THE NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY (NJTPA) FREIGHT FORECASTING TOOL (FFT)

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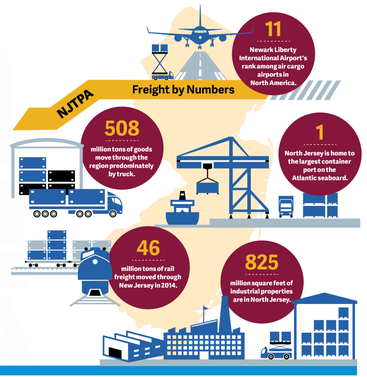
THE PROBLEM

» The NJTPA region includes the platform for the distribution of goods to one of the largest and richest consumer markets on earth. This encompasses the New York-New Jersey-Connecticut metropolitan area and much of the mid-Atlantic and New England states.

» The region is also a leading U.S. international gateway with the largest port on the Atlantic Coast and one of the largest air cargo operations in the U.S.



NJTPA DATASETS

Freight related databases available to NJTPA, include:

Rutgers Economic Advisory Service (R/ECON™)
» Detailed forecasts by industry at NJ county level

Moody's Economy.com
» Detailed industry forecasts for U.S.

TRANSEARCH
» Detailed Commodity Flow forecasts at county level

Regional Transportation Model—Enhanced (RTM-E)
» General Socio-Economic Data (SED) forecasts at detailed geographic level, e.g., Traffic Analysis Zones (TAZ)
» Truck TAZ to TAZ trip tables

Business establishment data from Costar, I.H.S. and D&B
» Geocoded locations by NAICS, employment and square footage

PROPOSED SOLUTION

» The NJTPA Freight Forecasting Tool (FFT) is an interactive Microsoft Excel-based forecasting tool that allows users to test various economic scenarios and compute specific impacts of economic or transportation drivers.

» Built to meet the needs of NJTPA, the FFT can:

- Reconcile databases, such as:
  - Crosswalks between different industry classifications.
  - Crosswalks between commodities and industries.
  - Crosswalks between geographies.
- Disaggregate and reconcile inputs.
- Define relationships between variables from industry interviews.
- Create Make-Use tables to convert commodity tons to industry employment.

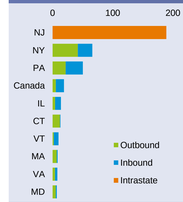
	I	J	K	L	M	N	O
256	2. Adjustments to Mode Choice and Logistics Factors						
257		VALUES FOR	NEW	RESULT	ADJUSTMENT	SENSITIVITY	SCALAR
258		ANALYSIS YEAR			RATIO		
259							
260	TR1. Fuel Costs (ENTER "YES" TO APPLY ADJUSTMENT)				1.14	33.0%	1.05
261	Start LH Truck Tons	284,622,625		284,622,625			
262	End LH Truck Tons	402,285,924		384,660,816			
263	Change in LH Truck Tons	117,663,298		100,038,190			
264	LH Truck CAGR	1.2%		1.0%			
265	Start LH Rail Tons	44,774,570	yes	44,774,570			
266	End LH Rail Tons	68,123,022		85,748,130			
267	Change in LH Rail Tons	23,348,452		40,973,560			
268	LH Rail CAGR	1.4%		2.2%			
269	Start Truck Share of LH Truck-Rail Market	86.4%		86.4%			
270	End Truck Share of LH Truck-Rail Market	85.5%		81.8%			
271							
272							
273	TR2. Other Trucking Costs (Tolls, Drivers, Congestion, Compliance, Capacity, etc.) or Policy Changes Affecting Truck/Rail Mode Share						
274	Start LH Truck Tons	284,622,625		284,622,625			
275	End LH Truck Tons	384,660,816		384,660,816			
276	Change in LH Truck Tons	100,038,190		100,038,190			
277	LH Truck CAGR	1.0%		1.0%			
278	Start LH Rail Tons	44,774,570		44,774,570			
279	End LH Rail Tons	85,748,130		85,748,130			
280	Change in LH Rail Tons	40,973,560		40,973,560			
281	LH Rail CAGR	2.2%		2.2%			
282	Start Truck Share of LH Truck-Rail Market	86.4%		86.4%			
283	End Truck Share of LH Truck-Rail Market	81.8%		81.8%			

FFT OUTPUTS

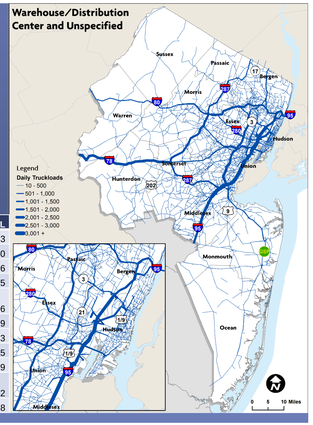
» Regional and county level summaries of freight activity

» High-level summary results
- Top Industries
- Trading Partners
- Top Commodities
- Top Modes

» Truck trip tables ready to be input into the NJRTM-E



Commodity	Outbound	Inbound	Internal	TOTAL
Warehouse and Distribution Center	62.52	47.14	4.97	114.63
Nonmetallic Minerals, Except Fuels	36.58	50.56	3.26	90.40
Petroleum or Coal Products	33.57	30.14	0.85	64.56
Chemicals or Allied Products	26.00	15.31	0.25	41.55
Clay, Concrete, Glass, or Stone Products	14.35	19.08	0.63	34.06
Food or Kindred Products	12.08	16.23	0.68	28.99
Municipal Solid Waste (MSW)	6.78	4.43	5.22	16.43
Waste or Scrap Materials	4.73	4.52	0.00	9.25
Freight All Kinds	4.40	4.79	0.00	9.19
Crude Petroleum, Natural Gas, or Gasoline	0.03	8.69	0.00	8.72
TOTAL (TOP TEN COMMODITIES)	201.03	200.89	15.87	417.78



FFT APPLICATIONS

» Developed for use in the *2040 Freight Industry Level Forecasts Study*, further enhanced for use in the *Regional Freight Commodity Profiles Study*, and is being updated in the upcoming *2050 Freight Industry Level Forecasts Study*.

» "What If" tables to enter different values for population and employment growth, global and national trade and economic factors, and transportation logistics factors, including fuel prices.

» E.g., improve Bayonne Bridge.

	PDC2. Effects if Bayonne Bridge Clearance is Not Improved			TEUs	Inbound to Port/Region	Outbound from Port/Region
307						
308	Effect on Waterborne TEUs	(750,000)	(750,000)	(750,000)		
309	Import Share of Affected TEUs	60%	60%		(2,100,000)	(3,150,000)
310	Inland Market (Rail IMX) Share of Affected TEUs	30%	30%			
311	Rail IMX Tons Generated				(630,000)	(945,000)
312	Truck Tons Generated				(1,470,000)	(2,205,000)
313	Rail IMX Share Assigned to Hudson; other end follows TS distribution	0%			-	-
314	Rail IMX Share Assigned to Essex; other end follows TS distribution	33%	33%		(210,000)	(315,000)
315	Rail IMX Share Assigned to Union; other end follows TS distribution	67%	67%		(420,000)	(630,000)
316	Truck STCC 5010 Share Assigned to Hudson; other end follows TS distribution	0%			-	-
317	Truck STCC 5010 Share Assigned to Essex; other end follows TS distribution	33%	33%		(490,000)	(735,000)
318	Truck STCC 5010 Share Assigned to Union; other end follows TS distribution	67%	67%		(980,000)	(1,470,000)
319	Rail IMX Landbridge Imports Impacted, Hudson from all	50%	50%		1,575,000	-
320	Rail IMX Landbridge Imports Impacted, Union from all	50%	50%		1,575,000	-
321	Rail Drayage STCC 5021 5022 Impacted, Hudson to all				-	1,575,000
322	Rail Drayage STCC 5021 5022 Impacted, Union to all				-	1,575,000
323	Net Effects (for Backcheck)				1,050,000	-