

#### **4.11 Traffic and Transportation**

This section describes existing and proposed traffic and transportation characteristics, on-site circulation, parking conditions, transit service, pedestrian circulation, and air navigation within the vicinity of the Project Area of the New Meadowlands Stadium Project.

Traffic, circulation, parking and pedestrian safety are major concerns for the NJSEA, the Project developers, and the surrounding communities. Although the Stadium Project is replacing the current stadium, one objective of the Project is to improve the safety and efficiency of the transportation system by improving and reorganizing the on-site roadway network and parking lots on the West Site, and facilitating the management of Sports Complex traffic operations during game events. The traffic and transportation studies of the Stadium Project have taken into account previous studies completed for redevelopment of the East Site (TRC Raymond Keyes Associates, 2004), the Railroad Project (NJSEA, 2005), the NJ Turnpike Interchange 16W Improvement Project (DMJM Harris, 2006), a Route 120 (Paterson Plank Road) Study (HNTB, 2006), and for the region in and around the Meadowlands Sports Complex area for the NJDOT and the NJSEA (Edwards & Kelcey, Inc. 2004). Several major regional transportation projects being implemented by others are already underway with funding in place. These regional transportation projects include:

The Rail Spur from Secaucus, which is under construction and scheduled to open in summer 2008 that will substantially reduce automobile trips to the Sports Complex during major sports and entertainment events;

NJ Turnpike Interchange 16W improvements that will eliminate current traffic weaving, thereby improving egress and access to the Sports Complex;

Route 3 East bound flyover and ramp improvements that will add lanes, thereby eliminating weaving on the current flyover;

Route 17 and Paterson Plank Road mainline improvements; and,

Route 17 Intersections improvements that will enhance traffic flow at six intersections.

In addition to these regional transportation projects, the Stadium Project will improve on-site related parking areas and on-site traffic circulation. These Project-related improvements will facilitate traffic flow in the surrounding area, ease congestion and back-ups on local roadways

and within the West Site itself, and provide ample, well-marked parking through the following steps:

Implementation of an improved wayfinding signage systems within the West Site and on adjacent off-site roadways to provide clear access and well defined travel paths to and from the Sports Complex parking areas;

Creation of new internal loop roads that move traffic more efficiently within the West Site and link more directly and effectively to the local and regional road systems (e.g., Interchange 16W) to facilitate better traffic flow and speed patrons through areas that have in the past been bottlenecks;

Reconfiguration of existing surface parking areas to provide adequate parking supply and designate specific parking areas for each arrival route in order to direct patrons to specific parking areas; and,

Reconfiguration and addition of Sport Complex toll plazas (parking fee collection) - both physical and virtual – to reduce queuing and related congestion.

It is anticipated that these regional highway improvement projects will reduce overall vehicular travel times to and from the Meadowlands Sports Complex. Building upon the regional roadway improvements and doubling of lanes accessing the Meadowlands Sports Complex, the internal roadway improvements will effectively carry these off-site improvements into the Meadowlands Sports Complex, thereby reducing queues and spillback that adversely affects the regional traffic flows.

The Stadium Project's Parking and Transportation Management Plan, submitted as part of the NM Stadco June 2006 Master Plan, calls for the implementation of enhanced traffic and parking management strategies to facilitate more efficient use of the parking areas by: (1) increasing the number of pre-paid parking passes to foster faster throughput of vehicles at toll plazas, (2) implementation of directed parking within the lots themselves, (3) increasing awareness and communication to patrons through team website and email communications, and (4) implementation of formalized shared parking plans with the NJSEA and related venues at the Sports Complex to coordinate user requirements on a 365 day per year basis.

In accordance with N.J.A.C. 16:47-4.3(a), an Access Permit is required from the NJDOT when the use of a lot having one or more access points to a State highway is changed or expanded, resulting in a significant increase in traffic as defined in Appendix J of the State Highway Access Code. The proposed Ancillary Development will generate levels of traffic that exceed these thresholds and, therefore a Major Access Permit is required.

As required by the Major Access Permit process, a Scope of Study for a Traffic Impact Study (TIS) was prepared and submitted to NJDOT in November 2006 outlining the proposed study methodology to be employed in evaluating the traffic impacts of the proposed Ancillary Development. NJDOT reviewed and approved the Scope of Study on December 20, 2006.

Vollmer Associates LLP has prepared a revised Traffic Impact Study in conformance with the approved Scope of Study in January 2007 and the New Jersey Highway Access Management Code (N.J.A.C. 16:47). The revised Traffic Impact Study will be submitted to the NJDOT as part of the Major Access Permit Application for the proposed Ancillary Development. The analysis and summary of existing and proposed traffic conditions presented in this section is based on the revised Traffic Study prepared by Vollmer Associates LLP and is included in the FEIS as Appendix C (Vollmer, 2007).

The analysis and summary of parking, pedestrian circulation, and transportation management presented in this section is based on the Parking and Transportation Management Plan also prepared by Vollmer Associates (Vollmer, 2006) (Appendix H of the PEIS). This plan presents an Event Parking Analysis, Shared Parking Analysis, Parking Management Plan, Transportation Management Plan and Pedestrian Circulation Plan.

#### 4.11.1 Existing Conditions

##### 4.11.1.1 Roadway Network

The HMD contains a number of major roadway arteries that connect to nearby urban areas, including New York City. The roadways in the vicinity of the Meadowlands Sports Complex and Project Area are shown on Figure 2-2. These roadways include:

*NJ Turnpike Western Spur* – The Western Spur of the NJ Turnpike is a major north/south interstate highway consisting of two to three lanes per direction. In the vicinity of the Project Area, Interchanges 16W and 18W provide connections to NJ Route 3 and the Meadowlands Sports Complex roadway network.

*NJ Route 3* – NJ Route 3 is a major east/west, limited access State highway, consisting of three to four lanes per direction. In the vicinity of the Project Area, NJ Route 3 has major interchanges with NJ Route 17, NJ Route 120 and the NJ Turnpike Western Spur.

*NJ Route 120* – NJ Route 120 is a north/south State highway consisting of three lanes per direction between NJ Route 3 to the south and Washington Avenue to the north. Grade-separated interchanges are provided at its crossings with NJ Route 3, the Meadowlands Sports Complex and Washington Avenue/Paterson Plank Road, where it continues to the west as Paterson Plank Road.

*Paterson Plank Road (NJ Route 120)* – Paterson Plank Road is a divided east/west arterial roadway connecting NJ Route 17 to the west. The section of Paterson Plank Road adjacent to the Project Area is designated as NJ Route 120, and provides direct access to the Meadowlands Sports Complex.

*NJ Route 17* – NJ Route 17 is a north/south urban principal arterial in the vicinity of the Sports Complex. The roadway consists of primarily three travel lanes in each direction, and turns are accommodated by a combination of jughandles at signalized intersections and grade separated interchanges. The roadway serves to connect NJ Route 3 near its southern terminus to major area roadways such as Route 46 and Interstate 80 to the north.

These roadways, which serve the Project Area and the Meadowlands Sports Complex, provide a direct link to other major highways in the region including the Garden State Parkway, NJ Route 495, and Interstate Highways 95, 78 and 80.

#### 4.11.1.2 Traffic

Existing traffic volumes and operations in the vicinity of the Project Area have been extensively evaluated recently by several traffic studies including the Traffic Impact Study for the Meadowlands Xanadu Redevelopment Project completed by TRC Raymond Keyes Associates in 2004, the HNTB study of NJ Route 120 (Paterson Plank Road) from NJ Route 17 to Gotham Parkway prepared for NJDOT in 2006, the DMJM Harris study for the NJ Turnpike Interchange 16W Improvement Project prepared for the New Jersey Turnpike Authority in 2006, and the Meadowlands Regional Transportation Analysis prepared by Edwards & Kelcey, Inc. in 2004 for the NJSEA and NJDOT (Edwards & Kelcey, Inc. 2004; HNTB, 2006; DMJM, 2006; TRC Raymond Keyes

Associates, 2004). The Stadium Project Traffic Study relied primarily on the TRC Raymond Keyes Associates and Edwards & Kelcey, Inc studies to establish baseline conditions for selected intersections and ramps under “no build” and “build” conditions for the years 2010 and 2013 (Vollmer, 2007) (Appendix C). Applicable background growth rates were applied to the projected 2009 and 2010 traffic volumes presented in the TRC Raymond Keyes Associates and Edwards & Kelcey, Inc studies to obtain the 2010 and 2013 baseline traffic volume estimates for the Stadium Project. The DMJM Harris study for the NJ Turnpike Interchange 16W Improvement Project and the HNTB study of NJ Route 120 were used for the Stadium Traffic Study to supplement the TRC Raymond Keyes Associates and Edwards & Kelcey Inc studies in the development of the 2010 and 2013 baseline conditions. In addition, supplemental traffic counts and analyses were conducted by Vollmer, as needed, to provide a complete picture of study area traffic flows. The “no build” baseline conditions for the Stadium Project are presented in Section 4.11.2.2.3 below and indicate current traffic volumes and levels of service without any redevelopment or new development from the Stadium Project. The no-build baseline traffic volumes presented include the Meadowlands Xanadu Redevelopment Project as well as other major development proposed in the Meadowlands area.

#### 4.11.1.3 Parking

Currently, the NJSEA has numerous parking lots for the venues that currently exist on the Meadowlands Sports Complex property, including Giants Stadium, the Meadowlands Racetrack and Continental Airlines Arena (Figure 2-3). In general, events are currently scheduled at the Sports Complex so that there is ample parking for the events. For major events at the existing stadium when all lots are at or near capacity no other events are scheduled. Stadium events with more than 50,000 people in attendance generally require parking on the East Site, which will be reserved for Stadium use through agreement with the operators of the Meadowlands Xanadu development. These events include NFL games (20-25 times per year) and four to seven non-NFL events per year (college football games, concerts, international soccer games, etc.). Parking for regular and post-season football games generally utilizes every striped space, as well as non-striped spaces and unpaved areas.

The Event Parking and Transportation Management Plan prepared by Vollmer for the Stadium Project identifies that before construction of the Meadowlands Xanadu Redevelopment Project, the Sports Complex had a total of 27,736 striped spaces: 22,207 striped spaces west of Route 120 (West Site) and 5,529 striped spaces east of

Route 120 (East Site) (Vollmer, 2006). The total supply of striped spaces for NFL games up to and including the 2004 season was 27,736 (22,207 on the West Site and 5,529 on the East Site). Based on analysis of 2004 and 2005 NJSEA event parking records, a peak parking demand of 29,700 occurred on a Saturday NFL game day in late December. When demand exceeds supply (typical shortfall of approximately 2,000 – 3,000 spaces), all vehicles are accommodated by directing them to unstriped spaces within parking lots, unpaved areas, and along internal NJSEA roadways against curbs.

#### 4.11.1.4 Public Transportation

Northern New Jersey is served by a comprehensive system of buses and commuter rail lines primarily operated by NJ Transit, the third largest provider of bus, rail and light rail transit in the nation. Its system links major points in New Jersey, New York and Philadelphia. NJ Transit operates over 2000 buses, 711 trains and 45 light rail vehicles. The NJ Transit system includes 236 bus routes and 11 rail lines providing 223 million passenger trips each year (NJ Transit, 2006).

Currently, the only direct mass transit service to the Meadowlands Sports Complex is by bus. Three NJ Transit bus routes service various points throughout the Sports Complex including the following:

##### *NJT Route #164*

This route runs from Midland Park, New Jersey to the Port Authority Bus Terminal (PABT) in New York City. This route runs hourly between New York and Midland Park stopping at the Meadowlands Sports Complex between the hours of 8:00 am and 6:00 pm on the weekdays, and 7:00 am and 10:00 pm on the weekends. Within the Sports Complex, stops are made at the following locations: opposite the Racetrack, Giants Stadium between Gates A and B, and the west end of the pedestrian bridge to Continental Arena (see Figure 2-3). The #164 does not enter the Sports Complex during football games, soccer games and other special events during which the #351 (see below) is in service.

##### *NJT Route #351 (Special Event Service)*

This route runs from the PABT directly to the Meadowlands Sports Complex. This route exclusively serves major events at the Sports Complex including

Giants and Jets Football, Devils Hockey, Nets Basketball, Red Bulls Soccer, major concerts, and some horse racing events. The #351 does not serve all bus stops within the Sports Complex for each event. For events at Giants Stadium and Continental Airlines Arena, service from New York begins two hours in advance of the event, and return service begins immediately after the event ends, and continues for up to 30 minutes. Stops are located at Gate D (Giants Stadium) and Parking Lot 20 outside of Gate C (Continental Airlines Arena) (Figure 2-3). For night racing events service to and from the Racetrack runs two or three times an evening, depending on the day of the week. Sunday and daytime service runs twice daily, to and from the Meadowlands. The Racetrack stop is located in Parking Lot 5 (Figure 2-3).

#### *NJT Route #703*

This route runs from Haledon, New Jersey to the Meadowlands Complex on 30 to 60-minute intervals between the hours of 10:00 am and 12:00 am on weekdays, 7:00 am and 12:00 am on Saturdays, and 11:00 am to 7:00 pm on Sundays. The #703 stop is located in Parking Lot 5.

In addition to NJ Transit, two private bus companies provide limited service to the Meadowlands Sports Complex which includes the following:

#### *Academy*

Service to and from the Meadowlands Sports Complex and adjacent areas to the PABT are provided every half hour during the AM and PM peak Monday through Friday. This service does not run on weekends, nor does it provide convenient times for attending evening events at the Complex. Stops are located at Meadowlands Plaza, the Meadowlands Sheraton Hotel, the Meadowlands Park and Ride, and the Sports Complex (Lots 9C and 11C) (Figure 2-3).

#### *DeCamp*

Limited service operates from West Caldwell and West Orange to and from the Meadowlands Racetrack seven days a week. On weekday evenings, one run is provided to the Racetrack from each location, along with one return trip. On Saturday, two runs to the Racetrack are provided from West

Caldwell and one from West Orange – one return trip is provided to each town at 11:30 pm. Sunday service is limited to one trip to and from the Racetrack for both West Caldwell and West Orange.

In addition to bus service to the Sports Complex, the NJSEA provides on-site shuttle bus service during certain events. Prior to and after certain events at Giants Stadium and the Arena, the on-site shuttle buses transport patrons from distant parking areas to the event building. These services will continue subsequent to completion of the Stadium Project.

#### 4.11.1.5 Pedestrian Circulation

Pedestrian circulation within the Meadowlands Sports Complex is provided through the parking lots with pedestrian walkways and the pedestrian bridge that crosses over NJ Route 120 and connects the East Site (Continental Airlines Arena) with the West Site (Giants Stadium and the Meadowlands Racetrack). Fencing and pavement markings within the Meadowlands Sports Complex define pedestrian paths and direct pedestrians to the most secure path. Under current conditions, there are a number of pedestrian/vehicle conflict points where large numbers of pedestrians need to cross the roadways. This result in congestion and safety concerns for both pedestrians and motorists. These concerns will be alleviated by the reorganization of the internal circulation roadways and enhanced definition of appropriate pedestrian travelways.

#### 4.11.1.6 Air Navigation

The Stadium Project is located approximately 1¼ miles southwest of Teterboro Airport and is located within a zone around the airport where height restrictions apply. Air traffic to Teterboro Airport consists primarily of corporate and private jets accessing northern New Jersey locations as well as commercial and air freight operations. There are approximately 200,000 plane movements at Teterboro Airport annually (PANYNJ, 2006).

In accordance with Part 77 of the Federal Aviation Administration (FAA) regulations, height limitations for buildings and construction equipment have been promulgated for objects which might affect navigable airspace for areas in proximity to airports. The Project Area, due to its proximity to Teterboro Airport, has building height restrictions.

#### 4.11.2 Impacts and Mitigation

##### 4.11.2.1 Traffic Study Methodologies

Various traffic studies were conducted in relation to the development of the Stadium Project. The Stadium Project Traffic Study includes study locations in accordance with the Major Access Permitting process conducted for NJDOT, which focuses on non-game day impacts to roads under NJDOT jurisdiction. Above and beyond the requirements of the New Jersey Highway Access Management Code (N.J.A.C. 16:47), Vollmer also conducted a study of operations inside and around the Meadowlands Sports Complex, coordinated studies with the traffic and parking studies of the developer for Meadowlands Xanadu, and prepared various analysis of specific conditions as requested by the NJTA and NJSEA. These specific condition studies included analysis of game day for NFL games and analysis of peak non-game days (concert at Stadium or other peak multi-use days). These studies also included internal circulation and intersection analyses, internal signal warrants, pedestrian circulation, plaza and revenue control operations, and Interchange 16W and Route 3 ramp operations.

Game day analyses focused on pre-game arrivals and post-game departure patterns and duration. Pre-game analyses included elimination of internal conflict points, clear parking assignments and improvements to Stadium toll plaza operations. Post-game analysis included estimating the time for vehicles to leave the Sports Complex parking areas. Non-game analyses included internal impacts caused by the multiple users of the Sports Complex and the proposed internal traffic patterns changes.

##### *4.11.2.1.1 Traffic Modeling Methodology*

The Traffic Study for the Stadium Project relied on four previous traffic studies as well as supplemental traffic counts and analyses conducted by Vollmer to develop the baseline conditions used to evaluate traffic impacts and levels of service that would result from additional primary trips generated by the Stadium Project. The four previous studies include the Traffic Impact Study for Meadowland Xanadu Redevelopment Project completed by TRC Raymond Keyes Associates in 2004, with supplemental information provided in June 2006; the HNTB study of NJ Route 120 (Paterson Plank Road) from NJ Route 17 to Gotham Parkway prepared for NJDOT in 2006, the DMJM Harris study for the NJ Turnpike Interchange 16W Improvement Project prepared for the

New Jersey Turnpike Authority in 2006, and the Meadowlands Regional Transportation Analysis prepared by Edwards & Kelcey Inc in 2004 for the NJSEA and NJDOT.

These four previous traffic studies noted above are complementary. The Meadowlands Xanadu Redevelopment Project Traffic Impact Study focuses on the internal roadway system and direct access to the East Site of the Meadowlands Sports Complex while the Meadowlands Regional Transportation Analysis study is a regional study that takes into consideration a wide range of proposed development and transportation improvements in the surrounding Meadowlands area. The NJ Route 120 study focuses on Route 120 (Paterson Plank Road), while the NJ Turnpike Interchange 16W Improvement Project focuses on NJ Route 3, the ramps leading to and from NJ Turnpike Interchange 16W and the NJ Route 3 North and South Service Roads. These studies analyzed conditions in 2009 through 2015 and included the site-generated traffic from a number of planned developments in the region including:

- Meadowlands Xanadu Redevelopment Project;
- EnCap/Meadowlands Golf Redevelopment Project (Phase I)  
Highland Cross;
- Millennium Homes Equinox 360 (Route 3 Redevelopment);
- Paterson Plank Redevelopment District;
- Avalon Bay Communities Apartment Complex (Demasse Cadillac Site);
- Riverside Court (Baker Housing);
- Lowes Development;
- Allied Junction; and
- Chubb Avenue Site.

Vollmer selected the years 2010 and 2013 to assess traffic conditions for the Stadium Project since 2010 is the estimated construction completion date for the new Stadium and Giants Training Facility, and 2013 is identified as a target construction completion date (or later based on market demand) for the Ancillary Development that is expected to generate additional trips onto the area roadway network. The Giants Training Facility component, which is expected to be completed in 2008, is predominantly a replacement of existing facilities and is therefore not anticipated to generate a significant amount of new traffic onto the roadway network. Therefore, traffic conditions for the year 2008 when the training facility is anticipated to be operational were not analyzed.

The 2010 and 2013 baseline (“no build”) conditions for the Stadium Project Traffic Study are primarily based on the TRC Raymond Keyes Associates Traffic Impact Study for Meadowlands Xanadu and the Meadowlands Regional Transportation Analysis prepared by Edwards & Kelcey Inc (Vollmer, 2007). TRC Raymond Keyes Associates and Edwards & Kelcey Inc studies analyzed build conditions in 2009 and 2010, respectively. Applicable background growth rates were added to the projected 2009 and 2010 traffic volumes to obtain the 2010 and 2013 estimates for the Stadium Project. The DMJM Harris study for the NJ Turnpike Interchange 16W Improvement Project and the HNTB study of NJ Route 120 were also used to supplement the TRC Raymond Keyes Associates and Edwards & Kelcey Inc study in the development of the 2010 and 2013 baseline conditions. In addition, supplemental traffic counts and analyses were conducted by Vollmer, as needed, to provide a complete picture of study area traffic flows.

The “no build” conditions for 2010 and 2013 assume that the Stadium Project is not constructed. The 2010 “build” condition includes the completion of the Giants Training Facility and new Stadium. The 2013 “build” condition represents full build-out of the Stadium Project including the Stadium, Giants Training Facility and Ancillary Development.

#### *4.11.2.1.2 Study Locations*

A total of 44 study locations were examined to evaluate the “no build” baseline and projected traffic (“build”) conditions for the Stadium Project including 24 locations studied by TRC Raymond Keyes Associates for Meadowlands Xanadu, 4 locations along Paterson Plank Road studied by Edwards & Kelcey Inc in the Meadowlands Regional Transportation Analysis, and 16 additional location referred to as Vollmer study locations. The study locations are listed in Table 4-11 and shown on Figure 4-22.

<b>Table 4-11</b>	
<b>Study Locations for the New Meadowlands Stadium Project Traffic Study</b>	
<b>Location</b>	<b>Description</b>
<b>TRC / Xanadu Study Locations</b>	
1	NJ Rt. 120 SB b/w N. Connector Rd On-Ramp and W. Peripheral Rd Off-Ramp (ex-Stadium Ring Road)
2	NJ Rt. 120 SB b/w W. Peripheral Rd (ex-Stadium Ring Road) On and Off-Ramps
3	NJ Rt. 120 SB merge with ramp from W. Peripheral Rd (ex-Stadium Ring Road)
4	NJ Rt. 120 NB b/w E. Peripheral Rd (ex-Arena Ring Road) On-Ramp and NB Washington Ave (CR 501)
5	NJ RT. 120 NB diverge to E. Peripheral Rd (ex-Arena Ring Road)
6	NJ Rt. 120 NB diverge to NJ Rt. 120 Service Rd
7	Washington Ave NB (CR 501) and Paterson Plank Rd
8	NJ Rt. 120 SB (Paterson Plank Rd) merge with Washington Ave SB (CR 501)
9	Washington Ave NB merge with NJ Rt. 120 EB (Paterson Plank Rd)
10	NJ Rt. 120 NB b/w Washington Ave (CR 501) and ramp to N. Connector Rd
11	Paterson Plank Rd at Ramp to NJ Rt. 120 WB (Paterson Plank Rd)
12	NJ Rt. 120 NB merge with Ramp M (NJ Route 3 S. Service Rd)
13	NJ Rt. 3 EB merge with NJ Route 3 South Service Rd/NJ Rt. 120 SB Flyover Ramp
14	Ramp M (NJ Rt. 3 S, Service Rd) diverge to S. Connector Rd
15	S. Connector Rd at NJ Turnpike Interchange 16W Access Rd/Inner Loop Rd
16	Ramp W (NJ Route 120 SB to NJ Rt. 3 WB)
17	S. Connector Rd at W. Peripheral Rd
18	E. Peripheral Rd (ex-Arena Ring Rd) b/w Deck A/Deck BCD driveways and S. Connector Rd
19	S. Connector Rd and ramp from Ramp M merge
20	E. Peripheral Rd (ex-Arena Ring Rd) and N. Connector Rd / N. Arena Rd
21	N. Connector Rd diverge to E. Peripheral Rd (ex-Arena Ring Rd)
22	N. Connector Rd and HOC Blvd
23	N. Connector Rd at proposed N. Arena Rd / NJ Turnpike Interchange 18W Access Rd
24	Ramp connecting N. Connector Rd to NJ Turnpike 18W

<b>Table 4-11 (Continued)</b>	
<b>Edwards &amp; Kelcey, Inc. Study Locations (External Study Locations)</b>	
E1	NJ Rt. 120 (Paterson Plank Rd) at NB NJ Rt. 17
E2	NJ Rt. 120 (Paterson Plank Rd) at Murray Hill Rd
E3	NJ Rt. 120 (Paterson Plank Rd) at Gotham Pkwy
E4	NJ Rt. 120 (Paterson Plank Rd) at Berry's Creek Rd (existing alignment)
<b>Vollmer Study Locations (External Study Locations)</b>	
V1	W. Peripheral Rd (ex-Stadium Ring Rd) at NJ Rt. 120 SB Entrance/Exit Ramps
V2	N. Connector Rd at W. Peripheral Rd (ex-Stadium Ring Rd)
V3	Paterson Plank Rd at Berry's Creek Rd (new alignment)
V4	Berry's Creek Rd at Valet Rd
V5	Berry's Creek Rd at Training Way (Plaza J)
V6	NJ Rt. 3 N. Service Rd at Training Way (Plaza J)
V7	Berry's Creek Rd at NJ Rt. 3 N Service Rd
V8	NJ Rt. 3 WB b/w Ramp G and Ramp X
V9	Inner Loop Rd at Valet Rd
V10	NJ Rt. 120 SB Flyover Ramp merge with NJ Rt. 3 S. Service Rd
V11	NJ Rt. 3 WB b/w Ramp W (NJ Rt. 120 SB) and Ramp ET (exit ramp to NJ Turnpike Interchange 16W Access Rd)
V12	NJ Rt. 3 EB diverge to Ramp H (NJ Rt. 3 S. Service Rd)
V13	NJ Rt. 3 EB diverge to Ramp WT (exit ramp to NJ Turnpike Interchange 16 W Access Rd)
V14	Paterson Plan Rd at jJughandles (Hampton Inn)
V15	Existing NJ Rt. 120 SB ramp to NJ Rt. 3 EB
V16	Proposed NJ Rt. 120 SB Flyover Ramp to NJ Rt. 3 EB
<i>Source: Vollmer, 2007</i>	

NJDOT requires a traffic impact analysis at those study locations on the State highway system that exceed the site generated traffic thresholds set forth at N.J.A.C. 16:47-4.36. Internal study locations do not require a traffic impact analysis. The N.J.A.C. provides the following criteria for determining whether a traffic impact analysis is required:

1. Locations that exceed 100 half-trips in any of the peak analysis hours
2. Locations that exceed 10% of the anticipated daily site traffic.

The first criterion, based on the 100-trip threshold, was used to determine the traffic impact locations since this criterion would also include locations that would be affected by the 10% rule. The 10% rule was applied to the external study locations presented in the original Stadium Project Traffic Study (Appendix G of PEIS).



#### 4.11.2.1.3 Peak Period Determination

In accordance with the approved Scope of Study, game day peak hours were not assessed for the external roadway network since the future game day conditions are expected to be similar to or better than existing conditions. During game events, the Ancillary Development is expected to generate a greatly reduced number of primary vehicular trips, since those uses will primarily provide amenities for game attendees. A combined 2,300 additional trips are estimated during the peak period on game days to account for the new Stadium and Ancillary Development. However, the rail link is expected to reduce peak period automobile trips by approximately 3,650 trips (NJ Transit figure; subject to change). This results in a net reduction of approximately 1,350 trips. The weekday morning peak hour was not evaluated because the Stadium Project generates considerably less traffic during the morning peak hour than the evening and Saturday peak hours.

The majority of visitors to the Stadium Project are anticipated to arrive/depart the site during the evenings and on weekends. The analysis periods for the Stadium Traffic Study, which were approved by the NJDOT in the Scope of Study, include the following periods which are similar to those that were assessed for the previous traffic studies completed by TRC Raymond Keyes Associates and Edwards & Kelcey Inc.:

PM Highway Peak Hour (weekday evening - 4:30 to 5:30 PM);

PM Continental Airlines Arena Event Peak Hour (weekday evening -7:15 to 8:15 PM); and

Saturday Continental Airlines Arena Event Peak Hour (weekend afternoon - 3:15 to 4:15 PM).

During the PM Event Peak Hour, it is assumed that an Arena event and Harness Racing occur simultaneously. During the Saturday PM Event Peak Hour it is assumed that the following multiple events would occur simultaneously: Harness Racing, State Fair, Flea Market, and a minor Arena event.

These time periods represent the worst case scenarios for traffic conditions within the study area since they include Continental Airlines Arena events as well as other simultaneous events that do not occur every weekday or every Saturday throughout the year.

#### 4.11.2.1.4 Capacity Analysis Methodology

To determine the effect of additional trips on the roadway network within and in the vicinity of the Project Area that will result from the construction of the Stadium Project, a level of service analysis was completed utilizing the methodology presented in the 2000 Highway Capacity Manual published by the Transportation Research Board and the associated Highway Capacity Software, version 5.2 (Vollmer, 2007). Additional simulation and queuing modeling was performed when needed to further review operations at specific locations both on and off site.

The 2010 and 2013 “build” condition volumes and levels of service used in the Stadium Project Traffic Study assume that all the mitigation measures (i.e. roadway improvements) proposed by the Meadowlands Xanadu Redevelopment Project are fully implemented as well as various transportation improvements that have been committed to by NJDOT and the NJTA. Specifically, these projects include:

NJTA Interchange 16W / Route 3 Improvements;  
Additional Route 120 Southbound to Route 3 Eastbound Flyover (NJDOT);  
Meadowlands Xanadu Redevelopment Project Access / Circulation Improvements;  
Paterson Plank Road Widening (NJDOT); and,  
NJ Transit Rail Station and associated Railroad Project Roadway Improvements.

The “build” conditions also assume that the roadway improvements proposed as part of the Railroad Project will be in place. However, in order to develop a conservative estimate of traffic impacts the “build” conditions in the Stadium Project Traffic Study did not take any credit (i.e., reduction in trips) for any decrease in automobile trips due to the operation of the rail project for non-game day conditions.

#### 4.11.2.2 Traffic Impacts

Traffic analysis was performed for peak traffic hours identified in Section 4.11.2.1.3 for the various Project components. Peak hour traffic volumes were identified and the level of service was calculated for the 44 study locations presented in Table 4-11. As described below, trips generated to and from each of the uses at the Stadium Project site, were assigned to the roadway network to determine whether the additional traffic volume exceeds the 100 trip threshold criteria at any of the scope of study locations.

#### 4.11.2.2.1 Trip Generation

To determine the amount of additional trips to the roadway network and Project Area, Vollmer consulted the Institute of Transportation Engineers (ITE), Trip Generation Manual, 7<sup>th</sup> addition. The NJDOT's Highway Access Permit System (HAPS) System was also used when the ITE trip generation was not available or was believed to not be representative. Trip generation estimates were not available from either the ITE Manual or the NJDOT HAPS System for the proposed 40,000 square feet Hall of Fame Museum and, therefore estimates of trip generation for this land use were made based on operational characteristics and professional judgment. The following provides a description of how the trip generation estimates for the various uses for the Stadium Project were calculated.

Trip types are broken into four categories called primary, internal, linked, and pass-by trips. These categories are defined below as well as the methodology applied to the Traffic Study.

**Primary Trips:** Primary Trips are newly generated between external sources and the project development. For instance, someone driving from their home to their job is a primary trip, the driver is getting into his/her car for the specific purpose of traveling to work.

**Internal Trips:** In performing a traffic analysis not all trips come from external sources. Trips from nearby locations also occur and are considered internal trips. These internal trips are usually deducted from external trips in the modeling process. A portion of the trips associated with the Hall of Fame Museum, sponsorship/clinic space, and Medical Clinic in the Stadium Project buildings are anticipated to come from existing traffic already at the Sports Complex for other purposes (i.e. employees and athletes). A 25% internal trip credit was assumed for the Medical Clinic and 10% for the sponsorship/clinic areas. These trips were removed from the total trip generation in the modeling process.

**Pass-by/Link-diverted Trips:** A pass-by trip is where a driver diverts from his original travel path and makes a stop at a particular use on his way to a final destination. A link-diverted trip is similar to a pass-by trip except the driver modifies his original path to make the stop. A portion of the trips associated with the proposed development, particularly the retail components of the Stadium

and Ancillary Development, will be pass-by or link-diverted trips. Studies have shown that over 40% of retail trips can be pass-by and link-diverted trips. The Meadowlands Xanadu Redevelopment Project Traffic Impact Study utilized a 25% pass-by percentage for the evening peak hour. Vollmer utilized the same 25% pass-by percentage for the evening peak hour, as well as the PM Continental Airlines Arena Peak Hour Event and Saturday Continental Airlines Arena Peak Hour Event for the Stadium Project Traffic Study.

For traffic modeling purposes certain land use categories with related trip generation codes were assigned to specific components of the Stadium Project as follows:

***Mixed Use Component (Stadium and Ancillary Development):*** The Ancillary Development is planned to include a mix of uses as described in Section 2.0 and the exact composition of the program is not yet defined. Thus, the standard ITE shopping center rate (Land Use Code 820) using the fitted logarithmic curve was used to estimate trips. In order to be conservative, no trip reductions were taken for expected links between the East Site and the development of the Stadium Area, although some is likely to occur. However, a 25% pass-by factor was used to account for trips already on the adjacent highway system.

***Meeting/Banquet Facilities in the New Stadium:*** The proposed Banquet Hall has a maximum seating capacity of 2,500 guests. The trip generation rate is based on NJDOT's HAPS System. No trip reduction credits were taken for banquet hall trips. The NJDOT HAPS System does not provide a trip generation rate for banquets during the Weekday PM Continental Airlines Arena Event Peak Hour. Therefore, the Weekday PM Peak Highway trip generation rate was used for the Weekday PM Continental Airlines Arena Event Peak Hour.

It is anticipated that large banquets would be coordinated with other events at the Sports Complex. However, in order to be conservative the traffic analysis assumes that banquet hall events could occur concurrently with Continental Airlines Arena events.

***Medical Clinic in the Ancillary Development:*** ITE Land Use Code 720 (Medical/Dental Office) was used to estimate trip generation for this component, which is envisioned as a mix of health and fitness services including physical therapy, sports medicine, and sports rehabilitation. While an ITE code is not available to directly reflect this use, Code 720 was selected since it provides a

conservative estimate and a relatively comparable use. No credit has been taken for linked or pass-by trips; however, a 25% credit was applied for internal site trips (users of the facility who are already at the Stadium, i.e. athletes and employees). This facility is envisioned to be located in Pod "B" of the Ancillary Development.

**Stadium Offices:** The Stadium Offices will replace current office facilities in the existing stadium and are not anticipated to add new trips to the roadway network.

**Giants Training Facility:** The Training Facility would accommodate players, coaches, and support staff. Because the Project Area already has this use, no new trips are anticipated to be generated.

**Giants Training Facility Expansion:** It is assumed this facility will be used as medical office/clinic (ITE Code 630). While the exact operation is not known at this time, to maintain a conservative analysis for trip generation purposes, it was assumed that this facility could be open to the general public on non-game days for patrons to visit specialist doctors and participate in rehabilitation services for sports related injuries.

**Indoor Practice Facility at the Giants Training Facility:** The indoor practice facility would accommodate players, coaches, and support staff. Because the Project Area already has this use, no new trips are anticipated to be generated.

**Sponsor Areas in the New Stadium:** The Sponsor Areas would be utilized only during Stadium events. Therefore, it is assumed that no trips would be generated during the analyzed peak periods.

**Hall of Fame Museum in the New Stadium:** ITE does not have trip generation rate for a museum-type use. The NJDOT HAPS System also does not have an applicable trip generation rate for this land use. Therefore, an alternative method was used to estimate trips. Estimates identify that approximately 135,000 people would visit the museum annually. Approximately 40,000 visitors are expected to visit the museum during home NFL games. Approximately 60% of the 95,000 non-game day visitors are expected to visit the museum either on a Saturday or Sunday under the assumption that is when most families have the most "leisure" time to visit the museum. The remaining 40% of the non-game

day visitors would be spread out over the remaining weekdays of the year. Subsequently, an average of 146 visitors is expected to visit the museum each weekday. Because most of the museum trips are likely to be combined with other event-related trips or other activities at the Sports Complex, this facility is expected to have a minimal impact on the total trips generated by the Stadium Project. However, as a conservative measure, approximately 10% of the visitors were assumed to arrive during the Weekday PM Peak Highway Hour and the Saturday Peak Continental Airlines Arena Event Hour while 20% were assumed to leave during the same period.

Table 4-12 identifies the total trips generated by each of the Stadium Project Components.

<b>Table 4-12</b>									
<b>Trip Generation Estimates – Total Trips</b>									
	<b>PM HIGHWAY PEAK 4:30-5:30 PM</b>			<b>PM CONTINENTAL AIRLINES ARENA EVENT PEAK 7:15-8:15 PM</b>			<b>SATURDAY CONTINENTAL AIRLINES ARENA EVENT PEAK 3:15-4:15 PM</b>		
	<b>IN</b>	<b>OUT</b>	<b>TOTAL</b>	<b>IN</b>	<b>OUT</b>	<b>TOTAL</b>	<b>IN</b>	<b>OUT</b>	<b>TOTAL</b>
Training Facility Expansion	117	116	233	0	0	0	0	0	0
New Stadium Mixed Use Space	110	120	230	104	86	190	163	150	313
New Stadium Hall of Fame Museum	15	29	44	0	0	0	66	131	197
New Stadium Meeting / Banquet Facilities	300	450	750	300	450	750	330	495	825
Ancillary Development Pod A Mixed Use Space	510	552	1,062	476	397	873	751	693	1,444
Ancillary Development Pod B Mixed Use Space	289	313	602	270	225	495	425	393	818
Ancillary Development Pod B Medical Clinic	34	90	124	0	0	0	78	58	136
<b>TOTAL</b>	<b>1,375</b>	<b>1,670</b>	<b>3,045</b>	<b>1,150</b>	<b>1,158</b>	<b>2,308</b>	<b>1,813</b>	<b>1,920</b>	<b>3,733</b>
<i>Source: Vollmer, 2007</i>									

The trip generation estimates for net new trips attributable to the proposed development are based on a combination of the ITE trip generation estimates, internal trips, pass-by and link-diverted trips, and are presented in Table 4-13.

The Total Site Generated Trips for the “build” condition for 2010 and 2013 for the peak hours studied were calculated by adding the New Trips and Pass-By Trips. The detailed distribution of these trips is presented in the Traffic Study in Appendix C.

<b>Table 4-13</b>									
<b>Trip Generation Estimates – New Trips</b>									
	<b>PM HIGHWAY PEAK 4:30-5:30 PM</b>			<b>PM CONTINENTAL AIRLINES ARENA EVENT PEAK 7:15-8:15 PM</b>			<b>SATURDAY CONTINENTAL AIRLINES ARENA EVENT PEAK 3:15-4:15 PM</b>		
	<b>IN</b>	<b>OUT</b>	<b>TOTAL</b>	<b>IN</b>	<b>OUT</b>	<b>TOTAL</b>	<b>IN</b>	<b>OUT</b>	<b>TOTAL</b>
Training Facility Expansion	117	116	233	0	0	0	0	0	0
New Stadium Mixed Use Space New Trips	81	91	172	80	62	142	124	111	235
New Stadium Mixed Use Space Pass-by Trips	29	29	58	24	24	48	39	39	78
New Stadium Hall of Fame Museum	15	29	44	0	0	0	66	131	197
New Stadium Meeting/Banquet Facilities	300	450	750	300	450	750	330	495	825
Ancillary Development Pod A Mixed Use Space New Trips	377	419	796	367	288	655	570	512	1,082
Ancillary Development Pod A Mixed Use Space Pass-by Trips	133	133	266	109	109	218	181	181	362
Ancillary Development Pod B Mixed Use Space New Trips	214	238	452	208	163	371	323	291	614
Ancillary Development Pod B Mixed Use Space Pass-by Trips	75	75	150	62	62	124	102	102	204
Ancillary Development Pod B Medical Clinic	34	90	124	0	0	0	78	58	136
<b>TOTAL</b>	<b>1,375</b>	<b>1,670</b>	<b>3,045</b>	<b>1,150</b>	<b>1,158</b>	<b>2,308</b>	<b>1,813</b>	<b>1,920</b>	<b>3,733</b>
<i>Source: Vollmer, 2007</i>									

#### 4.11.2.2.2 Trip Distribution

The trip distributions for the Stadium Project were based on the trip distribution patterns identified by TRC for the Meadowlands Xanadu Family Entertainment/Retail component since the Xanadu Project and Ancillary Development of the Stadium Project will draw patrons from a similar “catchment area”. The Xanadu Project anticipates drawing patrons from a 40-mile radius of the Project Area, while the proposed Ancillary Development of the New Meadowlands Stadium Project anticipates drawing patrons from a 20-mile radius. The 2000 census data was reviewed and indicates that approximately 75% of the total population within a 40-mile radius of the Project Area is located within 20 miles of the site. Consequently, the trip distribution patterns for the proposed Ancillary Development are expected to be similar to the Xanadu distribution.

Table 4-14 identifies the trip generation patterns that were used for new trips entering and leaving the Project Area.

<b>Table 4-14</b>	
<b>Overall Trip Distribution</b>	
<b>Approach</b>	<b>Percent</b>
Route 3 To/From the East	21%
Route 3 To/From the West	18%
NJTPK – 16W	16%
NJTPK – 18W	28%
Paterson Plank Road (Route 120)	16%
Washington Ave (CR 503)	1%
<b>Total</b>	<b>100%</b>
<i>Source: Vollmer, 2007</i>	

#### 4.11.2.2.3 Traffic Volume and Capacity

The traffic volumes for the 2010 and 2013 “build” conditions are derived by adding the Total Site Generated New Trips to the 2010 and 2013 baseline traffic volumes for each of the peak hour study periods. These volumes represent the anticipated traffic volumes

at any given point in the Project Area for the respective time period and build years. The volumes are detailed in the Traffic Study provided in Appendix C.

A Level of Service (LOS) analysis was completed for the Stadium Project to provide a measure of operation of the 44 study area locations presented in Table 4-11. The analysis provides a means to measure the operation of an intersection, weaving area, merge area, etc. by assigning a letter grade (A through F) to the operation based on an appropriate measure of effectiveness for that analysis point. The following are measures of effectiveness for various infrastructure components:

Unsignalized Intersections – LOS are based on average delay, with a delay of less than 10 seconds per vehicle for a designated LOS 'A' and a delay of greater than 50 seconds per vehicle for a LOS 'F'.

Signalized Intersections – LOS are based on average delay, with a delay of less than 10 seconds per vehicle for a designated LOS 'A' and a delay of greater than 80 seconds per vehicle for a LOS 'F'.

Weaving Areas – LOS values are based on vehicle density within the weave area, expressed in passenger cars per mile per lane (pc/mi/ln). The Highway Capacity Manual criterion for a weaving segment depends on whether the weave is on a freeway or on a multilane/C-D road. A freeway weaving density of less than 10 pc/mi/ln is considered a LOS 'A' and a density of over 43 pc/mi/ln is a LOS 'F'. A multilane/C-D road weaving density of less than 12 pc/mi/ln is considered a LOS 'A' and a density of over 40 pc/mi/ln is a LOS 'F'.

Merge/diverge Areas – LOS for merge/diverge areas are similar to weaving areas and are based on vehicle density in passenger cars per mile per lane. A density of less than 10 pc/mi/ln is considered LOS 'A' and a density of over 35 pc/mi/ln is considered LOS 'E.' LOS 'F' occurs in a merge / diverge area when demand exceeds the lane capacity.

The LOS for the "no build" baseline and "build" 2010 and 2013 conditions for the Stadium Project for the selected peak hour periods and studied locations based on the type of roadway study location are presented in Tables 4-15, 4-16 and 4-17. The resulting increases in delay and densities, in general, are minor with the construction and operation of the Stadium Project.

Note that of the 44 study locations, only nine met the traffic impact study location criteria discussed in Section 4.11.2.1.2 that requires further analysis to determine whether the future traffic conditions are within the NJDOT LOS standards as prescribed at N.J.A.C. 16:47-4.24 to 4.29. These nine study locations include 3, 6, 13, E2, E4, V6, V8, V10, and V12. External scope of study locations that did not meet the 100-trip threshold criteria were not analyzed further. Of the nine study locations, only one study location (V6- NJ Rt. 3 N. Service Rd at Training Way (Plaza J)) exceeds the NJDOT LOS standard during the Saturday Peak Continental Airlines Arena Period. Subject to approval under the NJDOT Major Highway Access Permit review process, mitigation for this study location will be the use of a traffic control agent to direct and manage traffic through the intersection during the Saturday Peak Arena period.

**Table 4-15**

**Weekday PM Highway Peak Hour Baseline (No Build) and Build Conditions for 2010 and 2013**

<b>WEAVING SEGMENT (MULTILANE/C-D Road)</b>									
Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
1	NJ Rt. 120 SB btwn N. Connector Rd On Ramp from W. Peripheral Rd. Off Ramp	31.82	C	31.88	C	34.20	D	34.65	D
4	NJ Route 120 NB between EastPeripheral Rd Entrance Ramp and Washington Avenue	24.49	C	24.58	C	26.39	C	26.68	C
10	NJ Route 120 NB Between Washington Avenue and East Peripheral Rd Exit Ramp	21.91	B	21.88	B	23.69	B	23.71	B
<b>WEAVING SEGMENT (FREEWAY)</b>									
Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
2	NJ Route 120 SB Between West Peripheral Rd Entrance Ramp and West Peripheral Rd Exit Ramp	21.63	C	21.66	C	23.27	C	23.57	C
V8	NJ Route 3 WB Between Ramp G Entrance Ramp and Ramp X Exit Ramp	28.45	D	29.82	D	29.78	D	32.43	D
<b>MERGE ANALYSIS</b>									
Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
3	NJ Route 120 SB & Southern On-Ramp from West Peripheral Rd	18.4	B	18.8	B	19.1	B	20.4	C
6	NJ Route 120 NB Diverge to Route 120 NB Service Rd (to East Peripheral Rd)	20.1	C	20.8	C	21.2	C	23.1	C
8	NJ Route 120 SB Merge with Washington Avenue	28.4	D	28.4	D	30	D	30.2	D
9	NB Washington Avenue Merge with EB Paterson Plank Rd	16.7	B	16.7	B	17.3	B	17.5	B
12	NJ Route 120 NB Merge with Ramp M	19.8	B	19.8	B	20.8	C	20.6	C
13	NJ Route 3 EB Merge with South Service Rd/SB NJ Route 120	26.0	C	26.3	C	26.7	C	27.3	C
14	EB Ramp M Diverge with Ramp to Arena	19.4	B	19.4	B	20.3	C	20.6	C
17*	NB West Peripheral Rd Merge with WB South Connector Rd	13.5	B	-	-	14.1	B	-	-
19	EB South Connector Rd Merge with Ramp from Ramp M	10.7	B	12.0	B	11.1	B	14.00	B
V10	NJ Route 120 SB Flyover Ramp Merge with NJ Route 3 South Service Rd	18.5	B	19.4	B	19.5	B	21.40	C
V12	NJ Route 3 EB Diverge to NJ Route 3 South Service Rd (Ramp H)	17.9	B	18.6	B	18.9	B	20.60	C

\*-Study location 17 will no longer be a merge but instead will be a signalized T-intersection under the 2010 and 2013 build conditions.

**Table 4-15 (Continued)**

**RAMP CAPACITY**

Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
16	NJ Route 120 SB Ramp to NJ Route 3 WB	29.23	D	29.54	D	31.03	D	32.24	D
18	East Peripheral Rd adjacent to Deck A/Deck BCD	13.93	B	15.28	B	14.79	B	19.67	B
24	South Connector Rd Ramp to NJ Turnpike 18W	11.16	B	14.82	B	11.85	B	19.51	B
V15	NJ Route 120 SB Ramp to NJ Route 3 EB (Original Ramp)	31.84	D	33.10	D	33.81	D	37.51	E
V16	NJ Route 120 SB Ramp to NJ Route 3 EB (New Flyover Ramp)	35.36	E	36.85	E	37.54	E	41.77	E

**INTERSECTIONS (SIGNALIZED)**

Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
15	NJ Turnpike Interchange 16W & South Connector Rd	Does not exist in baseline		13	B	Does not exist in baseline		18.9	B
17	South Connector Rd & West Peripheral Rd	Does not exist in baseline		5.1	A	Does not exist in baseline		31.2	C
20	East Peripheral Rd and North Connector Rd/North Arena Rd	27.8	C	29.6	C	28.8	C	32.8	C
22	North Connector Rd and HOC Boulevard	32.8	C	32.6	C	33.7	C	33.8	C
E1	Paterson Plank Rd (NJ Route 120) & NB NJ Route 17 Ramp	18.5	B	18.1	B	19.1	B	18.4	B
E2	Paterson Plank Rd (NJ Route 120) & Murray Hill Rd	21.2	C	22.1	C	22	C	25.7	C
E3	Paterson Plank Rd (NJ Route 120) & Gotham Parkway	42.3	D	41.9	D	47.7	D	45.7	D
E4	Paterson Plank Rd (NJ Route 120) & Existing Jughandles	15.5	B	15.5	B	15.8	B	15.6	B
V3	Paterson Plank Rd (NJ Route 120) & Berry's Creek Rd	9.6	A	10.6	B	10.8	B	13	B

**INTERSECTIONS (UNSIGNALIZED)**

Location	Description (Lane Group)	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
7	Washington Avenue & Paterson Plank Rd (WB-R)	15.7	C	15.8	C	16.6	C	16.5	C
11	Paterson Plank Rd & WB Route 120 Ramp (WB-L)	8.1	A	8.1	A	8.2	A	8.2	A
15	South Connector Rd & NJ Turnpike Interchange 16W (EB-T)	14.5	B	This study location is an unsignalized T-intersection in the nobuild baseline condition and would become a 4-way signalized intersection under the build condition.		15.0	C	This study location is an unsignalized T-intersection in the nobuild baseline condition and would become a 4-way signalized intersection under the build condition.	
V1	West Peripheral Rd & SB NJ Route 120 Entrance/Exit Ramps	8.8	A	10.1	B	8.8	A	13.0	B
	West Peripheral Rd & SB NJ Route 120 Entrance/Exit Ramps	7.2	A	7.4	A	7.3	A	7.7	A
V2	North Connector Rd & West Peripheral Rd (WB-L)	7.3	A	7.6	A	7.3	A	8.0	A

**Table 4-15 (Continued)**

	North Connector Rd & West Perpherial Rd (NB-L)	9.5	A	11.0	B	9.6	A	16.2	C
V4	Berry's Creek Rd & Valet Rd (WB-L)	22.8	C	20.3	C	24.6	C	40.5	E
	Berry's Creek Rd & Valet Rd (WB-R)	10.1	B	12.3	B	10.2	B	15.2	C
	Berry's Creek Rd & Valet Rd (SB-L)	8.4	A	7.8	A	8.5	A	8.2	A
V5	Berry's Creek Rd & Training Way (EB-L)	13.7	B	14.8	B	14.2	B	22.5	C
	Berry's Creek Rd & Training Way (EB-T)	15.3	C	14.4	B	15.9	C	19.9	C
	Berry's Creek Rd & Training Way (WB-L)	-	-	14.5	B	-	-	21.8	C
	Berry's Creek Rd & Training Way (WB-R)	-	-	10.6	B	-	-	12.5	B
	Berry's Creek Rd & Training Way (NB-L)	7.8	A	7.7	A	7.8	A	8.0	A
	Berry's Creek Rd & Training Way (SB-L)	8.2	A	7.7	A	8.3	A	7.8	A
V6	North Service Rd & Training Way (EB-L)	7.2	A	7.3	A	7.3	A	7.4	A
	North Service Rd & Training Way (SB-L)	9.8	A	12.6	B	9.9	A	18.2	C
	North Service Rd & Training Way (SB-R)	8.5	A	8.7	A	8.5	A	8.8	A
V7	Berry's Creek Rd/South Connector Rd & North Service Rd (WB-L)	7.8	A	7.7	A	7.8	A	7.8	A
	Berry's Creek Rd/South Connector Rd & North Service Rd (NB-L)	12.8	B	12.0	B	13.3	A	15.3	C
V9	Inner Loop Rd & Valet Rd (EB-L)	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		43.2	E	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		208.4	F
	Inner Loop Rd & Valet Rd (EB-R)	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		10.4	B	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		11.3	B
	Inner Loop Rd & Valet Rd (NB-L, NB-R)	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		9.2	A	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		10.1	B

Source: Vollmer, 2007

<b>Table 4-16</b>									
<b>Weekday PM Peak Continental Airlines Arena Event Peak Hour Baseline (No Build) and Build Conditions for 2010 and 2013</b>									
<b>WEAVING SEGMENT (MULTILANE/C-D Road)</b>									
Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
1	NJ Route 120 SB Between North Connector Rd Entrance Ramp and West Peripheral Rd Exit Ramp	23.75	B	23.76	B	25.54	C	25.92	C
4	NJ Route 120 NB Between East Peripheral Rd Entrance Ramp and Washington Avenue	15.03	B	15.09	B	16.18	B	16.33	B
10	NJ Route 120 NB Between Washington Avenue and East Peripheral Rd Exit Ramp	21.60	B	21.58	B	23.32	B	23.34	B
<b>WEAVING SEGMENT (FREEWAY)</b>									
Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
2	NJ Route 120 SB Between West Peripheral Rd Entrance Ramp and West Peripheral Rd Exit Ramp	17.63	B	17.66	B	19.00	B	19.38	B
V8	NJ Route 3 WB Between Ramp G Entrance Ramp and Ramp X Exit Ramp	17.38	B	18.03	B	20.82	C	22.43	C
<b>MERGE ANALYSIS</b>									
Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
3	NJ Route 120 SB Merge from West Peripheral Rd	12.6	B	13.3	B	13.7	B	15.5	B
6	NJ Route 120 NB Diverge to NB Route 120 Service Rd (to East Peripheral Rd)	22.3	C	22.8	C	23.4	C	25.1	C
8	NJ Route 120SB Merge with Washington Avenue	21.0	C	21.0	C	22.1	C	22.3	C
9	NB Washington Avenue Merge with EB Paterson Plank Rd	11.9	B	11.9	B	12.4	B	12.5	B
12	NJ Route 120 NB Merge with Ramp M	13.8	B	13.8	B	14.4	B	14.2	B
13	NJ Route 3 EB Merge with South Service Rd/SB NJ Route 120	23.5	C	24.3	C	24.9	C	26.3	C
14	EB Ramp M Diverge with Ramp to Arena	30.2	D	30.2	D	31.8	D	32.2	D
17*	NB West Preripheral Rd Merge with WB South Connector Rd	28.4	D	-	-	29.9	D	-	-
19	EB South Connector Rd Merge with Ramp from Ramp M	17.5	B	18.5	B	18.3	B	20.3	C
V10	NJ Route 120 SB Flyover Ramp Merge with NJ Route 3 South	11.5	B	12.2	B	12.3	B	13.5	B

\*-Study location 17 will no longer be a merge but instead will be a signalized T-intersection under the 2010 and 2013 build conditions.

**Table 4-16 (Continued)**

**RAMP CAPACITY**

Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
16	NJ Route 120 SB Ramp to NJ Route 3 WB	14.38	B	14.69	B	15.79	B	16.65	B
18	East Peripheral Rd adjacent to Deck A/Deck BCD	27.39	C	28.23	D	28.97	D	32.67	D
24	South Connector Rd Ramp to NJ Turnpike 18W	10.28	B	13.01	B	10.70	B	15.85	B
V15	NJ Route 120 SB Ramp to NJ route 3 EB (Original Ramp)	17.74	B	18.86	B	19.48	B	22.11	C
V16	NJ Route 120 SB Ramp to NJ Route 3 EB (New Flyover Ramp)	19.68	B	20.98	C	21.63	C	24.57	C

**INTERSECTIONS (SIGNALIZED)**

Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
15	NJ Turnpike Interchange 16W & South Connector Rd	Does not exist in baseline		14.6	B	Does not exist in baseline		21.1	C
17*	South Connector Rd & West Peripheral Rd	Does not exist in baseline		54.1	D	Does not exist in baseline		164.3	F
20**	East Peripheral Rd and North Connector Rd/North Arena Rd	36.6	D	39.1	D	43.1	D	59.4	E
22	North Connector Rd and HOC Boulevard	15.0	B	15.0	B	15.9	B	16.0	B
E1	Paterson Plank Rd (NJ Route 120) & NB NJ Route 17 Ramp	12.6	B	12.4	B	12.7	B	12.5	B
E2	Paterson Plank Rd (NJ Route 120) & Murray Hill Rd	13.7	B	13.8	B	13.9	B	14.5	B
E3	Paterson Plank Rd (NJ Route 120) & Gotham Parkway	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
E4	Paterson Plank Rd (NJ Route 120) & Existing Jughandles	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
V3	Paterson Plank Rd (NJ Route 120) & Berry's Creek Rd	13.4	B	14.2	B	13.7	B	15.1	B

\*-This intersection has a failing movement in the Build condition. Because this intersection is greatly affected by events at the Continental Airlines Arena, it is anticipated that traffic control agents will be used to manage the intersection.  
 \*\*-This intersection has a failing movement in the Build condition. Signal optimization would result in all of the intersection movements operating at an acceptable LOS.

**INTERSECTIONS (UNSIGNALIZED)**

Location	Description (Lane Group)	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
7	Washington Avenue (CR 501) & Paterson Plan Rd (WB-R)	11.5	B	11.5	B	11.8	B	11.8	B
11	Paterson Plank Rd & WB Route 120 Ramp (WB-L)	7.8	A	7.8	A	7.9	A	7.9	A

**Table 4-16 (Continued)**

15	South Connector Rd & NJ Turnpike Interchange 16W (EB-T)	24.5	C	This study location is an unsignalized T-intersection in the nobuild baseline condition and would become a 4-way signalized intersection under the build condition.		26.6	D	This study location is an unsignalized T-intersection in the nobuild baseline condition and would become a 4-way signalized intersection under the build condition.	
V1	West Peripheral Rd & SB NJ Route 120 Entrance/Exit Ramps (WB-L)	9	A	10.3	B	9.1	A	12.8	B
	West Peripheral Rd & SB NJ Route 120 Entrance/Exit Ramps (SB-L)	7.3	A	7.4	A	7.3	A	7.6	A
V2	North Connector Rd & West Perpherial Rd (WB-L)	7.4	A	7.7	A	7.4	A	8.1	A
	North Connector Rd & West Perpherial Rd (NB-L)	10.1	B	11.4	B	10.2	B	17.3	C
V4	Berry's Creek Rd & Valet Rd (WB-L)	12.7	B	14.4	B	12.4	B	20.8	C
	Berry's Creek Rd & Valet Rd (WB-R)	9.0	A	9.2	A	8.8	A	9.9	A
	Berry's Creek Rd & Valet Rd (SB-L)	7.8	A	7.8	A	7.7	A	8.4	A
V5	Berry's Creek Rd & Training Way (EB-L)	11.6	B	13.1	B	11.9	B	16.8	C
	Berry's Creek Rd & Training Way (EB-T)	13.4	B	13.6	B	13.7	B	16.7	C
	Berry's Creek Rd & Training Way (WB-L)	-	-	14.0	B	-	-	18.0	C
	Berry's Creek Rd & Training Way (WB-R)	-	-	10.6	B	-	-	11.7	B
	Berry's Creek Rd & Training Way (NB-L)	7.4	A	7.4	A	7.5	A	7.6	A
	Berry's Creek Rd & Training Way (SB-L)	8.3	A	7.9	A	8.3	A	8.1	A
V6	North Service Rd & Training Way (EB-L)	7.3	A	7.3	A	7.3	A	7.3	A
	North Service Rd & Training Way (SB-L)	10	A	11.5	B	10.2	B	13.9	B
	North Service Rd & Training Way (SB-R)	8.4	A	8.5	A	8.4	A	8.5	A
V7	Berry's Creek Rd/South Connector Rd & North Service Rd (WB-L)	7.4	A	7.4	A	7.5	A	7.5	A
	Berry's Creek Rd/South Connector Rd & North Service Rd (NB-L)	11.3	B	11.2	B	11.5	B	13.5	B

**Table 4-16 (Continued)**

	Berry's Creek Rd/South Connector Rd & North Service Rd (NB-R)	11.3	B	11.2	B	11.5	B	13.5	B
V9	Inner Loop Rd & Valet Rd (EB-L)	This intersection does not exist under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		22.3	C	This intersection does not exist under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		40.2	E
	Inner Loop Rd & Valet Rd (EB-R)	This intersection does not exist under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		9.8	A	This intersection does not exist under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		10.3	B
	Inner Loop Rd & Valet Rd (NB-L, NB-R)	This intersection does not exist under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		8.6	A	This intersection does not exist under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		9.0	A
Source: Vollmer, 2007									

**Table 4-17**

**Saturday Peak Continental Airlines Arena Event Hour Baseline (No Build) and Build Conditions for 2010 and 2013**

<b>WEAVING SEGMENT (MULTILANE/C-D Road)</b>									
Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
1	NJ Route 120 SB Between North Connector Rd Entrance Ramp and West Peripheral Rd Exit Ramp	17.23	B	17.27	B	18.50	B	19.07	B
4	NJ Route 120 NB Between East Peripheral Rd Entrance Ramp and Washington Avenue	12.92	B	13.00	B	13.86	B	14.13	B
10	NJ Route 120 NB Between Washington Avenue and East Peripheral Rd Exit Ramp	18.77	B	18.74	B	20.27	B	20.38	B
<b>WEAVING SEGMENT (FREEWAY)</b>									
Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
2	NJ Route 120 Between West Peripheral Rd Entrance Ramp and West Peripheral Rd Exit Ramp	12.73	B	12.77	B	13.67	B	14.08	B
V8	NJ Route 120 WB Between Ramp G Entrance Ramp and Ramp X Exit Ramp	22.62	C	23.86	C	23.82	C	26.50	C
<b>MERGE ANALYSIS</b>									
Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
3	NJ Route 120 SB Merge from West Peripheral Rd	16.2	B	17.1	B	16.9	B	19.8	B
6	NJ Route 120NB Diverge to NB Route 120 Service Rd (to East Peripheral Rd)	15.3	B	16.1	B	16.1	B	19	B
8	NJ Route 120 SB Merge with Washington Avenue	16.2	B	16.2	B	17	B	17.3	B
9	NB Washington Avenue Merge with EB Paterson Plank Rd	11.7	B	11.8	B	12.1	B	12.3	B
12	NJ Route 120 NB Merge with Ramp M	11.6	B	11.6	B	12.1	B	11.7	B
13	NJ Route 3 EB Merge with South Service Rd/SB NJ Route 120	22.9	C	23.4	C	23.6	C	24.5	C
14	EB Ramp M Diverge with Ramp to Arena	16.9	B	16.8	B	17.6	B	18.2	B
17*	NB West Peripheral Rd Merge with WB South Connector Rd	16.6	B	-	-	17.3	B	-	-
19	EB South Connector Rd Merge with Ramp from Ramp M	13.1	B	14.5	B	13.7	B	16.7	B
V10	NJ Route 120 SB Flyover Ramp Merge with NJ Route 3 South Service Rd	15.2	B	16.1	B	15.9	B	18	B

\*Study location 17 will no longer be a merge but instead will be a signalized T-intersection under the 2010 and 2013 build conditions.

**TABLE 4-17 (Continued)**

**RAMP CAPACITY**

Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
16	NJ Route 120 SB Ramp to NJ Route 3 WB	18.35	B	18.65	B	19.43	B	20.75	C
18	East Peripheral Rd adjacent to Deck A/Deck BCD	21.75	C	23.08	C	23.06	C	29.61	D
24	South Connector Rd Ramp to NJ Turnpike 18W	20.96	C	24.89	C	22.24	C	30.77	D
V15	NJ Route 120 SB Ramp to NJ Route 3 EB (Original Ramp)	22.13	C	23.69	C	23.46	C	27.86	C
V16	NJ Route 120 SB Ramp to NJ Route 3 EB (New Flyover Ramp)	24.61	C	26.44	C	26.06	C	31.05	D

**INTERSECTIONS (SIGNALIZED)**

Location	Description	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
15	NJ Turnpike Interchange 16W & South Connector Rd	Does not exist in baseline		17.7	B	Does not exist in baseline		22.3	C
17	South Connector Rd & West Peripheral Rd	Does not exist in baseline		14.1	B	Does not exist in baseline		45.6	D
20	East Peripheral Rd and North Connector Rd/North Arena Rd	33.8	C	36.8	D	39.7	D	84.4	F
22**	North Connector Rd and HOC Boulevard	14.8	B	14.4	B	15.1	B	14.5	B
E1	Paterson Plank Rd (NJ Route 120) & NB NJ Route 17 Ramp	14.1	B	14.1	B	14.4	B	15.2	B
E2	Paterson Plank Rd (NJ Route 120) & Murray Hill Rd	15	B	15.5	B	15.2	B	16.6	B
E3	Paterson Plank Rd (NJ Route 120) and Gotham Parkway	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
E4	Paterson Plank Rd (NJ Route 120) and existing jughandles	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
V3	Paterson Plank Rd (NJ Route 120) and Berry's Creek Rd	15.6	B	16.6	B	16	B	18.3	B

**INTERSECTIONS (UNSIGNALIZED)**

Location	Description (Lane Group)	2010 Baseline		2010 Build		2013 Baseline		2013 Build	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
7	Washington Avenue (CR 501) & Paterson Plank Rd (WB-R)	11.5	B	11.6	B	11.8	B	11.8	B
11	Paterson Plank Rd & WB Route 120 Ramp (WB-L)	7.7	A	7.7	A	7.7	A	7.7	A
15	South Connector Rd & NJ Turnpike Interchange 16W (EB-T)	16	C	This study location is an unsignalized T-intersection in the nobuild baseline condition and would become a 4-way signalized intersection under the build condition.		16.7	C	This study location is an unsignalized T-intersection in the nobuild baseline condition and would become a 4-way signalized intersection under the build condition.	
V1	West Peripheral Rd & SB NJ Route 120 Entrance/Exit Ramps (WB-L)	10.6	B	13.2	B	10.8	B	26.6	D
	West Peripheral Rd & SB NJ Route 120 Entrance/Exit Ramps (SB-L)	7.4	A	7.6	A	7.4	A	8.3	A

**TABLE 4-17 (Continued)**

V2	North Connector Rd & West Perpherial Rd (WB-L)	7.5	A	7.9	A	7.3	A	8	A
	North Connector Rd & West Perpherial Rd (NB-L)	10.9	B	13.3	B	11.1	B	45.8	E
V4	Berry's Creek Rd & Valet Rd (WB-L)	13.3	B	17.7	C	13.5	B	37.2	E
	Berry's Creek Rd & Valet Rd (WB-R)	9.3	A	10.1	B	9.4	A	11.5	B
	Berry's Creek Rd & Valet Rd (SB-L)	7.9	A	8.1	A	7.9	A	8.8	A
V5	Berry's Creek Rd & Training Way (EB-L)	20.3	C	19.8	C	21.8	C	49.7	E
	Berry's Creek Rd & Training Way (EB-T)	19.3	C	16.4	C	20.4	C	25.2	D
	Berry's Creek Rd & Training Way (WB-L)	17.5	C	18.6	C	-	-	36.5	E
	Berry's Creek Rd & Training Way (WB-R)	N/A	N/A	10.6	B	N/A	N/A	12.5	B
	Berry's Creek Rd & Training Way (NB-L)	8.1	A	7.5	A	8.2	A	7.8	A
	Berry's Creek Rd & Training Way (SB-L)	8.6	A	8.2	A	8.6	A	8.3	A
V6	North Service Rd & Training Way (EB-L)	7.3	A	7.4	A	7.3	A	7.4	A
	North Service Rd & Training Way (SB-L)	11.9	B	18.7	C	12.3	B	61.4	F
	North Service Rd & Training Way (SB-R)	9.1	A	9.3	A	9.1	A	9.4	A
V7	Berry's Creek Rd/South Connector Rd & North Service Rd (WB-L)	7.7	A	7.6	A	8.3	A	7.7	A
	Berry's Creek Rd/South Connector Rd & North Service Rd (NB-L, NB-R)	14.6	B	12.5	B	18.8	C	19.8	C
V9	Inner Loop Rd & Valet Rd (EB-L)	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		27.9	D	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		132.1	F
	Inner Loop Rd & Valet Rd (EB-R)	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		12.2	B	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		15.1	C
	Inner Loop Rd & Valet Rd (NB-L)	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		8.5	A	This intersection does not existing under the no-build baseline condition and would become an unsignalized T-intersection under the build condition.		9.2	A

Source: Vollmer, 2007

### *PM Highway Peak Hour*

Table 4-15 provides a comparison of the 2010 and 2013 “no build” to “build” traffic conditions for the PM Highway Peak Hour. As shown in this table, with the exception of one internal intersection, all the ramps, ramp junctions, weaving segments and unsignalized intersections analyzed in the Traffic Study would operate at a LOS ‘E’ or better under both the “no build” and “build” conditions. The only failing movement during the PM Highway Peak Hour would be the eastbound left-turn movement at Location V9 (Internal Loop Road and Valet Road) under the 2013 “build” condition. A traffic control agent will be assigned to this location during the PM Highway Peak Hour.

### *PM Continental Airlines Arena Event Peak Hour*

Table 4-16 provides a comparison of the traffic conditions for the PM Continental Airlines Arena Event Peak Hour. All the ramps, ramp junctions, weaving segments and unsignalized intersections analyzed in the Traffic Study would operate at a LOS ‘E’ or better under both the “no build” and “build” conditions, except for the following locations:

The east-bound left-turn movement at Location 17 (South Connector Road and West Peripheral Road) is projected to operate at a LOS ‘F’ during this time period under both the 2010 and 2013 “build” conditions. This is primarily due to the influx of Arena patrons that are directed to park on the West Site of the Sports Complex once the East Site is filled. This condition would only occur during major Arena events and traffic control at this location will be supplemented with parking and traffic management staff to minimize delays.

At Location 20 (East Peripheral Road and North Connector Road / North Arena Road) the southbound right-turn movement operates at a LOS ‘F’ under the 2013 “build” conditions during the Weekday PM Continental Airlines Arena Event Peak Hour. This location is an internal intersection on the Arena site which could operate under these conditions during peak Arena events. The LOS will be improved by optimizing the signal timing. Also, further refinements by the Xanadu Project may further reduce delay at this intersection.

At Location V9, Inner Loop Road and Valet Road, the eastbound left turn movement would operate at a LOS 'F' under the 2013 build condition. A traffic control agent will be assigned to this location during the Weekday Continental Airlines Arena Event Peak Hour Period.

#### *Saturday Continental Airlines Arena Event Peak Hour*

Table 4-17 provides a comparison of the traffic conditions for the Saturday Continental Airlines Arena Event Peak Hour. All the ramps, ramp junctions, weaving segments and unsignalized intersections analyzed in the Traffic Study would operate at a LOS 'E' or better under both the "no build" and "build" conditions, except for the following locations:

At Location 20 (East Peripheral Road and North Connector Road / North Arena Road) the westbound through and the southbound right-turn movements operate at a LOS 'F' under the 2013 "build" condition. As stated above, this intersection is an internal location within the Arena complex and will be improved by optimizing the signal timing. Also, further refinements by the Xanadu Project may further reduce delay at this intersection.

At Location V6 (NJ Route 3 North Service Road and Training Way), the southbound left-turn movement operates at a LOS 'F' under the 2013 "build" condition. A traffic control agent will be required at this location during the Saturday Continental Airlines Arena Event Peak Hour.

The eastbound left-turn movement at Location V9 (Inner Loop Road and Valet Road) operates a LOS 'F' under the 2013 "build" condition. A traffic control agent will be needed at this location during the Saturday Continental Airlines Arena Event Peak Hour.

#### 4.11.2.3 Parking and Transportation Management

To further improve traffic conditions in and around the Project Area, NM Stadco will be implementing a series of on-site infrastructure improvements. As identified in the Event Parking and Transportation Management Plan completed by Vollmer for the Stadium Project, these improvements will facilitate traffic flow in the surrounding area, ease congestion and back-ups on local roadways within the Project Area and Sports Complex,

and provide ample well-marked parking (Vollmer, 2006) (Appendix H of the PEIS). The reconfiguration of the Project Area results in changes to access, internal circulation, and parking location/allocation and control. The intent of the Parking and Transportation Management Plan is to maximize site circulation during non-game days, and maximize arrival and departure conditions for game days. This is accomplished by making major roads two-way during non-game days, and implementing traffic management plans for game days and peak usage days. An effort was also made to minimize the amount of traffic traveling through the East Site on game days.

#### *New Roadways and Infrastructure Improvements*

To facilitate traffic flow and provide easy ingress and egress to parking and toll plaza areas, the Stadium Project includes the following internal site road improvements (NM Stadco, 2006):

- Realignment of the North Access Road and reduction of Plaza B toll booths to reflect reduced traffic flows (existing six lanes reduced to five lanes);

- Construction of a new Inner Loop Road connecting the north Access Road with the 16W Interchange;

- Construction of a new Middle Loop Road separating permit from general admission parking flows;

- Construction of a new West Peripheral Road from the North Access Road to the Stadium Club Road providing two-way traffic flows; and,

- Demolition and redevelopment of existing road structures not in service post development.

Berry's Creek Road and Valet Road will generally remain in their current configurations. Valet Road will connect to a new Middle Loop Road and Inner Loop Road as well as a realigned North Connector Road.

The Turnpike's 16W interchange will connect to a new stadium gateway. The gateway includes a new four-way intersection and Inner Loop Road. The intersection will be signalized during non-game days, with Inner Loop Road approaches receiving the majority of the green time through the intersection to minimize potential impacts to the

16W traffic ramp. The Stadium Club Road will be modified to a 4 lane two-way road. During game days, approaches will be modified through traffic management into one-way operation in the peak direction. The result will allow most 16W traffic to access 16W directing instead of the circuitous route currently traveled around Routes 120 and 3 back to 16W.

A way-finding sign plan and internet web page will also be implemented for game and non-game day scenarios. Approach and on-site color-coded signs are proposed to help navigate the site efficiently. For non-game day, way-finding signs will direct traffic to the various destinations within the Sports Complex. For game day, the way-finding signs will direct patrons to various color-coded parking zones on the Sports Complex. The plan allows patrons to access any parking zone from any arrival route. It will also indicate the best parking zone for each route based on ingress and egress patterns.

These proposed roadway improvements and way-finding signage will provide improved circulation and organization that is sensitive to the Meadowlands Racetrack, Continental Airlines Arena, NJ Rail Facility, Meadowlands Xanadu Redevelopment (East Site development) and the new Stadium. These new roadways will organize the vehicular flow into and out of the parking lots on Stadium event days, as well as allow for efficient and conspicuous thru-traffic, connecting the regional roadways on the north and south as well as the east and west. These improvements, along with several regional infrastructure improvements being implemented, will help improve game day access, ingress/egress, and mitigate non-game day impacts due to regional development and traffic growth. Further, the roadway and parking lot configuration will afford flexibility to allow NJSEA staff to adjust strategies to increase parking activity as special event needs dictate.

#### *Parking Lot Reconfiguration*

In order to respond to the shift from the proposed configuration of the Project Area (i.e. reconstruction and relocation of stadium and training facilities), parking lots have been redesigned to radiate around the Stadium and Ancillary Development. Event parking will be managed in the future so that lot fill patterns and space utilization are maximized. The overall goals of the parking and operation plan are to: provide fans with more direct and easier access to the Stadium parking lots than is currently available; to ensure that parking is both planned and coordinated so as to maximize parking efficiencies; reduce traffic congestion in both ingress and egress scenarios; and reduce spillback of vehicle

queuing that adversely affects the surrounding roadways and non-sports complex related traffic flows.

The development of the New Stadium includes a reorganization of the existing parking lots within the existing perimeter road system of the West Site to coordinate with the new vehicular circulation network proposed. By implementing a number of internal road circulation improvements including the introduction of both an inner and middle loop road system west of the Stadium, the NJSEA will be provided with coordinated parking facilities to allow for enhanced traffic flow management including control and separation of both permit and non-permit parking areas, thereby speeding up entry and egress times for events. Permit parkers will be allocated parking spaces within the inner loop road and middle loop road to the west and south of the Stadium, while general admission parking patrons will be directed to the area between the middle loop road and western loop road and outlying parking areas beyond, including Lot Y, the Paddock Lot, the new DOT lot, the Ramp Lot, Stable Gate lot, and the Xanadu site parking. Shared parking obligations will be fully satisfied within designated areas.

#### *Game Day Parking Management*

The Parking and Transportation Management Plan examined the availability of parking spaces during the construction and operation of the Stadium Project. During the construction phase of the Stadium Project various parking areas will be lost and gained. The greatest shortfall of spaces is expected to occur during August 2008 through January 2009 (Vollmer, 2006). This construction period coincides with the NFL season resulting in an estimated demand of 29,700 parking spaces. A temporary shortfall of over 7,000 spaces during this period will require off-site solutions. Employees and permit parkers may be accommodated off-site. This would reduce on-site demand by some 2,100 vehicles. The resultant shortfall of spaces is anticipated to be accommodated by use of on-site unstriped spaces and additional off-site parking.

A shared parking analysis was completed by Vollmer to estimate parking demands for the Stadium Project along with overall parking demand and supply for the future Meadowlands Sports Complex including the East and West Sites (Vollmer, 2006). The shared parking analysis was completed in accordance with the Urban Land Institute's *Shared Parking* for determining the appropriate parking supply for a mixed-use development. Shared parking is the use of a parking space by vehicles generated by more than one land use. The shared parking methodology incorporates time of day and seasonal factors to identify peak combined parking demand.

At full build out of the Stadium Project with an 82,500 seat stadium an estimated demand of approximately 31,000 parking spaces is identified (Table 4-18). There are approximately 27,400 proposed striped spaces for NFL games after the Meadowlands Xanadu Redevelopment and proposed Stadium Projects are constructed (approximately 23,300 spaces on the West Site and 4,100 spaces on the East Site dedicated to football events). Compared to the demand of 31,000 spaces, there will be a shortfall of 3,600 spaces. Additional potential parking lots include 400 spaces in the DOT lot near Plaza J, 200 spaces in the 16 W ramp lot and an estimated 350 spaces in the Stable Gate Lot (950 spaces total). In addition, future demand is estimated to be reduced by up to 3,650 parking spaces on NFL game days due to the proposed NJ Transit Rail Facility. If the full anticipated utilization of the rail line is realized and parking is obtained in the additional lots, there will be a surplus of approximately 1,000 spaces. It is estimated that up to 700 vehicles could be accommodated in unstriped spaces as necessary, resulting in a total surplus of 1,700 spaces. Since it is assumed that patrons of the Ancillary Development during NFL events will be football patrons as well, if patrons arrive on site solely to visit the Ancillary Development, their parking demand would need to be accommodated within the 1,700 space surplus.

	<b>Existing Spaces</b>	<b>New Meadowlands Stadium Full Build Without Ancillary Development</b>	<b>New Meadowlands Stadium Full Build With Ancillary Development (December Saturday)</b>
<b>Maximum NFL Demand</b>	29,700	31,000	31,000
<b>Full Rail</b>	0	-3,650	-3,650
<b>Updated Demand</b>	29,700	27,350	27,350
<b>Striped Supply</b>	27,700	26,900	28,400
<b>Unstriped Spaces</b>	2,000	700	700
<b>Total Potential Supply</b>	<b>29,700</b>	<b>27,600</b>	<b>29,050</b>
<b>Shortfall/Excess</b>	<b>+0</b>	<b>+250</b>	<b>+1,700*</b>
*Although expected to be minimal, up to 1,600 spaces may be utilized by Ancillary Development patrons not attending the NFL event. Source: Vollmer, 2006			

In addition to the approximately 4,100 spaces designated for football and parking on the East Site, there will also be an additional 8,500 striped spaces provide for Meadowlands Xanadu Project parking. During peak demand days, such as Saturday games in December, the estimated Xanadu parking demand can reach about 12,500 vehicles. To mitigate for the shortfall in striped spaces, the Xanadu Project proposes offsite parking for employees and aisle valet operations in the Xanadu designated lots. On non-NFL game days, a portion of the Xanadu parking will be accommodated on the West Site.

#### *Non-Game Day Parking Management*

During non-game days, the peak parking demand for the Ancillary Development was estimated to be 5,000 spaces. During non-game day shared parking days, all 5,000 vehicles generated by the Ancillary Development will be able to park on the West Site.

Vollmer prepared an independent shared parking analysis to determine peak parking demand with the Ancillary Development during events using actual arena and Stadium event parking data provided by the NJSEA (Vollmer, 2006). The combination of events includes a Nets game and a Seton Hall game at the arena and four high school football games at the Stadium. Demand was adjusted to reflect a realistic combination of simultaneous events. The peak Nets demand and peak Seton Hall demand, for example, would not occur in the same hour, since most of the patrons from the afternoon event would leave the site before the evening event patrons arrive. Estimated parking demand on the West Site would be approximately 19,300 spaces. This assumes that there would be a supply of 10,900 spaces on the East Site. Under the peak demand scenario, which would occur at most once a year on a December Saturday, there would be a surplus of over 3,500 spaces on the West Site. Proposed demand for peak and typical overflow days is presented in Table 4-19.

**Table 4-19**  
**Peak Day Parking Demand**

		<b>Typical Non-Game Day (Weekend)</b>	<b>Peak Hour Non-Game Day (Dec Saturday)</b>	<b>Saturday Game in Late December</b>
<b>East of Route 120</b>	Xanadu Traffic	6,800	6,900	8,500
	NFL Traffic	0	0	4,100
	Arena Event	4,100	4,100	0
	<b>Subtotal</b>	<b>10,900</b>	<b>10,900</b>	<b>12,600</b>
<b>West of Route 120</b>	NFL Traffic	0	0	23,250
	Xanadu Spillover	1,900	3,500	0
	Arena Spillover	1,750	1,400	0
	Racetrack Event	2,500	2,500	0
	Flea Market	1,000	1,000	0
	Ancillary Development	3,950	5,000	1,600
	Xanadu Employees	2,000	2,000	0
	Non-NFL Stadium Event	1,750	3,900	0
	<b>Subtotal</b>	<b>14,850</b>	<b>19,300</b>	<b>24,850</b>
<b>TOTAL DEMAND</b>	<b>25,750</b>	<b>30,200</b>	<b>37,450</b>	

Source: Vollmer, 2006

NM Stadco, NJSEA, the Meadowlands Xanadu development team, NJ Transit and other State and local agencies must work together to design, coordinate and implement a Project Operating Plan (POP) that meets the needs and has the approval of all the Meadowlands Sports Complex parties and constituents. The POP will address the responsibilities, processes, and procedures for managing the site circulation and parking, both with and without events.

#### 4.11.2.4 Public Transportation

It is anticipated that the public bus service currently provided by NJ Transit to the Meadowlands Sports Complex, as detailed in Section 4.11.1.4, will continue and may be increased to accommodate additional demand that will result from the Ancillary Development. In addition, a new rail line connecting the Meadowlands Sports Complex with the rest of the NJ Transit rail system is currently under construction.

The Meadowlands Railroad and Roadway Improvement Project will construct a new 2.3-mile railroad alignment with associated rail station and roadway improvements. The rail line will spur off of the Pascack Valley Line and terminate at a rail station centrally located between Giants Stadium and Continental Airlines Arena. The project was

developed by the NJSEA and will be operated by NJ Transit upon completion expected in the year 2008. This new rail line is expected to be used by 9,600 patrons on NFL game days, according to NJ Transit estimates (subject to change).

The rail service will be operated by NJ Transit commuter rail equipment that would consist of diesel locomotives hauling commuter coaches in a push-pull configuration. Travel times from the Frank R. Lautenberg Rail Station at Secaucus Junction to the Meadowlands Sports Complex would be approximately eight minutes. The Secaucus Junction Station lies approximately 2.5 miles south of the Sports Complex. This intermodal rail station serves as the interconnecting node for all NJ Transit rail lines serving northern New Jersey including the Main, Bergen, Port Jervis, Pascack Valley, Northeast Corridor, Jersey Coast, and Midtown Direct Lines. Rail passengers will also be able to interface with Amtrak's Northeast Corridor line.

#### 4.11.2.5 Pedestrian Circulation

Safe pedestrian circulation through the parking lots within the Meadowlands Sports Complex is achieved by providing designated pedestrian walkways. To improve circulation between the East Site and West Site of the Sports Complex, connections to the existing pedestrian bridge will be enhanced. Well-defined pedestrian walkways will improve operations by segregating vehicles from pedestrians where possible and providing high visibility crossings where necessary to alert motorists and pedestrians to potential conflicts. During the Stadium Project construction phases, high fences with appropriate signage will be constructed to direct pedestrians around construction areas.

The Stadium Project will alter and improve pedestrian circulation with walkways designed to further organize and direct pedestrian flow from the parking lots to the Stadium's east and west entrances, to the pedestrian bridge over Route 120, and to the racetrack and paddock areas. The walkways will be designed to minimize the crossing of vehicular and pedestrian traffic, improving the existing conditions and providing a safe and effective path of travel.

One of the key components to improved pedestrian flow will be to arrange most parking aisles radial to the major destinations with pedestrian corridors arranged to collect and distribute pedestrians throughout the Project Area (Figure 4-36), minimizing the need for major pedestrian roadway crossings since most pedestrians will be walking with or against the flow of traffic instead of perpendicular to it. The Parking and Management Plan proposes that during game days, some internal roads be closed to vehicular traffic

to create pedestrian and tailgate zones to further minimize pedestrian / vehicle interaction. Also during game days, shuttle bus service is proposed for patrons parked in remote lots.

Fans parked on the East Site will use the existing pedestrian bridge, which terminates at the stadium rail plaza (Figures 2-9 and 4-38). Fans arriving by way of the NJ Transit trains can either walk to the east plaza entrance at the Stadium or they can walk to the "Football Plaza" and on to the southeast plaza (Figure 4-32). On non-game days, pedestrians will use the same infrastructure and follow the same circulation patterns.

#### 4.11.2.6 Air Navigation

The Stadium Project is located approximately 1¼ miles southwest of Teterboro Airport and is located within a zone around the airport where height restrictions apply. As discussed in Section 6.0, the FAA is required to be notified of structures greater than approximately 150 feet above ground level for review as navigation obstructions, or potentially lower elevations when in the path of runways. The height of the replacement stadium, including flag poles and antennae above the stadium lights, will be approximately 225 feet above ground level. As such, approval from the FAA is required. A Notice of Proposed Construction Application was submitted to the FAA on 14 November 2006 for the new Stadium structure. FAA published a Public Notice on January 3, 2007 stating that they are conducting an aeronautical study of the stadium structure. It is anticipated that additional applications will be submitted to the FAA for cranes and any other tall temporary construction equipment exceeding the height limitation.