AGENDA B:
PROJECT SCHEDULE - GANTT CHART / COORDINATION WITH TH-TDFM

Bob Donnelly

Project Status / Schedule

- See GANT Chart – Schedule / Progress
- About 30% complete, generally on schedule
- Synchronization with TH-TDFM 2010 Update – to be completed in December 2012
- Focus on
  - Extended Tier 1 Zones System (SED, GIS layer, Highway and Transit network)
  - Adoption of NJTPA NJ highway network in BPM 2G
  - Special Generators incorporation
  - Flexible zones system for model procedures
  - Evaluation of data and methods for Task 6 Highway Network Conflation and Attribution and supporting PSA2 initiative

AGENDA ITEM C, D:
UPDATE SCREENLINE TRAFFIC AND VEHICLE CLASS COUNTS

Kyle Winslow

Vehicle Classification and Traffic Counts

- **Task 3 – Update Screenline Traffic Counts**
- Compile Available Traffic Volume Sources - completed
- Review Sources - completed
- Reconcile 2005 and 2010 Screenline Databases
- Update Screenline Database

Task 4 – Update Vehicle Classification Counts

- Compile Available Vehicle Classification Sources
- Review and Reconcile Sources
- Update Classification Database

Vehicle Classification and Traffic Counts

Vehicle Classification Files

	Received	Observations	Screenline ID	Direction	Year	Daily	Hourly	Monthly	Vehicle Class	Coordinates	
NYSDOT	Y	27888/68712	N	All	2010	Y	Y	N	A	N	
NJTPA/ NJRTM	Y	125 to 150	N	All	2007 to 2009	Y	N	N	N	N	
PANYNJ	Y	2304	N	EB /toll direction only	2010	Y	Y	Y	A	N	
NJTA	Y		N	Toll	2009 to 2012	Y	Y	Y	N	N	
DRJTBC	Y	168	N	WB/ toll direction only	2010	Y	Y	N	A	N	
NYCDOT	Y	5808	Y	All	2010	Y	Y	N	A	Y	
MTA	Y	456	N	Both	2010	Y	Y	N	A	Y	

Traffic Count Files

NJGSP	Y	78 sites	Created	Toll direction only	Oct-11	Y	Y	N	N	Created	
NYCDOT	Y	3393	N	ALL	Jul-05	Y	Y	N	N	N	

Vehicle Classification and Traffic Counts

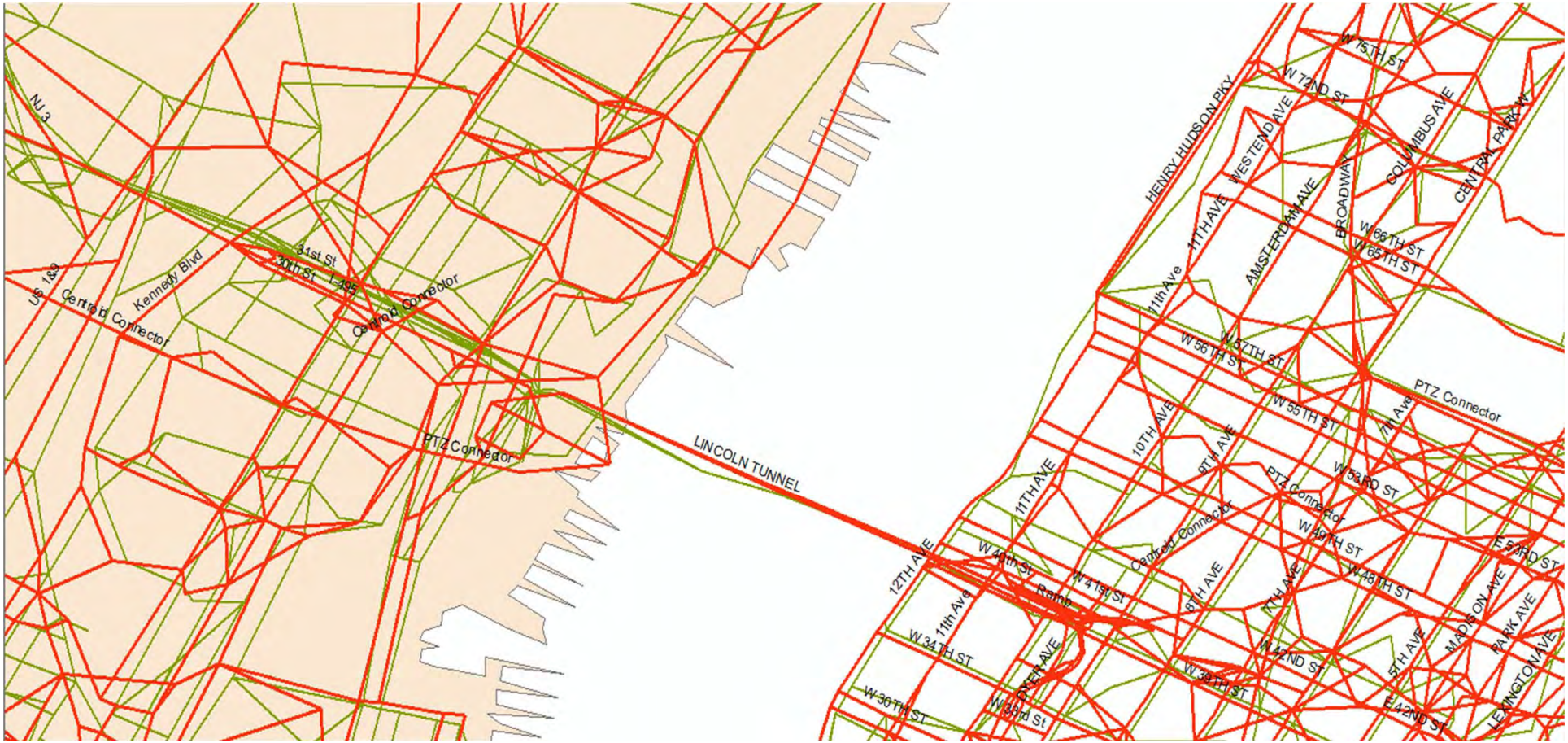
- **Tasks 3 &4– Update Screenline and Classification Traffic Counts**
- Continue to compile data sources - should be completed mid to late September
  - NJ Sources especially
- Develop coordinates/screenline id's – in progress
- Create common format for traffic counts – in progress
- Develop traffic factoring program
  - Have obtained source code for TRAVEP and am working to document to adapt to BPM update
- Update Screenline/Class Databases

Screenline Volumes - NJ

- NJTPA/NJRTM-E
  - Approximately 3,500 records
  - NJDOT Traffic counts primarily from 2007 to 2009
  - ADT Only
  - No Projection System
  - Joined Spatially
  - Differences too much to effectively join
  - Manual import of major screenline volumes – approximately 100 to 125 counts

Geographic Differences

2005B vs NJRTM-E



AGENDA ITEM E:
DRAFT WORK PLAN FOR REGIONAL HIGHWAY DEVELOPMENT

Bob Donnelly

Objective: Improved functional network for modeling - Road Attributes

- Same concept of Regional Highway Network modeling
  - Coverage – 28 Counties: NY, NJ, & CT mega-region
  - Level of Modeling – Good for Major Arterials and above (but includes all Minor Arterials)
- Improve geographic / topological accuracy of highway network
- Develop the data to fully populate the BPM-specific link attributes structured in the BPM to support PLT link type estimation
- Apply with Existing BPM highway network procedures to developed more precise capacity and free flow speed values used in assignment
- Extend the set of link attributes with New items, such as Posted Speed, Grade
- Establish linkages to external road data sources for ongoing network maintenance and updates

Relation of highway network to other components of BPM

- Regional Network – support arterial + level modeling
- Internal Zone / TAZ system
- External stations
- Micro Analysis Zones (MAZs) – possible future adaptation
- Transit route coding, either
  - “All Links” layer(s) – current
  - On highway network coding – possible future
- Count data – link and screenline volumes
- Travel speeds/time – system performance data

GIS base mapping & data integration

- **Ideal**: Road Network consistent with accurate base map and linked to sources of relevant geospatial data
  - Road topology – Major highways, arterials and local streets
  - Road attributes – capacity, operations and performance related
  - Other possible
    - Jurisdictional, postal, other boundaries
    - Landmarks, places
    - Address ranges
- **Conflation** = data set fusion, including:
  - Topological congruence – nodes and lines with shape
  - Geo-spatial data joins of GIS entities
  - Transfer (tagging) of attribute data from one source to another

User Requirements / Restrictions – Questions to Consider

1. Export link and node attributes to a "road inventory data base" for checking and updating attributes ?
2. Export topology and attributes to external file, for use directly or indirectly with other travel demand modeling software (e.g.. Cube) ?
3. Could the developed regional network be used base for DTA or micro-simulation ?
   - a) with TransCAD or TransModeler
   - b) other package (e.g. VISIM)
4. Sub-Area detailing, selection of "local and collector" not in the Regional network to incorporate
5. Will we be able to apply some of our network algorithms (MAZ or other network related data extraction)?
6. Can we publish pictures of the network on the Web
7. Does any “derived “network that we create using the NavTeq data have the same licensing restrictions
8. Can other GIS packages such as ArcGis or vendor unities be used to help us in the network development task?

GIS Data Bases for BPM Highway Development

		Views:							
	GIS Data Bases Obtained	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1	NYBPM 2005 Highway Network - Tier 0 - 2G	X							
2	NYBPM 2010 Highway Network - Tier 1 - 2G	X		X		X		X	
3	NYBPM 2005 Transit All Links - Tier 0 - 2G		X						
4	NYBPM 2010 Transit All Links - Tier 1 - 2G		X						
5	NYBPM 2005 TAZ - Tier 0 - 2G								X
6	NYBPM 2010 TAZ - Tier 1 - 2G								
7	NJTPA 2005 Network (TH-TDFM)								
8	NJTPA 2010 Network (current?)								
9	Census Tiger Line - CT					X			
10	ConnDOT Statewide Planning Network								
11	NYS Simple Streets								
12	NYS Full Streets				X	X	X		X
13	NYSDOT Road Inventory						X	X	
14	NavTeq (NYC)			X	X				
15	Census 2000 Tracts								
16	Census 2000 Blockgroups								
17	Census 2010 Tracts								
18	Census 2010 Blockgroups								
19	NYMTC 28 Counties								

NYBPM Highway Network
Base Mapping and Development of Link Attributes

			Source of External Data: Road Information					
	NYBPM Highway Network Link Attributes	Time of day indicators	Current BPM2-G	Current TH-TDFM	NYS Full Streets	Roadway Inventory	NavTeq	Priority - for Update
A	**Topology - External linkages**							
	Node / endpoint long/lat		**YES**	**YES**	**YES**	**YES**	**YES**	1
	Link / nodes and Shape		**YES**	**YES**	**YES**	**YES**	**YES**	1
	Distance		**YES**	**YES**	**YES**	**YES**	**YES**	1
	TAZ		**YES**	**YES**				1
	ID's - link to other Road data		**YES**	**YES**	**YES**	**YES**	**YES**	1
	ID's - link to Transit route system		**YES**	**YES**	**YES**	**YES**	**YES**	1
B	**Basic Attributes**							
	ID			**YES**	**YES**	**YES**	**YES**	1
	Name 1,2,3			**YES**	**YES**	**YES**	**YES**	1
	Direction			**YES**		**YES**	**YES**	1
	Tolls - Auto	Y	Avg	TOD	?	?	?	1
	Tolls - HOV2, HOV3	Y		TOD	?	?	?	1
	Tolls - Truck	Y	Avg	TOD	?	?	?	1
	Functional Class			**YES**	YES?	YES?	YES?	1
	Number of Lanes	Y	TOD	TOD	no	**YES**	YES	1
C	**BPM Specific Attributes - Existing**							
	Design Standard			YES		SOME		2
	Median Indicator			**YES**		**YES**	**YES**	2
	Access Control Type			YES		YES?		2
	Signal Density			YES			YES?	2
	Driveway Spacing			YES				2
	Turn Lane Indicator			YES			**YES**	2
	Ramp Type			YES		YES?		1
	Special Link Type			YES		SOME		1
	HOV/Truck restrictions	Y	TOD	TOD		Daily	YES?	1
	Parking Indicator	Y	TOD	TOD		Daily		1
	Truck Routes			YES		**YES**		1
D	**BPM Specific Attributes - New**							
	Posted Speed			YES		**YES**	**YES**	1
	Grade			YES		**YES**		2
	Turn penalties (intersections)			YES			**YES**	2

Work Plan – Approach Summarized

- Three Stages – incremental improvement, to have networks and working model available at the end of each
  - Stage 1: NYBPM 2010 = TH-TDFM 2010 — November 2012
  - Stage 2: NYBPM 2010 — April 2013
  - Stage 3: NYBPM 2012(?) — December 2013 ?
- Focus on NY 12 Counties, using unrestricted public data
- Establish formal relationship to NJ and CT models and network information
  - NJTPA
  - ConnDOT
- Resources to implement
- BPM 2010 Update: Task 6 Highway , Task 13 Procedures
  - PSA2-11-25: GIS/ Highway Attributes
  - Other: Task Orders to be determined

Work Plan – Approach Summarized

- Three Stages – incremental improvement, to have networks and working model available at the end of each
- Stage 1: NYBPM 2010 = TH-TDFM 2010
  - NJTPA highway network integrated with BPM 2G for NJ highway network and transit All Links
  - November 2012
- Stage 2: NYBPM 2010
Stage 2: NYBPM 2010
  - Conflated NY 12 network (to NYS Full Streets), Attributed with Priority 1 attributes (mostly from Road Inventory), re-aligned TAZ boundaries, Future Year network building methods, and networks Updated for forecasting
  - April 2013
- Stage 3: NYBPM 2012(?)
  - Refinements to Conflation, further Attribution of links and intersections with Priority 2 attributes, enhanced PLT capacity /free flow process, Migration of Transit RTS coding to new All Links (Full Streets), methods for updating NJTPA and CT network updates

AGENDA ITEM F:
BPM-3G: APPLICATIONS DEVELOPMENT AND TESTING

Yuri Teleshevsky

NYBPM-3G Development

Task 1 reference. Trail: N; Task: 13.1

- Development of Tier 1.1 Zone System
- Development of processing Special Generators (SG) in NYBPM
- Modification of NYBPM GIS elements
  - All GIS layers based on Tier 1.1 TAZ zone system
  - Special Generators are incorporated in GIS Layers
- Modification of NYBPM input data files
  - SED and others

NYBPM-3G Development (Cont.1)

Task 1 reference. Trail: N; Task: 13.1

- Development of Tier 1.1 Zone System involves:
  - Adding Tier 1 zone details used in TH-TDFM 2005 (done)
  - Split selected TAZs in Manhattan (develop)
  - Aggregation of selected TAZ in New Jersey (develop)
  - Incorporating new SG zones representing air passengers (done)
- Updated GIS Model elements
  - TAZ Geographic Layer – add/split polygons
  - Highway and Transit GIS Link Layers
    - Add Centroids and Connectors according to additional TAZs
    - Reconfigure Centroids and Connectors to match TAZ borders
  - Incorporate additional Special Generators zones

NYBPM-3G Development (Cont.2)

Task 1 reference. Trail: N; Task: 13.1

- Special Generators Processing in NYBPM-3G
  - Implement SG processing employed in TH-TDFM 2005
  - Enhancements to SG processing in NYBPM-3G
    - Include transit Drive Access trips to PNR into Highway assignment
    - Add SG's representing exclusively airport air passengers

Special Generators in NYBPM

SG	TAZ Tier 0 | 1 | 1.1			Zone ID	SG Name
AIRPORTS					**Color Key:** New added SG zone
JFK	x	x	x	605	JFK General
		x	x	3590	JFK Cargo Terminal
			x	3814	JFK Arriving/Departing Passengers
LGA	x	x	x	407	LGA General
			x	3815	LGA Arriving/Departing Passengers
EWR	x	x	x	3000	EWR General
		x	x	3588	Newark Airport North Cargo Terminal
		x	x	3589	Newark Airport South Cargo Terminal
			x	3816	EWR Arriving/Departing Passengers
SWF	x	x	x	3591	SWF General
			x	3817	SWF Arriving/Departing Passengers

Special Generators in NYBPM (Cont.)

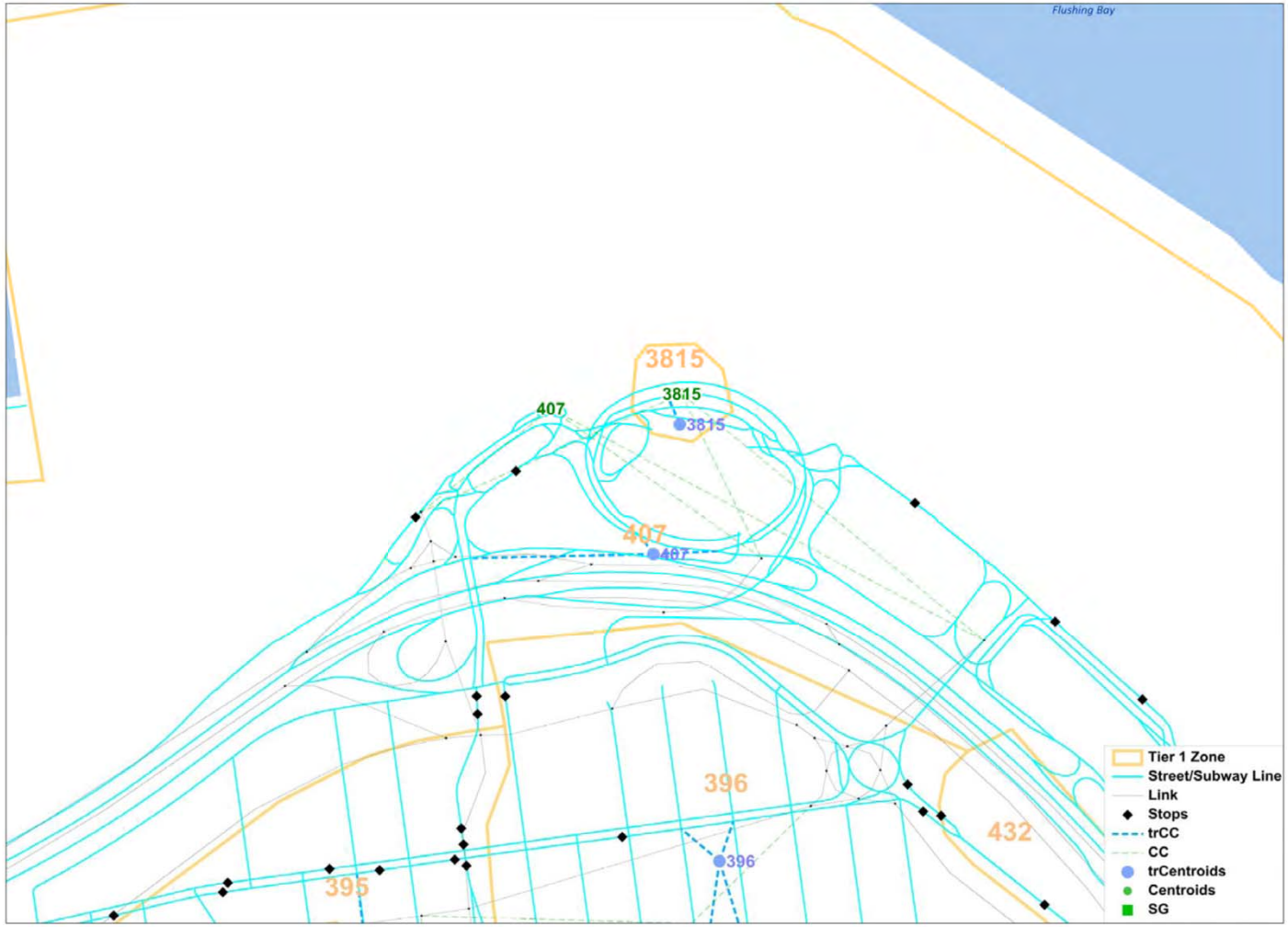
SG	TAZ Tier 0 | 1 | 1.1	Zone ID	SG Name

TRUCK TERMINALS

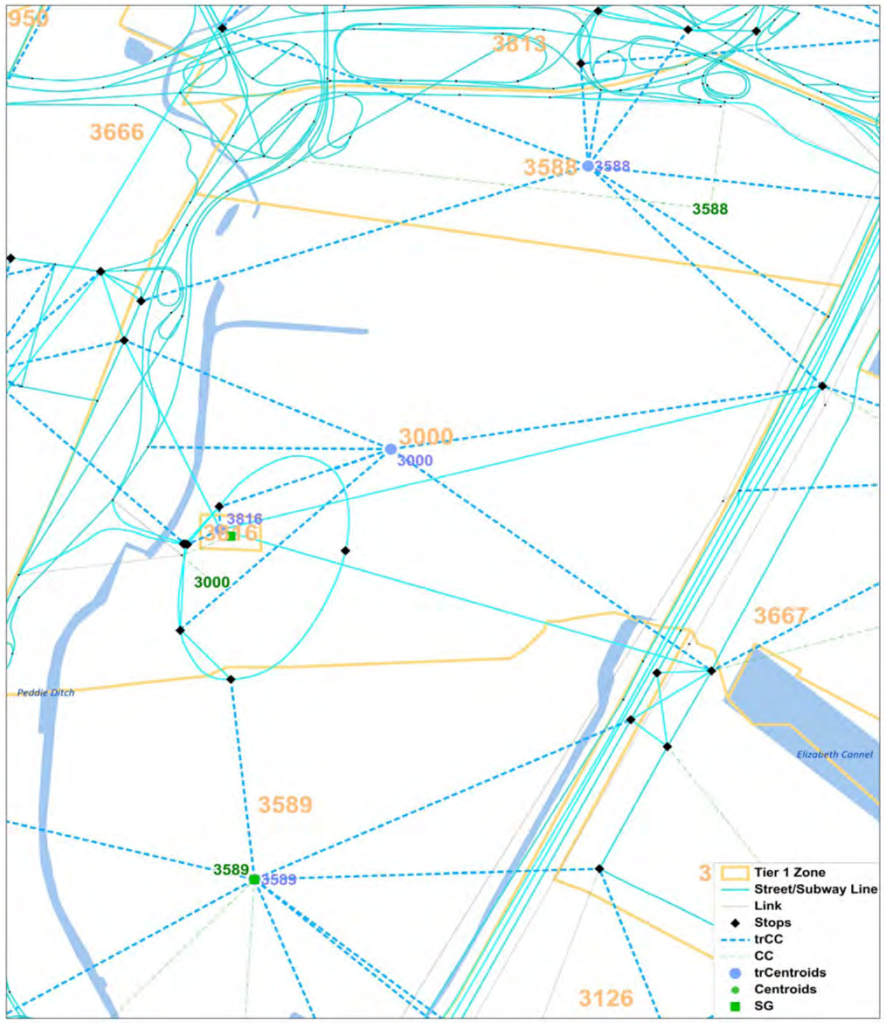
x	x	x	2816	Port Jersey Trucks
x	x	x	2817	MOTBY - Military Ocean Terminal at Bayonne
	x	x	3587	Howland Hook (New York Container Terminal)
	x	x	3592	South Brooklyn Marine Terminal
	x	x	3593	Red Hook Container Terminal
	x	x	3667	Port Newark Container Terminal
	x	x	3750	Port Elizabeth Marine Terminal

JFK Airport Special Generator

LGA Airport Special Generator



EWR Airport Special Generator



NYBPM-3G Testing

Task 1 reference. Trail: N; Task: 13.1

- Tests of Processing Special Generators
  - started based on NYBPM-2G Tier 0 system;
  - will continue with Tier 1.1 TAZ system developed.
- Testing of Updated Tier 1.1 Geographic layers and Input data files
  - System-wide: involves all tasks/functions of the Model;
  - Part of the on-going testing of “FlexZone” functionality;
  - Tests conducted on a by-Task basis.

NYBPM-3G Testing (Cont.)

Task 1 reference. Trail: N; Task: 13.1

- Testing of Updated Tier 1.1 Geographic layers and Input data files
  - NYBPM Tasks that have been tested for Tier 1 zone system:
    - “Build Scenario Network”;
    - “Build Time Period Highway Networks”;
    - “Highway Assignment and Skims”;
    - “Trucks and Externals”

AGENDA ITEM G:
SPECIAL GENERATORS - AIRPORTS AND INTER-MODAL (TRUCK) FACILITIES

Renee Alsup

Motivation

- Originally developed to capture important Trans-Hudson traffic
- Some ports have more detailed forecasts available than what comes from the Truck & Externals model
- Air passenger trips are not included in the current BPM 2G model

Data - Current Set of Special Generators

- Airport Passengers:
  - JFK, LGA, EWR, SWF
  - From RASD survey (2005) and forecasts based on PANYNJ Airport Capacity Study and PA enplanement forecasts
- Truck Facilities with Data:
  - Port Newark, Port Elizabeth, Port Jersey, EWR Cargo, Howland Hook
  - Data from PANYNJ freight forecasts and O-D survey (2009) with forecasts for 2005, 2007, 2010, 2015, 2020, 2025, 2030, 2035
- Truck Facilities without Data:
  - MOBTY, JFK Cargo, South Brooklyn Marine, Red Hook
  - Placeholders in case data becomes available

Methodology - Mode Distribution

- Airport Auto Trips (SOV, HOV2, HOV3+, Taxi)
  - RASD survey modes are drop-off, park, rental car, taxi, limo/car service
  - RASD survey party size is used to determine SOV vs. HOV
  - SOV – park and rental car for party size of 1
  - HOV2 – drop-off for party size of 1 and park or rental car for party size of 2
  - HOV3+ - drop-off for party size >1 and park or rental car for party size > 2
  - Taxi – taxi and limo or car service
- Freight/Cargo trips all map to Truck mode

Methodology – Trip Tables

- Special Generator trips added to existing trip tables
- Some freight zones have additional trips from Trucks & Externals procedures
- We will update inputs for Trucks & Externals where needed for Special Generator Zones

Status

- Truck Trips
  - Current data set can be used pending confirmation from PANYNJ that forecasts and OD-survey results are most recent and accurate
- Airports
  - Still in the process of developing methodology to generate input tables
  - RASD survey is only for departing passengers, so additional processing is required to estimate arriving trips

AGENDA ITEM H:
DRIVE-ACCESS TRANSIT - INCORPORATION IN HIGHWAY ASSIGNMENT

Renee Alsup

Motivation

- Model currently includes transit drive-access trips, but the driving portion is not assigned to the highway network
- Done in previous TH-TDFM model but only for 2 specific PNR stations
- Transit procedures have been updated to make this process more clear

Data

- Transit skims include parking skim for AM and MD with node that Drive-access trip parked at
- Using the number of drive access trips at each OD pair and the node where they parked, we get trips from the origins to the parking node

Methodology

- First combine parking matrix and trip tables into one matrix
- Export the matrix with fields for parking node and drive-to-transit or drive-to-commuter rail trips
- Select only records with a parking node and a trip and import the data into a new matrix (other selection criteria can also be applied)
- **Tag all parking nodes with the TAZ based on the TAZ GIS layer**
- Convert the parking node index into a TAZ index

Methodology (Continued)

- Split trips into 80% SOV and 20% HOV2
- HOV2 trips are assumed to be KNR, so mirrored trip is also added (return from drop-off)
- Add those trip tables to the AM (or MD) highway trip tables
- Transpose the trip tables and add them to the PM (or NT) highway trip tables
- Important assumptions:
  - Parking nodes are mapped to a TAZ, so the trip goes to the centroid instead of the actual parking node
  - Mode split is 80% SOV and 20% HOV2
  - Drop-off trips are HOV2 on the trip there and the return trip
  - All AM trips happen in reverse in the PM period and all MD trips happen in reverse in the NT period

Status

- A preliminary version of the code has been written and tested
- Still trying to develop additional selection criteria for which trips to be included
  - Drive trip length (> 1 mile)
  - Capacity of the parking node
  - Distance of the parking node from the centroid

AGENDA ITEM I:
TH-TDFM: SURVEY-BASED TRANSIT ASSIGNMENT CALIBRATION (NJ)

AECOM – Jeff Roux

AGENDA ITEM I:
TH-TDFM: SURVEY-BASED TRANSIT ASSIGNMENT CALIBRATION (NJ)

AECOM – Jeff Roux

Big Picture

- BPM 2G Represents significant step forward in transit procedures – GUI, native TC procedures, speed, efficiency.
- Conversion of FORTRAN based transit procedures to native TransCAD
  - 2G conversion focused on mechanics
  - TH-TDFM is currently focused on **validation**
- Strong emphasis on **accurate** networks and constructing high-quality transit paths
- Assigning regional on-board surveys iteratively to validate path-building and assignment routines
  - Identifies where network changes required
  - Identifies where path-building/assignment parameter changes required

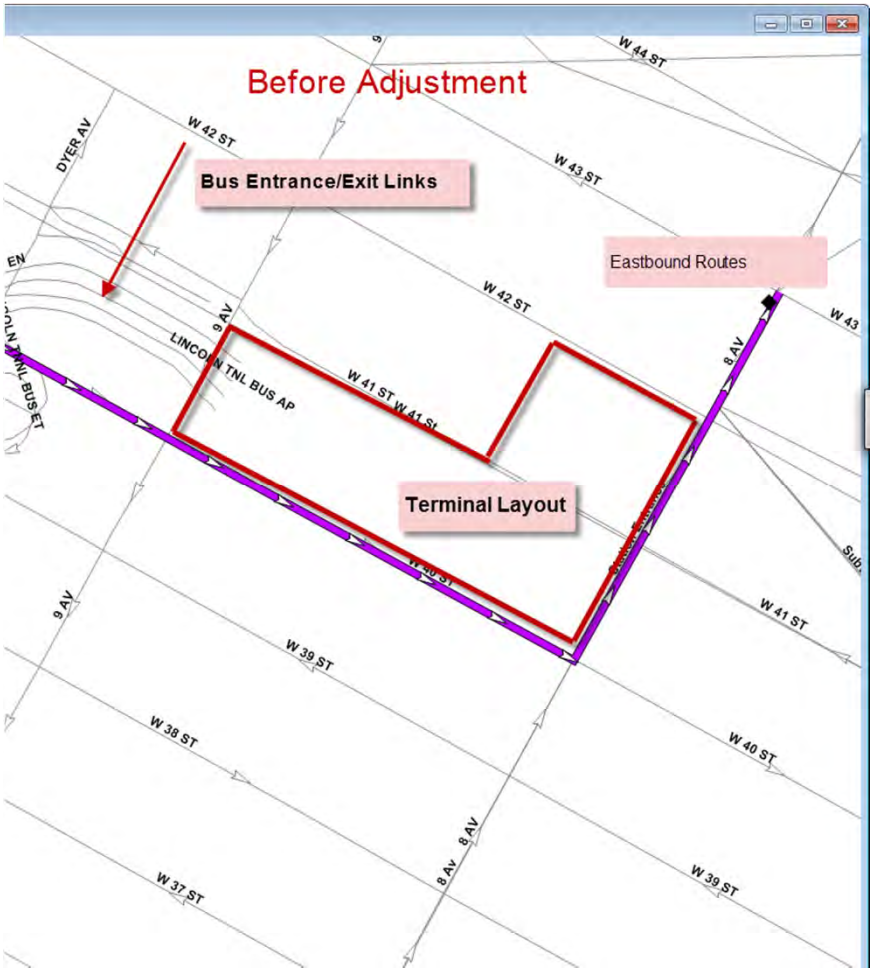
Progress to Date

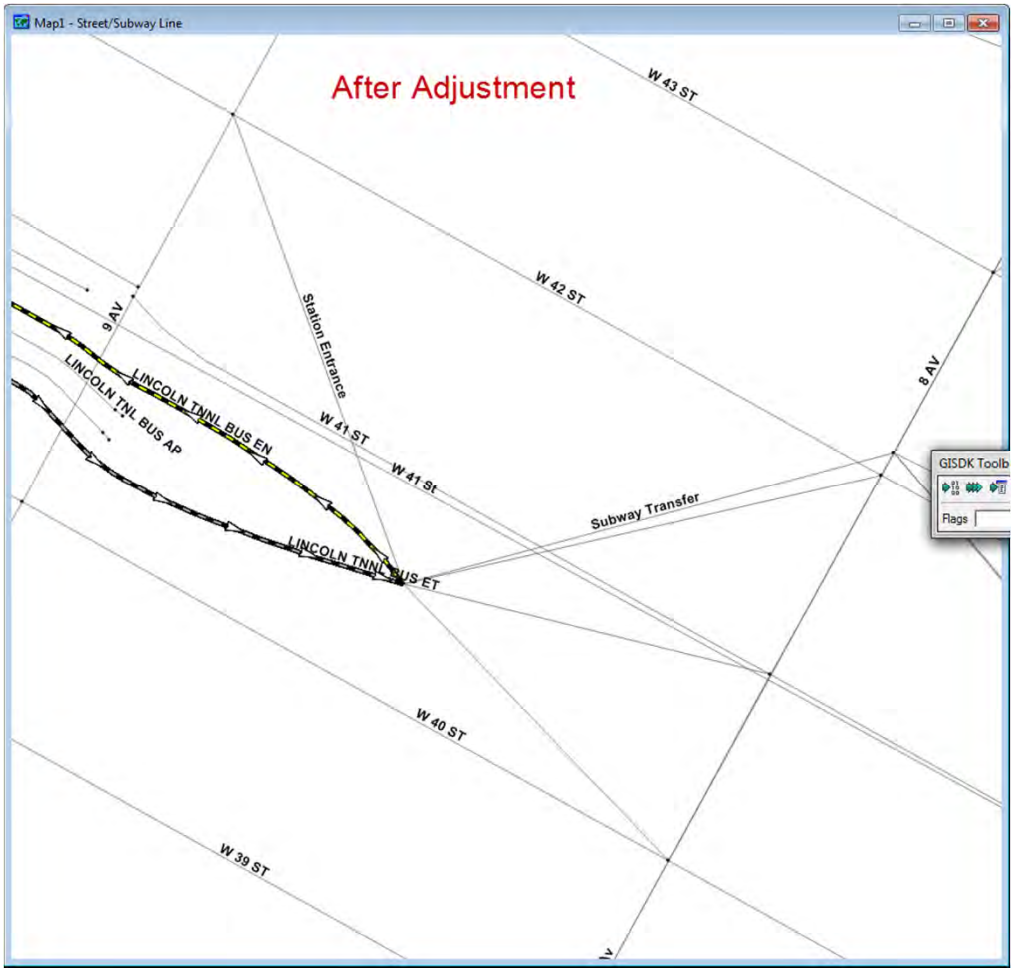
- TH-TDFM Network Development
  - Fixing lingering 2G network issues (Uptown PATH & EWR AirTrain)
  - Instilling discipline to PABT bus coding
  - Cross-references PABT bus inventories from PANYNJ
  - Intermodal connections at key NJ facilities
  - Calibration of PNR procedures
  - Attributes (fares, capacities, **bus travel times**)
- Survey Based Assignments w/NYMTC 2G & TH-TDFM, yielding changes:
  - Network improvements
  - Accessibility improvements
  - Path-building changes

TH-TDFM Network Improvements

- PABT Refinements
- Uptown PATH
- Secaucus Junction
- Newark Penn
  - Rail – PATH
  - Rail/PATH – Newark LRT
- Hoboken
  - Rail – PATH/Ferry
  - Rail – Hudson-Bergen LRT

PABT Refinements

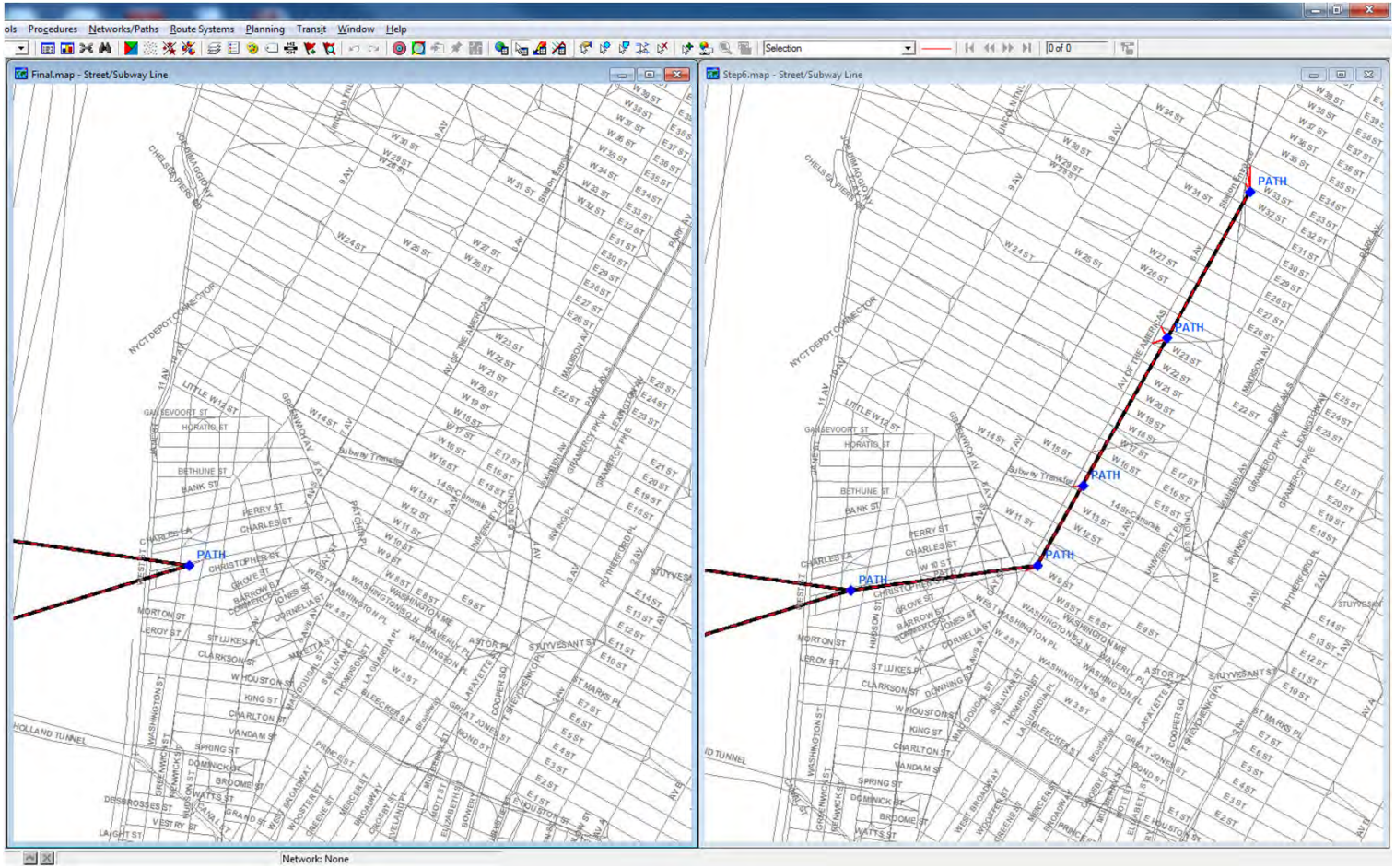




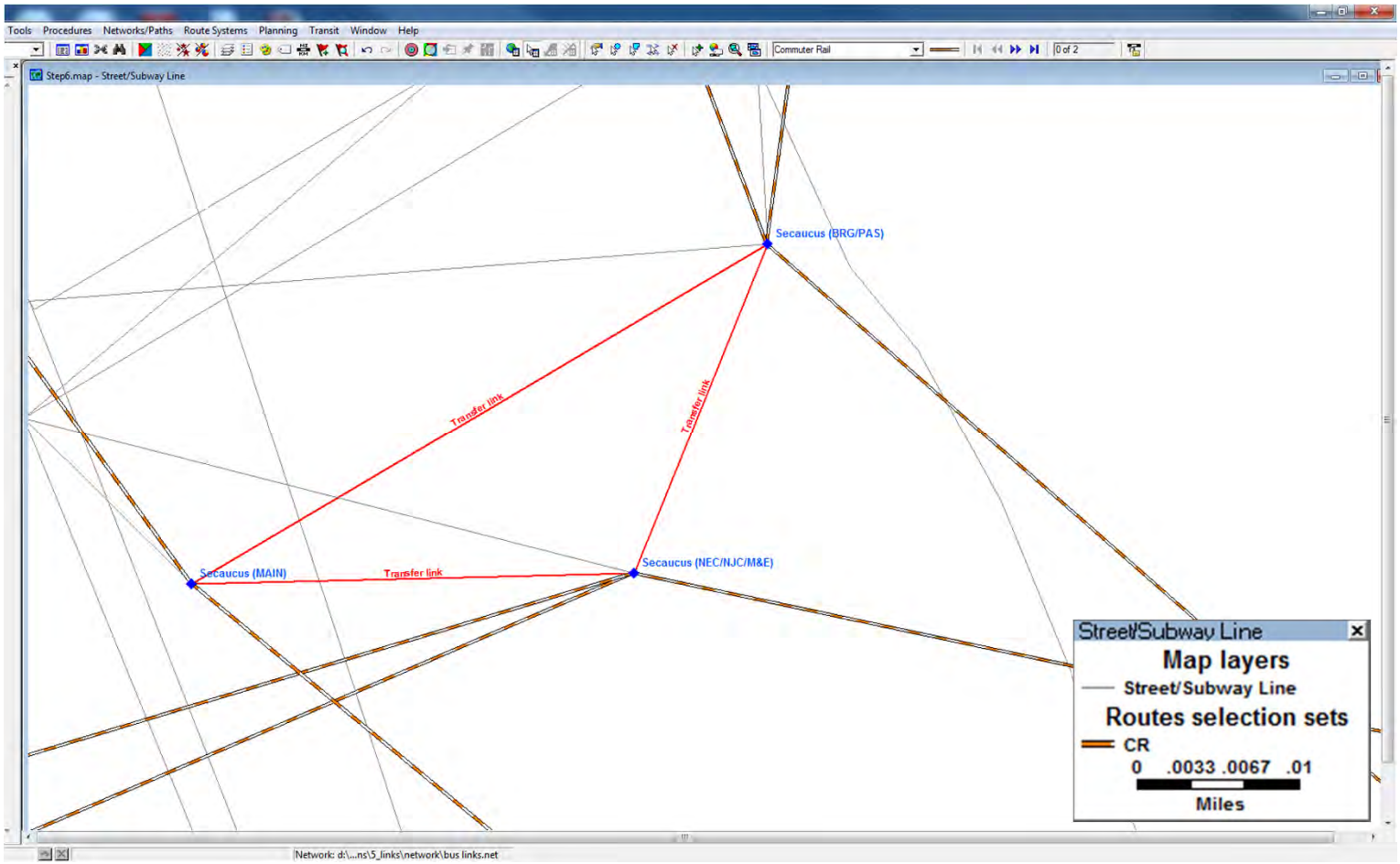
Uptown PATH

Original 2G

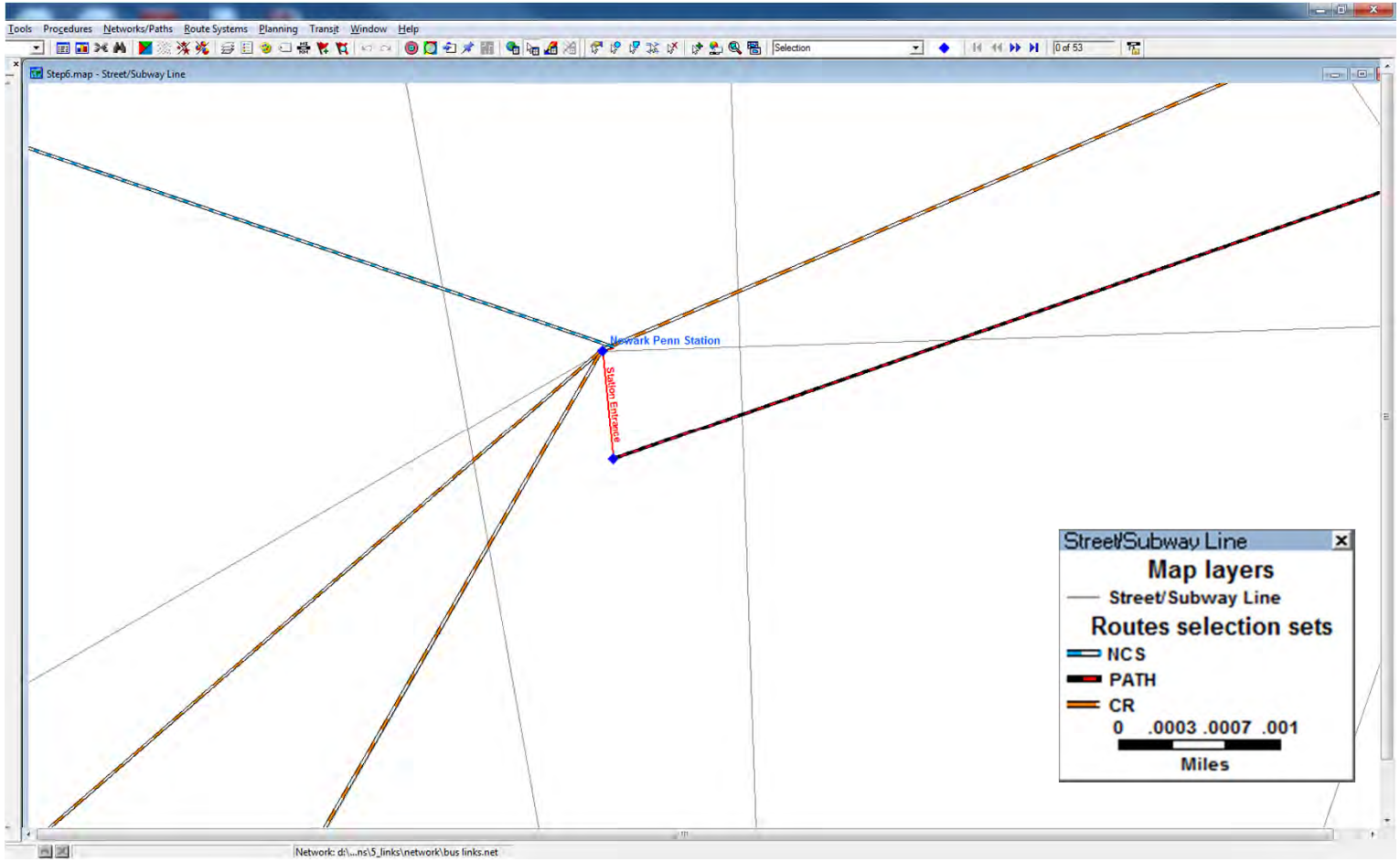
Refined TH-TDFM



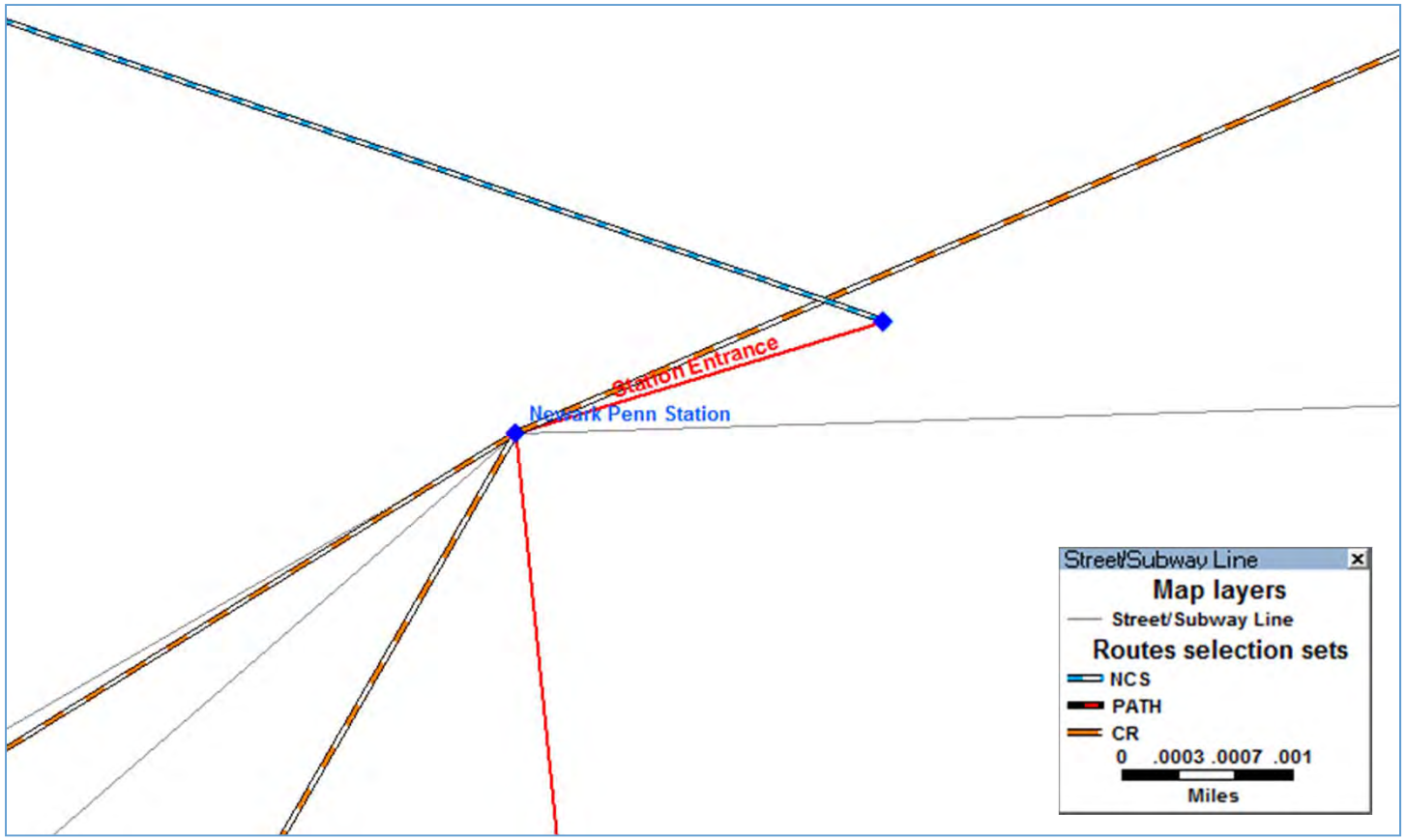
Secaucus Transfer Links



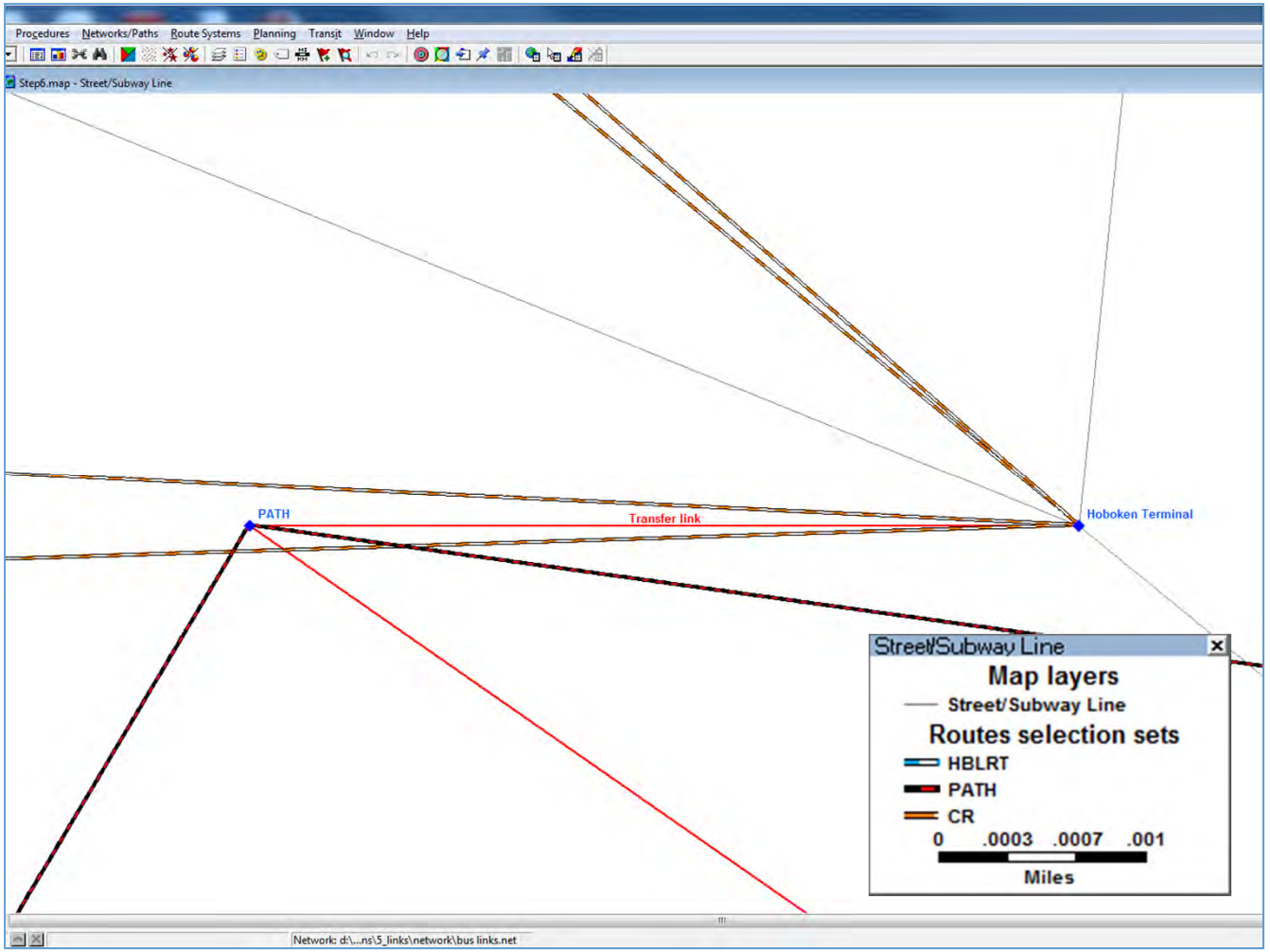
Newark Penn Station
PATH Station Entrance/Transfer Link



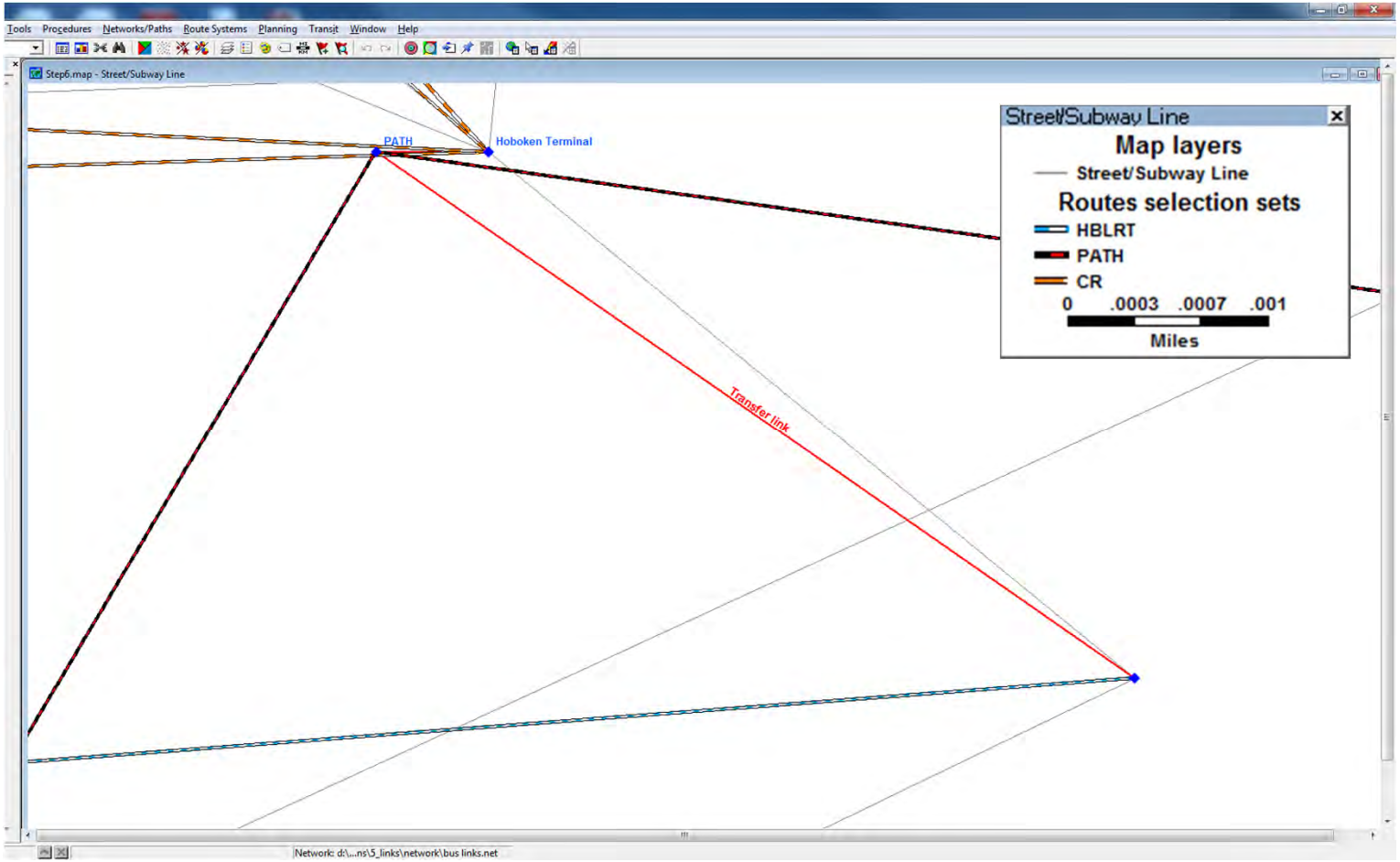
Newark Penn Station
Newark City Subway Station
Entrance/Transfer Link



Hoboken Terminal - PATH Station Entrance/Transfer Link



Hoboken
Hudson-Bergen LRT-Path Transfer Link



Accessibility Improvements

PNR Procedures:

- New procedures required extensive work to validate:
  - Expanded capture breadth in new procedures to account for distance changes between “network based” drive access connector and airline distances (old FOTRAN procedures)
  - NJ PNR connections were “manual” in prior BPM (from NJTDFM), now generated automatically. Parameter adjustments required to capture long-drive access trips in NJ (i.e. Route 9 corridor)
  - Restrict zone centroid to parking by transit skim network:
    - Drive-to-Rail: Parking occur at commuter rail lots
    - Drive-to-Other Transit: Parking at non-commuter rail lots
- Significantly improved validation of path-building and assignment performance for commuter rail

Multi-Class Pathfinder Assignment

- Prior BPM performed separate assignments by transit class (DC, WC, WT and DT)
  - Rail trips forced to use rail
  - Other transit trips forced to use other transit
- New procedures performs one assignment of all classes simultaneously:
  - The Good: Congestion impacts considered across all modes
  - What is Different: The mode choice module can assign a trip to commuter rail while transit assignment may never involve commuter rail. May pose application challenges…
  - The challenge: Tune module to replicate today's behavior
  - Our findings to date: Requires an increased emphasis on network quality control (Biggies are bus travel times & capacities)

Transit Path-Building Parameters

- Expanded Maximum Walk Access/Egress distances
  - 2G conversion = 25 min.
  - TH-TDFM = 35 min.

  Used survey data, particularly commuter rail-to-ultimate trip end walk distances in Manhattan to set parameter.
- Refined commuter rail mode-to-mode transfer penalties (consistent w/TC 4.8)
  - Extensive market research by MVA and RSG for MTA & NJ TRANSIT
  - 2G Conversion:
    - Commuter Rail Paths:
      - Commuter Rail to Other Transit = 3.0 min.
      - Other transit to other transit = 1.0 min.
  - TH-TDFM Validation:
    - Commuter Rail Paths:
      - Commuter Rail to Other Transit = 4.7 min.
      - Other transit to other transit = 4.7 min.

Survey Assignments

Surveys Used:

2002 PANYNJ Interstate Bus Survey

2005 NJT On-Board Rail Survey

2007 PATH On-Board Rail Survey

2007 NJ Hudson-Bergen LRT Survey

1998 PANYNJ Ferry Survey (scaled to 2005)

Late 1990's NJT Local Bus Surveys (scaled to 2005)

2007 Metro-North On-Board OD Survey

2006 LIRR On-Board OD Survey

2008 MTA RTFM Estimates of East of Hudson Subway/Bus Trips

Construct a complete 6-10 AM transit trip table to feed assignment of TH-TDFM

6-10 AM Survey Assignments –NJT Rail (Bergen County & M&E)

		Counts			Version 1 - 08/29/12			TH Version2 - 10/24/12		
				2005/2006/2007	Base Year Survey Assignment			Base Year Survey Assignment		
Node	Station			Est. AM Peak	NYMTC 2G 8/29/12			TH-TDFM 10/24/12		
				Total						
NJT Commuter Rail				*2005 Counts*						
Main/Bergen/Port Jervis										
	Port Jervis Subtotal	1,962	44	*2,006*	1,911	0	1,911	2,031	0	2,031
	Suffern-Glen Rock Subtotal	4,202	49	*4,251*	1,069	159	1,227	2,953	142	3,095
	Main Line Subtotal	1,761	130	*1,891*	99	67	166	791	148	939
	Bergen Co Subtotal	1,845	56	*1,901*	374	243	617	1,428	179	1,607
	TOTAL MAIN/BERGEN/PTJ	9,770	279	*10,049*	3,452	469	3,921	7,202	470	7,672
Pascack Valley Line										
	Outer Pascack Subtotal	2,045	10	*2,055*	472	24	497	1,609	394	2,003
	Inner Pascack Subtotal	973	75	*1,048*	82	138	220	620	53	673
	TOTAL Pascack	3,018	85	*3,103*	554	162	717	2,229	446	2,676
Boonton Line										
	Outer Boonton Subtotal	1,545	50	*1,595*	1,054	97	1,152	1,618	148	1,766
	Middle Boonton Subtotal	391	13	*404*	72	16	88	392	6	397
	Inner Boonton Subtotal	1,576	37	*1,613*	285	96	381	463	245	709
	TOTAL Boonton Line	3,512	100	*3,612*	1,411	209	1,620	2,473	399	2,872
Morris/Essex										
	Outer M&E Subtotal	4,401	271	*4,672*	1,952	331	2,284	3,047	479	3,526
	Gladstone Br. Subtotal	2,484	41	*2,525*	1,901	415	2,316	2,522	215	2,737
	Inner M&E Subtotal	9,197	635	*9,832*	6,167	432	6,598	6,019	445	6,464
	Montclair Branch Subtotal	1,990	10	*2,000*	1,038	39	1,076	1,475	22	1,497
	NEWARK BROAD ST	402	796	*1,198*	1,223	1,662	2,885	2,645	3,147	5,792
	TOTAL Morris & Essex	18,474	1,753	*20,227*	12,281	2,879	15,160	15,707	4,309	20,016

6-10 AM Survey Assignments –NJT Rail (RVL, NJCL, NEC and Terminals)

		Counts			Version 1 - 08/29/12			TH Version2 - 10/24/12		
				2005/2006/2007	Base Year Survey Assignment			Base Year Survey Assignment		
Node	Station			Est. AM Peak	NYMTC 2G 8/29/12			TH-TDFM 10/24/12		
				Total						
NJT Commuter Rail				*2005 Counts*						
Raritan Valley Line										
	Outer Raritan Subtotal	1,260	20	*1,280*	608	32	640	846	93	939
	Inner Raritan Subtotal	5,685	143	*5,828*	2,259	249	2,507	4,953	216	5,168
	TOTAL	6,945	163	*7,108*	2,867	280	3,147	5,799	308	6,107
NEC/NJC										
	Outer NJC Subtotal	1,517	93	*1,610*	1,025	167	1,193	1,250	60	1,310
	Central NJC Subtotal	9,898	360	*10,258*	2,136	821	2,956	7,863	654	8,517
	Outer NEC Subtotal	26,685	1,674	*28,359*	8,749	1,369	10,118	19,072	1,781	20,853
	Inner NEC/NJC Subtotal	4,342	1,124	*5,466*	1,351	873	2,224	4,115	896	5,011
	TOTAL NJC/NEC	42,442	3,251	*45,693*	13,261	3,230	16,491	32,299	3,392	35,691
NJT Terminal Stations										
	Secaucus (MAIN)	396	2,490	*2,886*	18	24	42	57	1,725	1,781
	Secaucus (NEC/NJC/M&E)	3,207	396	*3,603*	90	45	134	3,238	224	3,462
	Secaucus (BRG/PAS)		629	*629*	6	20	26	84	1,440	1,524
	Secaucus Subtotal	3,603	3,515	*7,118*	114	88	202	3,378	3,389	6,767
	Newark Penn Station (NJT)	4,199	15,322	*19,521*	2,570	5,963	8,534	6,747	15,766	22,512
	Hoboken (NJT)		16,579	*16,579*	237	9,442	9,679	207	10,498	10,705
	New York Penn Station (NJT)		50,966	*50,966*	872	14,239	15,110	1,384	39,108	40,492
	Total Terminal Stations	7,802	86,382	*94,184*	3,793	29,732	33,525	11,716	68,761	80,476

6-10 AM Survey Assignments –PATH

		Counts			Version 1 - 08/29/12			TH Version2 - 10/24/12		
				2005/2006/2007	Base Year Survey Assignment			Base Year Survey Assignment		
Node	Station			Est. AM Peak	NYMTC 2G 8/29/12			TH-TDFM 10/24/12		
				Total						
PATH										
	33rd St Line									
	33rd St	2,534	10,746	*13,280*	573	5,044	5,617	306	6,126	6,431
	23rd St	297	3,547	*3,844*	114	3,339	3,453	111	2,284	2,395
	14th St	446	3,071	*3,517*	169	2,759	2,928	181	1,919	2,100
	9th St	246	1,498	*1,744*	249	1,739	1,989	161	1,423	1,584
	Christopher St	309	1,374	*1,683*	442	2,330	2,772	367	2,320	2,688
	33rd St Line Subtotal	3,832	20,236	*24,068*	1,547	15,211	16,758	1,126	14,072	15,198
	WTC	7,726	41,404	*49,130*	3,312	26,073	29,386	6,134	37,707	43,841
	New Jersey									
	Hoboken	23,434	1,035	*24,469*	28,141	4,249	32,390	14,998	1,242	16,240
	Pavonia/Newport	3,391	2,061	*5,452*	4,373	1,108	5,481	2,993	136	3,129
	Exchange Place	1,863	6,462	*8,325*	3,550	3,723	7,273	1,022	1,405	2,427
	Grove St	6,036	1,448	*7,484*	2,404	590	2,994	12,697	5,554	18,251
	Journal Square	12,648	2,446	*15,094*	328	221	549	8,521	2,430	10,952
	Harrison	3,895	496	*4,391*	840	236	1,076	5,236	1,231	6,466
	NEWARK PENN STATION	18,785	3,194	*21,979*	8,007	1,091	9,099	12,016	965	12,980
	Subtotal	70,052	17,142	*87,194*	47,643	11,218	58,862	57,482	12,963	70,445
	TOTAL PATH	81,610	78,782	*160,392*	52,503	52,503	105,005	64,742	64,742	129,484

6-10 AM Survey Assignments – LIRR & MNR

		Counts			Version 1 - 08/29/12			TH Version2 - 10/24/12		
				2005/2006/2007	Base Year Survey Assignment			Base Year Survey Assignment		
Node	Station			Est. AM Peak	NYMTC 2G 8/29/12			TH-TDFM 10/24/12		
				Total						
		Ons	Offs	Ons+Offs	Ons	Offs	Total	Ons	Offs	Total
LIRR				*2006 Counts*						
LIRR CITY TERMINAL ZONE				*(2000 for CTZ offs)*						
3000	New York-Penn Station	*5,965*	*85,526*	*91,491*	2,491	63,893	66,384	3,811	72,348	76,159
3807	New York-GCT	*0*								
3002	Hunterspoint Ave	*0*	*3,409*	*3,409*	0	4,103	4,103	0	3,974	3,974
3001	Long Island City	*0*	*79*	*79*	0	188	188	0	155	155
3091	Flatbush Ave	*4,143*	*10,593*	*14,736*	1,261	7,703	8,963	1,775	7,734	9,508
	Subtotal	*10,108*	*99,607*	*109,715*	3,752	75,886	79,638	5,585	84,211	89,796
METRO-NORTH MANHATTAN										
3500	125th St	142	2,514	*2,656*	2,330	4,152	6,481	2,610	4,298	6,908
3201	125th St									
3200	NYC-Grand Central	0	70,632	*70,632*	2,307	60,776	63,083	2,890	64,963	67,854
	Total	142	73,146	*73,288*	4,637	64,928	69,564	5,500	69,261	74,761

Where we are/Next Steps

- NJ Commuter rail path-building very good:
  - Able to generate valid skim for 95+% of surveyed trips (we started at 60%)
  - Survey assignments while not perfect are much improved
- Trans-Hudson bus travel times need revision (underway)
  - Our general assessment – bus times to Manhattan are 10-20 min too fast depending on corridor
  - We need to modify how bus travel times are calculated
  - Especially important in multi-class assignment – bus times starting too fast means it's "too easy" to push folks off rail because we're not starting with accurate bus impedances
- Expand NJ network/path-building validation to bus, ferry, LRT and PATH.

AGENDA ITEM J,K:
OTHER DISCUSSION
NEXT STEPS / NEXT MEETING