MTA COUNTY-BY-COUNTY COST BENEFIT ANALYSIS

FINAL REPORT

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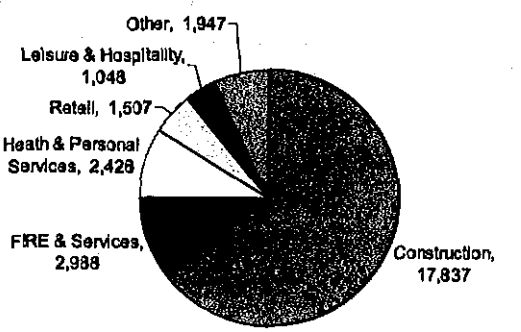
The initial purpose of the overall MTA Benefit-Cost Study was to provide the MTA with a general assessment of the payments made and benefits received by the member counties of the 12-county MTA District, updating brief studies of this type previously completed by the MTA as recently as 1999. Those studies were primarily accounting exercises, using figures on the costs of maintaining facilities in each county and providing services to its residences (within the county and elsewhere throughout the District), and matching those costs to the MTA against what the county's residents and businesses actually paid in fares and taxes to offset those costs.

The updated calculation of these "MTA/County Payment Ratios," as presented in Chapter 2 of this report, show the approximate position of the various counties as measured by these ratios. However, these analyses did not assess any economic benefit received by county residents and businesses from transit services provided within that county or elsewhere in the MTA region. A Secondary Economic Benefits analysis, as presented in Chapter 1 of this report, was therefore completed to explain some of the economic benefits provided to MTA District counties by MTA services and expenditures.

1. SECONDARY ECONOMIC BENEFITS OF MTA SERVICES

For a region as large, complex and economically significant as the New York City metropolitan area, with a long history of dependence on an extensive array of transit services, these benefits are broad-reaching and critical to the regional economy. Similar to the MTA/County Payment Ratio analysis noted above, this initial assessment of economic benefits was estimated for eight areas -- New York City (all five boroughs treated as one area) and the remaining seven suburban counties in the MTA District. These studies of secondary benefits focused on the following four areas: (1) Economic impacts of MTA expenditures; (2) Consumer surplus and user benefits of MTA ridership; (3) Economic productivity and competitiveness benefits; and (4) Property value, land use and development opportunities. The results of these analyses in these four areas are summarized below.

Annual Employment Impacts of MTA Capital Budget by Industry (1995 to 2004) - Direct, Indirect and Induced Jobs



a. The Impact of MTA Expenditures

The MTA is a multi-billion dollar operation and one of the largest employers in the region, with close to $6 billion in annual operating and maintenance expenditures

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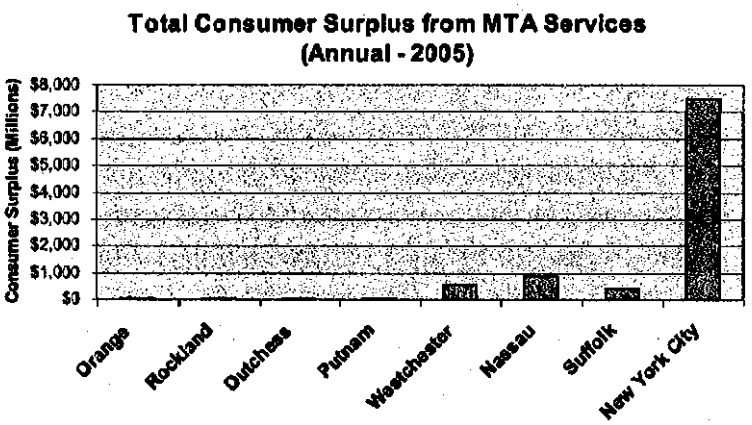
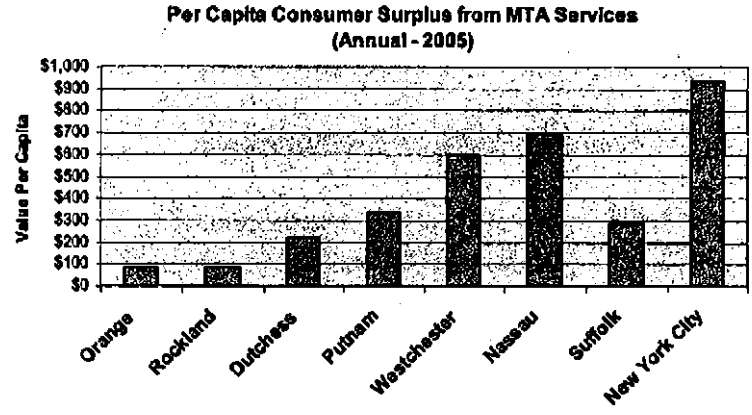
and $1.91 billion in Capital expenditures (annual average over 1995 – 2004 period). The analyses of the secondary economic impacts of this infusion of funds back into the MTA region show very significant increases in local employment and income across a broad range of industries. The overall annual average employment impact of the MTA's capital program results in close to 28,000 jobs due to **direct** employment effects (e.g., increased expenditures in construction industry associated with station rehabilitation); **indirect** effects (changes in other industries responding to increased activity in the directly affected industries) and **induced** effects (changes in local spending due to income changes (e.g., expanded wages in directly and indirectly impacted industries). While slightly under two-thirds of these jobs are in construction-related industries, almost 10,000 jobs are spread across a wide range of other industrial sectors. Similarly, the $6 billion in annual operating and maintenance expenditures result in a total of approximately 119,000 jobs and $8.6 billion in labor income due to the direct, indirect and induced employment effects.

b. Consumer Surplus Benefits

Riders of MTA services receive millions of dollars in consumer surplus benefits, representing what is typically viewed as the difference between the present fare level and the level at which a rider would change his/her travel decision because of the higher fare. It reflects the passenger's overall perception of the value of that trip relative to the alternative in terms of travel time, convenience, reliability, and other factors (e.g., you can read or sleep on a train, and avoid parking costs). The benefits include those experienced by both existing and new transit users. Using ridership figures and fare revenues by transit users in each of the MTA counties, calculations for the MTA District show annual consumer surplus benefits of approximately $9.5 billion. The overall total of





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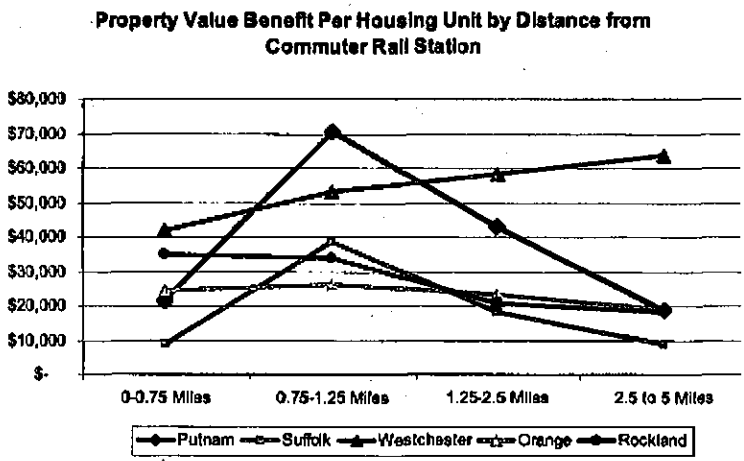
consumer surplus benefits corresponds to the ridership and fare revenue generated in each county, with New York City accounting for almost 80% of the total benefits in the MTA region. On a per capita basis the gap among the region's counties narrows somewhat (total consumer surplus values for Orange and Rockland Counties, for example, are 0.3% - 0.4% of the New York City total, while on a per capita basis they are approximately 9% of the New York City figure). On a per capita basis, New York City and the two major commuter rail market counties (Nassau and Westchester) clearly experience considerably higher benefits than the rest of the MTA District.

c. Impact On Economic Productivity and Competitiveness

Studies of the MTA system show the important economic gains from greater investment in transit facilities and services (approximately $2 gained for every $1 invested) and the substantial losses that disinvestment in transit services would create (roughly $4 loss to the economy for every $1 reduction in transit investment). This was supported by studies of other major urban area systems, all concluding that transit service improvements and expansions provide economic benefits well above their required investment. An extensive and efficient transit service network also generates (1) business cost savings through reduced and more reliable travel times for both transit users (through better service) and highway users (traveling on less-congested roadways); (2) productivity increases (businesses more effectively utilize their facilities and work force); and (3) greater business attraction, through improved accessibility.

d. Property Value Benefits

The presence and proximity of rapid transit (subway, commuter rail, light-rail, etc.) and the ties to the region's economic core that those services provide have an identifiable positive impact on property and sales values in suburban areas, while MTA services make possible the uniquely high densities of economic activity and value added in New York City, particularly in the Manhattan CBD. Modeling analyses to assess the property value contribution of proximity to commuter rail service in five suburban counties within the MTA region (where real estate data sufficiently detailed to complete these studies) confirmed a strong positive correlation.



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Results indicated that commuter rail proximity accounted for roughly 7% to 15% of owner-occupied housing values in the analyzed areas, which was consistent with results from similar studies performed elsewhere. The following are the overall annualized benefits (in the year 2000):

Putnam County	$38 million
Orange County	$112 million
Rockland County	$124 million
Suffolk County	$470 million
Westchester County	$766 million

In using these results, the limited data available for each county, the lack of spatial distribution of analyzed units across the counties, the spatial limitations of Census block group data in suburban and rural areas, and the modest statistical fit of the data (indicating that other variables beyond access to commuter rail are at work) must be remembered, particularly when extrapolating these results to all owner-occupied units in each county. It also does not consider any benefit to owners of renter-occupied residential properties, which account for a relatively large portion of the housing units in these counties, or the benefit to non-residential properties -- something of considerable importance as the role of reverse-commuting increases.

Overall, these types of significant economic benefits must be considered to fully understand the value that the MTA services provide to the region and its constituent counties. Transit services generally have economic returns well above their annual costs, and there are numerous other public benefits (e.g., affordable mobility for low-income or elderly/disabled residents who don't own a car or cannot drive, reduced auto ownership costs for residents of neighborhoods well-served by transit, health benefits of reduced auto emissions, etc.) not covered here but of considerable regional importance. However, beyond these important and real benefits, the MTA's commuter rail, subway and express and local bus services, more so than for other urban areas in the United States, make it possible for the concept of a New York City Metropolitan area to not only exist but to thrive.

2. ASSESSMENT OF MTA/COUNTY PAYMENT RATIOS

Chapter 2 of this report presents the results of a series of calculations, the purpose of which was to roughly measure the ratio of payments made by the MTA in providing its services to each county relative to the payments in fares, tolls and MTA-earmarked taxes made by the residents and businesses of that county. The calculation of the "MTA/County Payment Ratios"

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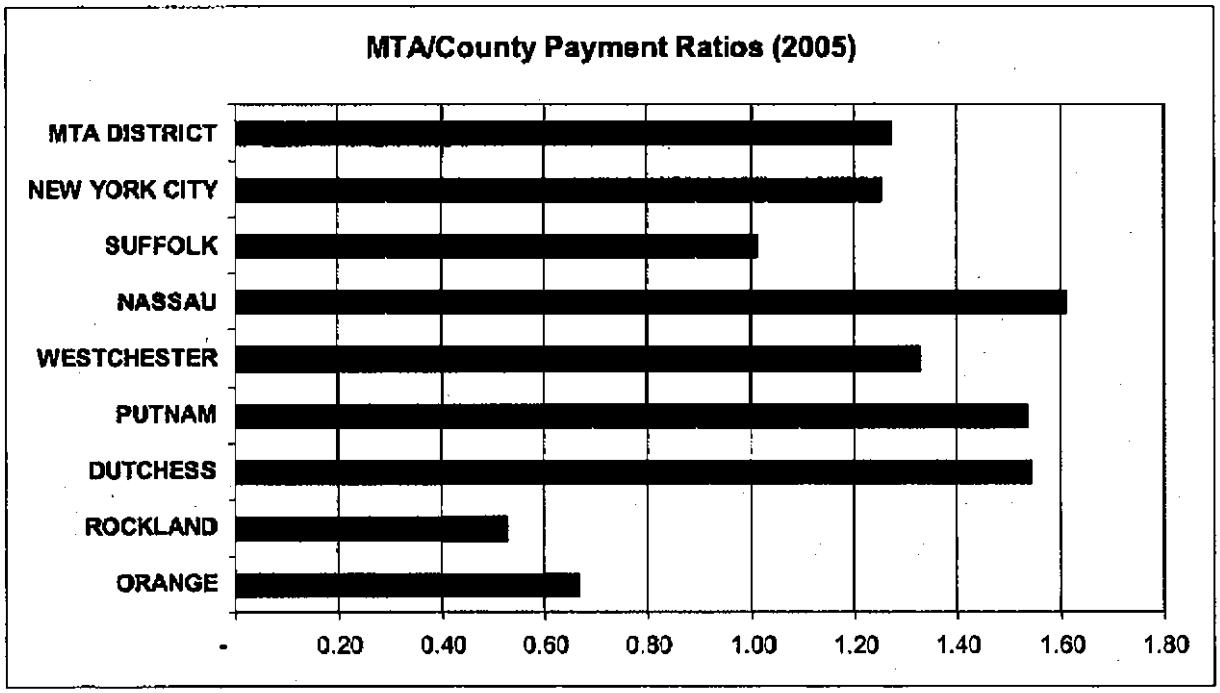
as presented in this report is meant to show the position of the various counties in comparison to each other, as measured by the specific payment factors used to arrive at these ratios. The ratios do not represent the "net benefit" of the MTA District to each of its member counties, as these calculations focused solely on payments made by the counties and their residents and businesses and the approximate costs of the services the MTA provides. The overall economic benefits of MTA District operations to its constituent counties are discussed in Section 1 of this summary and in greater detail in Chapter 1 of this report.

The following are the calculated payment ratios based on MTA operations and related fare, toll and earmarked MTA tax payments in 2005:



The most recent MTA study looking at this same type of payment ratio was in 1999, when similar calculations were performed based on 1998 operations, but only for Orange and Rockland Counties. The ratio values at that time were 0.47 and 0.63 for Rockland and Orange Counties, respectively. As shown in the chart above, the 2005 values for those two counties (0.53 for Rockland, 0.67 for Orange) are slightly higher than those previously estimated for 1998. The present study provides equivalent updated values for those counties, for the rest of

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the MTA District counties and for the District as a whole. The following table indicates the numerous factors that go into the calculation of these ratios[1]:

	Service Costs and Payment Values: 2005 (millions)							
	Orange	Rockland	Dutchess	Putnam	Westchester	Nassau	Suffolk	NY City	Total
MTA Services and Payments to County									
Direct Payment from MTA Collected Taxes	$ 7.03	$ 11.70	$ 7.38	$ -	$ -	$ -	$ -	$ -	$ 26.11
MNR West of Hudson Expenses	$ 15.23	$ 3.67	$ -	$ -	$ -	$ -	$ -	$ -	$ 18.90
MNR West of Hudson Administrative Costs	$ 8.31	$ 2.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 10.31
MTA Headquarters Expenses (without PD)	$ 1.63	$ 0.86	$ 3.78	$ 1.88	$ 21.51	$ 30.50	$ 13.34	$ 153.96	$ 227.46
MTA Police Department	$ 1.62	$ 0.40	$ 5.76	$ 2.84	$ 22.97	$ 29.95	$ 19.05	$ 3.86	$ 86.45
East of Hudson Expenses	$ 2.88	$ 2.02	$ 65.75	$ 32.36	$ 319.99	$ -	$ -	$ 3.86	$ 429.87
NYCT Expenses and Administrative Costs	$ 9.05	$ 9.43	$ 4.18	$ 2.05	$ 77.89	$ 134.90	$ 43.53	$ 4,345.37	$ 4,620.20
LIRR Expenses and Administrative Costs	$ -	$ -	$ -	$ -	$ -	$ 597.65	$ 319.61	$ 46.10	$ 962.36
SIR Expenses and Administrative Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 27.34	$ 27.34
Long Island Bus Expenses and Admin. Costs	$ -	$ -	$ -	$ -	$ -	$ 105.42	$ 2.83	$ -	$ 108.24
Bridge & Tunnels Expenses and Admin.Costs	$ 2.72	$ 5.14	$ 1.95	$ 1.33	$ 37.39	$ 43.74	$ 17.64	$ 156.49	$ 266.41
MTA Policy and Gap Closing Actions	$ 7.36	$ 2.09	$ 18.41	$ 9.08	$ 92.14	$ 173.42	$ 91.19	$ 197.11	$ 590.78
MTA Capital Budget Payments	$ 13.81	$ 9.19	$ 38.65	$ 17.58	$ 197.58	$ 281.27	$ 105.11	$ 1,919.16	$ 2,582.34
TOTAL	$ 69.63	$ 46.52	$ 145.86	$ 67.10	$ 769.27	$ 1,396.85	$ 612.30	$ 6,855.25	$ 9,956.78
County Payments to MTA									
MRT-1 and MRT-2 Payments	$ 20.77	$ 19.69	$ 17.57	$ 8.25	$ 77.11	$ 110.05	$ 133.25	$ 344.67	$ 731.35
Urban Tax Payments	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 557.43	$ 557.43
Sales and Use Tax	$ 12.03	$ 9.84	$ 9.52	$ 2.94	$ 32.66	$ 53.22	$ 61.32	$ 246.97	$ 428.51
Franchise Tax	$ 2.11	$ 1.66	$ 1.64	$ 0.58	$ 5.40	$ 7.62	$ 8.48	$ 45.91	$ 73.40
Temporary Surcharge Tax	$ 14.14	$ 11.84	$ 11.32	$ 4.11	$ 41.02	$ 63.95	$ 62.87	$ 362.11	$ 571.37
Petroleum Business Tax	$ 24.81	$ 18.84	$ 19.75	$ 7.65	$ 58.20	$ 84.26	$ 108.47	$ 236.63	$ 556.61
Local Operating Assistance	$ 0.16	$ 0.02	$ 0.39	$ 0.39	$ 7.34	$ 11.58	$ 7.52	$ 125.54	$ 152.91
Station Maintenance Payments	$ 0.41	$ 0.04	$ 1.96	$ 0.77	$ 16.46	$ 23.62	$ 14.68	$ 76.21	$ 134.35
Other Payments	$ 0.07	$ 0.02	$ 1.26	$ 1.07	$ 17.35	$ 24.20	$ 7.95	$ 350.33	$ 402.24
MNR - West of Hudson Fares	$ 8.47	$ 2.23	$ -	$ -	$ -	$ -	$ -	$ -	$ 10.70
MNR - East of Hudson Fares	$ 1.59	$ 1.11	$ 21.31	$ 11.63	$ 167.08	$ -	$ -	$ 5.79	$ 208.51
NYCT Fares	$ 1.81	$ 5.59	$ 2.48	$ 1.22	$ 46.02	$ 79.90	$ 25.78	$ 2,573.72	$ 2,736.50
SIR Fares	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3.26	$ 3.26
LIRR Fares	$ -	$ -	$ -	$ -	$ -	$ 200.40	$ 109.55	$ 11.16	$ 321.11
Long Island Bus Fares	$ -	$ -	$ -	$ -	$ -	$ 38.10	$ 1.02	$ -	$ 39.12
Nassau County Subsidy for Long Island Bus	$ -	$ -	$ -	$ -	$ -	$ 10.50	$ -	$ -	$ 10.50
Bridges & Tunnels Tolls	$ 9.20	$ 17.36	$ 7.16	$ 4.87	$ 110.68	$ 169.41	$ 66.12	$ 531.64	$ 906.44
TOTAL	$ 95.55	$ 88.23	$ 94.35	$ 43.68	$ 579.32	$ 867.00	$ 605.01	$ 5,471.39	$ 7,944.52
MTA/COUNTY PAYMENT RATIO	0.67	0.53	1.55	1.54	1.33	1.61	1.01	1.25	1.27

The calculations of some of these factors were relatively straightforward while others were very complex, using parameters such as the average length of trip taken on commuter rail operations

[1] Nassau is the only suburban county in the District for which the MTA operates the county's bus service (i.e., LI Bus). The costs of these services to the MTA are considerably higher than the fare payments by County residents and the County's LI Bus subsidy. Removing LI Bus from these calculations would lower Nassau's payment ratio from 1.61 to 1.49.

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by passengers in each county to population, employment, auto registrations and levels of various industrial activities in each county to allocate county payments and MTA expenses. MTA tax revenues generated by retail sales in each county, for example, were assumed to be paid only by residents of that county, while in fact often large portions of such sales are attributable to shoppers from other areas. However, the complexities of the economic interrelationships among the MTA counties and Region's interaction with areas beyond its borders made simplifying assumptions in this and other areas of the ratio calculations necessary. The methods used and the reasons for their application are described in this report, along with detailed appendices presenting the specific calculations that were carried out, the data used and the assumptions made.

Understanding the payment ratio calculated for the overall MTA District in many ways explains how the results presented in this report should be viewed. The 1.27 value for the MTA/County Payment Ratio for the District implies that the MTA is paying out more in terms of services than it's receiving in fares, tolls and earmarked tax revenues, even though the MTA had a $600 million surplus in 2005. However, estimates of a transit agency's budget surplus or deficit normally uses depreciation rather than Capital Budget expenditures. While using the latter provides reviewers with the sense of actual current MTA Capital Budget expenses in each county, their application mixes balance sheet items with those normally seen on income statements. Since capital expenditures were much greater than depreciation in 2005, this raised the overall MTA ratio. Further, the ratio also does not reflect the role of State and Federal funds in the MTA's overall operating budget, which if included would lower the ratio. Accounting for these two factors would bring the overall MTA District ratio to approximately 0.93, reflecting the MTA surplus conditions in 2005.

More importantly, this ratio is meant to show the position of the various counties relative to each other, rather than to provide a measure of the MTA's overall financial performance. It also does not provide a full (or complete) measure of the benefits of the MTA's extensive transit operations to each county. A county with a relatively low ratio does not necessarily benefit less, overall or on a per capita basis, than counties with higher ratio values. The issue of specific service benefits – to local governments, to individual riders and property owners, to businesses, etc. -- and the important benefit of having a coordinated regional transit system were addressed in Section 1 of this summary and are discussed in greater detail in Chapter 1 of this report.

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Chapter I
Secondary Economic Benefits

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CHAPTER I: SECONDARY ECONOMICS IMPACTS

1. OVERVIEW

The Initial purpose of the MTA Benefit-Cost Study was to provide the Metropolitan Transportation Authority (MTA) with an updated assessment of the relationship between payments made and benefits received by the member counties of the 12-county MTA District. Figure 1-1 provides a map of the MTA District.

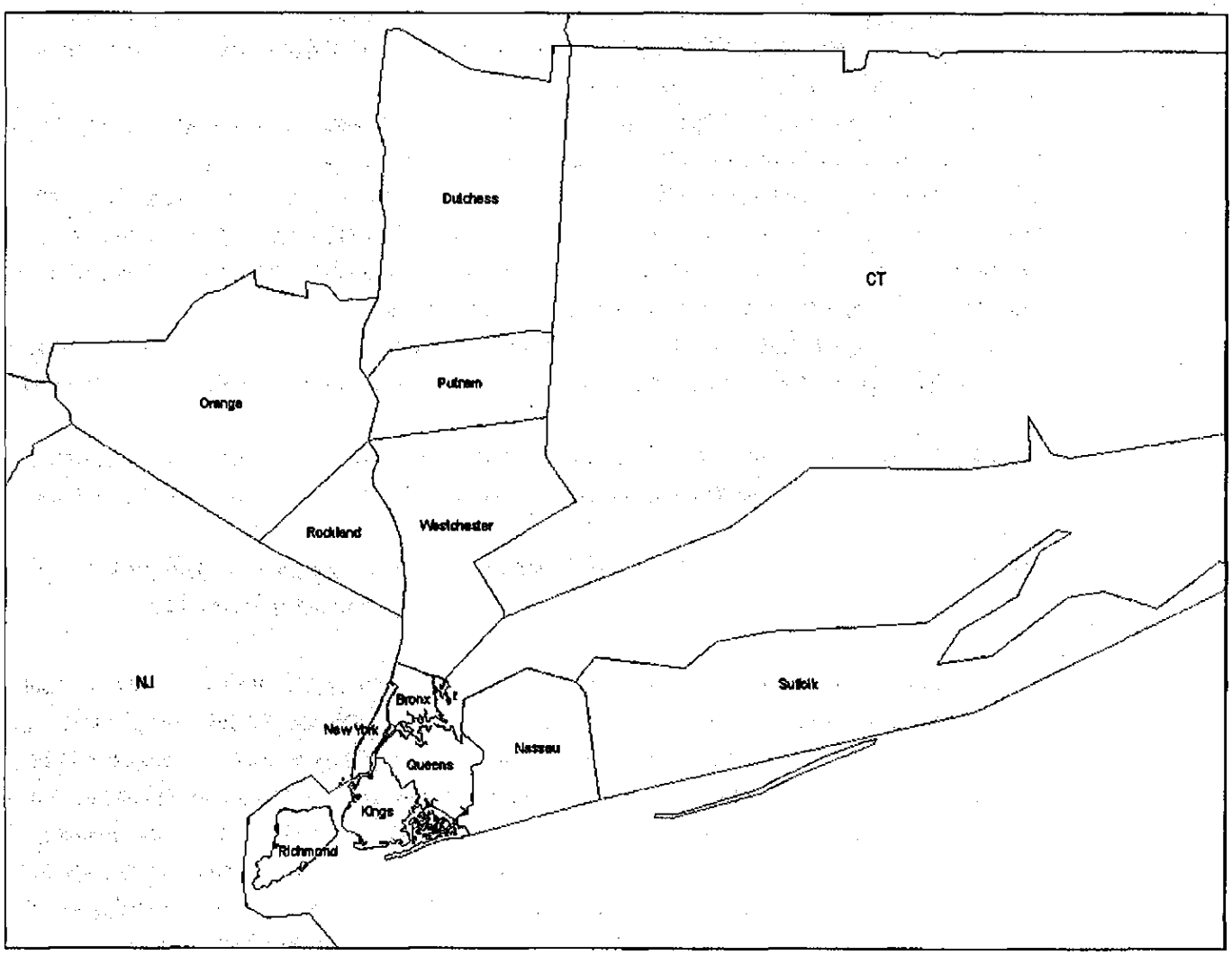


Figure 1-1: MTA District Counties

The MTA's subways, buses, and railroads provide approximately 2.4 billion trips each year (roughly one-third of the nation's mass transit trips) while its bridges and tunnels carry more

than 300 million vehicles a year. Its 5,000 square-mile service area includes 14.6 million people in New York City, Long Island, southeastern New York State, and Connecticut. Formed as a New York State public-benefit corporation in 1965, the MTA is governed by a 17-member Board, including representatives from New York City and each of the other seven District counties. MTA operating authorities include:

- **MTA New York City Transit ("NYCT"),** handling the 26 subway lines and 243 bus routes in the City's five boroughs and over 7.1 million passengers each weekday.
- **MTA Long Island Rail Road ("LIRR"),** the nation's largest and oldest commuter railroad, serves New York City and Nassau and Suffolk Counties, and its 11 commuter rail lines handle over 280,000 passengers each weekday.
- **MTA Long Island Bus ("LI Bus")** operates throughout Nassau County and in portions of western Suffolk and eastern Queens with daily ridership of over 105,000.
- **MTA Metro-North Railroad ("MNR"),** the second largest commuter railroad in the nation, with six commuter rail lines serving roughly 260,000 daily passengers each weekday in New York City, Westchester, Orange, Rockland, Putnam and Dutchess Counties, with services extending into southern Connecticut.
- **MTA Staten Island Railway ("SIR"),** a 29-mile, 22-station rapid transit rail system that is technically part of the NYCT system, provides feeder service to the Staten Island Ferry.
- **MTA Bridges and Tunnels ("B&T"),** with seven bridges and two tunnels handling over 1 million vehicles each weekday, generates significant surplus revenue to support the MTA's transit operations.
- **MTA Bus Company ("MTA Bus"),** a 46-route bus system created in September 2004 to take over seven formerly private bus transit companies within New York City.

The MTA has previously made brief payment ratio studies of this type (in 1983 and 1986) for all twelve MTA counties. However, its more recent studies, in 1995, 1996 and 1999, were done for either Orange County or Orange and Rockland Counties only. These studies compared the costs of maintaining facilities in each county and providing services to its residents (within the county and elsewhere throughout the District) to what the county's residents and businesses paid in fares and MTA-earmarked taxes. However, none of these payment ratios, for Orange and Rockland Counties or for the remaining 10 counties within the MTA District, provided a measure of the secondary economic benefits of MTA operations to the District's 12 counties. As such, the Study Team was charged with providing some assessments of these economic benefits, beyond the revenue and expenditure accounting of paying for and using the services.

Therefore, the present MTA Benefit-Cost study includes two main elements:

- **Secondary Economic Benefits**, to address the limitations of the previous studies by focusing on the economic interdependences of the various MTA district members and the secondary economic benefits that accrue to residents and businesses in those counties. This assessment is included in this chapter.
- **MTA/County Payment Ratio Analyses**, closely matching what was done previously by the MTA but using updated data and taking advantage of the expanding amount of data and analytical tools available in 2007 relative to those used for the 1999 study. This assessment is included in Chapter 2 of this report.

The purpose of the Secondary Economic Benefits analysis is to document and explain the economic benefits provided to MTA District counties by MTA services and expenditures. These economic benefits are estimated for eight areas -- New York City counties (all five boroughs treated as one area) and the remaining seven suburban counties in the MTA District. These studies of secondary benefits focused on the following four areas, each of which is then presented in subsequent sections of this memorandum:

- Economic impacts of MTA expenditures;
- Consumer surplus and user benefits of MTA ridership;
- Economic productivity and competitiveness benefits; and
- Property value, land use and development opportunities.

2. ECONOMIC IMPACTS OF MTA EXPENDITURES

MTA expenditures in new capital investment and on-going operations and maintenance (O&M) produce economic impacts in the areas within the New York metropolitan region in which those expenditures are occurring. Funds spent on new projects or to service existing riders provide economic contributions, the total value of which includes:

- the **direct effects** – the change in the industries in question (e.g., greater expenditures in the construction industry segments associated with subway station rehabilitation);
- the **indirect effects** reflecting changes in inter-industry business transactions as other industries see an increase in their business as they respond to the increased demands

from the directly affected industries (e.g., building materials suppliers provide more goods and services to the firms doing the station rehab work); and

- the **Induced effects** reflecting changes in local spending that result from income changes (e.g., expanded wage payments) in the directly and indirectly affected industry sectors noted above.

The indirect and induced effects are frequently referred to as the **multiplier effects** of increased local investment. For more information on input-output modeling, multiplier effects and the IMPLAN economic impact model used in this report, see Appendix A.

For example, MTA expenditures for on-going transit service include wages paid to thousands of employees who then spend their income on consumer items in the local/regional economy, providing benefit to other businesses. MTA capital investments (like the station rehab example noted above) typically include the hiring of local construction crews and the purchases of materials from the New York region and beyond. It is understood that some of these expenditures "leak" out of the local economy when, for example, construction firms buy goods or services from suppliers outside the region. Generally the larger and more complex the regional economy involved, the greater proportion of funds initially spent in a region stay within and provide increased benefits within that region.

Using an IMPLAN input-output model customized to the New York counties within the MTA District, the Study Team evaluated the economic impact of the MTA's Capital Program as well as the impacts of ongoing operating expenditures (captured through MTA's labor expenses, the largest component of the agency's operating expenses). This section presents the impacts of each of these expenditures on the MTA District, including:

(1) New York City (all five boroughs) ,and
(2) the seven other counties in the MTA District: Dutchess, Nassau, Orange, Putnam, Rockland, Suffolk, and Westchester County.

The analysis used the actual investments made in each of the District counties under the 1995-1999 and 2000-2004 MTA Capital Programs, and presents the multiplier effects for each county individually, as well as the additional economic impacts by county resulting from inter-regional trade and consumer purchase benefits.

- **Economic Impacts of MTA Capital Program**

This section presents the economic impacts of MTA's capital expenditures under its two most recent 5-year capital programs (1995-1999 and 2000-2004). These assessments were done on a county-by-county basis, consistent with the approach taken in the MTA/County Payment Ratio analysis presented in Chapter 2 of this report. As shown in Table 1-1, the MTA spent an annual average of approximately $1.91 billion over the ten-year period in new projects and expansions throughout the MTA District (in 2007 dollars). This significant level of investment and the resulting contribution to the regional economy in terms of jobs, income and business output represent a real benefit to the MTA District and to each of its counties via construction jobs, additional income and increased local spending.

Investments in New York City accounted for 77 percent of total spending during that period, reflecting the size of the subway system and the expense of maintaining it.

Table 1-1: Average Annual Capital Expenditures and Economic Impacts by MTA County, 1995-2004 (Millions of 2007 Dollars)

Region	Capital Expenditures	Total Output	Total Jobs	Total Labor Income
Dutchess	$ 29.02	215.56	2,764	$ 20.04
Nassau	$ 177.38	344.22	2,860	$ 141.25
New York City	$ 1,469.88	2,411.49	17,785	$ 1,141.96
Orange	$ 9.82	33.33	413	$ 7.32
Putnam	$ 12.84	27.10	301	$ 8.72
Rockland	$ 7.44	15.59	133	$ 5.71
Suffolk	$ 62.44	154.00	1,483	$ 49.85
Westchester	$ 145.09	257.67	2,022	$ 115.35
Total	$ 1,913.90	$ 3,458.94	27,760	$ 1,490.19

Sources: MTA; IMPLAN model; Cambridge Systematics, Inc., 2007

As indicated, the capital expenditures produced an annual average over this period of $3.5 billion in output (after direct, indirect, induced, and additional inter-regional impacts), almost 28,000 jobs and over $1.5 billion in labor income. Not surprisingly, the largest economic impacts were estimated to accrue in New York City with a total output of $2.41 billion, 17,800 additional jobs and $1.14 billion in labor income.[1] Westchester, Nassau, and Suffolk Counties

[1] In the results of the input-output analyses in this report, the employment gains are stated as additional "jobs." In fact, the new labor demand from this added work load is technically expressed as additional "person-years of employment." Therefore, the 17,785 new "jobs in New York City shown in Table 1-1 actually presents that many persons working full-time for one year. The exact number of people needed to complete this work or the time over which it would occur cannot be determined.

also experienced significant impacts with a combined output of $755 million annually during the five years, 6,400 jobs, and $306 million in labor income.

A few additional points regarding the economic impacts of MTA's capital program are worth noting:

- The Capital Program investments measured in this analysis do not include purchases of rolling stock, which are assumed to be purchased from manufacturers outside of the MTA District.

- The impacts are consistent with actual investments even though the Capital Program is larger than indicated based on future investments not yet captured in the data.

- While public sector expenditures are typically not measured as a benefit in a benefit/cost study (in fact, they correspond more closely to costs), a significant portion of the MTA's Capital Program (approximately 30%) has historically been funded through federal dollars. These dollars and the secondary economic benefits associated with their expenditure in these counties essentially represent an influx of benefits to these MTA District counties.

Additional inter-regional economic impacts were measured as the difference between the impacts of aggregate regional spending compared to the summation of impacts of spending in individual counties. In some cases, especially in Orange, Rockland, and Suffolk, these inter-regional trade and supplier benefits constitute the largest component of economic impact.

Table 1-2 below displays the average economic impact for the three primary variables of interest for the entire MTA District -- employment, business output and labor income. Direct employment effects average over 17,000 thousand jobs per year with an additional 10,600 employees from indirect, induced, and inter-regional effects. This implies an employment multiplier effect of 1.62 (or 1.62 employees for every 1 direct employee). The output multiplier effect is slightly larger with $2.1 billion in direct economic activity and another $1.4 billion in indirect, induced, and additional activity, implying a multiplier of 1.68.

Table 1-2: Annual Economic Impacts of the Capital Program on the MTA District, 1995-2004 (Millions of 2007 Dollars)

	Average (1995-2004)					
	Direct	Indirect	Induced	Inter-regional	Total	Multiplier Effect
Employment (jobs)	17,164	3,071	5,117	2,408	27,760	1.62
Output	$ 2,063	$ 447	$ 708	$ 242	$ 3,459	1.68
Labor Income	$ 1,009	$ 181	$ 231	$ 70	$ 1,490	1.48
Source: MTA, IMPLAN model, Cambridge Systematics, Inc.						

The output multiplier of the indirect effects of expenditures required on local suppliers is based on construction expenditures (which includes significant purchases of manufactured goods and specialized services). Many of these industries have high value-added (or productivity) per employee. Labor income impacts, the dollars directly going into the pockets of residents of the MTA region, average $1.5 billion per year.

Table 1-3 shows the average annual job effect by industry in the 12 county MTA District for 1995 to 2004, including the direct, indirect, induced, inter-regional, and total impacts. In order to capture the impacts of the capital program, which encompasses new construction projects and expansions, the direct effects were distributed amongst three industry sectors: new construction of transit facilities; highway, bridge and tunnel construction; and maintenance and repair construction. As a result, all of the direct impacts on jobs are seen in the construction industry with 17,164 direct employees. Retail trade, professional and business services, along with healthcare, and leisure and hospitality, account for much of the indirect economic activity tied to purchases of supplies, equipment, and services related to transportation expenditures. The induced effects track closely to typical consumption spending categories. Finally, the additional impacts are essentially inter-regional trade (suppliers) and consumer purchase benefits, with construction, retail trade, and heath care the primary industries affected.

Based on these employment effects, every $1 billion spent by the MTA results in approximately 12,600 jobs in the New York regional economy, and nearly $780 million in labor income.

Table 1-3: Annual Employment Impact by Industry, 1995 to 2004

Industry Group	Direct	Indirect	Induced	Inter-regional	Total
Farming	0	0	0	6	6
Forest & Fisheries	0	0	0	0	0
Mining	0	5	5	2	12
Utilities	0	9	23	6	38
Construction	17,164	20	28	625	17,837
Manufacturing	0	103	151	86	340
Wholesale trade	0	172	196	62	430
Transportation	0	186	154	54	394
Retail Trade	0	411	725	371	1,507
Information	0	34	51	18	103
Finance, Insurance, & Real Estate	0	174	363	115	652
Professional Services	0	1,027	197	94	1,318
Miscellaneous Business Services	0	616	268	134	1,018
Education	0	9	271	69	349
Health Care	0	0	1,012	317	1,329
Other Services	0	211	678	208	1,097
Leisure & Hospitality	0	83	765	200	1,048
Private households	0	0	192	26	218
Other government	0	11	35	11	57
State & Local Non-Education	0	0	0	0	0
Total	**17,164**	**3,071**	**5,114**	**2,404**	**27,753**

Source: MTA, IMPLAN model, Cambridge Systematics

Table 1-4 presents similar detail for the average annual business output impacts by industry in the MTA region. Again, the construction industry is the beneficiary of direct impacts, with over $2.1 billion annually in addition to nearly $1.4 billion in other impacts. The finance, insurance, & real estate, and professional services industries are the largest indirect beneficiary of transportation expenditures by the MTA with each receiving approximately $185 million in indirect economic activity, induced effects, and additional impacts.

Table 1-4: Annual Business Output Impact by Industry, 1995 to 2004 (Millions of 2007 Dollars)

Industry Group	Direct	Indirect	Induced	Inter-regional	Total
Farming	$ -	$ -	$ 0.04	$ 0.39	$ 0.43
Forest & Fisheries	$ -	$ 0.01	$ 0.01	$ 0.04	$ 0.07
Mining	$ -	$ 3.03	$ 3.51	$ 0.12	$ 6.65
Utilities	$ -	$ 7.65	$ 19.61	$ 4.02	$ 31.28
Construction	$ 2,062.67	$ 2.56	$ 3.65	$ 2.24	$ 2,071.12
Manufacturing	$ -	$ 34.60	$ 38.65	$ 38.52	$ 111.77
Wholesale trade	$ -	$ 37.77	$ 42.63	$ 11.12	$ 91.53
Transportation	$ -	$ 20.29	$ 15.96	$ 7.17	$ 43.42
Retail Trade	$ -	$ 38.14	$ 61.46	$ 28.87	$ 128.47
Information	$ -	$ 17.34	$ 27.23	$ 8.16	$ 52.73
Finance, Insurance, & Real Estate	$ -	$ 52.50	$ 107.66	$ 26.22	$ 186.39
Professional Services	$ -	$ 139.33	$ 31.77	$ 13.61	$ 184.71
Miscellaneous Business Services	$ -	$ 63.79	$ 27.60	$ 13.44	$ 104.83
Education	$ -	$ 0.64	$ 16.14	$ 3.53	$ 20.31
Health Care	$ -	$ 0.01	$ 104.75	$ 31.27	$ 136.03
Other Services	$ -	$ 20.43	$ 43.17	$ 16.45	$ 80.05
Leisure & Hospitality	$ -	$ 5.89	$ 49.36	$ 12.61	$ 67.86
Private households	$ -	$ -	$ 1.67	$ 0.38	$ 2.05
Other government	$ -	$ 3.16	$ 10.04	$ 2.37	$ 15.58
Owner-occupied dwellings	$ -	$ -	$ 103.32	$ 21.77	$ 125.09
Total	**$ 2,062.67**	**$ 447.15**	**$ 708.23**	**$ 242.31**	**$ 3,460.37**

Source: MTA, IMPLAN model, Cambridge Systematics

- **Economic Impacts of MTA Maintenance and Operating Expenditures**

In addition to the Capital Program investments, the MTA expenditures for on-going transit service includes wages paid to train operators and conductors, electricians, bus drivers, etc. These employees spend their income in the local/regional economy, providing an economic contribution to the region. This portion of the analysis focuses on the total regional economic impacts (including multiplier effects) derived from wages and benefits paid to these employees.

As shown in Table 1-5 the MTA labor expenses were approximately $5.8 billion in 2005 which in turn generated an additional 46,000 indirect and induced jobs for a multiplier effect of 1.64. The business output effect includes $8.4 billion in direct economic activity and another $7.2 billion in indirect, and induced activity, resulting in a multiplier of 1.85. Labor income impacts totaled over $8.5 billion after indirect and induced impacts.

Table 1-5: Economic Impacts of Operating and Maintenance Expenditures for the MTA region, 2005 (Millions of 2007 Dollars)

	Direct	Indirect	Induced	Total	Multiplier Effect
Employment (jobs)	72,402	13,639	32,673	118,714	1.64
Output	$ 8,448	$ 2,380	$ 4,780	$ 15,608	1.85
Labor Income	$ 5,871	$ 1,015	$ 1,682	$ 8,569	1.46

Source: MTA, IMPLAN model, Cambridge Systematics

Table 1-6 shows the impact on business output by industry due to MTA's operations and maintenance expenditures in 2005. The direct impacts are mixed between government and transportation (rail and bus) activity, which account for all the jobs for day-to-day operations ($8.4 billion in direct impact). The finance, insurance, and real estate industry is the largest beneficiary of indirect and induced benefits (over $920 million) followed by professional services ($775 million), and health care ($711 million). Others with significant impacts include wholesale trade, miscellaneous business services, retail trade, manufacturing, and transportation.

Table 1-6 - 2005 Output Impact by Industry (Millions of 2007 Dollars)

Industry Group	Direct	Indirect	Induced	Total
Farming	$ -	$ 0.09	$ 2.03	$ 2.12
Forest & Fisheries	$ -	$ 0.19	$ 0.20	$ 0.38
Mining	$ -	$ 38.47	$ 16.82	$ 55.29
Utilities	$ -	$ 103.93	$ 121.80	$ 225.73
Construction	$ -	$ 16.07	$ 27.45	$ 43.52
Manufacturing	$ -	$ 115.78	$ 343.31	$ 459.09
Wholesale trade	$ -	$ 396.70	$ 274.06	$ 670.76
Transportation	$ 6,305.45	$ 303.99	$ 109.92	$ 6,719.36
Retail Trade	$ -	$ 31.11	$ 442.31	$ 473.42
Information	$ -	$ 60.88	$ 180.09	$ 240.97
Finance, Insurance, & Real Estate	$ -	$ 231.83	$ 690.31	$ 922.14
Professional Services	$ -	$ 558.26	$ 216.28	$ 774.54
Miscellaneous Business Services	$ -	$ 380.12	$ 197.24	$ 577.36
Education	$ -	$ 14.65	$ 102.99	$ 117.65
Health Care	$ -	$ 0.05	$ 711.42	$ 711.47
Other Services	$ -	$ 33.16	$ 291.26	$ 324.42
Leisure & Hospitality	$ -	$ 32.91	$ 322.88	$ 355.79
Private households	$ -	$ -	$ 10.70	$ 10.70
Other government	$ 2,142.34	$ 62.19	$ 64.12	$ 2,268.65
Owner-occupied dwellings	$ -	$ -	$ 654.82	$ 654.82
Total	**$ 8,447.79**	**$ 2,380.39**	**$ 4,780.00**	**$ 15,608.18**

Source: MTA, IMPLAN model, Cambridge Systematics

Table 1-7 presents the direct, indirect, induced, and total labor income impacts of MTA's operations and maintenance expenditures during 2005. The direct labor income impacts are spread across the government and transportation industries, which account for $3.7 and $2.3 billion respectively. The professional services industry reaps the most indirect benefits with over $425 million in labor income, followed by health care ($402 million), finance, insurance, and real estate ($305 million), and wholesale trade ($252 million).

Table 1-7: 2005 Labor Income Impact by Industry (Millions of 2007 Dollars)

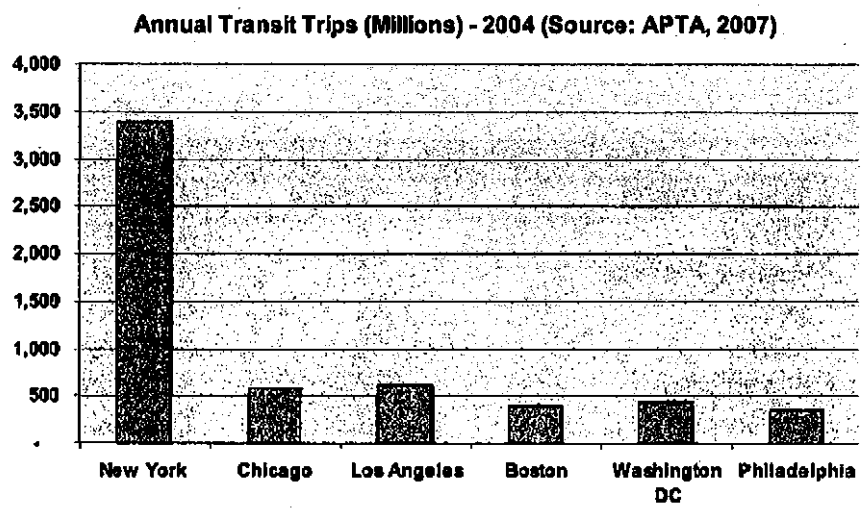
Industry Group	Direct	Indirect	Induced	Total
Farming	$ -	$ 0.04	$ 0.77	$ 0.81
Forest & Fisheries	$ -	$ 0.03	$ 0.06	$ 0.09
Mining	$ -	$ 8.18	$ 3.56	$ 11.73
Utilities	$ -	$ 20.77	$ 24.36	$ 45.13
Construction	$ -	$ 8.89	$ 12.59	$ 21.48
Manufacturing	$ -	$ 31.02	$ 70.84	$ 101.86
Wholesale trade	$ -	$ 149.08	$ 103.00	$ 252.08
Transportation	$ 2,220.31	$ 190.97	$ 47.16	$ 2,458.44
Retail Trade	$ -	$ 11.67	$ 179.02	$ 190.69
Information	$ -	$ 18.78	$ 47.00	$ 65.77
Finance, Insurance, & Real Estate	$ -	$ 77.93	$ 226.60	$ 304.53
Professional Services	$ -	$ 314.42	$ 112.23	$ 426.64
Miscellaneous Business Services	$ -	$ 126.35	$ 95.67	$ 222.03
Education	$ -	$ 8.77	$ 61.87	$ 70.64
Health Care	$ -	$ 0.02	$ 401.48	$ 401.50
Other Services	$ -	$ 12.36	$ 133.65	$ 146.01
Leisure & Hospitality	$ -	$ 13.61	$ 128.32	$ 141.94
Private households	$ -	$ -	$ 10.70	$ 10.70
Other Government	$ 3,651.02	$ 22.50	$ 23.21	$ 3,696.73
Owner-occupied dwellings	$ -	$ -	$ -	$ -
Total	$ 5,871.32	$ 1,015.40	$ 1,682.10	$ 8,568.82

Source: MTA, IMPLAN model, Cambridge Systematics

Collectively, these analyses strongly demonstrate the economic value-added provided by the expenditures and wage and salary payments of the MTA 's regional transportation operations, which collectively is one of the largest employers in the region. Its operations return regionally collected funds (fares, tolls, earmarked MTA tax revenues) and outside revenues (e.g., Federal funding) into the regional economy.

3. CONSUMER SURPLUS AND USER BENEFITS

Transit ridership in the New York City metropolitan area is by far the largest in the U.S., even dwarfing ridership in large cities like Chicago and Los Angeles (as shown in the figure). Like any other transaction, people choosing to use public transportation do so because the ride's value equals or exceeds the fare for the trip. Consumer surplus is a measurement of the instances where the benefit to riders exceeds the transit fare. This benefit is typically viewed as the difference between the present fare level and the level at which a rider would change his/her travel decision because of the higher fare. It reflects the passenger's overall perception of the value of that trip relative to the alternative in terms of travel time, convenience, reliability, and other factors (e.g., you can read or sleep on a train, and avoid parking costs). Therefore, as explained below, fares paid by county's residents to use the MTA system, although counted as "County Payments" in the MTA/County Payment Ratio assessment presented in Chapter 2, also generate benefits for each county in the form of the consumer surplus gained by the county's riders when they use the system.



This section begins with an explanation of how consumer surplus associated with transit usage is defined, followed by an estimate of the consumer surplus benefits by county to riders of MTA transit services. These estimates are based on current MTA ridership data and estimates of how transit riders react to a change in fares – their so-called "demand elasticity." How using both consumer surplus and service costs to set fares that maximize ridership benefits within budgetary constraints is also discussed.

- **Using Consumer Surplus to Value the Benefits of Transit Service Improvements to System Users**

Transit users may benefit from transit service improvements in a variety of ways, most significantly through reductions in travel time and out-of-pocket travel expenses, but also through improvements to comfort and convenience. These user benefits are the most commonly used measure of the benefits of transit and are considered by the Federal Transit

Administration (FTA) in determining the cost effectiveness of proposed transit projects. For the purposes of valuing these benefits, the user benefits of transit service improvements can be considered in two general categories:

- Benefits to **existing transit users** (i.e., those who were already making their trip via transit); and

- Benefits to **new transit users** (trips that were not previously taken by transit).

Benefits to existing users can be valued by multiplying the reduction in total perceived cost of the transit trip after *versus* before the improvement, by the number of transit users benefiting from the improvement. Total perceived cost includes not only out-of-pocket cost, but also the value of travel time and other factors such as improved comfort and convenience to the individual. Transportation modelers have estimated the average value of time to individuals and therefore can place an approximate monetary value on the time-related benefits of transit service improvements to existing users. In addition, numerous studies have shown that (1) transit passengers making different types of trips (e.g., commuting, shopping, business trips, etc.) perceive travel time differently; and (2) the time consumed in different aspects of a trip are similarly valued differently. For example, walking and waiting time is typically perceived as 1.5 to 3 times more onerous than in-vehicle travel time.

Benefits to new transit users are less easy to value, because often we do not know the user's previous trip alternative and costs (in fact, they may not have made the trip at all). However, they can still be estimated using a concept known as consumer surplus, which makes assumptions about the value of the service based on the projected number of new users of the service. Consumer surplus is based on the assumption that individuals have a certain maximum amount they are willing to pay for a service, based on the total benefits that they perceive. The difference between a person's "willingness to pay" and the actual price paid (in terms of travel time, out-of-pocket cost, and other factors) is known as the person's consumer surplus. For a group of travelers, the total consumer surplus is simply the sum of each individual's difference in willingness to pay versus the actual cost of the trip.

This concept can also be applied to value improvements in transit service to new users as shown in Figure 1-2. As the perceived cost of travel (C) is reduced from C_0 (the initial cost) to C_1 (the new cost after the improvement), the demand for the service or volume of use (V) increases. The more the cost is reduced, the more demand will increase. This can be illustrated using the classic "demand curve" found in economics textbooks. The demand curve represents each traveler's willingness to pay for the service (for example, person V_0 is willing to pay up to C_0, while person V_1 is willing to pay up to C_1). It is evident that for the new transit

riders, their willingness to pay exceeds the new cost of service after the improvement, but is less than the cost of service before the improvement (otherwise they would have been transit users). The new transit user at the middle of this group represents the "average" new rider (V_{avg}). His or her consumer surplus is half the difference between the previous cost and the new reduced cost of service ($C_0 - C_1 / 2$). The total increase in consumer surplus as a result of the service improvement, or benefit to new users (B_N), can therefore be estimated as half of the travel cost decrease multiplied by the total number of new users (equation 1).

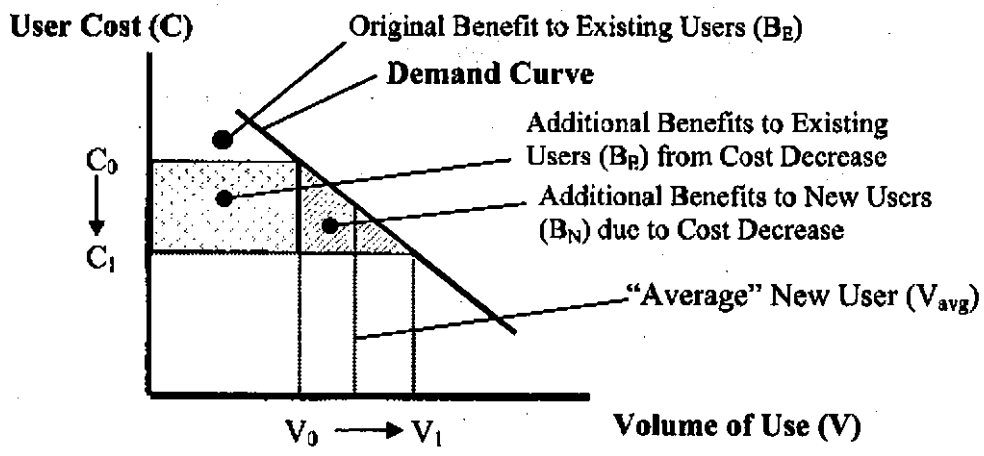
Equation 1: $$B_N = \left(\frac{(V_1 - V_0)}{2}\right)(C_0 - C_1)$$

Furthermore, this benefit can be added to the benefits to existing users (B_E), which are simply total existing usage (V_0) times the change in cost ($C_0 - C_1$). The resulting total benefits to all users (B), including existing and new users, can be calculated as shown in equation 2.

Equation 2: $$B = \left(\frac{(V_1 + V_0)}{2}\right)(C_0 - C_1)$$

This same methodology can be used in reverse to estimate the loss of benefits to transit users as a result of reductions in transit service, which result in increased travel costs.

Figure 1-2: Consumer Surplus Diagram



- **Ridership Data and Consumer Surplus Estimates in the MTA District**

As described above, transit ridership and the willingness of people to use MTA services actually reflect the benefits of transit. Consequently, measurements of fares paid by individuals that help to cover MTA's operating costs, while counted as payments in a strict financial accounting framework, are actually a lower-bound indicator of the benefits that each rider from each MTA county receives from MTA service. In other words, a rider wouldn't be using MTA transit services unless it made them better off, and based on rising transit ridership, the New York City metropolitan area benefits from transit more than any other area of the country. According to the American Public Transportation Association, the greater New York metropolitan area had over 3.4 billion boardings (bus and rail) in 2004, almost six times more than the next largest transit markets (Los Angeles and Chicago). According to the 2000 Census *Journey to Work* data, the overall MTA District has a 35 percent transit share for commuting trips, and 51 percent for New York City's five boroughs. The transit share grows to 77 percent in Manhattan after the 23 percent of bike/walk commutes are excluded.

Tables 1-8 and 1-9 show the daily commuter rail and total transit trips as estimated by MTA's Regional Transit Forecasting Model (RTFM) between each pair of counties in the region, as explained below.

Table 1-8: Daily Commuter Rail Trips by County/Region in 2000

	Destination County							
Origin County	NYC	Nassau	Suffolk	Westchester	Rockland	All CT	All NJ	Total
NYC	42,177	12,152	169	4,769	5	796	8,174	68,241
Nassau	172,738	4,651	229	6	0	0	65	177,689
Suffolk	70,681	1,476	792	6	0	0	10	72,962
Westchester	122,632	1	0	7,961	2	486	14	131,097
Rockland	4,899	0	0	1	138	0	100	5,138
Putnam	4,330	0	0	386	0	3	0	4,719
Orange	3,890	1	0	1	4	0	45	3,941
Dutchess	8,974	0	0	83	0	0	0	9,058
All CT	53,186	0	0	328	0	6,000	0	59,515
All NJ	120,231	21	0	11	1,841	0	24,492	146,596
Total	603,737	18,303	1,190	13,549	1,992	7,286	32,900	678,956

Source: New York MTA, RTFM

Table 1-9: All Daily Transit Trips by County/Region in 2000								
	Destination County							
Origin County	NYC	Nassau	Suffolk	Westchester	Rockland	CT	NJ	Total
NYC	5,406,312	64,181	1,254	75,211	735	1,521	33,060	5,582,272
Nassau	218,773	114,007	3,142	50	0	1	77	336,050
Suffolk	75,883	4,486	5,965	5	0	0	10	86,348
Westchester	152,887	40	0	68,308	77	1,185	45	222,544
Rockland	13,083	8	0	685	2,295	7	181	16,260
Putnam	4,403	0	0	390	0	3	0	4,797
Orange	4,214	1	0	1	5	0	60	4,280
Dutchess	8,974	0	0	83	0	0	0	9,058
CT	54,125	1	0	806	0	26,058	0	80,990
NJ	387,751	301	0	114	9,116	0	144,788	542,071
Total	6,326,406	183,025	10,361	145,652	12,229	28,775	178,222	6,884,670
Source: New York MTA, RTFM								

To understand the data, the column on the left represents the origin of each daily transit trip, while the remaining columns represent the destination. In Table 1-8, for example, commuters who live in Westchester and take Metro North to New York City would actually be counted twice in the same cell, accounting for their trips to and from New York City (122,632 total trips). Meanwhile, a commuter who lives in New York City but commutes to Nassau (either by rail or bus) would be counted as part of the 64,181 in Table 1-9. Therefore, the top row represents the transit trip pattern of New York City residents. The blue cells represent transit trips that start and end in the same county or region. Not surprisingly, most transit trips (5,406,312 or 78.5 percent or regional total) start and end within the five New York City boroughs. While the emphasis is on the MTA District counties, the trip table also includes aggregated totals for Connecticut and New Jersey.

The 2000 Census Journey to Work data have been frequently criticized for under-counting total commute trips in the New York metropolitan area,[2] and that point is made clear by the slight decline in total commute trips for the MTA District in 2000 (5.16 million) compared to 1990 (5.17 million) even while population grew by 966,000 people, an 8.2 percent increase. Still, it is interesting to note the change in commuting patterns over this time period. Even though total commute trips in the MTA Districts were estimated to have decreased by 0.3 percent, inter-county trips increased by 2.0 percent and, even more telling, inter-county commutes to non-

[2] October 2003 letter from NY Metropolitan Transportation Council to US Dept. of Commerce highlighted this undercounting issue, which the Census Bureau concurred with and identified methods of correcting the problem, which underestimates commuter demands and the infrastructure needs to serve them.

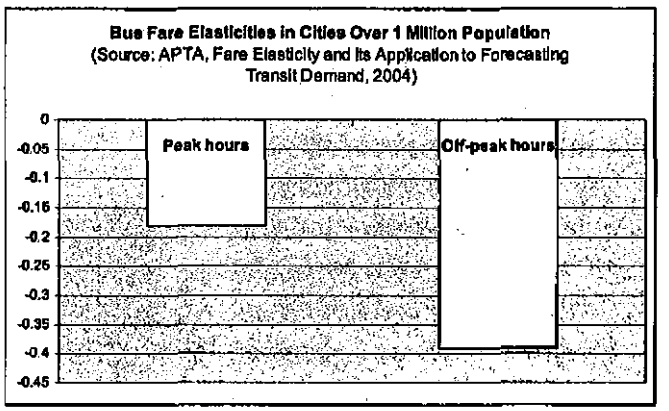
contiguous counties increased by 9.4 percent.[3] This trend towards longer, county-to-county commutes, which is consistent with a nationwide pattern,[4] highlights two key points:

- The MTA District is an increasingly integrated region, as more than ever people are living and working in different counties. The implication is that businesses value the contributions of a large accessible labor force, and employees value access to a wide range of jobs.

- Transit services, such as those provided by MTA, are increasingly vital to support flexible, county-to-county commuting patterns, both facilitating those trips and mitigating the effects on the highway system of ever higher volumes of traffic.

o **Estimates of Consumer Surplus in the MTA District**

Consistent with the approach to estimating consumer surplus benefits described above, when data are available to capture the cost of transit, the number of riders and the demand (willingness to pay) for transit services, it is possible to estimate the consumer surplus benefit for a metropolitan area. Data are available for the MTA District for average transit fares and ridership by service (LIRR, NYC Transit, MNR, etc.). Fare revenue simply represents the calculation of fares multiplied by number of riders. Information on the elasticity of demand (i.e., how transit ridership volumes would vary as the price changes) is available from past studies of how travelers respond to fare increases or decreases. Studies of the New York metropolitan area suggest that demand elasticities vary by mode, time of day, trip purpose and a variety of other trip characteristics.[5] Work trip travelers are generally less sensitive to fare changes than shoppers, for example, so travelers in peak weekday hours (dominated by work trips) have lower elasticities than those traveling on off-peak periods (less likely to be traveling to work). However,



[3] U.S. Census Bureau, 1990 to 2000 Journey to Work Data, County-to-County Worker Flow Files.

[4] Commuting in America, TRB-NCHRP (Washington, DC, 2006).

[5] McCollom, Brian E. and Richard Pratt. *Traveler Response to Transportation System Changes: Chapter 12 - Transit Pricing and Fares.* Transit Cooperative Research Program Report 95 Ch. 12, Transportation Research Board, Washington, D.C., 2004.

focusing just on mode, this analysis uses different elasticities for subway trips (-0.15), for bus (-0.30), and for commuter rail (-0.20).[6] A -0.15 fare elasticity means that a 10% increase in fare would result in a 1.5% decrease in ridership. A lower elasticity (in absolute value) indicates that riders are less sensitive ("inelastic") to changes in cost and therefore less likely to change ridership patterns. It also means that rider groups with relatively inelastic demand characteristics are receiving relatively higher consumer surplus benefits from their use of transit, since the value they place on those transit trips is high relative to the fares being charged.

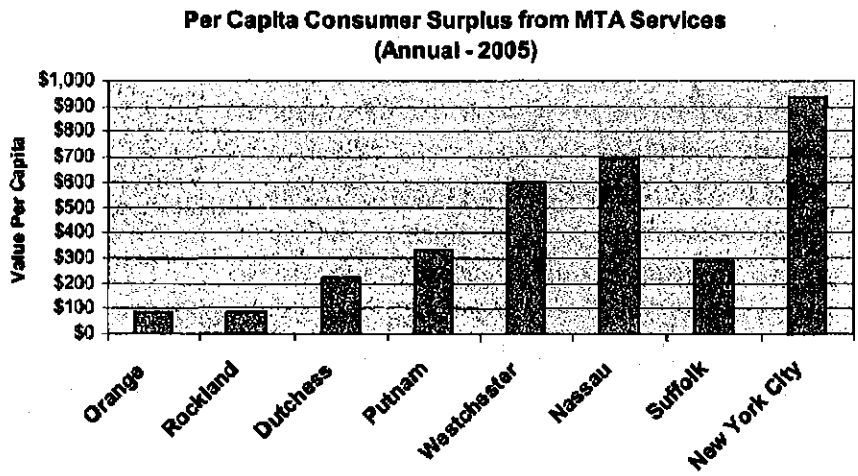
Table 1-10 presents the consumer surplus estimates for New York City's five boroughs and the other seven counties of the MTA District based on the most recent ridership data (2005).

Table 1-10: Consumer Surplus Benefits for MTA District (millions of dollars)

Orange	Rockland	Dutchess	Putnam	Westchester	Nassau	Suffolk	New York City	TOTAL
$30.3	$24.4	$60.4	$32.5	$549.5	$911.9	$414.2	$7,465.8	$9,489.0

Source: Cambridge Systematics, New York MTA

The total estimated annual benefit to MTA District transit riders is almost $9.5 billion, which is 2.85 times higher than fare revenue collected (i.e., transit riders enjoy an additional $1.85 of benefit on top of every $1 spent on transit). In general, the magnitude of consumer surplus benefits correspond to fare revenue generated in each county, with variation based on the mix of bus, commuter rail and subway ridership. Benefits are concentrated in New York City, with consumer surplus values for the other seven counties ranging from $24.4 million to $911.9 million. On a per capita basis, the disparity narrows somewhat, but still with New York City and the two major commuter rail market counties (Nassau and Westchester) experiencing considerably higher benefits that the rest of the MTA District.



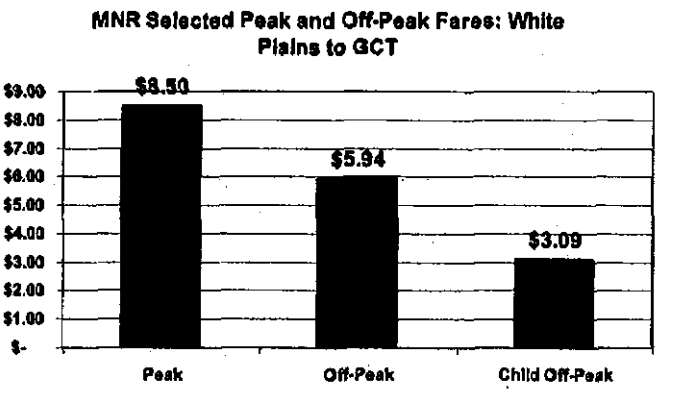
[6] All elasticities are from: McCollom, Brian E. and Richard Pratt. *Traveler Response to Transportation System Changes: Chapter 12 - Transit Pricing and Fares.* Transit Cooperative Research Program Report 95 Ch. 12, Transportation Research Board, Washington, D.C., 2004.

However, in the District's more distant counties from Manhattan, the majority of their daily usage of MTA transit services is commuter rail work trips in the peak period and direction -- i.e., trips to/from Manhattan in the AM/PM weekday peak periods. The demand for these commuter rail services, which are the most expensive commuter rail trips for the MTA to provide, is generally very price inelastic (i.e., unresponsive to fare increases).[7] This is understandable, as such travelers have limited choices in terms of whether to travel at all and where and when to travel, and their driving options are limited by high congestion levels with long and unreliable trip times, and high parking costs. The average consumer surplus per rider in those counties is therefore higher than for areas like New York City, with its broader use of a mixture of transit services throughout the day and week.

Further, as noted in the same TCRP summary report, demand elasticities are significantly lower for commuting (i.e., work trip) purposes compared to non-work trips[8], and lower demand elasticities correspond to higher personal income. This implies that consumer surplus per rider is higher for commute trips and larger as income grows. Meanwhile, the ridership profile of commuter rail riders is dominated by both commuting trips and higher incomes, especially for operations with services heavily focused on the weekday commuter travel periods. On that basis, the average consumer surplus ***per rider*** for Orange and Rockland travelers, for example, is likely considerably higher than for riders in New York City, where services are used heavily throughout the day and week by travelers across a broader income spectrum making a wider variety of trips.

- **Consumer Surplus and the Pricing of Transit Services**

The MTA has a variety of important and often conflicting goals to meet in carrying out the planning, design, construction, operation and maintenance of the regional transit network, including maintaining system safety and efficiency, covering its expenses (if it's operating at a deficit, it must raise revenues and/or reduce costs), and maximizing the use of its services by its customers and the benefits they receive from that use. The pricing of those



[7] *TCRP Report 95* (2004).

[8] "Riders making shopping trips were two to three times more responsive to fare changes than were riders making work trips." TCRP Report 95 (2004) pg. 12-35.

services is a key tool in achieving these goals, as it helps the agency manage the supply of its services as well as shape and direct the demand for them. Single-fare urban transit systems (unchanging by time of day or week, direction of travel, length of trip) were historically the norm. However, the availability of technology that makes stratified fares possible (e.g., electronic fare collection) and awareness of the public benefits of prices reflecting the costs of services and the demand for them have gradually changed how agencies like the MTA prices their services and how the public accepts those prices.

William Vickrey, the Nobel-prize winning economist, shed light on this issue over 50 years ago in his seminal work on transit pricing in New York City[9] and repeated efforts by Vickrey and others over the following years showed the critical role of logical, dynamic fares in managing transit systems and maximizing the public benefits derived from them. The MTA, through the advent of MetroCard and a gradual move with other transportation agencies toward a more region-wide fare and toll pricing system, made possible simple fare changes that provide significant rider benefits (e.g., free transfer between subway and bus lines), and open the door for broader use of pricing strategies (e.g., lower fares late at night, higher single-ride fares in peak periods, etc.).

Commuter rail operations routinely apply pricing schedules that charge riders more for the services that cost the most and when demand is generally the most price-inelastic (e.g., a peak-period trip in the peak direction of travel on a weekday) while offering deep discounts for services that cost the agency less to provide and involve travelers generally more sensitive to fares (e.g., weekend shoppers). Expanding the use of these types of pricing strategies into other aspects of its transportation services (subway, bus, bridge tolls) is a direct application of Vickrey's insights and the consumer surplus concepts noted above – working with budgetary constraints to maximize the public benefit.

4. ECONOMIC PRODUCTIVITY AND COMPETITIVENESS

In addition to "direct" consumer surplus benefits to transit riders and highway travelers, there are also secondary economic productivity and competitiveness effects that result from these direct benefits. Transit systems provide economic benefits to regions in a number of ways, as described below.

First, investments in public transportation lead to **increased transit efficiency and capacity**, such that transit travelers have quicker connections between origins and destinations, more

[9] *The Revision of the Rapid Transit Fare Structure of the City of New York.* Technical Monograph No. 3, Finance Project, Mayor's Committee for Management Survey (1951).

stops and stations near travel destinations, and more travel options (bus, BRT, light rail, commuter rail). This increase in efficiency and capacity generates increased transit ridership, and also improves travel speed and convenience for existing riders. **Increased transit ridership** in turn reduces auto trips and vehicle miles traveled (VMT), thereby reducing congestion and travel time for highway users. The previous section shows how these direct benefits can be valued. Additional benefits related to reduced VMT include reduced auto emissions as well as the demand for and cost of parking in congested downtowns and other activity centers.

These various direct benefits then lead to benefits to the regional economy. Time and cost savings for transit and highway commuters benefit businesses as well as workers. Reduced congestion means that freight deliveries can be made at lower cost. Improved quality of life helps attract and retain businesses and residents to the region. The overall benefits can be measured in terms of productivity, growth potential, sustainability, redevelopment, and social welfare. Combined, these impacts capture the overall benefits to the region's economy and quality of life.

Businesses directly benefit in the following three ways: business cost savings, productivity increases, and business attraction.

- **Business Cost Savings** – These result from a reduction in time for "on-the-clock" (OTC) travel by employees traveling by auto and transit, or for trucks hauling a company's goods (greater transit usage reduces highway congestion, allowing company vehicles to travel faster). In competitive labor markets like New York, shorter and less expensive commutes can also reduce wage demands and labor costs, all else being equal.
- **Productivity Increase** – Productivity increases are separate from simple reductions in business costs. Productivity increases occur when a change in transportation quality is significant enough to enable businesses to reorganize their production processes to get more output from a fixed amount of labor. In New York, increased productivity can occur when improved transit increases travel time reliability, allowing businesses to tighten its schedules and operations, reducing down-time and increasing productivity from its workforce and physical plant.
- **Business Attraction** – Improved accessibility can make a region more attractive to new industries or firms that would not otherwise locate in the region. This attraction of new industries or firms is in addition to the increase in market share for existing companies, which is accounted for in the business cost savings described above.

These three responses to direct transportation benefits lead to a net increase in economic activity for the region compared to the level of economic activity if the transit investment were not made. These additional benefits are in addition to the direct benefits and do not represent double-counting.

As data and model runs to quantitatively measure these secondary economic effects by county are not available, this analysis is based on three existing resources, each of which is then reviewed:

- The 1997 MTA study entitled "Lasting Economic Benefits of Public Transit Investment" estimated comprehensive economic impact measures related to long-term MTA investments to maintain and enhance transit service. Key findings from this study are summarized which provide aggregate MTA district results in terms of jobs, income, gross regional product, and benefit/cost ratios.

- As part of a recent study for the Federal Transit Administration (FTA), Cambridge Systematics prepared a literature review of transit economic benefit studies from around the country. Key findings from the literature review are summarized and their applicability to the New York area discussed.

- Project-specific transit economic impact analysis studies in the New York metropolitan area – recent analyses have focused on the economic benefits of the Second Avenue Subway, Trans-Hudson Express Tunnel, and 42nd Street Light Rail.

o 1997 MTA Study of the 20-Year Capital Plan – Lasting Economic Benefits of Public Transit Investment

A 1997 study for MTA estimated the benefits to system users and the regional economy of expanding MTA investment and services beyond a baseline scenario of maintaining existing service levels, as well as the disbenefits of reducing capital investment by 25 to 50 percent. The baseline scenario includes $48.5 billion over a twenty year time period consistent with rehabilitation, replacement and system improvement identified in the 20-Year Needs Assessment. The expansion scenario would add almost $10 billion in additional investment over 20 years, while the 25 and 50 percent investment reduction scenarios reduce MTA expenditures and therefore service frequency. In each case, the investment scenarios were used in a transportation model to estimate changes in the frequency of trips incurring incident delay and other changes in travel speed and cost.

The estimated benefits of maintaining high levels of transit service included reduced costs to users as a result of changes in out-of-pocket expenses as well as changes in travel time, which were monetized based on users' estimated values of time. Benefits for each transit investment scenario were estimated for highway users and transit users, and to new as well as existing

transit riders through a user benefits/consumer surplus approach. Different values of time were assumed for work versus non-work travel, and for in-vehicle versus out-of-vehicle travel time.

The study results show the following:

- The "expansion" scenario would reduce travel times in the region by 26.9 million hours annually, producing a savings in transit user costs (including existing and new user benefits) of $298.5 million. Highway travelers save 6.8 million hours with a total benefit of $55 million due to reduced traffic congestion from increased transit ridership. These benefits increase over time, with total user benefits of $835 million and $140 million for transit and automobile highway users (respectively) in 2016.

- The 25 and 50 percent disinvestment scenarios, in contrast, would increase transit user cost by $2.6 to $5.3 billion in 2016, and increase automobile highway user costs by $402 to $976 million. As fuel costs are higher in real terms than in 1997, the increase in user costs due to transit disinvestment would likely be even higher.

The study used these direct transportation impacts to assess regional economic impacts to the business community. Three study areas were used to assess economic impact: the MTA 12-county service area, the 31-county consolidated Metropolitan Statistical Area (including portions of New Jersey and Connecticut), and the State of New York. The variables of greatest interest for the study included income, business sales, employment, and gross regional product (GRP) as shown in the tables below. The study found that:

- In both disinvestment scenarios, each dollar removed from transit investment resulted in approximately four dollars lost to the economy.

- The $10 billion in additional transit investment under the expansion scenario (above and beyond basic improvement and replacement needs) would yield an economic return of two dollars for every dollar invested into the transit system.

In other words, the public benefits of transit system expansion outweigh the costs of that expansion, and the associated disbenefits of reduced investment (below maintaining current service) greatly exceed any public cost savings of lowering MTA investment.

Tables 1-11 and 11-2 illustrate selected details from the report.

Table 1-11: Highlights of Effects on Transit Service and Highway Travel in MTA Service Area - Year 2016						
Year 2016	**Revenue Fleet (vehicles)**	**Passenger Facilities**	**Trips per Incident**	**% Change in Transit Trips**	**Highway User Cost (1996 dollars)**	**Highway Travel Delay**
Expansion	100	87	26.4	2.1%	N/A	N/A
25% Disinvestment	96	51	12.1	-9.1%	$130 million	16 million hours/ year
50% Disinvestment	74	13	5.9	-15.5%	$342 million	42 million hours/ year

Table 1-12: MTA Service Area Economic Impacts Relative to Base Case Scenario			
	Sales	**Employment**	**Personal Income**
Expansion	$ 3.4 million	62,000	$ 2.9 million
25 % Disinvestment	$ - 8.3 million	-152,000	$ - 7.1 million
50% Disinvestment	$ - 17.7 million	-321,000	$ - 15.0 million

- **FTA Literature Review**

In a review for FTA conducted by Cambridge Systematics in 2005, twelve studies were reviewed that estimated the regional economic benefits of a major transit project or program of transit investments using a combination of travel models, estimates of consumer surplus and economic impact simulation models. As described above, transit investments that expand capacity and improve service reduce travel time and cost for commute and business trips, thus reducing the costs of doing business, expanding the labor force available and increasing the competitiveness of a region's economy. These benefits can be measured in terms of expanded market share, and the attraction/retention of business, with the most common measures of benefit reported as additional jobs, personal income, and Gross Regional Product. One study, discussed in the previous section, examined the economic benefits of public transportation investment specifically in the New York region. The results of other studies most relevant to the New York metropolitan area and MTA's services are reviewed and discussed below.

Findings of Specific Studies

- **Philadelphia, PA** – A 1991 study for the Delaware Valley Regional Planning Commission (DVRPC) examined the impacts to the region of reducing investment and level of service on the Southeastern Pennsylvania Transportation Authority (SEPTA) system. The study found that compared to rehabilitating SEPTA and continuing service, a 50 percent service reduction within five years with rehabilitation of the remaining system would result in $2 billion less sales, 26,000 fewer jobs, $1.1 billion less personal income, and an out-migration of 58,000 people from the region by 2020. A gradual or immediate shutdown of the entire system would lead to $13 to $15 billion less sales, 144,000 to 170,000 fewer jobs, $8.8 to $9.6 billion less personal income, and 281,000 to 313,000 fewer people in the region. Meanwhile, investing in SEPTA facilities and service consistent with the ten year capital program ($450 million/year) would return $3 to the region in transportation benefits and another $6 in economic/industry benefits for every one dollar spent on SEPTA.

- **Chicago, IL** – Using a methodology similar to the Philadelphia study, a 1995 study for the Chicago Regional Transit Authority (RTA) examined the impacts to the region of different levels of investment or disinvestment in the regional transit system. The study examined four scenarios: a baseline (deterioration) scenario, disinvestment to the minimum levels required to continue operation, increasing investment to a "state of good repair" of the existing system, and a system expansion scenario. The results showed that in all cases, the return to the economy and the State of Illinois was significantly greater than the required public investment. In the case of disinvestment, the loss of personal income of Illinois residents would be five times the savings in public investment. Regional employment would fall by 27,000 jobs and government revenue by $87 million in 2014. The "good repair" scenario, in contrast, would yield a return of 6:1 on the investment, while the expansion scenario would yield a return of 1.5:1. These scenarios would increase personal income by $1.3 to $3.3 billion annually in 2014 and create up to 40,000 new jobs.

- **Los Angeles, CA** – A 1999 analysis for the Los Angeles Metropolitan Transportation Authority (LAMTA) examined the economic impacts of the county's 2020 long-range transportation plan. Three scenarios were compared with a "no-build" base case: one with a rail emphasis, one with a bus/highway emphasis, and one with an expanded, three-tiered bus system (multimodal emphasis). Approximately three-quarters of the $73 to $77 billion spent on transportation under each scenario was for transit. Comparing low versus high impact estimates, the increase in disposable

income in 2020 ranged from $8.8 billion to $16.0 billion, while the overall GRP increase in 2020 ranged from $9.6 billion to $17.4 billion. Benefit-cost ratios, based on local/regional costs, exceeded 7 to 1 for each scenario, meaning that for every $1.00 invested in transportation, the Los Angeles metropolitan area businesses and residents would receive more than $7.00 in return. The bus/highway emphasis and multimodal emphasis (three-tiered bus system) were found to have the highest benefit/cost ratios.

- **Salt Lake City, UT** – A 2005 study for the non-profit group Envision Utah examined the economic impacts of expanding transit service in the Salt Lake City metropolitan region. The analysis estimated an increase of 77,000 transit riders and reached the following conclusions about economic benefits in the year 2030: Direct benefits to users by of $220 million per year by 2030, an increase of 1,400 jobs, an increase in net personal income of $105 million, an increase in GRP of $140 million, and a benefit-cost ratio of 1.8:1. The study found that business-related benefits (i.e., due to increased productivity and reduced costs) made up 42 percent of all benefits, while benefits to non-business travelers represented 58 percent.

- **Hartford, CT** – A 1995 study for the Greater Hartford Transit District examined the regional economic benefits of the proposed Griffin Line project, including light rail and busway alternatives costing $215 and $127 million, respectively. Assuming 20 percent state funding, both alternatives had benefit-cost ratios of approximately 2 to 1. Job creation in 2030 ranged from an additional 1,500 to 2,200 jobs while GRP increased by $17 to $34 million.

- **Honolulu, HI** – A 2000 study for the City and County of Honolulu examined the economic benefits of the Primary Corridor BRT Project. The analyses demonstrated net benefits in 2035 of $132 million in transportation user benefits, $388 million in GRP, an employment gain of 1,770 by 2035, and a net personal income gain of $177 million. The benefit-cost ratio, including economic benefits but accounting only for local and state costs (37 percent of total costs), was estimated at 1.66 to 1.

- **Relevance to MTA Investments.** The Chicago and Philadelphia studies are probably most directly relevant to the New York MTA's program since they both address investment (or disinvestment) in a major rail transit system in a large, mature city that is highly transit-dependent. As with the similar study performed for MTA, these studies both demonstrated serious negative impacts to the regional economy of disinvesting in transit. Conversely, they showed that positive regional economic benefits would result from expanding the system or maintaining it in a state of good repair.

The Los Angeles study demonstrates the strong positive economic impacts regional investment has on transportation when that investment includes a strong emphasis on transit in a large metropolitan area with significant levels of congestion. The study showed a strongly favorable (7:1) benefit-cost ratio, and the positive impacts to regional income and GRP are on the same order of magnitude as the negative impacts of disinvestment found in the Chicago and Philadelphia studies.

Other studies also have demonstrated positive regional economic impacts from investment in transit, although with lower orders of magnitude and generally lower cost-benefit ratios. The lower impacts shown in Hartford, Honolulu, and Salt Lake City are probably due to the smaller scale of the projects analyzed, as well as the fact that these regions are less dependent upon transit for mobility and have relatively lower levels of traffic congestion.

- **Project-Specific Analyses of Transit System Benefits**

  - **Trans-Hudson Express Tunnel.** A 2005 study by New Jersey Transit (NJ Transit) considered the transportation and economic impacts of a second trans-Hudson River rail crossing, known as the Trans-Hudson Express (THE) Tunnel, including a connection at Secaucus to Bergen County and surrounding areas. The tunnel will double commuter rail capacity and provide more one-seat rides between New Jersey and New York City, support development in Manhattan and New Jersey, and provide service redundancy in case of security concerns. The study estimates that the THE Tunnel will create nearly 40,000 construction-related jobs over the 10-year construction period. In addition to short-term construction-related benefits, gains will be made in net employment, GRP, and real personal income as a result of the operating and transportation benefits of the project. The New Jersey/New York City region will net 44,000 permanent new jobs in the first 10 years after the tunnel opening. The region will also experience increases in gross regional product of $10 billion and real personal income of $4 billion (2004 dollars). In addition, the region will see an annual increase of $480 million in revenue from personal and business taxes by the tenth year of operation. The cost of the project has been estimated at $4 to 5 billion (2000 dollars).

  - **Second Avenue Subway.** A 2003 study by the Regional Plan Association assessed the economic impacts of reviving construction on the Second Avenue Subway (SAS). The new subway line would run along Second Avenue from 125th Street in Harlem to the Battery, with a connecting spur to Brooklyn. Transit and highway users would realize many benefits. Approximately 600,000 riders would benefit from shorter commutes, improved reliability, or reduced crowding. Auto trips would be reduced by about 30,000 trips per day, while the SAS would also eliminate complicated transfers at several East Side stations, affecting 125,000 daily

riders. The demand for increased transit service on the East Side would be compounded by the proposed Long Island Rail Road (LIRR) East Side Access Project which would increase East Side subway demand by 60,000 daily riders by connecting the LIRR's Main and Port Washington lines in Queens to a new LIRR terminal beneath Grand Central Terminal in Manhattan. Projected economic impacts of the Second Avenue Subway include 70,000 full-time construction-related jobs, an increase in peak capacity of 86,000 people per day that will raise job growth capacity in the CBD, and an annual increase of $7.0 billion in wages and $14.4 billion in gross city product. Additionally, travelers in the study area will realize $1.26 billion per year in time savings, reliability improvements, and reductions in overcrowding. Also notable is the potential for an eventual direct rail connection between Lower Manhattan and JFK Airport via the SAS. The total cost of the project is estimated at $12.6 billion.

- **42nd Street Light Rail.** A 2005 study by Urbanomics and presented to Vision42, a citizen's initiative sponsored by the Institute for Rational Urban Mobility, assessed the potential economic impacts of removing all automobile traffic on 42nd Street and replacing it with light rail service. The study area was confined to New York City with specific references to businesses along 42nd Street. The projected economic benefits include aggregate annual travel time savings of $152 million, reductions in healthcare and vehicular repair costs attributable to fewer accidents of $1 million per year, and $181 million in transit-related annual rent and occupancy increases for office properties. In addition, one-time property value increases for owners of offices, retail stores, residential buildings, and vacant lots are estimated to total $3.56 billion. Projected economic costs include $84 million per year in traffic diversions in delays for autos, truck, and taxis as well as an increase in the cost of deliveries to buildings on 42nd Street of $275,600 per year. The sum of economic and financial benefits, including travel time savings, office rent/occupancy increases, accident reduction savings, and New York City and State tax revenue increases, and subtracting the costs of traffic diversion and rerouted deliveries, totals $527 million per year. The annual cost of the system (operating cost and debt service) would be between $30 and $40 million.

- **Study of Seven New York Area Transit Projects.** A 2003 – 2004 study sponsored by the Partnership for New York City examined, at a sketch level, the transportation and economic development benefits of seven proposed transit projects serving the city -- the Lower Manhattan Hub, No. 7 Subway Line Extension to the West Side waterfront, relocation of Pennsylvania Station to the Farley Post Office, LIRR East Side Access, Trans-Hudson Express project, extension of the PATH system to Newark Liberty Airport, and full build-out of the Second Avenue Subway. The study compared transportation user benefits as well as economic development benefits to the capital costs of each project. Economic development benefits were estimated based on the amount of new commercial and residential development that was expected to occur in the city as a result of each project, and the resulting increases in property

values, taxes paid, sales to residents and tourists, and personal income. Increases in existing residential property values in station areas were also included. The study found that while transportation user benefits alone rarely justified a project's costs, the potential economic development benefits of most of the projects were much greater than the capital costs. The most beneficial projects – yielding economic development benefits to the city greater than five times their capital costs – were the Lower Manhattan Hub, No. 7 Subway Line extension, and relocation of Pennsylvania Station. For example, the study estimated that economic development generated on Manhattan's Far West Side in the vicinity of Hudson Yards could total nearly $90 billion over its 40-year build-out period, of which nearly $14 billion would be attributable directly to the extension of the No. 7 Subway Line. This compares to a capital cost of the project of $2.16 billion.

- **Relevance to MTA Investments.** The project-specific economic analyses of New York City metropolitan area proposed transit investments are provided for two reasons. First, they simply demonstrate that there are a number of large transit expansion projects (some led by MTA) that include explicit calculation of economic benefits. Economic benefits are defined in a similar manner to this study – consumer surplus and user benefits; highway congestion relief and cost reduction benefits of diverting trips from autos to transit; broader regional business benefits; and land use/property value effects. These are standard concepts to measure the benefits of MTA services. Second, these studies demonstrate the large public and economic benefits from transit investments in the New York metropolitan area. As documented in recent studies, the cost of highway congestion in the region is already staggering and expected to worsen.[10] Central findings of these studies include: a) current and projected congestion has a significant effect on the economic vitality and growth of the region; and b) the highway system cannot accommodate any more growth in traffic volumes, thus increasing the importance of public transportation and the need for expanded transit services.

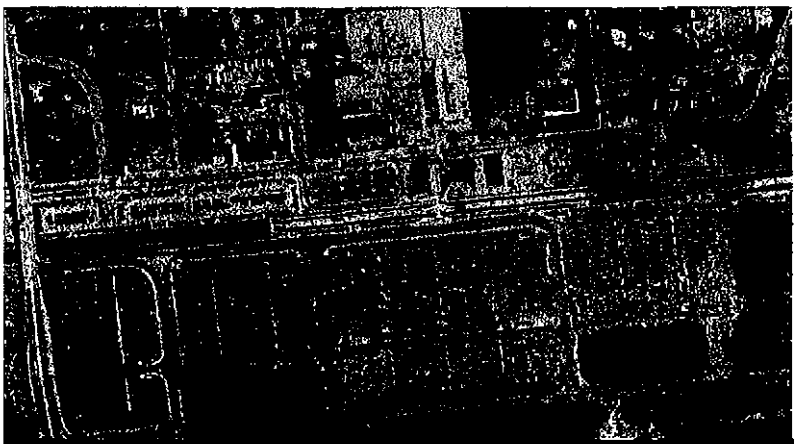
5. PROPERTY VALUE, LAND USE AND DEVELOPMENT

a. Initial Assessment of the Relation of Transit Access to Property Values

Benefits of transportation investments can also be measured in terms of property value increases, which benefit not only landowners but also local governments through increased tax revenue. Urban economic theory asserts that a more accessible property will provide valuable time and/or cost savings to those who own such a property, which translates to higher value in the real estate marketplace. This is true both for residential buyers, who value the access to

[10] "Growth or Gridlock? The Economic Case for Traffic Relief and Transit Improvement for a Greater New York," Partnership for New York City (December 2006), and "Cost of Congestion in New York," draft final report for New York City Department of Transportation and New York City Economic Development Corporation (December 2006).

jobs and other activities that transit provides, as well as for commercial buyers, who value the increased labor force or customer base. Given that MTA provides transit access to one of the world's largest concentrations of commercial activity as well as one of its largest residential bases, the local jurisdictions served by MTA will tend to experience increased property values (relative to less or no MTA service). Property value impacts tend to be greatest for properties that are conveniently located to subway, light rail, and commuter rail stations, and especially along rail lines with frequent and convenient service to major destinations.


Commuter Parking at LIRR Ronkonkoma Station (Suffolk County)

Areas around transit stations, like those convenient to highway interchanges, often experience increased development in terms of both commercial and residential activity. This activity reflects the value to homeowners and businesses of the accessibility provided by transit. In the case of commuter rail or other rail services, people generally take a taxi or bus or, more frequently, drive and park at a station. In such settings, (like at the Ronkonkoma Station in Suffolk County, with over 3,000 parking spaces), the benefits to areas immediately around the station are often limited, with the real benefits extending well beyond the immediate station area to the community as a whole, spurring residential development throughout the community. New development can represent a direct benefit to the local community, through an increased tax base, job opportunities, and housing options for local residents. It also benefits commuters in other parts of the region who may be able to reverse-commute via transit, thereby reducing highway congestion and increasing job opportunities. Efforts are being made throughout the region to take more advantage of the excellent regional accessibility of suburban rail stations, by reducing the amount of land used for parking (e.g., replace parking lots with a multi-level garage to free up developable land) and attracting land uses that can take advantage of the site's transit accessibility.

Examples of the property value and economic development benefits of transit are profiled in both qualitative and quantitative terms (as the data allows) using various resources, each of which is then discussed:

- Existing reports and studies from other areas that document the relationship between transit, land use, development and property values;

- Local data that links MTA service to development and property value within the MTA District counties; and

- Anecdotal information regarding recent MTA facilities and activities that have helped a wide variety of MTA counties.

o **Existing Reports and Studies**

Numerous studies have been performed throughout the U.S. using statistical methods to examine the impacts of transit systems on property values, including both residential and commercial development. A few studies also have looked at station area land use and development impacts, as measured in terms of new residential or office construction, as well as office vacancy and absorption rates. For example, 1997 study by Gruen Gruen + Associates found the following:

- Proximity to **Chicago Transit Authority** heavy rail and Metra commuter rail stations positively affects the value of single family homes, with the price of a single-family house located 1,000 feet from a station averaging 20 percent higher than a comparable house located a mile away.
- In the San Francisco Bay area, rent for apartments near **Bay Area Rapid Transit (BART)** stations is typically 15% -26% above apartments more distant from BART stations.
- The average land price per square foot for office properties also decreased as distance from a **BART** station increased, from $74.00 per square foot within one-quarter mile of a station to $30.00 per square foot for more than a half-mile distant.

Other studies have demonstrated that in many cases, rail transit stations can serve as a catalyst or focal point for growth. For example:

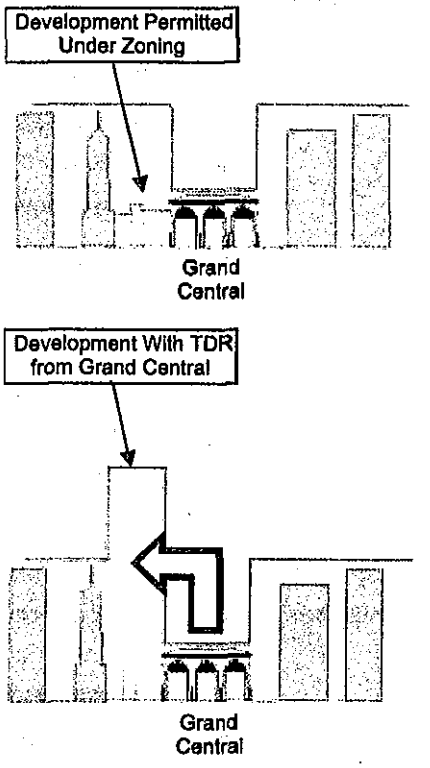
- Transit-oriented planning and rezoning, in conjunction with related redevelopment activities and anticipation of new LRT service, has helped spur 46 development projects in **Charlotte's South Corridor LRT** station areas.
- In **Washington, D.C.**, the Metrorail system generated more than $15 billion in development through the year 2000. At least 52 joint development projects with a market value of $4 billion were constructed around Metrorail stations, generating an estimated 50,000 new transit riders and over 25,000 jobs.

These and a variety of other studies from cities throughout the U.S. are described individually in Appendix B of this memorandum, with a bibliography of referenced studies provided in Appendix D.

Despite these success stories, numerous studies have concluded that successful development in transit station areas, with associated gains in ridership and economic benefits, requires the presence of other supportive factors. These factors are summarized in a recent report for the Transit Cooperative Research Program (Cervero et al, 2004). For example:

- local comprehensive plans and zoning ordinances must promote development with transit-supportive characteristics, including higher-density, mixed-use, and pedestrian-oriented development.
- Public assistance with land assembly, contaminated site cleanup, infrastructure finance, or other factors may sometimes be needed to leverage private investment.
- Timely processing of development permits, and certainty on the types of allowable development, are extremely important.
- Station area planning is another critical activity, to address neighborhood concerns about development and create greater certainty for developers.

Transfer Development Rights at Grand Central Station - NYC



Many of these positive factors are already present in the MTA service areas, especially in the older and more densely developed parts of the region. The scale of existing development in Manhattan, as well as the attractiveness of locations surrounding Grand Central Station (including the "Transfer Development Rights" (TDR) allowing more development on designated sites near the station) is direct evidence of this.[11] At the same time, historically development was relatively limited around two major transit hubs in Midtown Manhattan – Penn Station and the Port Authority Bus Station. But major redevelopment initiatives and rezoning actions in recent years have supported development around these key station areas and in the

[11] *Transfer of Development Rights Programs, Using the Market for Compensation and Preservation* Jason Hanly-Forde, George Homsy, Katherine Lieberknecht, Remington Stone. (Cornell University, 2006)

surrounding areas. In more outlying station areas or targeted redevelopment areas, additional policy changes and incentives may sometimes be required to fully leverage the local economic development benefits of MTA service. Examples of this are the zoning changes enacted for the area around the proposed Long Island Rail Road (LIRR) Sunnyside Station in Queens to enable creation of a new commercial hub in this industrial area, and the planned large-scale mixed-use development over and around the LIRR's Atlantic Terminal in Brooklyn.

- **Overall Conclusions on Property Values and Economic Development**

A number of general findings on the impact of rail transit on land use, development, and property values can be summarized from the various studies conducted (and described more completely in Appendix B):

- Access to rail transit generally exerts a positive impact on property values. Property value premiums due to increases in accessibility have been found to range as high as 40 percent.

- The most positive effects are felt within a very limited distance from transit stations. Especially for systems that rely primarily on walk access, property values impacts are most significant within a ¼ to ½ mile radius (5 to 10 minute walk) of the stations. Beyond this zone, the effect of proximity to rail diminishes. For systems that serve a park-and-ride market, though, such as commuter rail, benefits may be more broadly dispersed throughout the community.

- The extent of property value increase appears to be affected by the market penetration of transit in the respective area. Systems with high levels of ridership and significant regional coverage experience a correspondingly higher impact on property values.

- In addition to increasing property values, transit investments can stimulate economic development in station areas, bringing renewed vitality to distressed communities as well as serving as a focal point for growth in newly-developing areas.

- Occasionally, negative impacts on property values can be experienced; for example, in areas directly adjacent to rail lines where noise and vibration impacts may outweigh the accessibility benefits.

- **Relevance for MTA Investments**

The findings from these studies provide insights into the general benefits of the MTA system and future service improvements on property values and local economic development. Overall, the New York metropolitan area is characterized by factors that in other studies have supported the greatest benefit to property values. These factors, which support the high level of ridership within the MTA District, include:

- a high level of accessibility provided by the MTA system, with numerous connections possible and access to a large number of jobs;
- high levels of traffic congestion and parking costs in the MTA service markets, making transit a highly attractive alternative.

Even within the New York region, though, benefits are likely to vary depending upon factors such as the type of land use, characteristics of the station area served, and type and level of transit service provided.

The strong influence of transit on development in the New York region has been well documented in historical studies of the region's growth patterns. A recent review by Jablonski (2006) notes that the subway in particular has shaped New York City more than any other public works program or municipal project in its history. The subway allowed the city to expand physically and to grow rapidly in population in the early 1900s. It greatly expanded the city's tax base, and by 1935 the average value of land in Brooklyn, Queens, and the Bronx within one-half mile of a subway line was seven times that of land further away. By 1940 nearly 90 percent of the city's population lived within one-half mile of a subway or an elevated rapid transit line. The subway allowed Manhattan to develop and remain as one of the world's largest and highest-density centers of employment.

- **MTA Service, Property Values and Economic Development**

As discussed, the presence of transit service and mobility options can directly influence the demand for land and thus property values and economic development. MTA's transit services, spanning multiple commuter rail lines, subways, and bus lines, offers unequalled options in the U.S. While the prevalence of transit service, economic activity near rapid transit lines and impacts on real estate values is well-documented in New York City's five boroughs, it is also worth examining the property value effects in the non-New York City counties within the MTA District.

Figure 1-3 shows the median sale value of single-family homes sold in 2004-2006 (adjusted to 2005 dollars) by ZIP code, presented in quintiles. The data captures the property values near the Metro North and Long Island Railroad commuter lines. While an ideal data set would use "buffers" around rail stations (e.g., property sales within a mile of rail stations), the ZIP code level was the most detailed geography available with this data.

As might be expected, no clear pattern is demonstrated by the map. That is because many other factors contribute to the value of home sales such as proximity to commercial areas, local services and recreation (e.g., the beaches on Long Island), strength of the school district, and housing amenities. The purpose of displaying these values is not to suggest an exclusive causal relationship between rail accessibility and property value, but to paint a picture of home values in the MTA service region.

An initial way to identify the importance of commuter rail access to economic activity and values in the region is to calculate aggregate differences in home values between ZIP codes that lie on rail lines and those that are further away from commuter rail lines. Table 1-13 shows the median sale price of single-family homes in counties serviced by MTA commuter rail lines, specifically the Metro-North and Long Island Railroads. "With Rail" ZIP codes by region are simply those ZIP codes that have a commuter rail line going through part of the ZIP code's land area. Conversely, the "Without Rail" region is an aggregation of ZIP codes that do not have rail service moving through the ZIP code area's boundaries. Because of regional discrepancies in property values, the results are presented for counties in the Hudson River Valley (Rockland, Orange, Putnam, Dutchess, and Westchester) and those on Long Island (Nassau and Suffolk).

Figure 1-3: Median Home Sales Value by Zip Code in the MTA District (2004-2006)
(Source: New York State Department of Real Property (sales database)

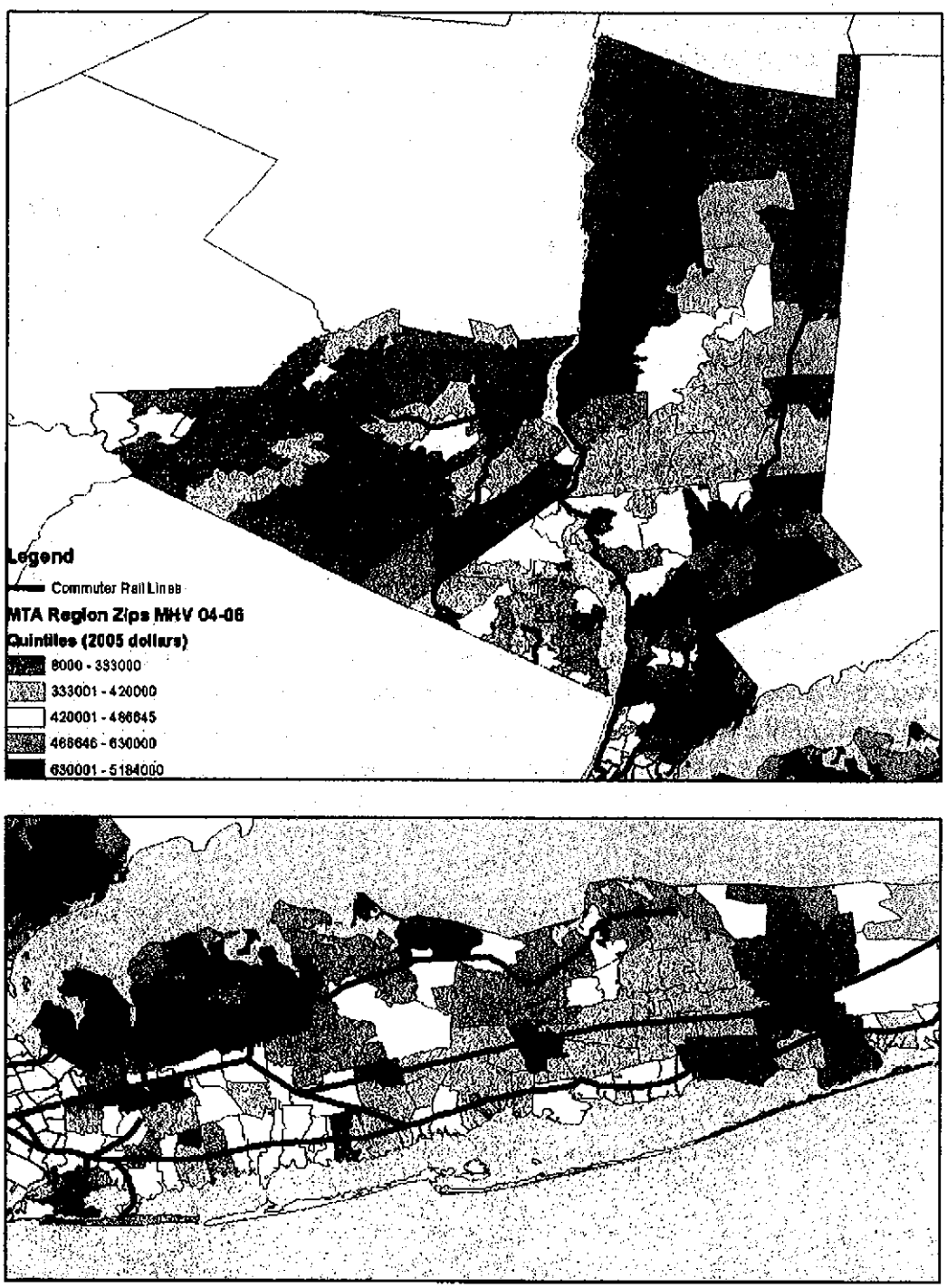
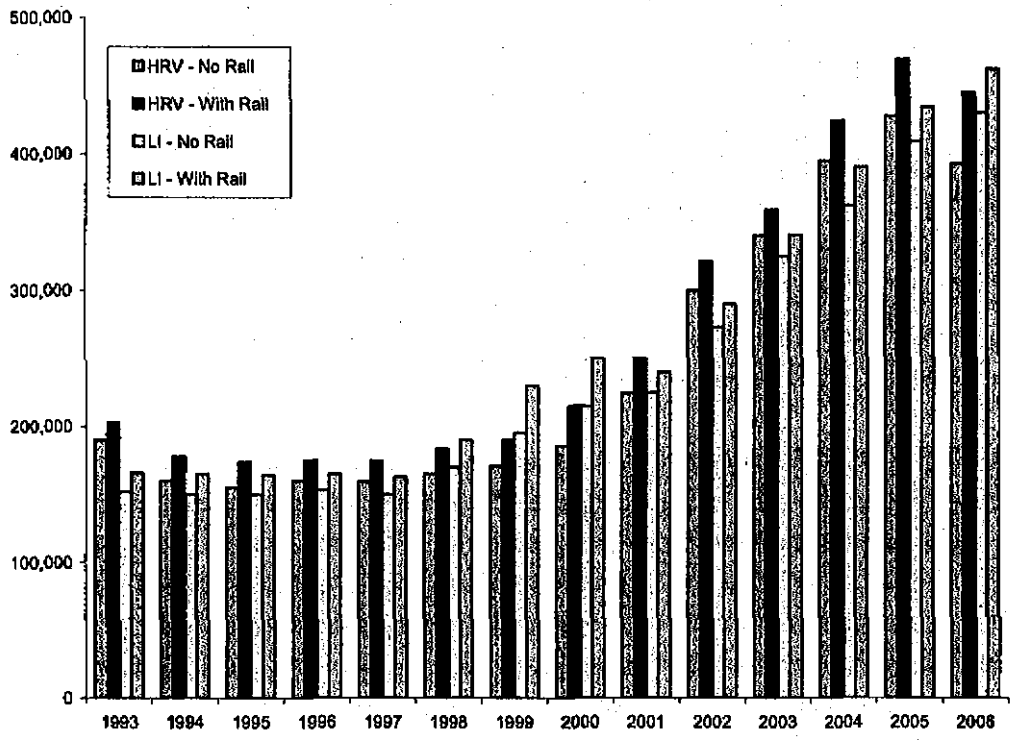


Table 1-13: Median Home Sale Value 1993-2006 (nominal dollars)						
	Hudson River Valley		Long Island		Combined Region	
Year	Without Rail	With Rail	Without Rail	With Rail	Without Rail	With Rail
1993	190,000	202,750	152,125	166,000	167,000	175,000
1994	160,000	178,000	150,000	166,000	155,000	170,000
1995	155,000	173,900	150,000	164,250	152,500	165,800
1996	160,000	175,000	153,000	165,000	156,000	168,000
1997	159,286	174,500	150,000	163,000	155,000	165,000
1998	165,000	183,500	170,000	190,000	166,000	187,500
1999	171,000	190,000	195,350	230,000	180,000	215,000
2000	185,580	215,000	215,000	250,000	196,500	236,000
2001	224,340	250,000	225,000	240,000	225,000	243,033
2002	300,000	321,000	273,000	290,000	281,000	296,000
2003	340,000	359,000	325,000	340,500	330,000	345,000
2004	395,000	424,000	362,000	390,000	375,000	397,500
2005	427,500	469,000	409,080	434,000	415,000	440,000
2006	392,500	445,000	430,000	462,000	420,000	460,000
Source: New York State Department of Real Property (sales database)						

In every year from 1993 to 2006, the median home sale value is higher for properties that lie in ZIP codes along the rail corridor than those that are not. This trend holds true when considering the two service regions either independently or together. From year to year, the median sale price of homes in ZIP codes with rail corridors ranged from 5 to 20 percent greater than those in ZIP codes without rail corridors. Median sales values in the Hudson River Valley for ZIP codes along rail corridors have risen in relative terms in recent years and were 13.3 percent higher than ZIP codes not along rail corridors in 2006. The trend for Long Island is fairly steady as the With Rail ZIP codes have median sales values that are 7.4 percent higher than Without Rail ZIP codes in 2006. As mentioned above, these data trends incorporate many factors beyond the presence of rail such as proximity to New York City and other amenities. Figure 1-4 illustrates this concept graphically.

This data analysis is not intended to conclusively validate the positive impact of transit on property values due to the numerous other factors that contribute to the sales price of a home.[12] It does, however, help to illustrate the findings from many other studies nationally that do show how the presence and proximity of rapid transit (subway, commuter rail, light-rail, etc.) has a real impact on property values. At the same time, anecdotal evidence and common sense are in line with the data findings that show a positive boost to property values due to commuter rail.

Figure 1-4: Median Home Sales Value in Hudson River Valley and Long Island: 1993 – 2006 (Source: NYS Dept. of Real Property (sales database)



The ability of commuter rail to improve accessibility to jobs has at least two effects. First, it allows employees greater flexibility in where they live in order to access work opportunities (e.g., in the Manhattan financial industry) thereby increasing the demand for homes near rail lines in suburban metropolitan counties and thus increasing property values (and ultimately impacting the mortgage recording tax).

[12] For example, county-level analyses of median home sales value suggests that there is an interactive effect between the presence of commuter rail and physical proximity to New York City such that higher home values are the product of both concepts as commuter rail is much more prevalent in counties such as Westchester and Nassau counties nearer to NYC and generally possessing high home values.

Second, the ability of a transit system to increase the labor force catchment area that businesses can draw upon to produce goods and services directly impacts the productivity and competitiveness of firms in the region. As documented in recent research, the number and diversity of workers available, especially for industries that value specialized skills, can lead to greater levels of sustained economic activity. To briefly illustrate the reciprocal relationship of transit and economic development, the average number of employees in ZIP codes on the rail corridors exceed similar ZIP codes not on the rail corridors. For example, in the Hudson River Valley, the average number of employees per ZIP code on the rail corridors is 5,460 while those ZIP codes not on the rail corridor average 3,180 jobs. Similarly in Long Island, the average number of employees in ZIP codes on a commuter rail corridor is 133 percent larger than ZIP codes not on a rail corridor.

b. Detailed Assessment of Impact of Commuter Rail Access to Property Values

The analysis in Section 5.a above found that the median home sale value in the MTA commuter rail area (in New York State) was 5 to 20% higher for properties in ZIP codes served by commuter rail. These results strengthened the general contention that the presence of commuter rail service has a positive impact on property and home sales values in suburban areas, while understanding that research has consistently indicated that many factors -- proximity to commercial, retail, and recreational attractions, quality of school district, and housing amenities -- affect home sales values.

A more robust analysis of the impact of commuter rail service on property values in the MTA region is needed to isolate the impact of rail service from these other factors. Aggregating home sales by ZIP code may over-generalize results. Significant variation of sale values may exist within a particular ZIP code, and this method does not consider the size and shape of ZIP codes, which may affect a home's distance from the nearest commuter rail station. Furthermore, this method fails to consider other factors that contribute to a home's sales price such as housing amenities.

Given this, the property value methodology was expanded to allow consideration of additional factors determining property values, and to assess such information in a more exact, disaggregate fashion. This revised methodology investigated individual home sales and their relationship to relevant housing amenities (e.g., lot size, # bedrooms, etc.) and to a more exact measure of the property's distance to rail stations. In addition to expanding on the previous results, this effort made it possible to (1) compare among select New York State counties the distribution of benefits resulting from MTA commuter rail service and (2) investigate the distribution of benefits among individual counties.

These results were achieved by employing a hedonic price model based on ordinary-least squares regression analysis. The hedonic price model is used to estimate the price of a commodity by defining a set of relevant characteristics of that commodity and estimating the value of each characteristic in determining its price. It is a tool frequently used in the real estate industry to isolate and understand the factors determining demand levels and likely prices in given markets. For example, the sale price of a house is determined in part by such amenities as the number of bedrooms, size of plot, or distance to a commuter rail station. The model used in this instance was calibrated using data on existing home sales and property amenities collected by local and state agencies. The model runs based on these data produce coefficients which approximately defines what percentage of the home's sales price is determined by each characteristic, including the home's distance from a commuter rail station. This percentage may then be extrapolated to all properties within the study area of the model to identify the net benefit of commuter rail service to the area.

The following sections review the study area, the hedonic price models used in the study and the results of their application; extrapolate property value impacts to select MTA district counties; and present final conclusions. A discussion of acquisition and management of the data as well as supplemental charts are provided in Appendix C.

- **Study Area**

The study area for the initial broader assessment of property values included all twelve counties in New York State served by Metropolitan Transportation Authority:

- Dutchess County;
- Nassau County;
- Orange County;
- Putnam County;
- Rockland County
- Suffolk County;
- Westchester County; and
- New York City (5 counties)

Starting with this area, the composition of the study area was reevaluated several times over the course of the effort; i.e.:

- New York City, due to its significantly higher development intensities, close proximity to (or colocation with) Manhattan, and strong presence of bus and subway modes, was excluded from the study area.
- Dutchess County was excluded due to home sales data unavailability.

- Nassau County was excluded due to its particularly uneven distribution of home sales (see Appendix D for further details).

A map of the five counties included in the final study area is shown in Figure 1-5.

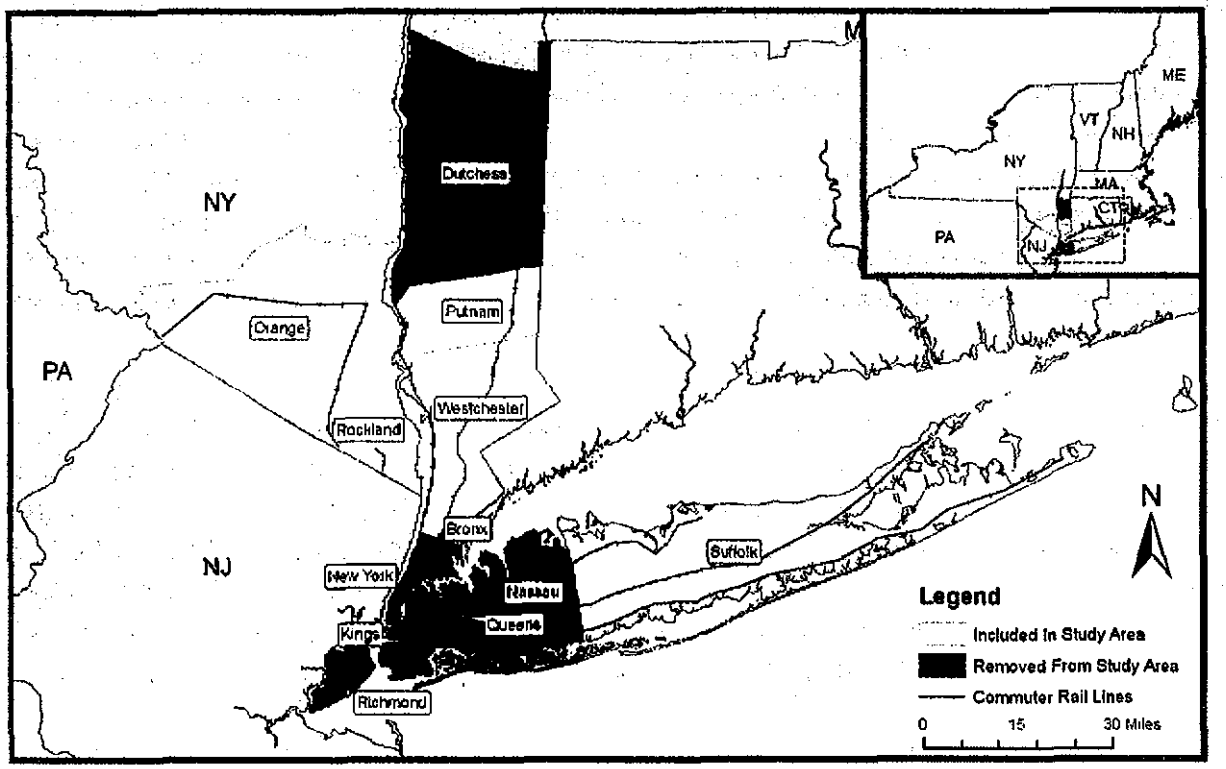


Figure 1-5 - MTA Commuter Rail Property Value Study Area

- **Hedonic Price Models**

The methodology used in this study is based on hedonic price modeling. A hedonic price model decomposes the feature of a product and assigns a value to each of the components. For example, in the case of a single family home, each bedroom, bathroom, square foot of plot or living area, etc. would have a measurable contributing dollar value. The process by which the hedonic price model is estimated is ordinary least squares regression analysis.

The purpose of the analysis was to estimate the property value impacts of proximity to rail stations on a county-by-county basis. This differentiated approach made sure that socio-economic differences and other fixed effects as well as transportation-specific variations would not be ignored in the estimation process. The intent of the hedonic price models was to estimate a coefficient that relates distance to a contributing value for a single family home.

Generally, regression models are calibrated based on the available data and then assessed for their "goodness of fit", or R^2, as well as for the statistical significance of the variables. The key objective was to develop pricing models that have statistically significant variables relating network distance to a train station to property values.

Numerous iterations of the regression models were run in order to test for different definitions of the model for each county. Ultimately, developing individual county models for all but Westchester County had to be rejected due to the poor modeling results and the unsatisfactory relationships contained in the data calibrations. The final set of pricing models combined Putnam and Suffolk County as well as Orange and Rockland County while treating Westchester County individually. As pointed out above, Nassau County had been excluded from the analysis due to its lack of suitable data. The two sets of counties were paired due to their relatively similar characteristics in regard to commuting and socio-economic patterns and MTA commuter rail services.

The variables used for the analysis included lot size [measured in square feet], living area [measured in square feet], the number of baths, and a distance variable. Specifically, the distance variable was structured by "buffers," or distance ranges, into which properties were allocated for the analysis based on their respective transportation network distance from the MTA rail station. It was assumed that for all properties within a defined distance range, proximity to the rail station would have an identical impact on property value. For example, in the case of Westchester County, the buffers used were defined as a radius between:

- zero and 0.5 miles from a MTA station,
- 0.5 miles to 0.75 miles,
- 0.75 to 1 mile,
- 1.0 to 2.0 miles,
- 2.0 to 3.0 miles, and
- beyond 3 miles.

For the two other county pairs, slightly different buffer increments were applied based on the best calibrated fit of the respective hedonic model. The distance variables were defined as dummy variables, i.e., their values can only be "1" or "0" depending on whether the property falls into the respective category or not. Tests with continuously defined variables were also done but those were inferior in the overall model fits.

The final model runs are shown in Tables 1-14 through 1-16. The data used included 1,284 properties in Westchester County, 4,212 in Putnam and Suffolk Counties, and 5,616 in Rockland and Orange Counties. As shown in Table 1-16, the buffer definitions had to be

reduced to four proximity zones for Orange and Rockland County. The reason for this was that the gradient of property value changes was difficult to define using an additional buffer category and the model fit could be optimized by using only four categories.

Table 1-14
Regression Model Results -Westchester County

n	1,284
R^2	0.508
Adjusted R^2	0.505
F	164.5
p-value	0.000

Variable	Coefficient	*p-value*
SA_LOTSIZE	0.6	0.069
SA_SQFT	287.8	0.000
SA_NBR_BATH	140,812.9	0.000
Buffer 1 - .5 miles	111,654.5	0.010
Buffer 2 - .75 miles	143,934.5	0.002
Buffer 3 – 1 mile	217,697.8	0.000
Buffer 4 – 2 miles	112,285.2	0.004
Buffer 5 – 3 miles	80,084.9	0.037

The R^2 values for each model varied between 0.327 and 0.508, indicating a moderately good fit for each of the three models. Using an F-test for the statistical significance of all combined variables yielded a very strong statistical significance for the three hedonic price models. The corresponding p-values were far below an assumed significance level of 0.05. The same can be said for all but one of the distance variables. Except for the 5th buffer variable for Putnam and Suffolk County, the distance variables were highly statistically significant and their respective coefficients showed a declining property value with increasing distance from MTA stations.

For example, based on the results should in Table 1-14, a house located in Westchester County within a radius of 0.5 miles from an MTA station has $111,654 of its value attributable to this close proximity. Moving to the next buffer increases the incremental value to $143,934, then $217,697 in the third distance buffer beyond which the incremental value segment starts to fall. Research has shown that there is a tradeoff between the noise and environmental impacts experienced close to a rail line and the mobility advantages for property owners. In other words, it is likely that factors such as noise, traffic, pollution, and possibly other issues (such as proximity to commercial or industrial uses) limit the increase in the value of homes in the

immediate proximity of a rail station. While this effect is still more than compensated by the access benefits to rail service, the overall benefit is greater to properties that are relatively close to the station but not in immediate proximity. For the three models these conceptual findings could be verified, except for Putnam and Suffolk Counties, which did not show a negative impact due to close station proximity.

Table 1-15
Regression Model Results -Putnam & Suffolk County

n	4,212
R^2	0.327
Adjusted R^2	0.326
F	255.1
p-value	0.000

Variable	Coefficient	*p-value*
SA_LOTSIZE	0.3	0.000
SA_SQFT	164.3	0.000
SA_NBR_BATH	87,080.2	0.000
Buffer 1- 0.75 miles	122,332.6	0.000
Buffer 2 – 1.25 miles	120,622.9	0.000
Buffer 3 – 2.5 miles	74,546.9	0.000
Buffer 4 – 5 miles	30,430.6	0.040
Buffer 5 – 8 miles	19,064.6	0.180

Table 1-16
Regression Model Results -Orange & Rockland County

n	5,616
R^2	0.399
Adjusted R^2	0.399
F	532.5
p-value	0.000

Variable	Coefficient	*p-value*
SA_LOTSIZE	0.0	0.966
SA_SQFT	157.2	0.000
SA_NBR_BATH	41,642.0	0.000
Buffer 1 – 0.75 miles	43,958.8	0.003
Buffer 2 – 2 miles	73,551.2	0.000
Buffer 3 – 6 miles	37,405.0	0.000
Buffer 4 – 10 miles	27,978.0	0.001

The other variables capturing additional features of the home also were statistically significant in nearly all cases. For Putnam and Suffolk County this means, as shown in Table 1-15, that with every additional square foot of lot size, the property value increases by $0.30; with every additional square foot of living area the value increases by $164; and, lastly, with every additional bathroom the value of the home increases on average by $87,080. There was no statistical significance for lot size and its effect on property values in Orange and Rockland County, which may lead to the conclusion that some of these likely positive benefits may have been captured by some of the other variables in the model.

- **Property Value Impacts**

The purpose of this analysis was to further investigate the overall property value benefit of the MTA commuter rail system to the counties serviced by the system. As described above, the results found measurable and statistically significant connections between proximity to commuter rail stations and property values for properties in individual or paired counties within the MTA region. Overall, the analysis showed that between 7 and 15 percent of the value of a home may be due to proximity to rail stations. However, the results varied greatly by county with Westchester County demonstrating the largest property value impact.

In addition to individual county results using sample home sale data, the analysis further attempted to capture the total property value impact of MTA commuter rail services in the five analyzed counties, using 2000 Census data for those counties. In order to conduct this analysis, block group-level data on total owner-occupied housing units and the aggregate value of these units was obtained from the US Bureau of the Census. The housing units in each block were allocated to the different distance buffers based on the network distance of the centroid of each block to the nearest commuter rail station. The percentage increase in property values for each distance buffer, as determined from the regression analysis described above, was then applied to the aggregate housing values to determine the total property value benefits by county. Table 1-17 illustrates this step of the analysis.

Table 1-17
Property Value Benefits [Total and Annualized, In Million 2000 $]

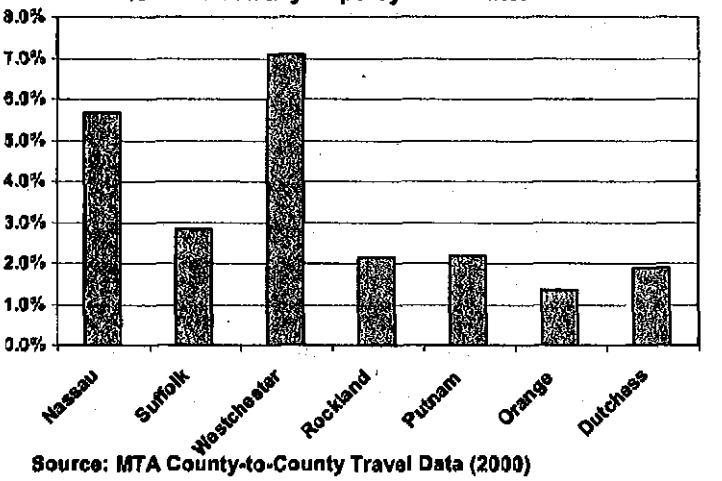
Putnam County	0-0.75 Miles	0.75-1.25 Miles	1.25-2.5 Miles	2.5 to 5 Miles	5 to 8 Miles	All Others	Total
Number HUs	758	498	3,865	6,569	10,340	4,854	26,884
Aggregate Value	$163.04	$94.47	$966.92	$1,633.11	$2,272.06	$1,208.26	$6,337.85
% of value due to rail system	10%	37%	17%	7%	5%	0%	
Property Value Benefit	$16.20	$35.08	$165.96	$120.77	$120.40	$0.00	$458.40
Annualized Property Value Benefit							**$36.67**
Suffolk County	0-0.75 Miles	0.75-1.25 Miles	1.25-2.5 Miles	2.5 to 5 Miles	5 to 8 Miles	All Others	Total
Number HUs	20,694	47,198	145,367	130,402	23,638	8,066	375,365
Aggregate Value	$4,129.39	$9,571.46	$31,569.58	$32,427.51	$6,010.84	$1,683.41	$85,392.17
% of value due to rail system	4%	19%	8%	3%	2%	0%	
Property Value Benefit	$182.14	$1,811.51	$2,636.30	$1,125.93	$115.68	$0.00	$5,871.56
Annualized Property Value Benefit							**$469.72**
Westchester County	0-0.5 Miles	0.5-0.75 Miles	0.75-1 Miles	1-2 Miles	2-3 Miles	All Others	Total
Number HUs	32,838	24,137	25,183	50,522	40,703	29,641	203,024
Aggregate Value	$10,575.29	$7,888.31	$7,276.62	$18,975.78	$16,457.71	$12,220.81	$73,394.52
% of value due to rail system	13%	16%	20%	17%	14%	0%	
Property Value Benefit	$1,378.11	$1,285.79	$1,466.33	$3,216.30	$2,231.15	$0.00	$9,577.68
Annualized Property Value Benefit							**$766.21**
Orange	0-0.75 Miles	0.75-2 Miles	2-6 Miles	6-10 Miles	All Others		Total
Number HUs	519	3,856	36,979	22,259	13,335		76,948
Aggregate Value	$44.87	$496.97	$5,747.16	$3,759.70	$2,471.55		$12,520.24
% of value due to rail system	28%	20%	15%	11%	0%		
Property Value Benefit	$12.69	$101.45	$855.66	$424.11	$0.00		$1,393.91
Annualized Property Value Benefit							**$111.51**
Rockland	0-0.75 Miles	0.75-2 Miles	2-6 Miles	6-10 Miles	All Others		Total
Number HUs	3,632	15,101	30,404	15,473	1,851		66,461
Aggregate Value	$726.36	$3,299.63	$8,681.27	$4,105.98	$402.16		$17,215.40
% of value due to rail system	17%	16%	7%	7%	0%		
Property Value Benefit	$126.86	$512.19	$633.55	$279.73	$0.00		$1,552.33
Annualized Property Value Benefit							**$124.19**

Total property value benefits were approximately $1.4 and $1.5 billion for Orange and Rockland Counties, respectively; $458 million for Putnam County; and $9.6 and $5.9 billion for Westchester and Suffolk Counties, respectively. These estimates are the total capitalized aggregate property value impacts that have been priced into the owner-occupied residential property markets in these five counties. In a second step of the analysis, an annualized present value was determined in order to be able to compare these property value benefits with other estimates of the benefits and costs of MTA services which are presented on an annual basis. In order to do so, a capitalization factor of 8 percent was used. The annualized property value impacts varied between $36.7 million for Putnam County and $766 million for Westchester County.

- **Conclusions of Property Value Analyses**

The analysis results have shown a clear positive relationship between the distance of a residential property to a commuter rail station and the property's value, except for some properties located extremely near to the station. Property benefits were most pronounced in Westchester County, which is expected due to the role that commuter rail services play in its overall travel patterns (see Figure 1-6) and high-income households located in this county. Overall, property value benefits as a percentage of home values varied between 7 and 15 percent which is consistent with other research findings.

Figure 1-6
% of Total Daily Trips by Commuter Rail



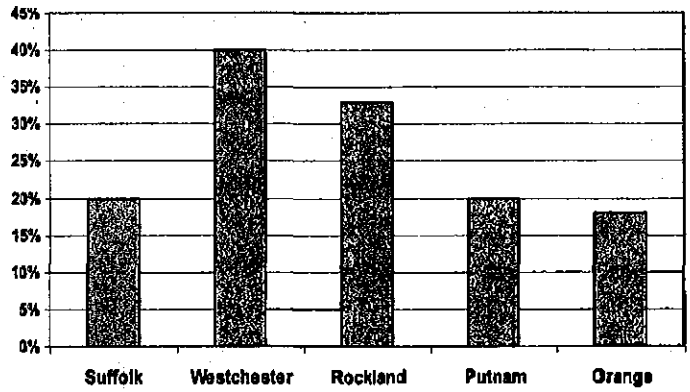
Source: MTA County-to-County Travel Data (2000)

Extrapolating the county level results to Census data on all owner-occupied units demonstrated that there are significant aggregate property value benefits in each county. When annualized, these property value benefits amounted to $112 million in Orange County, $124 million in Rockland County, $37 million in Putnam County, $470 million in Suffolk County, and $766 million in Westchester County. However, these results need to be treated with caution:

- There was only limited data available for each county and even though the sample size in each case was sufficient, the spatial distribution of properties across each county was not uniform (see Appendix C for further information).
- The statistical fit of the three estimated models was sufficient to support the hypothesis that residential property values are positively correlated with proximity to commuter rail service, but not necessarily good by comparable standards. In other words, there clearly are other variables beyond those included in this analysis that influence the variation in property prices.
- The extrapolation of the model results to all owner-occupied units in each county has some limitations. Properties in Census block groups were allocated to the distance buffers based on the block groups' centroids, rather than actual network distance of each house to the nearest station. Especially in areas with large block groups, properties could therefore be allocated to the wrong distance buffer.

- The extrapolation is also based on year 2000 property values and therefore does not reflect any general appreciation in home prices since that time.

Figure 1-7: Rentals As % of Total Occupied Housing Units (2005)



Source: US Dept. of Commerce, Bureau of Census, County Quick Facts (2007)

- It does not consider any benefit to owners of renter-occupied residential properties, which account for a relatively large portion of the counties in 2005 (see Figure 1-7). Of equal or greater significance, it does not address the benefit to non-residential properties – something of considerable importance as the role of reverse-commuting (e.g., New York City residents commuting to jobs in Westchester) continues to increase. In these last two respects – inflation of real estate since 2000 and the benefits to real estate beyond owner-occupied housing -- the figures shown in Table 1-17 above should therefore be considered very conservative estimate of the actual property value impacts.

Chapter II
MTA/County Payment Ratio Analysis

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CHAPTER II: MTA/COUNTY PAYMENT RATIO ANALYSES

1. OVERVIEW

a. Purpose of Present Study

A key component of the MTA Benefit-Cost Study was to provide the Metropolitan Transportation Authority (MTA) with an updated assessment of the relationship between payments made and benefits received by the member counties of the 12-county MTA District. The MTA has previously made brief payment ratio studies of this type (in 1983 and 1986) for all twelve MTA counties. However, its more recent studies, in 1995, 1996 and 1999, were done for either Orange County or Orange and Rockland Counties only. These studies compared the costs of maintaining facilities in each county and providing services to its residents (within the county and elsewhere throughout the District) to what the county's residents and businesses paid in fares and MTA-earmarked taxes.

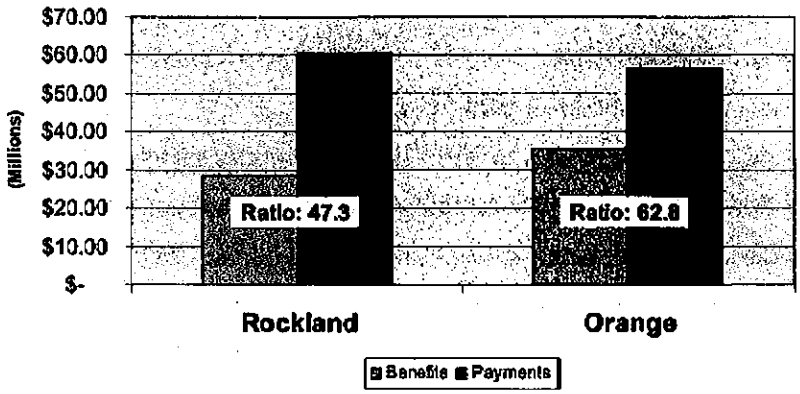
The "MTA/County Payment Ratio Analyses" analysis presented in this chapter, closely matching what was done previously by the MTA but using updated data and taking advantage of the expanding amount of data and analytical tools available in 2007 relative to those used for the 1999 study. The geographic entities analyzed in the present study include (1) New York City (all 5 counties treated together), and (2) the seven remaining MTA District counties individually. No analysis of the benefits to and payments by Connecticut was performed, other than as needed to complete the assessments for the twelve MTA District counties.

b. Review of Most Recent MTA Payment Ratio Studies

The most recent study, completed in November 1999 and entitled *Analysis of Benefits of MTA Service to Rockland and Orange Counties* ("the 1999 Study"), established a "Ratio of Benefits to Costs" for both counties; i.e.:

- The "Benefits" of MTA service to each county were equated with (1) the costs to the MTA of providing services in that county, (2) Capital Program expenditures in each county, and direct payments of MTA-collected taxes to several of those counties (Orange, Rockland and Dutchess specifically).

Figure 2-1
MTA/County Payment Ratio: Orange & Rockland Counties (1998)



Source: *Analysis of Costs and Benefits of MTA Service to Rockland & Orange Counties*, MTA (Nov. 1999)

- The "Costs" to the counties for those services were equated with (1) payments by county residents and businesses of various taxes, the revenues from which are earmarked to the MTA (e.g., mortgage recording tax, various franchise, business tax surcharge, and petroleum business taxes); (2) county payments for station maintenance and operating assistance for various programs; and (3) fares and tolls paid by local residents and businesses for MTA services.

The resultant ratios of benefits to costs as defined above, calculated for a single year (1998) were 0.473 for Rockland County and 0.628 for Orange County. These ratios (see Figure 2-1) indicated that the two counties and their residents paid more into the MTA system than they received in benefits. The 1999 Study briefly discussed whether either county would gain by withdrawing from the MTA District and contracting separately with the MTA and other parties (e.g., NJ Transit) for their transit services. It was noted that a portion of the payments by county residents and businesses are State-wide taxes which go to the MTA. If a county were to leave the MTA, its residents and businesses would likely continue to make these same payments. Further, even if county residents and businesses did not have to pay these taxes, the counties would still have to raise funds through taxes or other means to pay for these transit services. All of these factors led to serious questions regarding the net financial gain of withdrawing from the system. However, no detailed study of the potential economic gains from withdrawal was done as part of the 1999 Study, and no such assessment was done for the present study.

2. MTA/COUNTY PAYMENT RATIO ANALYSIS METHODS

a. Overview

The Study Team reviewed the 1999 Study and discussed with the MTA the methods, data sources and assumptions used in that study to arrive at its results and conclusions. Based on

those discussions, the study team (1) reviewed the adequacy of the existing payment ratio methods, including whether the factors included in this process to measure benefits and payments are the most appropriate, whether some may be missing, should be potentially dropped or replaced by alternative factors or proxies; (2) developed a methodology to carry out an updated payment ratio analysis and review with the MTA; and (3) prepared the payment ratio assessment.

The methodology for the payment ratio analysis and for the Secondary Economic Benefits assessment noted above was submitted, reviewed with the MTA and finalized in *MTA County-By-County Cost-Benefit Analysis Technical Memorandum No. 1 Study Methodology* (October 2006). The following section briefly summarizes the various parameters used to arrive at the payment ratios, and the data sources used and analytical assumptions made to arrive at the designated numerical factor in each area. The results of these studies are then presented, along with an assessment of the factors driving the various ratios for each county and an understanding of what the differences among the counties represents. Detailed calculations and back-up materials are provided in Appendices E, F, G and H of this report.

b. Areas of Analysis

- **Payments Made by the MTA.** The following are the various "payments" made during the year by the MTA to the member counties of the MTA District, and the sources of those data:
    - **Direct Payments of MTA-Earmarked Taxes to Local Counties.** This involves payments made by the MTA to the Dutchess-Orange-Rockland Fund (DORF) as a refunded share to those counties of the Mortgage Recording Tax (MRT) revenues (specifically a portion of the so-called "MRT-2" tax on mortgages for smaller residences). No other county receives a refund from that source. Rockland County also directly receives $3 million annually from the Metropolitan Mass Transit Operating Assistance (MMTOA) fund (from the MTA's other earmarked taxes) to subsidize the TappanZEExpress bus service connecting Rockland County to MNR service in Westchester County.
    - **MNR - West of Hudson Operating Expenses**, reflecting payments by the MTA for the Port Jervis and Pascack Valley services, which are operated by NJ Transit.

These costs were allocated between Orange and Rockland Counties based on each county's approximate share of the total passenger miles of travel of those getting on trains in those counties.

- **MNR - West of Hudson General and Administrative Costs**, an assignment of costs to Orange and Rockland Counties due to the nature of MNR's agreements with NJT for these services. A portion of MNR's general and administrative costs were allocated to West of Hudson service based on those services' share of MNR's total revenue passenger miles. These costs were then allocated to Orange and Rockland Counties based on each county's share of West of Hudson operating expenses as defined above.
- **MNR - East of Hudson Expenses**, relevant for all East-of-Hudson counties in which MNR operates (Westchester, Dutchess, Putnam and New York City) as well as Orange and Rockland Counties, reflecting their residents' use of the New Haven, Harlem and (especially) Hudson Lines. Values were based on origin-destination (O-D) data from various surveys by the MTA.
- **NYCT Expenses and Administrative Costs**, based on each area's share of total ridership and revenue passenger miles, using the most up-to-date O-D data available from the MTA to allocate ridership among the MTA District counties. Each county was assigned costs based on the number of their residents' trips as a share of total NYCT system trips by all counties.
- **Expenses and Administrative Costs of Other MTA Transit Operations**, for the LIRR and LI Bus) – calculated in the same manner as noted above for the NYCT and MNR, based on O-D survey data.[1]
- **MTA Bridges and Tunnels Expenses and Administrative Costs** – same as noted above for the MTA transit services, using the most recent O-D data provided by MTA B&T to distribute B&T trips to the various MTA counties. This operation is different from the MTA's transit operations, as it generates significant surpluses, most of which are used to subsidize the authority's various transit operations. B&T provided over $450 million in such subsidies in 2005.

[1] The MTA Bus Company, created in September 2004, took over previously private transit bus companies operating in New York City. As this take-over occurred throughout 2005 and was not in place for the whole year, that system's expenses or administrative costs were not included in this report's 2005 payment ratio assessment. Similarly, MTA costs associated with the Newburgh-Beacon ferry (which began operation in late 2005) and the Haverstraw-Ossining ferry were not included in this assessment.

- **MTA Headquarters and Police Expenses**, with Headquarter expenses allocated to each of the operators (e.g., NYCT, LIRR, MNR, etc.) based on its percentage of total MTA operations, while the allocation of police expenditures reflected the MTA's actual assignment of police among the various transit operations. These two expenditures were then allocated to the counties in the same manner as the various operators' other expenses and administrative costs, as noted above.

MTA District Tax Payments 2005 (Millions)

Real Estate Tax			
MRT Taxes	$	731.35	25%
Urban Tax	$	557.43	19%
Sales and Use Tax	$	428.51	15%
Franchise Tax	$	73.40	3%
Temporary Surcharge Tax	$	571.37	20%
Petroleum Business Tax	$	556.80	19%
Total	**$**	**2,918.87**	100%

- **Capital Project Payments**, focusing on the annual average investment in each county within the 2005-2009 Capital Program, using the most recent figures from the MTA Capital Program staff. The distribution of expenditures by county was not available for the 2005-2009 period but was available for the 1995-1999 and 2000-2004 periods. Therefore, average annual expenditures by county over the two previous Capital Programs (i.e., 1995-2004) were used in this 2005 year analysis. These 10-year average figures were also used in estimating a portion of the secondary economic benefits, to be presented in a subsequent report. The expenditures for the purchase of new rolling stock – a significant portion of the total Capital Budget – was allocated to the MTA operators that would use the rolling stock, and then distributed among the counties using the same passenger-mile method noted above.
- **MTA Policy and Gap Closure Actions.** With an approximately $1.2 billion budget surplus at the close of 2005, the MTA allocated approximately half of these surplus funds to address three budget areas – reducing pension liability, covering the costs of the 2005 Holiday Fare Program, and funding various security programs. These funds (approximately $600 million) were then allocated to the various operating agencies (NYCT, LIRR, MNR, etc.) and then to the counties based on the same allocation procedures described above for other transit service costs.

- **Payments Made by MTA Counties.** These payments primarily include payments by each county's residents and businesses of (1) various taxes, the revenues from which are earmarked to the MTA and which account for roughly one-third of the MTA's overall revenues (up from roughly 20% of its revenues in the mid-1990s); (2) direct payments made by the counties to support transit operations (e.g., operating assistance, station maintenance payments, etc.); and (3) fares and tolls paid by the counties' residents and businesses to use the various services. This overall group includes the following:
  - **Real Estate Transaction Tax Payments:**
    - **MRT Payments** (Mortgage Recording Tax [MRT]-1 and MRT-2), based on sales or mortgages recorded in each county. In June 2005, the MRT-1 tax rate was increased from $0.25 per $100 of recorded mortgage to $0.30 (the MRT-2 rate remained unchanged at $0.25 per $100).
    - **Urban Tax**, applied in New York City only (0.625% on commercial mortgages of $500,000 or more and 1% on commercial property sales over $500,000), with the allocation once again based on the location of the sale or mortgage transactions.
  - **Sales and Use Tax**, based on the amount of sales activities and sales tax receipts in each county. In June 2005, the MTA regional sales tax increased from 0.25 % to 0.375 %.
  - **Franchise Tax**, charged to various transportation and transmission businesses in the MTA District. Because there is no direct way of allocating these costs by county, taxes paid by these companies were assigned to each county based on its share of the District's total population and employment (as a proxy of energy use).
  - **Temporary Surcharge Tax**, reflecting taxes on specific industrial groups. As these payments are not recorded by county, employment in each county in each of the affected sectors (e.g., transportation and public utilities, finance, insurance and real estate, etc.) was used to allocate by county the taxes on businesses in those industrial groups.
  - **Petroleum Business Tax** (a tax on petroleum businesses, not of fuel sales). As it involved taxes on companies that provide petroleum products rather than on direct sales, other data (e.g., vehicle registration, electricity consumption, air passenger boardings) were used to roughly approximate petroleum use by county. These data were then used to proportionately allocate these revenues by county.

- **Local Operating Assistance** (payments made by localities to support operating expenses). Counties are required to make these payments to provide the "local match" for operating subsidies provided by the State.
- **Station Maintenance Payments**, based on formulas worked out with each county to roughly reflect the costs to the MTA of maintaining its stations in each county.
- **MNR - West of Hudson Fare Revenues**, reflecting use of each service by county residents, based on origin-destination (O-D) and other data from MTA surveys and other sources (e.g., mail/web ticket sales).
- **MNR - East of Hudson Revenues** – same procedures and methods as noted above. The estimates for Orange and Rockland were also based on tickets for East of Hudson services purchased through the WebTicket or Mail&Ride programs.
- **MTA B&T Revenue Paid** – tolls paid by residents and businesses in each county, based on B&T O-D data.
- **NYCT Revenue Paid** – includes both local travel by New York City residents as well as trips made by out-of-city residents commuting into the City by rail or bus and then using NYCT subway and bus services, using available MTA O-D data.
- **Other Transit Revenues** (LIRR, Long Island Bus, etc.) – same approach as for MNR, NYCT, etc. as noted above.

- **Calculation of Updated MTA/County Payment Ratio (2005 Data)**. Based on the results of these "payment" estimates, an updated MTA/County Payment ratio was established. The following section presents the overall results of these calculations for the entire 12-county MTA District, providing an initial comparison of the values for each county and for the District as a whole. This is followed by a presentation for each of the counties, showing the overall payment ratio and some of the key factors that appear to underlie and help determine these results.

These analyses were completed for a single calendar year (2005), and as such are intended to provide a snapshot of conditions in a typical year. Some idiosyncrasies in 2005 should be noted, including (1) the modest fare and toll increase (yielding an approximately 5% increase in those

MRT & Urban Taxes: 2003 - 2005

	Urban	MRT	Total
2003	$ 159.2	$ 450.9	$ 610.1
2004	$ 337.7	$ 637.3	$ 975.0
2005	$ 557.4	$ 731.4	$ 1,288.8
Change	$ 398.2	$ 280.5	$ 678.7
% Change (Annual)	**87.2%**	**27.4%**	**45.4%**

revenues), and (2) the surge in the MTA's earmarked tax revenues, especially the recent explosive growth in real estate-based MRT and Urban Tax revenues (especially the latter). The 2005 year also showed continued increases in usage of virtually all of the MTA's transit and roadway services.

3. 12-COUNTY MTA/COUNTY PAYMENT RATIOS

a. MTA District Ratios

Table 2-1 presents the calculated MTA/County payment ratios for New York City, the remaining seven MTA District counties, and for the overall MTA District:

Table 2-1
MTA Value/Payment Ratio of MTA Services
MTA District

COUNTIES	VALUE	PAYMENT	RATIO
ORANGE	$ 63.63	$ 95.55	0.67
ROCKLAND	$ 46.52	$ 88.23	0.53
DUTCHESS	$ 145.86	$ 94.35	1.55
PUTNAM	$ 67.10	$ 43.68	1.54
WESTCHESTER	$ 769.27	$ 579.32	1.33
NASSAU	$ 1,396.85	$ 867.00	1.61
SUFFOLK	$ 612.30	$ 605.01	1.01
NEW YORK CITY	$ 6,855.25	$ 5,471.39	1.25
MTA REGION	**$ 9,956.78**	**$ 7,844.52**	**1.27**

As shown, the overall ratio for the MTA District is 1.27, with county values ranging from 0.53 in Rockland County (up from 0.47 in the 1999 Study) and 0.67 for Orange County (up from 0.63 in the 1999 Study) to 1.61 in Nassau County. Numerous factors clearly define these ratios, and the key to interpreting these results is to understand what determines the key factor values for each county. The reasons why the overall payment ratio is greater than 1.0 also need to be reviewed.

The MTA payments are essentially a distribution of the costs of providing its various services, while the County payments are the overall tolls, fares and tax payments generated within the District. The 1.27 figure for the overall District implies that the MTA is paying out more in terms of services than it's receiving in fares, tolls and earmarked tax revenues; yet the MTA had a roughly $600 million surplus in 2005 (after gap-closing actions were taken), which by definition

means that its ratio would be under 1.0. In considering this overall ratio, the following must be understood:

- In assessing a surplus, depreciation rather than asset purchases (e.g., Capital Budget expenditures on stations, rolling stock, track repairs, etc.) are used in estimating expenses. Use of capital expenditures in the ratios shown in Table 2-1 essentially mixes balance sheet items with other factors normally seen on income statements. As capital expenditures in the 2005 MTA budget were considerably greater than depreciation, the overall MTA ratio is raised; and
- The ratio does not reflect the role of State and Federal funds in the MTA's overall operating budget, which if included would lower the ratio.

Accounting for these two factors would bring the overall MTA District ratio to approximately 0.93, reflecting the MTA surplus conditions in 2005. However, the intent of the payment ratio is to show the position of the various counties relative to each other, rather than to provide a measure of the MTA's overall financial performance.

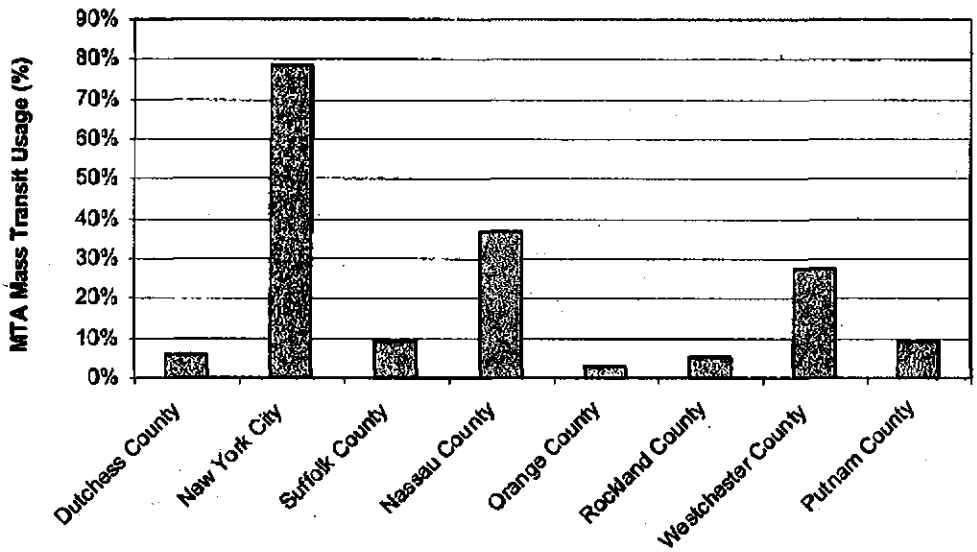
The following section briefly reviews the key factors that determine the payment ratios in each of the MTA counties, followed by a quick review of the elements of each county's ratio.

b. Review of Key Factors Affecting Results

- **System Usage and Distance.** Usage of the MTA system by residents of a given county includes all of the MTA transit services and bridge and tunnel crossings. According to this study's payment ratio methodology, the MTA "payment" to each county is primarily the MTA funds expended to provide those services. The amount estimated to be spent in each county is based on the demand for each service in that county – i.e., on the ridership or usage levels in that county. However, as the average distance traveled by riders in a given county also affects service cost, total passenger miles is used to allocate costs among counties. Therefore, cost allocations were based on passenger miles for the transit modes (MNR, LIRR, NYCT, SIR, LI Bus, MTA Bus) and on crossings for the MTA Bridge & Tunnel facilities.

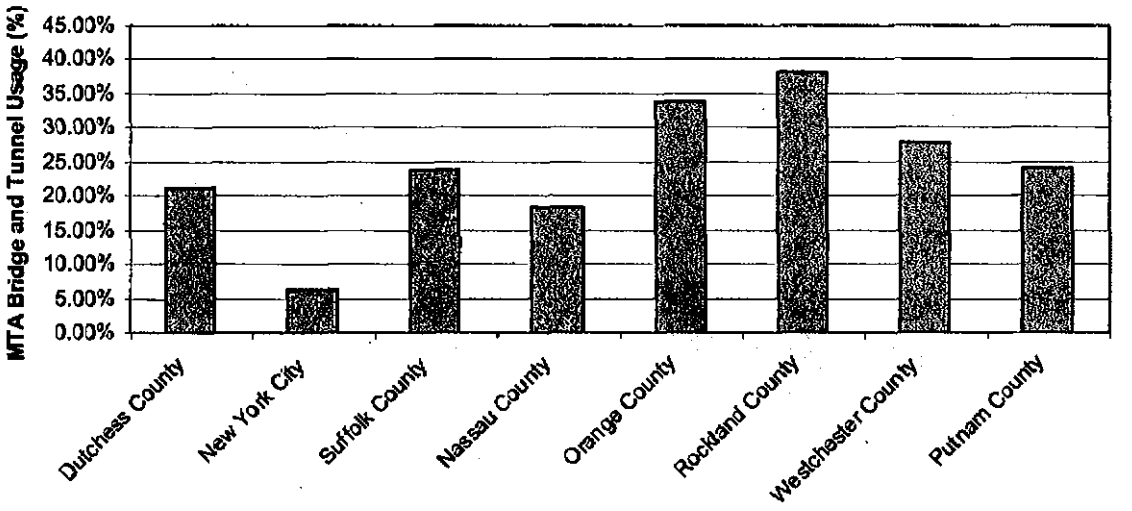
- **Transit Usage and Relative Use of MTA B&T Crossings.** Journey-to-Work trips account for a significant portion of overall mass transit trips, especially in suburban and rural areas. Figure 2-2 presents for each MTA county the approximate percentage of the county's workforce that uses the MTA's transit services (not including Bridge & Tunnel usage).

Figure 2-2
Percentage of Labor Force Using MTA Mass Transit Services by County



Generally, counties with higher transit usage levels would tend to have higher ratios, given that transit services are deficit operations. In contrast, increased Bridges & Tunnels usage lowers the payment ratio because Bridge & Tunnels is a surplus-generating operation, and the toll payments made by a county's residents will always be greater than the costs assigned to it. The role of higher B&T usage (see Figure 2-3) will be evident when reviewing the payment ratios of the various MTA counties.

Figure 2-3
Usage of Bridges and Tunnels as Percentage of Usage of MTA Services by County



- **MTA-Earmarked Taxes.** The driving factors on the county "payment" side are MTA-earmarked taxes, with payments by counties to cover various service costs or to provide operating assistance generally playing a smaller role. MTA-earmarked taxes in each county are not based on the MTA services in that county but on the strength of the overall economy and various commercial sector activities (e.g., petroleum wholesalers) and (especially) the real estate market. Since the 1999 report, the regional economy has experienced substantial growth, resulting in considerably higher MTA tax revenues. In general, the largest increases in payments to the MTA have come from real estate–based taxes, both Mortgage Recording Tax and Urban Tax payments., which rose by almost 45% annually from 2003 to 2005.

As shown in Figure 2-4, the Mortgage Recording Taxes per capita have increased significantly from 1998 to 2005, as MRT Payments have increase by 297% while the population of the MTA District increased by only 7%. It should be noted that Figure 2-4 does not include the Urban Tax, which applies only to New York City.

Figure 2-4
Growth in Real Estate Transaction Tax Payments (Urban & MRT Taxes) Per Capita: 1998 - 2005 for MTA Region

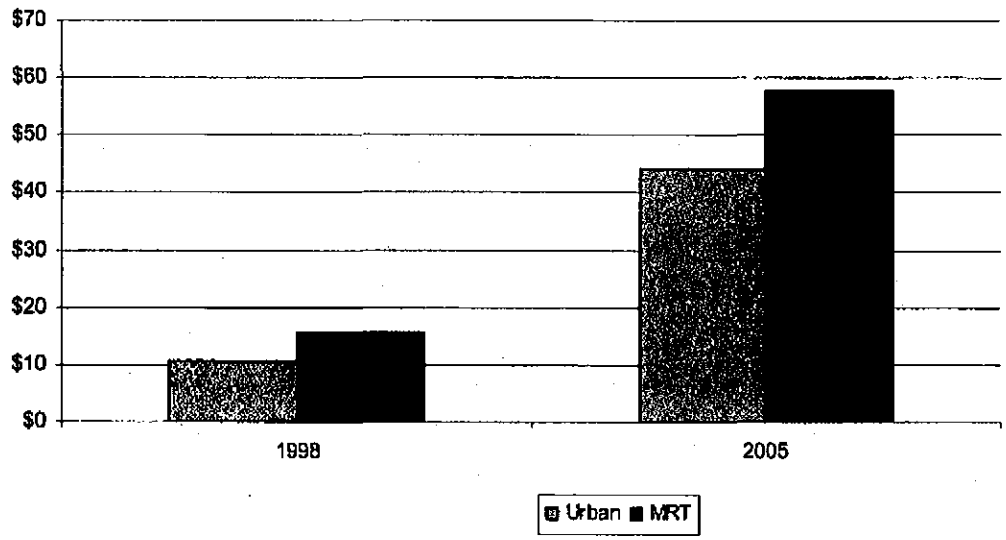
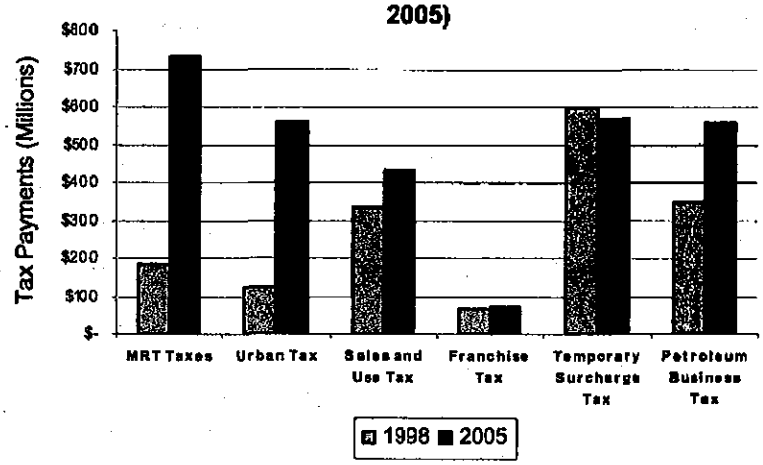


Figure 2-5 presents the distribution of earmarked tax payments within the MTA District by type of tax in 1998 and 2005.

Figure 2-5: MTA-Earmarked Tax Receipts (1998 & 2005)



As shown, the combined real estate-based taxes (MRT and Urban) have grown significantly, from approximately $310 million in 1998 (19% of total MTA earmarked tax revenues) to close to $1.3 billion in 2005 (43% of total). Figures 2-5A through 2-5E indicate the per capita earmarked

tax payments by type of tax for each county, while Figure 2-5F shows the overall MTA tax payments by county on a per capita basis.

Figure 2-5A
Sales and Use Tax per Capita by County

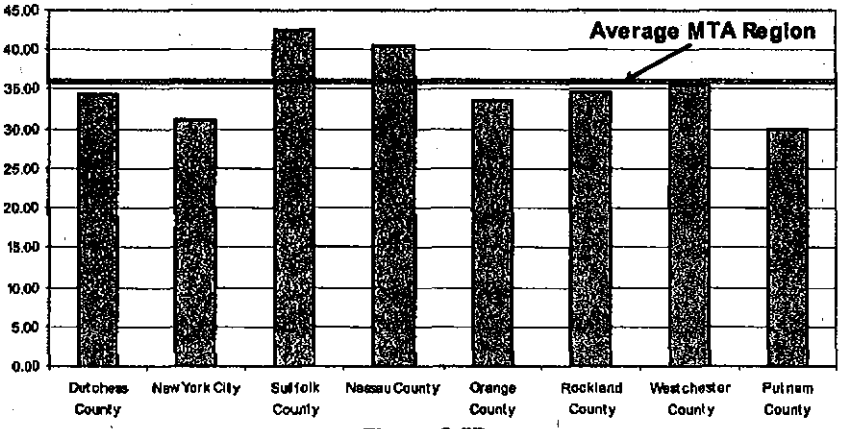


Figure 2-5B
Real Estate-Based Tax (MTR & Urban) per Capita by County

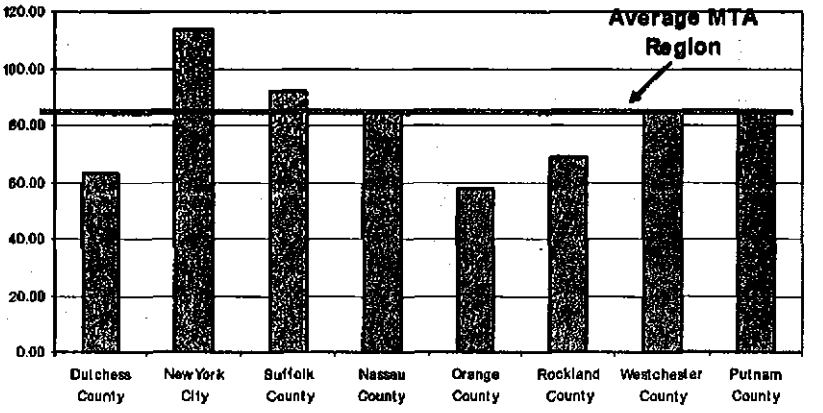


Figure 2-5C
Franchise Tax per Capita by County

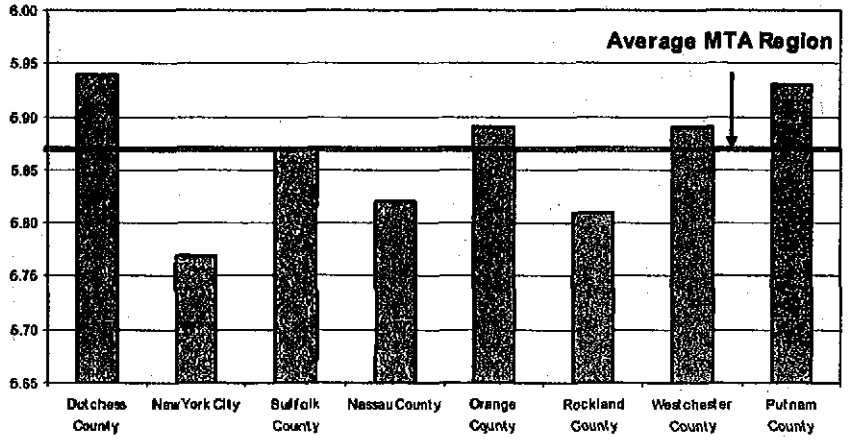


Figure 2-5D
Business Tax Surcharge per Capita by County

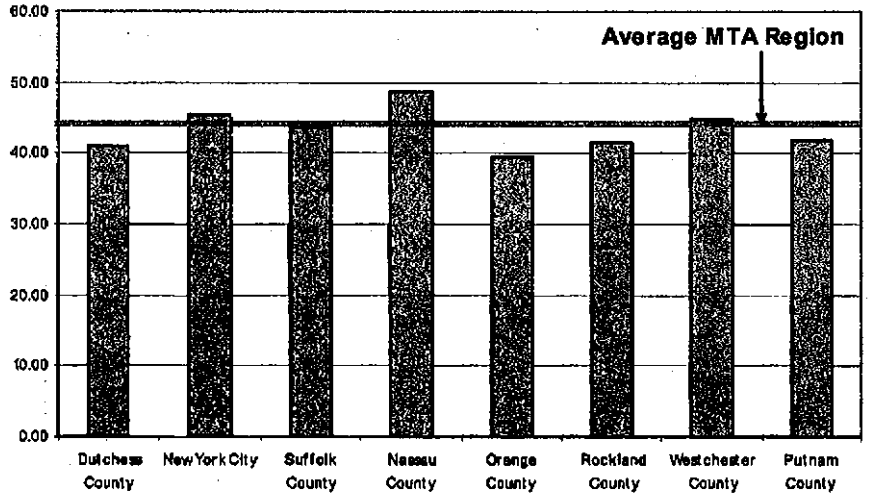


Figure 2-5E
Petroleum Business Tax per Capita by County

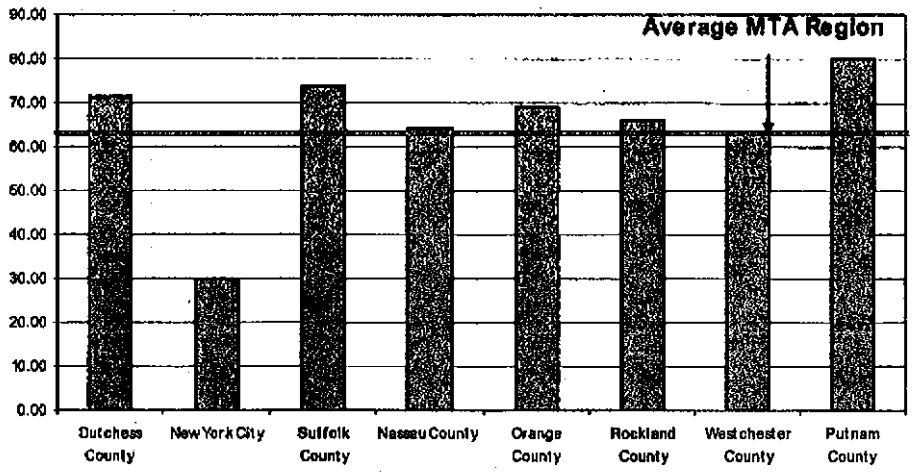
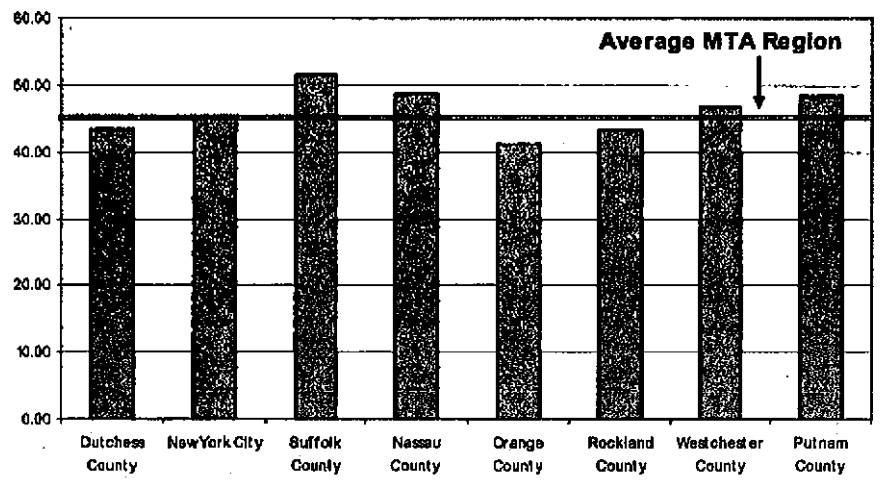


Figure 2-5F
Average Tax Paid per Capita by County



There is a large disparity between counties in terms of MRT payments per capita, with Rockland, Orange and Dutchess Counties on the low end, and New York City and Long Island on the high end. The two taxes that vary the most by county are the Sales & Use Tax and the Petroleum Business Tax.

Overall, the costs of providing MTA services since 1998 have not increased in the same proportion as MTA's earmarked tax revenues, which have grown along with the overall economy in the MTA District. Over the 2003 – 2005 period, for example, operating costs (excluding depreciation) for the MTA's three largest transit operations (NYCT, MNR and LIRR) grew up approximately 14% ($784 million), while MTA earmarked tax revenues in the same period rose by close to 40%, including an over 110% rise in the real estate transaction-based MRT and Urban Taxes.

4. MTA/COUNTY PAYMENT RATIO VALUES FOR INDIVIDUAL MTA COUNTIES

The MTA/County Payment ratios for each of the MTA District counties are summarized on the following pages. The factor values that determined the MTA and County payments for each county are broken out, and a number of the factors that help to explain each county's value relative to others in the District are also provided.

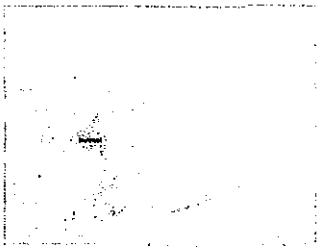
Table 2-2
MTA/County Payment Ratio for MTA Services
2005: Orange County (millions)

MTA Services and Payments to County		
Direct Payment from MTA Collected Taxes	$	7.03
MNR West of Hudson Expenses	$	15.23
MNR West of Hudson Administrative Costs	$	8.31
MTA Headquarters Expenses (without PD)	$	1.63
MTA Police Department	$	1.62
East of Hudson Expenses	$	2.88
NYCT Expenses and Administrative Costs	$	3.05
LIRR Expenses and Administrative Costs	$	-
SIR Expenses and Administrative Costs	$	-
Long Island Bus Expenses and Administrative Costs	$	-
Bridge & Tunnels Expenses and Administrative Costs	$	2.72
MTA Policy and Gap Closing Actions	$	7.36
MTA Capital Budget Payments	$	13.81
TOTAL	**$**	**63.63**
County Payments to MTA (millions)		
MRT-1 and MRT-2 Payments	$	20.77
Urban Tax Payments	$	-
Sales and Use Tax	$	12.03
Franchise Tax	$	2.11
Temporary Surcharge Tax	$	14.14
Petroleum Business Tax	$	24.81
Local Operating Assistance	$	0.15
Station Maintenance Payments	$	0.41
Other Payments	$	0.07
MNR - West of Hudson Fares	$	8.47
MNR - East of Hudson Fares	$	1.59
NYCT Fares	$	1.81
SIR Fares	$	-
LIRR Fares	$	-
Long Island Bus Fares	$	-
Nassau County Subsidy for Long Island Bus	$	-
Bridges & Tunnels Tolls	$	9.20
TOTAL	**$**	**95.55**
MTA/COUNTY PAYMENT RATIO		**0.666**

- Orange County ratio of 0.666 is the second lowest of all MTA District counties.
- A relatively low percentage of Orange County's workforce (2.7%) uses MTA transit services – the lowest in the entire District – which contributes significantly to the county's low payment ratio.
- Orange County residents have proportionately high usage of the surplus-generating Bridge & Tunnels facilities (see Figure 3), which lowers its ratio slightly (discounting this factor entirely would raise its ratio to 0.690).
- Orange County residents pay less than the District average in terms of MTA taxes per capita, but not sufficiently lower to greatly increase its payment ratio.
- The relatively low cost per rider assigned to the county for West of Hudson service is a key factor in the county's low ratio.

Table 2-3
MTA/County Payment Ratio for MTA Services
2005: Rockland County (millions)

MTA Services and Payments to County		
Direct Payment from MTA Collected Taxes	$	11.70
MNR West of Hudson Expenses	$	3.67
MNR West of Hudson Administrative Costs	$	2.00
MTA Headquarters Expenses (without PD)	$	0.86
MTA Police Department	$	0.40
East of Hudson Expenses	$	2.02
NYCT Expenses and Administrative Costs	$	9.43
LIRR Expenses and Administrative Costs	$	-
SIR Expenses and Administrative Costs	$	-
Long Island Bus Expenses and Administrative Costs	$	-
Bridge & Tunnels Expenses and Administrative Costs	$	5.14
MTA Policy and Gap Closing Actions	$	2.09
MTA Capital Budget Payments	$	9.19
TOTAL	**$**	**46.52**
County Payments to MTA (millions)		
MRT-1 and MRT-2 Payments	$	19.69
Urban Tax Payments	$	-
Sales and Use Tax	$	9.84
Franchise Tax	$	1.66
Temporary Surcharge Tax	$	11.84
Petroleum Business Tax	$	18.84
Local Operating Assistance	$	0.02
Station Maintenance Payments	$	0.04
Other Payments	$	0.02
MNR - West of Hudson Fares	$	2.23
MNR - East of Hudson Fares	$	1.11
NYCT Fares	$	5.59
SIR Fares	$	-
LIRR Fares	$	-
Long Island Bus Fares	$	-
Nassau County Subsidy for Long Island Bus	$	-
Bridges & Tunnels Tolls	$	17.36
TOTAL	**$**	**88.23**
MTA/COUNTY PAYMENT RATIO		**0.527**



- Rockland County's ratio of 0.527 is the lowest of the MTA District counties.
- A relatively low percentage of Rockland County's workforce (5.5%) uses MTA transit services – the second lowest in the entire District. This factor contributes significantly to the county's low payment ratio.
- Rockland County is the highest county in terms of Bridge & Tunnel usage as a percentage of its overall usage of MTA services (see Figure 2-3), which tends to lower the county's ratio (discounting it entirely would raise the ratio to 0.666).
- As with Orange County, Rockland County pays less than the District average in MTA taxes per capita. However, this does not offset the effect of the counties' mass transit and Bridges & Tunnels usage on its payment ratio.
- The relatively low cost per rider assigned to the county for West of Hudson service is a key factor in the county's low ratio.

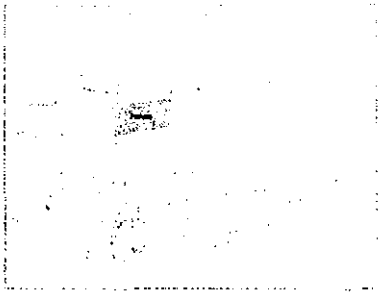
Table 2-4
MTA/County Payment Ratio for MTA Services
2005: Dutchess County (millions)

MTA Services and Payments to County		
Direct Payment from MTA Collected Taxes	$	7.38
MNR West of Hudson Expenses	$	-
MNR West of Hudson Administrative Costs	$	-
MTA Headquarters Expenses (without PD)	$	3.78
MTA Police Department	$	5.76
East of Hudson Expenses	$	65.75
NYCT Expenses and Administrative Costs	$	4.18
LIRR Expenses and Administrative Costs	$	-
SIR Expenses and Administrative Costs	$	-
Long Island Bus Expenses and Administrative Costs	$	-
Bridge & Tunnels Expenses and Administrative Costs	$	1.95
MTA Policy and Gap Closing Actions	$	18.41
MTA Capital Budget Payments	$	38.65
TOTAL	**$**	**145.86**
County Payments to MTA (millions)		
MRT-1 and MRT-2 Payments	$	17.57
Urban Tax Payments	$	-
Sales and Use Tax	$	9.52
Franchise Tax	$	1.64
Temporary Surcharge Tax	$	11.32
Petroleum Business Tax	$	19.75
Local Operating Assistance	$	0.38
Station Maintenance Payments	$	1.96
Other Payments	$	1.26
MNR - West of Hudson Fares	$	-
MNR - East of Hudson Fares	$	21.31
NYCT Fares	$	2.48
SIR Fares	$	-
LIRR Fares	$	-
Long Island Bus Fares	$	-
Nassau County Subsidy for Long Island Bus	$	-
Bridges & Tunnels Tolls	$	7.16
TOTAL	**$**	**94.35**
MTA/COUNTY PAYMENT RATIO		**1.546**

- Dutchess County's ratio of 1.546 is second highest among MTA District counties.
- A low portion of Dutchess County's workforce (5.7%) uses MTA transit services, but the county's relatively long average trip length (due to its distance from Grand Central Terminal) increased the passenger miles, and costs per passengers are relatively high for East of Hudson MNR services. The allocation of MTA payments to the county are therefore proportionately high, which is the major reason for its high ratio.
- Dutchess County has a low Bridge & Tunnel use as a percentage of the total usage of the MTA system, which helps in raising its ratio.
- On a per capita basis, Dutchess County pays below-average MTA taxes compared to the entire MTA District.

Table 2-5
MTA/County Payment Ratio for MTA Services
2005: Putnam County (millions)

MTA Services and Payments to County		
Direct Payment from MTA Collected Taxes	$	-
MNR West of Hudson Expenses	$	-
MNR West of Hudson Administrative Costs	$	-
MTA Headquarters Expenses (without PD)	$	1.88
MTA Police Department	$	2.84
East of Hudson Expenses	$	32.36
NYCT Expenses and Administrative Costs	$	2.05
LIRR Expenses and Administrative Costs	$	-
SIR Expenses and Administrative Costs	$	-
Long Island Bus Expenses and Administrative Costs	$	-
Bridge & Tunnels Expenses and Administrative Costs	$	1.33
MTA Policy and Gap Closing Actions	$	9.06
MTA Capital Budget Payments	$	17.58
TOTAL	**$**	**67.10**
County Payments to MTA (millions)		
MRT-1 and MRT-2 Payments	$	8.25
Urban Tax Payments	$	-
Sales and Use Tax	$	2.94
Franchise Tax	$	0.58
Temporary Surcharge Tax	$	4.11
Petroleum Business Tax	$	7.85
Local Operating Assistance	$	0.38
Station Maintenance Payments	$	0.77
Other Payments	$	1.07
MNR - West of Hudson Fares	$	-
MNR - East of Hudson Fares	$	11.63
NYCT Fares	$	1.22
SIR Fares	$	-
LIRR Fares	$	-
Long Island Bus Fares	$	-
Nassau County Subsidy for Long Island Bus	$	-
Bridges & Tunnels Tolls	$	4.87
TOTAL	**$**	**43.68**
MTA/COUNTY PAYMENT RATIO		**1.536**



- Putnam County's ratio of 1.536 is third highest among MTA District counties.
- Although shorter than those for Dutchess County, Putnam County's long average trip distance coupled with the relatively high per passenger costs for East of Hudson MNR services lead to a proportionately high allocation of MTA payments, which raises its ratio.
- In comparison to Dutchess County, Putnam has a higher Bridge & Tunnel use as a percentage of the total usage of the MTA system, which offsets some of the large difference in overall MTA mass transit usage between the two counties.
- On a per capita basis, Putnam County pays higher average MTA taxes as compared with Dutchess County and slightly above the MTA Region average.

Table 2-6
MTA/County Payment Ratio for MTA Services
2005: Westchester County (millions)

MTA Services and Payments to County	
Direct Payment from MTA Collected Taxes	$ -
MNR West of Hudson Expenses	$ -
MNR West of Hudson Administrative Costs	$ -
MTA Headquarters Expenses (without PD)	$ 21.51
MTA Police Department	$ 22.97
East of Hudson Expenses	$ 319.99
NYCT Expenses and Administrative Costs	$ 77.69
LIRR Expenses and Administrative Costs	$ -
SIR Expenses and Administrative Costs	$ -
Long Island Bus Expenses and Administrative Costs	$ -
Bridge & Tunnels Expenses and Administrative Costs	$ 37.39
MTA Policy and Gap Closing Actions	$ 92.14
MTA Capital Budget Payments	$ 197.58
TOTAL	**$ 769.27**
County Payments to MTA (millions)	
MRT-1 and MRT-2 Payments	$ 77.11
Urban Tax Payments	$ -
Sales and Use Tax	$ 32.66
Franchise Tax	$ 5.40
Temporary Surcharge Tax	$ 41.02
Petroleum Business Tax	$ 58.20
Local Operating Assistance	$ 7.34
Station Maintenance Payments	$ 16.46
Other Payments	$ 17.35
MNR - West of Hudson Fares	$ -
MNR - East of Hudson Fares	$ 167.08
NYCT Fares	$ 46.02
SIR Fares	$ -
LIRR Fares	$ -
Long Island Bus Fares	$ -
Nassau County Subsidy for Long Island Bus	$ -
Bridges & Tunnels Tolls	$ 110.68
TOTAL	**$ 579.32**
MTA/COUNTY PAYMENT RATIO	**1.328**

- Westchester County's ratio of 1.328 is fourth highest among MTA District counties.
- The extensive use of MTA transit services by the county's workforce (27.4%) is third highest in the District.
- The proportionate assignment of MNR costs to Westchester is considerably less than for Dutchess and Putnam Counties, due to shorter average trip lengths, which lowers its payment ratio. However, major Capital Budget payments (especially rolling stock) and Policy/Gap Closing actions (from a portion of the 2005 surplus) raise the county's ratio.
- Westchester has a relatively high Bridge & Tunnel use as a percentage of its total usage of the MTA system, which lowers its ratio and partially offsets the county's high usage of MTA services.
- Westchester's relatively high per capita station maintenance, local operating assistance and other payments lower its otherwise high ratio relative to other counties.

Table 2-7
MTA/County Payment Ratio for MTA Services
2005: Nassau County (millions)

MTA Services and Payments to County		
Direct Payment from MTA Collected Taxes	$	-
MNR West of Hudson Expenses	$	-
MNR West of Hudson Administrative Costs	$	-
MTA Headquarters Expenses (without PD)	$	30.50
MTA Police Department	$	29.95
East of Hudson Expenses	$	-
NYCT Expenses and Administrative Costs	$	134.90
LIRR Expenses and Administrative Costs	$	597.65
SIR Expenses and Administrative Costs	$	-
Long Island Bus Expenses and Administrative Costs	$	105.42
Bridge & Tunnels Expenses and Administrative Costs	$	43.74
MTA Policy and Gap Closing Actions	$	173.42
MTA Capital Budget Payments	$	281.27
TOTAL	**$**	**1,396.85**
County Payments to MTA (millions)		
MRT-1 and MRT-2 Payments	$	110.05
Urban Tax Payments	$	-
Sales and Use Tax	$	53.22
Franchise Tax	$	7.62
Temporary Surcharge Tax	$	63.95
Petroleum Business Tax	$	84.26
Local Operating Assistance	$	11.58
Station Maintenance Payments	$	23.82
Other Payments	$	24.20
MNR - West of Hudson Fares	$	-
MNR - East of Hudson Fares	$	-
NYCT Fares	$	79.90
SIR Fares	$	-
LIRR Fares	$	200.40
Long Island Bus Fares	$	38.10
Nassau County Subsidy for Long Island Bus	$	10.50
Bridges & Tunnels Tolls	$	159.41
TOTAL	**$**	**867.00**
MTA/COUNTY PAYMENT RATIO		**1.611**

- Nassau County's ratio of 1.611 is the District's highest.
- A high percentage of Nassau County's workforce (36.7%) uses MTA transit services, which is a major factor in its high ratio.
- Nassau is the only suburban county with MTA-operated bus services. Nassau's relatively low level of subsidization of LI Bus serves to increase its payment ratio.
- Its high LIRR use and proximity to New York City leads to heavy usage of NYCT services, which also increases its ratio.
- Nassau County's usage of Bridges & Tunnels services as a percentage of its total usage of MTA services is relatively low (sixth out of the eight counties), which helps to raise its ratio.
- Nassau County's MTA taxes paid per capita is the second highest of all MTA counties, which lowers its payment ratio.
- Nassau's high ratio reflects high MTA Headquarters/police costs (through LIRR) and substantial Capital Budget allocation, including LIRR rolling stock expenditures).

Table 2-8
MTA/County Payment Ratio for MTA Services
2005: Suffolk County (millions)

MTA Services and Payments to County	
Direct Payment from MTA Collected Taxes	$ -
MNR West of Hudson Expenses	$ -
MNR West of Hudson Administrative Costs	$ -
MTA Headquarters Expenses (without PD)	$ 13.34
MTA Police Department	$ 19.05
East of Hudson Expenses	$ -
NYCT Expenses and Administrative Costs	$ 43.53
LIRR Expenses and Administrative Costs	$ 319.61
SIR Expenses and Administrative Costs	$ -
Long Island Bus Expenses and Administrative Costs	$ 2.83
Bridge & Tunnels Expenses and Administrative Costs	$ 17.64
MTA Policy and Gap Closing Actions	$ 91.19
MTA Capital Budget Payments	$ 105.11
TOTAL	**$ 612.30**
County Payments to MTA (millions)	
MRT-1 and MRT-2 Payments	$ 133.25
Urban Tax Payments	$ -
Sales and Use Tax	$ 61.32
Franchise Tax	$ 8.48
Temporary Surcharge Tax	$ 62.87
Petroleum Business Tax	$ 106.47
Local Operating Assistance	$ 7.52
Station Maintenance Payments	$ 14.68
Other Payments	$ 7.95
MNR - West of Hudson Fares	$ -
MNR - East of Hudson Fares	$ -
NYCT Fares	$ 25.78
SIR Fares	$ -
LIRR Fares	$ 109.55
Long Island Bus Fares	$ 1.02
Nassau County Subsidy for Long Island Bus	$ -
Bridges & Tunnels Tolls	$ 66.12
TOTAL	**$ 605.01**
MTA/COUNTY PAYMENT RATIO	**1.012**

- Suffolk County's ratio of 1.012 is third lowest among the MTA District's counties.
- A relatively low percentage of Suffolk County's workforce (9.2%) uses MTA transit services -- the third lowest among MTA counties, which is the major cause of its relatively low payment ratio.
- Suffolk County has a relatively low usage of Bridge & Tunnel services as a percentage of its total usage of the MTA system (second lowest among District counties), which helps to raise its ratio.
- The county's average MTA taxes paid per capita is the highest of all MTA counties, which lowers its payment ratio.
- Suffolk County also has high average tax payments per capita in MRT and Petroleum Business taxes, reflecting its high per capita vehicle registrations (vehicle registrations are used to assign the automobile fuel portion of Petroleum Tax payments among counties).

Table 2-9
MTA/County Payment Ratio for MTA Services
2005: New York City (millions)

MTA Services and Payments to County	
Direct Payment from MTA Collected Taxes	$ -
MNR West of Hudson Expenses	$ -
MNR West of Hudson Administrative Costs	$ -
MTA Headquarters Expenses (without PD)	$ 153.96
MTA Police Department	$ 3.86
East of Hudson Expenses	$ 6.86
NYCT Expenses and Administrative Costs	$ 4,345.37
LIRR Expenses and Administrative Costs	$ 45.10
SIR Expenses and Administrative Costs	$ 27.34
Long Island Bus Expenses and Administrative Costs	$ -
Bridge & Tunnels Expenses and Administrative Costs	$ 156.49
MTA Policy and Gap Closing Actions	$ 197.11
MTA Capital Budget Payments	$ 1,919.16
TOTAL	**$ 6,855.25**
County Payments to MTA (millions)	
MRT-1 and MRT-2 Payments	$ 344.67
Urban Tax Payments	$ 557.43
Sales and Use Tax	$ 246.97
Franchise Tax	$ 45.91
Temporary Surcharge Tax	$ 362.11
Petroleum Business Tax	$ 236.63
Local Operating Assistance	$ 125.54
Station Maintenance Payments	$ 76.21
Other Payments	$ 350.33
MNR - West of Hudson Fares	$ -
MNR - East of Hudson Fares	$ 5.79
NYCT Fares	$ 2,573.72
SIR Fares	$ 3.26
LIRR Fares	$ 11.16
Long Island Bus Fares	$ -
Nassau County Subsidy for Long Island Bus	$ -
Bridges & Tunnels Tolls	$ 531.64
TOTAL	**$ 5,471.39**
MTA/COUNTY PAYMENT RATIO	**1.253**

- The ratio for New York City's five counties, 1.253, is fifth highest among the MTA District counties.
- The percentage of New York City's workforce using MTA transit services (78.9%) is highest in the MTA District.
- Most of New York City's transit use is on NYCT subways and bus services. Their relatively low fares per passenger reduce the impact of the City's high transit usage on its payment ratio, partially explaining its low ratio relatively to low transit use areas (e.g., Dutchess County).
- The average MTA taxes per capita for New York City is about the MTA District average. Its high on MRT and Urban Tax revenues and low on Petroleum Business Tax (low auto registration).
- 74% of the MTA's Capital expenditures are in New York City, which increases its payment ratio but not enough to offset the other factors noted above.

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Chapter III
Summary

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CHAPTER III: SUMMARY

1. ECONOMIC BENEFITS OF TRANSIT SERVICE IN THE MTA REGION

A number of areas in which the provision of public transit services generates economic and other benefits to its service areas were presented in Chapter 1. For a region as large, complex and economically significant as the New York City metropolitan area, with a long history of dependence on an extensive array of transit services, these benefits are broad-reaching and critical to the regional economy. These types of benefits were identified in a number of forms:

- **The Impact of MTA Expenditures** -- the MTA is a multi-billion dollar operation and one of the largest employers in the region, with close to $6 billion in annual labor expenses and $1.4 billion in Capital expenditures (annual average over 2000 – 2004 period). The analyses of the secondary economic impacts of this infusion of funds back into the MTA region show very significant increases in local employment and income across a broad range of industries.
- **Consumer Surplus Benefits** – riders of MTA services receive millions of dollars in consumer surplus benefits, representing the difference between the present fare level and the maximum amount they would be willing to pay for that service. Calculations for the MTA District show annual consumer surplus benefits of approximately $9.5 billion
- **Impact on Economic Productivity and Competitiveness** – studies of the MTA system show the important economic gains from greater investment in transit facilities and services (approximately $2 gained for every $1 invested) and the substantial losses that disinvestment in transit services would create (roughly $4 loss to the economy for every $1 reduction in transit investment). This was supported by studies of other major urban area systems, all concluding that transit service improvements and expansions provide economic benefits well above their required investment. An extensive and efficient transit service network also generates (1) business cost savings (through reduced and more reliable travel times), (2) productivity increases (businesses more effectively utilize their facilities and work force), and (3) greater business attraction (through improved accessibility)
- **Property Value Benefits** -- the presence and proximity of rapid transit (subway, commuter rail, light-rail, etc.) has an identifiable positive impact on property and sales values in suburban areas, while MTA services make possible the uniquely high densities of economic activity and value added in New York City, particularly in the Manhattan CBD. Modeling analyses to assess the property value contribution of proximity to commuter rail service in five suburban counties within the MTA region confirmed a strong positive correction. Results indicated that commuter rail proximity accounted for roughly 7% to 15% of owner-occupied

housing values in the analyzed areas, which was consistent with results from similar studies performed elsewhere. Annualized benefits from roughly $40 million (Putnam County) to $770 million (Westchester County) were estimated for these counties.

When considering the benefits and cost of the MTA District services, it is these types of significant economic benefits that must be considered to fully understand the value that the MTA services provide to the region and its constituent counties. Nationally, public transit services have been shown to have economic returns well above their annual costs.[1] There are numerous other public benefits of transit service that this study did not attempt to address (e.g., affordable mobility for low-income or elderly/disabled residents who don't own a car or cannot drive, reduced auto ownership costs for residents of neighborhoods well-served by transit, health benefits of reduced auto emissions, etc.). However, beyond these important and real benefits, the MTA's commuter rail, subway and express and local bus services, more so than for other urban areas in the United States, make it possible for the concept of a New York City Metropolitan area to not only exist but to thrive.

2. UPDATED MTA/COUTY PAYMENT RATIOS

Chapter 2 presented the results of a series of calculations, the purpose of which was to roughly measure the ratio of payments made by the MTA in providing its services to each county relative to the payments in fares, tolls and MTA-earmarked taxes made by the residents and businesses of that county. This exercise must be viewed in the context of the effort to understand the overall net benefits of MTA District operations to its constituent counties, as discussed in Chapter 1. As shown in the presentation of the updated payment ratios, some of the results are somewhat counter-intuitive. The following are some examples and possible reasons behind them:

- **Overall District Ratio.** The overall payment ratio for the District is 1.27, with county values ranging from 0.53 in Rockland County (up from 0.47 in the 1999 Study) and 0.67 for Orange County (up from 0.63 in the 1999 Study) to 1.61 in Nassau County. The 1.27 figure for the overall District implies that the MTA is paying out more in terms of services than it's receiving in fares, tolls and earmarked tax revenues but instead it had a $600 million surplus in 2005. However, consideration of a budget surplus normally uses depreciation rather than asset purchases (e.g., Capital Budget expenditures) in estimating expenses, which mixes balance sheet items with those normally seen on income statements. As the 2005 capital expenditures were much greater than

[1] David Lewis and Fred Williams, *Policy and Planning as Public Choice: Mass Transit in the United States*, Ashgate, 1999)

depreciation, this raised the overall MTA ratio. Further, the role of State and Federal funds in the MTA's overall operating budget are not reflected, and if included would lower the ratio. Accounting for these two factors would bring the overall MTA District ratio to approximately 0.93, reflecting the MTA surplus conditions in 2005. However, the ratio is meant to show the position of the various counties relative to each other, rather than to provide a measure of the MTA's overall financial performance.

- **Suburban/Rural Counties with Very Different Ratios.** Orange and Rockland Counties vs. Dutchess and Putnam Counties – both pairs are suburban/rural areas with relatively low transit use, yet they have dramatically different payment ratios. The dominant reason for the difference is the considerably higher average cost per commuter rail trip for Dutchess/Putnam (East of Hudson), relative to average fares, when compared to Orange/Rockland (primarily West of Hudson), and the relatively long average trip lengths from Dutchess and Putnam Counties. The Orange/Rockland riders cover a greater portion of their assigned services' costs than their counterpoints in Dutchess and Putnam. However, this does not necessarily reflect the ***actual*** costs of these services but the way in which system costs are allocated within the MTA budget and, to an extent, in this study's methodology.

- **New York City's Relatively Low Ratio.** New York City's relative low ratio – essentially equal to the District-wide value and only fifth highest -- is initially surprising given the City's very high transit usage, the significant amount of total MTA-earmarked taxes generated within the City, and the high percentage of the MTA's Capital Budget and gap-closing funds expended within New York City. However, since NYCT passenger fares cover a relatively high percent of operating expenses, the heavy use of these services by City residents tends to lower its MTA/County payment ratio.

- **The High Ratio in Nassau County.** While Nassau County has a relatively high payment of MTA earmarked taxes, its extensive usage of the high-service LIRR commuter system, the significant MTA payments in the areas of Capital Budget expenditures (including rolling stock), policy/gap closure measures and MTA Headquarters/police more than compensate for this. Nassau is the only suburban county in the district for which the MTA operates the county's bus service (i.e., LI Bus). As shown in Table 2-7 in Chapter 2, the costs of these services to the MTA are considerably higher than fare payments by County residents and the County's LI Bus subsidy.

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APPENDICES

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APPENDIX A
IMPLAN INPUT-OUTPUT MODELING SYSTEM

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Appendix A
IMPLAN Input-Output Modeling System

Input-output accounting describes commodity flows from producers to intermediate and final consumers. The total industry purchases of commodities, services, employment compensation, value added, and imports are equal to the value of the commodities produced.[1]

Purchases for final use (final demand) drive the model. Industries produce goods and services for final demand and purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services (indirect purchases) continues until leakages from the region (imports and value added) stop the cycle.

These indirect and induced effects (the effects of household spending) can be mathematically derived. The derivation is called the Leontief inverse (named after Wassily Leontief, the Nobel Prize winning founder of input-output analysis). The resulting sets of multipliers describe the change of output for each and every regional industry caused by a one dollar change in final demand for any given industry.

Creating regional input-output models require a tremendous amount of data. The costs of surveying industries within each region to derive a list of commodity purchases (production functions) are prohibitive. IMPLAN was developed as a cost-effective means to develop regional input-output models. The IMPLAN accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the Bureau of Economic Analysis (1980) and the rectangular format recommended by the United Nations.

The IMPLAN system was designed to serve three functions: 1) data retrieval, 2) data reduction and model development, and 3) impact analysis. Comprehensive and detailed data coverage of the entire U.S. by county, and the ability to incorporate user-supplied data at each stage of the model building process, provides a high degree of flexibility both in terms of geographic coverage and model formulation.

The IMPLAN database, created by MIG, Inc., consists of two major parts: 1) a national-level technology matrix and 2) estimates of sectoral activity for final demand, final payments, industry output and employment for each county in the U.S. along with state and national totals. New databases are developed annually by MIG, Inc.

IMPLAN easily allows the user to do the following:

- Develop his/her own multiplier tables;
- Develop a complete set of SAM (Social Accounting Matrix) accounts;
- Change any component of the system, production functions, trade flows, or database;
- Generate type I, II, or any true SAM multiplier internalizing household, government, and/or investment activities;

[1] This appendix is re-produced from "The IMPLAN Input-Output System," by MIG, Inc. Go to http://www.implan.com/library/documents/implan_io_system_description.pdf for further details.

- Create custom impact analysis by entering final demand changes; and
- Obtain any report in the system to examine the model's assumptions and calculations.

Database

Each database has information for these components for all 508 industrial sectors in the IMPLAN model.

Employment is total wage and salary and self employed jobs in a region. In the 1985 database, employment was measured as full-time equivalent jobs. This meant that total employment in a region would generally be below most published estimates since these are generally full-time and part-time. In the 1990 and subsequent databases, employment includes both full-time and part-time workers. Employment in the 1990 and subsequent databases are measured in total jobs.

There are four sub-components for Value Added. These are:

1. Employee Compensation;
2. Proprietary Income;
3. Other Property Type Income; and
4. Indirect Business Taxes.

Employee compensation is wage and salary payments as well as benefits including health and life insurance, retirement payments, and any other non-cash compensation. This provides a measure of income to workers who are paid by employers.

Proprietary income consists of payments received by self-employed individuals as income. This would be recorded on Federal Tax Form 1040C. This includes income received by private business owners, doctors, lawyers, and so forth. Any income a person receives for payment of self-employed work is counted here.

Other property type income consists of payments from rents, royalties and dividends. This includes payments to individuals in the form of rents received on property, royalties from contracts, and dividends paid by corporations. This also includes corporate profits earned by corporations.

Indirect business taxes consist primarily of excise and sales taxes paid by individuals to businesses. These taxes are collected during the normal operation of these businesses but do not include taxes on profit or income.

Goods and services purchased for their ultimate use by an end user are called **final demands.** For a region this would include exports as that is a final use for that product. In an input-output framework, final demands are allocated to producing industries with margins allocated to the service sectors (transportation, wholesale and retail trade, insurance) associated with providing that good to the final user. Thus final demands are in producer prices.

There are 13 sub-components for Final Demands. These are:

- Personal Consumption Expenditures (PCE) - nine income levels;
- Federal Government Military Purchases;
- Federal Government Non-Military Purchases;
- Federal Government Capital Formation Purchases
- State and Local Government Non-Education Purchases;
- State and Local Government Education Purchases;
- State and Local Government Capital Formation Purchases
- Inventory Purchases;
- Capital Formation;
- Foreign Exports;
- State and Local Government Sales;
- Federal Government Sales;
- Inventory Sales.

All final demands in the original data are on a commodity basis. The distinction between industries and commodities is as follows from the 1972 I-O Definitions and Conventions Manual: An input-output industry is a grouping of establishments, as classified by SIC; an input-output commodity consists of the characteristic products of the corresponding I-O industry wherever made.

There are several industries that have no commodities. This is a result of departures from the strict SIC classification of industries. Also, some commodities have no associated industry. An example of this is non-comparable imports.

Personal consumption expenditures (PCE) consist of payments by individuals/households to industries for goods and services used for personal consumption. Individuals tend to buy little directly from industries other than retail trade. However, in an input-output table, purchases made by individuals for final consumption are shown as payments made directly to the industry producing the good. PCE is the largest component of final demand.

Federal Government purchases are divided between military, non-military uses and capital formation. Federal military purchases are those made to support the national defense. Goods range from food for troops to missile launchers. Non-military purchases are made to supply all other government functions. Payments made to other governmental units are transfers and are not included in Federal Government purchases.

State and local government purchases are divided between public education, non-education and capital formation. Public education purchases are for elementary, high school, and higher education. Non-education purchases are for all other government activities. These include state government operations, operations including police protection and sanitation. Private sector education purchases are not counted here. Private education purchases show up in IMPLAN sectors 495 and 496.

Inventory purchases are made when industries do not sell all output created in one year. This is generally the case. Each year, a portion of output goes to inventory. Inventory sales occur

when industries sell more than they produce and need to deplete inventory. Inventory purchases and sales generally involve goods producing industries (e.g. agriculture, mining, and manufacturing).

Capital formation are private expenditures made to obtain capital equipment. The dollar values in the IMPLAN database are expenditures made to an industrial sector producing the capital equipment. The values are not expenditures by the industrial sector.

Foreign Exports are demands made to industries for goods for export beyond national borders. These represent goods and services demanded by foreign parties. Domestic exports are calculated during the IMPLAN model creation and are not part of the database.

The national **transactions matrix** is based on the most current National Bureau of Economic Analysis Benchmark Input-Output Model. It is re-sectored to IMPLAN industrial sectoring. We use our IMPLAN data for the current year to update the most recent National Benchmark study.

IMPLAN REGIONAL ACCOUNTS

The components of the IMPLAN database are part of the social accounts of the region under study. Social accounts show the flow of commodities from industry to producers and institutional consumers. Also shown is the consumption of factors of production, i.e. workers, owners of capital and imports from outside of the region.

The IMPLAN database and software provides the information and capability to estimate a complete set of social accounts for a local area. The complete set of social accounts is then converted to the industry by industry formulation of input/output accounts and ultimately the predictive Leontief multipliers.

Figure A.1 below illustrates the nature of the IMPLAN accounts. The initial data set is "use" of commodity by industry. and the "make" of commodities by industry. These flows are from the national input-output model. For each data set, final demands, value added, output, and employment was developed. Employment is in addition to the traditional social accounts.

Figure A.1 IMPLAN Input-Output Accounts

	Industry	Commodity	Factors	Institution	Exports	Total
Industry		*Make*				Total Industry Output
Commodity	*Use*			*Consumption*	*Exports*	Total Commodity Output
Factors	*Value Added*				*Exports*	Total Factor Income
Institution	*Sales & Taxes*	*Sales*	*Distribution*	*Transfers*	*Exports*	Total Institutional Income
Imports	*Imports*		*Imports*	*Imports*	*Trans-Shipment*	Total Imports
TOTAL	Total Industry Outlay	Total Commodity Outlay	Total Factor Outlay	Total Institutional Expenditures	Total Exports	

To create a regional I/O model, the regional data is combined with the national structural matrices to form the regional multipliers. In the first step, the software creates the regional study area file by combining the states or counties selected by the user.

From the initial study area data, the software regionalizes the national structural matrices by eliminating industries that do not exist, and adjust for value added to total industry output ratios. Imports are then estimated via the regional purchase coefficients or RPC's.

An RPC represents the proportion of the total supply of a good or service required to meet a particular industry's intermediate demands and final demands that are produced locally. For example, an RPC value of 0.8 for the commodity "fish" means that 80 percent of the demand for fish (by fish processors, fish wholesalers, foreign exports, and others) are provided by local fishermen. The remainder, 20 percent, is imported.

Once RPC's are derived, imports are calculated using the minimum of the RPC or supply/demand pool. The regional final demands and use matrix are then multiplied by the resulting RPC coefficients. This creates a set of matrices and final demands that are free of imports.

Domestic exports are the residual of regional production not locally consumed. The result is a balanced set of regional economic accounts.

The I/O accounts are developed next. The regional use matrix and final demands are converted from commodity to industry basis. The subsequent inversion of the I/O accounts provides an import-free Leontief matrix of multipliers.

IMPLAN MULTIPLIERS

The notion of a multiplier rests upon the difference between the initial effect of a change in final demand and the total effects of that change. Total effects can be calculated either as direct and indirect effects, or as direct, indirect, and induced effects. Direct effects are production changes associated with the immediate effects or final demand changes. Indirect effects are production changes in backward-linked industries caused by the changing input needs of directly effected industries (for example, additional purchases to produce additional output). Induced effects are the changes in regional household spending patterns caused by changes in household income generated from the direct and indirect effects.

Five different sets of multipliers are estimated by IMPLAN corresponding to five measures of regional economic activity; total industry output, personal income, total income, value added, and employment. The categories of multipliers are Type I, Type II, and Type SAM.

TYPE I MULTIPLIER

A Type I multiplier is the direct effect, produced by a change in final demand, plus the indirect effect divided by the direct effect. Increased demands are assumed to lead to increased employment and population with the average income level remaining constant. The Leontief inverse (Type I multipliers matrix) is derived by inverting the direct coefficients matrix. The result is a matrix of total requirement coefficients, the amount each industry must produce in order for the purchasing industry to deliver one dollar's worth of output to final demand.

TYPE II MULTIPLIERS

Type II multipliers incorporate "induced" effects resulting from the household expenditures from new labor income. The linear relationship between labor income and household expenditure can be customized in the IMPLAN Professional software:

1. The default relationship is PCE (personal consumption expenditures) and total household expenditures. Each dollar of work-place based income is spent based on the SAM relationship generated by IMPLAN.
2. The second possibility is a RIMS II style of Type II multiplier, where PCE is adjusted to represent only the spending of the disposable income portion of labor income. In this way there is a direct one-to-one relationship to labor income and PCE. Then a ratio which the user can specify, is applied to convert total income to disposable income before the rounds of induced effects are calculated.

TYPE SAM

Type SAM multipliers are the direct, indirect, and induced effects where the induced effect is based on information in the social account matrix. This relationship accounts for social security and income tax leakage, institution savings, and commuting. It also accounts for inter-institutional transfers. This multiplier is flexible in that you can include any institutions you want. In other words, if you want to create a model closed to households and state and local government, you can. If you select this option, an additional dialog box with be displayed allowing you to select the institutions you want to include.

APPENDIX B
IMPACTS OF TRANSIT ON PROPERTY VALUES, LAND USE AND DEVELOPMENT

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Appendix B
Impacts of Transit on Property Values, Land Use, and Development

Property Values

The literature on the property value impacts of transit systems is extensive. Numerous studies have been performed throughout the U.S. using statistical methods to examine the impacts of transit systems on property values for both residential and commercial development. A sampling of findings from specific cities includes:

- **Boston, MA** – A 1994 study by Armstrong found that there is an increase in single-family residential property values of approximately 6.7 percent by virtue of being located within a community having a commuter rail station. At the regional level there appears to be a significant impact on single-family residential property values resulting from the accessibility provided by commuter rail service.

- **Chicago, IL** – A 1997 study by Gruen Gruen + Associates found that proximity to Chicago Transit Authority (CTA) heavy rail and Metra commuter rail stations positively affects the value of single family homes. The price of a single-family house located 1,000 feet from a station is 20 percent higher than a comparable house located a mile away. More important than the presence of a transit station, though, is the perception of neighborhood desirability. Apartment properties located closer to train stations also tend to realize higher rents and occupancy levels than comparable apartments less conveniently-located to train stations. A study of the opening of the Midway Line on single-family home prices (McMillen, 2004) also showed benefits. On average, the value of homes near transit stations rose by $6,000 compared to homes 1.5 miles from the new transit line, resulting in an aggregate property value increase of $216 million.

- **Dallas, TX** – A study examined the impacts of Dallas Area Rapid Transit (DART) light rail over the 1997 to 2001 time period (Weinstein and Clower, 2002). The study revealed that proximity to a DART station exerts a positive influence on property valuations. Median values of residential properties increased 32.1 percent near the DART rail stations compared to 19.5 percent in the control group areas. For office buildings, the increase was 24.7 percent for the DART properties versus 11.5 percent for the non-DART properties.

- **Philadelphia, PA** – In suburban New Jersey and Pennsylvania, a study by Voith (1991) found that the median home price for census tracts immediately served by the rail line operated by the Port Authority Transit Corporation (PATCO) was generally 10 percent higher that the median home price in census tracts located away from the rail line. The

average median home price for census tracts served by SEPTA commuter rail was 3.8 percent higher than for census tracts not directly served by commuter rail.

- **Portland, OR** – A number of studies have been conducted on various neighborhoods along the MAX Eastside light rail line. A study by Al-Mosaind, Dueker, and Strathman (1993) found that within two years after the line's operations began in 1986, residential properties in the East Burnside area within 500 meters of the transit were, on average, 10.6 percent greater in value than homes outside of 500 meters. The typical house sold for $663 more for every 100 feet nearer a light rail station. A 1999 study by Dueker and Bianco found a maximum price difference of $2,300 between homes located adjacent to the station and those located 200 feet away. Chen et al (1998) found that beginning at a distance of 100 meters from the station, each additional 100 meters away decreases the average house price by $3,220. Lewis-Workman and Brod (1997) found that on average, property values increased by $75 for every 100 feet closer to the station, within a 2,500 ft. – 5,280 ft. radius.

- **San Diego, CA** – A study by Cervero and Duncan (2002) found appreciable land-value premiums for rail-transit corridors in San Diego County, although premiums varied significantly by type of land use as well as by location and mode (light rail or commuter rail). Premiums of 17 percent and 10 percent, respectfully, were found for multi family homes near East Line and South Line LRT stations. The value of condos and apartments from ¼ to ½ mile from a station increased by 2 to 18 percent, but the value of single family homes decreased by 0 to 4 percent. For commercial properties, impacts also varied by location. The most appreciable impacts were 91 percent premiums for parcels near downtown Coaster stations and 72 percent for parcels near Trolley stations in the Mission Valley. An earlier, city-wide study by Landis et al (1995) found that the typical home sold for $272 more for every 100 meters closer to a light rail station, but did not find an effect for commercial impacts.

- **San Francisco, CA** – The Sedway Group's 1999 review of studies on the benefits associated with Bay Area Rapid Transit (BART) service identified positive residential and office property impacts. Single family homes were reported worth from $3,200 to $3,700 less for each mile distant from a BART station in Alameda and Contra Costa counties. Apartments near BART stations were found typically to rent for 15 to 26 percent more than apartments more distant from BART stations. The average land price per square foot for office properties also decreased as distance from a BART station increased, from $74.00 per square foot within one-quarter mile of a station to $30.00 per square foot for more than a half-mile distant. These differences were found to vary among communities, however, with no significant impacts in some station areas.

- **San Jose, CA** – An analysis by Weinberger (2001) on commercial property values found a 10 to 15 percent rent premium for properties within ¼ mile of a light rail station, compared to those at least ¾ mile from a transit station. Between ¼ mile and ¾ mile, this rent premium steadily decreased. Another study (Cervero and Duncan, 2001) using a slightly different methodology found that being within walking distance of an LRT station increased land values on average by over $4.00 per square foot, or by around 23 percent. For properties in commercial business districts and within a quarter mile of a CalTrain commuter rail stop, the capitalization premium was even larger - over $25 per square foot, or more than 120 percent above the mean property value.

Land Use and Economic Development

Due in part to difficulty in obtaining data, comprehensive studies on the land use and local economic development impacts of transit systems are more limited than studies on property values. Development impacts of transit have been rigorously studied in San Francisco as well as the Atlanta and Washington, D.C. areas. Findings from these studies include:

- **San Francisco, CA** – The largest amount of research on development impacts has been performed on the BART system in the San Francisco region. A study performed 20 years after its initial construction (Cervero and Landis, 1997) concluded that BART has played a modest role in shaping growth and development. Impacts have been localized and uneven; BART has allowed downtown San Francisco to maintain its urban hierarchy and has helped downtown Oakland to leverage public and private development. Development around a few other key stations has been significantly focused due to BART (e.g. Walnut Creek, Pleasant Hill, Fremont). A lack of development around other stations is attributed to market forces, government regulations (e.g. zoning, development incentive programs) and neighborhood opposition. BART has created opportunities for development, but has not turned around declining real estate markets; the role of local government in promoting development is key.

- **Washington, D.C. and Atlanta, GA** – Cervero (1994), looking at selected new rail transit stations in Washington, D.C. and Atlanta, examined the relationship between office building size (a proxy for density) and proximity to rail transit stations. The study found that transit investments do indeed appear to encourage high-density development. The study also found that average office building size tends to increase with systemwide ridership and joint development activity. Importantly, the study further found lower vacancy rates in office buildings near transit stations.

Other studies have documented examples of development leveraged by transit investments, although they have not used statistical methods to compare growth in transit station areas vs.

other locations. Nevertheless, they do demonstrate that in many cases rail transit stations can serve as a catalyst or focal point for growth. For example:

- **Charlotte, NC** – Transit-oriented planning and rezoning, in conjunction with related redevelopment activities and anticipation of LRT service beginning in 2007, has helped spur 46 development projects recently built or planned in Charlotte's South Corridor LRT station areas. (Center for Transit Oriented Development, 2006).

- **Dallas, TX** – A study for the Dallas Area Rapid Transit (DART) (Weinstein and Glower, 2005) estimates that $3.3 billion in new development was undertaken or has been planned between 1999 and 2005 in station areas on the 45-mile DART rail system in Dallas, Garland, Richardson and Plano.

- **Portland, OR** – Between 1992 and 1998, about 7,000 units of housing were built, permitted, or proposed in West Side LRT station areas. This level of development was supported by a station area planning program that updated local plans and policies to support transit-oriented development. [1]

- **San Jose, CA** – Between 1997 and 1999, an estimated 4,500 housing units and 9 million square feet of office space were added within walking distance of the Tasman West LRT corridor (Dunphy et al, 2004) in anticipation of the opening of LRT service in 2000.

- **Washington, D.C.** – According to the Urban Land Institute, the Washington Metrorail system generated more than $15 billion in development between 1976 and approximately the year 2000. Between 1973 and 2003, 52 joint development projects with a market value of $4 billion were constructed around Metrorail stations (Cervero et al, 2004). These developments have generated an estimated 50,000 new transit riders and over 25,000 jobs. In the five-station Rosslyn-Ballston corridor of Northern Virginia alone, almost 19 million square feet of office space, 2 million square feet of retail, and 20,000 residential units were developed between 1960 and the early 2000s (Dunphy et al, 2004).

[1] http://www.todadvocate.com/pdxcasestudy.htm

APPENDIX C
HEDONIC PROPERTY VALUE MODELING ANALYSIS

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APPENDIX C:
HEDONIC PRICING MODEL ANALYSIS

1. Data Acquisition and Management

Two types of data were required for the hedonic price model: home sale prices, and associated housing amenities. Both data are sometimes available from public agencies. The New York State Office of Real Property Services (ORPS) maintains databases containing 10 years of real property transfer (sales) data. Individual municipalities' tax assessor offices collect housing characteristic data on which tax assessments are based. Westchester County alone has 25 cities, towns, and villages that independently collect and maintain tax assessment records. Due to the complexity of acquiring and standardizing data from over 25 independent sources, the data was obtained from a private vendor that specializes in collecting and assimilating data from numerous municipalities.

The vendor provided a dataset containing 24,000 home sales (4,000 from each county) and associated housing amenity data. To achieve a pseudo-random sample, each n^{th} record (where n is an integer) meeting the following constraints was selected from the vendor's master database:

- Municipality is Nassau, Orange, Putnam, Rockland, Suffolk, or Westchester County[1];
- Housing type is condominium or single-family residential;
- Sales amount is above $50,000 (to minimize the number of less-than-arms-length transactions); and
- Sale date occurs after January 1, 2004.

The n^{th} record technique assured that the sample of home sales was typical of all home sales. However, Figure C-1 shows that home sales are not necessarily uniformly distributed throughout the study area.

[1] New York's Five Boroughs had already been excluded due to their high densities, proximity to and colocation with Manhattan, and presence of competing transit alternatives. Dutchess County was also excluded because the vendor did not have home sales data.

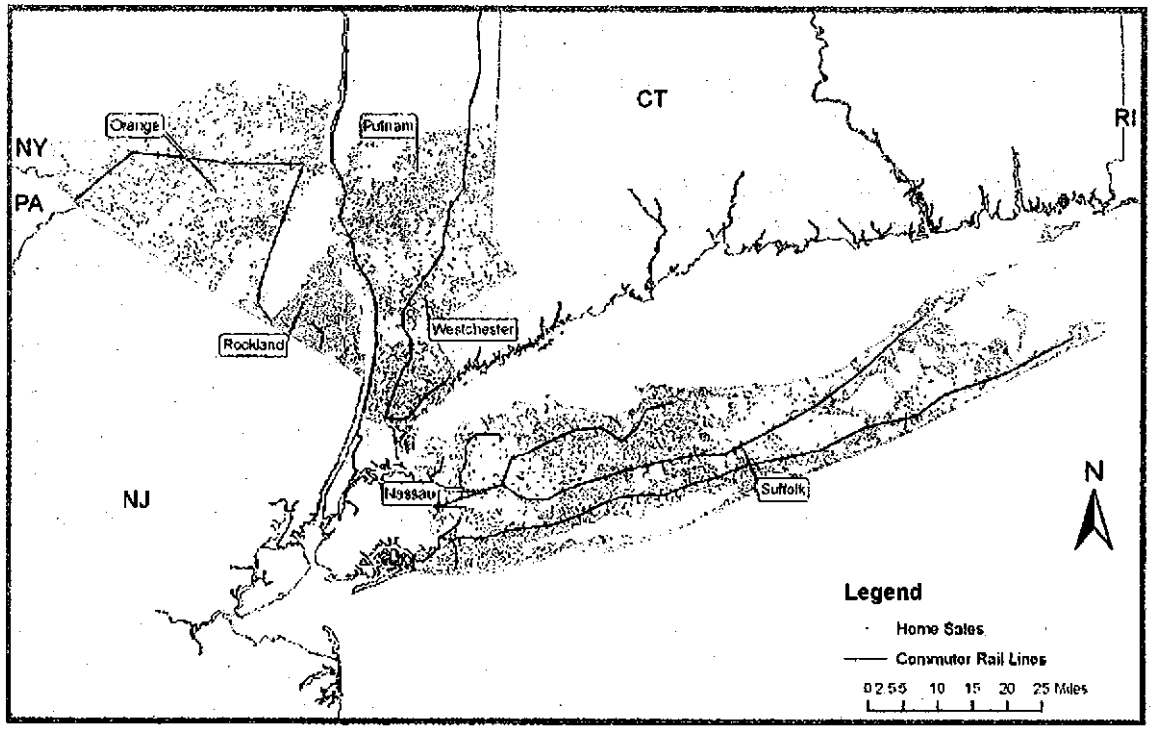

Figure C-1 - Spatial distribution of home sales

The presence of Harriman and Bear Mountain State Parks prevents significant development in southeastern Orange and northwestern Rockland, and mapping the home sales is indicative of this. State and county parks, the Naval Weapons Industrial Plant, and geologic conditions prevent development in many areas of Suffolk County.

Nassau County was eliminated from the analysis because the statistical results were inconsistent with theoretical and known trends. There were two main reasons for this. First, the distribution of properties was not uniform. As shown in Figure C-2, the distribution was skewed toward the southern coast of Nassau county. Second, most properties were located very close to rail stations which did not allow for an analysis of property value impacts based on distance.

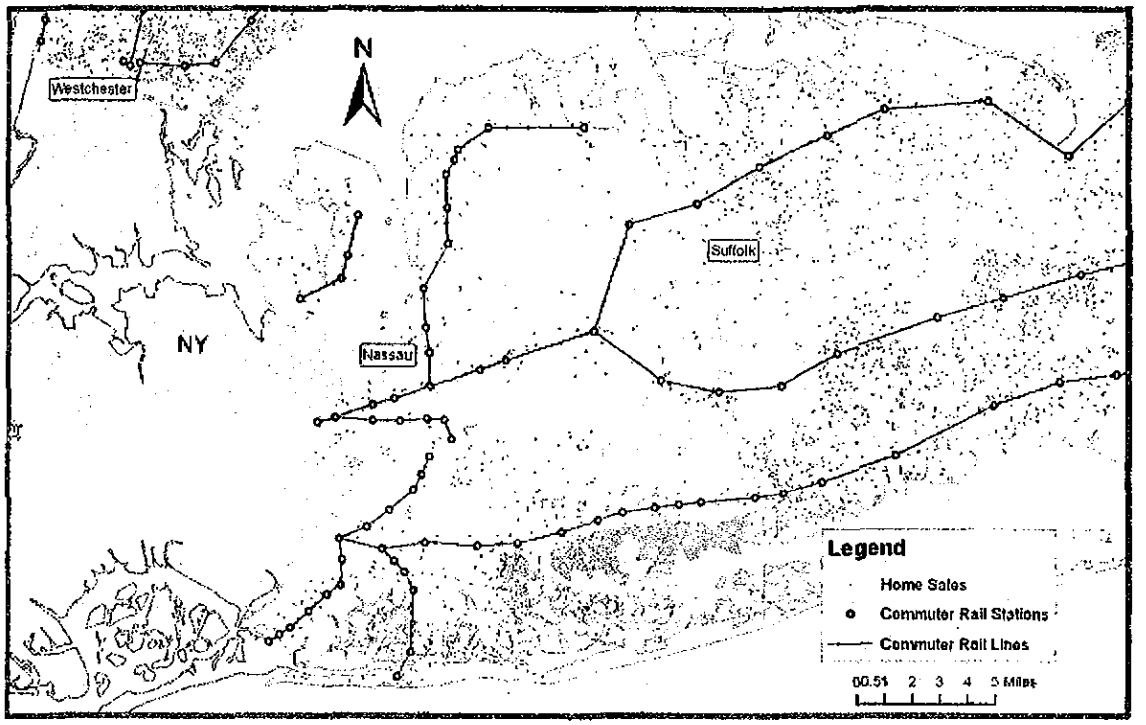

Figure C-2 - Spatial Distribution of Home Sales Data In Nassau County

Initial analysis of the data revealed inconsistency of housing characteristics among counties, as shown in Table C-1. For example, specific municipalities within Suffolk and Westchester do not collect information such as year built and number of bathrooms, bedrooms, and total rooms. Number of bedrooms or presence of a fireplace is not collected at all in Nassau.

Several fields included incomplete information rendering them unusable for the study. For example, the fireplace field was a binary field indicating 'Yes' if a fireplace was present. But the remainder of the values were blank and failed to indicate whether there was no fireplace or whether that information was not collected. Similar issues were encountered with the heating and cooling field and the garage field. Also, garage type and number of cars accommodated by a garage were often left blank for records that had garages. Heating type, not shown in the table, was similarly inconsistent. These potentially descriptive housing characteristics had to be excluded from the pricing models because of the inconsistency of reporting among municipalities.

Table C-1 – A sample of missing characteristics by county

	Zip	Yr Built	Lot Size	Sq Ft	HVAC	Fire-place	Garage	Garage Type	Garage Cars	Nbr Baths	Nbr Bdrms	Nbr Rms
Nassau	0	183	437	182	183	2,009	786	1,040	2,999	184	4,000	244
Orange	15	800	11	800	1,248	2,981	1,819	1,843	2,894	807	810	1,535
Putnam	9	91	0	91	92	1,887	1,798	1,846	2,792	91	91	
Rockford	9	1,538	327	1,535	1,723		2,113	2,193	2,787	1,536	1,753	
Suffolk	56		155									
Westchester	9	2,639	244	2,637						2,649	2,788	

Characteristic missing from 1/4 to 1/2 the records
Characteristic missing from 1/2 to 3/4 the records
Characteristic missing from 3/4 to all the records

Further analysis also revealed a wide range of missing values, shown in Table C-2. This table indicates the presence of outliers and missing or incorrect data. Lot sizes, improvement sizes, and number of bathrooms, bedrooms, and total rooms having values of zero indicate either missing or incorrect data. Extremely large or small values are likely outliers. Thus data was filtered to account for incorrect, missing, or outlier values.

Table C-2 - Max, min, and median values for select housing characteristics

	Yr Built	Lot Size	Sq Ft	Nbr Baths	Sale Price
Maximum	2006	2,674,584	33,332	97.6	$ 100,120,000
Median	1945	10,125	1,227	1.0	$ 420,000
Minimum	1700	0	0	0.0	$ 50,000

Records were excluded unless they met the following filter criteria:

- Sales value less than $5,000,000;
- Lot size greater than 200 square feet;
- Improvement size between 500 and 10,000 square feet;
- Number of baths between 1 and 7; and
- Year built is not NULL.

Results of the filter on maximum, minimum, and median values are shown in Table C-3.

Filtering the entire dataset using the above criteria reduced the number of records from 24,000 to 14,624. Row counts by county of the filtered data are displayed in Table C-4. Filtering the data significantly reduced the usable records in Suffolk and Westchester counties and greatly reduced the number of records in Rockford.

Table C-3 - Max, min, and median values for select housing characteristics after filtering

	Yr Built	Lot Size	Sq Ft	Nbr Baths	Sale Price
Maximum	2006	2,674,584	8,894	6.5	$ 4,900,000
Median	1945	10,625	1,744	2.0	$ 417,150
Minimum	1700	260	503	0.5	$ 50,000

Table C-4 - Row counts by county after filtering

	Count of Records
Nassau	3512
Orange	3170
Putnam	3893
Rockford	2446
Suffolk	319
Westchester	1284

Furthermore, filtering the data significantly skewed the distribution of home sales within the study area. As previously described, some municipalities do not collect housing characteristics that are often descriptive of home sales such as the year a house is built, the number of bedrooms or bathrooms it has, or the sizes of the lot and the housing unit. By eliminating records from consideration lacking these or other characteristics, the distribution of remaining records is concentrated within the boundaries of those municipalities that collect these characteristics. The results of this is shown in Figure C-3.

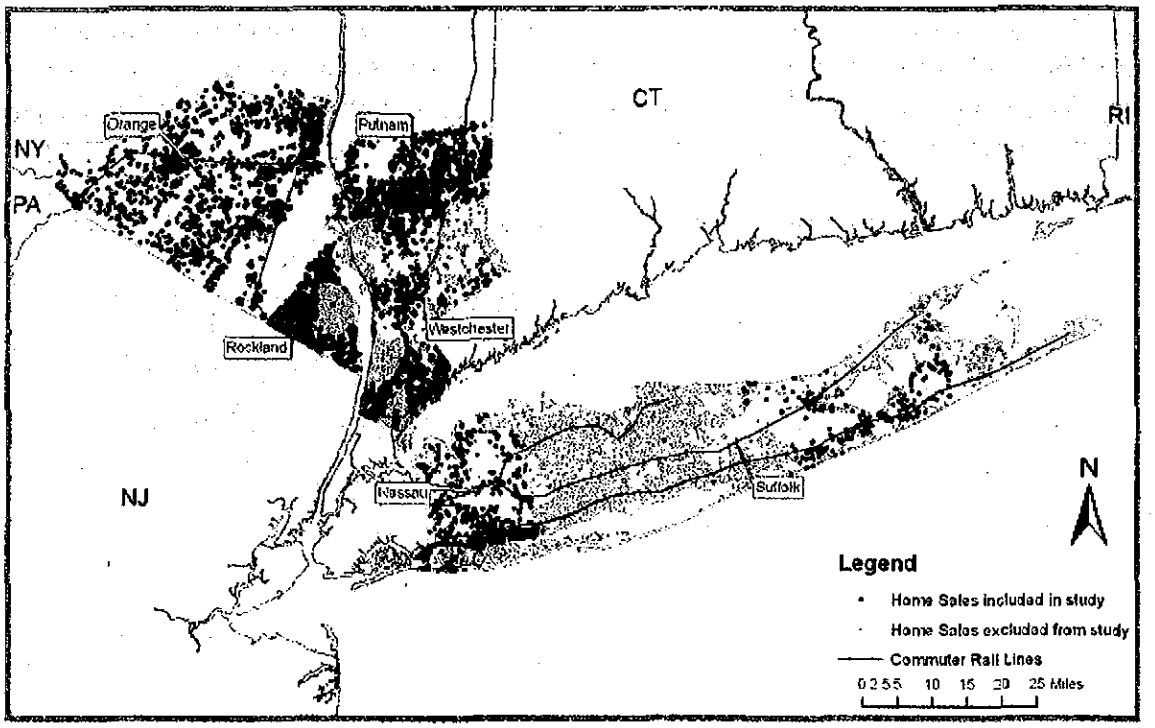

Figure C-3 - Spatial distribution of filtered home sales

The spatial distribution of those records that are included in the study compared with those that were excluded by the filter is notable, especially in Rockland, Suffolk, and Westchester counties. The majority of Suffolk County, including a significant area served by commuter rail stations, is not represented by the filtered data. This is important because socio-economic conditions may vary greatly by municipality. Homes on the eastern end of Suffolk are likely vacation homes not used for commuting, and therefore may not have a significant relationship between home sale price and distance from a rail station.

Once outliers had been removed from the dataset, distance to the nearest commuter rail station was calculated. The location of each sale property was plotted in GIS, and using a current road network, a GIS algorithm calculated the shortest path along the road system to the nearest rail station. The GIS algorithm did not consider travel time, congestion, or speed. The next section describes how this distance was used in addition to other housing characteristics to describe home sales values.

2. Distribution of Properties in each County

The figures contained in this section show the distribution of properties for each County both on a frequency and cumulative basis. These distributions were used to guide the determination of the distance buffer variables for the hedonic price models.

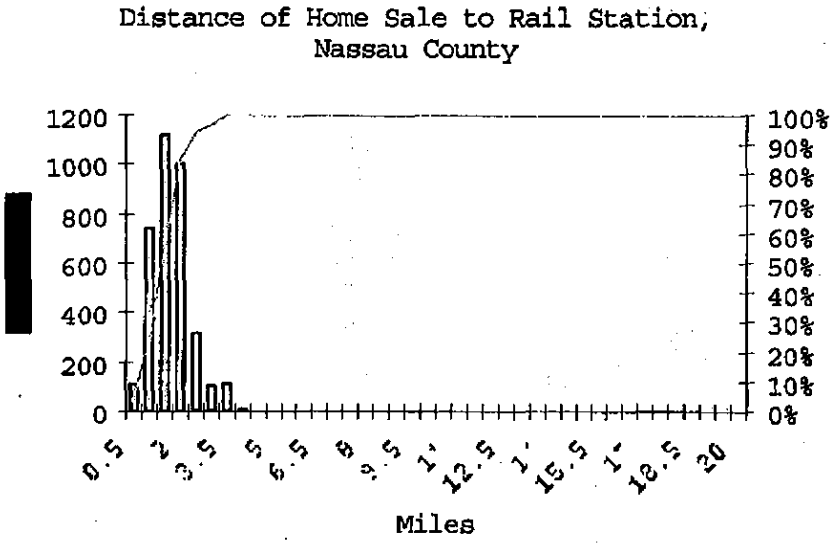

Figure C-4 - Distribution of Properties in Nassau County

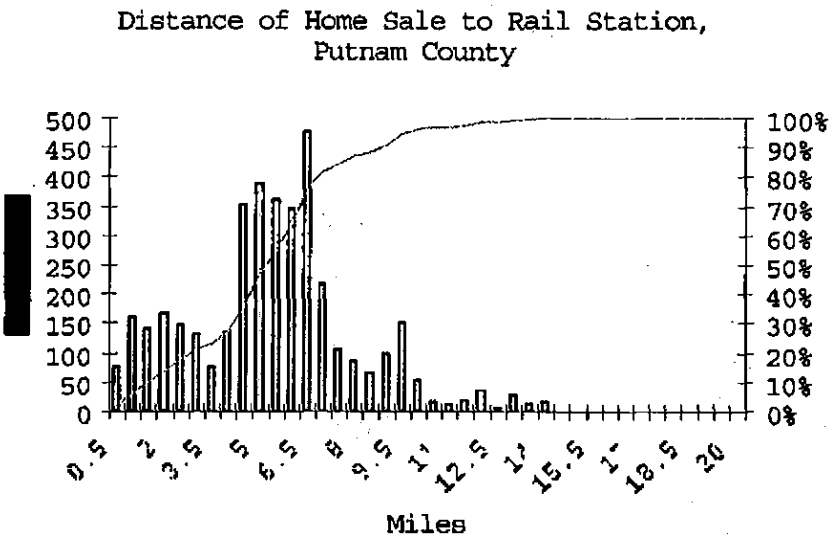

Figure C-5 - Distribution of Properties in Putnam County

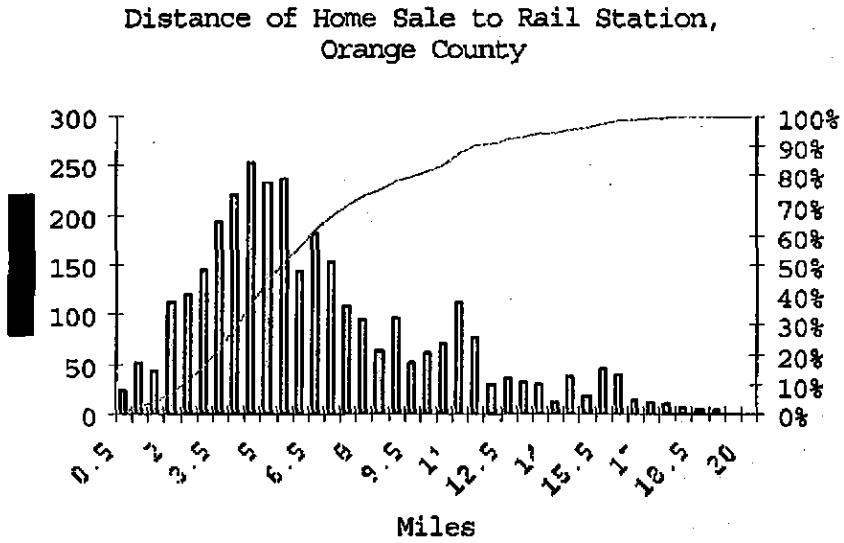

Figure C-6 - Distribution of Properties in Orange County

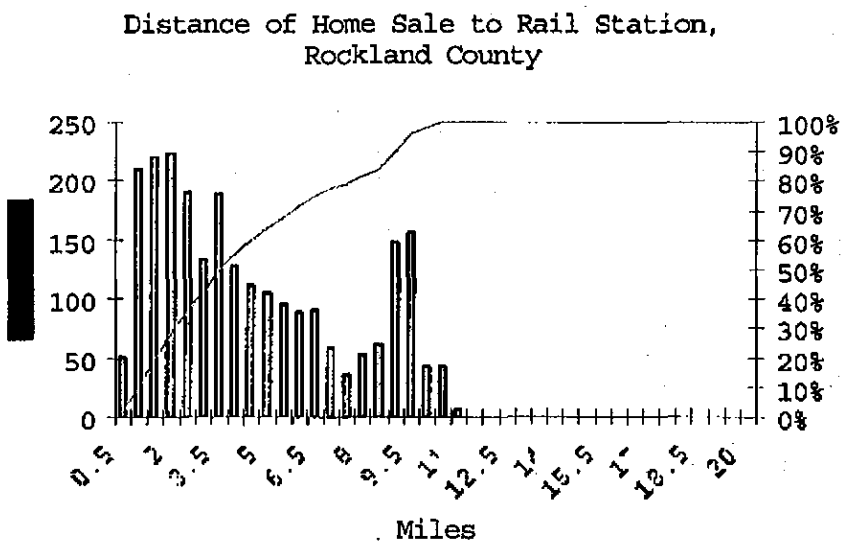

Figure C-7 - Distribution of Properties in Rockland County

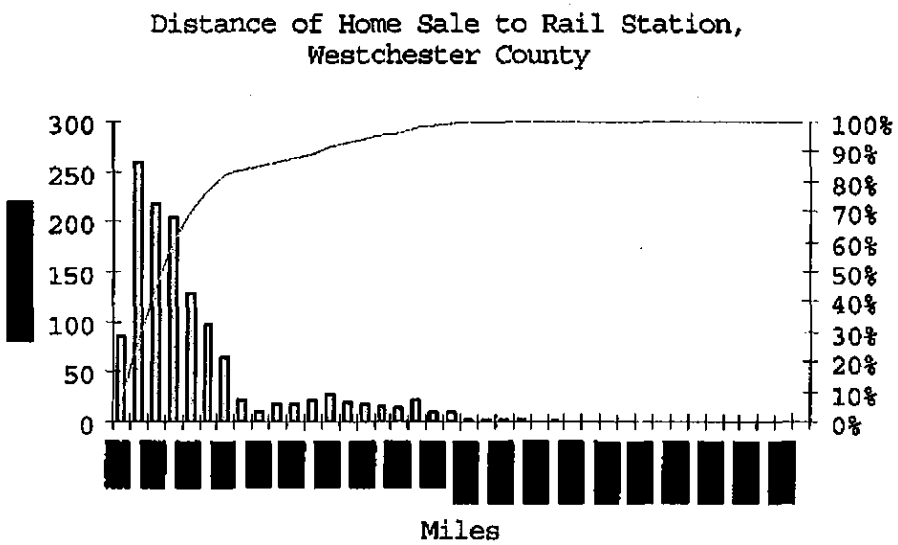

Figure C-8 - Distribution of Properties in Westchester County

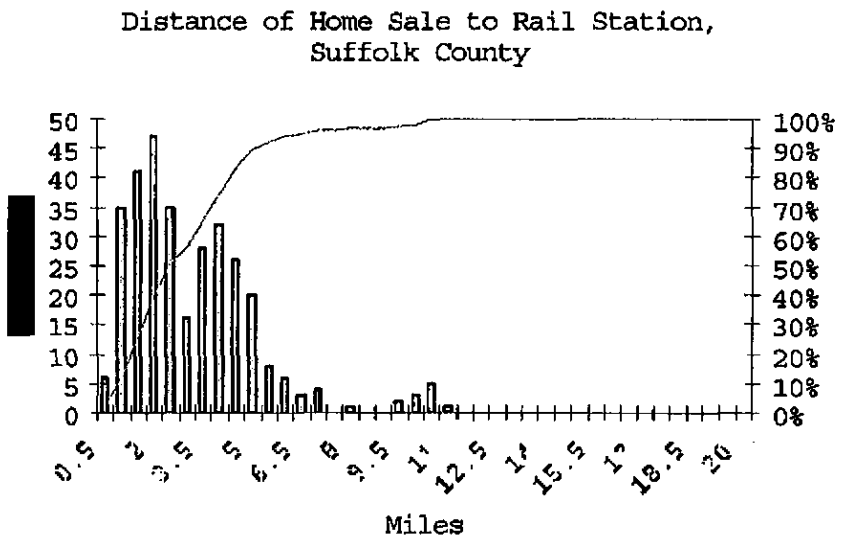

Figure C-9 - Distribution of Properties in Suffolk County

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APPENDIX D
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Appendix D
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APPENDIX E
MTA EARMARKED TAX ALLOCATIONS BY COUNTY

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MORTGAGE RECORDING TAX 1

	MRT-1									
	New York City (Bronx, Brooklyn, Manhattan, & Queens)	Richmond (Staten Island)	Nassau	Suffolk	Westchester	Rockland	Dutchess	Orange	Putnam	Total
Jan-03	7,739,943	556,260	2,740,326	3,952,847	2,397,415	639,208	433,812	748,852	204,261	19,412,924
Feb-03	2,696,546	1,007,392	3,050,783	4,962,344	2,641,871	723,528	449,292	638,435	223,562	16,393,753
Mar-03	3,861,832	669,324	2,795,318	3,604,860	1,961,712	638,758	591,723	490,109	221,610	14,835,244
Apr-03	5,372,812	765,837	3,281,900	4,759,128	2,588,206	756,893	405,094	550,998	241,016	18,721,884
May-03	6,133,537	789,629	3,245,684	4,990,272	2,382,685	770,889	604,112	680,246	283,502	19,880,555
Jun-03	5,850,696	977,564	2,898,712	4,842,839	2,533,086	752,721	643,222	701,223	269,373	19,469,436
Jul-03	8,509,229	851,148	2,861,430	4,385,595	2,244,457	923,824	471,949	929,201	340,053	21,516,886
Aug-03	10,413,809	667,756	4,242,183	5,189,772	2,442,095	0	582,207	793,647	306,329	24,637,797
Sep-03	7,635,469	609,219	3,855,598	5,101,868	2,026,207	2,014,246	483,301	888,955	299,325	22,914,188
Oct-03	12,527,785	797,836	4,361,094	5,013,795	936,933	1,538,304	746,544	826,028	309,461	27,057,779
Nov-03	5,559,301	1,095,337	4,560,559	6,032,456	1,235,872	510,753	665,800	1,066,401	509,464	21,235,942
Dec-03	5,631,221	814,365	3,128,140	4,946,577	1,033,469	711,858	762,180	868,111	388,123	18,284,044
Jan-04	8,971,072	1,228,632	4,062,841	5,416,282	1,111,198	797,940	687,436	1,016,285	419,795	23,711,482
Feb-04	9,726,617	1,008,657	3,915,820	5,063,886	1,760,504	650,976	880,228	930,734	566,591	24,504,012
Mar-04	10,820,183	807,807	4,066,200	4,721,045	1,784,378	664,730	761,021	850,909	548,862	25,025,135
Apr-04	13,134,535	1,038,779	5,616,504	7,135,315	2,955,751	747,371	671,549	1,015,491	373,857	32,689,153
May-04	13,059,986	1,059,995	5,381,035	6,273,617	5,125,019	710,604	695,349	854,053	386,281	33,545,938
Jun-04	11,113,921	1,089,941	4,761,620	5,348,312	4,436,277	724,954	623,823	878,879	235,990	29,213,717
Jul-04	6,135,326	1,014,780	5,421,323	5,370,847	4,052,608	1,062,862	711,505	833,818	402,618	25,005,687
Aug-04	18,503,287	1,163,192	5,026,914	6,064,497	2,962,109	822,140	793,837	766,012	387,859	36,489,847
Sep-04	13,965,639	1,221,144	5,586,995	5,367,911	3,334,981	811,779	833,767	930,396	293,694	32,346,305
Oct-04	12,438,955	1,244,131	4,071,439	5,236,548	3,541,527	705,208	855,891	955,387	361,072	29,410,158
Nov-04	12,918,815	1,298,268	4,213,757	5,146,021	2,435,589	716,176	951,375	772,573	338,744	28,791,317
Dec-04	13,101,151	936,437	3,990,738	5,231,311	2,121,791	736,975	900,114	814,599	328,749	28,161,864
Jan-05	12,155,117	1,201,879	4,670,339	4,891,167	2,209,986	847,345	933,198	751,277	300,957	27,961,266
Feb-05	15,036,819	1,362,708	4,351,521	5,975,142	2,063,081	785,732	686,239	878,407	364,172	31,503,821
Mar-05	13,179,728	1,765,187	3,893,022	4,616,478	2,706,856	692,391	613,580	813,559	270,244	28,551,045
Apr-05	15,344,309	1,545,355	4,293,005	5,529,448	6,541,467	708,007	634,436	1,020,152	300,263	35,916,443
May-05	18,278,614	1,460,616	4,672,532	4,951,743	6,889,732	641,444	689,645	932,856	283,121	38,800,303
Jun-05	19,571,589	1,352,079	4,404,435	5,773,672	3,322,691	1,038,660	722,083	1,167,536	360,045	37,712,789
Jul-05	16,303,220	1,326,774	4,839,769	5,777,410	3,894,750	719,079	849,148	958,164	370,939	35,039,254
Aug-05	15,037,412	2,019,695	5,231,475	6,364,185	2,793,841	995,495	890,324	830,230	469,675	34,632,331
Sep-05	23,083,724	1,636,499	6,468,267	7,245,061	3,825,167	1,200,075	1,094,823	1,096,433	453,878	46,103,928
Oct-05	20,325,190	1,780,359	6,269,792	6,985,476	2,785,899	1,063,012	919,875	1,071,106	399,864	41,600,574
Nov-05	18,849,606	1,259,427	5,503,331	6,709,694	2,769,635	1,129,605	827,629	933,332	441,644	38,423,903
Dec-05	19,334,577	1,313,756	5,087,465	6,451,492	1,888,118	958,651	1,097,017	956,668	347,498	37,435,242
2005 Totals	224,574,238	18,024,334	59,684,955	71,270,968	41,691,224	10,779,498	9,957,996	11,409,719	4,362,201	433,680,899
	206,499,904									

MORTGAGE RECORDING TAX 2

	MRT-2									
	New York City (Bronx, Brooklyn, Manhattan, & Queens)	Richmond (Staten Island)	Nassau	Suffolk	Westchester	Rockland	Dutchess	Orange	Putnam	Total
Jan-03	5,341,293	547,302	2,695,902	3,557,478	2,295,885	642,199	388,322	692,156	207,014	16,367,551
Feb-03	1,084,017	997,767	2,975,274	4,715,849	2,641,216	729,836	417,381	631,056	208,951	14,401,347
Mar-03	1,556,018	640,509	2,694,890	3,466,978	1,912,860	639,126	536,825	492,463	209,994	12,149,662
Apr-03	3,218,666	762,916	3,112,260	4,582,835	2,439,125	768,236	359,438	514,758	234,969	15,993,202
May-03	3,956,459	792,856	3,161,930	4,648,237	2,284,524	734,049	547,729	576,237	279,272	16,981,293
Jun-03	3,134,226	988,448	2,854,746	4,687,763	2,205,695	762,764	577,192	667,847	259,727	16,138,408
Jul-03	4,938,147	843,086	2,748,117	4,117,575	2,219,536	819,836	429,646	867,832	302,644	17,286,420
Aug-03	6,949,916	683,459	4,135,990	4,963,837	2,368,421	0	518,055	719,686	314,885	20,654,248
Sep-03	4,733,202	622,587	3,481,387	5,003,891	1,932,444	1,976,537	436,430	832,126	294,738	19,313,341
Oct-03	9,144,222	816,811	4,142,993	4,863,252	910,759	1,523,536	625,743	787,549	319,341	23,134,205
Nov-03	2,949,452	1,098,101	4,530,807	5,785,879	1,204,496	522,565	606,522	1,051,246	510,866	18,259,936
Dec-03	3,594,819	834,322	3,053,106	4,734,572	998,160	713,649	692,011	836,367	398,954	15,855,961
Jan-04	6,099,536	1,020,645	3,740,994	4,876,406	1,098,967	778,133	626,288	988,632	426,676	19,656,278
Feb-04	6,889,023	1,029,967	3,831,977	4,787,003	1,729,867	654,443	741,941	908,209	562,007	21,134,437
Mar-04	6,675,839	800,466	3,890,382	4,549,781	1,762,619	627,529	712,535	755,045	562,577	20,336,773
Apr-04	7,554,642	1,006,421	5,211,044	6,436,943	2,959,719	726,461	622,120	936,499	364,726	25,818,575
May-04	8,392,208	1,094,702	5,300,700	5,997,883	4,765,006	696,868	593,918	804,400	395,301	28,040,988
Jun-04	7,762,656	830,554	4,548,981	5,165,198	4,166,027	697,311	608,855	853,913	242,512	24,876,007
Jul-04	3,568,406	1,026,991	5,271,004	5,236,020	3,685,364	812,507	672,573	778,329	378,519	21,429,713
Aug-04	13,566,727	1,146,371	4,890,787	5,677,274	2,899,023	802,055	751,679	675,681	393,817	30,803,416
Sep-04	8,175,492	1,079,055	5,296,043	5,367,911	3,151,087	803,779	760,305	872,570	288,859	25,795,100
Oct-04	8,285,709	1,239,869	3,960,360	5,122,565	3,383,822	675,968	689,491	799,205	357,415	24,514,404
Nov-04	7,466,740	1,302,075	4,104,278	5,002,363	2,439,995	677,693	806,782	700,589	311,875	22,812,390
Dec-04	8,504,776	897,390	3,857,206	5,002,487	2,107,482	723,156	810,154	753,823	311,584	22,968,059
Jan-05	7,922,595	1,147,861	4,463,521	4,673,846	2,120,233	768,620	789,596	716,150	294,968	22,897,388
Feb-05	8,456,970	1,374,540	4,142,903	5,716,463	1,983,144	704,036	572,220	825,953	330,648	24,106,877
Mar-05	7,938,696	1,624,136	3,534,414	4,444,477	2,549,465	599,982	489,689	709,633	273,101	22,163,593
Apr-05	8,999,290	1,432,163	3,797,640	5,263,807	6,001,409	647,865	588,481	880,061	307,722	27,918,438
May-05	9,228,805	1,340,539	4,129,599	4,724,542	6,306,808	608,912	572,585	814,893	288,572	28,015,256
Jun-05	9,425,012	1,349,408	3,936,753	5,507,553	3,013,934	846,765	664,634	983,614	368,589	26,096,261
Jul-05	7,498,847	1,196,165	3,885,540	4,894,552	2,771,528	567,096	548,841	746,644	319,177	22,428,390
Aug-05	8,365,888	1,546,136	4,035,730	4,933,241	2,224,489	769,284	652,449	579,885	394,519	23,501,620
Sep-05	10,264,958	1,327,383	5,044,408	5,690,021	2,754,633	966,034	725,588	821,158	339,295	27,933,478
Oct-05	9,053,726	1,388,813	4,945,737	5,658,302	2,180,935	872,692	689,639	789,542	327,659	25,907,046
Nov-05	8,968,476	963,137	4,396,151	5,340,317	1,975,027	819,066	601,142	756,394	354,888	24,174,597
Dec-05	8,276,838	1,058,108	4,053,148	5,128,203	1,532,212	735,985	716,876	737,157	291,357	22,529,884
2005 Totals	**120,148,489**		**50,365,544**	**61,975,325**	**35,413,816**	**8,906,336**	**7,611,740**	**9,361,084**	**3,890,496**	**297,672,830**
	104,400,101	**15,748,388**								

MORTGAGE RECORDING TAX 1 & 2

	MRT- 1 & 2									
	New York City (Bronx, Brooklyn, Manhattan, & Queens)	Richmond (Staten Island)	Nassau	Suffolk	Westchester	Rockland	Dutchess	Orange	Putnam	Total
Jan-03	13,081,236	1,103,561	5,436,228	7,510,325	4,693,300	1,281,407	822,135	1,441,008	411,275	35,780,475
Feb-03	3,780,563	2,005,160	6,026,057	9,678,193	5,283,087	1,453,365	866,672	1,269,491	432,513	30,795,101
Mar-03	5,417,850	1,309,833	5,490,208	7,071,837	3,874,572	1,277,884	1,128,547	982,571	431,604	26,984,907
Apr-03	8,591,478	1,528,753	6,394,160	9,341,963	5,027,331	1,525,128	764,532	1,065,756	475,985	34,715,086
May-03	10,089,996	1,582,485	6,407,614	9,638,509	4,667,210	1,504,939	1,151,841	1,256,482	562,774	36,861,848
Jun-03	8,984,921	1,966,012	5,753,459	9,530,602	4,738,782	1,515,485	1,220,415	1,369,069	529,100	35,607,843
Jul-03	13,447,376	1,694,234	5,609,548	8,503,170	4,463,993	1,743,660	901,596	1,797,033	642,698	38,803,306
Aug-03	17,363,725	1,351,214	8,378,172	10,153,610	4,810,516	0	1,100,261	1,513,332	621,214	45,292,045
Sep-03	12,368,671	1,231,806	7,336,986	10,105,759	3,958,651	3,990,783	919,731	1,721,081	594,062	42,227,529
Oct-03	21,672,007	1,614,647	8,504,086	9,877,047	1,847,692	3,061,839	1,372,287	1,613,576	628,802	50,191,984
Nov-03	8,508,753	2,193,438	9,091,366	11,818,334	2,440,368	1,033,318	1,272,322	2,117,647	1,020,330	39,495,878
Dec-03	9,226,039	1,648,686	6,181,247	9,681,149	2,031,629	1,425,507	1,454,191	1,704,478	787,078	34,140,005
Jan-04	15,070,608	2,249,277	7,803,835	10,292,689	2,210,165	1,576,073	1,313,724	2,004,918	846,471	43,367,760
Feb-04	16,615,640	2,038,624	7,747,797	9,850,889	3,490,371	1,305,419	1,622,169	1,838,943	1,128,598	45,638,448
Mar-04	17,496,022	1,608,274	7,956,582	9,270,826	3,546,997	1,292,259	1,473,556	1,605,953	1,111,439	45,361,908
Apr-04	20,689,178	2,045,199	10,827,548	13,572,258	5,915,470	1,473,832	1,293,669	1,951,991	738,583	58,507,728
May-04	21,452,194	2,154,697	10,681,736	12,271,501	9,890,026	1,407,472	1,289,266	1,658,453	781,582	61,586,926
Jun-04	18,876,577	1,920,495	9,310,601	10,513,510	8,602,305	1,422,264	1,232,678	1,732,791	478,502	54,089,724
Jul-04	9,703,732	2,041,771	10,692,328	10,606,867	7,737,972	1,875,369	1,384,078	1,612,146	781,137	46,435,401
Aug-04	32,070,014	2,309,563	9,917,702	11,741,772	5,861,132	1,624,195	1,545,516	1,441,693	781,675	67,293,263
Sep-04	22,141,130	2,300,198	10,883,038	5,367,911	6,486,068	1,615,557	1,594,071	1,802,967	582,553	52,773,495
Oct-04	20,724,664	2,484,000	8,031,799	10,359,112	6,925,350	1,381,177	1,545,382	1,754,592	718,487	53,924,562
Nov-04	20,385,555	2,600,342	8,318,035	10,148,384	4,875,584	1,393,869	1,758,156	1,473,161	650,619	51,603,707
Dec-04	21,605,927	1,833,826	7,847,944	10,233,798	4,229,272	1,460,131	1,710,268	1,568,422	640,333	51,129,922
Jan-05	20,077,712	2,349,740	9,133,860	9,565,013	4,330,219	1,615,965	1,722,794	1,467,427	595,925	50,858,653
Feb-05	23,493,789	2,737,248	8,494,425	11,691,605	4,046,225	1,489,768	1,258,459	1,704,360	694,820	55,610,698
Mar-05	21,118,425	3,389,323	7,427,436	9,060,954	5,256,321	1,292,373	1,103,269	1,523,192	543,345	50,714,638
Apr-05	24,343,598	2,977,518	8,090,645	10,793,255	12,542,876	1,355,873	1,222,917	1,900,213	607,986	63,834,881
May-05	27,507,419	2,801,155	8,802,131	9,676,285	13,196,540	1,250,356	1,262,230	1,747,749	571,694	66,815,559
Jun-05	28,996,601	2,701,487	8,341,188	11,281,225	6,336,625	1,885,425	1,386,717	2,151,149	728,633	63,809,050
Jul-05	23,802,066	2,522,938	8,725,309	10,671,963	6,666,278	1,286,175	1,397,990	1,704,809	690,116	57,467,644
Aug-05	23,403,301	3,565,831	9,267,206	11,297,426	5,018,330	1,764,778	1,542,773	1,410,114	864,194	58,133,952
Sep-05	33,348,682	2,963,883	11,512,675	12,935,082	6,579,800	2,166,109	1,820,411	1,917,591	793,173	74,037,406
Oct-05	29,378,916	3,169,171	11,215,529	12,643,779	4,966,834	1,935,705	1,609,514	1,860,648	727,524	67,507,620
Nov-05	27,818,081	2,222,564	9,899,482	12,050,011	4,744,662	1,948,671	1,428,771	1,689,726	796,532	62,598,500
Dec-05	27,611,415	2,371,864	9,140,612	11,579,695	3,420,330	1,694,637	1,813,892	1,693,825	638,855	59,965,127
2005 Totals	**344,672,727**		**110,050,499**	**133,246,293**	**77,105,040**	**19,685,834**	**17,569,736**	**20,770,803**	**8,252,797**	**731,353,728**
	310,900,005	**33,772,722**								

URBAN TAX COLLECTIONS

	REAL PROPERTY TRANSFER TAX	MORTGAGE RECORDING TAX	TOTAL URBAN TAXES
Dated Collected by NYC	Net TA Amount		
Jan-03	2,935,000	3,581,678	6,516,679
Feb-03	6,591,071	4,830,790	11,421,862
Mar-03	7,242,807	4,427,633	11,670,441
Apr-03	11,838,952	4,435,609	16,274,561
May-03	4,541,718	5,613,239	10,154,957
Jun-03	3,394,830	7,570,454	10,965,284
Jul-03	14,274,608	4,008,217	18,282,824
Aug-03	3,403,365	5,982,393	9,385,758
Sep-03	23,344,169	6,662,084	30,006,253
Oct-03	8,979,803	5,685,593	14,665,396
Nov-03	3,385,689	4,313,997	7,699,687
Dec-03	5,471,774	6,674,682	12,146,456
Jan-04	4,989,323	6,189,417	11,178,741
Feb-04	7,820,775	9,079,542	16,900,317
Mar-04	18,162,791	12,192,657	30,355,448
Apr-04	4,555,770	10,286,580	14,842,350
May-04	4,868,325	7,978,411	12,846,736
Jun-04	14,622,401	5,856,317	20,478,718
Jul-04	23,633,988	10,898,256	34,532,243
Aug-04	43,008,890	13,209,671	56,218,561
Sep-04	31,242,562	9,194,456	40,437,018
Oct-04	33,804,942	12,099,788	45,904,731
Nov-04	16,514,362	10,312,406	26,826,769
Dec-04	17,599,486	9,571,466	27,170,952
Jan-05	19,988,575	14,977,111	34,965,686
Feb-05	21,821,458	12,324,467	34,145,925
Mar-05	17,288,303	14,543,944	31,832,246
Apr-05	31,286,419	20,841,856	52,128,275
May-05	50,839,861	22,860,550	73,700,411
Jun-05	21,996,583	16,960,936	38,957,519
Jul-05	31,294,654	10,628,559	41,923,213
Aug-05	34,110,840	20,761,621	54,872,461
Sep-05	34,474,505	18,097,370	52,571,874
Oct-05	31,251,915	15,656,699	46,908,614
Nov-05	44,214,631	18,042,562	62,257,192
Dec-05	18,960,477	14,210,774	33,171,251
2005 Total	457,528,220	199,406,449	656,934,669

Table 24: Sales and Compensating Use Tax
State Collections and Local Tax Distributions

State Fiscal Year 2005		
Taxing Jurisdiction	**Tax Rate**	**Net Distribution**
New York State 1/	4.25%	**$10,572,931,594**
Local, Total		**$10,700,636,996**
New York City 2/	4.125%	175,569,380
Municipal Assistance Corp. 2/	4.125%	4,079,096,741
Metropolitan Commuter Transportation District 3/	0.25%	428,512,909
All Other Localities, Total		**$6,017,457,966**
Sales and Use Tax, Total		**$5,975,377,366**
Counties		5,768,111,321
Cities 4/		207,266,045
Special Local Taxes on Selected		
Commodities and Services, Total		**$42,080,601**
Consumer Utility Tax, Total		**$33,991,410**
Cities		1,293,234
City School Districts		32,698,176
Other Special Local Taxes on Selected		
Commodities and Services, Total		**$8,089,190**
Total, All Taxing Jurisdictions		**$21,273,568,590**

NOTES:

Detailed distributions to all other localities appear on the following pages.

Net distributions are after subtracting administrative charges and are generally based on taxes collected during the preceding month.

Tax rates indicated are those in effect for the majority of the state fiscal year.

A locality that imposed a new rate on or after October 1, 2004 is indicated by an asterisk. See Table 25 for further rate information.

1/ 4.25% tax rate effective June 1, 2003.

2/ 4.125% tax rate effective June 4, 2003.

3/ An additional sales and use tax imposed in the Metropolitan Commuter Transportation District including New York City and the counties of Dutchess, Nassau, Orange, Putnam, Rockland, Suffolk and Westchester.

4/ Includes tax distributions of $20,485 to cities that no longer impose a tax.

Table 24: Sales and Compensating Use Tax (Cont'd)

State Fiscal Year 2005

Taxing Jurisdiction	Tax Rate	Net Distribution
Counties (57 impose tax), Total		**$5,768,111,321**
Albany	4%	211,357,427
Allegany *	4%	13,784,203
Broome	4%	99,542,311
Cattaraugus	4%	29,055,002
Cayuga	4%	26,856,947
Chautauqua *	3%	43,722,085
Chemung	4%	46,798,986
Chenango	4%	15,841,577
Clinton	3.75%	37,152,045
Columbia	4%	28,893,247
Cortland	4%	22,043,590
Delaware	4%	18,538,926
Dutchess	3.75%	149,140,685
Erie	4%	480,087,345
Essex	3.75%	18,191,981
Franklin	3%	12,518,842
Fulton	3%	12,149,333
Genesee	4%	28,269,530
Greene	4%	22,763,017
Hamilton	3%	2,467,852
Herkimer	4%	21,950,836
Jefferson	3.75%	45,414,288
Lewis	3.75%	6,589,913
Livingston	4%	22,083,135
Madison	4%	18,522,982
Monroe	4%	375,061,604
Montgomery	4%	20,741,680
Nassau	4.25%	944,591,591
Niagara	4%	85,559,092
Oneida *	4%	88,558,544
Onondaga	4%	229,274,074
Ontario	3%	50,131,350
Orange	3.75%	188,432,789
Orleans	4%	11,314,768
Oswego	4%	23,339,947
Otsego	4%	29,489,797
Putnam	3%	36,881,153
Rensselaer	4%	58,016,855
Rockland	3.625%	149,002,922
St. Lawrence	3%	33,181,720
Saratoga	3%	85,770,625
Schenectady	4%	76,218,356
Schoharie	4%	11,371,875
Schuyler	4%	7,652,676
Seneca	4%	15,199,449
Steuben	4%	34,233,398
Suffolk	4.25%	1,088,306,092
Sullivan	3.5%	30,147,600
Tioga	4%	15,761,620
Tompkins	4%	39,278,006
Ulster	4%	91,441,546
Warren	3%	40,128,632
Washington	3%	14,481,800
Wayne	4%	30,685,104
Westchester	3%	409,221,175
Wyoming	4%	12,940,786
Yates	4%	7,938,408

* See Table 25 for new tax rate imposed on or after October 1, 2004.

Sales and Use Tax

	Local Tax Collected Net Distribution	Local Tax Rate [1]	Taxed Sales ($Million)	% of Sales In MTA District	MTA Sales Tax Revenue ($Millions)
Dutchess	149,140,685	3.750%	3,977	2.22%	9.523
Nassau	944,591,591	4.250%	22,226	12.42%	53.219
Orange	188,432,789	3.750%	5,025	2.81%	12.032
Putnam	36,881,153	3.000%	1,229	0.69%	2.944
Rockland	149,002,922	3.625%	4,110	2.30%	9.842
Suffolk	1,088,306,092	4.250%	25,607	14.31%	61.316
Westchester	409,221,175	3.000%	13,641	7.62%	32.662
	2,965,576,407				
Municipal Assistance Corp	4,079,096,741				
New York City	175,569,380				
	4,254,666,121	4.125%	103,143	57.64%	246.975
	7,220,242,528		178,959	100.00%	428.513
MTA 0.25% Sales Tax	428,512,909				

Franchise Tax Payments

County Name		
Dutchess County		
County Population	**County Non Agricultural Employment**	**County Population and Non Agricultural Employment**
276,889	146,400	423,289
Total MTA District Population and Non Agricultural Employment		
18,904,990		
County % of Total MTA Population and Non Agricultural Employment		**Total MTA Franchise Tax**
2.24%		73,400,000
County Franchise Tax Payment		
$1,643,450		

County Name		
Nassau County		
County Population	**County Non Agricultural Employment**	**County Population and Non Agricultural Employment**
1,310,076	652,120	1,962,196
Total MTA District Population and Non Agricultural Employment		
18,904,990		
County % of Total MTA Population and Non Agricultural Employment		**Total MTA Franchise Tax**
10.38%		73,400,000
County Franchise Tax Payment		
$7,618,369		

County Name		
New York City		
County Population	**County Non Agricultural Employment**	**County Population and Non Agricultural Employment**
7,956,113	3,867,903	11,824,016
Total MTA District Population and Non Agricultural Employment		
18,904,990		
County % of Total MTA Population and Non Agricultural Employment		**Total MTA Franchise Tax**
62.54%		73,400,000
County Franchise Tax Payment		
$45,907,603		

County Name		
Orange County		
County Population	**County Non Agricultural Employment**	**County Population and Non Agricultural Employment**
359,089	185,295	544,384
Total MTA District Population and Non Agricultural Employment		
18,904,990		
County % of Total MTA Population and Non Agricultural Employment		**Total MTA Franchise Tax**
2.88%		73,400,000
County Franchise Tax Payment		
$2,113,611		

County Name		
Putnam County		
County Population	**County Non Agricultural Employment**	**County Population and Non Agricultural Employment**
98,303	51,834	150,137
Total MTA District Population and Non Agricultural Employment		
18,904,990		
County % of Total MTA Population and Non Agricultural Employment		**Total MTA Franchise Tax**
0.79%		73,400,000
County Franchise Tax Payment		
$582,918		

County Name		
Rockland County		
County Population	**County Non Agricultural Employment**	**County Population and Non Agricultural Employment**
285,088	141,492	426,580
Total MTA District Population and Non Agricultural Employment		
18,904,990		
County % of Total MTA Population and Non Agricultural Employment		**Total MTA Franchise Tax**
2.26%		73,400,000
County Franchise Tax Payment		
$1,656,228		

County Name		
Suffolk County		
County Population	**County Non Agricultural Employment**	**County Population and Non Agricultural Employment**
1,444,642	740,008	2,184,650
Total MTA District Population and Non Agricultural Employment		
18,904,990		
County % of Total MTA Population and Non Agricultural Employment		**Total MTA Franchise Tax**
11.56%		73,400,000
County Franchise Tax Payment		
$8,482,063		

County Name		
Westchester County		
County Population	**County Non Agricultural Employment**	**County Population and Non Agricultural Employment**
915,916	473,822	1,389,738
Total MTA District Population and Non Agricultural Employment		
18,904,990		
County % of Total MTA Population and Non Agricultural Employment		**Total MTA Franchise Tax**
7.35%		73,400,000
County Franchise Tax Payment		
$5,395,759		

MMTOA STATE DEDICATED TAXES
July Financial Plan 2007 - 2010
Tax Yield Distribution 2005 - 2010
($ in millions)

		ACTUAL 2003	ACTUAL 2004	ACTUAL 2005
Forecast of MMTOA Gross Receipts (SFY)	Sales Tax	$393.122	$423.262	$608.8
	PBT	125.762	134.929	143.1
	Corporate Franchise	51.898	58.991	73.4
	Corporate Surcharge	500.245	540.016	638.1
	Investment Income	12.967	4.931	0.0
	Total Gross Receipts Available for Allocation	$1,083.994	$1,162.129	$1,463.4
Allocation of Total Gross Receipts to DownState	Total Gross Receipts	$1,083.994	$1,162.129	$1,463.4
	Less: Upstate Share of PBT	(56.59)	(60.72)	(64.4)
	Upstate Percent Share of Investment Income	5.28%	5.25%	4.40%
	Less: Upstate Share of Investment Income	(0.685)	(0.259)	0.1
	Total Net DownState Share Available for Allocation	$1,026.716	$1,101.154	$1,398.1
	Less: 18-B Adjustment	(161.09)	(174.65)	(182.5)
	Adjusted Total Net DownState Share for Allocation	$865.623	$926.501	$1,215.6
Allocation of Total Net DownState Share to NYCT/SIR	NYCT/SIR Share	61.12%	56.52%	62.51%
	From Total Net DownState Share	$627.563	$622.328	$874.6
	Less: 18-B Adjustment	(146.395)	(149.950)	(152.0)
	Adjusted Total Net DownState Share	$481.168	$472.378	$722.6
	From Carryover	(17.926)	(9.136)	(105.6)
	Total NYCT/SIR Share of Net DownState Share	$463.242	$463.242	$617.0
	Total SIR Share	1.436	1.436	1.9
	Total NYCT Share of Net DownState Share	$461.806	$461.806	$615.1
Allocation of Total Net DownState Share to MTA	MTA Share	27.71%	26.53%	27.91%
	From Total Net DownState Share	$284.506	$292.087	$390.5
	Less: 18-B Adjustment	(8.736)	(14.678)	(18.1)
	Adjusted Total Net DownState Share	$275.770	$277.409	$372.3
	From Carryover	(8.127)	(4.288)	(42.7)
	Total MTA Share of Net DownState Share	$267.643	$273.121	$329.7
Allocation of Total Net DownState Share to LIB	LI Bus Share	1.57%	2.99%	2.77%
	From Total Net DownState Share	$16.150	$32.934	$38.8
	Less: Used for 18-B/other	(0.884)	(1.485)	(1.8)
	Adjusted Total Net DownState Share	$15.266	$31.449	$36.9
	From Carryover	(0.461)	(3.060)	(0.6)
	Total LI Share of Net DownState Share	$14.805	$28.389	$36.3

Business Tax Surcharge Payments

County Name			
Dutchess County			
Article 9 MTA Receipts	**County Transp and Utilities Employment**	**MTA Transp and Utilities Employment**	
129,013,405	5,762	338,974	
County % of MTA Transp and Utilities Employment		**County Article 9 Payment**	**Article 9A MTA Receipts**
1.70%		$2,193,016	252,686,364
County Manuf, Services, Wholesale Employment		**MTA Manuf, Services, Wholesale Employment**	
84,228		3,424,510	
County % of MTA Manuf, Services, Wholesale Emp.		**County Article 9A Payment**	**Article 32, 33 MTA Receipts**
2.46%		$6,214,982	189,674,116
County Finance, Insurance, Real Estate Emp.		**MTA Finance, Insurance, Real Estate Employment**	
9,302		605,103	
County % of FIRE Employment	**County Article 32, 33 Payment**		
1.54%	$2,915,782		
County Business Tax Surcharge Payment			
$11,323,780			

County Name			
Nassau County			
Article 9 MTA Receipts	**County Transp and Utilities Employment**	**MTA Transp and Utilities Employment**	
129,013,405	38,099	338,974	
County % of MTA Transp and Utilities Employment		**County Article 9 Payment**	**Article 9A MTA Receipts**
11.24%		$14,500,468	252,686,364
County Manuf, Services, Wholesale Employment		**MTA Manuf, Services, Wholesale Employment**	
360,312		3,424,510	
County % of MTA Manuf, Services, Wholesale Emp.		**County Article 9A Payment**	**Article 32, 33 MTA Receipts**
10.52%		$26,586,557	189,674,116
County Finance, Insurance, Real Estate Emp.		**MTA Finance, Insurance, Real Estate Employment**	
72,942		605,103	
County % of FIRE Employment	**County Article 32, 33 Payment**		
12.05%	$22,864,222		
County Business Tax Surcharge Payment			
$60,951,247			

County Name			
New York City			
Article 9 MTA Receipts	County Transp and Utilities Employment		MTA Transp and Utilities Employment
129,013,405	224,062		338,974
County % of MTA Transp and Utilities Employment		County Article 9 Payment	Article 9A MTA Receipts
66.10%		$85,277,931	252,686,364
County Manuf, Services, Wholesale Employment		MTA Manuf, Services, Wholesale Employment	
2,090,572		3,424,510	
County % of MTA Manuf, Services, Wholesale Emp.		County Article 9A Payment	Article 32, 33 MTA Receipts
61.05%		$154,258,284	189,674,116
County Finance, Insurance, Real Estate Emp.		MTA Finance, Insurance, Real Estate Employment	
391,052		605,103	
County % of FIRE Employment	County Article 32, 33 Payment		
64.63%	$122,578,210		
County Business Tax Surcharge Payment			
$362,114,426			

County Name			
Orange County			
Article 9 MTA Receipts	County Transp and Utilities Employment		MTA Transp and Utilities Employment
129,013,405	8,679		338,974
County % of MTA Transp and Utilities Employment		County Article 9 Payment	Article 9A MTA Receipts
2.56%		$3,303,225	252,686,364
County Manuf, Services, Wholesale Employment		MTA Manuf, Services, Wholesale Employment	
99,636		3,424,510	
County % of MTA Manuf, Services, Wholesale Emp.		County Article 9A Payment	Article 32, 33 MTA Receipts
2.91%		$7,351,901	189,674,116
County Finance, Insurance, Real Estate Emp.		MTA Finance, Insurance, Real Estate Employment	
11,119		605,103	
County % of FIRE Employment	County Article 32, 33 Payment		
1.84%	$3,485,335		
County Business Tax Surcharge Payment			
$14,140,461			

County Name			
Putnam County			
Article 9 MTA Receipts	County Transp and Utilities Employment	MTA Transp and Utilities Employment	
129,013,405	2,116	338,974	
County % of MTA Transp and Utilities Employment		County Article 9 Payment	Article 9A MTA Receipts
0.62%		$805,349	252,686,364
County Manuf, Services, Wholesale Employment		MTA Manuf, Services, Wholesale Employment	
24,887		3,424,510	
County % of MTA Manuf, Services, Wholesale Emp.		County Article 9A Payment	Article 32, 33 MTA Receipts
0.73%		$1,836,352	189,674,116
County Finance, Insurance, Real Estate Emp.		MTA Finance, Insurance, Real Estate Employment	
4,698		605,103	
County % of FIRE Employment	County Article 32, 33 Payment		
0.78%	$1,472,624		
County Business Tax Surcharge Payment			
$4,114,375			

County Name			
Rockland County			
Article 9 MTA Receipts	County Transp and Utilities Employment	MTA Transp and Utilities Employment	
129,013,405	5,128	338,974	
County % of MTA Transp and Utilities Employment		County Article 9 Payment	Article 9A MTA Receipts
1.51%		$1,951,715	252,686,364
County Manuf, Services, Wholesale Employment		MTA Manuf, Services, Wholesale Employment	
96,130		3,424,510	
County % of MTA Manuf, Services, Wholesale Emp.		County Article 9A Payment	Article 32, 33 MTA Receipts
2.81%		$7,093,202	189,674,116
County Finance, Insurance, Real Estate Emp.		MTA Finance, Insurance, Real Estate Employment	
8,904		605,103	
County % of FIRE Employment	County Article 32, 33 Payment		
1.47%	$2,791,026		
County Business Tax Surcharge Payment			
$11,835,943			

County Name			
Suffolk County			
Article 9 MTA Receipts	County Transp and Utilities Employment	MTA Transp and Utilities Employment	
129,013,405	37,660	338,974	
County % of MTA Transp and Utilities Employment		County Article 9 Payment	Article 9A MTA Receipts
11.11%		$14,333,385	252,686,364
County Manuf, Services, Wholesale Employment		MTA Manuf, Services, Wholesale Employment	
409,319		3,424,510	
County % of MTA Manuf, Services, Wholesale Emp.		County Article 9A Payment	Article 32, 33 MTA Receipts
11.95%		$30,202,665	189,674,116
County Finance, Insurance, Real Estate Emp.		MTA Finance, Insurance, Real Estate Employment	
58,489		605,103	
County % of FIRE Employment	County Article 32, 33 Payment		
9.67%	$18,333,820		
County Business Tax Surcharge Payment			
Total	$62,869,870		

County Name			
Westchester County			
Article 9 MTA Receipts	County Transp and Utilities Employment	MTA Transp and Utilities Employment	
129,013,405	17,468	338,974	
County % of MTA Transp and Utilities Employment		County Article 9 Payment	Article 9A MTA Receipts
5.15%		$6,648,316	252,686,364
County Manuf, Services, Wholesale Employment		MTA Manuf, Services, Wholesale Employment	
259,426		3,424,510	
County % of MTA Manuf, Services, Wholesale Emp.		County Article 9A Payment	Article 32, 33 MTA Receipts
7.58%		$19,142,421	189,674,116
County Finance, Insurance, Real Estate Emp.		MTA Finance, Insurance, Real Estate Employment	
48,597		605,103	
County % of FIRE Employment	County Article 32, 33 Payment		
8.03%	$15,233,098		
County Business Tax Surcharge Payment			
Total	$41,023,834		

Table 27: MTA Surcharge on Business Taxes by Tax Type

State Fiscal Years 1983-2005

Fiscal Year	Total, All Articles	Article 9						
		Total, Article 9	Section 183	Section 184	Section 186	Section 186-a	Section 186-e *	Section 1889
2005	$571,373,885	$129,013,405	$1,414,537	$13,669,027	$2,845,016	$17,742,167	$93,153,423	$189,234
2004	484,084,189	109,765,361	-152,517	14,197,321	366,724	30,096,812	64,671,856	585,165
2003	509,447,146	160,057,004	3,486,616	10,129,805	707,246	47,820,436	96,705,627	1,207,274
2002	483,327,676	162,788,157	2,696,660	12,917,301	-431,248	59,867,951	87,099,183	638,310
2001	563,267,114	121,903,102	812,011	8,046,701	-4,692,048	40,931,996	76,339,099	465,342
2000	586,806,747	203,196,939	2,866,808	8,540,260	18,334,056	96,003,622	76,730,499	721,694
1999	547,005,180	173,437,910	1,867,568	9,757,139	19,736,464	68,363,340	73,065,675	647,725
1998	600,671,798	188,864,579	4,074,141	9,750,825	25,479,532	82,923,273	66,076,334	560,474
1997	560,232,356	160,003,381	3,489,098	5,478,076	17,825,075	21,845,187 a/	110,635,157 a/	730,788
1996	523,039,298	180,324,960	3,608,231	14,134,075	26,098,996	113,734,046 a/	22,583,255 a/	166,356
1995	432,420,866	126,055,876	3,719,168	10,759,913	18,458,757	92,765,073	. . .	352,965
1994	550,743,721	156,193,556	3,271,635	10,392,338	23,795,166	118,516,650	. . .	217,767
1993	472,406,461	138,385,296	2,894,458	8,852,615	19,942,804	106,471,949	. . .	223,470
1992	488,135,829	134,305,927	4,466,670	9,839,098	18,478,901	101,371,022	. . .	150,236
1991	345,861,194	109,931,691	4,647,773	8,315,441	17,573,845	79,394,632	. . .	. . .
1990	311,896,452	107,348,837	3,924,173	8,149,818	20,043,657	75,231,189	. . .	. . .
1989	307,548,713	90,964,841	3,970,301	8,809,811	13,718,589	64,466,140	. . .	. . .
1988	338,324,048	94,705,220	6,417,671	7,554,554	15,019,854	65,713,141	. . .	. . .
1987	329,646,124	91,825,042	2,991,144	9,141,295	15,154,868	64,537,735	. . .	. . .
1986	342,395,795	109,681,895	10,944,679	7,422,433	16,441,445	74,873,338	. . .	. . .
1985	271,633,484	81,950,536	2,376,305	7,344,070	17,135,229	55,094,932	. . .	. . .
1984	277,181,917	103,392,217	5,320,566	8,356,695	14,231,699	75,483,257	. . .	. . .
1983	191,099,666	93,227,112	13,051,834	7,458,165	15,848,602	56,868,511	. . .	. . .

* Includes payments by regulated telecommunications businesses on their non-telecommunications gross income under Section 186-a.

a/ Reflects transfer of monies between Sections 186-a and 186-e after the initial enactment of Section 186-e, January 1, 1995.

KEY:

Article 9 - Franchise Taxes on Specialized Corporations and Public Utilities

Section 183 - Transportation and Transmission Companies (capital basis)

Section 184 - Additional Tax on Transportation and Transmission Companies (gross earnings basis)

Section 186 - Waterworks Companies, Gas Companies, Electric or Steam Heating, Lighting and Power Companies (gross earnings and capital)

Section 186-a - Gross Receipts Tax on Furnishers of Utility Services including those under the supervision of the New York State Department of Public Service

Section 186-e - Excise Tax on Telecommunications Services.

Section 189 - Importers of Natural Gas (self use or consumption)

Table 27: MTA Surcharge on Business Taxes by Tax Type (Cont'd)

State Fiscal Years 1983-2005

Fiscal Year	Article 9-A	Article 32				Article 33
		Total, Article 32	Commercial Banks	Savings Banks	Savings & Loan Associations	
2005	$252,686,364	$88,697,436	$86,991,226	$982,545	$723,665	$100,976,680
2004	218,154,905	55,531,964	53,771,277	919,807	840,879	100,631,960
2003	205,174,219	72,240,417	70,346,128	900,484	993,806	71,975,507
2002	187,539,894	69,802,403	68,931,262	208,577	662,564	63,197,221
2001	295,090,706	85,830,937	84,538,478	684,193	608,267	60,442,369
2000	229,150,901	85,273,360	83,699,336	747,836	826,187	69,185,547
1999	212,520,623	91,232,219	88,729,727	1,790,586	711,906	69,814,428
1998	240,687,370	105,160,256	104,350,913	119,251	690,092	65,959,592
1997	238,873,105	101,239,049	101,088,602	4,331	146,116	60,116,821
1996	183,798,235	94,753,998	92,624,453	2,150,047	-20,503	64,162,106
1995	188,483,993	71,748,766	63,380,241	6,889,475	1,479,050	46,132,231
1994	213,983,231	111,595,246	101,546,840	8,029,886	2,018,520	68,971,688
1993	194,630,379	84,686,623	73,263,837	9,519,882	1,902,904	54,704,163
1992	194,473,278	90,049,130	78,551,039	10,516,911	981,180	69,307,493
1991	143,195,688	52,616,790	44,032,680	7,156,019	1,428,091	40,117,025
1990	136,893,442	34,880,021	25,949,493	7,700,511	1,230,017	32,774,152
1989	137,200,621	38,930,240	28,232,080	8,458,371	2,239,789	40,453,011
1988	171,344,388	36,185,703	25,462,543	7,678,497	3,044,663	36,088,737
1987	180,337,448	20,870,093	6,342,060	11,985,078	2,542,955	36,613,541
1986	151,790,019	50,945,377	44,063,031	5,767,116	1,115,230	29,978,504
1985	153,375,196	10,419,819	8,019,683	1,529,178	870,958	25,887,933
1984	143,173,811	11,127,341	8,458,229	2,040,030	629,082	19,488,548
1983	72,526,623	10,674,476	Breakdown Not Available			14,671,455

KEY:

Article 9-A - Corporate Franchise Tax (income basis)

Article 32 - Franchise Tax on Banking Corporations

Article 33 - Franchise Taxes on Insurance Companies

PETROLEUM BUSINESS TAX
MTA ALLOCATION
2005
($ in millions)

	ACTUAL 2005
Total Net PBT Collections Available for Distribution	$3,637.5

Distribution Shares	
MTA Total	34.0%
Other Transit	3.0%
Highway Trust Fund	63.0%
General Fund	0.0%
Share Total	100.0%

Amount of Total Net Collections Available for the MTA:

MTA Total	$1,236.8

Table 9: Article 13-A Petroleum Business Tax
Taxable Gallons (000's) by Type of Fuel 1/
Fiscal Years 1992 - 2005

Fiscal Year	Type of Fuel											
				Nonautomotive Diesel Fuel (distillate)				Residual Fuel				
	Motor Fuel	Aviation Gasoline	Automotive Diesel Fuel	Total	Utility Use 2/	Non-Utility Use 2/	Non-residential Heating/Cooling	Total	Utility Production of Electricity 2/	Non-Utility Use 2/, 3/	Non-Residential Heating / Cooling	Kero-Jet Fuel
2005	5,714,974	3,668	932,031	139,998	0	45,078	94,920	1,402,224	0	1,349,301	52,923	188,646
2004	5,788,861	3,922	880,302	190,008	0	80,683	109,325	1,474,260	0	1,416,242	58,018	173,666
2003	5,719,216	4,127	849,770	171,832	0	65,293	106,539	1,023,517	0	961,849	61,668	185,723
2002	5,595,436	4,018	802,330	155,646	443	20,078	135,124	840,331	62,168	733,721	44,442	181,416
2001	5,483,651	5,528	886,664	185,733	1,920	183,813	b/	1,337,840	336,341	1,001,499	b/	197,246
2000	5,570,822	4,749	942,345	174,356	18,641	155,715	b/	923,993	479,999	443,994	b/	196,674
1999	5,581,397	5,542	866,910	159,979	27,554	132,425	b/	1,196,623	887,321	309,302	b/	170,618
1998	5,420,904	5,383	799,501	169,125	19,894	149,230	b/	762,274	501,058	261,215	b/	166,869
1997	5,338,948	4,546	765,439	187,901	17,067	170,834	b/	599,019	434,708	164,311	b/	175,213
1996	5,428,749	6,189	729,646	240,006	17,864	222,142	b/	904,847	691,179	213,668	b/	166,495
1995	5,273,928	6,800	700,575	229,250	18,276	210,974	b/	864,845	617,737	247,108	b/	178,888
1994	5,474,060	5,319	704,285	276,718	24,533	252,184	b/	1,444,756	1,087,501	357,256	b/	165,611
1993	5,431,801	6,459	669,864	261,970	15,296	246,675	b/	1,560,283	1,227,793	332,489	b/	169,992
1992	5,539,987	6,441	644,117	a/	a/	a/	a/	a/	a/	a/	a/	181,430

% of Non Utility vs. Total Residual Fuel	
48.05%	
25.85%	5 Year Average
34.27%	31.84%
27.43%	
23.61%	

Split of PBT	
Auto	79.31%
Electrical	11.40%
Remainder	9.29%

1/ Taxable gallons are derived from monthly tax liability as reported by distributors on timely-filed returns, related to collection periods, and are before audit adjustments and tax credits.

2/ Beginning January 1999, the non-utility category includes gallons used to generate electricity, which are not eligible for the Tax Law Section 301-d utility credit (i.e. gallons used by entities which are not subject to price regulation by the Public Service Commission). With the continuing deregulation of the State's electric sector, more gallonage used to generate electricity will no longer be eligible for the 301-d utility credit, and will be taxed as commercial gallons, and not as residual fuel or nonautomotive diesel fuel used in utility production of electricity.

3/ Non-utility use and utility use in production of exhaust steam.

a/ Data not available.

b/ Not applicable; new statutory category effective April 1, 2001.

Petroleum Business Tax Allocation

2005 Motor Vehicle Registrations, by MTA County			2003 New York State Enplanement by County		2005 Kilowatt Hours Sold	
New York City	1,856,524	33.84%	27,043,661	94.52%	34,051,774,644	60.35%
Nassau	963,360	17.56%	0	0.00%	5,972,047,819	10.58%
Suffolk	1,196,035	21.80%	939,880	3.28%	7,560,970,607	13.40%
Westchester	645,637	11.77%	426,864	1.49%	4,858,980,370	8.61%
Putnam	90,940	1.66%	0	0.00%	472,461,878	0.84%
Dutchess	241,531	4.40%	0	0.00%	273,259,212	0.48%
Rockland	209,739	3.82%	0	0.00%	1,742,771,259	3.09%
Orange	282,917	5.16%	201,851	0.71%	1,490,785,639	2.64%
MTA Region	5,486,683	100.00%	28,612,256	100.00%	56,423,051,428	100.00%

	Automotive Fuels	Residual-Electric	Remainder	Totals
NYC	$149.42	$38.31	48.89	$236.62
Nassau	77.54	$6.72	0.00	84.25
Suffolk	96.26	$8.51	1.70	106.47
Westchester	51.96	$5.47	0.77	58.20
Putnam	7.32	$0.53	0.00	7.85
Dutchess	19.44	$0.31	0.00	19.75
Rockland	16.88	$1.96	0.00	18.84
Orange	22.77	$1.68	0.36	24.81
MTA Region	$441.60	$63.48	$51.73	$556.80

Petroleum Business Taxes, 2005
Basic and Supplemental PBT Receipts to MTA Trust Fund

Total PBT		**$556.80**
Automotive Fuels	79%	$441.60
Electricity	11%	63.48
Remainder*	9%	51.73
	100%	$556.80

* Includes non-automotive diesel, non-electric utility residual, and kerojet.

Census Data used for Calculations

County	2005 Population	Total Non-Agricultural Employment	Transportation and Public Utilies Employment	Finance, Insurance, Real Estate Employment	Total Manufacturing / Services / Wholesale Trade	Total Vehicle Registrations
Rockland	285,088	141,492	5,128	8,904	96,130	209,739
Orange	359,089	185,295	8,679	11,119	99,636	282,917
Dutchess	276,889	146,400	5,762	9,302	84,228	241,531
Putnam	98,303	51,834	2,116	4,698	24,887	90,940
Westchester	915,916	473,822	17,468	48,597	259,426	645,637
New York City	7,956,113	3,867,903	224,062	391,052	2,090,572	1,856,524
Nassau	1,310,076	652,120	38,099	72,942	360,312	963,360
Suffolk	1,444,642	740,008	37,660	58,489	409,319	1,196,035
Totals	**12,646,116**	**6,258,874**	**338,974**	**605,103**	**3,424,510**	**5,486,683**

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APPENDIX F
MTA AGENCY REVENUE AND EXPENSE ALLOCATION BY COUNTY

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West Of Hudson Expense Allocation

County Name			
Dutchess County			
Actual Port Jervis Operating Expense	**Actual Pascack Operating Expense**	**Port Jervis Factor**	**Pascack Factor**
$15,502,000	$3,400,000	0.00%	0.00%
WOH Expense Allocation			
$0			

County Name			
Nassau County			
Actual Port Jervis Operating Expense	**Actual Pascack Operating Expense**	**Port Jervis Factor**	**Pascack Factor**
$15,502,000	$3,400,000	0.00%	0.00%
WOH Expense Allocation			
$0			

County Name			
New York City			
Actual Port Jervis Operating Expense	**Actual Pascack Operating Expense**	**Port Jervis Factor**	**Pascack Factor**
$15,502,000	$3,400,000	0.00%	0.00%
WOH Expense Allocation			
$0			

County Name			
Orange County			
Actual Port Jervis Operating Expense	**Actual Pascack Operating Expense**	**Port Jervis Factor**	**Pascack Factor**
$15,502,000	$3,400,000	98.23%	0.00%
WOH Expense Allocation			
$15,227,615			

County Name			
Putnam County			
Actual Port Jervis Operating Expense	**Actual Pascack Operating Expense**	**Port Jervis Factor**	**Pascack Factor**
$15,502,000	$3,400,000	0.00%	0.00%
WOH Expense Allocation			
$0			

County Name			
Rockland County			
Actual Port Jervis Operating Expense	**Actual Pascack Operating Expense**	**Port Jervis Factor**	**Pascack Factor**
$15,502,000	$3,400,000	1.77%	100.00%
WOH Expense Allocation			
$3,674,385			

County Name			
Suffolk County			
Actual Port Jervis Operating Expense	**Actual Pascack Operating Expense**	**Port Jervis Factor**	**Pascack Factor**
$15,502,000	$3,400,000	0.00%	0.00%
WOH Expense Allocation			
$0			

County Name			
Westchester County			
Actual Port Jervis Operating Expense	**Actual Pascack Operating Expense**	**Port Jervis Factor**	**Pascack Factor**
$15,502,000	$3,400,000	0.00%	0.00%
WOH Expense Allocation			
$0			

West of Hudson Admin Allocation

County Name		
Dutchess County		
WOH Expense Allocation	**Total WOH Expenses**	**County % of Total WOH Expenses**
$0	$18,902,000.00	0.00%
WOH % of MNR Revenue Passenger Miles	**MNR General and Admin Costs**	**Total WOH Admin Allocation**
0.00%	$127,480,000	$0
County WOH Admin Allocation		
$0		

County Name		
Nassau County		
WOH Expense Allocation	**Total WOH Expenses**	**County % of Total WOH Expenses**
$0	$18,902,000.00	0.00%
WOH % of MNR Revenue Passenger Miles	**MNR General and Admin Costs**	**Total WOH Admin Allocation**
0.00%	$127,480,000	$0
County WOH Admin Allocation		
$0		

County Name		
New York City		
WOH Expense Allocation	**Total WOH Expenses**	**County % of Total WOH Expenses**
$0	$18,902,000.00	0.00%
WOH % of MNR Revenue Passenger Miles	**MNR General and Admin Costs**	**Total WOH Admin Allocation**
0.00%	$127,480,000	$0
County WOH Admin Allocation		
$0		

County Name		
Orange County		
WOH Expense Allocation	**Total WOH Expenses**	**County % of Total WOH Expenses**
$15,227,615	$18,902,000.00	80.56%
WOH % of MNR Revenue Passenger Miles	**MNR General and Admin Costs**	**Total WOH Admin Allocation**
8.09%	$127,480,000	$10,313,132
County WOH Admin Allocation		
$8,308,348		

County Name		
Putnam County		
WOH Expense Allocation	**Total WOH Expenses**	**County % of Total WOH Expenses**
$0	$18,902,000.00	0.00%
WOH % of MNR Revenue Passenger Miles	**MNR General and Admin Costs**	**Total WOH Admin Allocation**
0.00%	$127,480,000	$0
County WOH Admin Allocation		
$0		

County Name		
Rockland County		
WOH Expense Allocation	**Total WOH Expenses**	**County % of Total WOH Expenses**
$3,674,385	$18,902,000.00	19.44%
WOH % of MNR Revenue Passenger Miles	**MNR General and Admin Costs**	**Total WOH Admin Allocation**
8.09%	$127,480,000	$10,313,132
County WOH Admin Allocation		
$2,004,784		

County Name		
Suffolk County		
WOH Expense Allocation	**Total WOH Expenses**	**County % of Total WOH Expenses**
$0	$18,902,000.00	0.00%
WOH % of MNR Revenue Passenger Miles	**MNR General and Admin Costs**	**Total WOH Admin Allocation**
0.00%	$127,480,000	$0
County WOH Admin Allocation		
$0		

County Name		
Westchester County		
WOH Expense Allocation	**Total WOH Expenses**	**County % of Total WOH Expenses**
$0	$18,902,000.00	0.00%
WOH % of MNR Revenue Passenger Miles	**MNR General and Admin Costs**	**Total WOH Admin Allocation**
0.00%	$127,480,000	$0
County WOH Admin Allocation		
$0		

West of Hudson Payments

County Name
Dutchess County

Port Jervis Factor	Port Jervis Revenue	County Port Jervis Payment	Pascack Factor	Pascack Revenue
0.00%	$8,619,000	$0	0.00%	$2,082,000

County Pascack Payment
$0

County West of Hudson Payment
$0

County Name
Nassau County

Port Jervis Factor	Port Jervis Revenue	County Port Jervis Payment	Pascack Factor	Pascack Revenue
0.00%	$8,619,000	$0	0.00%	$2,082,000

County Pascack Payment
$0

County West of Hudson Payment
$0

County Name
New York City

Port Jervis Factor	Port Jervis Revenue	County Port Jervis Payment	Pascack Factor	Pascack Revenue
0.00%	$8,619,000	$0	0.00%	$2,082,000

County Pascack Payment
$0

County West of Hudson Payment
$0

County Name				
Orange County				
Port Jervis Factor	**Port Jervis Revenue**	**County Port Jervis Payment**	**Pascack Factor**	**Pascack Revenue**
98.23%	$8,619,000	$8,466,444	0.00%	$2,082,000
County Pascack Payment				
$0				
County West of Hudson Payment				
$8,466,444				

County Name				
Putnam County				
Port Jervis Factor	**Port Jervis Revenue**	**County Port Jervis Payment**	**Pascack Factor**	**Pascack Revenue**
0.00%	$8,619,000	$0	0.00%	$2,082,000
County Pascack Payment				
$0				
County West of Hudson Payment				
$0				

County Name				
Rockland County				
Port Jervis Factor	**Port Jervis Revenue**	**County Port Jervis Payment**	**Pascack Factor**	**Pascack Revenue**
1.77%	$8,619,000	$152,556	100.00%	$2,082,000
County Pascack Payment				
$2,082,000				
County West of Hudson Payment				
$2,234,556				

County Name				
Suffolk County				
Port Jervis Factor	**Port Jervis Revenue**	**County Port Jervis Payment**	**Pascack Factor**	**Pascack Revenue**
0.00%	$8,619,000	$0	0.00%	$2,082,000
County Pascack Payment				
$0				
County West of Hudson Payment				
$0				

County Name				
Westchester County				
Port Jervis Factor	**Port Jervis Revenue**	**County Port Jervis Payment**	**Pascack Factor**	**Pascack Revenue**
0.00%	$8,619,000	$0	0.00%	$2,082,000
County Pascack Payment				
$0				
County West of Hudson Payment				
$0				

Metro-North Railroad
West of Hudson Financial Statement
2005
($ in Millions)

West of Hudson Revenue and Expenses **

	Total	Pt Jervis	Pascack Valley
2005 Revenue	$10.701	$8.619	$2.082
2005 Expenses	$18.902	$15.502	$3.400

Metro-North Costs	Total
2005 G&A Expenses *	$314.780
Less Deprecation	$187.300
2005 Net G&A Expenses	$127.480

Notes

* Figures per final 2005 financial statements.
Includes Depreciation, Safety and Claims costs consistent with figures supplied for 1998 Cost benefit study for Orange and Rockland Counties.

** Reflects actual reveneus and expenses as of December 31, 2005. Allocation of expenses for Pt Jervis and Pascack Valley lines are based on estimates in accordance with the service agreement with NJT. Refinements to estimated allocations by line are under review.

MTA METRO NORTH RAILROAD
FINANCIAL STATEMENT
2005
($ in millions)

	Non-Reimbursable	ACTUAL 2005
Operating Revenue	Farebox Revenue	$437.674
	Toll Revenue	-
	Other Operating Revenue	32.493
	Capital and Other Reimbursements	0.000
	Total Revenue	$470.167
Operating Expenses	*Labor:*	
	Payroll	$329.489
	Overtime	44.572
	Health and Welfare	63.950
	Pensions	28.266
	Other Fringe Benefits	68.726
	Reimbursable Overhead	(36.146)
	Total Labor Expenses	$498.857
	Non-Labor:	
	Traction and Propulsion Power	$45.593
	Fuel for Buses and Trains	12.862
	Insurance	11.151
	Claims	9.496
	Paratransit Service Contracts	0.000
	Maintenance and Other Operating Contracts	71.425
	Professional Service Contracts	20.600
	Materials & Supplies	59.599
	Other Business Expenses	21.410
	Total Non-Labor	$252.136

Other Expenses Adjustments:

Other	$0.000
Total Other Expense Adjustments	$0.000
Total Expenses before Depreciation	$750.992
Depreciation	187.300
Total Expenses	$938.293
Baseline Net Surplus/(Deficit)	($468.126)

MNR

East of Hudson Expense Allocation

County Name		
Dutchess County		
EOH Ridership	**Average Trip Length (Miles)**	**County EOH Passenger Miles**
2,780,792	66.55	$185,061,708
Total EOH Passenger Miles	**County % of EOH Passenger Miles**	**Total EOH Expenses**
1,701,865,060.00	10.87%	$604,611,000
EOH Expense Allocation		
$65,745,720		

County Name		
Nassau County		
EOH Ridership	**Average Trip Length (Miles)**	**County EOH Passenger Miles**
0	0.00	$0
Total EOH Passenger Miles	**County % of EOH Passenger Miles**	**Total EOH Expenses**
1,701,865,060.00	0.00%	$604,611,000
EOH Expense Allocation		
$0		

County Name		
New York City		
EOH Ridership	**Average Trip Length (Miles)**	**County EOH Passenger Miles**
1,752,092	11.02	$19,308,054
Total EOH Passenger Miles	**County % of EOH Passenger Miles**	**Total EOH Expenses**
1,701,865,060.00	1.13%	$604,611,000
EOH Expense Allocation		
$6,859,452		

County Name		
Orange County		
EOH Ridership	**Average Trip Length (Miles)**	**County EOH Passenger Miles**
321,630	25.20	$8,105,076

Total EOH Passenger Miles	County % of EOH Passenger Miles	Total EOH Expenses
1,701,865,060.00	0.48%	$604,611,000

EOH Expense Allocation

$2,879,440

County Name		
Putnam County		
EOH Ridership	**Average Trip Length (Miles)**	**County EOH Passenger Miles**
1,732,280	25.26	$91,100,605

Total EOH Passenger Miles	County % of EOH Passenger Miles	Total EOH Expenses
1,701,865,060.00	5.35%	$604,611,000

EOH Expense Allocation

$32,364,745

County Name		
Rockland County		
EOH Ridership	**Average Trip Length (Miles)**	**County EOH Passenger Miles**
225,994	25.20	$5,695,049

Total EOH Passenger Miles	County % of EOH Passenger Miles	Total EOH Expenses
1,701,865,060.00	0.33%	$604,611,000

EOH Expense Allocation

$2,023,245

County Name		
Suffolk County		
EOH Ridership	**Average Trip Length (Miles)**	**County EOH Passenger Miles**
0	0.00	$0

Total EOH Passenger Miles	County % of EOH Passenger Miles	Total EOH Expenses
1,701,865,060.00	0.00%	$604,611,000

EOH Expense Allocation
$0

County Name		
Westchester County		
EOH Ridership	**Average Trip Length (Miles)**	**County EOH Passenger Miles**
38,296,088	23.52	$900,723,990

Total EOH Passenger Miles	County % of EOH Passenger Miles	Total EOH Expenses
1,701,865,060.00	52.93%	$604,611,000

EOH Expense Allocation
$319,994,602

East of Hudson Payments

County Name		
Dutchess County		
EOH Ridership	**County EOH Daily Riders**	**County Average Yield Per EOH Ride**
2,780,792	5,474	324.36
County EOH Payment		
$1,774,306,560		

County Name		
Nassau County		
EOH Ridership	**County EOH Daily Riders**	**County Average Yield Per EOH Ride**
0	0	0.00
County EOH Payment		
$0		

County Name		
New York City		
EOH Ridership	**County EOH Daily Riders**	**County Average Yield Per EOH Ride**
1,752,092	3,449	139.98
County EOH Payment		
$5,793,492		

County Name		
Orange County		
EOH Ridership	**County EOH Daily Riders**	**County Average Yield Per EOH Ride**
321,630	633	208.74
County EOH Payment		
$1,585,914		

County Name		
Putnam County		
EOH Ridership	**County EOH Daily Riders**	**County Average Yield Per EOH Ride**
1,732,280	3,410	284.23
County EOH Payment		
$11,630,692		

County Name		
Rockland County		
EOH Ridership	**County EOH Daily Riders**	**County Average Yield Per EOH Ride**
225,994	445	208.74
County EOH Payment		
$1,014,346		

County Name		
Suffolk County		
EOH Ridership	**County EOH Daily Riders**	**County Average Yield Per EOH Ride**
0	0	0.00
County EOH Payment		
$0		

County Name		
Westchester County		
EOH Ridership	**County EOH Daily Riders**	**County Average Yield Per EOH Ride**
38,296,088	75,386	184.69
County EOH Payment		
$167,076,484		

MNR Ridership Analysis (For East of Hudson and West of Hudson Calculations)

County	EOH Riders	Trip Length	EOH Pass. Miles	WOH Pass. Miles	MNR Rev Pass. Miles	% of Total
New York City	1,752,092	11.02	19,315,974	0	112,874,857	0.91%
Dutchess	2,780,792	66.55	185,073,341	0	2,219,246,861	17.84%
Putnam	1,732,280	52.59	91,095,779	0	1,153,636,045	9.27%
Westchester	38,296,088	23.52	900,899,443	0	7,948,052,717	63.89%
Rockland*	229,894	25.20	5,695,049	11,289,233	139,098,786	1.12%
Orange*	321,630	25.20	8,105,076	65,300,301	866,981,448	6.97%
Total MNR**	45,108,876	28.20	1,272,979,662	76,589,534	12,439,890,714	100.00%

8.09%

* Rockland and Orange County "share" Sloatsburg Station (1,174,242 total passenger miles)
** Does not include Connecticut

Sloatsburg % 1.77%
EOH Passenger Miles 1,701,865,060
(NYC+Dutchess+Putnam+Westchester+CT portion of Metro North)*254 work days * 2 (return trip, numbers were only for inbound)

Monthly East of Hudson Fare By County (Sumproduct of ridership and fares per station)

New York City	139.98	
Dutchess	324.34	
Putnam	284.23	
Westchester	184.41	
Rockland	208.74	(Take Tarrytown Station)
Orange	208.74	(Take Tarrytown Station)

MNR HUDSON LINE

2005 HUDSON LINE WEEKDAY INBOUND STATION BOARDINGS (1)

Station	AM Peak	Fare	County
Poughkeepsie	916	345.94	Dutchess
New Hamburg	767	314.58	Dutchess
Beacon	1,573	314.58	Dutchess
Cold Spring	328	283.22	Putnam
Garrison	244	283.22	Putnam
Peekskill	1,046	245.98	Westchester
Cortlandt	674	245.98	Westchester
Croton-Harmon (2)	2,593	208.74	Westchester
Ossining	1,123	208.74	Westchester
Scarborough	769	208.74	Westchester
Philipse Manor	300	208.74	Westchester
Tarrytown	1,899	208.74	Westchester
Irvington	578	180.32	Westchester
Ardsley-on-Hudson	230	180.32	Westchester
Dobbs Ferry	865	180.32	Westchester
Hastings-on-Hudson	781	180.32	Westchester
Greystone	423	159.74	Westchester
Glenwood	243	159.74	Westchester
Yonkers	514	159.74	Westchester
Ludlow	200	159.74	Westchester
Riverdale	439	140.14	New York City
Spuyten Duyvil	806	140.14	New York City
Marble Hill	66	140.14	New York City
University Heights	7	140.14	New York City
Morris Heights	16	140.14	New York City
Harlem-125th Street	5	120.54	New York City
TOTAL HUDSON LINE	17,405	223.14	

(1) Calculated by factoring 1998 On/Off Counts based on ticket sales data to reflect 2005 ridership levels

(2) Station totals include transfers.

MNR HARLEM LINE

2005 HARLEM LINE WEEKDAY INBOUND STATION BOARDINGS (1)

Station	AM Peak	Fare	County
Wassaic	62	349.86	Dutchess
Tenmile River	7	349.86	Dutchess
Dover Plains	64	345.94	Dutchess
Harlem Valley-Wingdale	80	345.94	Dutchess
Pawling	188	314.58	Dutchess
Patterson	71	314.58	Putnam
Southeast (2)	937	283.22	Putnam
Brewster	619	283.22	Putnam
Croton Falls	445	283.22	Westchester
Purdys	496	283.22	Westchester
Goldens Bridge	1,067	245.98	Westchester
Katonah	790	245.98	Westchester
Bedford Hills	432	245.98	Westchester
Mount Kisco	814	245.98	Westchester
Chappaqua	1,583	208.74	Westchester
Pleasantville	695	208.74	Westchester
Hawthorne	511	208.74	Westchester
Mount Pleasant	0	208.74	Westchester
Valhalla	230	208.74	Westchester
North White Plains (2)	1,677	180.32	Westchester
White Plains (2)	3,654	180.32	Westchester
Hartsdale	2,143	180.32	Westchester
Scarsdale	3,064	180.32	Westchester
Crestwood	1,258	159.74	Westchester
Tuckahoe	1,049	159.74	Westchester
Bronxville	2,193	159.74	Westchester
Fleetwood	1,922	159.74	Westchester
Mount Vernon West (2)	869	159.74	Westchester
Wakefield	233	140.14	New York City
Woodlawn	514	140.14	New York City
Williams Bridge	45	140.14	New York City
Botanical Garden	114	140.14	New York City
Fordham	159	140.14	New York City
Tremont	5	140.14	New York City
Melrose	19	140.14	New York City
Harlem-125th Street	3	120.54	New York City
TOTAL HARLEM LINE	28,012	195.41	

(1) Calculated by factoring 1997 On/Off Counts based on ticket sales data to reflect 2005 ridership levels

(2) Station totals include transfers.

MNR NEW HAVEN LINE
2005 NEW HAVEN LINE WEEKDAY INBOUND STATION BOARDINGS (1)

Station	AM Peak	Fare	County
Waterbury	34		
Naugatuck	14		
Beacon Falls	11		
Seymour	7		
Ansonia	11		
Derby Shelton	17		
Danbury	171		
Bethel	154		
Redding	47		
Branchville	178		
Cannondale	105		
Wilton	211		
Merritt-7	86		
New Canaan	886		
Talmadge Hill	311		
Springdale	444		
Glenbrook	321		
New Haven-State St.	7		
New Haven	1,879		
Milford	967		
Stratford	885		
Bridgeport (2)	2,112		
Fairfield	1,983		
Southport	229		
Green's Farms	505		
Westport	1,758		
East Norwalk	441		
South Norwalk (2)	1,215		
Rowayton	512		
Darien	929		
Noroton Heights	946		
Stamford (2)	2,990		
Old Greenwich	580		
Riverside	562		
Cos Cob	631		
Greenwich	1,394		
Port Chester	1,225	193.06	Westchester
Rye	1,356	193.06	Westchester
Harrison	1,403	180.32	Westchester
Mamaroneck	1,397	180.32	Westchester
Larchmont	2,636	180.32	Westchester
New Rochelle	2,387	159.74	Westchester
Pelham	1,739	159.74	Westchester
Mount Vernon East	887	159.74	Westchester
Fordham	3	140.14	New York City
Harlem-125th Street	12	120.54	New York City
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

(1) Calculated by factoring 2001 On/Off Counts based on ticket sales data to reflect 2005 ridership leve
(2) Station totals include transfers.

NYC LIRR Expense Allocation

County Name			
New York City			
LIRR Operating Expenses	**Total Daily County Riders**	**Total Daily LIRR Riders**	**County % of LIRR Daily Riders**
$962,364,000	12,321	262,887	4.69%
NYC LIRR Expense Allocation			
$45,104,120			

LI LIRR Expense Allocation

County Name		
Nassau County		
Net of NYC LIRR Operating Expenses	**County LIRR Passenger Miles**	**LI LIRR Passenger Miles**
$917,259,880	1,933,157	2,966,948
County % of LI LIRR Passenger Miles		
65.16%		
LI LIRR Expense Allocation		
$597,663,638		

County Name		
Suffolk County		
Net of NYC LIRR Operating Expenses	**County LIRR Passenger Miles**	**LI LIRR Passenger Miles**
$917,259,880	1,033,791	2,966,948
County % of LI LIRR Passenger Miles		
34.84%		
LI LIRR Expense Allocation		
$319,606,118		

LIRR Payments

County Name	
Dutchess County	
County LIRR Daily Riders	**County LIRR Avg Fare**
0	0.00
County LIRR Payment	
$0	

County Name	
Nassau County	
County LIRR Daily Riders	**County LIRR Avg Fare**
88,809	188.04
County LIRR Payment	
$200,395,732	

County Name	
New York City	
County LIRR Daily Riders	**County LIRR Avg Fare**
6,161	150.92
County LIRR Payment	
$11,156,912	

County Name	
Orange County	
County LIRR Daily Riders	**County LIRR Avg Fare**
0	0.00
County LIRR Payment	
$0	

County Name	
Putnam County	
County LIRR Daily Riders	**County LIRR Avg Fare**
0	0.00
County LIRR Payment	
$0	

County Name	
Rockland County	
County LIRR Daily Riders	**County LIRR Avg Fare**
0	0.00
County LIRR Payment	
$0	

County Name	
Suffolk County	
County LIRR Daily Riders	**County LIRR Avg Fare**
36,475	250.30
County LIRR Payment	
$109,554,808	

County Name	
Westchester County	
County LIRR Daily Riders	**County LIRR Avg Fare**
0	0.00
County LIRR Payment	
$0	

MTA LONG ISLAND RAIL ROAD
FINANCIAL STATEMENT
2005
($ in millions)

	Non-Reimbursable	ACTUAL 2005
Operating Revenue	Farebox Revenue	$442.276
	Toll Revenue	-
	Other Operating Revenue	26.823
	Capital and Other Reimbursements	0.000
	Total Revenue	**$469.099**
Operating Expenses	*Labor:*	
	Payroll	$353.971
	Overtime	72.000
	Health and Welfare	96.052
	Pensions	120.296
	Other Fringe Benefits	75.754
	Reimbursable Overhead	(16.470)
	Total Labor Expenses	**$701.603**
	Non-Labor:	
	Traction and Propulsion Power	$68.628
	Fuel for Buses and Trains	12.8559
	Insurance	15.464
	Claims	23.528
	Paratransit Service Contracts	-
	Maintenance and Other Operating Contracts	55.129
	Professional Service Contracts	17.780
	Materials & Supplies	62.880
	Other Business Expenses	4.496
	Total Non-Labor Expenses	**$260.761**

Other Expenses Adjustments:

Other	$0.000
Total Other Expense Adjustments	**$0.000**
Total Expenses before Depreciation	**$962.364**
Depreciation	246.695
Total Expenses	**$1,209.059**
Baseline Net Surplus/(Deficit)	**($739.960)**

MTA RTFM Year 2000 all day total trips for NYC and LI

MTA RTFM all day commuter rail total trips in year 2000

Bold = LIRR to Long Island
***Italics* = LIRR to NYC**

County	New York	Queens	Bronx	Brooklyn	Richmond	Nassau	Suffolk
New York	100	85	10	0	0	**9,740**	**107**
Queens	32,782	1,507	162	1,773	183	**1,872**	**28**
Bronx	4,967	68	317	102	2	**3**	**2**
Brooklyn	0	106	5	0	0	**537**	**32**
Richmond	0	5	0	0	0	**0**	**0**
Nassau	*159,759*	*3,794*	*246*	*8,933*	*7*	**4,651**	**229**
Suffolk	*64,274*	*3,820*	*107*	*2,476*	*3*	**1,476**	**792**

MTA RTFM all day other transit total trips in year 2000

Bold = LI Bus Trips

County	New York	Queens	Bronx	Brooklyn	Richmond	Nassau	Suffolk
New York	1,127,641	86,515	45,027	55,723	1,952	7,604	99
Queens	909,528	373,312	20,439	70,088	3,863	34,956	421
Bronx	387,135	13,925	406,761	40,015	659	1,544	27
Brooklyn	802,499	76,113	43,495	736,711	12,268	7,914	537
Richmond	96,468	503	325	9,278	43,895	12	0
Nassau	32,332	12,137	285	1,262	20	**109,356**	**2,914**
Suffolk	4,674	492	16	20	0	**3,010**	5,173

LIRR and LI Bus Ridership

	LIRR Trips to LI	LIRR Trips to NYC	LI Bus Ridership
Nassau	4,880	172,738	112,270
Suffolk	2,268	70,681	3,010
NYC	12,321	0	0
Total	19,468	243,419	115,280
	262,887		

LIRR Passenger Mile and Fare Calculations

	Station	Distances (Miles to Penn St.)	Monthly Fare (Peak - Station)	# of Riders	Fares Paid	Passenger Miles	Rev Passenger Miles	County
Montauk Branch	Montauk	117.00	335.16	3	1,005	351	117,641	Suffolk
	Amagansett	106.00	335.16	0	0	0	0	Suffolk
	East Hampton	103.00	335.16	4	1,341	412	138,086	Suffolk
	Bridgehampton	96.10	335.16	8	2,681	769	257,671	Suffolk
	Southampton	90.90	335.16	9	3,016	818	274,194	Suffolk
	Hampton Bays	83.70	335.16	9	3,016	753	252,476	Suffolk
	Westhampton	75.90	335.16	5	1,676	380	127,193	Suffolk
	Speonk	73.10	308.70	59	18,213	4,313	1,331,392	Suffolk
	Mastic-Shirley	64.00	308.70	254	78,410	16,256	5,018,227	Suffolk
	Bellport	59.40	308.70	9	2,778	535	165,031	Suffolk
	Patchogue	55.60	261.66	428	111,990	23,797	6,226,671	Suffolk
	Sayville	51.50	261.66	446	116,700	22,969	6,010,069	Suffolk
	Oakdale	49.00	261.66	137	35,847	6,713	1,756,524	Suffolk
	Gread River	46.90	261.66	94	24,596	4,409	1,153,554	Suffolk
	Islip	44.80	261.66	325	85,040	14,560	3,809,770	Suffolk
	Bay Shore	42.30	261.66	634	165,892	26,818	7,017,250	Suffolk
	Babylon	38.20	234.22	0	0	0	0	Suffolk
Babylon Branch	Babylon	38.20	234.22	3467	812,041	132,439	31,019,956	Nassau
	Lindenhurst	35.50	234.22	1358	318,071	48,209	11,291,512	Nassau
	Copiague	34.00	234.22	967	226,491	32,878	7,700,685	Nassau
	Amityville	32.90	234.22	765	179,178	25,169	5,894,966	Nassau
	Massapequa Park	31.5	198.94	1477	293,834	46,526	9,255,783	Nassau
	Massapequa	30.30	198.94	2709	538,928	82,083	16,329,532	Nassau
	Seaford	29.40	198.94	1664	331,036	48,922	9,732,463	Nassau
	Wantagh	28.20	198.94	2729	542,907	76,958	15,309,985	Nassau
	Bellmore	27.20	198.94	2917	580,308	79,342	15,784,377	Nassau
	Merrick	25.90	198.94	2876	572,151	74,488	14,818,722	Nassau
	Freeport	24.10	198.94	1647	327,654	39,693	7,896,466	Nassau
	Baldwin	22.90	198.94	2795	556,037	64,006	12,733,254	Nassau
	Rockville Centre	20.90	198.94	2353	468,106	49,178	9,783,412	Nassau
	Lynbrook	19.50	174.44	0	0	0	0	Nassau
Long Beach Branch	Long Beach	24.60	198.94	1633	324,869	40,172	7,991,778	Nassau
	Island Park	23.70	198.94	1219	242,508	28,890	5,747,436	Nassau
	Oceanside	21.10	198.94	1260	250,664	26,586	5,289,019	Nassau
	E. Rockaway	20.50	198.94	460	91,512	9,430	1,876,004	Nassau
	Centre Av.	20.00	198.94	498	99,072	9,960	1,981,442	Nassau
	Lynbrook	19.50	174.44	1396	243,518	27,222	4,748,606	Nassau
	Valley Stream	17.70	174.44	0	0	0	0	Nassau

LIRR Passenger Mile and Fare Calculations

	Station	Distances (Miles to Penn St.)	Monthly Fare (Peak - Station)	# of Riders	Fares Paid	Passenger Miles	Rev Passenger Miles	County
Far Rockaway Branch	Far Rockaway	22.80	174.44	46	8,024	1,049	182,953	Nassau
	Inwood	[illegible]	174.44	268	46,750	5,896	1,028,498	Nassau
	Lawrence	21.80	174.44	259	45,180	5,646	984,923	Nassau
	Cedarhurst	21.90	174.44	531	92,628	11,629	2,028,545	Nassau
	Woodmere	20.10	174.44	584	101,873	11,738	2,047,646	Nassau
	Hewlett	19.50	174.44	598	104,315	11,661	2,034,145	Nassau
	Gibson	18.60	174.44	473	82,510	8,798	1,534,688	Nassau
	Valley Stream	17.70	174.44	2139	373,127	37,860	6,604,351	Nassau
	Rosedale	16.00	150.92	1038	156,655	16,608	2,506,479	Nassau
	Laurelton	15.10	150.92	519	78,327	7,837	1,182,745	Nassau
	Locust Manor	14.20	150.92	425	64,141	6,035	910,802	Nassau
Ronkonkoma Branch	Greenport	96.30	335.16	3	1,005	289	96,828	Suffolk
	Southold	92.10	335.16	1	335	92	30,868	Suffolk
	Mattituck	84.40	335.16	2	670	169	56,575	Suffolk
	Riverhead	75.30	335.16	12	4,022	904	302,851	Suffolk
	Yaphank	60.60	308.70	7	2,161	424	130,951	Suffolk
	Medford	56.10	261.66	20	5,233	1,122	293,583	Suffolk
	Ronkonkoma	50.30	261.66	6015	1,573,885	302,555	79,166,410	Suffolk
	Central Islip	45.30	261.66	1553	406,358	70,351	18,408,016	Suffolk
	Brentwood	42.80	261.66	1177	307,974	50,376	13,181,279	Suffolk
	Deer Park	38.40	234.22	2052	480,619	78,797	18,455,786	Suffolk
	Wyandach	36.60	234.22	1337	313,152	48,934	11,461,368	Suffolk
	Pinelawn	34.40	234.22	0	0	0	0	Nassau
	Farmingdale	32.20	198.94	1035	205,903	33,327	6,630,073	Nassau
	Bethpage	29.90	198.94	1324	263,397	39,588	7,875,557	Nassau
Oyster Bay Branch	Oyster Bay	35.00	198.94	46	9,151	1,610	320,293	Nassau
	Locust Valley	31.00	198.94	98	19,496	3,038	604,380	Nassau
	Glen Cove	29.80	198.94	100	19,894	2,980	592,841	Nassau
	Glen Street	29.30	198.94	120	23,873	3,516	699,473	Nassau
	Sea Cliff	28.70	198.94	150	29,841	4,305	856,437	Nassau
	Glen Head	27.40	198.94	194	38,594	5,316	1,057,485	Nassau
	Greenvale	26.20	198.94	85	16,910	2,227	443,039	Nassau
	Roslyn	24.20	198.94	221	43,966	5,348	1,063,971	Nassau
	Albertson	22.70	198.94	181	36,008	4,109	817,385	Nassau
	East Williston	21.80	174.44	472	82,336	10,290	1,794,918	Nassau

LIRR Passenger Mile and Fare Calculations

	Station	Distances (Miles to Penn St.)	Monthly Fare (Peak - Station)	# of Riders	Fares Paid	Passenger Miles	Rev Passenger Miles	County
Hempstead Branch	Hearnstead	22.00	174.44	774	135,017	17,028	2,970,364	Nassau
	Country Life Press	21.00	174.44	307	53,553	6,447	1,124,615	Nassau
	Garden City	20.40	174.44	526	91,755	10,730	1,871,811	Nassau
	Nassau Blvd	19.30	174.44	613	106,932	11,831	2,063,782	Nassau
	Stewart Manor	18.30	174.44	756	131,877	13,835	2,413,343	Nassau
	Floral Park	16.90	174.44	1294	225,725	21,869	3,814,759	Nassau
	Bellerose	16.30	174.44	481	83,906	7,840	1,367,662	Nassau
	Queens Village	15.40	150.92	512	77,271	7,885	1,189,974	Nassau
	Hollis	13.60	150.92	0	0	0	0	Nassau
Port Washington Branch	Port Washington	19.90	174.44	2517	439,065	50,088	8,737,403	Nassau
	Plandome	16.30	174.44	472	82,336	7,694	1,342,072	Nassau
	Manhasset	17.20	174.44	1998	348,531	34,366	5,994,735	Nassau
	Great Neck	15.70	174.44	3309	577,222	51,951	9,062,385	Nassau
	Little Neck	14.50	150.92	1424	214,910	20,648	3,116,196	Nassau
	Douglaston	13.90	150.92	1042	157,259	14,484	2,185,895	Nassau
	Bayside	12.60	150.92	3106	468,758	39,136	5,906,345	Nassau
	Auburndale	11.70	150.92	1027	154,995	12,016	1,813,440	Nassau
	Broadway	11.10	150.92	905	136,583	10,046	1,516,067	Nassau
	Murray Hill	10.30	150.92	402	60,670	4,141	624,899	Nassau
	Flushing-Main St	9.50	150.92	304	45,880	2,888	435,857	New York City
	Shea Stadium	8.60	127.4	0	0	0	0	New York City
	Woodside	5.10	127.4	0	0	0	0	New York City
Port Jefferson Brach	Port Jefferson	59.40	261.66	312	81,638	18,533	4,849,292	Suffolk
	Stony Brook	55.10	261.66	246	64,368	13,555	3,546,697	Suffolk
	St. James	51.50	261.66	160	41,866	8,240	2,156,078	Suffolk
	Smithtown	49.00	261.66	502	131,353	24,598	6,436,313	Suffolk
	Kings Park	45.30	261.66	647	169,294	29,309	7,669,019	Suffolk
	Northport	42.50	234.22	886	207,519	37,655	8,819,554	Suffolk
	Greenlawn	39.40	234.22	349	81,743	13,751	3,220,666	Suffolk
	Huntington	36.60	234.22	4602	1,077,880	168,433	39,450,424	Suffolk
	Cold Spring Harbor	34.00	234.22	1231	288,325	41,854	9,803,044	Suffolk
	Syosset	31.00	198.94	2546	506,501	78,926	15,701,538	Nassau
	Hicksville	26.80	198.94	6359	1,265,059	170,421	33,903,594	Nassau
	Westbury	23.40	198.94	1324	263,397	30,982	6,163,480	Nassau
	Carle Place	22.40	198.94	88	17,507	1,971	392,151	Nassau
	Mineola	20.50	174.44	2834	494,363	58,097	10,134,441	Nassau
	Merillon Avenue	19.30	174.44	617	107,629	11,908	2,077,249	Nassau
	New Hyde Park	18.20	174.44	1249	217,876	22,732	3,965,335	Nassau

LIRR Passenger Mile and Fare Calculations

	Station	Distances (Miles to Penn St.)	Monthly Fare (Peak - Station)	# of Riders	Fares Paid	Passenger Miles	Rev Passenger Miles	County
West Hempstead Branch	West Hempstead	22.40	174.44	198	34,539	4,435	773,676	Nassau
	Hearnstead Garden	21.80	174.44	161	28,085	3,510	612,250	Nassau
	Lakeview	21.10	174.44	320	55,821	6,752	1,177,819	Nassau
	Malverne	19.90	174.44	518	90,360	10,308	1,798,162	Nassau
	Westwood	19.10	174.44	295	51,460	5,635	982,882	Nassau

	Total LIRR	Nassau	Nassau %	Suffolk	Suffolk %	NYC
Passenger Miles	2,966,948	1,933,157	65.16%	1,033,791	34.84%	0.00
Rev Passenger Miles	635,412,559	374,221,207	58.89%	261,191,352	41.11%	0.00%
Revenue Paid	21,558,231	15,620,746	72.46%	5,891,605	27.33%	45,880
Daily Riders	106,912	83,070	77.70%	23,538	22.02%	304
Monthly Fares	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LI Bus Expense Allocation

County Name			
Dutchess County			
LI Bus Expenses	**County LI Bus Ridership**	**Total LI Bus Ridership**	**County % of LI Bus Ridership**
$108,244,000	0	115,280	0.00%
LI Bus Expense Allocation			
$0			

County Name			
Nassau County			
LI Bus Expenses	**County LI Bus Ridership**	**Total LI Bus Ridership**	**County % of LI Bus Ridership**
$108,244,000	112,270	115,280	97.39%
LI Bus Expense Allocation			
$105,417,703			

County Name			
New York City			
LI Bus Expenses	**County LI Bus Ridership**	**Total LI Bus Ridership**	**County % of LI Bus Ridership**
$108,244,000	0	115,280	0.00%
LI Bus Expense Allocation			
$0			

County Name			
Orange County			
LI Bus Expenses	**County LI Bus Ridership**	**Total LI Bus Ridership**	**County % of LI Bus Ridership**
$108,244,000	0	115,280	0.00%
LI Bus Expense Allocation			
$0			

County Name			
Putnam County			
LI Bus Expenses	**County LI Bus Ridership**	**Total LI Bus Ridership**	**County % of LI Bus Ridership**
$108,244,000	0	115,280	0.00%
LI Bus Expense Allocation			
$0			

County Name			
Rockland County			
LI Bus Expenses	**County LI Bus Ridership**	**Total LI Bus Ridership**	**County % of LI Bus Ridership**
$108,244,000	0	115,280	0.00%
LI Bus Expense Allocation			
$0			

County Name			
Suffolk County			
LI Bus Expenses	**County LI Bus Ridership**	**Total LI Bus Ridership**	**County % of LI Bus Ridership**
$108,244,000	3,010	115,280	2.61%
LI Bus Expense Allocation			
$2,825,931			

County Name			
Westchester County			
LI Bus Expenses	**County LI Bus Ridership**	**Total LI Bus Ridership**	**County % of LI Bus Ridership**
$108,244,000	0	115,280	0.00%
LI Bus Expense Allocation			
$0			

LI Bus Payments

County Name			
Dutchess County			
County LI Bus Ridership	**Total LI Bus Ridership**	**County % of LI Bus Ridership**	**MTA LI Bus Revenue**
0	115,280	0.00%	$39,118,000
County LI Bus Payment			
$0			

County Name			
Nassau County			
County LI Bus Ridership	**Total LI Bus Ridership**	**County % of LI Bus Ridership**	**MTA LI Bus Revenue**
112,270	115,280	97.39%	$39,118,000
County LI Bus Payment			
$38,096,612			

County Name			
New York City			
County LI Bus Ridership	**Total LI Bus Ridership**	**County % of LI Bus Ridership**	**MTA LI Bus Revenue**
0	115,280	0.00%	$39,118,000
County LI Bus Payment			
$0			

County Name			
Orange County			
County LI Bus Ridership	**Total LI Bus Ridership**	**County % of LI Bus Ridership**	**MTA LI Bus Revenue**
0	115,280	0.00%	$39,118,000
County LI Bus Payment			
$0			

County Name			
Putnam County			
County LI Bus Ridership	**Total LI Bus Ridership**	**County % of LI Bus Ridership**	**MTA LI Bus Revenue**
0	115,280	0.00%	$39,118,000
County LI Bus Payment			
$0			

County Name			
Rockland County			
County LI Bus Ridership	**Total LI Bus Ridership**	**County % of LI Bus Ridership**	**MTA LI Bus Revenue**
0	115,280	0.00%	$39,118,000
County LI Bus Payment			
$0			

County Name			
Suffolk County			
County LI Bus Ridership	**Total LI Bus Ridership**	**County % of LI Bus Ridership**	**MTA LI Bus Revenue**
3,010	115,280	2.61%	$39,118,000
County LI Bus Payment			
$1,021,255			

County Name			
Westchester County			
County LI Bus Ridership	**Total LI Bus Ridership**	**County % of LI Bus Ridership**	**MTA LI Bus Revenue**
0	115,280	0.00%	$39,118,000
County LI Bus Payment			
$0			

MTA LONG ISLAND BUS
FINANCIAL STATEMENT
2005
($ in millions)

	NON-REIMBURSABLE	ACTUAL 2005
Operating Revenue	Farebox Revenue	$39.118
	Toll Revenue	-
	Other Operating Revenue	5.322
	Capital and Other Reimbursements	-
	Total Revenue	$44.440
Operating Expenses	*Labor:*	
	Payroll	$56.354
	Overtime	6.018
	Health and Welfare	10.379
	Pensions	5.161
	Other Fringe Benefits	6.088
	Reimbursable Overhead	-
	Total Labor Expenses	$84.000
	Non-Labor:	
	Traction and Propulsion Power	$ -
	Fuel for Buses and Trains	9.327
	Insurance	0.354
	Claims	3.991
	Paratransit Service Contracts	0.000
	Maintenance and Other Operating Contracts	6.977
	Professional Service Contracts	1.700
	Materials & Supplies	1.673
	Other Business Expenses	0.222
	Total Non-Labor Expenses	$24.244

Other Expense Adjustments:

Other	$0.000
Total Other Expense Adjustments	$0.000
Total Expenses before Depreciation	$108.244
Depreciation	0.000
Total Expenses	$108.244
Baseline Net Surplus/(Deficit)	($63.804)
2007 Program to Eliminate the Gap	0.000
Post-2007 Program to Eliminate the Gap	0.000
Net Surplus/(Deficit)	($63.804)

MTA BRIDGES & TUNNELS
FINANCIAL STATEMENT
2005
($ in millions)

	NON-REIMBURSABLE	ACTUAL 2005
Operating Revenue	Farebox Revenue	$0.000
	Vehicle Toll Revenue	1,204.944
	Other Operating Revenue	23.100
	Capital and Other Reimbursements	25.874
	Investment Income	5.358
	Total Revenue	**$1,259.276**
Operating Expenses	*Labor:*	
	Payroll	$105.575
	Overtime	22.126
	Health and Welfare	25.864
	Pensions	9.895
	Other Fringe Benefits	15.578
	Reimbursable Overhead	(5.467)
	Total Labor Expenses	**$173.571**
	Non-Labor:	
	Traction and Propulsion Power	$0.000
	Fuel for Buses and Trains	0.000
	Insurance	7.869
	Claims	0.000
	Paratransit Service Contracts	0.000
	Maintenance and Other Operating Contracts	128.116
	Professional Service Contracts	11.571
	Materials & Supplies	21.409
	Other Business Expenses	1.136
	Total Non-Labor Expenses	**$170.101**

Other Expense Adjustments:

Other	$0.000
Total Other Expense Adjustments	**$0.000**
Total Expenses Before Depreciation	**$343.672**
Add: Depreciation	49.800
Total Expenses After Depreciation	**$393.472**
Less: Depreciation	(49.800)
Total Expenses	**$343.672**
Baseline Net Income/(Deficit)	**$915.604**

Bridge and Tunnel Traffic and Average Yield

		Triboro - Manhattan		Verrazano		Triboro - Bronx		Throgsneck		Queens Midtown		Marine Parkway		Henry Hudson		Cross Bay		Brooklyn Battery		Whitestone		Totals	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Nassau	Weekday	6,101	4,660	6,114	7,499	2,606	2,040	19,405	21,047	9,391	7,820	809	596	83	52	209	111	306	26	8,268	5,982	53,290	49,833
	Saturday	5,976	5,397	11,719	10,789	2,486	2,163	21,976	20,993	10,688	8,474	524	406	200	160	202	157	156	0	8,966	8,610	62,893	57,149
	Sunday	5,744	3,904	12,032	10,903	2,064	2,166	16,342	20,408	9,235	7,610	502	398	93	234	91	29	303	114	9,073	9,551	55,479	55,318
	Yearly Totals	3,899,952		5,979,719		1,672,887		14,699,289		6,359,888		659,574		72,414		107,046		115,963		7,628,383		39,004,892	
	Cash	1,277	1,011	2,006	1,561	1,106	680	4,539	5,153	2,219	1,758	224	91	16	14	86	143	0	60	2,451	1,514	13,923	11,984
	EZPass	4,824	3,649	4,554	5,493	1,500	1,360	14,866	15,895	7,172	6,063	585	505	67	38	123	111	254	176	5,817	4,467	39,762	37,757
	Average Yield	4.11		4.13		4.19		4.12		4.12		1.67		1.46		1.87		4.06		4.14		4.13	
Suffolk	Weekday	2,461	1,879	2,466	3,024	1,051	823	7,826	8,489	3,787	3,154	326	241	33	21	84	45	123	10	3,334	2,412	21,493	20,098
	Saturday	2,410	2,176	4,727	4,351	1,002	872	8,863	8,467	4,310	3,418	212	164	81	65	81	63	63	0	3,616	3,473	25,365	23,049
	Sunday	2,317	1,575	4,852	4,397	832	874	6,591	8,231	3,725	3,069	203	161	38	95	37	12	122	46	3,659	3,852	22,376	22,311
	Yearly	1,577,897		2,411,687		670,647		5,928,389		2,569,059		184,949		29,249		43,196		44,789		2,269,996		16,731,134	
	Cash	515	408	809	629	446	274	1,830	2,078	895	709	90	37	6	5	35	57	0	24	988	611	5,615	4,833
	EZPass	1,946	1,471	1,836	2,215	605	549	5,996	6,410	2,893	2,445	236	204	27	16	49	45	103	71	2,346	1,802	16,037	15,228
	Average Yield	4.11		4.13		4.19		4.12		4.12		1.67		1.46		1.87		4.06		4.14		4.13	
NYC	Weekday	21,428	17,462	66,646	62,671	19,889	18,596	13,522	13,825	16,324	12,285	8,626	8,407	10,205	10,881	7,998	7,548	16,528	12,957	22,271	23,752	203,437	188,384
	Saturday	20,226	17,817	65,068	58,868	18,112	19,033	12,264	12,901	14,817	10,669	6,824	6,771	11,416	10,375	7,109	6,577	15,957	10,719	23,318	23,174	195,111	176,924
	Sunday	22,239	15,116	54,316	52,118	18,272	19,313	13,172	11,700	14,100	10,254	6,449	6,244	8,181	12,433	5,912	5,719	15,277	12,852	20,879	24,570	178,797	170,319
	Yearly	34,062,640		45,833,183		13,922,765		9,723,192		10,032,806		5,785,386		7,709,322		5,353,778		10,530,868		16,792,568		139,546,415	
	Cash	5,732	5,489	13,432	10,829	9,833	8,387	4,534	4,189	3,746	2,208	1,832	1,807	2,105	2,304	2,072	1,762	3,623	2,935	7,337	8,517	54,246	48,427
	EZPass	15,696	11,973	53,215	51,843	10,056	10,209	8,988	9,637	12,578	10,076	6,794	6,600	8,100	8,577	5,927	5,786	12,905	10,023	14,934	15,234	149,193	139,958
	Average Yield	4.14		4.09		4.24		4.16		4.10		1.66		1.85		1.68		4.11		4.17		4.13	
Westchester	Weekday	261	236			5,988	5,533	10,015	9,495					18,000	15,380					15,881	15,791	50,145	46,435
	Saturday	160	99			5,420	5,824	7,037	6,905					16,539	12,613					13,760	14,378	42,916	39,819
	Sunday	400	593			3,812	4,521	6,309	6,515					13,967	12,388					13,060	14,418	37,548	38,435
	Yearly	195,724				4,812,856		6,441,053						11,559,159						11,131,376		33,340,169	
	Cash	177	517			2,226	2,687	2,305	1,916					3,067	2,417					3,964	2,859	11,739	10,396
	EZPass	1,569	4,137			7,790	6,808	13,682	3,617					14,933	12,962					11,917	11,932	49,891	39,456
	Average Yield	4.05				4.13		4.10						1.83						4.11		4.10	

Bridge and Tunnel Traffic and Average Yield

		Triboro - Manhattan		Verrazano		Triboro - Bronx		Throgsneck		Queens Midtown		Marine Parkway		Henry Hudson		Cross Bay		Brooklyn Battery		Whitestone		Totals	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Putnam	Weekday	125	50			395	292	660	418					101	77					258	223	1,539	1,060
	Saturday	94	308			400	438	1,106	574					135	168					516	326	2,252	1,814
	Sunday	214	69			849	534	1,685	655					319	116					732	254	3,800	1,627
	Yearly	82,447				297,888		497,022						69,238						223,477		1,186,992	
	Cash	129	55			561	333	557	425					70	93					142	76	1,460	982
	EZPass	15	34			759	502	233	157					133	59					374	371	1,513	1,124
	Average Yield	4.40				4.21		4.36						1.98						4.11		4.24	
Dutchess	Weekday	183	74			581	428	970	614					149	113					378	327	2,261	1,556
	Saturday	138	452			588	644	1,624	844					199	246					758	478	3,307	2,664
	Sunday	314	101			1,247	784	2,474	961					469	170					1,076	372	5,580	2,389
	Yearly	121,076				437,338		729,889						126,643						328,183		1,743,129	
	Cash	189	81			825	489	819	623					104	137					208	112	2,144	1,442
	EZPass	21	50			1,115	738	343	231					195	87					548	545	2,223	1,650
	Average Yield	4.40				4.21		4.36						1.98						4.11		4.24	
Orange	Weekday	89	190			528	686	742	714					455	507					754	844	2,562	2,942
	Saturday	221	377			960	1,094	1,375	1,528					693	648					1,250	1,477	4,499	5,124
	Sunday	154	447			884	1,363	923	1,097					383	700					1,566	1,448	3,911	5,054
	Yearly	135,984				547,170		643,160						378,894						728,449		2,429,657	
	Cash	13	19			155	168	150	157					196	192					206	225	720	761
	EZPass	70	150			372	519	592	557					259	315					549	619	1,843	2,160
	Average Yield	4.06				4.13		4.11						1.95						4.13		4.14	
Rockland	Weekday	156	359			996	1,295	1,400	1,348					859	956					1,422	1,593	4,834	5,551
	Saturday	418	711			1,811	2,065	2,594	2,882					1,308	1,223					2,358	2,786	8,489	9,667
	Sunday	291	843			1,669	2,572	1,741	2,069					723	1,320					2,955	2,731	7,379	9,535
	Yearly	256,571				1,032,387		1,213,498						714,887						1,366,872		4,584,215	
	Cash	25	36			293	317	283	297					369	362					388	425	1,358	1,437
	EZPass	131	284			703	979	1,118	1,051					490	594					1,035	1,168	3,477	4,075
	Average Yield	4.08				4.13		4.11						1.95						4.13		4.14	
	Total MTA District Traffic	20,327,300		54,924,560		22,297,820		39,875,472		18,971,774		4,828,889		20,676,761		5,505,120		10,693,800		38,465,306		237,566,903	

Bridge & Tunnel Allocation %

	2000 Car Trips into NYC	% of Total
Orange	18,664	31.53%
Rockland	40,525	68.47%
Total	59,189	100.00%

Dutchess	14,501	59.49%
Putnam	9,874	40.51%
Total	24,375	100.00%

Nassau	321,234	71.26%
Suffolk	129,548	28.74%
Total	450,781	100.00%

MTA STATEN ISLAND RAILWAY
FINANCIAL STATEMENT
2005
($ in millions)

	NON-REIMBURSABLE	ACTUAL 2005
Operating Revenue	Farebox Revenue	$3.256
	Vehicle Toll Revenue	-
	Other Operating Revenue	1.716
	Capital and Other Reimbursements	0.000
	Total Revenue	**$4.972**
Operating Expenses	*Labor:*	
	Payroll	$14.647
	Overtime	1.558
	Health and Welfare	2.596
	Pensions	2.133
	Other Fringe Benefits	1.309
	Reimbursable Overhead	0.000
	Total Labor Expenses	**$22.243**
	Non-Labor:	
	Traction and Propulsion Power	$1.843
	Fuel for Buses and Trains	-
	Insurance	0.168
	Claims	0.228
	Paratransit Service Contracts	-
	Mtce. and Other Operating Contracts	1.837
	Professional Service Contracts	0.331
	Materials & Supplies	0.677
	Other Business Expenses	0.009
	Total Non-Labor Expenses	**$5.093**

Other Expenses Adjustments:

Other	$0.000
Total Other Expense Adjustments	**$0.000**
Total Expenses Before Depreciation	**$27.336**
Depreciation	7.074
Total Expenses	**$34.410**
Baseline Net Surplus/(Deficit)	**($29.438)**

SIR

NYC Transit Expense Allocation

County Name		
Dutchess County		
Total County Ridership on NYC Transit	**Total NYC Transit Ridership**	**County % of NYCT Ridership**
1,483,073	1,672,989,709	0.09%
Total NYC Transit Expenses		
$4,717,105,000		
NYC Transit Expense		
$4,181,022		

County Name		
Nassau County		
Total County Ridership on NYC Transit	**Total NYC Transit Ridership**	**County % of NYCT Ridership**
47,843,339	1,672,989,709	2.86%
Total NYC Transit Expenses		
$4,717,105,000		
NYC Transit Expense		
$134,897,455		

County Name		
New York City		
Total County Ridership on NYC Transit	**Total NYC Transit Ridership**	**County % of NYCT Ridership**
1,541,148,579	1,672,989,709	92.12%
Total NYC Transit Expenses		
$4,717,105,000		
NYC Transit Expense		
$4,345,370,225		

County Name		
Orange County		
Total County Ridership on NYC Transit	**Total NYC Transit Ridership**	**County % of NYCT Ridership**
1,081,619	1,672,989,709	0.06%
Total NYC Transit Expenses		
$4,717,105,000		
NYC Transit Expense		
$3,049,696		

County Name		
Putnam County		
Total County Ridership on NYC Transit	**Total NYC Transit Ridership**	**County % of NYCT Ridership**
727,788	1,672,989,709	0.04%
Total NYC Transit Expenses		
$4,717,105,000		
NYC Transit Expense		
$2,052,046		

County Name		
Rockland County		
Total County Ridership on NYC Transit	**Total NYC Transit Ridership**	**County % of NYCT Ridership**
3,345,346	1,672,989,709	0.20%
Total NYC Transit Expenses		
$4,717,105,000		
NYC Transit Expense		
$9,432,424		

County Name		
Suffolk County		
Total County Ridership on NYC Transit	**Total NYC Transit Ridership**	**County % of NYCT Ridership**
15,437,461	1,672,989,709	0.92%
Total NYC Transit Expenses		
$4,717,105,000		
NYC Transit Expense		
$43,526,941		

County Name		
Westchester County		
Total County Ridership on NYC Transit	**Total NYC Transit Ridership**	**County % of NYCT Ridership**
27,553,954	1,672,989,709	1.65%
Total NYC Transit Expenses		
$4,717,105,000		
NYC Transit Expense		
$77,690,793		

NYC Transit Payments

County Name	
Dutchess County	
Total County Ridership on NYC Transit	**NYC Transit Fare**
1,483,073	1.67
County NYC Transit Payment	
$2,476,732	

County Name	
Nassau County	
Total County Ridership on NYC Transit	**NYC Transit Fare**
47,843,339	1.67
County NYC Transit Payment	
$79,898,376	

County Name	
New York City	
Total County Ridership on NYC Transit	**NYC Transit Fare**
1,541,148,579	1.67
County NYC Transit Payment	
$2,573,718,127	

County Name	
Orange County	
Total County Ridership on NYC Transit	**NYC Transit Fare**
1,081,619	1.67
County NYC Transit Payment	
$1,806,304	

County Name	
Putnam County	
Total County Ridership on NYC Transit	**NYC Transit Fare**
727,788	1.67
County NYC Transit Payment	
$1,215,406	

County Name	
Rockland County	
Total County Ridership on NYC Transit	**NYC Transit Fare**
3,345,346	1.67
County NYC Transit Payment	
$5,586,728	

County Name	
Suffolk County	
Total County Ridership on NYC Transit	**NYC Transit Fare**
15,437,461	1.67
County NYC Transit Payment	
$25,780,560	

County Name	
Westchester County	
Total County Ridership on NYC Transit	**NYC Transit Fare**
27,553,954	1.67
County NYC Transit Payment	
$46,015,103	

MTA NEW YORK CITY TRANSIT
FINANCIAL STATEMENT
2005
($ in millions)

	NON-REIMBURSABLE	ACTUAL 2005
Operating Revenue	*Farebox Revenue:*	
	Subway	$1,856.978
	Bus	761.838
	Paratransit	7.109
	Fare Media Liability	17.048
	Total Farebox Revenue	$2,642.973
	Vehicle Toll Revenue	-
	Other Operating Revenue:	
	Fare Reimbursement	103.766
	Paratransit Reimbursement	66.811
	Other	94.024
	Total Other Operating Revenue	264.601
	Capital and Other Reimbursements	0.000
	Total Revenue	**$2,907.574**
Operating Expenses	*Labor:*	
	Payroll	$2,397.404
	Overtime	227.738
	Health and Welfare	557.801
	Pensions	456.753
	Other Fringe Benefits	204.490
	Reimbursable Overhead	(148.440)
	Total Labor Expenses	**$3,695.746**
	Non-Labor:	
	Traction and Propulsion Power	$137.418
	Fuel for Buses and Trains	103.174
	Insurance	29.837
	Claims	51.616
	Paratransit Service Contracts	158.177
	Maintenance and Other Operating Contracts	176.504
	Professional Service Contracts	89.015
	Materials & Supplies	240.720
	Other Business Expenses	33.853
	Total Non-Labor Expenses	**$1,020.314**

Other Expenses Adjustments:

Other	$1.045
Total Other Expense Adjustments	**$1.045**
Total Expenses Before Depreciation	**$4,717.105**
Depreciation	954.518
Total Expenses	**$5,671.623**
Baseline Net Surplus/(Deficit)	**($2,764.049)**

NYC TRANSIT RIDERSHIP ANALYSIS

COUNTY	DAILY TRIPS USING NYCT	YEARLY TRIPS USING NYCT
Bronx	995,759	252,922,694
Brooklyn	1,879,609	477,420,708
Manhattan	1,521,368	386,427,513
Queens	1,519,800	386,029,217
Richmond	150,978	38,348,447
NEW YORK CITY	6,067,514	1,541,148,579
Nassau	188,360	47,843,339
Suffolk	60,777	15,437,461
LONG ISLAND	249,137	63,280,800
Dutchess	5,839	1,483,073
Orange	4,258	1,081,619
Putnam	2,865	727,788
Rockland	13,171	3,345,346
Westchester	108,480	27,553,954
MID-HUDSON	134,613	34,191,780
Bergen	15,919	4,043,530
Essex	17,541	4,455,462
Hudson	1,238	314,503
Hunterdon	341	86,705
Mercer	6,352	1,613,422
Middlesex	19,909	5,056,977
Monmouth	11,247	2,856,691
Morris	8,966	2,277,342
Ocean	583	148,202
Passaic	1,337	339,556
Somerset	5,251	1,333,822
Sussex	301	76,505
Union	14,611	3,711,259
Warren	41	10,349
NEW JERSEY	103,639	26,324,321
Fairfield	30,589	7,769,517
New Haven	1,082	274,709
CONNECTICUT	31,670	8,044,226
REGION	6,586,574	1,672,939,709

MTA HEADQUARTERS
FINANCIAL STATEMENT
2005
($ in millions)

	NON-REIMBURSABLE	ACTUAL 2005
Operating Revenue	Fare Revenue	$0.000
	Vehicle Toll Revenue	-
	Other Operating Revenue	
	Rental Income	45.443
	Other	2.469
	Total Other Operating Revenue	47.912
	Capital and Other Reimbursements	0.000
	Total Revenue	**$47.912**
Operating Expenses	*Labor:*	
	Payroll	$104.646
	Overtime	11.454
	Health and Welfare	12.782
	Pensions	19.145
	Other Fringe Benefits	14.026
	Reimbursable Overhead	(33.597)
	Total Labor Expenses	**$128.456**
	Non-Labor:	
	Traction and Propulsion Power	$0.000
	Fuel for Buses and Trains	0.000
	Insurance	9.056
	Claims	0.000
	Paratransit Service Contracts	0.000
	Maintenance and Other Operating Contracts	12.661
	Professional Service Contracts	75.366
	Materials & Supplies	1.009
	Other Business Expenses	
	MTA Internal Subsidy	34.719
	Other	52.646
	Total Other Business Expenses	87.365
	Total Non-Labor Expenses	**$185.457**
	Other Expenses Adjustments:	
	Other	$0.000
	Total Other Expense Adjustments	**$0.000**
	Total Expenses Before Depreciation	**$313.913**
	Depreciation	23.206
	Total Expenses	**$337.119**
	Baseline Net Surplus/(Deficit)	**($289.207)**

HQ Cost Allocation

Remaining HQ Costs 227,462,547

		Operating Expenses	% of Total	HQ Allocation
Agency	LI Bus	108,244,000	1.57%	3,563,310
	SI Railway	27,336,000	0.40%	899,880
	Bridges and Tunnels	343,672,000	4.97%	11,313,422
	MNR	750,993,000	10.87%	24,722,120
	LIRR	962,364,000	13.93%	31,680,293
	NYC Transit	4,717,105,000	68.27%	155,283,521
	Totals	6,909,714,000	100.00%	227,462,547

		Riders	% of Total	HQ Cost Allocation
NYCT	Nassau	188,360	2.92%	4,533,872
	Suffolk	60,777	0.94%	1,462,917
	Rockland	13,171	0.20%	317,029
	Orange	4,258	0.07%	102,491
	Putnam	2,865	0.04%	68,961
	Dutchess	5,839	0.09%	140,546
	Westchester	108,480	1.68%	2,611,140
	NYC	6,067,514	94.05%	146,046,563
	Totals	6,451,264	100.00%	155,283,521
LI Bus	Nassau	112,270	97.39%	3,470,271
	Suffolk	3,010	2.61%	93,039
	NYC	0	0.00%	0
	Totals	115,280	100.00%	3,563,310

		Passenger Miles	% of Total	HQ Cost Allocation
LIRR	Nassau	1,933,157	65.16%	20,641,744
	Suffolk	1,033,791	34.84%	11,038,549
	NYC	0	0.00%	0
	Totals	2,966,948	100.00%	31,680,293
MNR	Dutchess	185,073,341	14.38%	3,555,717
	Putnam	91,095,779	7.08%	1,750,176
	Westchester	900,899,443	70.01%	17,308,510
	Rockland	16,984,282	1.32%	326,310
	Orange	73,405,377	5.70%	1,410,299
	NYC	19,315,974	1.50%	371,108
	Totals	1,286,774,196	100.00%	24,722,120

		Crossings	% of Total	HQ Cost Allocation
Bridges and Tunnels	Nassau	39,004,892	16.42%	1,857,495
	Suffolk	15,731,134	6.62%	749,150
	Rockland	4,584,215	1.93%	218,310
	Orange	2,429,657	1.02%	115,705
	Putnam	1,186,992	0.50%	56,527
	Dutchess	1,743,129	0.73%	83,011
	Westchester	33,340,169	14.03%	1,587,729
	NYC	139,546,415	58.74%	6,645,494
	Totals	237,566,603	100.00%	11,313,422

		Total HQ Cost Allocation
County	NYC	147,317,551.22
	Nassau	28,645,886.87
	Suffolk	12,594,506.08
	Dutchess	3,696,263.57
	Putnam	1,819,136.86
	Westchester	19,919,650.68
	Rockland	643,339.36
	Orange	1,512,790.26
	Total	216,149,124.90

Police Headquarter Expense Allocation

MTA PD Budget: 86,450,453

Allocation by Agency	Percentage	Allocation	Rockland	Orange	Dutchess	Putnam	Westchester	NYC	Nassau	Suffolk
MTA HQ	0.80%	690,225	9,089	39,284	99,045	48,751	482,130	10,337	1,035	553
SIR	2.85%	2,461,191	0	0	0	0	0	2,461,191	0	0
B&T	1.71%	1,477,913	34,028	16,250	11,787	9,340	217,954	912,253	230,156	46,146
MNR	38.28%	33,096,436	361,470	1,562,259	5,646,893	2,779,482	22,268,871	477,462	0	0
LIRR	56.36%	48,724,688	0	0	0	0	0	0	29,716,470	19,008,218
Total	100.00%	86,450,453	404,587	1,617,793	5,757,725	2,837,574	22,968,954	3,861,242	29,947,660	19,054,918

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APPENDIX G
CAPITAL BUDGET ALLOCATION BY COUNTY

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Revised 10/11/07

ALLOCATION OF CAPITAL EXPENSES FROM 1995-2004

(Including Rolling Stock)

Categories	Dutchess	Putnam	Westchester	Rockland	Orange	Nassau	Suffolk	NYC	Total
MNR - Capital Exp	$ 276,852,363	$ 121,820,509	$ 1,199,551,546	$ 44,161,966	$ 87,936,529	$ -	$ -	$ 98,205,678	$ 1,828,528,591
MNR - Rolling Stock	$ 34,598,840	$ 17,029,952	$ 166,419,152	$ 3,175,136	$ 13,722,809	$ -	$ -	$ 3,611,036	$ 240,556,725
LIRR - N	$ 23	$ 19	$ 6,197,426	$ 357,194	$ 936,970	$ 22,297,268	$ 9,264,016	$ 9,634,121	$ 48,687,057
LIRR - L	$ -	$ -	$ -	$ -	$ -	$ 1,522,123,216	$ 558,673,463	$ 1,033,558,687	$ 3,114,355,566
NYCT - Total	$ 17,241,655	$ 8,459,898	$ 320,324,500	$ 36,891,906	$ 12,573,209	$ 556,197,666	$ 179,464,990	$ 17,916,421,359	$ 19,049,575,183
Add'l Rolling Stock	$ 57,790,631	$ 28,445,366	$ 281,313,059	$ 5,303,478	$ 22,921,416	$ 302,188,533	$ 101,575,330	$ 7,564,942	$ 867,102,775
East Side Access	$ -	$ -	$ -	$ -	$ -	$ 409,842,399	$ 142,156,805	$ 122,581,980	$ 674,581,184
1995-2004 Total	**$ 386,483,313**	**$ 175,755,763**	**$ 1,976,805,682**	**$ 91,889,680**	**$ 136,090,934**	**$ 2,812,649,102**	**$ 1,051,134,605**	**$ 19,191,578,002**	**$ 25,823,387,082**
# of Years	10	10	10	10	10	10	10	10	10
Capital Allocation	$ 38,648,331	$ 17,575,576	$ 197,680,568	$ 9,188,968	$ 13,609,093	$ 281,264,910	$ 105,113,460	$ 1,919,157,800	$ 2,582,338,708

Notes:

1). Used passenger miles to allocate MNR capital, riders for NYCT capital and Transit Trips (NY Trip Table) for LIRR and East Side Access

2). The reason for using Transit trips instead of passenger miles for LIRR is that we did not have reverse commute data to work from to generate NYC passenger miles, so trips were used instead

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APPENDIX H
OTHER REVENUE/EXPENSE ALLOCATIONS

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DORF Payments

	Dutchess	Orange	Rockland	Total
7-Apr-06	$ 375,000	$ 375,000	$ 500,000	$ 1,250,000
14-Jul-06	$ 375,000	$ 375,000	$ 500,000	$ 1,250,000
25-Sep-06	$ 375,000	$ 375,000	$ 500,000	$ 1,250,000
Dec-06	$ 375,000	$ 375,000	$ 500,000	$ 1,250,000
Totals	$ 1,500,000	$ 1,500,000	$ 2,000,000	$ 5,000,000

Each year, MTA is required to transfer in equal quarterly installments, from the Corporate Transportation Account to the MTA's DORF an annual amount of $5.0 million, of which $1.5 million is for each of the countries of Dutchess and Orange, and $2.0 million is for the county of Rockland. Additionally, MTA must transfer from that Account to such fund for each of these three counties, respectively, an amount equal to the product of (i) the percentage by which such county's MRT payment to MTA in the preceding calendar year increased over such payment in calendar year 1989 and (ii) $1.5 million each for Dutchess and Orange Counties and $2.0 million for Rockland County.

Metropolitan Transportation Authority

Staff Summary

The results of the above formulas for each county are:

County	1989 Base Year MRT Receipt	2005 MRT Receipts	Escalator Rate	Escalator Payments
Dutchess Cty	$3,569,702.51	$17,569,735.76	392.19%	$ 5,882,857.13
Orange Cty	$4,433,935.06	$20,770,803.36	368.45%	$ 5,526,761.70
Rockland Cty	$4,524,064.27	$17,827,618.27	335.14%	$ 6,702,720.92
			Total	$18,112,339.75

III. Recommendations

It is recommended that the Board authorize escalator payments totaling $18,112,339.75 to Dutchess, Orange and Rockland counties from available funds on deposit in the MRT-2 Corporate account.

Other Revenues Allocation

	MNR	NYCT	LIRR	LI Bus	B&T	SIR	HQ	Total
NYC	13,000,000	264,600,000	-	-	23,100,000	1,716,000	47,912,000	**350,328,000**
Nassau	-	-	17,476,906	5,183,041	-	-	-	**22,659,946**
Suffolk	-	-	9,346,094	138,959	-	-	-	**9,485,054**
Rockland	12,824	-	-	-	-	-	-	**12,824**
Orange	74,176	-	-	-	-	-	-	**74,176**
Dutchess	3,050,309	-	-	-	-	-	-	**3,050,309**
Putnam	1,501,406	-	-	-	-	-	-	**1,501,406**
Westchester	14,848,285	-	-	-	-	-	-	**14,848,285**
Totals	**32,487,000**	**264,600,000**	**26,823,000**	**5,322,000**	**23,100,000**	**1,716,000**	**47,912,000**	**401,960,000**

POLICY & GAP CLOSING ACTIONS

LIRR	256.09
SIR	3.64
LI Bus	0.59
Headquarters	27.40
MNR	99.38
NYCT	203.68
Total	590.78

(Goes all to NYC)

		Riders	% of Total	Gap Closing Allocation
NYCT	Nassau	188,360.00	2.92%	5.95
	Suffolk	60,777.00	0.94%	1.92
	Rockland	13,171.00	0.20%	0.42
	Orange	4,258.00	0.07%	0.13
	Putnam	2,865.00	0.04%	0.09
	Dutchess	5,839.00	0.09%	0.18
	Westchester	108,480.00	1.68%	3.42
	NYC	6,067,514.00	94.05%	191.56
	Total	6,451,264.00	100.00%	203.68
LI Bus	Nassau	112,270.00	97.39%	0.57
	Suffolk	3,010.00	2.61%	0.02
	NYC	0.00	0.00%	0.00
	Total	115,280.00	100.00%	0.59

		Passenger Miles	% of Total	Gap Closing Allocation
LIRR	Nassau	1,933,157.00	65.16%	166.86
	Suffolk	1,033,791.00	34.84%	89.23
	NYC	0.00	0.00%	0.00
	Total	2,966,948.00	100.00%	256.09
MNR	Dutchess	185,073,341.00	14.38%	14.29
	Putnam	91,095,779.00	7.08%	7.04
	Westchester	900,899,443.00	70.01%	69.58
	Rockland	16,984,282.00	1.32%	1.31
	Orange	73,405,377.00	5.70%	5.67
	NYC	19,315,974.00	1.50%	1.49
	Total	1,286,974,196.00	100.00%	99.38
Headquarters	Dutchess	185,073,341.00	14.35%	3.93
	Putnam	91,095,779.00	7.06%	1.94
	Westchester	900,899,443.00	69.85%	19.14
	Rockland	16,984,282.00	1.32%	0.36
	Nassau	1,933,157.00	0.15%	0.04
	Suffolk	1,033,791.00	0.08%	0.02
	Orange	73,405,377.00	5.69%	1.56
	NYC	19,315,974.00	1.50%	0.41
	Total	1,289,741,144.00	100.21%	27.40

		Total Gap Closing Allocation
Totals	NYC	197.11
	Nassau	173.42
	Suffolk	91.19
	Dutchess	18.41
	Putnam	9.06
	Westchester	92.14
	Rockland	2.09
	Orange	7.36
	Total	590.78

MTA
Station Maintenance, Use and Operations
March 31, 2006

	Billed Amount 2004 - 2005	Change in CPI	Increased Amount	Billed Amount 2005 - 2006
Dutchess	$1,902,310	3.16%	$60,113	$1,962,423
Nassau	$23,089,206	3.16%	$729,619	$23,818,825
NYC	$73,879,843	3.16%	$2,334,603	$76,214,446
Orange	$393,534	3.16%	$12,436	$405,970
Putnam	$743,928	3.16%	$23,508	$767,436
Rockland	$41,840	3.16%	$1,322	$43,162
Suffolk	$14,231,238	3.16%	$449,707	$14,680,945
Westchester	$15,957,179	3.16%	$504,247	$16,461,426
Grand Total	$130,239,078		$4,115,555	$134,354,633

MTA
Local Operating Assistance - 18b

	2004	2005
Dutchess	380,276	380,000
Nassau	11,583,792	11,584,000
NYC	160,076,096	125,544,000
Orange	146,260	146,000
Putnam	475,345	380,000
Rockland	29,252	15,000
Sulfolk	7,517,764	7,518,000
Westchester	7,342,252	7,342,000
Total	187,551,037	152,909,000