Port Jervis Line Service Strategy Report

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Executive Summary

This study explores potential strategies to improve the attractiveness of Metro-North’s Port Jervis Line (PJL) service for existing and potential customers. The study determined that the most viable strategy for the short to mid-term (next 5-10 years) is to increase service frequency and to introduce reverse peak service through the construction of three new passing sidings and a new rail yard located mid-point along the Line in Campbell Hall, NY.

Background

Metro-North’s Port Jervis Line (PJL) is a 65-mile rail line providing commuter rail service primarily in Orange County, New York. Running from Port Jervis to Suffern in New York State, the line operates with limited stops in New Jersey, sharing the remaining 30 miles of right-of-way (ROW) with NJ TRANSIT’s Main-Bergen County Line service into Hoboken Terminal. Service to and from Manhattan is available by transfer. Metro-North contracts with NJ TRANSIT to operate the trains between Hoboken Terminal and Port Jervis Station, a total distance of approximately 95 miles. Currently, there are 27 weekday trains on the Line and 14 trains on each weekend day.

Ridership and the Need for Enhanced Service

Manhattan is the primary out-of-county destination for Orange County workers. Socioeconomic and demographic projections suggest the potential for substantial ridership growth on the PJL. PJL ridership doubled from 1984 to 2008, with the most substantive growth occurring after 2003. However, after peaking at over 1.5 million in 2008, a sustained drop in ridership occurred due to the impacts of the Great Recession, followed by Hurricane Irene in 2011, and Tropical Storm Sandy in 2012. Hurricane Irene was particularly devastating to the PJL’s infrastructure and led to a three-month service suspension. Recent ridership rebounds have been tempered by a derailment incident in 2016 at Hoboken Terminal, leading to a 10-day service suspension. As a result of these incidents, many Metro-North customers began seeking other modes of travel between Orange County and Manhattan.

Study Methodology – Alternative Strategies to Improve Attractiveness of PJL Service

In developing the PJL service strategy, consideration was given to the following strategies that could offer a more appealing service:

- Improving travel times
- Providing a one-seat ride to Manhattan
- Increasing service frequencies

Improving travel times and providing a one-seat ride are extremely difficult to implement in the short to medium-term and have significantly greater costs and potential extensive environmental impacts. Improving travel times necessitates realigning sharp curves on the PJL to increase speeds, a strategy with substantial costs and significant environmental impacts. Providing a one-seat ride to Manhattan requires construction of the new Hudson River Tunnel to Penn Station, the expansion of the number of platforms and tracks at Penn Station, and a new connection between the Northeast Corridor and the Main-Bergen County Line/PJL. While this is an alternative long-term goal, these improvements are costly megaprojects and may have sufficient environmental impacts.

Although there are capacity improvements associated with increasing service frequencies (discussed below), their construction and environmental impacts are potentially minimal when compared to either
improving travel times or providing a one-seat ride to Manhattan. The strategy to increase PJL service frequencies also has the benefit of complementing a possible future long-term strategy of offering a one-seat ride to Manhattan or transit access to Stewart International Airport.

**Proposed Service Strategy**

The proposed PJL service strategy will provide an “Inner” PJL service that will benefit most of the PJL customers by providing the additional service at the Middletown/Town of Wallkill Station and stations located to its east. The rationale for using this location as a terminus of the “Inner” PJL service are:

- Approximately 94% of PJL AM Peak customers board at the Middletown/Town of Wallkill Station or stations to the east and a large portion of Orange County residents live east of Middletown.
- The Middletown/Town of Wallkill Station is located at Milepost 72, covering approximately 60% of track miles along the Line in Orange County.
- The Middletown/Town of Wallkill Station is located at the junction of two major highways, Route 17 and I-84, providing easy access to the station.

Under this proposal, service will grow from the current weekday service to as many as 44 trains and weekend service up to 26 trains per weekend day. The majority of these additional trains will operate solely on the “Inner” PJL. These additional services would not only benefit Orange County residents, but also Rockland County residents who use the PJL. The capital investments needed to advance the new “Inner” PJL service will include right-of-way improvements and a new overnight train storage and service yard mid-point along the Line (Mid-Point Yard).

**PJL Right-of-Way Improvements**

The PJL is mostly a one-way railroad with few passing sidings. This makes it difficult to operate a reverse peak service and a more robust two-way operation during the off-peak. Therefore, Metro-North evaluated adding capacity on the Line. Extending the current two-track system 20 miles from Sloatsburg to just south of the Moodna Viaduct was compared to constructing new passing sidings, each approximately one to two miles long. Analysis indicated that the construction of passing sidings is a more cost-effective solution for short/mid-term implementation for the following reasons:

- Adding either double tracking or passing sidings to the PJL can accommodate the desired service during the off-peak period and weekends and allow for reverse peak service
- The estimated construction costs ($2012) for the passing sidings ($54M - $72M) would be substantially less than for double tracking ($334M), more than off-setting the greater benefits of the double-tracking

Although not recommended for the short/mid-term future, double tracking could be considered in the longer-term if increased demand requires markedly higher service levels.

**Mid-Point Yard**

To allow for service growth, a conceptual plan was developed for a Mid-Point Yard that could provide overnight storage and servicing, including fueling for up to eight trains. An initial list of 40 sites was first narrowed to 10 sites in three geographical zones and then further narrowed down to the sites in each zone that represented the least risk. The three zones were associated with the Harriman, Salisbury Mills, and Campbell Hall Stations. These sites were further evaluated based on environmental issues, operating service, and construction costs.
Based upon the evaluation, the Campbell Hall site appears to be the best alternative site for a Mid-Point Yard. Located closest to the Middletown/Town of Wallkill Station and requiring the least train deadheading miles of the three alternatives (running trains in non-revenue service between terminals and a yard).

The Harriman Mid-Point Yard alternative would require the most deadheading to support Middletown/Town of Wallkill service and, as a result, minimizing the risk of unforeseen circumstances while deadheading. Another important concern is that the Harriman site is zoned for Transit Oriented Development and is being actively marketed as such to real estate developers by local elected officials.

The Salisbury Mills alternative would trigger the greatest environmental impacts and require the highest capital investment compared to the other two locations due to both its proximity to residential development and its topographical limitations.

Conclusion

Metro-North staff and the consultant team have recommended moving forward on the next steps toward advancing a service strategy that provides an “Inner” PJL service operating from the Middletown/Town of Wallkill Station. The service will be supported by the construction of new passing sidings and the construction of a Mid-Point Yard at Campbell Hall.

The next stage of this effort will involve an engineering study for the passing sidings to confirm locations and costs, further development of the Mid-Point Yard, and the initiation of environmental reviews for both. Approximately $26 million for this work is included in the MTA Capital Program.
Introduction
The purpose of this report is to present potential strategies to improve the attractiveness of Metro-North’s Port Jervis Line (PJL) service and the associated capital improvements. These improvements will provide a more attractive service for existing and potential PJL customers.

The report is organized as follows:

- **Chapter 1** describes Metro-North’s PJL, including its physical characteristics, the existing rail service, and investment history.
- **Chapter 2** describes Orange County demographics and work trips.
- **Chapter 3** outlines challenges for rail service in the “Route 17/PJL Corridor to Midtown Manhattan” market and potential strategies to address these challenges. This includes discussion about journey-to-work patterns between Orange County and Manhattan, and associated trip mode share by bus, rail, and auto. It identifies the Route 17/PJL Corridor in Orange County as an area of opportunity for growth in the rail share of work trips between Orange County and Manhattan.
- **Chapter 4** describes potential operating and capital strategies to provide a more attractive service for Orange County residents along the Route 17/PJL Corridor. It also compares and evaluates the Mid-Point Yard Alternatives for the “Inner” PJL Service from the Middletown/Town of Wallkill Station.
- **Chapter 5** summarizes the conclusions and provides recommendations.
Chapter 1: Background

This chapter provides an overview of Metro-North’s PJL. It describes the physical characteristics of the Line, summarizes the current level of service provided during the peak and off-peak periods, investments made to date, and potential future improvements.

1.1 Physical Characteristics of the PJL

The PJL is a 65 mile passenger and freight rail line in New York State running from Port Jervis to Suffern and primarily serving Orange County (See Figure 1). East of Suffern Station,¹ the PJL service operates with limited stops in New Jersey sharing the remaining 30 miles of right-of-way (ROW) with NJ TRANSIT’s Main-Bergen County Line service into Hoboken Terminal.²

Although designed and constructed as a two-track railroad to carry freight and passenger traffic, only one track remains for most of the PJL west of Sloatsburg Station. The Line includes three controlled passing sidings, the one-mile long Otisville Tunnel, 53 undergrade bridges and 35 overgrade bridges, and two steel viaducts (Moodna and Woodbury). There are eight stations along the PJL, each with parking facilities and low-level platforms for boarding and de-boarding trains.

In 2003, Metro-North entered into a Sublease and Operating Agreement with Norfolk Southern Railway, the owner of the PJL, to operate passenger service and maintain and construct capital improvements on the Line. Metro-North currently contracts with NJ TRANSIT to operate the passenger service between Hoboken Terminal and Port Jervis Station, a distance of approximately 95 miles. Both Main/Bergen Line and PJL customers traveling to and from Manhattan have the option to transfer at Secaucus Junction for NJ TRANSIT service into New York’s Penn Station or transfer to PATH or ferry service at Hoboken.

Two yards approximately 95 miles apart, which are identified in Figure 1, are currently used to service and store the PJL rail passenger fleet:

- The Port Jervis Yard, located in Port Jervis, New York, is used only to store the PJL rail passenger fleet. It is currently at or near storage capacity, with 9 10 engines and 46 cars stored overnight.

- The Hoboken Rail Yard located in Hoboken, New Jersey, is used by both PJL and NJ TRANSIT’s rail passenger fleet for mid-day maintenance and fueling. Cyclical inspections and major maintenance and repair are performed at the Meadows Maintenance Complex.

NJ TRANSIT also owns and operates two additional rail yards, primarily used to park trains operated on the Main-Bergen County Line (identified in Figure 1):

- The Suffern Rail Yard, located north of Suffern Station, is a five-track yard used for overnight storage of NJ TRANSIT trains that is at or near capacity.

- The Waldwick Rail Yard, located north of the Waldwick Station on the Main-Bergen County Line, is a six-track yard and is used to turn around Main-Bergen County Line trains that terminate (or originate) in Waldwick.

¹ Although much of the PJL runs in a north-south direction, sections or services east/south of Port Jervis are referred to as “east” and those west/north of Suffern are referred to as “west.”

² New Jersey Transit’s Main-Bergen County Line services terminate at Suffern, NY. The Suffern Station, the ROW in the vicinity of the station and east of the station (though located in New York State) are owned and maintained by New Jersey Transit.
Figure 1: Map of Metro-North's Port Jervis Line
1.2 Rail Service Transit in Orange County

This section summarizes the baseline condition of the PJL and the current levels of service during the peak and off-peak periods.

1.2.1 Existing PJL Daily Weekday Service

As detailed in Table 1, 27 trains currently operate each weekday on the PJL - 13 inbound trains and 14 outbound trains. Eight of the 13 inbound trains operate in the morning peak period (defined as arriving to Hoboken Terminal prior to 10 AM) and eight of the 14 outbound trains operate in the evening peak period (4 PM to 8 PM). All peak period inbound trains originate in the Port Jervis Yard and begin revenue service at Port Jervis Station.

Since the existing PJL is mainly a single track railroad, it operates similarly to a one-way street. As such, this precludes the option of providing reverse peak service. For similar reasons, the headways of the 11 off-peak trains are substantially long and average approximately two hours. From a customer service perspective, the rail service follows no set pattern, making it difficult to remember the schedule. Furthermore, the ability for workers to travel to and from Manhattan during the off-peak is limited.

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Daily Trains</th>
<th>AM Peak</th>
<th>PM Peak</th>
<th>Reverse Peak</th>
<th>Off-Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Today</strong></td>
<td>27</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td><strong>Travel Time</strong></td>
<td>--</td>
<td>125-145</td>
<td>125-135</td>
<td>--</td>
<td>105-160</td>
</tr>
<tr>
<td><strong>Headways</strong></td>
<td>--</td>
<td>20-50</td>
<td>15-60</td>
<td>--</td>
<td>85-145</td>
</tr>
</tbody>
</table>

*Table 1: Existing PJL Daily Weekday Service*

1.3 PJL Ridership and Ridership Trends

Between 1984 and 2008, the PJL experienced substantial ridership growth (198%). Much of the growth in ridership occurred after the opening of Secaucus Junction Station in 2003. As seen in Figure 2, the Line’s ridership peaked in 2008 after a 10-year increase of nearly 500,000 customers from 1999 to 2008. However, passenger volumes subsequently dropped 34% due to the impacts of the economic recession starting in 2008, Hurricane Irene in 2011 and Tropical Storm Sandy in 2012. Hurricane Irene was particularly devastating to the PJL’s infrastructure and led to a three-month suspension of service between Harriman and Sloatsburg.
The PJL ridership had recently started to rebound, growing 3.6% in 2014 over 2013 and by 2.0% in 2015 over 2014 ridership. In 2016, annual ridership on the PJL was approximately 1 million. However, there was a 3.2% ridership decline in 2016 from the previous year. This was mostly due to a September 29, 2016 derailment that occurred at Hoboken Terminal, which led to a 10-day shutdown of the Line. Nevertheless, recent and projected socioeconomic and demographic trends and development activities suggest the potential for ridership growth on the Line in the future.

Approximately 94% of current AM peak period boarding occurs at Middletown/Town of Wallkill Station and the stations to its east, as shown in Figure 3. Harriman Station has the most AM peak period boarding’s, followed by Salisbury Mills and Middletown/Town of Wallkill Stations. The two stations west of Middletown/Town of Wallkill, Otisville and Port Jervis, are among the stations with the least AM peak period boardings.

![Ridership Trends PJL (1984-2015)](image)

*Figure 2: Annual Ridership Trend PJL (1984-2015)*
1.4 PJL Investments

This section identifies the capital investments made on the PJL to date as well as future planned investments that will benefit PJL customers and Orange County residents.

1.4.1 Investments to Date

When Metro-North acquired control of the PJL in 2003, the Line’s infrastructure was in a state of disrepair. Track conditions were substandard in many areas, which required trains to travel at slower speeds. Additionally, bridges and viaducts had received little investment and the signal system was prone to intermittent breakdowns, adversely impacting train operation.

A long-term plan was initiated to upgrade the tracks, signals, viaducts, crossings, tunnels, and bridges. Since 2003, Metro-North has invested more than $180M to bring the PJL closer to a state of good repair (SGR) and reverse the Line’s degradation. These investments have benefitted PJL customers by improving operational safety, increasing maximum authorized speed limits, providing travel time savings, and boosting on-time performance. Key capital investments have included:

- Installation of a new cab signal system to replace the existing older signal system
• Rehabilitation of the Moodna and Woodbury Viaducts to replace deteriorated components
• Repair of the Otisville Tunnel to bring it to a SGR
• Inspection and repair of all concrete bridges
• Replacement of 48 miles of rail

1.4.2 PJL Projects Currently Programmed in the MTA 2015-19 Capital Program

The 2015-2019 MTA Capital Program, includes $59 million for the following PJL track infrastructure and stations projects:

• Continue the cyclical track program, including rock slope remediation at select locations
• Continue to replace or repair undergrade bridges at various locations
• Continue priority repairs to the Moodna and Woodbury Viaducts
• Make priority repairs at select West of Hudson Stations

1.4.3 Potential Future PJL Investments

Metro-North has plans and programs to continue its investment in the PJL. Nearly $500 million in West of Hudson basic core infrastructure projects were identified in the MTA Twenty-Year Capital Needs Assessment 2015-2034, the planning process used to gauge capital investment over that period. Additional funding for expansion and rolling stock was also identified over this time-frame. Key potential PJL projects identified include:

• Replacement of the Woodbury and Moodna Viaducts
• Replacement of the West of Hudson diesel locomotive fleet
• Continued rehabilitation and replacement of undergrade bridges/culverts
• Installation of Positive Train Control (PTC)

1.4.4 Longer Term Future PJL Investments

In 2008, anticipating future growth and development, Metro-North initiated the West of Hudson Regional Transit Access Study (WHRTAS)/Stewart Transit Access Study\(^3\) to examine alternatives for future commuter rail or bus rapid transit service to and from Stewart International Airport (SWF), located approximately four miles north of the PJL.

Metro-North’s current objective for that study is to identify a preferred alternative and protect the ROW for that alternative from development in order to provide for future project implementation. One of the transit alternatives being considered for service to SWF includes a rail extension from the PJL Salisbury Mills/Cornwall Station. The proposed service could accommodate SWF’s development and regional growth.

Another possible long term investment is to provide a one-seat ride to Manhattan. This requires construction of new Hudson River tunnels to Penn Station, the expansion of Penn Station, and a new connection between the Northeast Corridor and the Main-Bergen County Line/PJL.

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\(^3\) Alternatives Analysis Phase I Screening Report, November 2011
Chapter 2: Orange County Demographics and Work Trips

This chapter describes the current Orange County population characteristics and journey-to-work patterns for travel from Orange County to Manhattan, including associated trip mode share by auto, bus, and rail. The chapter also defines the study area needs and identifies potential areas for growth.

To determine a strategy for improving rail service between Orange County and Manhattan, it is important to understand the demographics of Orange County and the journey to work patterns for trips from the county to Manhattan. The journey-to-work patterns are described in detail in Appendix A: Background Demographics and Journey-to-work Information, with key information highlighted below.

2.1 Orange County Projected Population Forecasts

From 2000 to 2010, population and employment growth in Orange County was the highest in New York State. Though growth in the overall region has slowed in recent years, the long-term growth rate in Orange County is expected to remain among the strongest in the state. In 2013, the New York Metropolitan Transportation Council (NYMTC) updated its projections for population and employment growth in Orange County, forecasting increases as high as 35% between 2010 and 2040.\

Figure 4 exhibits the county’s population density. As Figure 4 indicates, the most dense population areas are:

- Along Route 17 (including the Village of Warwick, south of the corridor); ⁵ and
- In the northeast area of the county ⁶

Based upon NYMTC’s forecasts, population growth through 2040 is expected to occur predominantly in these same areas (see Figure 5).

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⁵ The Route 17/PJL corridor (including Warwick) comprises the following towns Blooming Grove, Chester, Goshen, Monroe, Wallkill, Warwick, and Woodbury and the City of Middletown.

⁶ The northeast area of the County comprises the following towns Cornwall, Montgomery, Newburgh, and New Windsor and The City of Newburgh.
Figure 4: Orange and Rockland County, New York 2010 Population Density.
Figure 5: Orange and Rockland County, New York 2040 Population Density.
2.2 Journey to Work Patterns: Manhattan is the Largest Out-of-County Work Destination

In 2010, 19% of all Orange County residents employed outside the county were commuting to Manhattan, the largest of all out-of-county work trip destinations. This represents an increase of more than 21% since 2000. Manhattan is projected to continue to be the largest work destination for Orange County residents who commute outside of the county for work, with weekday trips forecast to grow approximately 30%. Table 2 provides information on the top ten destination counties for out-of-county work trips.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Destination County</th>
<th>Direction</th>
<th>Number of Jobs</th>
<th>Percent of All External Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New York (Manhattan)</td>
<td>South</td>
<td>11,590</td>
<td>19%</td>
</tr>
<tr>
<td>2</td>
<td>Rockland</td>
<td>South</td>
<td>10,235</td>
<td>17%</td>
</tr>
<tr>
<td>3</td>
<td>Bergen (NJ)</td>
<td>South</td>
<td>8,360</td>
<td>14%</td>
</tr>
<tr>
<td>4</td>
<td>Westchester</td>
<td>South</td>
<td>6,715</td>
<td>11%</td>
</tr>
<tr>
<td>5</td>
<td>Dutchess</td>
<td>Northeast</td>
<td>6,515</td>
<td>11%</td>
</tr>
<tr>
<td>6</td>
<td>Bronx</td>
<td>South</td>
<td>3,370</td>
<td>6%</td>
</tr>
<tr>
<td>7</td>
<td>Ulster</td>
<td>North</td>
<td>2,790</td>
<td>5%</td>
</tr>
<tr>
<td>8</td>
<td>Sullivan</td>
<td>West</td>
<td>1,670</td>
<td>3%</td>
</tr>
<tr>
<td>9</td>
<td>Queens</td>
<td>South</td>
<td>1,405</td>
<td>2%</td>
</tr>
<tr>
<td>10</td>
<td>Kings</td>
<td>South</td>
<td>1,155</td>
<td>1%</td>
</tr>
</tbody>
</table>

*Source: 2006-2008 American Community Survey, U.S. Census*

Table 2: Top Ten External Work Destinations for Orange County

Over one-half (54%) of the weekday trips to Manhattan are currently made by auto, 25% are made by rail, and 21% are made by bus. Figure 6 provides the number of trips between each municipality in Orange County and Manhattan and the modal splits for these trips. Two areas of the county account for the majority of the weekday trips to Manhattan. The Route 17/ PJL Corridor accounts for 67% of trips, while the northeast area accounts for 20% of trips. Between 2010 and 2040, these concentrations are expected to remain unchanged.

Orange County residents living in the northeast area of the county prefer rail over bus (89% vs. 11%) for weekday transit trips to Manhattan because rail service is superior in terms of frequencies and travel times. As Figures 6 and 7 indicate, the residents of these municipalities predominantly use Metro-North’s Hudson Line (79%) versus the PJL (21%). This can be explained by the ease of access to Beacon Station and the greater frequency of the Hudson Line service.

Conversely, Orange County residents living along the Route 17/PJL Corridor prefer bus over rail (58% vs. 42%) for weekday transit trips to Manhattan due to the greater frequency of bus service. When taking rail service for trips to Manhattan, the residents of these municipalities predominantly use the PJL (97%) as it is easier to access than the Hudson Line.

As the above information indicates, there is potential growth in the demand for rail passenger service in the Route 17/PJL Corridor, given the number of work trips emanating from the corridor to Manhattan and PJL rail ridership trends over the past 35 years. Essential for capturing this potential is a PJL service that is attractive to existing and potential customers.
Figure 6: Orange County, Mode Share for 2010 Weekday Rail trips to Manhattan.
Figure 7: Orange and Rockland County, NY Distribution of 2010 Weekday Rail trips to Manhattan by West of Hudson and Hudson Lines.
Chapter 3: Rail Challenges in the “Route 17/PJL Corridor to Midtown Manhattan” Market and Potential Strategies to Address Them

Despite the investments made by Metro-North to bring the PJL closer to a state of good repair and the growth that has historically occurred on the Line, there are challenges to increasing the attractiveness of the PJL service for both existing and potential customers. This chapter discusses these challenges and strategies for addressing them.

3.1 The Challenges of Attracting Customers to the PJL

The Route 17/PJL Corridor is the most heavily populated corridor of Orange County. The corridor stretches along NYS Route 17 for a distance of about 15 miles from Middletown in the west to Harriman in the east. Prior to 1983, the Erie-Lackawana Main Line traversed along Route 17 directly connecting the town centers with Hoboken. With the realignment of PJL service between Harriman and Middletown to the Graham Line in 1983, rail service between the Route 17 town centers and Hoboken became less direct. At that time, the stations at Harriman and Middletown were relocated from their village and city centers to outlying areas and two entirely new station stops were built on the Graham Line at Salisbury Mills/Cornwall and at Campbell Hall, away from municipal centers.

The current bus/rail mode split for work trips between the Route 17/PJL and Manhattan is also an important factor for addressing the PJL ridership challenge. This mode split widely varies depending upon the Manhattan destination. For the Route 17/PJL Corridor to Midtown Manhattan commuter market the rail share is 19%; substantially less than the bus share (35%). In contrast, for the Route 17/PJL Corridor to Downtown Market the rail share (43%) is significantly higher than the bus share (22%).

Three factors contribute to the current mode share split between bus and rail in the Route 17/PJL Corridor. The scheduled bus travel times in the Route 17/PJL Corridor to Midtown Manhattan travel market are generally faster than scheduled rail travel times. The mean scheduled travel time from Harriman to Midtown Manhattan in the am peak period is 66 minutes. Whereas, the mean scheduled am peak period rail travel time from Harriman to Midtown Manhattan is 80 minutes. However, bus travel time to Midtown Manhattan may be impacted by congestion at the Lincoln Tunnel and capacity issues at the Port Authority Bus Terminal.

The second factor is that bus service provides a one-seat ride from the Route 17/PJL Corridor to Midtown Manhattan (Port Authority Bus Terminal). Travel by train requires a transfer, either at Hoboken to the PATH or ferry, or at Secaucus to NJT Northeast Corridor Service. Generally, trips that require a transfer diminish the attractiveness of a travel mode.

The third factor is that the bus provides more frequent service between Route 17/PJL Corridor and Midtown Manhattan. Overall, the limited frequency of rail service may inhibit ridership; in particular, this is especially a problem outside of the peak period. PJL service makes it difficult to return home during mid-day hours. Between Harriman and Midtown Manhattan there are 13 inbound trains versus 32 inbound buses total per day.

For a more detailed discussion, refer to Appendix A: Background Demographics and Journey-to-Work Information.
3.2 Potential Strategies for addressing the Rail Service Challenges

Three possible strategies were identified to grow Metro-North’s share of the Route 17/PJL Corridor to Midtown Manhattan travel market:

- Improve running time
- Provide a one-seat ride
- Increase service frequency

**Improve Running Time**

Improving train travel times on the PJL would require increasing the travel speed of trains traveling along the Line. To do so, would necessitate smoothing out many tight horizontal curves that currently constrain speeds, mostly in the eastern sections of the Line. Previous studies for Metro-North indicate that realigning these curves to increase speeds would be costly, require expanding the PJL ROW via substantial property takings, and have significant environmental impacts. There would be significant and extensive encroachment on wetlands that are located immediately next to the PJL’s embankment and to the adjacent Ramapo River. Additional work would require relocation of roads and the construction of new bridges.

**Provide a One-Seat Ride**

A one-seat ride offers commuters with convenience, shorter travel times, and direct access to their final destinations. As mentioned earlier, rail travel between the Route 17/PJL Corridor and Midtown Manhattan requires a transfer to other transit services at either Secaucus Junction or Hoboken Terminal. In contrast, bus services currently provide a one-seat ride for a similar trip.

A one-seat ride on rail between the Route 17/PJL Corridor and Midtown Manhattan is not possible in the short to medium term due to the existing capacity constraints in the Hudson River tunnels and at Penn Station. The proposed Hudson River Tunnel and Amtrak’s proposed Gateway Project, if implemented, will provide some congestion relief, and may include a Secaucus Loop to provide a one-seat ride into Midtown Manhattan. However, all these improvements may take many years to occur. Furthermore, recent studies of Penn Station operations indicate that even with the implementation of the Gateway Project, there may still be challenges to satisfying all cross-Hudson rail service demands.

**Increase Service Frequency**

More frequent rail service is important to commuters because it provides more travel options throughout the day. More frequent peak, regular midday, post peak evening, and weekend service can:

- Accommodate work trips outside the traditional 9:00 am to 5:00 pm hours
- Assure workers that it is possible to return home during the day in case of emergencies
- Provide a more attractive service for discretionary trips
- Offer customers greater flexibility in making their trips

As previously noted, the PJL service frequency is limited in part due to it being a mostly single track railroad. Also contributing to the PJL service limitations are the lack of a usable rail yard between Hoboken and Port Jervis, a distance of 95 miles, a substantial distance for a commuter rail system.
Most trains need to travel the full distance between Port Jervis and Hoboken due to these track and yard constraints, creating an inefficient service.

Frequency on the PJL could be increased through capacity improvements on the PJL and the construction of a new train yard mid-point along the Line. Although the costs could be significant, they would be substantially less than for the other proposed strategies (such as constructing the Secaucus Loop or smoothing curves). Also, the environmental impact would not be as significant as realigning curves on the PJL or providing a one-seat ride.

A key benefit of the PJL Right-of-Way improvements and yard construction are that they could occur in the short/mid-term. Furthermore, they would complement and enhance many of the future long-term projects, such as one-seat ride between Orange County and Manhattan, and the extension of service to SWF.

Given the above, the best strategy to provide more attractive rail service for the "Route 17/PJL Corridor to Midtown Manhattan" commuter market in the short/mid-term is to improve service frequencies.
Chapter 4: Future PJL Operating and Capital Strategy – Improving Service Frequencies

This chapter discusses the means for implementing a strategy which improves service frequencies on the PJL. It focuses on key service operating parameters and required infrastructure investments to support the improved service. This chapter also provides a detailed description of the alternatives, the screening approach and measures, and the evaluation and comparison of the alternatives.

4.1 Key Service Plan Parameters

A service plan with improved frequencies was developed. Similar to Metro-North's East of Hudson Lines, the proposed service plan creates “Inner” and “Outer” services. Improved service frequencies would be provided within the “Inner” segment of the Line in order to better serve the highest ridership areas.

The Middletown/Town of Wallkill Station would serve as the terminus of the “Inner” Service. Improved service frequency under this scenario would provide the Middletown/Town of Wallkill Station and stations to the east with additional service, to benefit approximately 94% of the Line’s current customers.

The Middletown/Town of Wallkill Station would best serve as the terminus for the “Inner” PJL service because:

- Most of the county population is concentrated east of Middletown.
- The predominance of the PJL customers (94%) would be served by the “Inner” PJL service (see Figure 3).
- The Station is located at the junction of two major highways, NYS Route 17 and I-87, providing for easy access.

Overall, the proposed service plan would provide “Inner” PJL Service customers with up to 44 daily trains, a 69% increase over the current offering. During the peak periods, the proposed service plan would provide up to 22 trains, a 38% increase over the current offering of 16.

4.2 Infrastructure Requirements

In order to operate the new “Inner” PJL service, capacity improvements on the PJL would need to be made and a new yard mid-point along the line (Mid-Point Yard) constructed. These are discussed below.

4.2.1 PJL Track Capacity Improvements

Increasing PJL track capacity is needed for running reverse peak and off-peak services on the Line. Two options were considered for increasing track capacity that would allow for expanded services:

1) Extending the current two-track system from its current terminus in Sloatsburg approximately 20 miles west to just east of the Moodna Viaduct (Figure 8)
2) Constructing up to three passing sidings (Figure 9)
The current PJL double track system transitions to a mostly single track system at Sloatsburg. The double tracking option would involve extending the two track system 20 miles to just east of the Moodna Viaduct. To accommodate the second track, approximately 33 undergrade bridges and culverts would need to be rehabilitated. Substantial work would also need to occur at the Sloatsburg, Tuxedo, and Harriman Stations. A siding west of Middletown/Town of Wallkill Station would also be necessary to maintain the two-way operations.

Figure 8: PJL Double Tracking Option
Under the passing sidings scenario, new passing sidings would occur west of the Tuxedo Station, East of the Moodna Viaduct, and West of the Middletown/Town of Wallkill Station and would be approximately one-mile long. The locations of the passing sidings were based upon their ability to accommodate more frequent two-way service.

These alternatives were evaluated in detail in Appendix C: Port Jervis Line Capacity Improvements. The evaluation determined that both Double Tracking and Passing Sidings would accommodate improved service frequency.

Figure 9: Map of Potential PJL Passing Sidings
### Considerations

<table>
<thead>
<tr>
<th>Achieves Strategic Service Goals</th>
<th>Double Tracking</th>
<th>Passing Siding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Achieves Service Flexibility and Reliability</th>
<th>Double Tracking</th>
<th>Passing Siding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Benefits Future Service to Stewart Airport</th>
<th>Double Tracking</th>
<th>Passing Siding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Track work</th>
<th>Double Tracking</th>
<th>Passing Siding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approximately 22 Miles (Sloatsburg to just east of Moodna Viaduct, and one Passing Siding west of Middletown/Town of Wallkill Station)</td>
<td>Up to 6 miles (passing sidings at three locations: West of Middletown/Town of Wallkill Station, East of Moodna Viaduct, West of Tuxedo Station)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bridges/Culverts</th>
<th>Double Tracking</th>
<th>Passing Siding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehabilitation/Reconstruction of 30, including Woodbury Viaduct</td>
<td>Rehabilitation/Reconstruction of up to 11</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Station Reconstruction</th>
<th>Double Tracking</th>
<th>Passing Siding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three stations (Sloatsburg, Tuxedo, Harriman)</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Potential Environmental Impacts</th>
<th>Double Tracking</th>
<th>Passing Siding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible from reconstruction of three stations, construction of any needed MoW access roadways, any needed widening for MoW service roadway, and all station/track work along Ramapo River</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Costs</th>
<th>Double Tracking</th>
<th>Passing Siding</th>
</tr>
</thead>
</table>

Table 3 provides a comparison between the double tracking and passing sidings alternatives. Both investments could support the proposed future PJL Operating Strategy. However, Double Tracking the PJL would trigger greater environmental impacts than constructing the Passing Sidings, and at an estimated $334 million ($2012), the capital cost for the Double Tracking is significantly higher than the estimated $55 million ($2012) for the Passing Siding Alternative. Further, the Passing Sidings could be expanded to the Double Track configuration at some future time.

Therefore, the construction of Passing Sidings is considered a more cost-effective solution for short/mid-term implementation. Double Tracking should be considered in the longer-term when increased demand requires markedly higher service levels.

### 4.2.2 A New Mid-Point Yard

Limited yard space for service and the storage trains on the PJL constrains the ability to provide more frequent service. The Port Jervis Yard is too far west to support a new “Inner” PJL service and there is limited space available at the Yard to provide overnight storage and servicing for additional train sets.

In conjunction with the PJL Track Capacity Improvements, a new Mid-Point Yard is needed to store and service up to eight additional train sets; which would support the “Inner” PJL service, allowing for added service during the peak periods. Furthermore, a Mid-Point Yard would provide better crew and fleet utilization than is currently possible and would allow for additional maintenance service for Metro-North trains, freeing up limited train maintenance and servicing space at the Hoboken Rail Yard.
4.2.2.1 Alternatives for a Mid-Point Yard Location

The consideration of a Mid-Point Yard had been underway prior to the initiation of this strategy report, which is highlighted in the Mid-Point Yard Analysis (Appendix B: Mid-Point Yard Analysis). The search for a suitable site was originally conceived based upon a strategy of running the “Inner” PJL service from a station located closest to the new yard. An initial list of 40 sites between Middletown and Harriman was tapered through a three-step screening process. First, a qualitative analysis winnowed down the list to 10 alternatives, within three geographical zones; then, a quantitative analysis further eliminated sites with higher risk in each zone. As shown in Figure 10, each of the three zones were associated with the Harriman, Salisbury Mills/Cornwall, and Campbell Hall Stations. With the subsequent development of the current strategy to operate the “Inner” PJL service from the Middletown/Town of Wallkill Station, updated criteria were developed to evaluate the effectiveness, costs, and impacts of each of the final three alternatives for supporting the service from this Station. The alternatives are described below.

Figure 10: Mid-Point Yard Potential Sites
**Alternative 1 – Mid-Point Yard at Harriman**

The “Harriman” site is shown in Figure 11. It is located in the Villages of Woodbury and Harriman, approximately 0.75 miles northwest of the Harriman Station. It is situated west of the PJL, along the Harriman Wye and south of the former Nepara industrial plant. This location has direct connectivity to NYS Route 17, a regional road, and has been recently rezoned as mixed-use to be developed as a “Transit Village.” The site was also recently considered as a potential location to build a casino resort; however, the casino is no longer under consideration.

A yard at this site would accommodate a double-ended yard with one train per track. However, because of its location at the dead end of a wye interlocking, this facility would essentially operate as a stub-end yard. Service from this location to all points north and west would require performing relay moves to maintain the desired engine’s orientation on the west/north end of the trainset. This setting offers opportunity for expansion to accommodate additional storage of trains in the future.

The Harriman site is the most distant alternative from Middletown/Town of Wallkill Station. Under this scenario, some trains would be required to deadhead to support the “Inner” PJL service from Middletown/Town of Wallkill Station. During the peak periods, trains would originate or terminate revenue service at Harriman, Salisbury Mills-Cornwall, or Middletown/Town of Wallkill Stations.

It is estimated that constructing a yard at the Harriman location would require 18.5 acres and cost approximately $92M ($2012). Given the topography, preparing the site for construction would require earthwork and potentially blasting as well. This location would provide the opportunity for expansion. In addition, a 1,000-foot long tail track would need to be constructed west of Salisbury Mills-Cornwall Station to turn trains originating or terminating there (approximately $6 M, $2012).

For more detailed discussion on the Harriman Yard location refer to *Appendix B: Mid-Point Yard Analysis*. 

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Figure 11: Alternative 1 - Mid-Point Yard at Harriman
Alternative 2: Mid-Point Yard at Salisbury Mills

The “Salisbury Mills” Mid-Point Yard alternative is shown in Figure 12. The site is located in the Towns of New Windsor and Cornwall about 0.4 miles north of Salisbury Mills-Cornwall Station. It is situated on the east side of the PJL ROW, on the opposite side of the ROW from the residential community of Beaverdam Lake-Salisbury Mills. There is no direct access to a regional road. Access to a yard at this location would require using a local road, Jackson Avenue, which connects to NYS Route 94, a regional road about 0.5 miles away. The Salisbury Mills alternative would accommodate a double-ended yard with one train per track. Given its proximity to residential, historic, and surrounding wetland areas, this location does not offer any additional space for possible future yard expansion.

The Salisbury Mills site is 16.3 miles from the Middletown/Town of Wallkill Station. Construction of a Mid-Point Yard at Salisbury Mills will require deadheading to support the “Inner” PJL service from Middletown/Town of Wallkill Station. During the peak periods, trains would originate or terminate revenue service at Salisbury Mills-Cornwall or Middletown/Town of Wallkill Stations.

It is estimated that constructing a yard at the Salisbury Mills site would require 18.7 acres and cost approximately $102M ($2012). Given the topography, constructing a yard at this location would require a substantive amount of fill to raise the yard grade to track level and prepare the site for construction.

For more detailed discussion on the Salisbury Mills Yard location refer to Appendix B: Mid-Point Yard Analysis.
Figure 12: Alternative 2 - Mid-Point Yard at Salisbury Mills
**Alternative 3: Mid-Point Yard at Campbell Hall**

The “Campbell Hall” Mid-Point Yard alternative is shown in Figure 13. The site is entirely located within the Town of Hamptonburgh, situated on the south side of the PJL ROW between Route 207 and the Campbell Hall Station. Access would be provided directly from either NYS Route 207, a regional road, or from Watkins Road, a local road, adjacent to the entrance of Metro-North’s Campbell Hall Station parking lot. The Campbell Hall location would accommodate a double-ended yard with one train per track and does offer additional space for possible future yard expansion. A portion of a parcel needed for the Campbell Hall Yard is currently used for farming and currently has several greenhouses.

The site is the closest of the three alternative sites to the Middletown/Town of Wallkill Station, therefore requiring the least deadheading of trains and crew to begin revenue service at Middletown/Town of Wallkill Station as compared to the other two alternative yard locations. During the peak periods, trains would originate or terminate revenue service at Salisbury Mills-Cornwall, Campbell Hall, or Middletown/Town of Wallkill Stations.

It is estimated that constructing a yard at Campbell Hall would require an area of 18.8 acres and would cost approximately $93M ($2012). The terrain of this location may require some rock blasting. The site is located on open fields next to the railroad tracks. Should the yard need to be expanded, there is additional space available.

For more detailed discussion on the Campbell Hall Yard location refer to *Appendix B: Mid-Point Yard Analysis.*
Figure 13: Alternative 3 - Mid-Point Yard at Campbell Hall
4.2.2.2 Evaluation of Mid-Point Yard Alternatives

The evaluation of the three Mid-Point Yard alternatives was based on the key factors that were important to constructing the yards and providing the intended level of service. Although any of the three Alternatives discussed above would support the “Inner” PJL Service and provide similar benefits to those Orange County residents and businesses located predominantly east of Middletown, each location presents different challenges and opportunities.

The three alternatives were evaluated using the following factors:

- **Operational Considerations** – The operational benefits and potential risks associated with a particular yard location on the PJL
- **Construction Costs** – As sufficient existing equipment is expected to be available to operate the service, the cost for initiating the service will be dependent upon the construction of the Mid-Point Yard, including preparing the site.
- **Environmental Considerations** – The construction of a Mid-Point Yard at the three proposed alternative locations could have varying degrees of impacts to the surrounding area. The Mid-Point Yard alternatives were evaluated based on land use compatibility, direct connectivity to regional roadways, visual impacts, as well as impacts to bodies of water or wetlands, and impacts to other environmental resources such as agricultural lands, parklands, historic, and archaeological sites.
- **Ability To Expand** – The potential a location may offer for future expansion to accommodate additional trains without triggering any significant constructability or environmental impacts.

As summarized in Table 4, the following provides a comparison of these three alternatives applying these factors described.

**Operational Considerations**

Extensive deadheading of trains raises the risk for unforeseen circumstances during train operations. The Harriman site, located 27 miles east of the Middletown/Town of Wallkill Station, requires the most deadheading before beginning revenue service, thereby inherently presenting the greatest risk for unforeseen circumstances. Similarly, Salisbury Mills would require extensive deadheading of approximately 16 miles. The Campbell Hall site, which would require the shortest deadheading move of only six miles, minimizes the risk for unforeseen circumstances.

In addition, the construction of a yard at Harriman would require that each trainset using the yard perform a relay move as part of a change in direction to maintain the desired engine orientation on the west/north end of the trainset. This would take away capacity from main line track.
### Comparison of Mid-Point Yard Alternatives for PJL “Inner Service”

<table>
<thead>
<tr>
<th>Operational Considerations</th>
<th>Yard at Harriman</th>
<th>Yard at Salisbury Mills</th>
<th>Yard at Campbell Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Greatest potential risk of unforeseen circumstances while deadheading</td>
<td>Potential risk of unforeseen circumstances while deadheading</td>
<td>Least potential risk of unforeseen circumstances while deadheading</td>
</tr>
<tr>
<td></td>
<td>Requires additional moves to position trains for service</td>
<td>Requires no additional moves to position trains for service</td>
<td>Requires no additional moves to position trains for service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Construction Cost of Yard ($2012)</th>
<th>$92 M</th>
<th>$102 M</th>
<th>$93 M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Infrastructure Required</td>
<td>1,000 Foot Tail Track west of Salisbury Mills Station</td>
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<td>N/A</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental Considerations</th>
<th>Yard at Harriman</th>
<th>Yard at Salisbury Mills</th>
<th>Yard at Campbell Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No significant impacts</td>
<td>Significant impacts to residences, historic site, and wetlands.</td>
<td>No significant impacts</td>
</tr>
<tr>
<td></td>
<td>Site zoned for transit oriented development</td>
<td>No direct access to a regional road</td>
<td>May impact farmland</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ability to Expand</th>
<th>Yard at Harriman</th>
<th>Yard at Salisbury Mills</th>
<th>Yard at Campbell Hall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Offers opportunity for expansion</td>
<td>Does not offer opportunity for expansion</td>
<td>Offers opportunity for expansion</td>
</tr>
</tbody>
</table>

**Table 4: Comparison of Mid-Point Yard Alternatives for “Inner” PJL Service**

### Construction Costs

There is not a significant difference in the cost to construct a yard at any of the three locations; costs range between $92M and $102M ($2012), not a significant difference. The range is mostly explained by the site preparation costs. As Table 4 indicates, the Salisbury Mills Mid-Point Yard alternative would require the highest construction costs ($102M, $2012) to support the new service, compared to the Campbell Hall alternative ($93M, $2012), and the Harriman alternative ($92M, $2012).

### Environmental Considerations

Based on preliminary analysis, constructing the Harriman Mid-Point Yard site is not expected to cause any significant environmental impacts due to their location and direct access to regional roads. However, the Harriman site is zoned for a Transit Oriented Development. A train yard use is not compatible with this zoning.

A Mid-Point Yard at Salisbury Mills would have significant visual impacts on nearby residential areas, most particularly the Beaverdam Lake-Salisbury Mills community. It would also require the acquisition of portions of the A. Walsh Stone House and Farm parcel, a National Register Historic Site. Furthermore, construction of a Mid-Point Yard at this setting may directly impact about 1.7 acres of unregulated Wetlands, which are included in the National Wetlands Inventory.

In addition, the Salisbury Mills site has no direct access to a regional road requiring the use of Jackson Avenue, a local street. The use of Jackson Avenue may be constrained by local regulations.
limiting the use of commercial traffic, which is required to service the Mid-Point Yard during construction and operations.

A yard at Campbell Hall is not expected to have significant impacts, due to its location, topography, and access to regional roads. The temporary structures that serve as greenhouses on the site may be able to be relocated within the parcel. In addition, the farmland is not located in an agricultural district.

**Ability to Expand**

A Mid-Point Yard at Harriman or Campbell Hall offer opportunity for expansion to accommodate the additional storage of trains in the future with minimal constructability issues or environmental impacts. However, the potential to expand the alternative Mid-Point Yard site at Salisbury Mills is constrained by the site’s proximity to residential, historic, and wetland areas and would not occur without triggering additional significant constructability and environmental issues.

**Evaluation Summary**

Based upon the above evaluation, the Campbell Hall site appears to be the best alternative site for a Mid-Point Yard. It is located closest to the Middletown/Town of Wallkill Station requiring the least amount of deadheading among the three alternatives, which results in the least risk for the Line to be blocked by a stalled deadheading train, a significant operating concern.

The Harriman Mid-Point Yard alternative would require the highest mileage of deadheading to support Middletown/Town of Wallkill service, thereby posing the greatest potential risk for unforeseen circumstances while deadheading.

The Salisbury Mills alternative would trigger the greatest environmental impacts and require the greatest investment in capital costs compared with the other two locations.
Figure 14: Passing Sidings and Mid-Point Yard at Campbell Hall site
Chapter 5: Conclusion and Recommendations

Despite the Metro-North investments made to bring the PJL closer to a state of good repair and the growth that has occurred on the Line, there are still challenges for increasing the appeal of the PJL service to existing and potential customers; particularly those travelling from the Route 17/PJL Corridor to Midtown Manhattan.

In order to attract these customers, service improvements need to be made on the PJL that would allow for more frequent peak, off-peak, and introduce reverse peak service to the majority of Orange County residents living in the Route 17/PJL corridor. Key to this goal should be the establishment of an “Inner” PJL revenue service, similar to what operates on Metro-North’s East of Hudson Lines, with a terminus at the Middletown/Town of Wallkill Station.

To support the new “Inner PJL” revenue service, a new yard along the Line and passing sidings will need to be constructed. Of the locations considered to construct a new yard, Campbell Hall appears to be the best alternative based upon cost, operating and environmental considerations. It is also recommended that three passing sidings be constructed west of the Tuxedo Station, east of the Moodna Viaduct, and west of the Middletown/Town of Wallkill Station.

These recommendations will improve rail service in the corridor and increase the attractiveness of rail as a transit choice. It will also be important to improve this rail service given the inevitable increase in roadway congestion approaching Manhattan and at the Port Authority Bus Terminal. These additional services would not only benefit Orange County residents, but also Rockland County residents who use the PJL. The proposed improvements will also encourage economic growth in Orange and Rockland Counties and the region by improving rail service between Orange County and key employment centers in the region’s core (Manhattan). In addition to supporting the current rail service needs, these improvements could be the initial building blocks to support possible direct rail service to Stewart Airport, as well as a one-seat ride to Manhattan.