Proposed Restoration of Passenger Rail Service on the West Trenton Line
Draft Environmental Assessment
Chapter 1:
Purpose and Need

November 2007

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USA

NJTRANSIT
1. PURPOSE AND NEED

1.1 PROJECT INTRODUCTION

The West Trenton Passenger Rail Service Restoration Study and Draft Environmental Assessment (EA) project is sponsored by NJ TRANSIT. This study has been conducted to conform to the National Environmental Policy Act (NEPA). The purpose of this Draft Environmental Assessment is to assess impacts of the Build Alternative on the surrounding environment. Alternatives were developed and studied through a multi-phase approach that included the analysis conducted during this study as well as those that preceded this study. A description of these previous studies and alternatives is included in Chapter 2: Alternatives Considered.

As part of this Draft EA, alternatives have been studied and developed to a conceptual level of design, environmental effects have been reviewed, costs and benefits have been developed and project next steps have been defined. The comprehensive project efforts also included public outreach activities and coordination with the municipalities most affected by the Build Alternative. A summary of the public outreach program is provided in Chapter 4 of this EA.

1.1.1 Study Area

The study area is located along 27 miles of the West Trenton Line through Somerset and Mercer Counties. Passenger service operated on the line until 1982 when budgetary constraints caused its cancellation. The line is currently owned by CSX Transportation and operated for freight service. NJ TRANSIT retained operating rights for passenger service on the West Trenton Line and retained ownership of property at two of the former stations (West Trenton and Belle Mead).

The southern terminus of the study area is the West Trenton Station, located in Ewing Township, Mercer County. The northern terminus is the Bridgewater Station in Somerset County. The service area for this project lies between the Raritan Valley Line (RVL) to the north and the Northeast Corridor (NEC) to the south and east. This service area covers most of the municipalities in Mercer and Somerset counties (and some of Hunterdon County, NJ and Bucks County, Pennsylvania). However, the following municipalities, referred hereafter as the “study area,” directly abut the West Trenton Line and have a greater potential to experience benefits and impacts if the Build Alternative is implemented:

- Mercer County--Ewing and Hopewell Townships and the Boroughs of Pennington and Hopewell;
- Somerset County--Montgomery and Hillsborough Townships and the Borough of Manville.

The analyses contained within this Draft EA are focused on this study area as depicted on Figure 1-1.
Proposed Restoration of Passenger Service on the West Trenton Line

Figure 1-1

West Trenton Line Study Area

Sources:
NJ Transit, PASDA, NJGIN
January 2007
1.2 PURPOSE AND NEED

The primary need for restoration of passenger service on the West Trenton Line is the lack of convenient, transportation modal alternatives in the growing Somerset and Mercer county region of New Jersey. Past and projected demographics show that this region is growing at a rate faster than most areas in New Jersey and the existing transportation links are inconvenient and overcapacity. Reliance on single-occupant automobiles for travel degrades the regional environment as well as the quality of life. A convenient rail alternative would enable communities to focus continued growth around the rail line, limit existing development sprawl and roadway congestion, and improve air quality.

This Draft EA is being issued by NJ TRANSIT for the purpose of receiving public comment prior to finalizing the document. The final document will be submitted to the Federal Transit Administration for approval and potentially a Finding of No Significant Impact.

The following sections provide evidence of these study area needs.

1.2.1 Transportation Infrastructure and Mobility in the Study Area

Chapter 3 of this Draft EA provides a detailed description of the existing and proposed roadway, rail and bus transit network in the study area. This combined network serves the development and employment trips within/to/from the study area, and is served primarily by U.S. Highway Route 206, and the Northeast Corridor and Raritan Valley rail lines. Traffic data trends show that usage of Route 206 is continually increasing, and that access to the closest NEC and RVL stations require long travel times on local roadways. Existing stations on the NEC and RVL have constrained parking, further exacerbating the difficulty of accessing rail transit. Bus transit is provided, but mostly for local trips. While improvements are planned (some parking expansions, the U.S. Route 206 bypass project), the study area communities will continue to face mobility problems related to gaps in the public transportation network, and the network’s inability to meet existing and future demands. The need to fill the gaps and meet anticipated growth is a key factor in considering whether to restore passenger service along the West Trenton Line.

While many transportation facilities and services exist in the two-county study area, most of the major services are focused on the periphery of the core study area or are concentrated around Trenton to the south or Somerville to the north. The lack of transportation options within the southern Somerset and northern Mercer County areas forces residents and employees to depend upon the automobile for mobility. According to the 2000 U.S. Census, in Somerset and Mercer counties, more than 73% of resident workers chose single occupant vehicles for their trips (81.7% Somerset and 73.4% Mercer), with transit being the choice of less than 7% of work trips (4.1% Somerset and 6.7% Mercer). Moreover, even automobile travel is cumbersome from the congested U.S. Route 206 and a sparse network of interconnecting county roads.

1.2.1.1 Rail Transit

There are three primary passenger rail lines in the study area (see Figure 3.3-7). The most heavily traveled is Amtrak/NJ TRANSIT NEC, which provides direct, electrified train service between Philadelphia and Manhattan with major stations in Trenton, Hamilton, Princeton Junction, Metropark, and Newark. The NEC lies southeast of Somerset County and bisects Mercer County. For many study area residents, especially those in southern Somerset County, use of the NEC requires a significant drive to Princeton Junction Station to the south; New Brunswick Station to the east in Middlesex County; and RVL stations to the north in central Somerset County. For instance, the distance from the Hopewell/Belle Mead area is about 14 miles to Princeton Junction (the closest NEC station). This trip could exceed 30 minutes in congested conditions. Demand
for NJ TRANSIT NEC passenger service is high due to quick and convenient travel to Newark and New York. High demand also translates into train crowding and parking shortages at stations. Seven of the eleven closest stations to the West Trenton study area experience parking utilization greater than 85% with two of those stations at or exceeding capacity. The following table presents parking utilization at the NEC and RVL stations closest to the proposed West Trenton Line. Stations at or exceeding capacity are highlighted.

Table 1-1: 2005 Parking Utilization at NEC and RVL Stations

<table>
<thead>
<tr>
<th>Station</th>
<th>Line</th>
<th>Capacity</th>
<th>Used</th>
<th>% Occupied</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Brunswick</td>
<td>NEC</td>
<td>735</td>
<td>735</td>
<td>100%</td>
</tr>
<tr>
<td>Jersey Avenue</td>
<td>NEC</td>
<td>1,471</td>
<td>1,360</td>
<td>92%</td>
</tr>
<tr>
<td>Princeton Jct.</td>
<td>NEC</td>
<td>3,635</td>
<td>3,480</td>
<td>96%</td>
</tr>
<tr>
<td>Princeton</td>
<td>NEC</td>
<td>285</td>
<td>273</td>
<td>96%</td>
</tr>
<tr>
<td>Hamilton</td>
<td>NEC</td>
<td>1,864</td>
<td>2,099</td>
<td>113%</td>
</tr>
<tr>
<td>Trenton</td>
<td>NEC</td>
<td>3,615</td>
<td>1,323</td>
<td>37%</td>
</tr>
<tr>
<td>Bound Brook</td>
<td>RVL</td>
<td>275</td>
<td>196</td>
<td>71%</td>
</tr>
<tr>
<td>Bridgewater</td>
<td>RVL</td>
<td>467</td>
<td>283</td>
<td>61%</td>
</tr>
<tr>
<td>Somerville</td>
<td>RVL</td>
<td>466</td>
<td>346</td>
<td>74%</td>
</tr>
<tr>
<td>Raritan</td>
<td>RVL</td>
<td>288</td>
<td>257</td>
<td>89%</td>
</tr>
<tr>
<td>North Branch</td>
<td>RVL</td>
<td>40</td>
<td>35</td>
<td>88%</td>
</tr>
</tbody>
</table>

Source: NJ TRANSIT 2005 Parking Guide
Parking Totals include NJ TRANSIT, municipal and private lots

Within the extreme northern portion of Somerset County lies a section of the Gladstone Branch. As a component of the Morris and Essex Lines, the Gladstone Branch provides direct service to Newark Broad Street Station, Hoboken Terminal, and Midtown Manhattan. The location of the Gladstone Branch is significantly north of the core demand shed of the proposed West Trenton Line, thereby making it an unrealistic choice for many of the study area’s residents.

1.2.1.2 Bus Transit

NJ TRANSIT provides 12 different bus routes within the study area, detailed in Chapter 3. The majority of the routes are in Mercer County, focused mainly in the Trenton area, while the remaining routes provide local service. In addition to the publicly-funded bus service, two private bus companies, Lakeland Bus Lines, Inc. and Suburban Transit, offer commuter service to Manhattan. The majority of the available routes provide intra- and inter-county service to local destinations or to the RVL and NEC stations. Few routes provide direct service to Newark or other urban core destinations. Bus park and ride facilities in the study area are limited. In Mercer County, bus park & rides are concentrated in the Trenton/Princeton/ Hamilton areas and do not serve the core demand shed for the West Trenton Line. Similarly, in the Somerset County study area municipalities, only Hillsborough (U.S. Route 206 and Amwell Road) provides a bus park and ride facility. Currently, there are no park and ride facilities in Hopewell Township and Montgomery Township. The majority of the parking facilities are located in central Somerset County or along the NEC rail line. Additionally, NJDOT reports that the West Trenton Station and the North Branch Station park and ride lots are at capacity, and no new parking permits will be issued until spaces open.

While there is bus service within the study area, the efficiency and popularity of bus transit is limited by the existing infrastructure. A study conducted in 2000 determined that Somerset County commuters experience the greatest traffic-congestion based delays of any county in New
Jersey\textsuperscript{2}. The travel rate index (TRI), the measure of extra time spent traveling as a result of peak-period congestion, was 1.32 for prime arterial travel in Somerset County. A TRI of 1.0 means that travel during the rush hour peak period takes about the same amount of time as off-peak travel. Somerset County’s rate of 1.32 indicates that it takes a driver nearly one-third as long (32\% delay) during rush hour to travel the same stretch of road as at non-peak periods. These delays apply to bus transit as well as private automobile commuters.

1.2.1.3 Roadway Network

The study area is served by a combination of major interstates (I-287 and I-78), U.S. and state roadways (U.S. Route 206, U.S. Route 1 and U.S. Route 22) and local county roadways. In Chapter 3 a comprehensive description of the study area’s roadway network is provided. Both of the interstates serve the periphery of the study area and thus, do not directly serve the demand core. U.S. Route 206 is a two lane roadway with some four-lane sections. It is the primary travel route for core study area residents and employees, and provides the most direct access between and within the two study area counties and other regional points through its interstate connections. Its proximity to numerous businesses in the study area, coupled with its connections to the interstate system, makes U.S. Route 206 a popular and heavily traveled roadway. Major impediments are its narrow and often winding infrastructure, flanking development, and traffic lights, all of which create congestion along the route.

Traffic on U.S. Route 206 has grown significantly in the past 25 years. In the heart of the study area (Hillsborough Road/Amwell Road) average daily traffic has increased by more than 70\%. The following table details traffic growth at key locations.

**Trends in Route U.S.-206 Traffic Volumes in Somerset County**

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>County Route 518 / River Road</td>
<td>16,900</td>
<td>19,505</td>
<td>15%</td>
<td>23,870</td>
<td>22%</td>
<td>41%</td>
</tr>
<tr>
<td>Trent Avenue / Hillsborough Road</td>
<td>16,450</td>
<td>17,000</td>
<td>3%</td>
<td>25,770</td>
<td>52%</td>
<td>57%</td>
</tr>
<tr>
<td>Hillsborough Road / Amwell Road</td>
<td>16,900</td>
<td>23,555</td>
<td>39%</td>
<td>28,880</td>
<td>23%</td>
<td>71%</td>
</tr>
<tr>
<td>Amwell Road / Triangle Road</td>
<td>19,000</td>
<td>26,520</td>
<td>40%</td>
<td>28,940</td>
<td>9%</td>
<td>52%</td>
</tr>
<tr>
<td>Triangle Road / Dukes Parkway West</td>
<td>19,900</td>
<td>25,790</td>
<td>30%</td>
<td>31,260</td>
<td>21%</td>
<td>57%</td>
</tr>
</tbody>
</table>

Sources
1978 and 1986 volumes obtained from EIS for Route U.S.-206 Bypass from NJDOT
2005 volumes obtained from NJDOT count station data for 2004 and 2005, with 2004 volumes adjusted based on recent growth trends.

Improvements for this roadway have been proposed and are discussed in Chapter 2.

County Roads are generally the principal access routes to/from the local communities. Residents in the core study area lack access to major highway facilities (except for U.S. Route 206) and their main highway facilities are congested, forcing them to depend on these often one-lane, “country” roads for the majority of travel within/to/from Somerset and Mercer Counties. The New Jersey Congestion Management System (NJCMS) data indicate that there is little excess congestion.

\footnote{2 National Center for Transportation and Industrial Productivity (New Jersey Institute of Technology), 2001. \textit{Mobility and the Costs of Congestion in New Jersey Update 2001}. Final Report issued to The Foundation of the New Jersey Alliance for Action.}
capacity in the roadway network to accommodate additional growth. Consequently, even small increases in traffic volume will result in significant increases in traffic delay and cost. Somerset County has the highest percentage of peak period vehicle miles traveled (VMT) under congested conditions of all the counties in New Jersey.³

1.2.2 Land Use and Demographics

The development patterns and demographics of the study area are good indicators of past, existing, and future area travel needs. As more people settle in Somerset and Mercer Counties and as more businesses locate in those counties, travel will increase.

Mercer and Somerset Counties’ growth through 2025 is projected to outpace the rate of population and employment growth in the New York Metropolitan Region as a whole. Somerset County, in particular, is expected to add about 99,000 residents to its population, an increase of more than 33 percent from the 2000 census population. In Mercer County, another 54,000 residents are expected through 2025, an increase of 15 percent.

Study area employment is also expected to grow significantly. In Somerset County, an additional 77,000 jobs are expected by 2025, a relative employment increase of 44 percent for the 2000-2025 period. In Mercer County, the increase is expected to be about 67,000 new jobs, a relative increase of 28 percent over the same 25 years. Both these employment increases significantly outpace the metropolitan regional projection, estimated at 21 percent.

Both counties have recognized the need to provide alternatives to auto-dependency and have incorporated transit-friendly objectives into their long-range planning goals. As population and employment continue to increase and transportation infrastructure or trip-making modal choice is not provided as a focus for further development, the counties will continue to develop in the sprawl-like manner that has occurred over the past 30 years.

1.2.3 Air Quality and Natural Resources

Traffic congestion is a direct contributor to air quality degradation. Noxious emissions, including carbon monoxide and ozone, are present in greater concentrations in regions where gasoline-powered vehicles idle in traffic, as idling and stop-and-go conditions result in a less efficient consumption of fuel. Even in ideal traffic and weather conditions, automobiles produce more emissions than a diesel train carrying an equivalent number of passengers.

As described above, the existing road network is nearing or at capacity. Additional capacity is difficult to provide given the constraints within the study area. As a result, without a viable transit option to reduce roadway traffic and vehicle miles traveled (VMT), further degradation of air quality in the study area is likely. Decreased air quality correlates to a decreased quality of life for study area residents, and contributes to other ecological problems such as acid rain and water pollution.

However, with the suburban expansion of the 1950's and later decades, study area communities such as Hillsborough began to grow rapidly as residential communities. This was followed by strong increases in commercial office and retail development in places such as Bridgewater.

Much of this development was precipitated by the completion of Interstates 287 and 78 across Somerset County, which furthered regional vehicular access and mobility. In the 1990's, nearly six million square feet of office development were proposed for the I-95 corridor, along with three hotels.

1.3 STATEMENT OF NEED

Based on the information outlined in this chapter, the needs of the study area are defined as:

- Decrease dependence on vehicular transportation between the study area and the regional urban centers of New York and Philadelphia, thereby reducing traffic and congestion.
- Reduce vehicle miles traveled to improve regional air quality.
- Improve transit coverage in under-served areas while improving service at existing transit stations and lines.
- Provide transportation options particularly in southern Somerset and northern Mercer Counties.

The West Trenton Line passenger service restoration could help meet these needs by providing an alternative to traffic congestion that commuters face daily on heavily traveled roadways such as U.S. Routes 206, 22, and 1. Restoration of passenger rail service could also reduce regional vehicular miles traveled, contributing to regional air quality improvements. Service restoration would provide the opportunity to relieve parking shortfalls at stations along the NEC and RVL lines. With an active rail corridor, development could be planned effectively, thereby preserving the character of the area while enabling moderate growth.

1.4 GOALS AND OBJECTIVES

There are six primary study goals. These emphasize regional mobility, cost-effectiveness, environmental quality, safety, consistency with local plans, and community acceptance. An alternative that met these goals and objectives would have a strong likelihood of success, if it were implemented.

GOAL 1: IMPROVE MOBILITY AND TRANSPORTATION ACCESS

Objectives:

- Improve accessibility to commuter rail for the maximum number of State residents and provide a well-integrated system through new commuter rail connections and ease of transfers between lines.
- Relieve increasing highway congestion by attracting auto users to commuter rail.
- Maximize opportunities for the transit-dependent and-reliant.
- Reduce travel time and provide competitive fares.
- Increase the number of state residents who can reach major destinations by rail.

GOAL 2: DEVELOP THE MOST EFFICIENT COMMUTER RAIL SYSTEM, WHICH MAXIMIZES LIMITED RESOURCES FOR THE GREATEST PUBLIC BENEFIT

Objectives:

- Maximize use of existing rail corridors and infrastructure.
- Maximize return on investment within the context of limited resources.
- Advance the most cost-effective commuter rail network.
- Increase revenue potential, thereby minimizing the level of subsidy required.

GOAL 3: PRESERVE AND ENHANCE THE ENVIRONMENT, NATURAL RESOURCES, AND OPEN SPACE

Objectives:

- Improve air quality by providing commuter rail alternatives that moderate the increase of vehicle emissions.
• Minimize potential adverse impact on residential areas and the natural and built environments.
• Minimize potential adverse impacts on businesses and activities, which are key to the economic environment.

GOAL 4: DEVELOP A SAFE, SECURE, RELIABLE, AND CONVENIENT COMMUTER RAIL SYSTEM

Objectives:
• Minimize number of transfers between different lines and corridors.
• Advance the commuter rail network with stations that provide the shortest access distance for the greatest number of primary study area and service market area residents.
• Provide for cost-effective safety and capacity enhancements for passengers, commuters and freight operations.

GOAL 5: DEVELOP A COMMUTER RAIL SYSTEM CONSISTENT WITH LOCAL AND REGIONAL PLANS AND POLICIES

Objectives:
• Support and implement the State Development and Redevelopment Plan.
• Support local plans and policies.

GOAL 6: MAXIMIZE COMMUNITY ACCEPTANCE, CONSENSUS, AND INSTITUTIONAL SUPPORT FOR COMMUTER RAIL IMPROVEMENTS

Objectives:
• Provide a commuter rail solution that reflects public consensus.
• Provide a public participation process that is open, inclusive, and responsive.
• Provide a commuter rail solution that can be implemented in a timely manner.