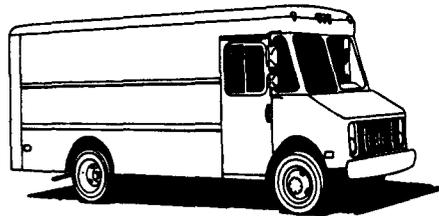


New York Metropolitan Transportation Council

Truck Terminal and Warehouse Survey Results



March 1996

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A TYPICAL WAREHOUSE INTERIOR

Summary

The survey of truck terminals and warehouses resulted in locating the highway bottlenecks for truck movements which are more localized in nature than the previous air, marine, and rail surveys performed by the NYMTC Central Staff. However, all of the conclusions of these surveys, which have resulted in IMS (Intermodal Management System) strategies, are consistent. The biggest problem the freight industry faces in our metropolitan region is congestion. In this survey 69% of the respondents stated that congestion is their main problem and 53% stated that access or infrastructure is their main problem.

As a conclusion of this effort, IMS should be integrated with CMS (Congestion Management System), where the CMS will develop strategies to overcome those congested bottlenecks in the region.

The following table summarizes the outcome of the surveys:

County	Total Number of responses	Total Response Rate	Facility Type			Transportation Related Problems			
			Truck Terminal	Ware-house	Both	Congestion		Access Problem	
						Number of Response	Response Rate	Number of Response number	Response Rate
New York City	49	38%	12	13	24	45	92%	30	61%
Nassau	22	12%	2	15	5	18	82%	5	23%
Putnam	11	20%	2	7	2	6	55%	5	45%
Rockland	22	18%	4	4	14	10	45%	5	23%
Suffolk	27	36%	8	11	8	17	63%	4	15%
Westchester	18	6%	1	8	9	10	56%	7	39%
NYMTC Region	149	22%	29	58	62	106	71%	56	38%
North New Jersey	11	20%		2	9	4	36%	4	36%
Total Region	160	Average 21%	29	60	71	110	69%	60	53%

I. Introduction

The New York Metropolitan Transportation Council (NYMTC) conducted a survey of truck terminals and warehouses in the NYMTC region and North Jersey in November 1995. The purpose of this survey was to see what transportation issues those industries face. As per ISTEA mandates, freight should be included in the planning process. In the New York metropolitan region, 95% of our freight was transported by truck and distributed throughout warehouses or distribution centers. This indicates how important the role of the truck is in our economic activity. Seamless freight movement in our region is a priority in our Long Range Plan goals. Therefore, as a continuation of our previous efforts in surveying air, marine, rail, and truck terminals (limited to UPS, USPS, and FedEx), we asked the subregions to assist us in identifying and conducting a survey for all truck terminals and warehouses in their jurisdiction. From this survey, we received a 21 percent response rate. We compiled the results which are highlighted in the next chapter.

II. Warehouse/Distribution Center

A warehouse is typically a large building for storage of goods or merchandise.

A warehouse is an important link for freight movement in intermodal transportation. Cargo that may come by ship, rail, or airplane, is usually stored in the warehouse before the carrier delivers it to its final destination. Although popular, the latest trend of just-in-time delivery, where the shippers try to minimize the use of a warehouse, complete elimination of this link is not possible. Warehouses serve multiple purposes, such as to break down the packages into smaller packages (distribution centers), to store merchandise for seasonal sales, or to be stored for a pick up at the right time by the receivers.

There are several types of warehouses (Ref. 1):

- * **Public Warehouse:** a warehouse that can be rented on a short term basis.
- * **Private Warehouse:** a warehouse that is owned by a company or manufacturer for the owner's use.
- * **Contract Warehouse:** a warehouse that can be rented on a long term basis (therefore, the cost would be lower than for a public warehouse.)

Basically, a warehouse has six functions: stockpiling, product mixing, production logistics, consolidation, distribution, and customer service (Ref. 2).

From 1980 to 1990, there was a 3.5% increase in population in the tri-state region. Per the Commerce Department, demand for durable goods, such as cars, computers, and appliances increased by 4 percent in August 1995 (Ref. 3). In addition to those commodities, with that population increase, the demand for daily consumption of foods, oils, and household goods increased also. Consequently, the need for various freight transportation and also warehousing for this merchandise rose. Transportation availability and access are some of the most important issues in site selection for warehouses; constant follow-up at maintenance is required to keep the sites efficiently accessible.

Inside the warehouse, there are various methods to enhance the efficiency of goods handling; one method is cross docking. Cross docking is a process that can minimize goods handling, such as by bypassing warehouses. To achieve this, distribution centers should be restructured based on value and demand (Ref. 4). Another method is warehouse automation. Automated warehousing usually utilizes mechanized equipment and implements high-technology such as bar coding, automatic material handling equipment, computer programs, storage equipped with radio-frequency terminals that connect to a central database, and even automatic/conveyor storage systems. Some companies will only select a specific task for automation, so that it will not tie up the whole systems to one program.

Productivity of warehousing can be improved by maximizing the following elements (Ref. 5):

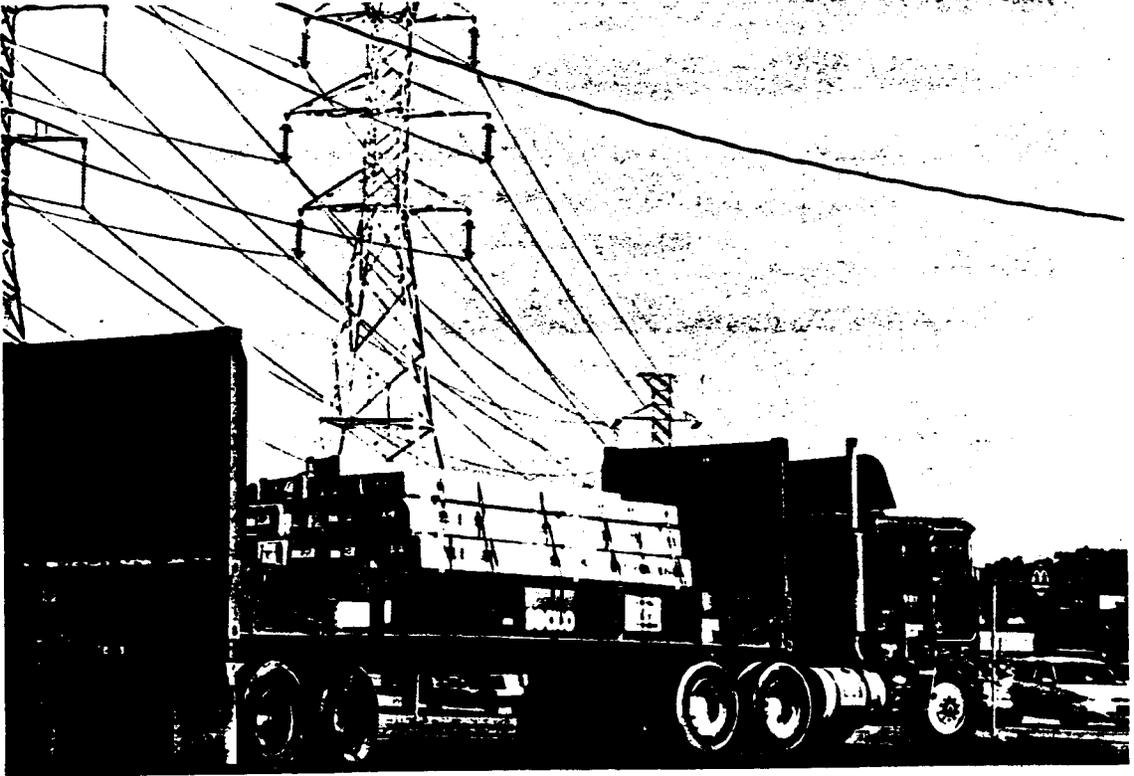
- * dock design and layout
- * scheduling
- * measurement and methods
- * equipment

In order to maximize the efficiency of cargo movement within the warehouse, the design of the building is very important. For example (based on the Palko Group recommendation - Ref. 5) it is advisable to build the front columns at least 60 feet away from the edge of the dock entrance, and not to put the warehouse's racks too close to the receiving doors. Most accidents in warehouses occur in the dock area. This is due to the narrow space available to accommodate equipment, dock workers, and heavy loads.

Some criteria that determine the site selection of a warehouse are zoning regulations, transportation availability, labor source availability, and cost or rates in the area (Ref. 6). Among the above criteria, transportation is the most critical issue. Therefore, warehouse operators must study transportation options more closely.

The types of equipment needed in warehouses are: forklifts, pallets, dock bumpers, dock levelers, dock seals, trailer restraint systems, conveyers, and cranes. In modern warehouse management, the definition of effective warehousing is to keep the inventory moving and eliminate material handling as much as possible (Ref. 4).

In the future, supply chain sharing and horizontal networking will be the trend, where competing companies will try to deliver goods to customers in the fastest way, at the lowest cost possible.



Loaded Truck-Trailer on its way to a Warehouse



**Exterior of a Warehouse
(Loading Docks are shown)**

III. Truck Terminal

Trucking plays a very critical role in transporting cargo in the New York metropolitan region, particularly since New York City's infrastructure is not adequate to accommodate other modes (such as rail) sufficiently. Some shippers consider trucking to be superior door-to-door long-haul service to rail-truck intermodal service (Ref. 7). With a slight decline in intermodal transportation, primarily due to price increases, trucking became more lucrative to shippers, especially those who handle small and fast deliveries.

In order to maximize profit and survive in business world competition, shippers and carriers try to enhance components that affect truck movement, such as increasing the reliability of highway and road access conditions, increasing the size and weight limit for trucks, opening more truck routes such as parkways, improving truck terminals, enhancing the quantity and quality of truck stops, fewer trucking regulations, and improving truck technology.

Therefore, truck terminals and truck stops play an important role in the livelihood of the trucking industry. Nowadays, with increasing congestion and real-estate prices in the city, most truck terminals are located in suburban areas.

A truck terminal is typically a building for the handling and temporary storage of freight pending transfers between locations (Ref. 8)

The motor carrier industry is usually classified according to the fleet load, which could be less than a truck load (LTL) or truckload (TL) - See Fig. 5 for the top 100 trucking companies.

- * LTL (less than a truck load): a quantity of freight less than that required for the application of a truckload rate. (Ref. 8).
- * TL (truck load): a quantity of freight required to fill a truck that usually will qualify the shipment for a truckload rate.

Based on revenue, the industry is classified into: Class I (annual revenue is more than \$ 1M) and Class II (annual revenue is less than \$ 1M).

The layout of truck terminals that handle break-bulk commodities is similar to that of warehouses, but usually smaller in size for storage due to the limited time the cargo remains in the truck terminal. The ideal truck terminal should have a sufficient number of doors and adequate dock design and yard space (Ref. 15). Truck terminals, that handle truck loads only, typically consist of a wide, open space where trucks are parked. Usually truck terminals also have a building for offices and a truck maintenance facility. The TL carriers usually go directly from the manufacturer or shipper's distribution center to the customer, whereas the LTL carriers will stop in a truck terminal to consolidate or break the load for various customers.

Based on the 1995 analysis, the LTL and TL motor carrier industries showed a slower growth due to the weak economy, changes in shippers' distribution patterns, and overcapacity (Ref. 9;

Ref. 10) - See Fig. 3. However, regardless of the slow down, based on the DRI prediction, the trucking industry will increase 21 percent by 2004, reaching \$ 437 billion. The trucking revenue share will stay the same, about 76.2% in 2004, whereas in 1994 it was about 78.2%. The total truck volume in year 2004 will increase by 19% and miles driven will increase by 29%. In our metropolitan region, 95% of freight movement is done by truck (Ref. 11). Therefore, truck route condition, either interstate or local, is one of the most important issues in the planning process. As the National Highway System is designed to carry passengers and cargo in an efficient manner, the connection to that system is also crucial. The connection to major terminals should be maintained properly, including truck terminals and warehouses. These national highways are the backbone for cargo movements in the country and also to destinations outside the country (Mexico and Canada). The National Highway System (NHS) bill that was signed on November 28, 1995, exempts truck weighing less than 26,000 pounds from commercial transport regulations and maintains truck and commercial vehicle speed limits. See Fig. 1 for truck silhouettes/classifications and Fig. 4 for U.S. retail sales of various types of trucks. The passage of the NHS bill has been applauded by the truck community.

Due to congestion in our metropolitan areas, many motor carriers charge extra for delivering freight to these metropolitan areas. This surcharge can be as much as \$150.00 per load. Since, the trucking deregulation of 1980, the motor carrier industry has increased their net income. (See Fig. 2). In addition, Robert Delaney, a transportation economist of Cass Information Systems Inc., notes that truck delivery time is shorter and various types of service to meet customer demand are available (Ref. 12).

Some of the changes that affect the trucking industry with the sunset of ICC (Interstate Commerce Commission) are (Ref. 13):

- * Tariff filings and rate regulations were eliminated (except for noncontinuous domestic trade and individual household goods movements).
- * Motor carrier operation authority is eliminated.
- * Financial reporting for Class I and II carriers is maintained.

New Technology

Various technologies and methodologies for commercial vehicle operation (CVO) have been introduced lately, to improve the efficiency of cargo delivery by trucks. Some of these technologies and methodologies are: communication systems in the truck so that truck drivers do not have to look for public phones every time they need assistance, onboard computers (OBC), satellite tracking by GPS (Global Positioning System), anti-lock brakes, more extensive driver training, better scheduling for the truck drivers to reduce fatigue, and paperless cargo documentation.

In addition, with the coming of advanced ITS (Intelligent Transportation system) technology, trucks will eventually include its weight, clearance, tax, cargo, and prepayment credit information in their transponders. As a result, the electronic readers such as electronic tolls,

weigh-in-motion, and inspection booths will quickly scan the information from the transponders while the trucks speed away. Per the I-35 Coalition estimate, this method can save 12 hours of travel time, from Canadian to Mexican borders.

Also, license plate reader technology is being tested to identify the shipping containers and container chassis as the trucks move through terminal check points. This technology will eventually increase the accuracy of the container identification data and, therefore, will improve the terminal productivity and throughput (Ref. 14).

IV. New York Metropolitan Transportation Council Survey results on Warehouse and Truck Terminals in the New York Metropolitan Region (including North Jersey):

The following tables summarize the survey responses and the type of problems the truck terminal and warehouse operators face:

NAME	CITY/COUNTY	COMPANY TYPE	NUMBER of FLEET	TYPE OF PROBLEM			
				CONGES - TION	ACCESS/ INFRA-STRUCT.	INTERNAL PROBLEM	OTHER PROBLEM
A&A Trailer Storage	Medford, Suffolk	Truck Terminal	75				
Automated Bread Corp.	Edgewood, Suffolk	TruckTerm/Warehouse	21				
Airborne Express	Melville, Suffolk	TruckTerm/Warehouse	NA				
Beck/Arnley Corp.	Ronkonkoma, Suffolk	Warehouse	NA	Y			
Antares ITI	Islip, Suffolk	Warehouse	68				
Canada Dry Bottling	Melville, Suffolk	TruckTerm/Warehouse	68	Y			
Clare Rose Inc.	Melville, Suffolk	TruckTerm/Warehouse	32	Y	Y		
Yellow Freight System Inc.	Deer Park, Suffolk	Truck Terminal	18				
Clare Rose Inc.	Patchogue, Suffolk	TruckTerm/Warehouse	100				
Estee Lauder Co.	Melville, Suffolk	Warehouse	NA	Y			
Pergament Home Ctrs.	Melville, Suffolk,	TruckTerm/Warehouse	20	Y		Y	
Liberty Moving Co.	Hauppauge, Suffolk	TruckTerm/Warehouse	12	Y	Y		
Meadowbrook Dist. Corp.	Amityville, Suffolk	Warehouse	14				
Elm Freight Inc.	Deer Park, Suffolk	TruckTerm/Warehouse	150	Y		Y	Y
Mystic Bulk Carriers	Bayshore, Suffolk	Truck Terminal	30	Y	Y		Y
Old Dominion Freight Line	Bayshore, Suffolk	Truck Terminal	40	Y			

NAME	CITY/COUNTY	COMPANY TYPE	NUMBER of FLEET	TYPE OF PROBLEM			
				CONGES - TION	ACCESS/ INFRA-STRUCT.	INTERNAL PROBLEM	OTHER PROBLEM
Preston Trucking Co. Inc.	West Babylon, Suffolk	Truck Terminal	133	Y	Y		
Roadway Express Inc.	Deer Park, Suffolk	Truck Terminal	25	Y			
Seaman's Furniture	Central Islip, Suffolk	Warehouse	28	Y			
TNT Red Star Express	Bayshore, Suffolk	Truck Terminal	33	Y			
Tosco Pipeline Co.	Holtsville, Suffolk	Truck Terminal	100	Y			
Tosco Corporation	Riverhead, Suffolk	TruckTerm/ Warehouse	NA				
United Parcel Services	Farmingdale, Suffolk	TruckTerm/ Warehouse	295				
Waldbaums Inc.	Central Islip, Suffolk	TruckTerm/ Warehouse	363	Y			
Wallack Freight Lines Inc.	Copiague, Suffolk	TruckTerm/ Warehouse	91				
Yellow Freight System Inc.	Central Islip, Suffolk	Truck Terminal	20	Y			Y
Pergament Home Ctrs.	Deer Park, Suffolk	Warehouse	192	Y			
Total	Suffolk	All Types		17	4	2	3
Ademco	Syosset, Nassau	Warehouse	NA	Y	Y		Y
Cold Storage of Nassau, Inc.	Westbury, Nassau	Warehouse	16				
Abbate and Markbreiter	Freeport, Nassau	TruckTerm/ Warehouse	3	Y	Y		Y
Third Building Co.	Westbury, Nassau	Warehouse	1				
Henry Schein Inc..	Port Washington, Nassau	Warehouse	NA	Y			
Harbor Footwear Group Ltd.	Port Washington, Nassau	Warehouse	5	Y			
On Track Freight System Inc.	Hicksville, Nassau	Truck Terminal	23	Y			

NAME	CITY/COUNTY	COMPANY TYPE	NUMBER of FLEET	TYPE OF PROBLEM			
				CONGES - TION	ACCESS/ INFRA-STRUCT.	INTERNAL PROBLEM	OTHER PROBLEM
Seneca Delco Corp.	Port Washington, Nassau	Warehouse	6	Y			
Ben Elias Industries	Inwood, Nassau	Warehouse	3				
Murachanian Export Co. Inc.	Garden City, Nassau	Warehouse	1	Y			
Stark Carpet Corp.	Port Washington, Nassau	Warehouse	1	Y		Y	
Industrial & Research Associates	Woodbury, Nassau	Warehouse	NA	Y			
Rodj Automotive Inc.	Port Washington, Nassau	Warehouse	6				
King Kullen Grocery Co.	Westbury, Nassau	TruckTerm/ Warehouse	56	Y	Y		
Firestone Plywood Corp.	Hicksville, Nassau	Warehouse	10	Y			
Thrifty Paper Co.	Hempstead, Nassau	Warehouse	10	Y			
B.Nilsson Moving & Storage Inc.	Oceanside, Nassau	TruckTerm/ Warehouse	49	Y	Y	Y	
Distribution System of America	Westbury, Nassau	Warehouse	38	Y	Y		
Industrial Fasteners Corp.	Port Washington, Nassau	Warehouse	10	Y			Y
Columbia Cement Co. Inc.	Freeport, Nassau	TruckTerm/ Warehouse	5	Y			
Cozir Holding Corp.	Farmingdale, Nassau	Warehouse	30	Y			
Franklin Stainless Corp.	Port Washington, Nassau	Warehouse	3	Y			
Total	Nassau	All Types		18	5	2	3
Van Brunt Stores Inc.	New York City, Brooklyn	TruckTerm/ Warehouse	9	Y	Y	Y	Y
Cirker Moving + Storage Co.	New York City, Manhattan	Warehouse	9	Y	Y	Y	Y
Adolph's Trucking Co. Inc.	New York City, Manhattan	Truck Terminal	70	Y	Y		

NAME	CITY/COUNTY	COMPANY TYPE	NUMBER of FLEET	TYPE OF PROBLEM			
				CONGES - TION	ACCESS/ INFRA-STRUCT.	INTERNAL PROBLEM	OTHER PROBLEM
Coin Devices Corp.	New York City, Queens	Truck Terminal	73	Y	Y	Y	Y
Carlisle Records Warehouse	New York City, Queens	Warehouse	7	Y	Y		
All Star Moving and Storage	New York City, Brooklyn	Warehouse	5	Y	Y		
Jocor Freight Inc.	New York City, Bronx	Truck Terminal	3	Y	Y		
La Montana Moving and Storage Inc.	New York City, Bronx	Warehouse	4	Y		Y	Y
Nippon Express USA, Inc.	New York City, Queens	TruckTerm/ Warehouse	3	Y			
Roadway Express, Inc.	New York City, Brooklyn	Truck Terminal	75	Y	Y		Y
LIC Trucking Corp.	New York City, Queens	Truck Terminal	20	Y			
Manhattan & Queens Fuel Corp.	New York City, Brooklyn	TruckTerm/ Warehouse	22	Y	Y		
Dun-Ride Movers	New York City, Bronx	TruckTerm/ Warehouse	38	Y	Y	Y	Y
Globe Storage & Moving Co. Inc.	New York City, Manhattan	TruckTerm/ Warehouse	10	Y			
Samson Moving & Storage	New York City, Bronx	Warehouse	8	Y			
Loral Electronic System	New York City, Bronx	Warehouse	NA				
Sun Warehouses, Inc.	New York City, Manhattan	Warehouse	NA	Y	Y		
V. J. Marrian Trucking Corp.	New York City, Manhattan	Warehouse	6	Y	Y		
US Postal Services	New York City, Manhattan	Truck Terminal	258	Y	Y		
JAG Freight Systems Inc.	New York City, Manhattan	TruckTerm/ Warehouse	14	Y	Y		
Walton Hauling and Warehouse Corp.	New York City, Manhattan	TruckTerm/ Warehouse	19	Y	Y	Y	Y

NAME	CITY/COUNTY	COMPANY TYPE	NUMBER of FLEET	TYPE OF PROBLEM			
				CONGES - TION	ACCESS/ INFRA-STRUCT.	INTERNAL PROBLEM	OTHER PROBLEM
Despatch moving & Storage Co. Inc.	New York City, Manhattan	TruckTerm/ Warehouse	5	Y			
TC Lee Distributors Inc.	New York City, Brooklyn	TruckTerm/ Warehouse	9		Y		Y
G+A Moving & Storage Co. Inc.	New York City, Queens	Warehouse	9	Y			
JRS Pickup & Delivery Service Inc.	New York City, Brooklyn	TruckTerm/ Warehouse	17	Y	Y		Y
Dahill Moving and Storage Co. Inc.	New York City, Brooklyn	TruckTerm/ Warehouse	12	Y	Y		
S and F. WHS and Trucking	New York City, Brooklyn	TruckTerm/ Warehouse	14	Y	Y		
AR Fuel Inc.	New York City, Brooklyn	TruckTerm/ Warehouse	40	Y	Y	Y	Y
Atlantic Paratransit	New York City, Brooklyn	Truck Terminal	68	Y			
Modesti Bros Inc.	New York City, Queens	TruckTerm/ Warehouse	17	Y	Y		
Century Worldwide	New York City, Queens	Warehouse	7	Y			Y
Mystic Transportation	New York City, Queens	Truck Terminal	106	Y	Y		Y
Surway Air Express	New York City, Queens	Warehouse	17	Y	Y		Y
Endo Freight Forwarders Inc.	New York City, Queens	TruckTerm/ Warehouse	7	Y	Y	Y	
Galasso Trucking Inc.	New York City, Queens	TruckTerm/ Warehouse	138	Y	Y		
FM Trans-Mix Corporation	New York City, Queens	TruckTerm/ Warehouse	13	Y			
Midnight Rambler Trucking Co. Inc.	New York City, Queens	TruckTerm/ Warehouse	10	Y	Y		
Hall Street Cold Storage Warehouse	New York City, Brooklyn	Warehouse	11	Y	Y		
Hudson Moving and Storage	New York City, Manhattan	TruckTerm/ Warehouse	5	Y			

NAME	CITY/COUNTY	COMPANY TYPE	NUMBER of FLEET	TYPE OF PROBLEM			
				CONGES - TION	ACCESS/ INFRA- STRUCT.	INTERNAL PROBLEM	OTHER PROBLEM
Coty Enterprises LTD.	New York City, Richmond	Warehouse	5	Y	Y		
Coastal Refining and Market Inc.	New York City, Queens	Truck Terminal	103				
Preston Trucking Co.	New York City, Brooklyn	Truck Terminal	46	Y	Y		
Apex Xpress Inc.	New York City, Queens	Truck Terminal	48	Y			
Roadway Express Inc. Pier 40N	New York City, New York	TruckTerm/ Warehouse	23	Y			
World Courier Inc.	New York City, Queens	TruckTerm/ Warehouse	35	Y			
Astoria Motor Van Co.	New York City, Queens	Truck Terminal	8	Y		Y	
BNC Trucking Inc.	New York City, Queens	Truck Terminal	2	Y			
Coppolino Hauling	New York City, Queens	Warehouse	NA				
Slattery Associates	New York City, Queens	Truck Terminal	NA	Y	Y		
Total	New York City (Five boroughs)	All Types		45	30	9	13
Par Pharmaceutical	Spring Valley, Rockland	Warehouse	6				
Ciba Corp	Suffern, Rockland	Warehouse	13		Y		
Simon & Schuster	West Nyack, Rockland	Warehouse	3				
L. J. Kennedy Trucking Co.	Stony Point, Rockland	Truck Terminal	110	Y			
Lederle Whitehall Robins	Blauvelt, Rockland	Warehouse	4	Y	Y		Y
Richard A. Leslie Co. Inc.	Orangeburg, Rockland	Warehouse	2				
Avon Products Inc.	Suffern, Rockland	TruckTerm/ Warehouse	8				

NAME	CITY/COUNTY	COMPANY TYPE	NUMBER of FLEET	TYPE OF PROBLEM			
				CONGES - TION	ACCESS/ INFRA-STRUCT.	INTERNAL PROBLEM	OTHER PROBLEM
Champion International Corporation	West Nyack, Rockland	Warehouse	NA				
Well-Bred Loaf	Congers, Rockland	Warehouse	6	Y	Y	Y	Y
Tri-Seal International Inc.	Blauvelt, Rockland	Warehouse	4	Y			
Hino Diesel Trucks (USA) Inc.	Orangeburg, Rockland	Warehouse	8				
Dalkin America Inc.	Orangeburg, Rockland	Warehouse	2				
USPS Rockland P&D Facility	Monsey, Rockland	TruckTerm/ Warehouse	100	Y	Y		Y
NUMAX Inc.	Orangeburg, Rockland	Warehouse	3				
Subaru Distributors Corp.	Orangeburg, Rockland	Warehouse	5				
Arc-Com Fabrics	Orangeburg, Rockland	Warehouse	NA	Y			
Panco Equipment Corp.	Stony Point, Rockland	Truck Terminal	20	Y			
Aluf Plastics	Orangeburg, Rockland	Warehouse	10	Y			
Titan Express Trucking	Hilburn, Rockland	Truck Terminal	80			Y	Y
Pentax Precision Instrument Corp.	Orangeburg, Rockland	Warehouse	4	Y			
Insi-X Products Corp.	Stony Point, Rockland	TruckTerm/ Warehouse	8	Y	Y		
Gotham Ink & Color Inc.	Stoney Point, Rockland	Warehouse	3				
Total	Rockland	All Types		10	5	2	4
Schein Pharmaceutical Inc.	Brewster, Putnam	Warehouse	3	Y	Y		Y
Power Repairs Inc.	Mahopac, Putnam	Warehouse	3	Y	Y		Y

NAME	CITY/COUNTY	COMPANY TYPE	NUMBER of FLEET	TYPE OF PROBLEM			
				CONGES - TION	ACCESS/ INFRA- STRUCT.	INTERNAL PROBLEM	OTHER PROBLEM
All American Ice Cream Inc.	Putnam Valley, Putnam	TruckTerm/ Warehouse	20				
Storage Barn	Brewster, Putnam	Warehouse	10	Y	Y		
Dynarex Corporation	Brewster, Putnam	Warehouse	2	Y	Y		Y
Sounders Foundry Supply Inc.	Cold Spring, Putnam	Warehouse	2	Y	Y	Y	
RLT Warehouse Inc.	Brewster, Putnam	Truck Terminal	6				
M. Dilmaghani & Co. Inc.	Patterson, Putnam	Warehouse	4				
Envira-Zyme International Inc.	Carmel, Putnam,	Warehouse	4				
New York State Electric & Gas Co.	Brewster, Putnam	TruckTerm/ Warehouse	2	Y			Y
C & M Holding Company	Brewster, Putnam	TruckTerm/ Warehouse	4				
Total	Putnam	All Types		6	5	1	4
Barrier Oil Corp.	Tarrytown, Westchester	TruckTerm/ Warehouse	5			Y	
Stewart Stamping Co.	Yonkers, Westchester	TruckTerm/ Warehouse	15				
Diamond Dairy Inc.	Tarrytown, Westchester	TruckTerm/ Warehouse	11	Y	Y	Y	
Coca Cola Bottling Company of NY	Elmsford, Westchester	TruckTerm/ Warehouse	75	Y	Y		Y
Beavers Machinery Transport Inc.	Yonkers, Westchester	TruckTerm/ Warehouse	3		Y		Y
Con Edison	Peekskill, Westchester	Warehouse	2				
Perk-Up Inc.	Elmsford, Westchester	Warehouse	2	Y	Y		
Pepsi Cola International	Valhalla, Westchester	Warehouse	7				
Kern Chemical Corp.	Mount Vernon, Westchester	Warehouse	2	Y	Y		

NAME	CITY/COUNTY	COMPANY TYPE	NUMBER of FLEET	TYPE OF PROBLEM			
				CONGES - TION	ACCESS/ INFRA-STRUCT.	INTERNAL PROBLEM	OTHER PROBLEM
Karta Container & Recycling	Deeks Kill, Westchester	TruckTerm/Warehouse	NA				
Cartilage Technologies Inc.	Elmsford, Westchester	Warehouse	1	Y			
Circuit Techniques	Yonkers, Westchester	Warehouse	3				
Amoco Oil Co.	Mount Vernon, Westchester	Truck Terminal	4	Y			
Global Recycling	Peekskill, Westchester	Warehouse	NA				
Refined Sugars Inc.	Yonkers, Westchester	Warehouse	8	Y	Y		Y
V.Santini Inc.	Mount Vernon, Westchester	Warehouse	1	Y			
Steiner Foods Inc.	New Rochelle, Westchester	Warehouse	5	Y	Y		
Patchin Chemical Co., Inc.	Yonkers, Westchester	NA	10	Y			
Total	Westchester	All Types		10	7	2	3
Total NYMTC Region	Ten Counties	All Types		106	56	18	

NAME	CITY/COUNTY	COMPANY TYPE	NUMBER of FLEET	TYPE OF PROBLEM			
				CONGES - TION	ACCESS/ INFRA- STRUCT.	INTERNAL PROBLEM	OTHER PROBLEM
Schiller Transport Inc.	Elizabeth, Union, NJ	TruckTerm/ Warehouse	60	Y	Y	Y	
Lincoln Storage Warehouses	Orange, Essex, NJ	TruckTerm/ Warehouse	40				
Port Newark Refrig. Warehouse	Pt. Newark, Essex, NJ	TruckTerm/ Warehouse	150				Y
Pittston Warehouse Corp.	Pt. Newark, Essex, NJ	Warehouse	10			Y	Y
Port Jersey Distribution	Jersey City, Hudson, NJ	TruckTerm/ Warehouse	190	Y	Y		
J. F. Lomma Inc.	South Kearny, Hudson, NJ	TruckTerm/ Warehouse	68			Y	
Lomma Warehouse Corp.	Elizabeth, Union, NJ	Warehouse	2				
Eastern Warehouse Inc.	Pt. Newark, Essex, NJ	TruckTerm/ Warehouse	7				
Messinger Trucking & Warehouse Co.	Newark, Essex, NJ	TruckTerm/ Warehouse	12				
Harbor Freight Transport Corp.	Elizabeth, Union, NJ	TruckTerm/ Warehouse	47	Y	Y		
Resources Warehousing & Consolidated Services	North Bergen, Bergen, NJ	TruckTerm/ Warehouse	65	Y	Y	Y	
Total	Northern New Jersey	All Types		4	4	4	2

V. The following is a list of detailed bottlenecks divided by county as indicated by the survey respondents:

Maps for the bottleneck locations are provided in Appendix B.

County	Problems	Town
Westchester	Mc Lean Avenue, S. Broadway, Ludlow Street: congestion, double parking, and inadequate timing for traffic signals	Yonkers
	S. Columbus Avenue: inadequate lane width I-95: on-going construction	Mount Vernon
	Rt. 9A: inadequate lane width, congested, poorly maintained, no sidewalks, insufficient clearance on several overpasses (North of Elmsford) . Tappan Zee Bridge: congested, toll booth back-ups, in-sufficient clearance. Bear Mountain Bridge: insufficient clearance Newburgh Bridge: insufficient clearance	Elmsford
	Alexander Street: narrow lanes with low bridge, steep hills on road leading to Alexander St.	Yonkers
	Yonkers Ave. and Mt. Vernon Ave.: congested and inadequate lane width.	Mt. Vernon
	Rt. 287: congestion on EB in AM peak and on WB in PM peak	Tarrytown
	I-95 including Throgs Neck Bridge: congested, on-going construction	New Rochelle
Rockland	Rt. 59: congestion Rt 59 bridge (overpass) on Western highway: lighting problem and low clearance	Suffern Blauvelt Monsey
	Rt. 9W: congestion	Stony Point
	Rt. 9W at Kay Fries Drive intersection: need traffic lights to reduce delay.	Stony Point

County	Problems	Town
	Western Highway (Hackensack River Bridge): insufficient weight limit	Blauvelt
	Railroad Avenue: inadequate weight limits	Stony Point
	I-287 : congestion and back-up on bridge Palisade Parkway: congestion	Orangeburg; Congers
	Harriman Railroad Bridge (overpass) on Rt. 17: insufficient clearance	Hilburn
Putnam	Rt. 22 and Rt. 312: mostly residential - inadequate for commercial traffic	Brewster
	Rt-84: congestion	Brewster
	Croton Falls Rd. ; Sandy St.; Union Valley Rd.: narrow lane and insufficient turning radius.	Mahopac
	Rt. 22: minor congestion, inadequate turning radius for tractor trailer	Brewster
	Rt. 684: congestion	Brewster
Manhattan	Holland Tunnel: crowded; inadequate vertical clearance; access to tunnel chocks the neighborhood streets; ongoing construction work on neighborhood streets.	New York City
	Lincoln Tunnel: congested; insufficient turning lane; inadequate lighting; inadequate vertical clearance .	New York City
	George Washington Bridge: congested; insufficient turning radius and lane width; insufficient lighting; inadequate vertical clearance; suggested more truck access route to I-495. Tonnelle Ave, leading to GWB (New Jersey side): congested; poor surface condition.	New York City
	11th Avenue, Greenwich Street, Laigh Street (downtown Manhattan): congestion; ongoing construction during the workday hours; insufficient enforcement (double parking); insufficient loading zone access for commercial vehicles; narrow lane.	New York City
	Midtown tunnel: congestion; inadequate vertical clearance.	New York City
	46th Street area: planned zoning change from industrial to residential opposed by local industry; this will increase truck parking problem.	New York City

County	Problems	Town
	West 24th, 25th, 55th and other mid-Manhattan streets: congested; poor surface condition; insufficient turning radius; inadequate lighting/signing.	New York City
	Brooklyn Battery Tunnel, Williamsburg Bridge: congested; insufficient vertical clearance, insufficient lane width.	New York City
Bronx	Cross Bronx Expressway: congested; insufficient turning radius; insufficient lane width; poor surface condition.	New York City
	East Tremont Avenue, Boston Road & East 173rd Street: congested; ongoing construction; insufficient signing	New York City
	West Farm Road entrance to Rt.98 and Sheridan Expressway: inadequate signing for truck traffic especially for out of town vehicles. Boston Road, E. 173rd Street: inadequate truck signing.	New York City
Brooklyn	Allow small trucks on parkways	New York City
	East River Bridges to Manhattan: crowded; insufficient height	New York City
	Van Brunt Street: congested; poor surface condition; ongoing construction; lack of traffic enforcement (double parking, alternate parking); high accidents rate. Local businesses oppose plan (by community board) to reroute truck traffic from Van Brunt to a circular route around the main artery.	New York City
	Kosciuszko Bridge: congested; insufficient lane width.	New York City
	BQE (Rt.278): congested; narrow lanes; low clearance; ongoing construction (Hamilton Ave and Navy Yard areas); it was suggested that height restriction on overpasses (near Atlantic Ave, and at 31st Street near Triboro Bridge) should be evaluated; and construction scheduled for non-rush hours.	New York City
	Cherry Street: poor surface condition.	New York City
	Mill Avenue: restriction for trucks traffic.	New York City
	Meeker Ave, Gardner Ave, Vandervoort Ave, Lombardy Street: congested; insufficient lane width; insufficient turning radius.	New York City
Queens	Maspeth area: local bridges need repairs	New York City

County	Problems	Town
	48th St, 56th Road, Maspeth: congestion; ongoing construction; inadequate traffic control; insufficient turning radius; 48th is not a through street, which causes delay. Suggestion: construction work on roads traveled by commercial vehicles should be done during the night time.	New York City
	Steinway St (LIC): inadequate traffic control enforcement (double parking).	New York City
	37th Ave, 22nd St (LIC): too many autobody shops; double parked cars.	New York City
	Access from LIE to 59th St. bridge (Astoria): congested; insufficient turning radius.	New York City
	37th St and 19th Ave (Astoria): congested	New York City
	Astoria Blvd (near Triboro Bridge ramp): safety problem created by portable weighing station.	New York City
	Flushing area: inadequate preparation for winter hazard (snow removal)	New York City
	5th St (LIC): insufficient lane width; insufficient turning radius; it was suggested to reverse direction of one way traffic.	New York City
	Rockaway Blvd: insufficient truck parking space (Jamaica)	New York City
Richmond	Verazzano Bridge toll, and tolls on other bridges to Staten Island, are too high for trucks.	New York City
	Richmond Terrace: congested	New York City
Suffolk	Long Island Expressway: traffic congestion; ongoing construction; insufficient number of lanes.	Ronkonkoma, Melville, Deer Park, Hauppauge, Bayshore, Holtsville. Central Islip
	Long Island Expressway: exit 49 - need exit in 4-directions. Bypass on exit 49 is congested	Melville, West Babylon
	Long Island Expressway, exit 57: traffic congestion; construction.	Central Islip

County	Problems	Town
	Rt. 111: insufficient turning radius to Central Ave	Hauppauge
	Rt.454 (Veteran Memorial Blvd): traffic lights problem	Central Islip
Nassau	Insufficient road access to Industrial Park	Freeport
	Jericho Turnpike: congestion; build a bridge from North Shore to Connecticut.	Syosset
	Long Island Expressway: congestion	Farmingdale
	Frost Street: congested and inadequate turning radius	Westbury
	Rt. 27 (Sunrise highway): congestion	Oceanside
	Long Beach Rd.: congestion	Oceanside
	Searingtown Rd.: congested Shore Rd. : congested	Port Washington
	Rt. 25A: congested (minor)	Port Washington

VI. Conclusion

Transportation is one of the most critical issues in the movement of merchandise; therefore, efficient and safe access in and out of warehouses and truck terminals is very important. The level of accessibility sometimes contributes to the price of merchandise. NYMTC has made an effort to account for all bottlenecks in freight movement for the region. As a result of our findings, we will include these bottlenecks and issues in the Transportation Improvement Program and Long Range Plan.

The following is an overall summary for bottleneck types in the NYMTC (10 county) region that were cited by survey respondents:

Transportation Problems:

Congestion:	106
Access/Infrastructure:	56
Internal Problem:	18
Others:	30

One interesting fact is that, 24% of the respondents indicated that intermodal transportation is not beneficial to them. It seems obvious that most of the truck terminals and warehouse operators' primary problem is *congestion*. The survey results emphasize the importance of adequate mobility for freight.

References:

1. A Warehouse Primer, 2/87: Port Authority of New York and New Jersey.
2. Warehousing, a guide for users and operators: Kenneth Ackerman.
3. Transport Topic 10/95.
4. Traffic World 10/95.
5. Inbound Logistics April, 1995.
6. Physical Distribution management: F. Wentworth.
7. Journal of Commerce: 2/21/96
8. American Trucking Associations Dictionary.
9. Transportation Distribution 2/96.
10. Transportation Topics 2/96.
11. Goods Movement Characteristics: UTRC (University Transportation Research Center) 1/93.
12. Journal of Commerce 12/95.
13. Transportation Topics 1/96.
14. Intermodal Insights 9/95.
15. Shipper-Motor Carrier Dock Planning Manual: American Trucking Associations.

APPENDIX A

Fig. 1

TYPICAL VEHICLE SILHOUETTES

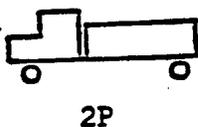
FHWA SCHEME F
CLASSIFICATION



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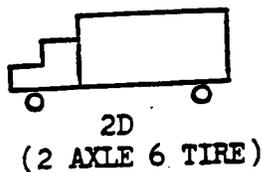
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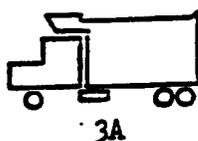
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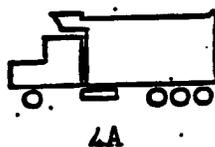
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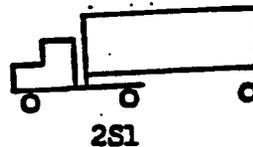


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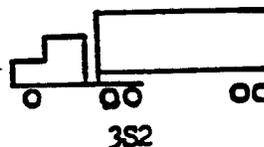


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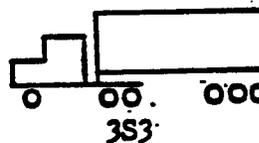
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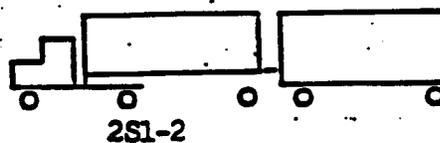
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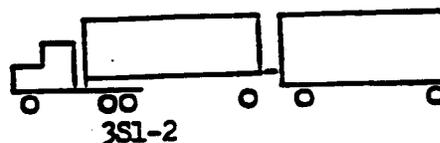
F10



F11



F12



F13

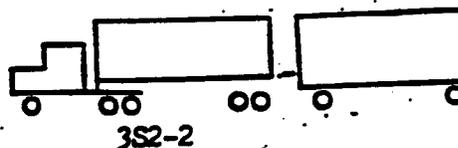


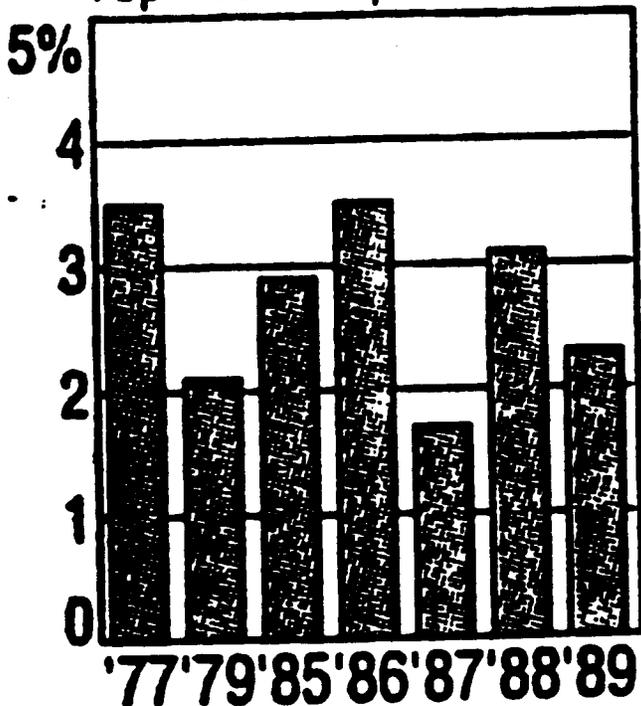
FIG. 2

CHANGES IN TRUCKING INDUSTRY SINCE 1980 DEREGULATION

Trucking

Profit Margins

Top 100 companies



Net Income

In billions of dollars

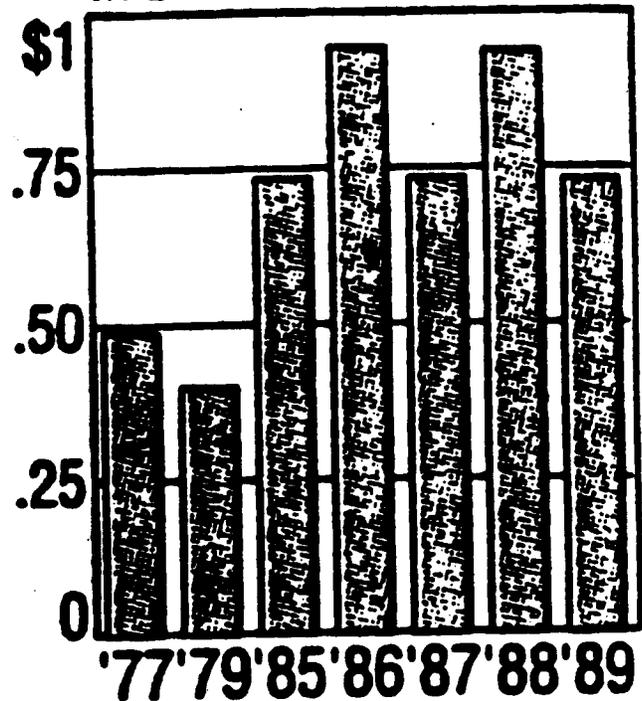
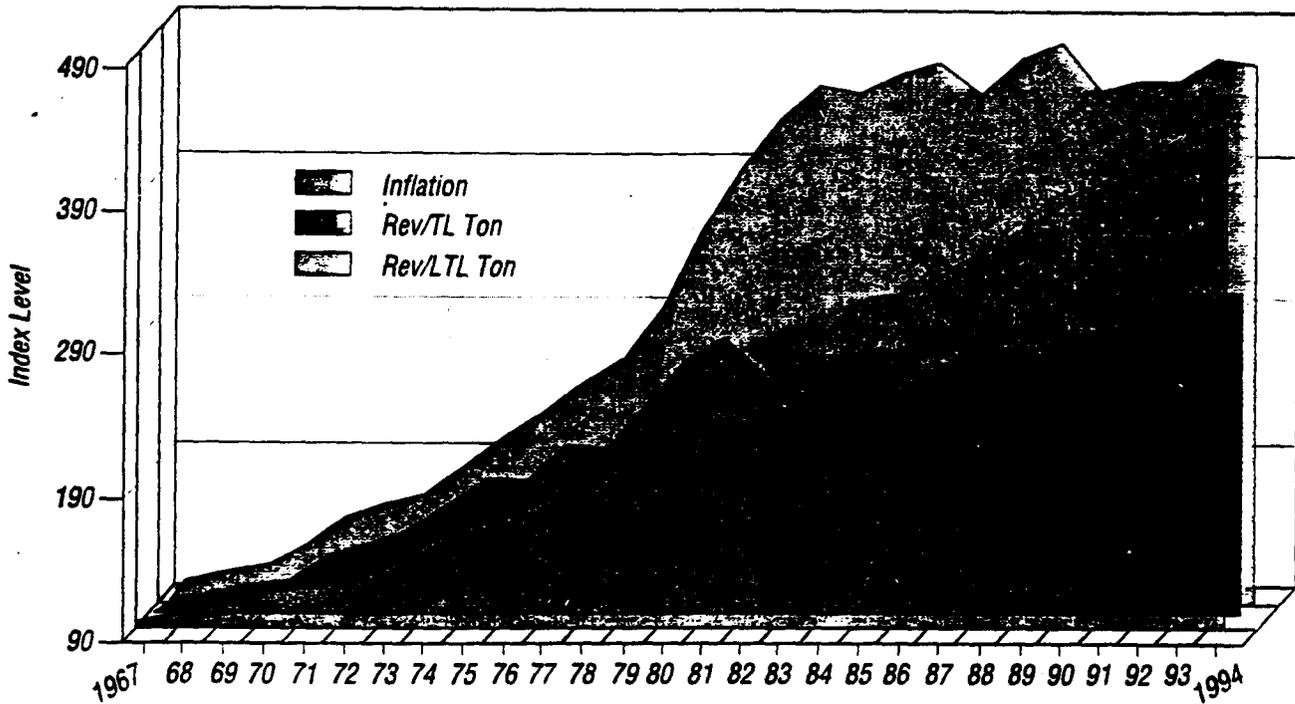


FIG. 3

Revenue per TL & LTL Ton vs. Inflation

Indices with 1967 = 100



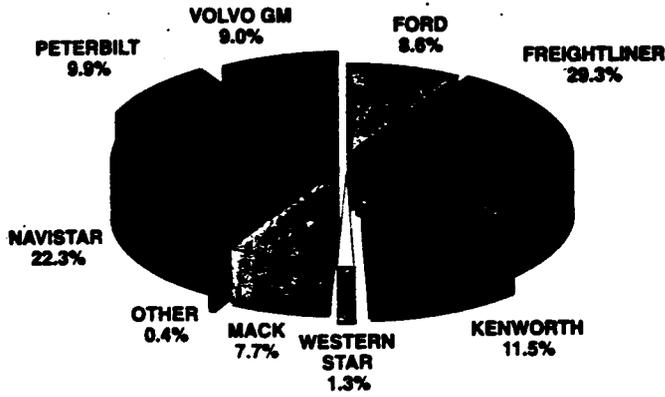
Source: "The Motor Carrier Industry in Transition," 199 Transportation Technical Services

This chart illustrates the competitive nature of the truckload business in terms of revenues per ton as compared with inflation. Note that the brunt of competition and price declines have occurred in the TL sector. This is consistent with the growth in number of carriers since most chose to enter the TL segment where capital needs and network requirements are minimal.

Source: Transportation & Distribution, February 1996

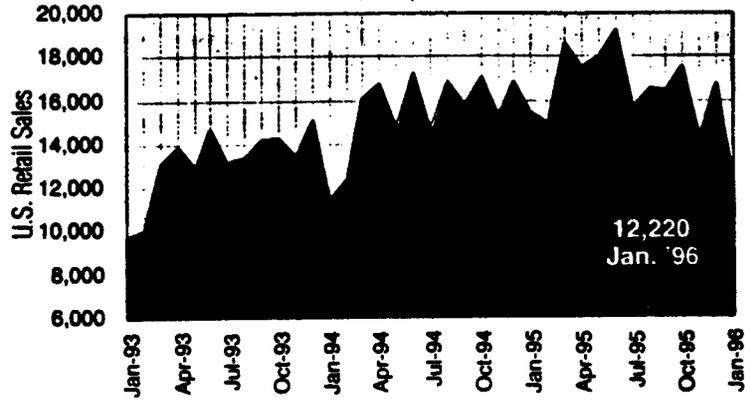
FIG. 4

January Class 8 Market Share



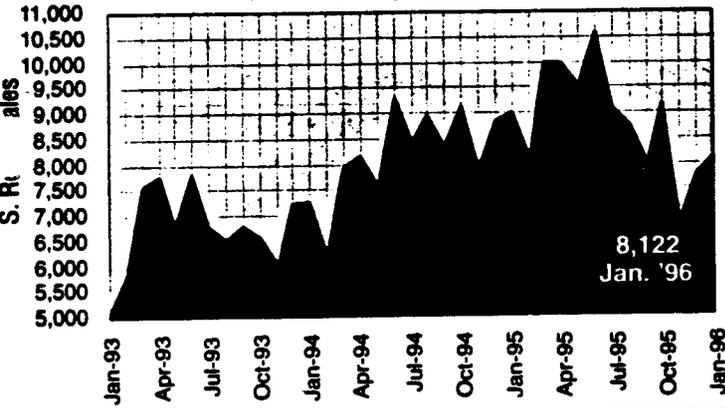
Class 8

Over 33,000 pounds



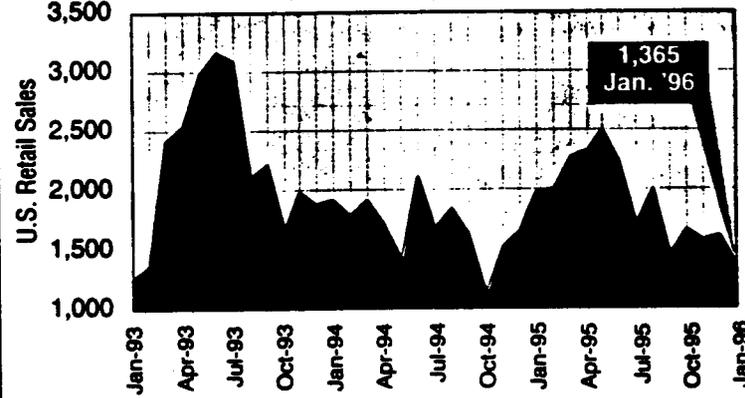
Class 7

26,000 - 33,000 pounds



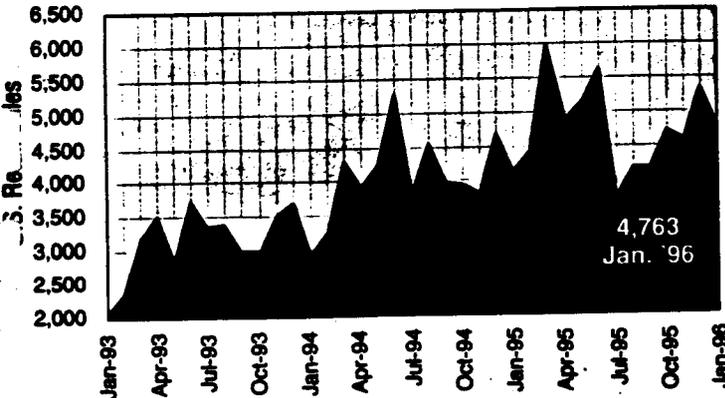
Class 6

19,500 - 26,000 pounds



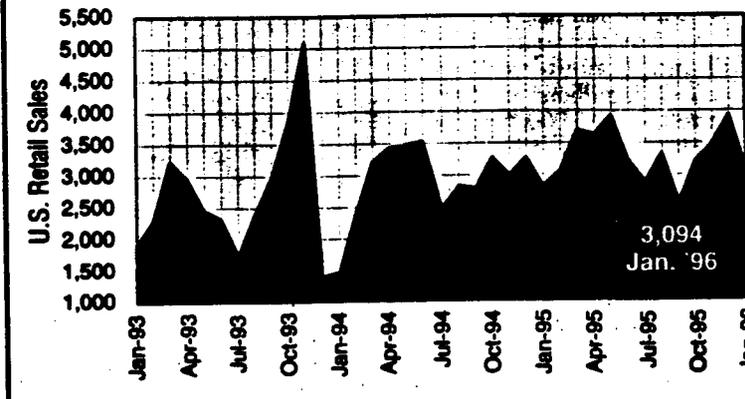
Class 4 & 5

14,000 - 19,500 pounds



Class 3

10,000 - 14,000 pounds



The Transport Topics 100

Largest U.S. Trucking Companies in 1993

1993 Rank	1992 Rank	Company	Type	1993 Revenue ('000)	1993 Rank	1992 Rank	Company	Type	1993 Revenue ('000)	1993 Rank	1992 Rank	Company	Type	1993 Revenue ('000)
1	1	United Parcel Service	Plg	\$13,670,064	41	47	Crate Carrier Corp.	TL	\$193,727	81	80	Mercer Transportation Co.	TL	\$110,429
2	2	Yellow Freight System	LTL	2,333,008	42	48	Contract Freighters	TL	193,285	82	84	Spartan Express	LTL	110,379
3	3	Roadway Express	LTL	2,293,566	43	38	Bakins Van Lines Co.	HHG	190,938	83	87	Stevens Transport	Ref	108,524
4	4	CF Motor Freight	LTL	1,999,825	44	39	Racor International	Ref	190,541	84	88	Traneus Inc.	LTL	107,343
5	5	Schneider National Transportation	TL	1,176,900	45	45	TNT Red Star Express	LTL	189,255	85	90	Burnham Service Co.	HHG	104,581
6	6	Roadway Package System	Plg	1,008,933	46	52	Prime Inc.	Ref	187,821	86	89	Transport Corp. of America	TL	104,467
7	8	J.B. Hunt Transport	TL	946,881	47	46	Churchill Truck Lines	LTL	182,409	87	81	National Freight	TL	103,854
8	7	Overnite Transportation Co.	LTL	939,200	48	49	Complete Auto Transit	MV	180,278	88	94	Interstate Distributor Co.	TL	102,303
9	9	ABF Freight System	LTL	875,836	49	50	FFE Transportation Services	Ref	178,541	89	86	Freymler Trucking	Ref	100,618
10	10	North American Van Lines	HHG	759,444	50	56	Estes Express Lines	LTL	170,471	90	73	Missouri-Nebraska Express	TL	99,598
11	11	Con-Way Express Carriers	LTL	765,085	51	55	KLLM Inc.	Ref	165,481	91	—	Landair Services	TL	98,291
12	12	Carolina Freight Carriers Corp.	LTL	688,288	52	53	Universal Aw-Can Ltd.	TL	162,912	92	92	Granddyke Transport	Tank	94,930
13	13	United Van Lines	HHG	631,938	53	60	A-P-A Transport Corp.	LTL	162,001	93	99	DSI Transports	Tank	94,634
14	14	Ryder Dedicated Logistics	Con	611,298	54	61	C.R. England & Sons	Ref	160,440	94	79	Koch Service	Tank	94,583
15	17	Worner Enterprises	TL	432,658	55	59	New Penn Motor Express	LTL	156,522	95	98	U.S. Xpress Inc.	TL	94,388
16	19	TNT Holland Motor Express	LTL	403,878	56	65	Direct Transit	TL	156,389	96	—	Southwest Motor Freight	TL	94,187
17	18	Watkins Motor Lines	LTL	386,998	57	54	CRST Inc.	TL	155,929	97	98	M & G Convey	MV	93,630
18	16	Allied Van Lines	HHG	397,810	58	68	Merchants Home Delivery Service	Fam	152,843	98	—	Wills Shaw Express	Ref	93,415
19	15	Preston Trucking Co.	LTL	387,251	59	63	Advance Transportation Co.	LTL	143,451	99	91	American President Trucking Co.	Int	93,629
20	21	NationalWay Transport Service	LTL	348,022	60	58	Montgomery Tank Lines	Tank	142,378	100	—	TNT Riddaway Truck Line	LTL	91,240
21	26	American Freightways	LTL	389,893	61	42	Anchor Motor Freight	MV	142,925					
22	20	Central Transport	LTL	322,845	62	76	Roberts Express	Exp	137,707					
23	24	Ranger Transportation	TL	304,127	63	81	Triam Specialized Carriers	HS	133,788					
24	22	Mayflower Transit	HHG	303,372	64	57	ANFI Freight System	LTL	132,945					
25	25	Viking Freight System	LTL	287,686	65	66	Dart Transit Co.	TL	130,034					
26	27	Burlington Motor Carriers	TL	279,982	66	69	Ligon Nationwide	TL	129,171					
27	28	Swift Transportation	TL	298,544	67	74	Hymen Freightways	LTL	127,982					
28	30	Bulfinch Transport	TL	246,989	68	71	Paolo Truck Line	TL	127,674					
29	33	Allied Systems	MV	238,412	69	84	Anderson Trucking Service	HS	126,883					
30	29	Central Freight Lines	LTL	231,889	70	82	PST Vans	TL	125,883					
31	31	Atlas Van Lines	HHG	230,820	71	82	Cassens Transport Co.	MV	124,742					
32	43	M.S. Carriers	TL	224,584	72	70	Grabel Van Lines	HHG	123,024					
33	35	Averitt Express	LTL	224,084	73	75	G.I. Trucking Co.	LTL	121,403					
34	32	Chemical Leaman Tank Lines	Tank	221,825	74	67	Sala Motor Freight Line	LTL	120,682					
35	40	Independent Freightway	TL	218,882	75	78	Customized Transportation	Con	117,455					
36	34	Commercial Carriers	MV	218,187	76	72	Merchants Fast Motor Lines	LTL	116,930					
37	44	Southwest Freight Lines	LTL	216,879	77	85	Heartland Express of Iowa	TL	115,985					
38	36	AAA Cooper Transportation	LTL	215,836	78	77	Manson Transportation	TL	115,220					
39	41	Old Dominion Freight Line	LTL	205,399	79	83	Marion Transport	Ref	112,180					
40	37	Mallack Inc.	Tank	201,699	80	85	Dallas & Mevis Forwarding Co.	MV	111,230					

KEY

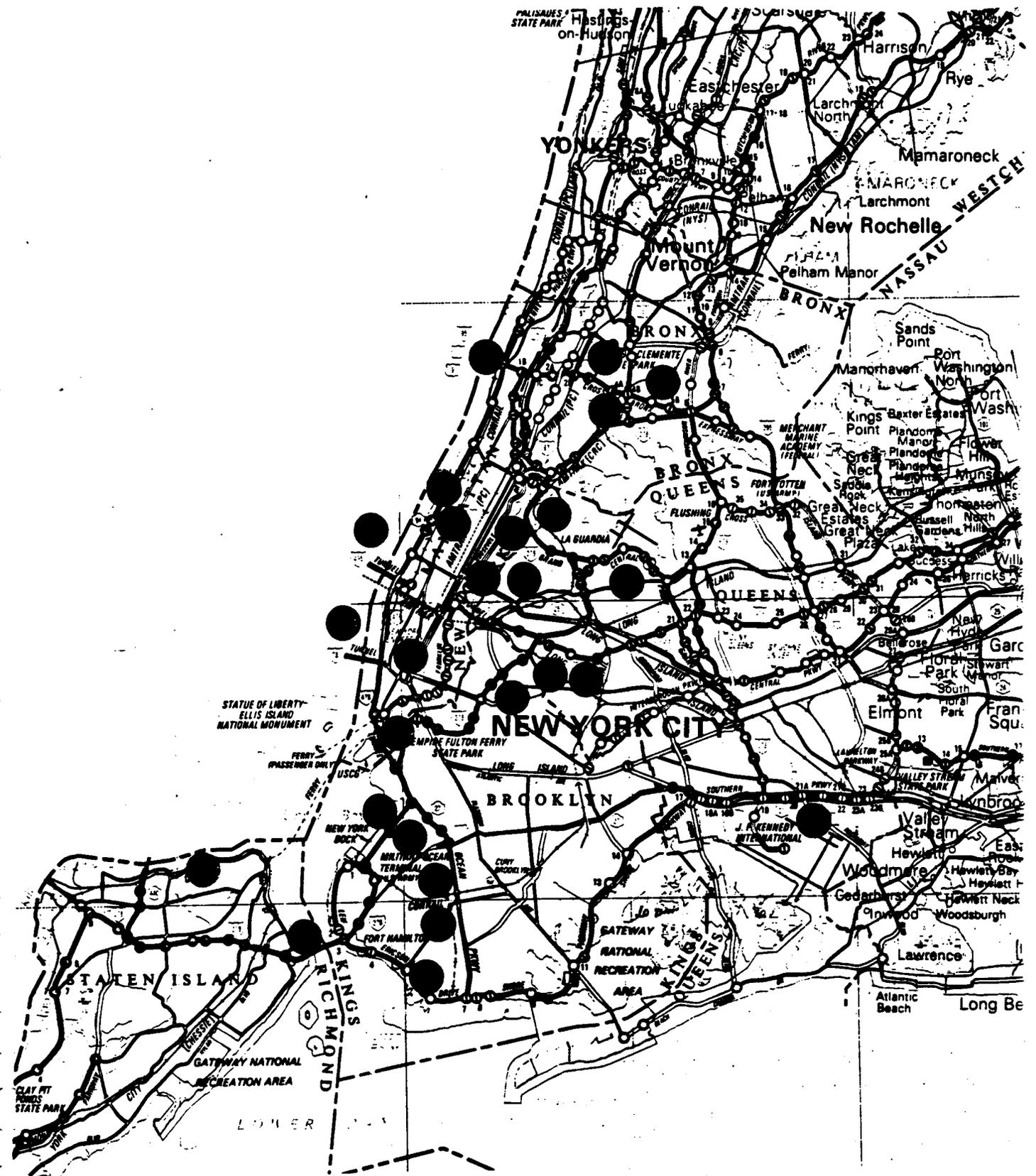
Con = Contract
 Exp = Expedited
 Fam = New Furniture
 HHG = Household Goods
 HS = Heavy Specialized
 Int = Intermodal
 LTL = Less-Than-Truckload
 MV = Motor Vehicle
 Plg = Package
 Ref = Refrigerated
 TL = Truckload
 Tank = Tank Truck

Carriers with diversified operations are classified by largest revenue segment.

APPENDIX B

New York City (five counties)

Refer to the following page for transportation problems listed in the survey



New York City (five counties)

Transportation problems listed in the survey:

Bronx County

Cross Bronx Expressway: congested; insufficient turning radius; insufficient lane width; poor surface condition.
East Tremont Avenue and Boston Road & East 173rd Street: congested; ongoing construction; insufficient signs
West Farm Road entrance to Rt.98, and Sheridan Expressway: inadequate signing for truck traffic especially for out of town vehicles.
Boston Road, E. 173rd Street: inadequate truck signing.

Brooklyn County

Allow small trucks on parkways
East River Bridges to Manhattan: crowded; insufficient height
Van Brunt Street: congested; poor surface condition; ongoing construction; lack of traffic enforcement (double parking, alternate parking); high accidents rate. Local businesses oppose plan (by community board) to reroute truck traffic from Van Brunt to a circular route around the main artery.
Kosciuszko Bridge: congested; insufficient lane width.
BQE (Rt.278): congested; narrow lanes; low clearance; ongoing construction (Hamilton Ave and Navy Yard areas); it was suggested that height restriction on overpasses (near Atlantic Ave, and at 31st Street near Triboro Bridge) should be evaluated; and construction scheduled for non rush hours.
Cherry Street: poor surface condition.
Mill Avenue: restriction for trucks traffic.
Meeker Ave, Gardner Ave, Vandervoort Ave, Lombardy Street: congested; insufficient lane width; insufficient turning radius.

New York County

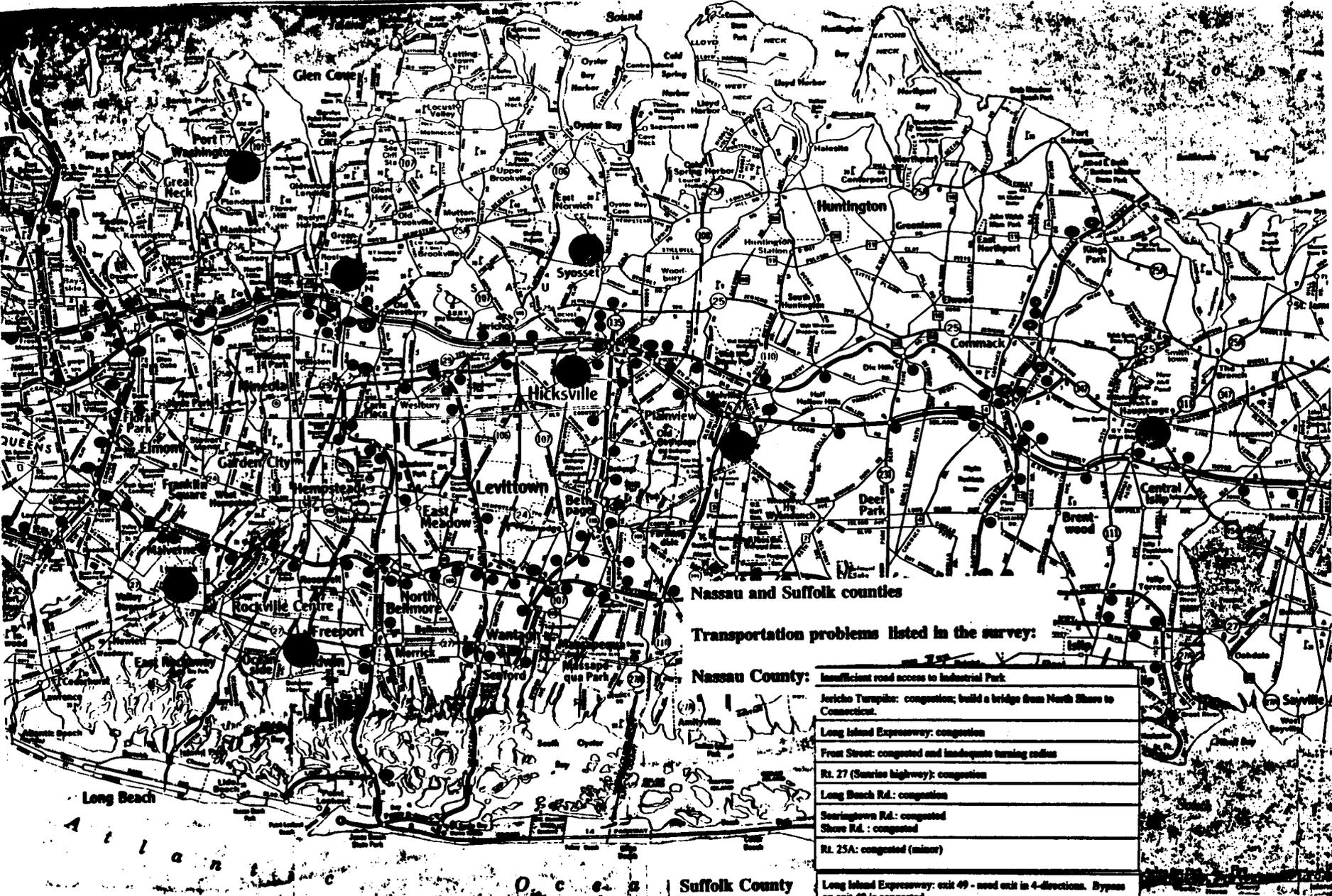
Holland Tunnel: crowded; inadequate vertical clearance; access to tunnel chocks the neighborhood streets; ongoing construction work on neighborhood streets.
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11th Avenue, Greenwich Street, Laigh Street (downtown Manhattan): congestion; ongoing construction during the workday hours; insufficient enforcement (double parking); insufficient loading zone access for commercial vehicles; narrow lane.
Midtown tunnel: congestion; inadequate vertical clearance.
46th Street area: planned zoning change from industrial to residential opposed by local industry; this will increase truck parking problem.
West 24th, 25th, 55th and other mid-Manhattan streets: congested; poor surface condition; insufficient turning radius; inadequate lighting/signing.
Brooklyn Battery Tunnel, Williamsburg Bridge: congested; insufficient vertical clearance, insufficient lane width.

Queens County

Maspeth area: local bridges need repairs
48th St, 56th Road, Maspeth: congestion; ongoing construction; inadequate traffic control; insufficient turning radius; 48th is not a through street, which causes delay. Suggestion: construction work on roads traveled by commercial vehicles should be done during the night time.
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37th Ave, 22nd St (LIC): too many autobody shops; double parked cars.
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Flushing area: inadequate preparation for winter hazard (snow removal).
5th St (LIC): insufficient lane width; insufficient turning radius; it was suggested to reverse direction of one way traffic.
Rockaway Blvd: insufficient truck parking space (Jamaica)

Richmond County

Verazzano Bridge toll, and tolls on other bridges to Staten Island, are too high for trucks.
Richmond Terrace: congested



Nassau and Suffolk counties

Transportation problems listed in the survey:

Nassau County:

Insufficient road access to Industrial Park
Jericho Turnpike: congestion; build a bridge from North Shore to Connecticut.
Long Island Expressway: congestion
Front Street: congested and inadequate turning radius
Rt. 27 (Sunrise highway): congestion
Long Beach Rd.: congestion
Searingtown Rd.: congested
Shore Rd.: congested
Rt. 25A: congested (minor)
Long Island Expressway: exit 49 - need exit in 4-directions. Bypass on exit 49 is congested
Long Island Expressway, exit 57: traffic congestion; construction.
Rt. 111: insufficient turning radius to Central Ave
Rt. 454 (Veteran Memorial Blvd): traffic light problem

Suffolk County

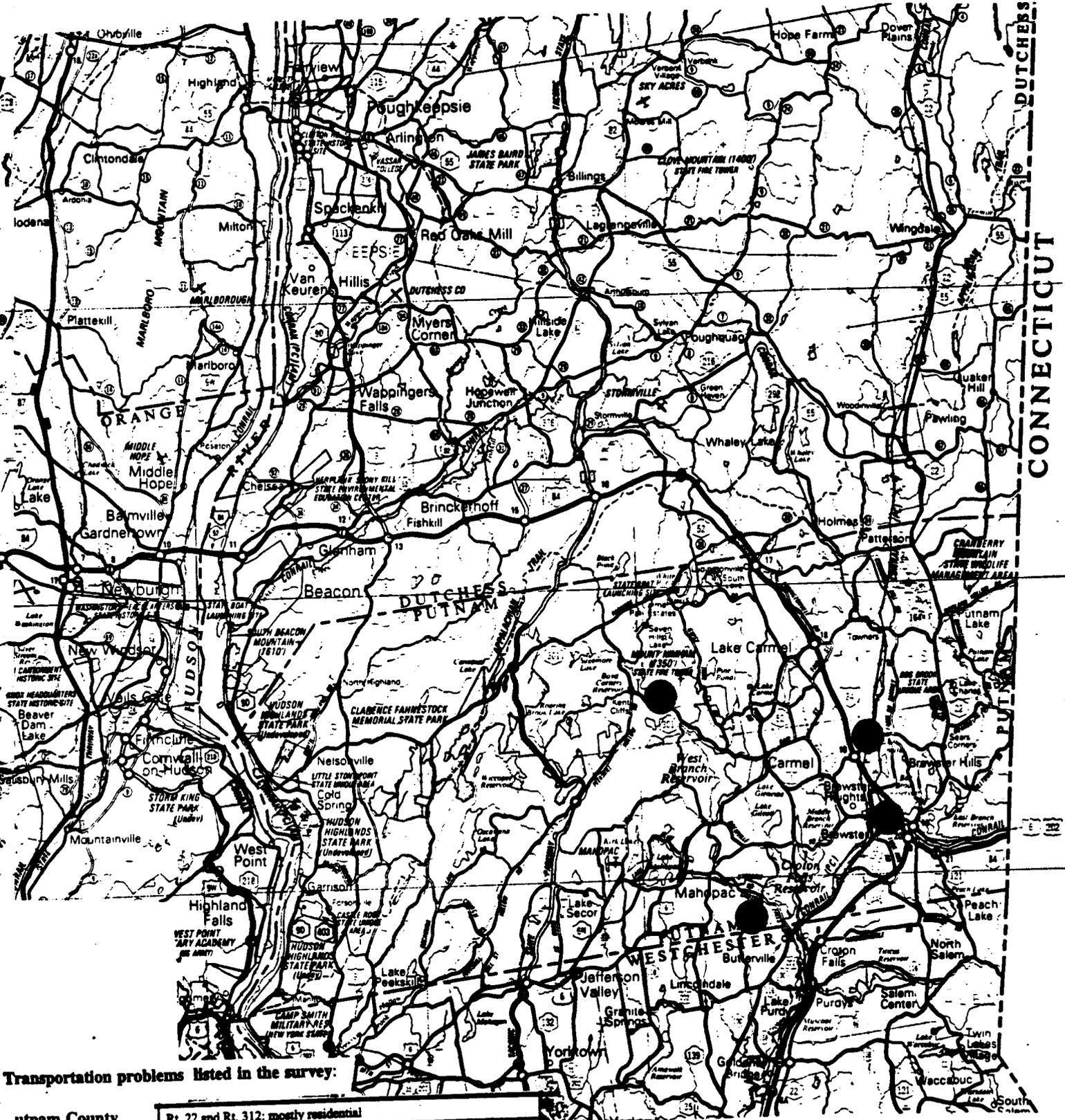
Nassau and Suffolk counties

Transportation problems listed in the survey:



Rockland	Rt. 59: congestion Rt 59 bridge (overpass) on Western highway: lighting problem and low clearance
	Rt. 9W: congestion
	Rt. 9W at Kay Fries Drive intersection: need traffic lights to reduce delay.
	Western Highway (Hackensack River Bridge): insufficient weight limit
	Railroad Avenue: inadequate weight limits
	I-287: congestion and back-up on bridge Palisade Parkway: congestion
	Harrison Railroad Bridge (overpass) on Rt. 17: insufficient clearance

Westchester	Mc Lann Avenue, S. Broadway, Ludlow Street: congestion, double parking, and inadequate timing for traffic signals
	S. Columbus Avenue: inadequate lane width I-95: on-going construction
	Rt. 9A: inadequate lane width, congested, poorly maintained, no sidewalks, insufficient clearance on several overpasses (North of Elmsford)
	Tappan Zee Bridge: congested, toll booth back-ups, in-sufficient clearance.
	Bear Mountain Bridge: insufficient clearance
	Newburgh Bridge: insufficient clearance
	Alexander Street: narrow lanes with low bridge, steep hills on road leading to Alexander St.
	Yonkers Ave. and Mt. Vernon Ave.: congested and inadequate lane width.
	Rt. 287: congestion on EB in AM peak and on WB on PM peak
	I-95 including Throgs Neck Bridge: congested, on-going construction



Transportation problems listed in the survey:

Putnam County

Rt. 22 and Rt. 312: mostly residential
Rt-84: congestion
Croton Falls Rd. ; Sandy St.; Union Valley Rd.: narrow lane and insufficient turning radius.
Rt. 22: minor congestion, inadequate turning radius for tractor trailer
Rt. 684: congestion