

# ***YOU'VE GOT CONNECTIONS !***

## ***INCREASING SHUTTLE BUS SERVICES TO THE MTA RAILROADS***

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# TABLE OF CONTENTS

INTRODUCTION.....	1
BACKGROUND.....	3
REGIONAL POPULATION, COMMUTATION, AND RIDERSHIP TRENDS.....	5
PARKING UTILIZATION AND DEMAND AT MTA RAILROADS.....	9
METRO-NORTH RAILROAD.....	9
Long Island Rail Road.....	11
FUTURE DEMAND.....	12
MITIGATING PARKING DEMAND: SHUTTLE BUS SERVICES.....	14
METRO-NORTH RAILROAD.....	16
LONG ISLAND RAIL ROAD.....	27
NEW JERSEY TRANSIT.....	36
FACTORS OF SUCCESSFUL SHUTTLE BUS SERVICES.....	37
RECOMMENDATIONS.....	42
MTA.....	42
METRO-NORTH RAILROAD.....	44
LONG ISLAND RAIL ROAD.....	45
APPENDIX.....	49
BREAKDOWN OF SHUTTLE BUS SERVICES BY FACTOR	

## INTRODUCTION

Metro-North Railroad (MNR) and Long Island Rail Road (LIRR) riders have difficulty finding parking at many stations. Commuters typically arrive earlier and walk farther to find a parking space, while discretionary riders are left with few spaces remaining after the daily commuter rush. The lack of available parking is one of the greatest constraints to increasing ridership on the railroads, yet building more parking spaces is not a priority for communities for many reasons. Land adjacent to railroad stations is often not available. Parking structures are expensive to build, are not always aesthetically pleasing, and those that are municipally owned result in a loss of tax revenue. Additional parking spaces can also exacerbate already traffic-clogged streets and highways.

A number of years ago, the Metropolitan Transportation Authority (MTA) Board earmarked \$20 million to improve parking at railroad stations in conjunction with local municipalities in an effort to minimize barriers to ridership growth. Few localities took advantage of the program because it meant opening up parking to everyone, not just local residents – the percentage of MTA funds used required that the same percentage of parking spaces be available for residents and non-residents alike. While the policy was later updated giving the railroads greater flexibility to make parking investments subject to Board approval, many localities chose not to expand their parking or alternately to pay for additional parking themselves so as to retain the spaces for residents only.

Improving bus connections to railroad stations is an effective strategy to reduce the need for additional parking as well as to reduce the number of vehicles on congested roadways during peak travel times. This strategy was recommended along with the increased provision of “Kiss and Ride” or intermodal facilities at commuter rail stations as part of the Permanent Citizens Advisory Committee’s 2001 report, ***Right of Passage: Reducing Barriers to the Use of Public Transportation in the MTA Region.***

Another effective, environmentally conscious strategy encourages passengers to ride bicycles to the station by providing sheltered racks or individual bicycle lockers as well as safe, well lit, clearly marked and adequately signed local routes to the station.

This report furthers the argument for the provision of shuttle bus services by providing an overview of population, commutation and ridership trends as well as parking conditions at New York stations served by the MTA’s Metro-North Railroad and Long Island Rail Road. The report evaluates existing

peak direction, peak hour shuttle services offered to and from MNR and LIRR stations in addition to those that serve New Jersey Transit railroads.<sup>1</sup> County public transportation and MTA railroad station access policies are reviewed. Findings identify factors that contribute to successful shuttle bus operations.

Finally, the report makes agency specific recommendations for the MTA, Metro-North Railroad, and the Long Island Rail Road, which include advocating for shuttle bus to railroad service, improving access to rail stations, and modifying parking policies in concert with localities. Other recommendations seek to create working partnerships between the MTA agencies, counties, municipalities, and bus operators; educate the public about access to rail station issues; solicit community input; provide community technical assistance; and increase public access to travel information.

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<sup>1</sup> For the purpose of this report, shuttle (or "feeder") bus service is defined as a bus route with the primary role of transporting people to and from a railroad station. While other types of buses - known as "long haul" - often serve railroad stations, "long haul" bus routes serve other destinations as well and are not specifically driven by the need to serve the railroad commuter. For this reason, "long haul" bus service was not included in the definition of shuttle bus service for this study. Given the report's focus on shuttles as a strategy to reduce parking demand, only shuttle bus services that run to and from railroad stations in peak direction, morning and evening peak hours were reviewed. Reverse commuter shuttle (or "distributor") bus service, such as employer-operated shuttles to corporate office parks were not examined.

# BACKGROUND

The MTA Metro-North Railroad and Long Island Rail Road function as critical links between Manhattan's Central Business District and its labor force --carrying a total of 530,000 passengers daily.

The products of differing histories and county policies, the MNR and LIRR have similar numbers of stations (see Table 1). While the MNR extends 74 route miles farther than the LIRR, the LIRR carries 50,000 more passengers daily than the MNR due to differing densities of development.

**Table 1. Comparison of MTA's Metro-North and Long Island Rail Roads**

RAILROAD	INCEPTION	DAILY PASSENGERS	RAIL CARS	ROUTE MILES	# OF STATIONS
LIRR	1834	290,000	1,060	701	124
MNR	1832*	240,000	950	775	119

\*Date of original rail construction.

Founded in 1983, when the MTA assumed control of Conrail's commuter operations in New York and Connecticut, the Metro-North Railroad encompasses rail lines that run north from Manhattan through the Bronx, Westchester, Dutchess, Putnam, Rockland, Orange, Fairfield and New Haven Counties (See Map 1).

**MAP 1. Metro-North Railroad System**





## REGIONAL POPULATION, COMMUTATION, AND RIDERSHIP TRENDS

Population, employment, and commutation patterns in the New York region are changing. Between 1940 and 1990, New York suburban counties' share of the regional population grew by 22 percent. Employment, in conjunction with suburban population growth, grew 13 percent between 1980 and 1990, while New York suburban counties' share of regional employment grew from 31 percent to 34 percent.<sup>3</sup>

The New York Metropolitan Transportation Council (NYMTC) projects a 14 percent growth in population to occur between 1995 and 2020 – a total of almost 300,000 residents --within the seven counties of the Hudson Valley Area.<sup>4</sup> Overall employment in the lower Hudson Valley is expected to increase by 27 percent during the same period.<sup>5</sup>

Commutation trips to Manhattan from Putnam County are projected to grow by 39 percent (688 trips)<sup>6</sup> between 1995 and 2015, followed by Rockland County (25% or 4,660 trips) and Westchester (12% or 8,849 trips). Intra-county travel-to-work trips are also projected to increase: Putnam is estimated to rise by 39 percent (4,793 trips), followed by Rockland (24% or 17,306 trips) and Westchester (12% or 29,630 trips). Travel between counties is expected to rise with the most significant growth predicted between Orange and Rockland counties (49% or 5,094 trips).<sup>7</sup>

On Long Island, NYMTC projects population increases of 10 percent for Nassau County and 23 percent for Suffolk County between 1995 and 2020. Employment estimates show a 62 percent decrease in manufacturing jobs on Long Island between 1995 and 2020. Overall employment for Long Island is expected to increase by 30 percent during the same period.<sup>8</sup>

Between 1995 and 2015, commutation trips to Manhattan from Nassau and Suffolk Counties are predicted to rise by 20 percent (19,000 trips) and 33 percent (14,358 trips), respectively. Over the same period, intra-county

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<sup>3</sup> NYMTC (1999) "Challenges to the Region", p. 30.

<sup>4</sup> The Hudson Valley Area includes Westchester, Putnam, Dutchess, Orange, Rockland, Sullivan, and Ulster Counties (the first five of these counties are served by Metro-North Railroad). NYMTC report, p.10.

<sup>5</sup> NYMTC "Challenges to the Region", p. 30.

<sup>6</sup> Trips represent an annual average of daily individual work trips (not round-trip) and include all types of trips, ie. by car, railroad, walking, etc. Trips do not include working at home.

<sup>7</sup> NYMTC "Challenges to the Region", p. 10.

<sup>8</sup> Ibid., p. 30.

commutation trips should increase by 15 percent (57,820 trips) in Nassau County and by 31 percent (138,893 trips) in Suffolk County.

NYMTC also forecasts significant growth in commutation trips between New Jersey and Long Island (14%), Long Island to Mid-Hudson (25%), and on a more limited basis, New York City to Long Island (12%).<sup>9</sup>

Car ownership in the region has been changing significantly – rising faster than the rate of population – a trend attributable to higher personal incomes, increasing numbers of two-income families and the extended time young adults choose to live at home. The trend can also be attributed to suburban land use patterns, which have created dispersed development and led to increasing dependence upon the private automobile as the only travel option. This pattern can be observed in Westchester County, which between 1980 and 1986 added 20,000 residents, but acquired 135,000 more cars among County residents as a whole. This phenomenon also occurred during the same time period on Long Island, which became home to 37,000 more residents in Nassau and Suffolk Counties and 315,000 more cars among Long Island residents as a whole.<sup>10</sup>

Increased car volumes have impacted driving patterns and roadway levels of service and capacity. From 1980 to 1990, the number of workers commuting alone by car within the suburbs of the New York tri-state region increased by 373,700, while the number of workers commuting by carpool decreased by 110,400.<sup>11</sup> Within New York suburbs, the increase was most prevalent on Long Island (see Table 2) resulting in average speeds of 30 miles per hour on the Long Island Expressway during peak periods.<sup>12</sup>

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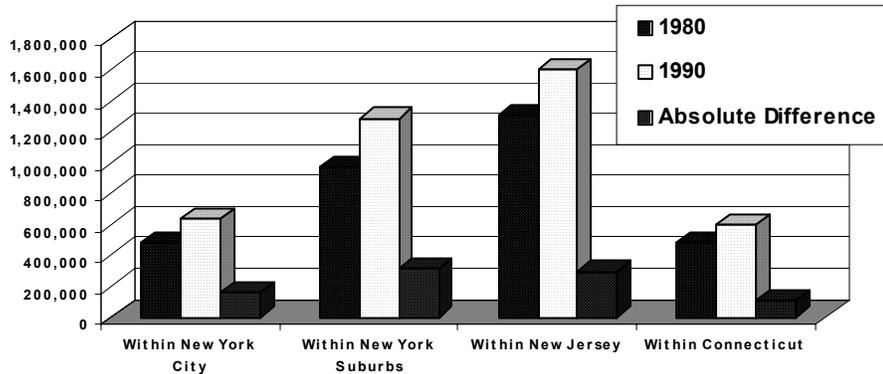
<sup>9</sup> NYMTC (1999). "Challenges to the Region", p. 10.

<sup>10</sup> Ibid., p. 30.

<sup>11</sup> Ibid., p. 30. Information is originally provided from the U.S Census.

<sup>12</sup> Ibid., p.30. See report footnote entry for more detailed information.

**Table 2. Comparative Data on Drive Alone to Work 1980 to 1990**



Population growth and increased car volumes have also impacted ridership and the availability of parking at the MTA commuter railroads serving New York City. Over the past fifteen years both Metro-North Railroad and Long Island Rail Road experienced ridership growth far beyond projected levels. Daily ridership on the LIRR increased by 9.2 million between 1986 and 2001, while Metro-North ridership increased by 22.7 million during that same period (see Table 3).

**Table 3. Ridership: Projections vs. Actual<sup>13</sup>**

MTA RAILROAD	1986 RIDERSHIP	2001 PROJECTED RIDERSHIP	2001 ACTUAL RIDERSHIP	INCREASE
Metro-North Railroad	50.4 million	58.6 million	73.1 million	22.7 million
Long Island Rail Road	76.5 million	81.6 million	85.7 million	9.2 million
<b>TOTAL</b>	126.9 million	140.2 million	158.8 million	31.9 million

Note: 2001 Projected ridership based on MTA (1987): Strategic Planning Department: Strategic Planning Initiative "Year One"

On Metro-North Railroad, ridership on the Hudson, Harlem and New Haven Lines combined is projected to further increase more than 5.9 percent by 2005 and 18.3 percent by 2010. Ridership on both the Port Jervis and Pascack Valley Lines combined is projected to grow by an additional 70 percent between 2001 and 2005. Much of this increase is expected to come from the opening of the Secaucus Transfer Station, associated service expansion, and continued development and growth in Orange and Rockland Counties.<sup>14</sup>

<sup>13</sup> MTA (1987). MTA: Strategic Planning Department: Strategic Planning Initiative "Year One"

<sup>14</sup> Metro-North Parking Program Status Report to the Metro-North Committee of the MTA Board, October 2002.

On Long Island Rail Road, 2002 ridership is forecast to be 83.2 million, 2.5 million lower than in 2001, 2003 ridership is projected to grow by 1.6 percent.<sup>15</sup> MTA's LIRR East Side Access project has estimated a 20 percent increase in morning peak-hour ridership into Penn Station between 1995 and 2010.<sup>16</sup>

As of 2001, the addition of 31.9 million passengers to the metropolitan rail systems has created a demand for more parking at the 176 stations<sup>17</sup> served by MNR and LIRR. With ridership on Long Island and Metro-North railroads projected to grow even more, parking availability at stations will continue to worsen. The next section outlines parking utilization rates and parking demands at MNR and LIRR New York State stations.

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<sup>15</sup> MTA LIRR 2003 Operating Budget, December 2002, p. 2, 17.

<sup>16</sup> MTA Long Island Rail Road (May 2000). East Side Access Draft Environmental Impact Statement, Executive Summary, p. S-2.

<sup>17</sup> Of the 243 MNR and LIRR stations, 176 have parking facilities.

# PARKING UTILIZATION AND DEMAND AT MTA RAILROAD STATIONS

## METRO-NORTH RAILROAD STATION PARKING UTILIZATION

Metro-North Railroad has a parking inventory of 34,303 spaces at 71 New York State stations.<sup>18</sup> Thirty-nine percent are owned or controlled by Metro-North, and 61 percent are municipally owned. Entities responsible for managing these spaces consist of a complex mix of Metro-North, municipal and private operators. In 1997, Metro-North initiated a system wide program to privatize parking operations for its spaces under its Private Parking Operator Program. To date, management of more than 80 percent of MNR's spaces at East of Hudson Line stations have been transferred to a private operator.

The mix of operators managing station parking facilities has resulted in differing management and fee strategies. While Metro-North has taken steps to standardize management and parking fees where it owns or controls the facilities, the strategies instituted by operators managing non Metro-North owned or controlled facilities differ from Metro-North as well as from one another. Of the 71 stations, nine provide free parking to rail passengers, while the remainder offer a mix of parking permits and metered parking. In some municipal lots, parking permits and metered parking are available only to town residents, while other municipal, Metro-North, and privately owned lots offer permits and metered parking regardless of residency.

Parking fees for resident and non-resident permits and metered parking vary tremendously. Parking fees for resident permits range from as low as \$10.00 per month in Spring Valley (Pascack Valley Line) to as high as \$250.00 per month in Bronxville (Harlem Line). Parking fees for non-resident permits range from as low as \$10.00 per month in Spring Valley to as high as \$250.00 per month in Bronxville. Daily permit fees range from \$2.00 to \$8.00. Metered parking fees range from 25 cents per hour in Croton Harmon (Hudson Line) to 60 cents per hour in Tarrytown (Hudson Line).<sup>19</sup> At some stations, mostly on the Port Jervis and Pascack Valley Lines, parking is free.

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<sup>18</sup> An additional 16,042 parking spaces, located at Metro-North Railroad stations in Connecticut, are owned and or managed by Connecticut Department of Transportation. MNR is charged with only the inventory of spaces in New York State.

<sup>19</sup> Fees are approximate and represent rates within the past five years.

As of the third quarter of 2002, parking permits were not available at roughly 31 stations (44%) and metered parking spaces were fully utilized at 34 (48%) of the 71 stations.<sup>20</sup>

Parking utilization rates at many of Metro-North stations are below full capacity.<sup>21</sup> While parking utilization rates at MNR owned or operated facilities meet or exceed industry standards for effective utilization,<sup>22</sup> parking utilization rates at many municipally owned or operated facilities are often below full capacity. Parking permits<sup>23</sup> are available at 28 stations (39%) and metered parking is available at 21 stations (30%). The lower utilization rates are partially due to the means by which parking permits are issued.

Many of the station lots managed by Metro-North, municipalities and private operators limit the number of parking permits they sell relative to the capacity of the lot. More permits than actual parking spaces are issued, with the ratio of permits sold to existing spaces based upon the observed usage pattern of a particular lot- this is referred to as "oversell". At Metro North owned or operated facilities, the railroad and its operators determine the rate of permit oversell to maximize the utilization of the particular lot. This is not the case at many municipal locations causing those lots to be under utilized at times.

Waiting lists for permits can be as long as five years at some stations. This practice keeps commuters from wasting time looking for a spot that does not exist and encourages riders to use alternative means of transportation to access the stations.

The cost of parking permits also affects parking lot utilization. At stations where permit costs are low, lots tend to be under utilized; more people purchase permits to support their occasional use of the railroad. More costly permits are a greater financial investment and tend to be purchased by a more frequent and habitual railroad ridership.

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<sup>20</sup> Metro-North Parking Program Status Report to the Metro-North Committee of the MTA Board, October 2002.

<sup>21</sup> Utilization rates do not include illegally parked cars.

<sup>22</sup> Both Metro-North Railroad and Long Island Rail Road measure parking capacity according to an 85% parking utilization rate, which is the standard used and defined by the parking industry. This means that a parking lot with a utilization rate of 85% is considered to be at full capacity.

<sup>23</sup> Reflects stations with resident only permits as well as permits regardless of residency.

## LONG ISLAND RAIL ROAD STATION PARKING UTILIZATION

The Long Island Rail Road has an inventory of 64,000 parking spaces at 105 stations. Twenty-four percent are owned by Long Island Rail Road, 73 percent are municipally owned and 3 percent are privately owned. Similar to Metro-North station parking facilities, entities responsible for managing Long Island Rail Road parking spaces consist of a complex mix of LIRR, municipal, and private operators. As of October 2002, Long Island Rail Road manages only 5 percent of the spaces at its stations. The majority of station parking is managed by the municipalities (88%) with the balance managed by private operators (7%).

Some amount of parking is provided free to rail passengers at 73 stations, while the rest of the spaces require a mix of resident and non-resident parking permits, or daily fees. As with Metro-North Railroad parking facilities, LIRR station parking fees for resident permits and metered parking vary tremendously. Monthly costs for parking at LIRR stations tend to be lower overall than at Metro-North stations. Municipal parking fees for resident permits at LIRR stations can be as little as \$10.00 for a two year parking permit, such as at the Syosset Station. Other operators, such as those managing LIRR owned parking facilities charge higher rates, with monthly fees ranging from \$40.00 to \$65.00 at the Lynbrook Station (Long Beach Branch) to \$105.00 at the Little Neck Station (Port Washington Branch). Daily permit fees range from \$2.00 to \$6.00. Metered parking fees range from 50 cents per day to \$3.00 per day.<sup>24</sup>

Parking utilization rates at many LIRR stations are above 85%.<sup>25</sup> Unlike MNR, many of the station lots managed by the LIRR, municipalities and private operators issue parking permits to anyone interested in purchasing one, regardless of capacity. With unlimited parking permits and no fee parking at many lots, many commuters find themselves spending up to 20 minutes in search of a parking space, resulting in missed trains and increased commuter anxiety.

As with Metro-North, the cost of parking at the station affects utilization. The low monthly parking fees at the Huntington Station - averaging \$1.46 with a two year permit – make driving to the station an attractive and easy option, which undermines the struggling Red and Blue Line Shuttles operated by the Town's Huntington Area Rapid Transit (HART). Higher

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<sup>24</sup> Fees are approximate and represent rates within the past five years.

<sup>25</sup> Given that railroad station parking lot usage patterns are somewhat different from those at shopping center lots, the LIRR interprets parking utilization rates of 90-95% at station lots to be over capacity.

monthly and annual rates do more to encourage riders to use means other than driving alone by car to access the station.

Fifty-six stations (53%) of Long Island Rail Road's 105 stations have parking facilities operating over capacity.<sup>26</sup> Another 5 stations (5%) have parking facilities that are full or close to full capacity levels - between 80 and 85 percent.

## FUTURE DEMAND

Metro-North Railroad and Long Island Rail Road are predicting a steady growth in ridership through 2020 along with a continued demand for more parking.

Based on a 1997 parking study, Metro-North Railroad projected a long-term need for an additional 11,000 -15,000 parking spaces between 2007 and 2012.<sup>27</sup> Current parking conditions and future needs are to be updated in 2003 to provide a revised estimate of future demand. Long Island Rail Road projects a long-term need for an additional 18,000 parking spaces by 2010.

To address their increased demand for parking, MNR and LIRR have pursued the problem from several perspectives: increase the supply of parking spaces, develop new stations with parking and multi-modal facilities, and minimize future demand for parking spaces by reducing car usage.

Metro-North Railroad makes use of several specific strategies to address parking demand. The Strategic Passenger Facilities Initiative is a large, multi-faceted program to provide new parking facilities and improve station access at strategically located multi-modal transportation hubs in areas of future projected population growth. Metro-North has programs to plan and develop its own surface and structured parking facilities at train stations as well as jointly in partnership with localities and the private sector.<sup>28</sup>

Other MNR strategies include developing satellite parking lots in conjunction with the provision of shuttle bus and ferry services; special

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<sup>26</sup> Utilization figures reflect rates at parking facilities between 1999 and 2002.

<sup>27</sup> Metro-North makes use of a number of variables to forecast future demand, including: ridership changes, station diversions, drop-offs, station access, modal shifts, traffic conditions, station area parking utilization, parking fees, and regional demographics.

<sup>28</sup> These projects are not part of the Strategic Passenger Facilities Initiative Program.

parking for those who carpool to stations, station-based short term car rental programs; and the New York Station Car Program that promotes the use of electric cars by installing charging stations at commuter train station lots where the vehicles are recharged for the trip home. MNR is also piloting a new program –the Commuter Valet Parking Program at the Goldens Bridge Station. Developed as a result of the high demand for parking and the lack of available land within walking distance to the Goldens Bridge Station, the Commuter Valet Parking Program provides easy access to the station by allowing customers to drive up to the station, give their car keys to a valet who will then park their car at a remote location. Passengers have their car retrieved for them upon return to the station.

The Private Operator Parking Program is another strategy used by Metro-North Railroad to address parking demand. The Private Operator Parking Program endeavors to improve management operations, customer service and parking availability at existing parking facilities. The program has improved service and increased parking supply through lot reconfiguring and restriping, and maximized available parking by introducing programs, such as the summer seasonal oversell program, which re-utilizes under-used permit spaces during summer months by allowing daily customers to use existing spaces. Although on a small scale, this program also aids in reducing Metro-North's reliance on capital expenditure solutions for parking.

Long Island Rail Road strategies to address current and future parking demand include: new parking construction projects in conjunction with local municipalities; incorporating “Kiss and Ride” facilities, pedestrian and ADA improvements as part of station rehabilitation projects; information about multi-modal transportation options to access stations through station posters and the LIRR website; and the New York Station Car Program.

Developing “Kiss and Ride” station drop-off areas as a strategy to reduce station parking demand was the subject of the PCAC's 2001 report, ***Right of Passage: Reducing Barriers to the Use of Public Transportation in the MTA Region.***

## **MITIGATING PARKING DEMAND: SHUTTLE BUS SERVICES**

The provision of shuttle bus services to railroad stations is a strategy that has been implemented by MNR, LIRR and other transit agencies around the country to minimize the demand for station parking and reduce roadway congestion by providing means for passengers to access railroad stations other than by private car.

This section evaluates existing shuttle bus services offered to and from Metro-North and Long Island Rail Road stations to determine factors that make them successful or unsuccessful. Shuttle bus services to New Jersey Transit railroad stations were included for comparative purposes.

Shuttle (or “feeder”) bus service in this study is defined as a bus route with the primary role of transporting people to and from a railroad station. While other types of buses - known as “long haul” – often serve railroad stations, “long haul” bus routes serve other destinations as well and are not specifically driven by the need to serve the railroad commuter. For this reason, “long haul” bus service was not included in the definition of shuttle bus service for this study.

The two most common types of shuttle bus services operated to and from railroad facilities are: 1) commuter shuttles that operate during the morning and evening peak periods to transport passengers from their neighborhoods to and from a station; and 2) reverse commuter (or “distributor”) shuttles that bring passengers from the train station to and from their place of work. Commuter shuttle bus services reduce the need for parking spaces at railroad stations as well as area roadway congestion. Reverse commuter shuttle bus services reduce inter-and intra-county roadway congestion.

This study examines the first of these two commuter shuttle bus services. Given the report's focus on shuttles as a strategy to reduce parking demand, only shuttle bus services running to and from railroad stations in the peak direction during morning and evening peak hours were reviewed. In order to focus on the needs of railroad commuters, only shuttle bus services with at least 75 percent of their daily ridership transferring to the railroad were reviewed. Reverse commuter shuttle bus service, such as shuttles to corporate office parks were not examined.

Shuttle bus services were evaluated according to nine aspects: the area's population density, public policy environment, fare structure, level of ridership, route configuration and passenger travel time, type of shuttle

vehicle, reliability and consistency of service, rider access to information, and marketing. These nine aspects play a crucial role in structuring shuttle bus services to railroad stations and ultimately affect the degree to which a bus service succeeds or fails. The importance of these aspects are summarized below:

**Area Population Density** – refers to the density of an area's residential population measured per square mile (PSM). For the purpose of this study, areas with less than 5,000 people per square mile were defined as low density, areas with between 5,000 and 9,999 people per square mile were medium density, and areas with 10,000 or more people were considered to be high density.

**Public Policy Environment** – refers to the roles played by MTA, county, and local public transportation policies and programs in encouraging, supporting, or hindering the development and operation of shuttle bus services.

**Fare Structure** – refers to the mechanism by which passenger fees for service are structured to encourage ridership. Many shuttle bus services receive public subsidies to reimburse operational costs and reduce passenger fees. Eligibility for federal funding requires that the amount of passenger revenue generated cover at least 40 percent of the costs of service (cost recovery). This requirement plays a role in determining the fee charged the passenger for the shuttle service, the projected level of ridership, and the ability to compete with fees charged for monthly parking at railroad stations.

**Level of Ridership** – refers to the average number of daily passengers using a shuttle bus service. Ridership is related and often compared to an area's population density, the fare structure, and opportunities for cost recovery. For the purpose of this study, a daily ridership of 50 passengers or greater was determined to be an achievable goal within a year or two of a new shuttle bus operation and the minimum level required to achieve success. This level of ridership can reduce the need for approximately 25 parking spaces and generate a cost recovery ratio of between twenty-five to thirty-five percent.

**Route Configuration and Passenger Travel Time** – route configuration refers to the layout of the route used by the shuttle bus from point of origin to end destination. The configuration of the route is related to the amount of time passengers are willing to travel from beginning to end (passenger travel time).

**Type of Vehicle** – refers to the type of vehicle used for transportation. Vehicles range from small to large depending upon the type of route, level of ridership, and route configuration.

**Service Reliability and Consistency** – refers to the ability of bus shuttle services to be timely and reliable in meeting scheduled trains and in providing a consistent level of service to passengers.

**Rider Access to Information** – refers to the ease of access to service schedules and information about connections to other public and private transportation services to enable passengers to coordinate their travel plans. Ability to communicate service changes to riders is also included.

**Marketing** – refers to the means by which shuttle bus services are advertised and packaged to encourage and increase ridership. Also included is the extent to which these efforts are coordinated with MTA, state, county, and local entities.

## METRO-NORTH RAILROAD'S SHUTTLE BUS SERVICES

MNR has worked proactively to increase ridership and to reduce auto usage at its stations through a number of public transit initiatives including: the provision of shuttle bus and ferry services to the railroad, the creation of a "UniTicket" which combines the cost of a monthly railroad pass with a discounted monthly bus pass, and by working with county, state and local officials.

Metro-North initiatives have resulted in 14 commuter bus shuttles to its stations, in addition to services not included in this report; the employer-based shuttles to White Plains, North White Plains and Tarrytown Stations, the Haverstraw-Ossining Ferry, and the newest shuttle- the Newburgh-Beacon-Stewart Airport Link- launched January 21, 2003. A total of seven bus and one ferry shuttle have been added since 1998.

Metro-North Railroad has substantial collaborative working relationships with a combination of public and private operators that run and coordinate its shuttle services to other stations. Operators include: Atlantic Hudson – a subsidiary of Atlantic Express- to run the Hudson Rail Link to Riverdale and Spuyten Duyvil stations; Transport of Rockland County to run the Tappan ZExpress; Leprechaun Lines to run the Newburgh /Beacon Shuttle; Dutchess County to run the Dutchess County Loop, Housatonic Area Rapid Transit to run services from two Connecticut "Park and Ride" lots (Ridgefield and Danbury) to Katonah and Brewster, and Westchester

County's Bee Line Bus Service to run shuttle services to five stations – Peekskill, Hartsdale, Scarsdale, Croton Falls and Larchmont.

Many counties also operate a number of “long haul” bus routes that serve MNR stations as part of a series of stops along longer routes, such as White Plains and Yonkers. Since the focus of this report is on shuttle services serving railroad stations only, these “long haul” bus routes were not considered.

The following shuttles serving Metro North rail stations were reviewed in this report:

Hudson Rail Link-Riverdale and Spuyten Duyvil: Operated by Metro-North the Hudson Rail Link, transports passengers on separate services from the Riverdale and Spuyten Duyvil residential neighborhoods in the Bronx to the Riverdale and Spuyten Duyvil Stations on the Hudson Line.

Tappan ZExpress: Operated by Rockland County's public transit agency, Transport of Rockland County, the Tappan ZExpress transports passengers from Rockland County's – Palisades Center and other park and ride lots, on the west side of the Hudson River, to MNR's Tarrytown Station on the Hudson Line – east side of the Hudson River.

Newburgh-Beacon Shuttle: Operated by the private company Leprechaun Lines, the Newburgh-Beacon service transports passengers from the City of Newburgh, on the west side of the Hudson River, to MNR's Beacon Station on the Hudson Line - the east side of the Hudson River.

Poughkeepsie, New Hamburg and Beacon Shuttles: Operated by Dutchess County's public transit agency, the Dutchess County LOOP, the Poughkeepsie, New Hamburg and Beacon Shuttles are three different shuttle services that transport passengers to the Poughkeepsie, New Hamburg and Beacon Stations on MNR's Hudson Line. The Poughkeepsie Shuttle transports passengers from the Apple Valley Shopping Center to the Poughkeepsie Station, the New Hamburg Shuttle transports passengers from Wappinger Falls to the Hamburg Station, and the Beacon Shuttle transports passengers from the Route 9D- Transportation Center to the Beacon Station.

Ridgefield-Katonah and Danbury-Brewster Shuttles: Operated by Fairfield County, Connecticut's Housatonic Area Rapid Transit (HART), the Ridgefield to Katonah and Danbury to Brewster are two separate shuttle services that transport passengers from the towns of Ridgefield and

Danbury in Connecticut to the Katonah and Brewster Stations, respectively, in New York State. Both stations are on MNR's Harlem Line.

Peekskill, Croton-Falls, Hartsdale, Scarsdale, and Larchmont Shuttles:  
 Operated by Westchester County's public transit agency, the Bee-Line Bus Service, the Peekskill, Hartsdale, Scarsdale, Larchmont, and Croton Falls Shuttles are distinct commuter services that transport passengers to MNR Stations during peak am and pm service: the Peekskill Station on the Hudson Line, the Croton Falls, Hartsdale and Scarsdale Stations on the Harlem Line, and the Larchmont Station on the New Haven Line.

The Peekskill Shuttle provides one route service to passengers from the residential area of Peekskill. The Croton-Falls Shuttle transports passengers from a "Park and Ride" lot in Mahopac to the Croton Falls Station. The Hartsdale Shuttle transports passengers from three neighborhood areas via three distinct routes to the Hartsdale Station. The Scarsdale and Larchmont Shuttles each provide two distinct routes from neighborhoods to the Scarsdale and Larchmont Stations.

#### Area Population Density

Population densities in the counties served by Metro-North Railroad ranged from 349 people per square mile (PSM) in Dutchess County, to 26,000 PSM in the Bronx (see Table 4).

**Table 4. Population Densities Per Square Mile in Counties Served by Metro-North Railroad**

COUNTY (STATE)	AREA POPULATION DENSITY PER SQUARE MILE (PSM)
Dutchess (NY)	349
Putnam (NY)	414
Orange (NY)	418
Fairfield (CT)	1,410
Rockland (NY)	1,645
Westchester (NY)	2,133
Bronx (NY)	26,000

While an area's population density is often considered a factor in determining shuttle service feasibility and potential ridership, the Tappan ZEEExpress in West Nyack operates within the lowest population density per square mile (1,126 PSM) of the areas served by Metro-North shuttle services, and carries the highest ridership (732 daily passengers).

The most densely populated areas – Riverdale and Spuyten Duyvil in the Bronx (26,000 PSM) -- had the second and third highest shuttle service ridership on the Hudson Rail Link, with 570 daily passengers to the Spuyten Duyvil Station and 455 daily passengers to the Riverdale Station (see Table 5).

**Table 5. Level of Ridership Compared to Area Population Density**

SHUTTLE SERVICE	COUNTY	MNR STATION	LEVEL OF DAILY RIDERSHIP*	AREA POPULATION DENSITY- PSM (TOWN)
<b>Tappan ZExpress</b> (West Nyack)	Rockland/ Westchester	Tarrytown	732	1,126 (West Nyack)
<b>Hudson Rail Link- Spuyten Duyvil</b>	Bronx	Spuyten Duyvil	579	26,000 (Bronx)
<b>Hudson Rail Link- Riverdale</b>	Bronx	Riverdale	455	26,000 (Bronx)
<b>Scarsdale Bee Line Commuter</b>	Westchester	Scarsdale	170	2,685 (Scarsdale)
<b>Danbury-Brewster Shuttle</b>	Fairfield/ Putnam	Brewster	159	1,777 (Danbury)
<b>Newburgh-Beacon Shuttle</b>	Orange/ Dutchess	Beacon	150	7,393 (Newburgh)
<b>Poughkeepsie Dutchess County Loop</b>	Dutchess	Poughkeepsie	83	5,811 (Poughkeepsie)
<b>Larchmont Bee Line Commuter</b>	Westchester	Larchmont	81	6,073 (Larchmont)
<b>Peekskill Bee Line Commuter</b>	Westchester	Peekskill	71	5,189 (Peekskill)
<b>Hartsdale Bee Line Commuter</b>	Westchester	Hartsdale	63	3,068 (Hartsdale)
<b>Beacon Dutchess County Loop</b>	Dutchess	Beacon	56	2,889 (Beacon)
<b>New Hamburg DutchessCounty Loop</b>	Dutchess	New Hamburg	47	5,067 (New Hamburg)
<b>Ridgefield-Katonah Shuttle</b>	Fairfield/Westchester	Katonah	44	686 (Katonah)
<b>Croton Falls Bee Line Commuter</b>	Putnam	Croton Falls	30	1,600 (Mahopac)

\* With the exception of the Larchmont Bee Line Commuter Shuttle, at least 93 percent of the daily riders transfer directly to MNR railroad service. The level of daily ridership on the Larchmont Bee Line Commuter Shuttle reflects a 78 percent direct transfer to MNR railroad service.

## Public Policy Environment

Westchester, Rockland, Orange, Dutchess, and Fairfield Counties<sup>29</sup> transportation policies in the areas served by Metro-North Railroad were examined for their focus on coordinating public and private transportation services and information, financial and programmatic support for expanding public transportation services, and efforts to educate and inform the public about public transportation opportunities within the specific county. New York City (Bronx) transportation policy was not reviewed because of the significant amount of bus and subway service available.

County public policies ranged from recently minimal transportation coordination to the railroad in Rockland County to very strong public policy in Westchester County. Although small, Orange, Dutchess and Fairfield Counties transportation policies have grown in response to the increased numbers of residents commuting to New York City. Table 6 shows the change in resident population between 1990 and 2000.

**Table 6. Population Data** <sup>30</sup>

COUNTY (STATE)	1990	2000	% CHANGE IN POPULATION
Putnam (NY)	83,941	95,745	14%
Orange (NY)	307,647	341,637	11%
Dutchess (NY)	259,462	280,180	8%
Rockland (NY)	265,475	286,753	8%
Fairfield (CT)	827,645	882,567	7%
Westchester (NY)	874,866	923,459	6%

In Rockland County, local transportation initiatives have not focused on access to the railroad, since 1989, when the County sought to increase its public transportation by insisting Metro-North Railroad provide better service through the establishment of the Tappan ZExpress. The more recent Haverstraw-Ossining Ferry service was primarily a Metro-North initiative.

Westchester County's proactive transportation policies have been instrumental in creating a seamless transition between public and private transportation services. The Westchester Department of Transportation's

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<sup>29</sup> The transportation policies of Fairfield County were reviewed because they participated with Metro-North Railroad in developing the Danbury-Brewster Shuttle. Since Putnam County was not actively involved in the development of the Danbury-Brewster Shuttle, their transportation policies were not reviewed.

<sup>30</sup> US Census 2000

well designed and easily accessible website incorporates all public and private transportation options available in the County. The Westchester Commuter Alternatives Unit's "Smart Commute Program" is a public outreach program that educates commuters on alternative transportation services, helps commuters calculate commuting cost options, and provides a newsletter that informs commuters of cost savings measures such as the "Federal Commuter Choice Program" and carpooling opportunities.

In western Fairfield County, Lewisboro Councilwoman Bacal spearheaded an effort to aid the expanding number of residents commuting to New York. The effort resulted in the creation of the Ridgefield-Katonah Shuttle - a shared effort among HART, Metro-North Railroad, and New York and Connecticut Departments of Transportation.

Although ridership on the Poughkeepsie, New Hamburg and Beacon Shuttles in Dutchess County is low, Dutchess County transportation policy shows strong support for increasing the use of public transportation to the railroad in the County.

Metro-North management meets with County Executives, elected officials and MTA Board members to define needs for connecting services. By developing extensive partnerships with elected officials, NYSDOT (Region 8), transportation agencies (WCDOT, CDOT, HART, MetroPool, Transit - Center etc.) throughout its territory, MNR, through its Service Development Unit, has been able to create, fund, and market many of its existing connecting services. These on-going relationships also result in MNR's further expanding connections to the railroad.

The genesis of the connecting services comes from a variety of directions: state, or county requests, customer suggestions, market research or Metro-North Railroad market surveys and analyses. Such was the case with the formation of the Hudson Rail Link- Riverdale and Spuyten Duyvil Shuttles, where the idea of implementing the service originated from a 1986-87 study "... to examine ways to improve ridership and utilization of the MNR's commuter service in the West Bronx Corridor."<sup>31</sup> MNR worked with the community to determine preferred route configuration and pick-up and drop-off locations and with NYC Department of Transportation to locate and install signs at designated shuttle bus stops.<sup>32</sup>

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<sup>31</sup> Metro-North Railroad: The Hudson Rail Link, unreferenced document received from David Wong, MNR Facility Planning and Parking Operations Department, p. 94.

<sup>32</sup> Ibid, p. 96-97.

## Fare Structure

All shuttles providing service to Metro-North Railroad offer a monthly “UniTicket”, a reduced rate monthly ticket combining the cost of a monthly railroad pass with a discounted monthly bus pass. Of the fourteen shuttle systems examined, the cost of a monthly “UniTicket” ranged between \$10 for the Newburgh-Beacon Shuttle and \$30 for the Tappan ZExpress shuttle. All shuttle services have fees that fall at or below the cost of a monthly parking permit at the stations they serve (see Table 7).

**Table 7. Cost Comparisons of Monthly UniTicket to Monthly Parking Permit for Shuttle Passengers**

SHUTTLE SERVICE	STATION	MONTHLY PARKING PERMIT*	MONTHLY UNITICKET	METROCARD ACCEPTED	RIDERSHIP**	DENSITY
<b>Tappan ZExpress</b>	Tarrytown	\$79.00 (Non Resident)	\$30	No	732	1,645
<b>Danbury-Brewster Shuttle</b>	Brewster	\$31.25 (Non Resident)	\$22	No	159	1,777
<b>Ridgefield-Katonah Shuttle</b>	Katonah	\$41.66 (Non Resident)	\$22	No	44	686
<b>Hudson Rail Link-Spuyten Duyvil</b>	Spuyten Duyvil	None	\$21	Yes	579	26,000
<b>Hudson Rail Link-Riverdale</b>	Riverdale	\$31.00 (Resident/ Non Resident)	\$21	Yes	455	26,000
<b>Scarsdale Bee Line Commuter</b>	Scarsdale	\$37.50 (Resident)	\$25	No	170	2,685
<b>Larchmont Bee Line Commuter</b>	Larchmont	\$35.00 (Resident)	\$25	No	81	6,073
<b>Peekskill Bee Line Commuter</b>	Peekskill	\$20.00 (Resident)	\$25	No	71	5,189
<b>Hartsdale Bee Line Commuter</b>	Hartsdale	\$31.25 (Non Resident)	\$25	No	63	3,068
<b>Croton Falls Bee Line Commuter</b>	Croton Falls	\$25.00 (Non Resident)	\$25	No	30	414
<b>Poughkeepsie Dutchess County Loop</b>	Poughkeepsie	\$31.29 (Resident)	\$15	No	83	5,811
<b>New Hamburg Dutchess County Loop</b>	New Hamburg	\$31.29 (Non Resident)	\$15	No	47	5,067
<b>Beacon Dutchess County Loop</b>	Beacon	\$31.29 (Resident)	\$10	No	56	2,889
<b>Newburgh – Beacon Shuttle</b>	Beacon	\$24.00 (Non Resident)	\$10	No	150	7,393

\* Permit fees are only listed for the passengers using the shuttle.

\*\* With the exception of the Larchmont Bee Line Commuter Shuttle, at least 93 percent of the daily riders transfer directly to MNR railroad service. The level of daily ridership on the Larchmont Bee Line Commuter Shuttle reflects a 78 percent direct transfer to MNR railroad service.

## Level of Ridership

Ridership was highest on the Tappan ZExpress (732 daily passengers) due in large part to the lack of parking availability and annual expense (\$950) of parking permits for non-residents at Tarrytown.

Ridership levels were low on the Croton Falls Bee Line Commuter (30), Beacon Dutchess County Loop (34 daily passengers), Ridgefield - Katonah HART Shuttle (44 daily passengers) and the New Hamburg Dutchess County Loop (47 daily passengers). Poor ridership on the Croton Falls Bee Line Commuter can be explained by railroad passengers' preference to make use of available on street parking, despite its distance from the train station, over taking the shuttle. Poor ridership on the Beacon and New Hamburg Dutchess County Loop Shuttles may be explained in part by the previously limited service hours on the Beacon shuttle, which has now been expanded to offer all day service, and the availability of parking at New Hamburg.

The Ridgefield-Katonah Shuttle is a recent newcomer, with a still growing ridership. Started in April 2002, the Ridgefield –Katonah Shuttle actually surpassed its first year goal of 40 daily passengers by 4, effectively exceeding its ridership projections for the first year (see Table 8).

**Table 8. MNR Shuttle Service Levels of Ridership**

SHUTTLE SERVICE	MNR STATION	RIDERSHIP**
<b>Tappan ZExpress</b>	Tarrytown	732
<b>Hudson Rail Link- Spuyten Duyvil</b>	Spuyten Duyvil	579
<b>Hudson Rail Link- Riverdale</b>	Riverdale	455
<b>Scarsdale Bee Line Commuter</b>	Scarsdale	170
<b>Danbury-Brewster Shuttle *</b>	Brewster	159
<b>Newburgh-Beacon Shuttle</b>	Beacon	150
<b>Poughkeepsie Dutchess County Loop</b>	Poughkeepsie	83
<b>Larchmont Bee Line Commuter</b>	Larchmont	81
<b>Peekskill Bee Line Commuter</b>	Peekskill	71
<b>Hartsdale Bee Line Commuter</b>	Hartsdale	63
<b>Beacon Dutchess County Loop *</b>	Beacon	56
<b>New Hamburg Dutchess County Loop</b>	New Hamburg	47
<b>Ridgefield-Katonah Shuttle *</b>	Katonah	44
<b>Croton Falls Bee Line Commuter</b>	Croton Falls	30

\* Service has been in operation for less than a year.

\*\* With the exception of the Larchmont Bee Line Commuter Shuttle, at least 93 percent of the daily riders transfer directly to MNR railroad service. The level of daily ridership on the Larchmont Bee Line Commuter Shuttle reflects a 78 percent direct transfer to MNR railroad service.

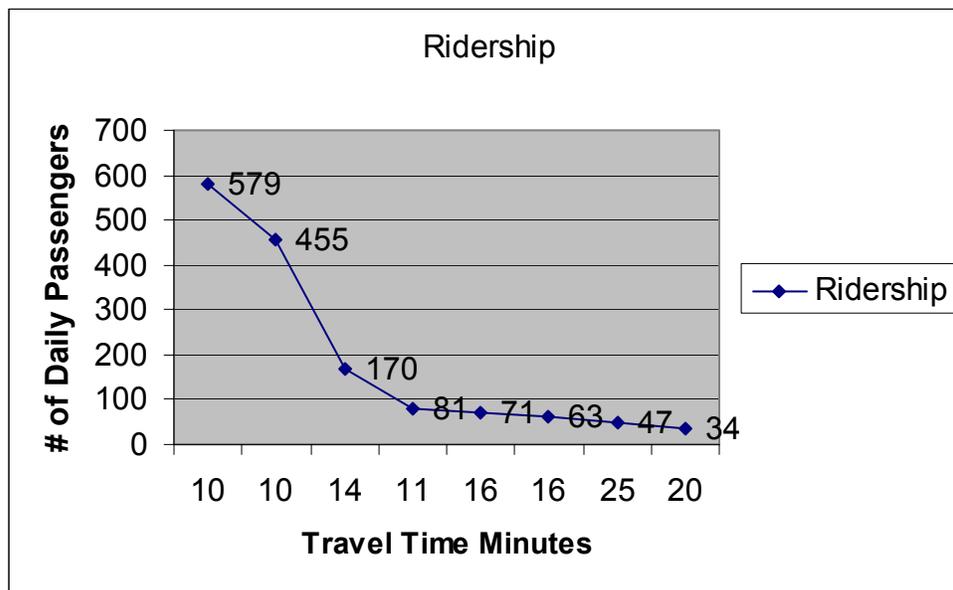
## Route Configuration and Passenger Travel Time

The shuttle bus services reviewed in this report make use of three types of routes to transport passengers to and from Metro-North Railroad stations: 1) routes that follow arterial roads and pick-up and drop-off passengers in “Park and Ride” lots so as to serve a number of residential locations and; 2) routes that follow arterial roads on the edge of residential neighborhoods with specific stop locations; and 3) routes that follow local roads through residential neighborhoods, with local pick up and drop off stops.

The Tappan ZExpress, Newburgh-Beacon, Croton Falls, Danbury-Brewster, and Ridgefield-Katonah Shuttle trips originate from “Park and Ride” lots. The Peekskill, Hartsdale, Scarsdale, and Larchmont Shuttles serve residential neighborhoods with locally based pick-up and drop-off locations. The Poughkeepsie, New Hamburg and Beacon shuttles serve a mix of “Park and Ride” lots as well as limited stops within residential neighborhoods.

The types of route configurations differ in passenger travel times and ridership base. Interestingly, high ridership was found on the shuttles with longer passenger travel times (30-35 minutes) as well as shuttles with shorter travel times (10 minutes). High ridership on shuttles with longer travel times, frequently reflected the stations parking constraints. Illustrated in Diagram 1 below, shuttle routes that pick-up passengers closer to their place of residence, positively influences levels of ridership.

**Diagram 1. Comparison of Travel Time on Neighborhood Routes to Ridership**



Passengers' decisions to use shuttle bus services with longer travel times (30-35 minutes) may be explained as relative to the over all commute travel time. A commuter may be more willing to travel on a 30 minute shuttle to reach a station with frequent and express service, helping him reach Grand Central Terminal in a total travel time of ninety minutes, than go to a local station with hourly local service, with an overall travel time of two hours.

### Type of Vehicle

The shuttle bus services reviewed for Metro-North Railroad make use of two types of vehicles: large traditional buses seating 50 passengers and smaller 20-to 25-seat passenger vehicles. The larger vehicles were found on high ridership and longer distance routes such as the Tappan ZExpress, while the smaller passenger vehicles were used for lower levels of ridership and pick-ups in more residential areas.

### Service Reliability and Consistency

Metro-North Railroad has developed standards to build reliability and consistency into their connecting services establishing minimal dwell time, ensuring that a bus is waiting at the station when customers detrain, and locating the bus stop next to or near the platform. MNR actively monitors and manages many services for quality control, so that they can respond to customers in real-time through on-board announcements, seat drops or other communication measures. Operators are also required to submit monthly reports on levels of ridership and total "UniTicket" sales to monitor trends in shuttle revenue and expenses.

MNR develops bus operating schedules, which are then reviewed and refined by the operators to allow a seamless connection between the railroad and bus. By actively facilitating the coordination of shuttle schedules with train departure schedules, through either producing, or helping to produce pocket schedules for all shuttles services, Metro-North provides effective, easy to read, and seamless schedules for customers. Changes in train schedules are given to shuttle operators well in advance to allow adequate time to adapt shuttle schedules. Metro-North performs market research on a regular basis, to stay abreast of customer opinions to further improve schedules.

Metro-North Railroad has built reliability into its shuttle services with the creation of the UniTicket and Guaranteed Ride Home (GRH) programs.

The GRH program allows customers who commute to Grand Central Terminal, 125<sup>th</sup> Street or Hoboken (for Pascack Valley or Port Jervis Line customers) to present their UniTicket at a Grand Central Terminal or Harlem 125<sup>th</sup> Street Station ticket window and receive a voucher. This voucher is presented to the taxi operator at a designated station and allows the passenger to be driven home or to the nearest “Park and Ride” lot. The voucher system can be used two times per month. The program was originally developed for riders of the Tappan ZEEExpress service who, if they miss the last evening shuttle bus, are more or less stranded and relegated to paying a \$40 taxi fare to take them to their cars across the Tappan Zee Bridge.

### Access to Information

Shuttles serving Metro North Railroad were examined for their ease in making information about service and schedules available and accessible to passengers and potential passengers.

Metro-North Railroad's website [www.mta.info](http://www.mta.info) is well designed and provides a wealth of easy-to-access information for passengers interested in finding out about shuttle services to MNR stations. The MTA site receives over 40,000 hits daily. For Metro-North riders, it functions as the primary source of information about Metro-North Railroad. The “Stations” and “Connections” categories provided on the Metro-North Railroad home page lead passengers to detailed shuttle service information about service schedules, directions to the station, parking, and all connecting public and private transportation services. Telephone numbers and links to other websites are provided as a resource for more extensive information regarding the connecting services. It is through links to other websites, such as these that Metro-North creates a more seamless system among transportation operators.

The Westchester County Department of Transportation's (DOT), website [www.westchestergov.com](http://www.westchestergov.com) coordinates information about the Bee-Line Peekskill, Croton Falls, Hartsdale, Scarsdale and Larchmont Shuttles, Bee-Line “long haul” bus routes serving MNR stations (such as, White Plains and Yonkers), and other bus services serving Westchester County. The website is user-friendly making access to information easy to obtain. The site also informs and educates the public on transportation opportunities in Westchester County, such as carpools, van services, taxi services, and ride share programs. Multiple links are provided to public and private transportation services in the County including the Metro-North Railroad and Bee-Line Transit Bus websites and leads to a very useful site – “Smart

Commute". The Smart Commute website informs and educates commuters about commuter travel patterns, and County plans and efforts to control congestion and increase mobility.

Leprechaun Lines provides easy access to information about the Newburgh –Beacon Shuttle on their website [www.leprechaunlines.com](http://www.leprechaunlines.com). The site provides information about the cost of a UniTicket, and a description of the Guaranteed Ride Home program. Bus schedules incorporate station train departure times and diagrams of shuttle pick-up locations. The site also links to the Metro-North website for additional railroad transportation information.

### Marketing Efforts

The shuttles serving Metro-North Railroad stations are marketed in a number of different ways. To inform the public of its bus services, MNR actively promotes all new connecting services on the agency's home page, its newsletter "Mileposts", and through its on-board and station public address systems. MNR also aggressively markets the shuttles through direct mail, take-ones, tollbooth handouts, newspaper and radio ads, press releases, flyers at Metro-North stations, guide-a-rides at stations, and free ride promotions.

### LONG ISLAND RAIL ROAD'S SHUTTLE BUS SERVICES

Long Island Rail Road's strategies to address parking demand at their stations have primarily focused on the provision of additional parking facilities. While the LIRR has not been as proactive as Metro-North to reduce auto usage at their stations, local municipalities have initiated shuttle services to LIRR stations with little success. Both the Port Washington (1993) and Islip Shuttles (2001) were advanced with great enthusiasm to address the needs of commuters to reach the LIRR without having to use a car. However, a number of factors contributed to the failure of these programs and others like them: the lack of supportive county transportation policies; lack of competitiveness with low parking fees; poor route configuration; and miscalculated passenger target market.

Although Long Island Rail Road has offered popular incentives like the UniTicket, other factors influence shuttle bus survival and success – as described earlier, density, access to information, type of vehicle, system reliability, coordinating partners and a proactive approach to problem solving.

Long Island Bus recently launched the Merrick Shuttle with the support of Long Island Rail Road, and considered many of these factors when developing the shuttle – the early results have been extremely favorable. Although reducing the need for increased parking has not been a focus of the Long Island Rail Road in the past, the Merrick Shuttle effort is a promising start.

Three additional shuttles serve LIRR stations with a ridership of over 75 percent peak direction commuters to Long Beach, Rockville Centre and Huntington. The shuttle bus operators serving Long Island Rail Road include: MTA Long Island Bus serving Queens and Nassau Counties; Long Beach Bus serving Long Beach; Suffolk Bus serving Suffolk County; and Huntington Area Rapid Transit serving Huntington Township in Suffolk County.

Shuttle buses also run to and from Woodbury in Nassau County and Stony Brook in Suffolk County. These shuttle buses primarily serve a reverse commute ridership and were not included in the review given the report's focus on reducing parking at railroad stations.

Bus operators in the area studied also provide many “long haul” bus routes that serve LIRR stations as part of a series of stops along longer routes. Since the focus of this report is on shuttle services to railroad stations only, with a goal of meeting railroad commuter needs, these “long haul” bus routes were not reviewed.

The following shuttles serving Long Island Rail Road rail stations were evaluated in this report:

Merrick Shuttle: Operated by MTA Long Island Bus, the Merrick Shuttle service transports passengers from residential neighborhoods in Merrick to the Merrick Station on the Babylon Branch.

Rockville Centre Loop: Operated by MTA Long Island Bus, the Rockville Centre Loop transports passengers from residential neighborhoods in Rockville Centre to the Rockville Centre Station on the Babylon Branch.

Red and Blue Line Commuter: Operated by the Huntington Area Rapid Transit (HART), transports passengers from residential Huntington neighborhoods to the Huntington Station on the Port Jefferson Branch.

Long Beach Bus: Operated by the City of Long Beach, Long Beach Bus transports passengers from residential neighborhoods in Long Beach to

the Long Beach Station on four routes, the East Loop, East Fulton, West End and West Hudson routes on the Long Beach Branch.

### Area Population Density

Population densities in Nassau and Suffolk Counties were reviewed in Long Island Rail Road territory.<sup>33</sup> The population density in Nassau County is 4,655 people per square mile (PSM) and 1,556 PSM in Suffolk County. Density levels for municipalities within Nassau County ranged between 322 PSM in East Garden City, to 22,212 PSM in Bellerose Terrace. More than ten Nassau municipalities have densities that exceed 10,000 PSM, making for ample shuttle bus opportunities in the County. Density levels for municipalities within Suffolk County ranged between 54 PSM in Derring Harbor Village to 7,412 PSM in Lindenhurst. More than ten Suffolk municipalities have densities that exceed 5,000 PSM.

The areas served by the four commuter shuttles to LIRR stations have medium population densities, with the exception of higher density Long Beach (16,595 PSM). The population density ranges for these areas are shown in Table 9.

On Long Island, the benefits of high area population density has resulted in a high ridership of 1,200 passengers on the Long Beach Bus shuttle service to the LIRR Long Beach Station. However, the low ridership on the Huntington Red and Blue Line shuttles- operating in municipalities with medium population densities- indicates that other factors must be considered to explain the low ridership levels.

**Table 9. Ridership Compared to Density**

SHUTTLE SERVICE	COUNTY	LIRR STATION	LEVEL OF DAILY RIDERSHIP	AREA POPULATION DENSITY (TOWN)
<b>Long Island Bus: N52, N53</b>	Nassau	Merrick	50	5,423 (Merrick)
<b>Long Island Bus: N14</b>	Nassau	Rockville Centre	232	7,496 (Rockville Centre)
<b>HART: Red and Blue Line Commuter</b>	Suffolk	Huntington	48	5,507 (Huntington)
<b>Long Beach Bus</b>	Nassau	Long Beach	1,200	16,595 (Long Beach)

<sup>33</sup> Queens was not reviewed in this report since there are no specific railroad station shuttles. Regular MTA Long Island and New York City Transit bus services are available to the stations.

## Public Policy Environment

Nassau and Suffolk County transportation policies were examined for their focus on coordinating public and private transportation services and information, financial and programmatic support for expanding public transportation services, and efforts to educate and inform the public about public transportation opportunities within the counties. Nassau and Suffolk Counties were found to be severely lacking in all areas. Neither county facilitates the coordination of public and private transportation services. Financial and programmatic support for expanding public transportation services has continued to be cut by both counties. In 2000, Nassau County reduced its portion of funding to Long Island Bus by almost 50 percent, and Suffolk County's budget tightening reduced 50 percent of Suffolk County Transit's administrative staff due to an early retirement initiative.

The County Executives of Nassau and Suffolk have done little to publicly or proactively encourage the use of public transportation as a means to reduce the paralyzing congestion on Long Island. Neither county has created programs to address congestion issues through public transportation efforts or attempted to keep the public informed and educated about public transportation issues.

The lack of proactive county transportation policies has severely impacted the ability of both counties to meet the growing transportation needs of their residents. The lack of adequate infrastructure has further hampered the economic competitiveness of Nassau County.<sup>34</sup> Table 10 shows the change in population between 1990 and 2000 that has intensified the need for alternative modes of transportation.

In April 2001, the Suffolk County Joint Executive Legislative Task Force produced a report on transportation issues in Suffolk County. Eleven recommendations were made with regard to mass transportation, including enhancing the level of service of Suffolk County Transit, providing public education on the use of the transit system, and using marketing techniques to advise potential users about the bus system. One of Suffolk County's concerns was the inequity between Suffolk County residents' tax contributions to the MTA and the level of bus and railroad services its residents receive in return.

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<sup>34</sup> Report by Nassau County Comptroller on the Economic Competitiveness of Nassau County.

**Table 10. 1990-2000 Population Increases\***

COUNTY	1990	2000	% INCREASE
<b>Nassau</b>	1,287,348	1,334,544	3%
<b>Suffolk</b>	1,321,864	1,419,369	7%

### Fare Structure

Among the five shuttles serving LIRR stations, the most competitive fare option is the acceptance of the monthly unlimited ride MetroCard offered by Long Island Bus on the Merrick and Rockville Centre Shuttles. The MetroCards are obtainable through the LIRR Mail and Ride Program and are accepted on both LI Bus and NYC Transit services – providing passengers great savings on buses and subways.

None of the LIRR shuttles studied offered UniTickets that were competitively priced relative to parking fees (see Table 11). Monthly UniTicket fares ranged from \$20 to \$28, while the cost of monthly parking ranged from no charge at Merrick and Long Beach Stations to \$5.66 monthly at Rockville Centre – effectively encouraging LIRR passengers to drive to the station rather than use the shuttle bus.

The HART Red and Blue Line Shuttles have been adversely impacted in this regard. Since 1992, the LIRR has added approximately 300 parking spaces at the Huntington Station, with a promise to the HART Shuttles that the monthly parking fees would be adjusted to make the shuttles an economically viable transportation option. While the parking fees were increased six or seven years ago to per year- with great protest from commuters- the parking fees of \$2.50 are no competition for the monthly HART Shuttle UniTicket. This may partially account for the decline in ridership on the HART Shuttles of 50 percent over the last five years.

**Table 11. Comparison of Monthly UniTicket to Monthly Parking**

SHUTTLE SERVICE	LIRR STATION	PARKING UTILIZATION RATES	UNITICKET COST	METROCARD ACCEPTED	MONTHLY PARKING PERMIT	PERMITS ISSUED	RIDERSHIP
<b>Long Island Bus: N52, N53</b>	Merrick	105.20%	\$27.50	Yes	Free	Unlimited	50
<b>Long Island Bus: N14</b>	Rockville Centre	97.60%	\$27.50	Yes	\$5.66	Unlimited	232
<b>HART: Red and Blue Line Commuter</b>	Huntington	101.00%	\$28.00	No	\$2.50	Unlimited	48
<b>Long Beach Bus</b>	Long Beach	91.80%	\$20.00	No	Free	Construction	1,200

## Level of Ridership

Ridership was highest on the Long Beach Shuttles (1,200 daily passengers). This is due in large part to the topography of Long Beach –a narrow piece of land with few major arteries, and a dense population (16,595 PSM). Other factors that encourage ridership are the frequently scheduled 15-minute timetable and limited parking at the station (to accommodate a two-year construction project). As a result, the City of Long Beach has successfully developed a culture of using the bus to the station.

Ridership was also high on the Rockville Centre N14, with 232 daily passengers. The Rockville Centre route was established fifty years ago, and has become a familiar, integrated service in the community. Bus service is scheduled in frequent 10-15 minute intervals.

Although less than two months old, the Merrick Shuttle is showing early signs of ridership success. The Shuttle was created by LI Bus to address the lack of parking at the station. Since the Merrick Station does not issue permits, or have parking fees, parking spaces are available on a first come first serve basis, causing the lot to be filled by 7:30 am. Since service began on November 18, the Merrick Shuttle is gaining ridership.

Ridership on the HART Blue and Red Lines continues to decline due to the lack of competitive parking fees at the Huntington Station. Table 12 shows the range of ridership levels for the shuttles reviewed.

**Table 12. Shuttle Service Ridership**

SHUTTLE SERVICE	LIRR STATION	RIDERSHIP
<b>Long Island Bus: N52/N53</b>	Merrick	50
<b>Long Island Bus: N14</b>	Rockville Centre	232
<b>HART: Red and Blue Line Commuter</b>	Huntington	48
<b>Long Beach Bus</b>	Long Beach	1,200

## Route Configuration and Passenger Travel Time

The shuttle bus services to Long Island Rail Road stations reviewed make use of two types of routes to transport passengers to and from Long Island Rail Road stations: 1) routes that travel inside residential neighborhoods, with flexible pick-up and drop-off locations and; 2) routes that follow arterial roads with designated bus stops. Unlike, MNR, none of the

reviewed shuttle services to LIRR stations have route configurations from “Park and Ride” lots.

Four of the five shuttle services travel along routes on residential neighborhood streets. The new Merrick Shuttles N52 and N53 provide two service routes to Merrick Station, which were configured according to areas with high densities of LIRR ridership obtained from LIRR Mail and Ride data. The Merrick route allows commuters to hail the van from a safe location on their block and uses two vehicles to provide more frequent pick-up service. The routes allow commuters to be picked up and dropped off as desired compared to designated stops on the Rockville and Long Beach Shuttles.

The Rockville Centre N14 and HART Shuttles also travel on interior neighborhood roads. Similar to the Merrick Shuttle the HART Shuttles offer residential pick-up where riders can flag down vans to pick them up along the route. In Rockville Centre, because the LIRR station is located in the downtown area, the shuttle provides an additional destination for people. The Long Beach Bus service travels on main arteries in Long Beach. Two of the four shuttles have passenger travel times longer than 15 minutes (see Table 13). In areas with lower population densities, the benefits of a shorter travel time can be seen in the ridership of the Rockville Centre N14.

**Table 13. Comparison of Shuttle Time to Ridership**

SHUTTLE SERVICE	LIRR STATION	TIME	RIDERSHIP
<b>Long Island Bus: N14</b>	Rockville Centre	12	232
<b>Long Island Bus: N52/N53</b>	Merrick	15	50
<b>HART: Red and Blue Line Commuter</b>	Huntington	20	48
<b>Long Beach Bus</b>	Long Beach	20	1,200

### Type of Vehicle

The shuttle bus services reviewed for Long Island Rail Road make use of two types of vehicles: small 25-seat passenger vehicles, and large traditional buses seating 50 passengers.

Two of the four shuttle programs use the small, commuter friendly 25-seat passenger vehicles on neighborhood routes. The Long Beach Shuttles use large 50-seat buses. Long Beach commuters have incorporated public

transportation as a preferable mode of transportation to the train station, making the larger buses appropriate to accommodate passenger loads.

### Service Reliability and Consistency

The Long Island Rail Road does not collaborate with shuttle operators on reliability and consistency issues. Bus operators providing service to Long Island Rail Road stations expressed the need to receive clear and timely information from the LIRR regarding train service changes to better coordinate their bus arrival times with train departure times. Reliability is also not facilitated through the use of a Guaranteed Ride Home Program, as it is at Metro-North Railroad, since these shuttle services are locally based and don't involve the high cost of a taxi ride home.

Only the Merrick Shuttle provided schedules that incorporated shuttle times with train departure times to ensure that passengers arrive at the train station in time to meet a specific train.

### Access to Information

Shuttles serving Long Island Rail Road were examined for availability, and ease of access to information regarding service and schedules, to passengers and potential passengers.

Although much information is contained on Long Island Rail Road's website [www.mta.info.org](http://www.mta.info.org), it is confusing and time-consuming to obtain. There is no option on the home page for customers who are interested in getting to or from a railroad station to directly access information about "connections" to the Rail Road, or specific "stations".

While changes to the LIRR website are currently underway, station information is available only through information about train schedules. Too much information is offered on one page with multiple scrolling options, which can be confusing. No information is given related to the cost or availability of parking, or whom to call to obtain information. Although the Merrick Shuttle is a hopeful, new option for commuters, this great new expanded service is not identified on the websites' home page.

Information is also not easily available through Long Island Bus. Schedules on LI Bus at [www.mta.info.org](http://www.mta.info.org), do not mention Long Island Rail Road, nor are there specialized categories provided for buses serving LIRR train

stations. There is no direct link on the website from the bus schedules page to the railroad schedules page. Information is organized according to bus number rather than pick-up or destination, creating a less user-friendly environment for the commuter.

### Marketing Efforts

The Long Island Rail Road's strongest marketing efforts were found on the launching of the Merrick Shuttle. Long Island Rail Road developed credit card size schedules to assist commuters in keeping the information easily available. Information regarding the shuttle has been promoted in the LIRR customer newsletter and on the website. Marketing efforts for other peak direction, peak hour shuttles to Long Island Rail Road stations are minimal.

## NEW JERSEY TRANSIT

### State of New Jersey Community Shuttle Program

In 1999, the State of New Jersey started its Community Shuttle Program. The program initially provided shuttle buses to 19 municipalities for the purpose of transporting commuters to New Jersey railroad stations. In 2001, New Jersey Transit awarded three-year CMAQ grants for program operating money. The first year, up to \$30,000 is allotted for operating costs, \$20,000 the second year, and \$10,000 the third year, at which point the municipalities become responsible for the costs of operating the program. The town of Rutherford was the first active program with its 20-passenger commuter van. By August 2002, ridership was 55 daily passengers.

The town of Maplewood has operated a very successful shuttle bus operation since 1996. When the program began the town was experiencing overcrowded parking lots, with residents parking illegally and cruising streets looking for additional parking. The town organized volunteers to interview rail passengers to learn where they were coming from, where they were going, what trains they took in the morning and evening, and whether they would utilize a shuttle if it were initiated (a system still used for developing new routes). Using this information, the town designed a shuttle bus service.

In an endeavor which became a model for the other New Jersey Transit communities, Maplewood received a vehicle and start-up operating expenses from New Jersey Transit. The town now runs three shuttle routes with only one territory not covered, but planned for the future. The shuttles are scheduled to meet the midtown direct trains during peak hours. The routes have between 9 and 12 stops in residential communities and the average ride is 15 minutes. Pick-up locations are based on a maximum walking distance of three blocks. The program's great success has led to a daily ridership of 480 people. An annual pass is \$60.00, set purposely at 50 percent below the annual parking permit cost. The cost recovery of the program is roughly 35 percent. The vehicles are also used for other municipal programs when not being used for commuter travel.

## FACTORS OF SUCCESSFUL SHUTTLE BUS SERVICES

A successful shuttle bus service in this report was defined as having a daily ridership of 50 passengers or greater. With the need to mitigate the demand for parking as the goal, shuttle buses that serve 50 daily passengers eliminate the need for roughly 25 parking spaces – a substantial cost savings when calculated at approximately \$16,000 to \$23,000 per space in a parking structure. Among the shuttle bus services reviewed, it was also found to be an achievable goal within the first two years of service.

The review of 26 shuttle bus services to Metro-North, Long Island Rail Road and New Jersey Transit stations revealed ten factors that contribute to the making of a successful service: 1) a medium to high level of area population density; 2) a favorable county public policy environment; 3) fares that are competitive with parking lot rates; 4) conveniently located shuttle stops; 5) short passenger travel times - relative to a passenger's total commute time to end destination; 6) vehicle size tailored to the route configuration; 7) reliable and consistent service; 8) easy access to multi-modal travel information; (including well coordinated rail/bus schedules) 9) collaborative public-private partnerships; and 10) proactive marketing effort.

Twenty of the 26 shuttle services reviewed had ridership levels exceeding 50 daily passengers and another two services showed promise of those levels in the future based on less than a year of service. All of the 20 successful shuttles had at least seven of the ten factors identified for success. The factors most frequently lacking were a favorable public policy, competitive fare, collaborative public-private partnerships, and proactive marketing (see Appendix, Table 14 for a breakdown of the 26 shuttles by factor).

High cost recovery ratios were not found to be a factor in the success of a shuttle bus service. Public bus transportation cost recovery under the best conditions in an urban environment typically ranges from forty to fifty percent.<sup>35</sup> In suburban communities, where local public transportation is beginning to enter the market, many successful shuttle services experienced cost recoveries ranging from twenty five to forty percent. As the use of local shuttle bus services becomes more familiar in suburban communities, cost recoveries may rise to levels closer to those of urban areas. Given that cost recoveries under the best conditions are forty to

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<sup>35</sup> Information obtained through a conversation with Bob Campbell, MTA Long Island Bus, and data analysis.

fifty percent, the forty percent cost recovery ratio required to be eligible for federal funds is often unrealistic and we believe unwarranted, particularly since there is no such prerequisite to obtain federal subsidies for road building or parking lot construction.

To make up for the difference in cost recovery ratios, Metro-North monitors new monthly commuters brought to the Railroad by the shuttles and incorporates the railroad ticket revenue generated by the shuttle bus riders into the cost recovery calculations for the shuttle services as well as for the railroad. The shuttle services are seen as a way to boost railroad ridership and reduce the need for parking. Cost recovery for the shuttles can be calculated to be 100 percent based upon this model.

The ten factors that contribute to successful shuttle bus services are discussed below:

**A Medium to High Density Population.** Shuttles that operate in areas with medium to high population densities provide a greater pool of potential riders from which to draw.<sup>36</sup> Areas with higher population densities tend to be more urban in character and people are more accustomed to the provision and use of many modes of public transportation.

The study found that while the presence of a medium or high population density – a minimum of 5,000 people per square mile (PSM) - was not required for shuttle service success, higher density levels did help compensate for the lack of other factors. For example, the Long Beach Shuttle has only six of the ten factors identified for success, but operates within an area with high population density (16,595 PSM). On the other hand, the study found that shuttle services can work in areas with lower population densities if commuters drive to “Park and Ride” lots, which can act to create higher density pick-up locations, and offer a seamless transfer to the train.

**A Favorable County Public Policy Environment.** County transportation policies played a vital role in initiating, shaping and supporting the development and operation of shuttle bus services. County contributions to the shuttle services reviewed in this study were made on many levels. The collaborative relationships between Metro-North Railroad, Rockland County and New York State were instrumental in the formation of the

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<sup>36</sup> For the purpose of this study, areas with less than 5,000 people per square mile were defined as low density, areas with between 5,000 and 9,999 people per square mile were medium density, and areas with 10,000 or more people were characterized as high density.

Tappan-ZEExpress. The promotion and marketing of shuttle services on county venues such as the [www.westchestergov.com](http://www.westchestergov.com) website helped build ridership for the Bee Line Shuttles. The coordination of transportation services and education efforts of Westchester County's Smart Commute Program have further facilitated citizen awareness of available services within the County and the savings that can be achieved by using public transportation.

While strong county public policies were found to contribute to the success of a shuttle service, larger cities such as Long Beach, with a density of 16,595 illustrate the capability of cities to create their own transportation policies and develop shuttle services.

**Shuttle Fares Competitive with Parking Fees.** Shuttle fares that were less than parking permit fees were found to encourage shuttle bus ridership. This was the case with the Tappan ZEExpress where the monthly cost for the shuttle was \$53 less than the monthly cost to park in the station lot. On the other hand, the two lowest performing shuttles studied - the Red and Blue Line Commuter Shuttles operated by HART (Huntington) - did not offer competitive fares for commuters. A primary reason for the decline in ridership of the HART Shuttles was the Town of Huntington's provision of additional parking spaces, coupled with low parking fees - effectively eliminating the incentive to use the shuttle.

**Convenient Shuttle Stops.** Shuttles with routes along neighborhood streets rather than along main arteries at neighborhood perimeters were found to have more ridership. Shuttle operators who experimented with both types of routes found that commuters preferred to stay within the comfort of their own neighborhoods, such as having a shuttle bus stop within three blocks of home. The benefits of this type of neighborhood pick up shuttle service are twofold: ease and convenience of access; and clear visibility - which provides passengers with a sense of security and promotes the use of the service.

Routes that traveled on main arteries with collection points on the edge of residential neighborhoods had three primary problems for potential passengers: 1) commuters felt vulnerable standing on main arteries during early morning hours, 2) the stigma of taking the bus felt more pronounced when standing and waiting for the bus on main arteries, and 3) bus stops were perceived to be too far away.

Shuttle routes with stops at convenient "Park and Ride" lots were found to have higher ridership levels in outlying areas with lower density populations,

in towns not directly served by the railroad, and where the nearest railroad station had insufficient parking.

**Competitive Travel Times.** High ridership was found on shuttles with longer passenger travel times (30-35 minutes) as well as those with shorter travel times (10 minutes). Shuttles with longer passenger travel times, such as the Tappan ZExpress, and shuttles with shorter travel times, such as the Bee Line Larchmont and Rockville N14 shuttles, were able to achieve high ridership levels due to their ability to compete with the time it takes to drive and find a parking space at the station. Shuttles with frequent service and a limited 10 to 15 minute wait time between shuttle arrival and train departure also attracted higher ridership levels.

**Relating the Vehicle Type to the Route Configuration.** Higher ridership was found on shuttle routes along neighborhood streets. Neighborhood streets tend to be narrower and more conducive to the use of smaller vehicles. A stigma still exists in many suburban communities against taking the bus. The use of smaller 25-seat passenger vans can assist commuters in overcoming their discomfort and provide convenient commuter-based service.<sup>37</sup>

**Reliable and Consistent Service.** Shuttle operators that provided reliable, consistent on time shuttle bus services were found to have positive, collaborative relationships with Metro-North Railroad. Such relationships included timely provision of schedule changes by the railroad to the shuttle operator to allow for shuttle service schedule changes. Metro-North actively coordinates shuttle operator schedules with train timetables, and requires shuttle schedules to contain both shuttle arrival times and train departure times. On-time performance is also monitored by Metro-North through monthly reports from the operators to ensure reliable service is provided to the railroad.

**Easy Access to Multi-Modal Travel Information.** Well designed websites with transportation service and schedule information that provide multiple links to other connecting modes of transportation were found to be an important source and easy way for passengers and potential passengers to access travel information. The MTA website is a good example of this as it receives over 40,000 hits daily and 280,000 hits weekly. The ease with which passengers can access information about multiple modes of transportation helps customers to feel more comfortable about making the transition between subway, bus, railroad and shuttle bus services.

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<sup>37</sup> Expressed by some commuters as part of a conversation about shuttle bus services at a LIRRCC meeting, July 2002.

Poorly designed websites, deter use of the system and translate into lost ridership.

**Collaborative Public-Private Partnerships.** Multiple partner structures that included a mix of federal, state, county, local and private partners enable greater coordination among multi-modal transportation services. Metro-North has worked collaboratively with communities on the shuttles they have created. This was the case in the Newburgh Shuttle, where Metro-North, the town of Newburgh, and New York State collaborated with the private operator, Leprechaun Lines, to develop a viable shuttle service.

**Proactive Marketing Effort.** Shuttles that are actively marketed were found to have higher ridership. This was the case with HART's Danbury-Brewster Shuttle, where the collaborating partners, Metro-North, HART and the local Councilwoman, created a multifaceted marketing strategy for the new service. The three coordinating partners actively marketed the new connecting service through press releases and news articles. The marketing program also informed local community groups of the new shuttle opportunities. As part of the marketing strategy, Metro-North provided information about the new shuttle on their website's home page including a full description of the service on its "Connections" page and a direct link to the HART home page.

## RECOMMENDATIONS

The following recommendations are provided to mitigate the projected need for parking at Metro-North Railroad and Long Island Rail Road stations by facilitating the development and improvement of shuttle bus services to stations. Grouped according to the agencies responsible for implementation - the Metropolitan Transportation Authority (MTA), Metro-North Railroad, and Long Island Rail Road – the recommendations endeavor to improve multi-modal transportation access at all stations.

Recommendations focus on opportunities to advocate for shuttle bus to railroad service, improve access to stations, and modify parking policies in concert with localities. Other recommendations aim to create working partnerships between the MTA agencies, counties, municipalities, and bus operators; educate the public about access to rail station issues; solicit community input; provide community technical assistance; and increase public access to travel information.

### METROPOLITAN TRANSPORTATION AUTHORITY

As the umbrella agency, with direct links to Albany, the MTA has the ability to promote and advocate for the use of shuttle bus services as a short and long term strategy to mitigate parking demand within its own agencies as well as within its service territory. This priority should be extended to the division of MTA Railroads once the restructuring of the MTA takes place. The MTA should also coordinate and support collaborative planning efforts between Metro-North and Long Island railroads, and Long Island Bus to ensure the sharing of information and resources to achieve long-term success.

**Make Shuttle to Railroad Service a Preferred Strategy.** The MTA must make the development of shuttle bus services to railroad stations an agency and MTA region strategy by undertaking, coordinating and supporting the following efforts:

- Building political and financial support in Albany and Washington D.C. for improving access to railroads as part of multi-modal transportation funding, such as the upcoming TEA-3 legislation, among other efforts.
- Working proactively with County Executives in the MTA region to develop transportation plans and policies that reduce the need for parking, improve access to the railroads, and support the

- development of alternative modes of transportation to stations by shuttle bus, carpooling, walking, and bicycles;
- Advocating for and encouraging the development of regional smart growth land use plans that incorporate transit-friendly development, reduce parking needs, and increase access to the railroads;
  - Increasing public awareness and use of local public transportation in the MTA region and providing technical assistance to counties, when needed, to help them improve service links among transportation providers;
  - Encouraging counties in the MTA region to develop websites that provide information about and maps of countywide, multi-modal public and private transportation services;
  - Encouraging MTA contracted transportation operators to develop detailed websites that include scheduling, cost information, route maps, and links to other transportation providers; and
  - Continuing to improve the MTA website by integrating links to the schedules and information on public and private transportation providers with service connecting to MTA railroad stations.

**Create an Interagency Working Group.** The MTA should create an interagency working group made up of members of Metro-North and Long Island railroads and Long Island Bus to share successes and discuss strategies for implementing expanded shuttle services.

**Solicit Input from Communities.** The MTA should actively solicit input and information from communities regarding the creation of expanded shuttle bus services. To do this they should:

- Use the MTA website to obtain community requests for shuttle service;
- Develop a database to store information about communities interested in shuttle bus services and alternative means of station access;
- Meet with county officials and bus providers to discuss opportunities for expanded shuttle bus services; and
- Meet with local officials and participate in public forums to promote the development of local plans for improved station access, including expanded shuttle bus services.

## METRO-NORTH RAILROAD

**Continue to Improve Station Access.** Building upon its accomplishments to date, Metro-North Railroad should continue to increase its efforts to improve access to its stations and reduce parking needs through the expansion of shuttle bus services. Shuttle services should continue to be considered within the context of pedestrian, bicycle, “Kiss and Ride” and other smart growth, transit-friendly land use approaches. The planning strategy should include:

- Continuing to expand the provision of shuttle services to more train stations;
- Continuing to encourage and work with municipalities to improve sidewalks and pedestrian crosswalks to motivate riders to walk to train stations;
- Increasing the provision of bicycle racks and lockers at stations and working with municipalities on dedicated bike routes and pathways to the stations;
- Continuing to increase and improve “Kiss and Ride” drop off locations in the vicinity of stations;
- Continuing to encourage municipalities to adopt zoning and smart growth land use plans that increase retail and residential development adjacent to rail stations; and
- Continuing to expand and identify potential shopping mall and church parking lots for use as “Park and Ride” locations for weekday shuttle bus riders in areas with low population densities, but high MNR ridership.

**Continue to Work with Municipalities to Modify Station Parking Policies.** The MNR should continue to develop parking strategies and policies in conjunction with municipalities to encourage passengers to use alternative means of transportation to the station, where possible, through pricing incentives that favor daily, weekly, and monthly shuttle bus fees over station parking.

**Create a Working Group with Westchester County Bee Line Bus.** The MNR should create a working group with Westchester County Bee Line Bus to identify locations and develop plans for expanding shuttle services. Tasks for the working group should include:

- Identifying stations with over-utilized parking lots and projected parking demand that could benefit from shuttle services to reduce parking need;

- Identifying a potential market of riders for new shuttle services based upon Mail and Ride data and;
- Soliciting input from local municipalities about potential shuttle bus route configuration and operation.

**Continue to Provide Technical Assistance to Counties and Municipalities.**

The MNR should continue to actively support counties and municipalities interested in improving station access by:

- Providing Mail and Ride and marketing survey data;
- Assisting counties served by Metro-North in developing transportation plans and policies to improve access to the Railroad and;
- Facilitating and supporting local transportation plans and initiatives to improve access to stations while reducing parking demand.

**Augment the MNR Website.** The MNR website provides a good opportunity to elicit information from passengers and potential passengers about the need for shuttle bus services. This could be done by providing a page for website visitors to submit suggestions or requests for community shuttle services.

LONG ISLAND RAIL ROAD

**Improve Access to the Rail Road.** It is important that Long Island Rail Road create a long range planning strategy to reduce parking demand by improving access to the Rail Road, which includes the expansion of shuttle bus services. Shuttle services should be considered within the context of pedestrian, bicycle, “Kiss and Ride” and other smart growth, transit-friendly land use approaches. The planning strategy should include:

- Expanding the provision of shuttle services to more train stations;
- Encouraging and working with municipalities to improve sidewalks and pedestrian crosswalks to motivate riders to walk to train stations;
- Continuing LIRR’s provision of bicycle racks and lockers at stations and working with municipalities on dedicated bike routes and pathways to the stations;
- Increasing and improving “Kiss and Ride” drop-off locations in the vicinity of stations;
- Encouraging municipalities to adopt zoning and smart growth land use plans that increase retail and residential development adjacent to rail stations; and

- Identifying potential shopping mall and church parking lots for use as park and ride locations for weekday shuttle bus riders in areas with low population densities, but high LIRR ridership.

**Work with Municipalities to Modify Station Parking Policies.** The LIRR should work with municipalities to develop parking strategies and policies to encourage passengers to use alternative means of transportation to the station, where possible, through pricing incentives that favor daily, weekly, and monthly shuttle bus fees over station parking.

**Work Proactively with County Executives.** The LIRR should work proactively with Long Island County Executives and other elected officials to develop county and island-wide transportation plans and policies that reduce the need for parking, improve access to the Rail Road, and support the development of alternative modes of transportation to stations by shuttle bus, carpooling, walking, and bicycles.

**Create a Working Group with Long Island Bus.** The LIRR should create a working group with Long Island Bus to identify locations and develop plans for expanding shuttle services. Tasks for the working group should include:

- Identifying potential station locations for long term shuttle bus services based on LIRR future ridership and parking demand projections, currently over-utilized station parking lots, and LI Bus information regarding station access issues;
- Identifying potential markets of customers for new LI Bus shuttle routes to develop in the short term (2003-2004) based upon residential location data obtained through Mail and Ride;
- Determining potential shuttle routes based upon data - obtained through Mail and Ride and customer satisfaction surveys - about customer residential locations and their regular use of LIRR branches and stations other than the branch or station closest to their home.
- Developing data to inform shuttle bus operators about the origin of LIRR passengers so that in cases where passengers are driving long distances to reach rail stations (particularly in Suffolk County), bus operators can create new or reconfigure routes to make shuttle service more convenient; and
- Monitoring bus ridership (LIRR and LI Bus) through on-board passenger surveys to identify passenger concerns and issues with accessing LIRR stations.

**Improve Inter-Agency Communication.** Long Island Rail Road should develop and institute clear procedures to coordinate and communicate with Long Island Bus about train schedule changes, including seasonal

changes and construction related changes. Bus trips must meet two schedules, their own and the Rail Road's. Timeliness and reliability in meeting the train connection is crucial to increasing bus ridership.

**Improve Communication to Bus Service Planners.** Long Island Rail Road should develop and institute new ways to communicate and work with Long Island Bus planners to: identify potential new shuttles routes, enhance coordination between bus and train schedules to improve commuter departure needs; and provide information about train schedule changes, seasonal changes, and construction related changes. Bus trips must meet two schedules, their own and the Rail Road's.

**Improve Oversight of Existing Shuttle Bus Services.** The LIRR should develop contractual relationships with shuttle bus operators through the UniTicket. This would provide the LIRR with more ability to oversee daily shuttle bus operations and service delivery to ensure on-time performance, reliability and consistency of service.

**Continue to Educate the Public About Access to Rail Station Issues.** The LIRR should continue its efforts to educate the public about access to rail stations. "Education Days" are a good means of distributing information about the railroad. These should be expanded to focus on peak direction commuters and government agencies that can influence peak direction travel patterns to and from stations with the objective of reducing station parking demand. The LIRR should also broaden their scope to educate the public about the social, environmental, land use, and economic benefits of increased rail station access in addition to issues concerning projected demand for station parking and ways to mitigate problems of station access. Elements of this expanded campaign could include:

- Public presentations to broader constituencies of Nassau and Suffolk Counties, municipalities, and local communities about the benefits of increasing access to their train stations, the need to reduce parking demand, and strategies for doing so.
- Create individual service "Take-Ones" that are marketed to potential shuttle passengers, and include detailed information regarding all shuttle services to the LIRR.

**Provide Technical Assistance to Counties and Municipalities.** The LIRR and LI Bus should actively support Nassau and Suffolk Counties and municipalities interested in improving station access by:

- Providing Mail and Ride and marketing survey data;

- Assisting Nassau and Suffolk Counties in developing transportation plans and policies to improve access to the Rail Road; and
- Facilitating and supporting local transportation plans and initiatives to improve access to stations while reducing parking demand.

**Advocate for New York State Political and Financial Support.** The LIRR should work with the MTA to lobby for political and financial support for its efforts to improve multi-modal station access.

**Continue to Improve the LIRR Website.** The LIRR has made improvements to its website and should continue to make it more accessible for passengers and potential passengers to obtain multi-modal transportation information. Improvements should include:

- Creating new sectional links on the home page to “stations” and “connections” to provide easier access to information on individual stations and modes of transportation to and from LIRR stations;
- Providing a direct link from Long Island Bus “Schedules” to LIRR “Schedules”;
- Improving the visual format of the web pages by presenting information on single pages to reduce the need to scroll and providing additional direct links to operators and schedules of transportation services that connect to LIRR stations;
- Providing information about parking lot operators, fees, and contact information (similar to what has been posted at stations);
- Developing an interactive website where communities can petition for new shuttle routes to the railroad;
- Announcing and promoting all new connecting shuttle services on the home page.

## **APPENDIX**

**Table 14: Factor Ratings**

			FACTORS											Total Rating
Shuttle Service	MNR Station	Ridership	PSM Density	Density Factor	Public Policy	Competitive Fare	Type Route	Travel Time	Vehicle Type	Reliability and Consistency	Access to Information	Marketing	Collaborative Partnerships	
Hudson Rail Link	Spuyten Duyvil	579	26,000	3	3	3	3	3	3	3	3	3	3	30
Hudson Rail Link	Riverdale	455	26,000	3	3	3	3	3	3	3	3	3	3	30
Bee Line: 71	Larchmont	81	6,073	2	3	3	3	2	3	3	3	3	3	28
Tappan ZExpress	Tarrytown	732	1,645	1	3	3	3	3	3	3	3	3	3	28
Maplewood	Maplewood NJ	480	6,207	2	3	3	3	3	3	3	2	3	3	28
Bee Line: 64,66	Scarsdale	294	2,685	1	3	3	3	3	3	3	3	3	3	28
Newburgh - Beacon Shuttle	Beacon	150	7,393	2	2	3	3	3	3	3	3	3	3	28
Dutchess Cty Loop: 11,12,21,22	Poughkeepsie	83	5,811	2	2	3	3	3	3	3	3	3	3	28
Bee Line: 18	Peekskill	71	5,189	2	3	2	3	2	3	3	3	3	3	27
HART: Danbury*	Brewster	159	1,777	1	2	3	3	3	3	3	3	3	3	27
HART: Ridgefield*	Katonah	44	686	1	2	3	3	3	3	3	3	3	3	27
Bee Line: 34,38,39	Hartsdale	63	3,068	1	3	3	1	2	3	3	3	3	3	25
Long Island Bus: N51*	Merrick Shuttle	50	5,423	2	0	2	3	3	3	3	3	3	3	25
Bee Line: 33	Croton Falls	30	1,600	1	1	1	3	3	3	3	3	3	3	24
Dutchess County Loop: 31,32	New Hamburg	47	5,067	2	2	2	2	1	3	3	3	3	3	24
Dutchess Cty Loop: 41,42*	Beacon	56	2,889	1	2	2	?	2	3	3	3	3	3	22
Long Island Bus: N14	Rockville Centre	232	7,496	2	0	2	3	3	3	3	2	2	1	21
Long Beach Bus	Long Beach	1200	16,595	3	3	0	3	3	3	3	0	0	0	18
HART: Blue and Red Lines	Huntington	48	5,507	2	0	0	3	3	3	3	2	1	1	18

