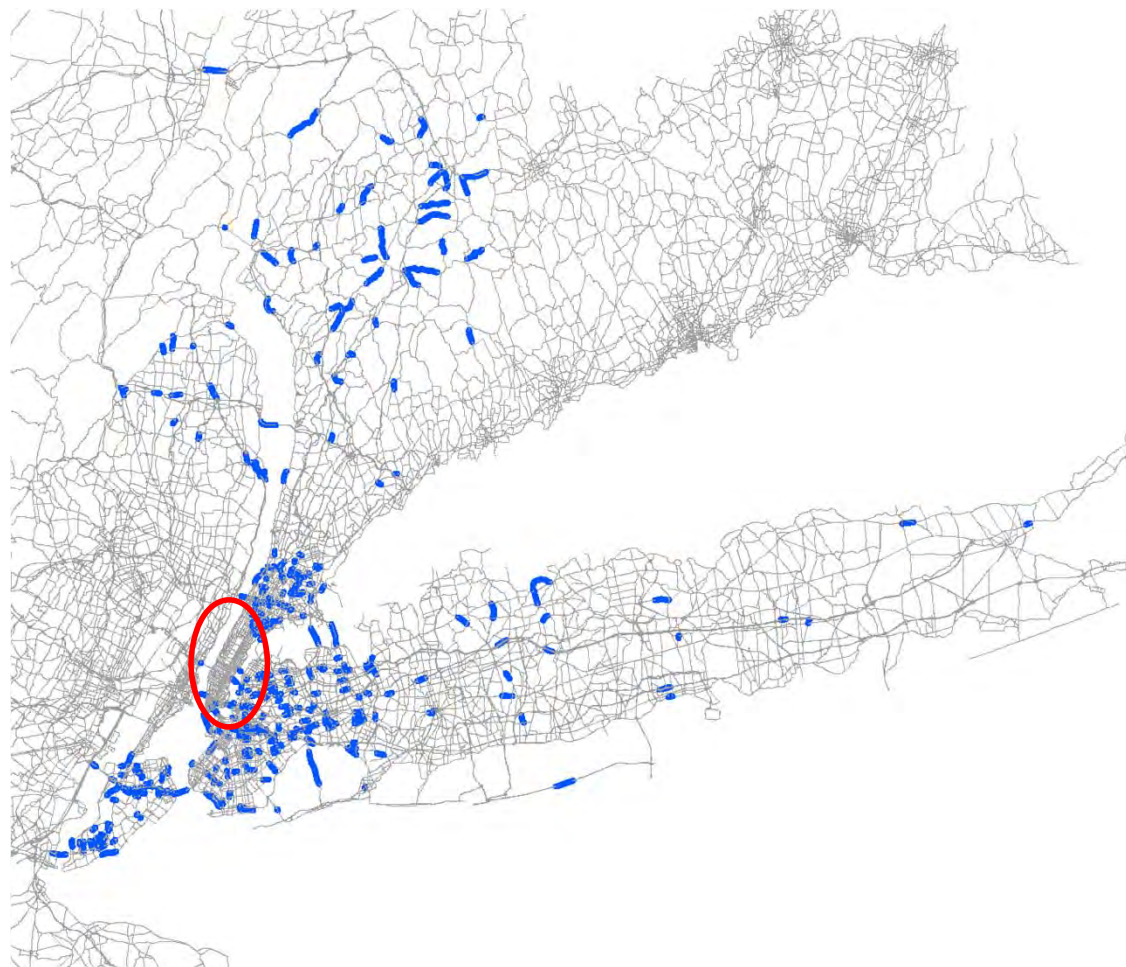
AGENDA ITEM F:

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

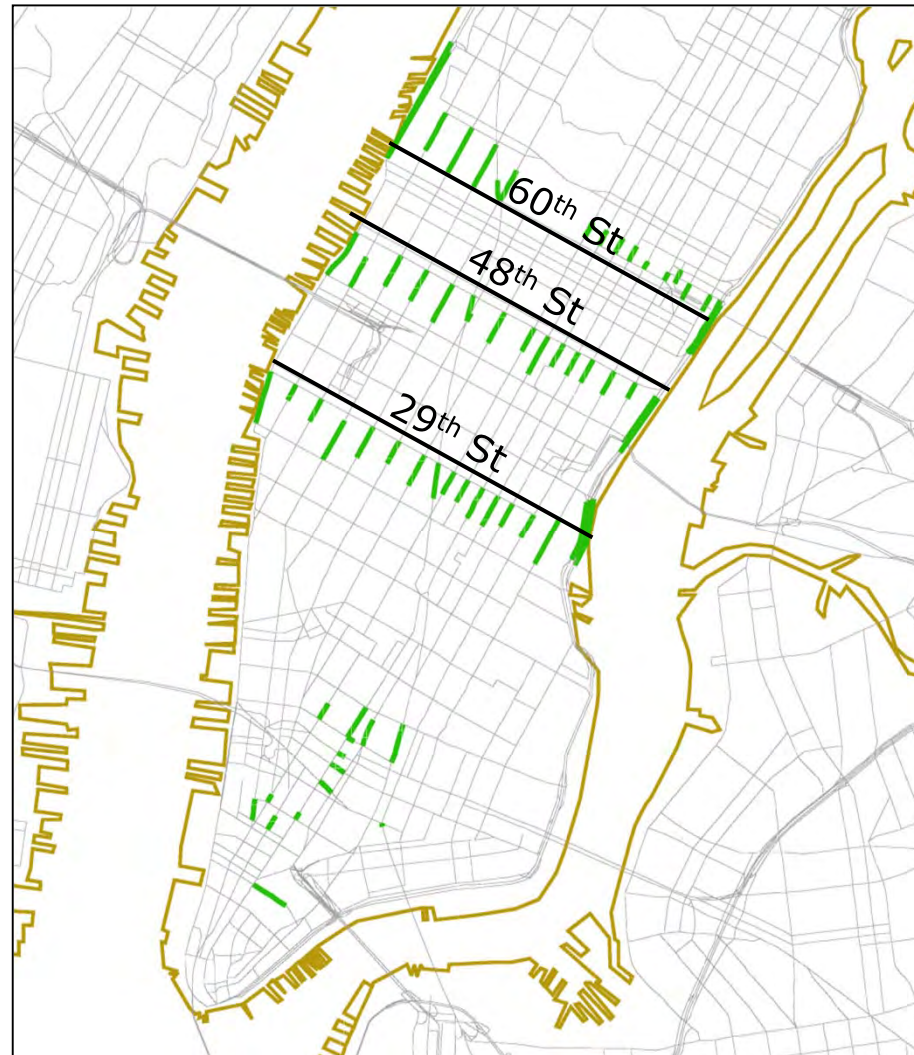
Methodology

- 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

Percent of new count locations	TOD	Commercial Classes
~33%	AM & PM only (MD estimated)	Truck & Commercial Van
~67%	AM, MD, & PM	Truck only

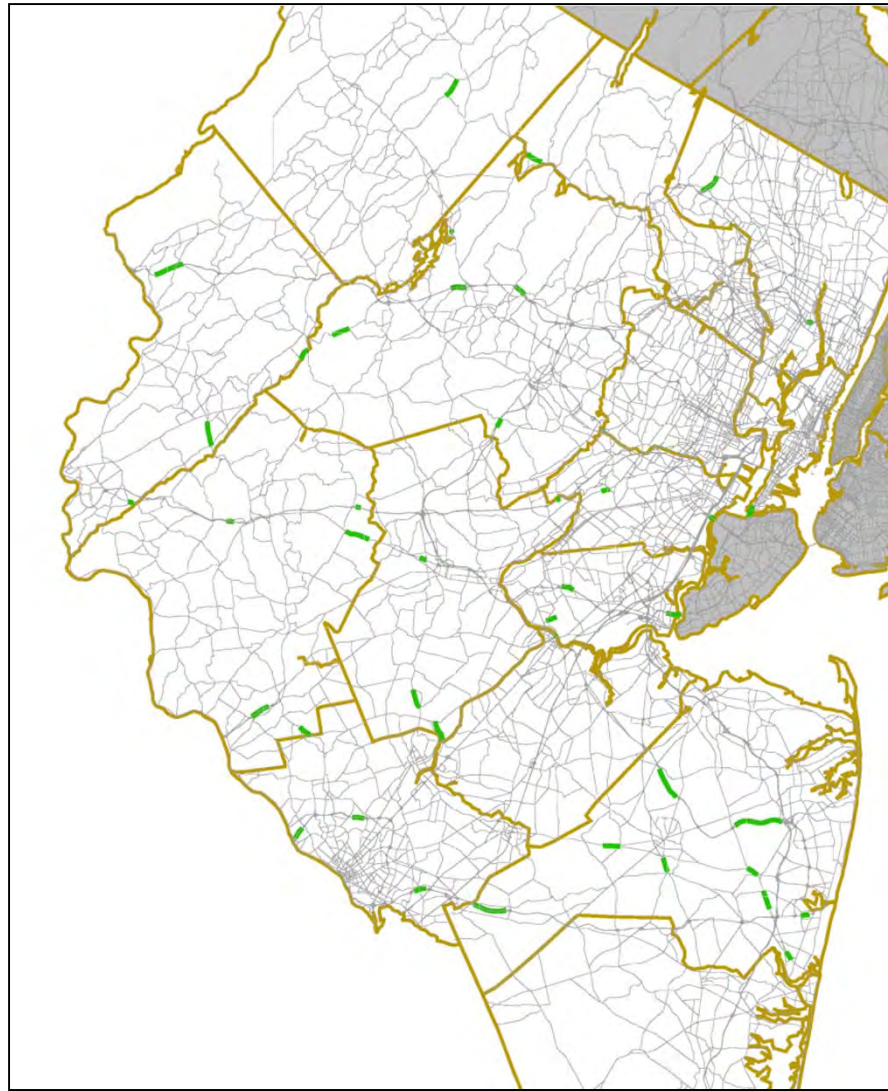
New CBD Count Locations



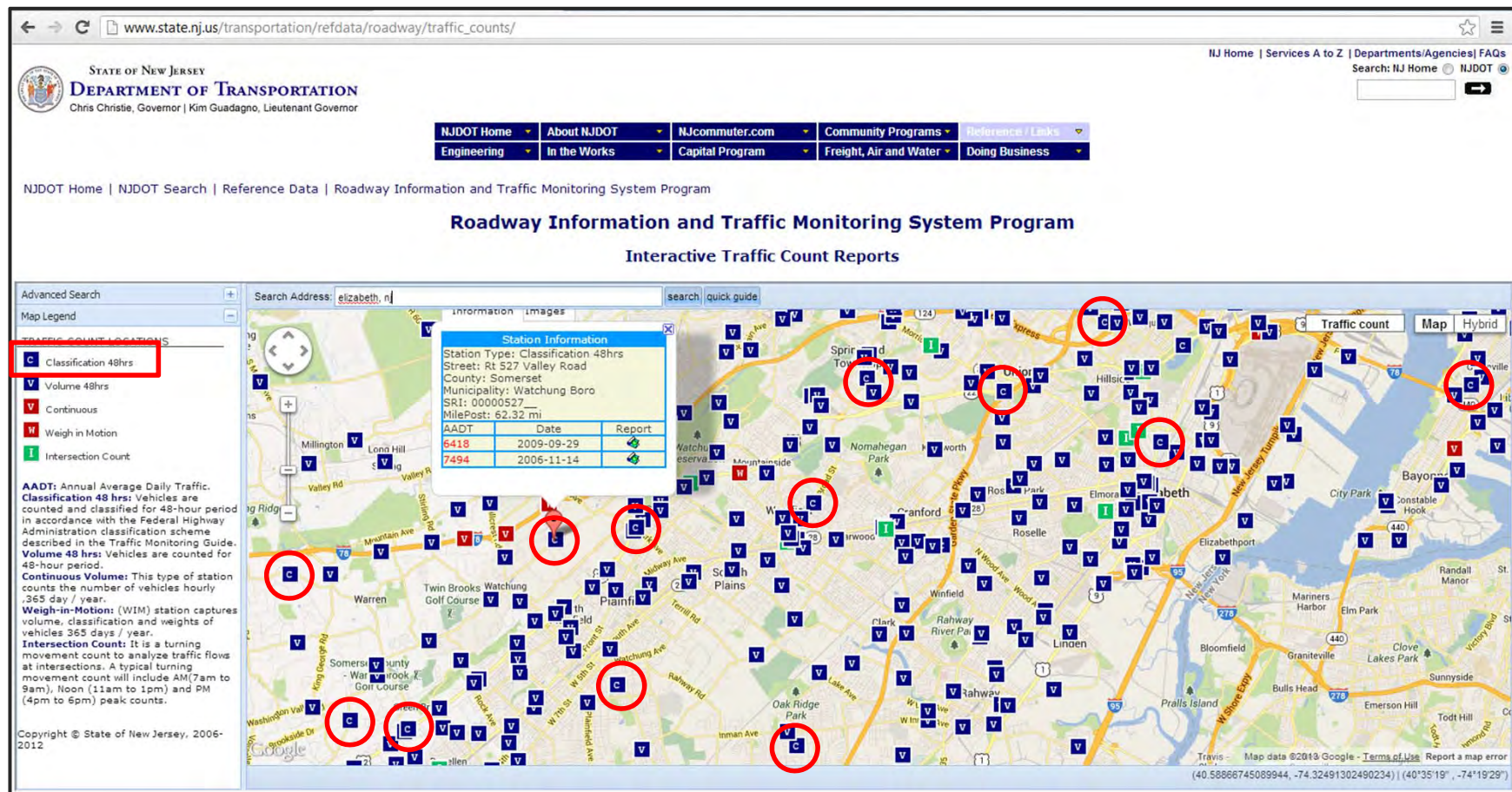
New Jersey Truck Data: Status

- 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

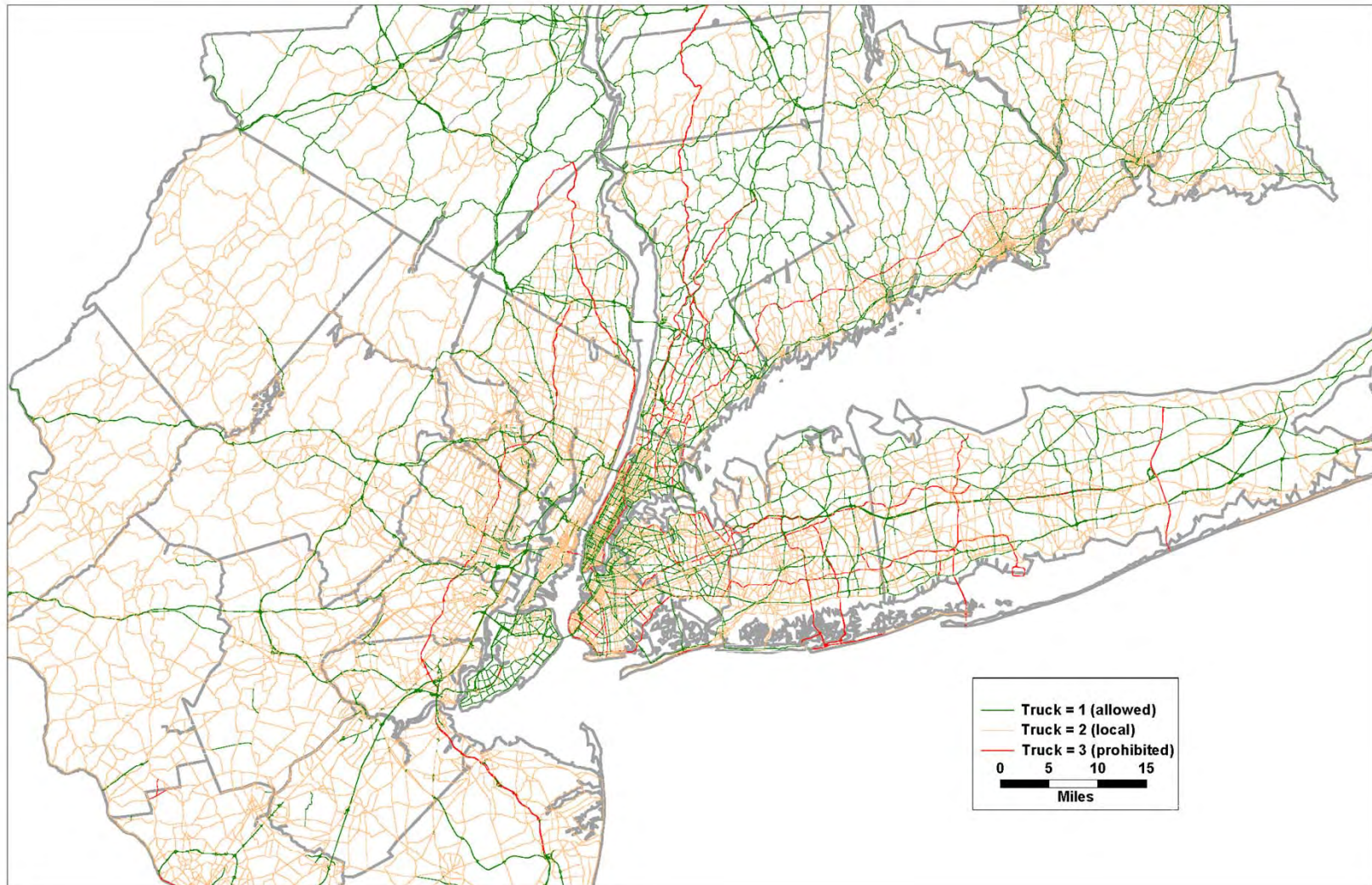
Truck Route Coding in BPM

- 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

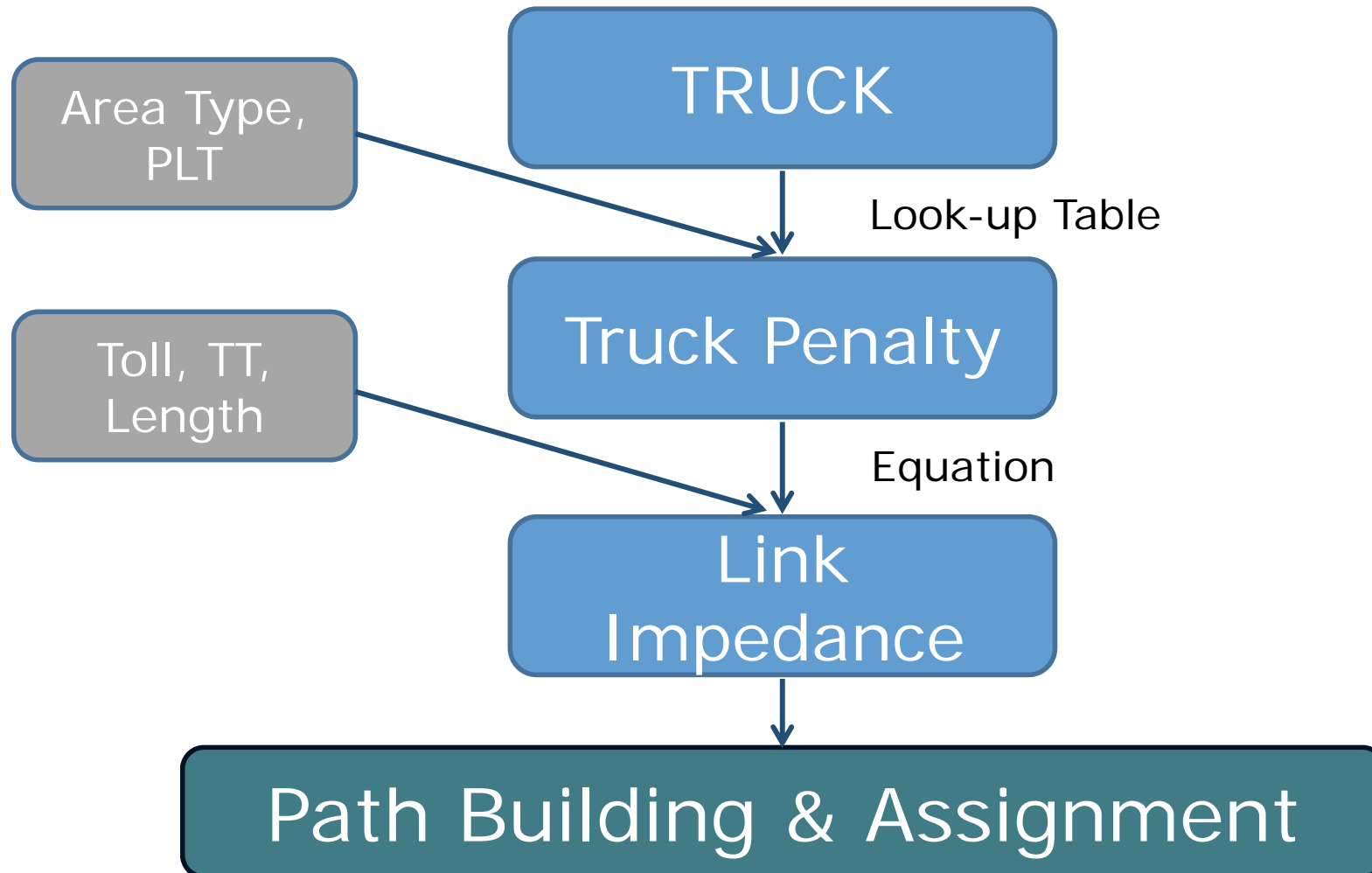
Truck Route Data

- 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



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

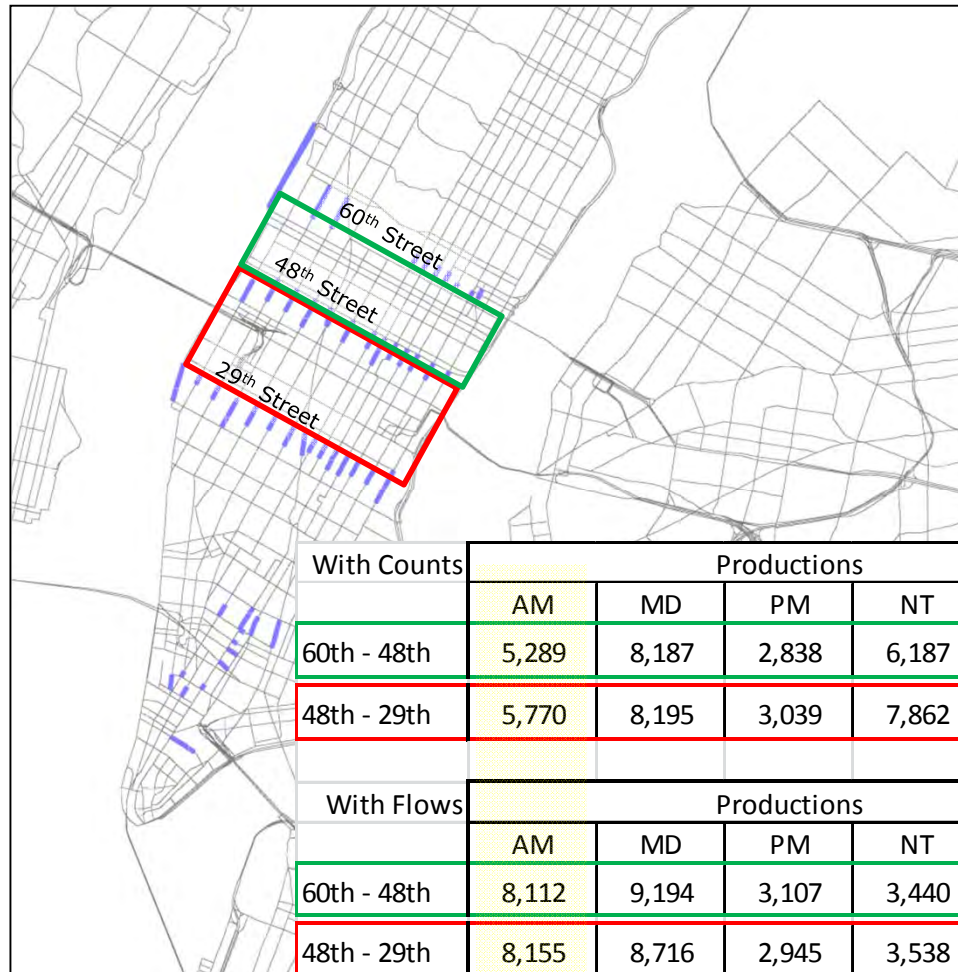
- Car occupancy counts at PANYNJ, source for CV
(dated October 2008, EB only)
- Currently testing ODME setup, still waiting for NJ counts for final results
- Preliminary tests on Manhattan shows reduction of over 100,000 out of 350,000 trips

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

Other Trip Generation Locations

Staten Island	Productions					Attractions				
	AM	MD	PM	NT	DY	AM	MD	PM	NT	DY
Using Counts and estimate of through traffic based on SLA	2,450	7,620	2,116	3,776	15,962	2,651	6,296	2,253	3,652	14,852
Using Modeled Flows	3,783	4,634	1,559	2,330	12,306	3,803	4,673	1,449	2,116	12,041
% Diff	54%	-39%	-26%	-38%	-23%	43%	-26%	-36%	-42%	-19%

Hunt's Point	Productions					Attractions				
	AM	MD	PM	NT	DY	AM	MD	PM	NT	DY
Using Count Data:	2301	2510	457	1345	6613	1295	2447	766	1383	5891
Using Modeled Flows:	1562	1894	600	660	4716	1673	1901	659	749	4982
% Diff:	-32%	-25%	31%	-51%	-29%	29%	-22%	-14%	-46%	-15%

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

- 5 Code 9: Both directional hourly and daily volumes are synthesized due to lack of available data.
- 4 Code 2: Daily volumes are available from actual counts and hourly volumes are synthesized.
- 4 Code 3: Observed or agency estimates are available for two-way ADT/AADT and directional and daily volumes are synthesized.
- 4 Code 7: 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.
- 4 Code 8: 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.
- 3 Code 5: Daily and hourly volumes are available from actual counts for the BA direction and hourly and daily volumes for the AB direction are synthesized.
- 3 Code 6: Daily and hourly volumes are available from actual counts for the AB direction and hourly and daily volumes for the BA direction are synthesized.
- 3 Code 4: Observed two-way hourly and daily volumes are available and direction hourly and daily volumes are synthesized.
- 2 Code 10: 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.
- 2 Code 11: 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.
- 1 Code 1: Both hourly and daily volumes are available from actual counts.

All	COUNTY					
CODE	6	7	8	9	10	Total
5	22	30	22	10	13	97
4	33	8	12	38	4	95
3	7	8	6	2	0	23
2			2	1		3
1	179	138	182	64	45	608
Total	241	184	224	115	62	826

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

Update needs = 218

Priorities by type

Prio=1	COUNTY					
CODE	6	7	8	9	10	Total
5	2	1	4	2	7	16
4	2		2	13	2	19
3		2				2
2			1			1
1	28	27	17	12	21	105
Total	32	30	24	27	30	143

Prio=2	COUNTY					
CODE	6	7	8	9	10	Total
5	10	18	7	6	5	46
4	13	8		10	2	33
3	3	2	3	1		9
2			1	1		2
1	95	71	70	25	16	277
Total	121	99	81	43	23	367

Primary needs =
 $38 + 46 + 49 = 133$

Secondary needs = 44

Priority 1 = Inter County SL

Priority 2 = Intra Count SL

Priority 3 = Other

Year < 2005

Prio=1	COUNTY					
CODE	6	7	8	9	10	Total
5	2	1	4	2	7	16
4	2		2	11	2	17
2			1			1
1	4	10	6	2	9	31
Total	14	18	21	24	28	65