Live! HOTEL & CASINO®
PHILADELPHIA

Parking and Traffic Management Plan

June 2015

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City of Philadelphia

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SECTION 1 - INTRODUCTION

1.1 Plan Overview

Live! Hotel and Casino ("site") was granted the most recent Pennsylvania gaming license in November 2014. The proposed site is located south of Packer Avenue between Darien Street and 10th Street, which is at the northerly edge of the Sport Stadium Complex. This property is currently occupied by a Holiday Inn hotel.

This Plan identifies on-site and off-site parking, inbound and outbound site traffic management issues, stakeholder concerns during large event days, and other days and the framework for handling these issues. This Plan also identifies slight modifications to the traffic management plans currently in-place by the City of Philadelphia after large events to restrict intersection traffic movements.

The site is anticipated to begin redevelopment in 2016 and construction duration is 2 years; the opening year is 2018. This version (dated June 2015) is an initial edition of this document that will be reviewed and approved by the City of Philadelphia. It is anticipated that this Plan will be a living document and may be adjusted prior to or after the site opens to account for proposed changes to parking or traffic management by local stakeholders.

This Plan is separated into the following sections:

- Section 1 - Introduction (This Section)
- Section 2 – Site Parking Management
- Section 3 – Site Traffic Management
- Section 4 - Site Connectivity to Other Sports Complex Facilities

1.2 Purpose and Goals

The purpose of this Plan is to:

- Identify current parking and traffic conditions within the vicinity of the site during large event days and "other" days
- Identify site patron parking management strategies during non-event and event days
- Identify inbound and outbound routes to access the site during large event traffic restrictions set forth by the City of Philadelphia Police Department
- Determine pedestrian routes to other Sports Complex Facilities
- Outline proposed coordination and information sharing strategies

The goal of this plan is to:

- Provide an overview of existing parking and traffic conditions in the vicinity of the proposed site
- Identify a concept for handling onsite parking on Sports Complex event days
- Identify proposed improvements and strategies for handling site traffic
- Integrate parking and traffic management related to the site to other plans currently in-place by City of Philadelphia
- Provide one document that can be used by the local stakeholders to understand the plan for parking and traffic management

1.4 Existing Sports Complex Facilities and Events

John F. Kennedy (JFK) Stadium, the initial large scale facility within the Sports Complex, opened in 1926 and at its peak held 100,000 people. The Spectrum (NBA and NHL) and Veterans Stadium (NFL and MLB) opened in 1967 and 1971, respectively. Veteran Stadium was demolished in 2004 and the Spectrum was demolished in 2011. The Sports Complex is currently home to the following professional sport and event facilities:

- Wells Fargo Center (NBA and NHL) Approx. 20,000 max attendance
- Citizens Bank Ballpark (MLB) Approx. 45,000 max attendance
- Lincoln Financial Field (NFL) Approx. 70,000 max attendance

Each of these facilities holds music or other events throughout the year with varying attendance levels. Most of the music or other non-sporting events attract less than 50,000 attendees, however, typically one or two a year will attract more than 50,000 attendees.

Attachment A contains the Sports Complex Event Calendar for June 2014 thru May 2015.

These calendars are updated and available to the public on a yearly basis. The matrix below shows the three major sports facilities and typical months that sporting events occur at each facility. Since Lincoln Financial Field and Citizens Bank Ballpark are outdoor facilities, these events typically occur between May and September. There are typically a variety of music and other events throughout the year at the Wells Fargo Center.

A majority of single event days at the Sports Complex attract less than 50,000 attendees. The following number of days during 2014 attracted more than 50,000 attendees:

- Single Event - Eagles games 8 days
- Single Event – Music or other Event 2 days
- Multi-Event – Eagles/Phillies Overlap 2 days
- Multi-Event – Eagles/Sixers/Flyers Overlap 1 day
- Multi-Event – Phillies/Sixers/Flyers Overlap 4 days
- Multi-Event – Sporting Event , Other Event Overlap 6 days

Total 23 days

The matrix below shows the months that each sport is in season or post-season. The Philadelphia Eagles season overlaps the end of the Philadelphia Phillies season and post season. The Philadelphia Eagles season also overlaps with the first half of the seasons for the Philadelphia 76ers and Philadelphia Flyers. The Philadelphia Phillies season overlaps with the beginning and end of the seasons for the Philadelphia 76ers and Philadelphia Flyers.

Month	Lincoln Financial Field		Citizens Bank Ballpark		Wells Fargo Center			
	Eagles Regular Season	Eagles Postseason (if any)	Phillies Regular Season	Phillies Postseason (if any)	Sixers Regular Season	Sixers Postseason (if any)	Flyers Regular Season	Flyers Postseason (if any)
January		X			X		X	
February					X		X	
March					X		X	
April			X		X		X	
May			X			X		X
June			X					
July			X					
August			X					
September	X		X					
October	X			X	X		X	
November	X				X		X	
December	X				X		X	

The approximate parking demand for sold out sporting events is listed below:

- Sixers / Flyers — Approximately 7,000 vehicles
- Phillies Game — Approximately 10,000 vehicles
- Eagles games — Approximately 18,000 vehicles

Source: PIDC Sports Complex Parking and Traffic Management Plan

1.5 Reference Documents and Stakeholder Coordination

The development of this plan has been completed with consideration to the following reference documents:

1.5.1 Live! Traffic Impact Study

During the gaming license process, a Traffic Impact Study was developed to assess the anticipated traffic impacts to the surrounding roadway network with the implementation of the proposed site. This document will be used as a source for site related trips and parking needs. This study was accepted by City of Philadelphia, PennDOT and ultimately the Pennsylvania Gaming Control Board (PGCB) in August 2014; the gaming license was awarded in November 2014.

1.5.2 PIDC / Langan Sports Complex Parking and Traffic Management Plan

The Philadelphia Industrial Development Corporation (PIDC) sponsored the Philadelphia Sports Complex Parking and Traffic Management Plan (dated September 2010) to evaluate existing parking and traffic management in the Sports Complex area, in addition to proposing measures to improve parking and traffic conditions during events.

Attachment B contains the Sports Complex Parking and Traffic Management Plan by PIDC/Langan.

1.5.3 Stakeholder Coordination

The project team coordinated with various City of Philadelphia Departments through a coordination workshop to determine current parking and traffic management measures in-place on large events days. Representatives included the Police Department, Department of Streets and Mayor's Office of Transportation and Utilities (MOTU). These entities will also be involved with the review and approval process for this Plan, in addition to any future revisions.

1.6 Proposed Site

The proposed site is anticipated to be a multi-use facility that will include:

- 300 +/- Room Hotel
- Multiple Restaurants
- 3,000 +/- Gaming Positions
- 3,000 +/- Space Multi-level Parking Structure

The proposed site plan (dated May 2015) is shown below:

- Ingress points (inbound trips)
  - Along Darien Street, south of Packer Avenue
  - 3 separate driveways
    - Northerly two driveways access to porte-cochere
    - Southerly driveway access to parking structure
  - 4-lane porte-cochere (3 valet lanes; 1 drop-off lane)
- Egress points (outbound trips)
  - Along 10th Street south of Packer Avenue
  - One driveway; two lanes

SECTION 2 – SITE PARKING MANAGEMENT

2.1 Existing Sports Complex Parking Overview

2.1.1 Parking Capacity

Existing parking capacity within the Sports Complex is summarized below:

• Wells Fargo Center	5,950
• Lincoln Financial Field and East	5,497
• Citizens Bank Park	8,318
• Optional (FDR Park and Naval Hospital Lot)	2,600
Total	**22,365**

Source: www.scssd.org

The existing sports complex parking area and lot naming designations are shown in the illustration below. These locations are primarily within the perimeter of Packer Avenue to the north, I-95 to the south, Broad Street to the west and Darien Street to the east.

Source: www.scssd.org

The proposed site is directly adjacent to Lots Q, X and W. On-street parking is not permitted throughout the sports complex.

There are 24 parking lots, which includes 2 optional overflow lots at the Naval Hospital and FDR Park (both west of Broad Street). All parking lots are paid parking; some are dedicated to season ticket holders or other pre-paid parking vehicles. The typical parking fee for each type of event is listed below:

• Eagles Game	$40/car ($80/oversized vehicle)*
• Phillies Game	$20/car ($32/oversized vehicle)
• Flyers Game/Sixers Game	$10-$15/car
• Other Events	$20/car

* Beginning in the 2015 Eagles Season, season ticketholder parking permits lot locations will be based on the ticketholder's home/anticipated route.

Tailgating is prohibited in select parking lots to maximize the number of parking spaces used by vehicles during some events. These include the lots north of Pattison Avenue between Broad Street and Darien Street (as shown in red in the illustration). Tailgating is allowed in the parking lots south of Pattison Avenue (as shown in blue in the illustration). The placement of these restrictions is based on proximity to the residential neighborhoods shown in yellow cross-hatching in the illustration.

Mass transit (bus and train) is promoted as a viable alternative to personal vehicle transportation to and from Sports Complex Events. There are several park and ride facilities in the Philadelphia Metropolitan Area in both Pennsylvania and New Jersey. Regional rail lines link with the subway system and provide a direct connection to the Sports Complex via the Broad Street Line. There are also several bus routes that serve the Sports Complex and connect to other parts of the City of Philadelphia. Mass transit usage is relied on to lower the personal vehicle parking demand on game days. A figure showing existing transit routes is contained in the Traffic Impact Study Report Appendix.

2.2 Rivers Casino (Pittsburgh, PA) Large Event Day Parking Model

Rivers Casino, which opened in August 2009 in Pittsburgh, Pennsylvania, mirrors the proposed site's proximity to professional sports stadiums. Rivers Casino is located within Pittsburgh's "three rivers"/North Shore area, which includes Heinz Field (National Football League) and PNC Park (Major League Baseball). Parking operations at Rivers Casino (as of June 2015) is summarized below:

- Structure parking is free for patrons on non-event days
- Anyone entering the parking structure must be at least 21 years old unless accompanied by an adult
- Structure parking is not free during event Days
  ** An Event Day is any event at the Heinz Stadium (National Football League or Music Act) and certain predetermined PNC Park (Major League Baseball) day games*
  - $65 Valet Parking (cash only)
  - $60 Self-Parking (cash only)
- Parking fees are reimbursable for site patrons with a Rewards Card if:
  - Patron plays table games for at least 1 hour
  - Patron plays poker for at least 3 hours
  - Patrons spend over $50 at Casino Restaurant (reimbursed by reducing the restaurant bill)

2.3 Proposed On-site Parking Structure Concept of Operations

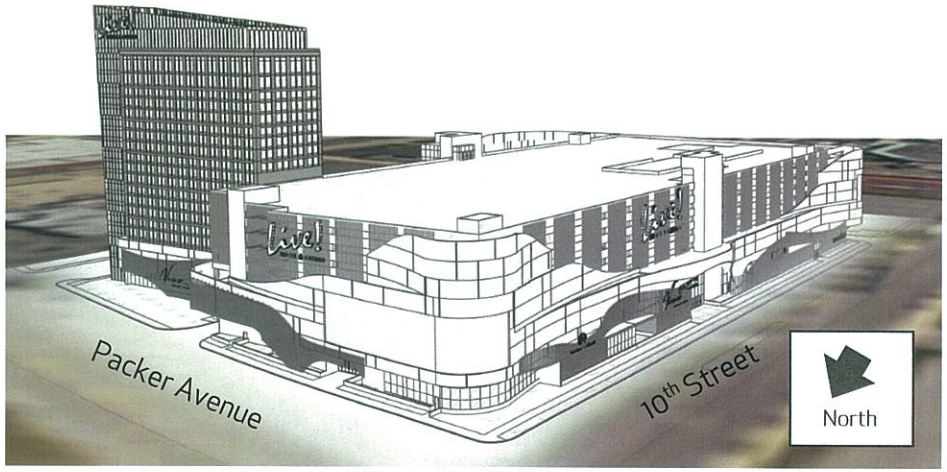
Parking management strategies will be separated into the following conditions:

- Non-event / typical non-peak conditions
- Weekly Peak Periods / Sports Complex Event(s)

General assumptions and anticipated operational conditions regarding parking management are summarized below:

- Site will include a multi-level parking structure (3,000 +/- parking spaces)
- Valet will have a dedicated ramp into the parking structure separate from the two parking structure entrance lanes for other vehicles
- Parking within the structure will be free for site patrons on non-event days
- Pedestrian access to the parking structure is provided through the facility
- Parking structure ingress accessed via Darien Street
- Parking structure egress lets out onto 10th Street
- Main entrance includes porte-cochere with 4 travel lanes
- Parking structure will accommodate patrons, employees and valet
- CCTV cameras will be placed at strategic locations to provide live video feeds to the proposed site security office

A preliminary conceptual level building massing of the proposed site (facing southeast) is shown below:



2.3.1 Non- Sports Complex Event Days / Typical Conditions

On typical non-event days, parking will be free and no electronic kiosks are anticipated at the entrance and exit to the parking structure. The proposed parking structure is anticipated to include approximately 3,000 parking spaces and is expected to handle the parking demand for the proposed site.

2.3.2 Sports Complex Event Days

Event day parking management will be in-place when one or more of the four major sports teams host a game (Eagles, Phillies, Flyers, or Sixers). The site owner will work with the City of Philadelphia and the Sports Complex Special Services District to identify other events such as concerts or collegiate athletics in which "event" parking management strategies should be in-place. This will occur on a yearly basis.

Event day site parking management is anticipated to adhere to the following parameters:

- Live! Hotel & Casino Philadelphia will not allow any tailgating within the parking structure
- Utilize the Rivers Casino (Pittsburgh, Pennsylvania) event day parking model, as summarized below:
    - Charge a fee
    - Make fee redeemable with a membership card that can be used in a variety of ways (not just gaming) within the property
    - Parking fee refund options will not be available to non-card holders
    - Cash only payments to be accepted at the parking structure entrance to be collected by parking attendant

2.3.3 Valet Parking

Valet parking is planned to operate in three of the four lanes within the porte-cochere. Porte-cochere access will be modified to accommodate anticipated increases in valet parking demand during weekly peak periods (Friday and Saturday night) and event days:

- Non-event day / Typical non-peak Conditions
    - All (3) Driveways Open

- Sports Complex Events or Other Weekly Peak Periods
    - Northerly Driveway Closed
    - Central U-turn driveway Open to Southbound Traffic
    - Southerly Parking Structure Driveway Open

One dedicated valet parking ramp is proposed at the entrance to the parking structure. Two additional lanes will be dedicated to other parking structure traffic.

SECTION 3 – SITE TRAFFIC MANAGEMENT

3.1 Existing Traffic Conditions Overview

The existing road network is generally built out for handling event day traffic; the following roadways are 5-lanes: Broad Street; Packer Avenue; Pattison Avenue; Darien Street and Front Street. Existing roadway traffic conditions in the vicinity of the proposed site are summarized below:

- **Non-Large Event Days** - Typically there is minimal traffic congestion within or adjacent to the Sports Complex on non-event days and during typical weekday commuter morning and afternoon peak hours ("rush hour").
- **Large Event Days** - During large event days**, and specifically during the peak traffic periods after events let are over, the road network incurs heavy congestion. Due to this, the City of Philadelphia, in coordination with the Department of Streets, Mayor's Office of Transportation and Utilities, and the Police Department, implements predefined traffic control measures during these large event days. The traffic impacts after events are not generally considered long-term traffic events. The largest events (Eagle games) typically clear within approximately 60 minutes.

* Small events include Sixers games, Flyers games, Phillies Games, and music or other events that include less than 50,000 attendees

** Large events include Eagles games, overlapping sporting events or music or other events that include more than 50,000 attendees

3.2 Current (Year 2015) Traffic Management Measures Implemented For Large Events

Parking and traffic management in the Sports Complex has evolved over the years along with the evolving landscape of facilities that fill it. The City of Philadelphia is the lead entity that operates and administers parking and traffic management measures during event days.

The City of Philadelphia has identified the need to implement a variety of traffic control measures during large event days, which include but are not limited to, Eagles games, concerts or other events with 50,000 or more attendees. On these days, and specifically during certain time periods, the City of Philadelphia Police Department implements several roadway traffic restrictions to aid in the flow of traffic.

Figure 1 shows the traffic restrictions in-place and enforced by the City of Philadelphia Police Department after large events.

As shown in the figure, the following traffic restrictions are set in-place during post-large event time periods:

- Pattison Avenue Approach Restrictions:
  - 11th Street Easterly Approach
  - Darien Street Westerly Approach
  - 7th Street Easterly Approach; left-turn only to northbound 7th Street
  - 3rd Street Northerly Approach
  - Lawrence Street Northerly Approach
  - Front Street Northerly Approach
- Packer Avenue Approach Restrictions:
  - 10th Street Easterly Approach
  - Darien Street Westerly Approach
    (I-76 eastbound exiting traffic is permitted to turn right onto westbound Packer Avenue)

3.3 Proposed Site Traffic Management Strategies

Site-related traffic management strategies are planned to be implemented along the roadways in the vicinity of the proposed site. These strategies include the traffic congestion related mitigation measures identified in the Traffic Impact Study, in addition to other signage and traffic calming measures identified during initial stakeholder coordination.

Traffic management strategies will be separated into the following conditions:

- Non-Large Event Days
- Large Event Days

These traffic management strategies are intended to promote safe and efficient passage to and from the proposed site using the city street network and highway network within South Philadelphia.

In general, measures will be implemented to discourage the use of the residential streets north of the proposed site, including 10th Street and 7th Street between Packer Avenue and Oregon Avenue.

As identified in the Traffic Impact Study, 90% of the site trips are anticipated to utilize I-95 and/or I-76 and 10% are anticipated to utilize the city street network only (Broad Street; 7th Street). An emphasis will be placed on providing adequate signage to direct traffic to highway access points along Packer Avenue and either Broad Street, 7th Street or Front Street.

3.3.1 Non-Event Days

Traffic congestion and other circulation issues are not anticipated during non-event days. Various road network mitigation measures are proposed for implementation along Packer Avenue (described in Section 3.4).

Figure 2 shows the preferred inbound and outbound traffic routes from the highway network and city street network.

3.3.2 Large Event Days

As described in Section 3.2, specific traffic handling measures are set in-place on large event days that places restrictions on certain traffic movements within the Sports Complex. Inbound and outbound traffic routes to and from the highway network have been preliminarily identified and account for the restrictions set forth by the City of Philadelphia Police Department.

Figure 3 shows the preferred inbound and outbound traffic routes when large event traffic restrictions are in place.

As shown in the figure, the closure of Packer Avenue between 10th Street and Darien Street after large events impacts inbound and outbound site traffic. Inbound traffic originating west of the proposed site will need to access the Darien Street ingress points via southbound 10th Street, eastbound Hartranft Street (Phillies Drive), and northbound Darien Street. Additionally, outbound traffic destined for points east of the site will need to access Packer Avenue via southbound 10th Street, eastbound Hartranft Street (Phillies Drive), and northbound Darien Street.

Large event day traffic assumptions and methodologies are listed below:

- Regular site patrons (not event day pass through patrons) will plan their trip around large Sports Complex event days and beginning/end of game traffic congestion time periods
- Post event site visitors may lessen the amount of traffic entering the road network directly after the event

3.4 Proposed Offsite Transportation Improvements

3.4.1 Traffic Signal Modifications

Proposed improvements to several signalized intersections in the vicinity of the proposed site (identified by the Traffic Impact Study) are listed below:

- **Packer Avenue and Broad Street**
  - Modify signal timing to increase green time for westbound Packer Avenue
- **Packer Avenue and 10th Street**
  - Install ADA compliant curb ramps, pedestrian push buttons, and countdown pedestrian signal heads. Modify signal timing to include lead pedestrian interval; upgrade cabinet/ controller
- **Packer Avenue and Darien Street**
  - Provide protected-permitted phase for SB left-turn movement; restripe the westbound approach to include two left-turn lanes; install lane use control sign mast arms along each Packer Avenue approach; upgrade cabinet and controller
  - The eastbound Interstate 76 exit ramp approach was recently widened to accommodate one dedicated left-turn, one through lane and a channelized right turn lane. Previously, the left-turn lane and through lane were condensed into one shared left-through lane. This new lane geometry will allow for the implementation of the protected left-turn phase without any additional modifications
- **Packer Avenue and 7th Street**
  - Modify signal phasing - protected left turns for the eastbound traffic; upgrade cabinet and controller
- **Front Street and I-95 Ramps**
  - Modify signal timing; add NB green time
- Traffic calming measures such as signage and striping are being investigated along 10th Street between Packer Avenue and Bigler Street

3.4.3 Destination Signage

Destination signage is proposed at key decision points along the highways and city street network to direct drivers to the proper exit/city street en route to the site. Highway signs would likely be ground-mounted/post-mounted and would not be attached to existing sign structures. These signs are proposed along Interstate 95 and Interstate 76 to direct motorists to Exit 19 (Packer Avenue) and Exit 350 (Packer Avenue), respectively. Additionally, smaller city street network signs are proposed along Broad Street, Packer Avenue, 7th Street, Front Street and other major intersections throughout the city.

Figure 4 shows proposed highway network and city street network destination signage locations. A full list is provided on the following page.

Potential sign layouts are illustrated below (in order from top to bottom – city street network, Interstate 76 and Interstate 95):

As shown in the figure, **highway network destination signs** are proposed at, but not limited to, the following locations:

- Interstate 76
  - Location A — Eastbound west of Broad Street Interchange
  - Location B — Westbound west of toll plaza (prior to 7th St)
  - Location J — Eastbound north of Interstate 676
  - Location K — Eastbound north of US 1 (Roosevelt Blvd)
- Interstate 95
  - Location C — Southbound north of east of Front Street
  - Location D — Northbound south of Packer Avenue
  - Location F — Northbound south of I-476
  - Location I — Southbound north of I-676
- Others
  - Location E — Southbound Interstate 476 north of I-95
  - Location G — Interstate 676 prior to Walt Whitman Bridge
  - Location H — Interstate 676 prior to Ben Franklin Bridge
  - Location L — Southbound US Route 1 east of I-76
  - Location M — Southbound I-295 north of Route 42

As shown in the figure, **city street network destination signs** are proposed at the following locations:

- Location 1 — Southbound Broad Street north of Packer Avenue
- Location 2 — Eastbound Packer Avenue west of Broad Street
- Location 3 — 7th Street at I-76 interchange exit ramp
- Location 4 — Southbound 7th Street north of Packer Avenue
- Location 5 — Westbound Packer Avenue west of I-95 exit ramp
- Location 6 — Front Street at I-95 interchange exit ramp
- Location 7 — Southbound Front Street north of Packer Avenue
- Location 8 — Eastbound Penrose Avenue north of I-95
- Location 9 — Southbound Columbus Blvd north of Washington Ave
- Location 10 — Southbound Broad Street north of Washington Ave
- Location 11 — Westbound Washington Avenue east of Broad Street
- Location 12 — Eastbound Market Street west of City Hall
- Location 13 — Westbound Market Street east of City Hall
- Location 14 — Southbound Broad Street north of City Hall
- Location 15 — Eastbound Snyder Avenue west of Broad Street
- Location 16 — Westbound Snyder Avenue east of Broad Street
- Location 17 — Southbound 10th Street north of Phillies Drive
- Location 18 — Eastbound Phillies Drive west of Darien Street

3.5 Incident Management and Information Sharing Strategies

A pre-planned and organized approach to incident management will be in-place to identify, assess, coordinate and respond to incidents. It is critical for site representatives and local law enforcement to attend to and clear the incident to return traffic operations and circulation back to working order. Incidents include vehicle crashes that occur within the site road network or adjacent to the site along 10th Street, Darien Street or Packer Avenue. It is recommended that the contact information be shared for the head of security at the three major sports facilities (especially the Wells Fargo Center Traffic Management Center), in addition to the City of Philadelphia Police Department. State Police are required to be onsite 24/7 and will lead incident management coordination in collaboration with site security personnel.

A one-page flowchart should be developed prior to opening to identify the coordination latter and the entities/contact information that should be contacted during incidents. These entities should include:

- City of Philadelphia Police Department
- Pennsylvania State Police (Presence in Proposed Facility)
- Sports Complex Traffic Operations Center (Wells Fargo Center)

Stakeholder responsibilities should also be outlined to identify actions and coordination/collaboration efforts once an incident is recognized, as the incident is being responded to, and after the incident is cleared. Incidents could include traffic or other crashes within the proposed site and along the adjacent road network, including 10th Street, Darien Street and Packer Avenue. Such incidents could impact site accessibility and should be cleared as quickly and safely as possible.

SECTION 4 – SITE CONNECTIVITY TO OTHER FACILITIES

4.1 Overview

Situated in the South Philadelphia Sports Complex, the proposed site is close in proximity to the 3 professional sports facilities - Lincoln Financial Field, Wells Fargo Center, and Citizens Bank Park. These facilities draw approximately 8 million visitors per year to the Sports Complex. Therefore, it is important to have adequate pedestrian connectivity and facilities between the proposed site and the aforementioned stadiums.

Figure 5 shows the pedestrian routes from the Sports Complex facilities to the Live! Hotel and Casino.

As shown in the figure, a majority of pedestrian traffic routes are concentrated on 10th Street, Hartranft Street, 11th Street, and Pattison Avenue.

There are existing sidewalks, painted crosswalks, street and sidewalk lighting and ADA compliant curb ramps along the entire length of the pedestrian routes identified in the figure.

Sidewalk and pedestrian facilities within the limits of the proposed site will be designed to accommodate significant pedestrian traffic and will include ADA compliant elements such as curb ramp with truncated domes.

4.2 Citizens Bank Park

Home to the Philadelphia Phillies, Citizen Bank Park has a capacity of approximately 45,000. Citizen Bank Park holds home Phillies games from April thru October. This facility also holds music concerts during the summer when the Phillies are not in town.

The nearest entrance to the proposed site (stadium northwest corner) is approximately ¼ mile walking distance.

4.3 Lincoln Financial Field

Home to the Philadelphia Eagles, Lincoln Financial Field has a capacity of approximately 70,000. Football games are played between August and December (preseason and regular season) and potentially during January based on the playoffs. The vast majority of home games are played at 1:00 p.m. on Sunday. Occasionally, home games will be held at 4:15 p.m. or 8:30 p.m. on Sunday, or Monday or Thursday nights.

In addition to NFL football events, Lincoln Financial Field also hosts special events throughout the year, including Temple (NCAA) football, annual Army-Navy (NCAA) football, soccer matches, and music concerts.

The nearest entrance to the proposed site (stadium northwest corner) is approximately ½ mile walking distance.

4.4 Wells Fargo Center

Home to the Philadelphia Flyers and Philadelphia Sixers, the Wells Fargo Center has a capacity of approximately 20,000. It also hosts special events to include: concerts and conventions and other events. Xfinity Live! (restaurant and entertainment facility) is located within the same quadrant as the Wells Fargo Center, adjacent to the Pattison Avenue and 11th Street intersection.

The nearest entrance to the proposed site (stadium northwest corner) is slightly over 1/2 mile walking distance.

4.5 SEPTA Mass Transit Stations

4.5.1 Subway Train Stations

Southeastern Pennsylvania Transportation Authority (SEPTA) operates a subway train line along Broad Street which terminates at Pattison Avenue at the AT&T Station. This train line provides direct access to Center City, Philadelphia and beyond. This subway line operates 24 hours a day Monday through Saturday.

This subway station is located approximately 6/10th of a mile walking distance from the proposed site.

4.5.2 Bus Stops

There are 5 SEPTA Bus Lines serving the area in the vicinity of the proposed site:

- 68 - 69th Street Transportation Center via US 13.
- 23 – Bethlehem Park via Germantown Avenue.
- 17 – Old City, via 20th Street and JFK Blvd.
- 4 – Fern Rock via Broad Street.
- G – Kingsessing and Overbrook via Passyunk Avenue and 56th Street

Routes in the vicinity of the proposed site are contained in the Traffic Impact Study Appendix. Existing bus stops are located along Packer Avenue adjacent to the proposed site.

FIGURES

Figure 1: Large Event Traffic Restrictions

Aerial Image Source: Google Earth

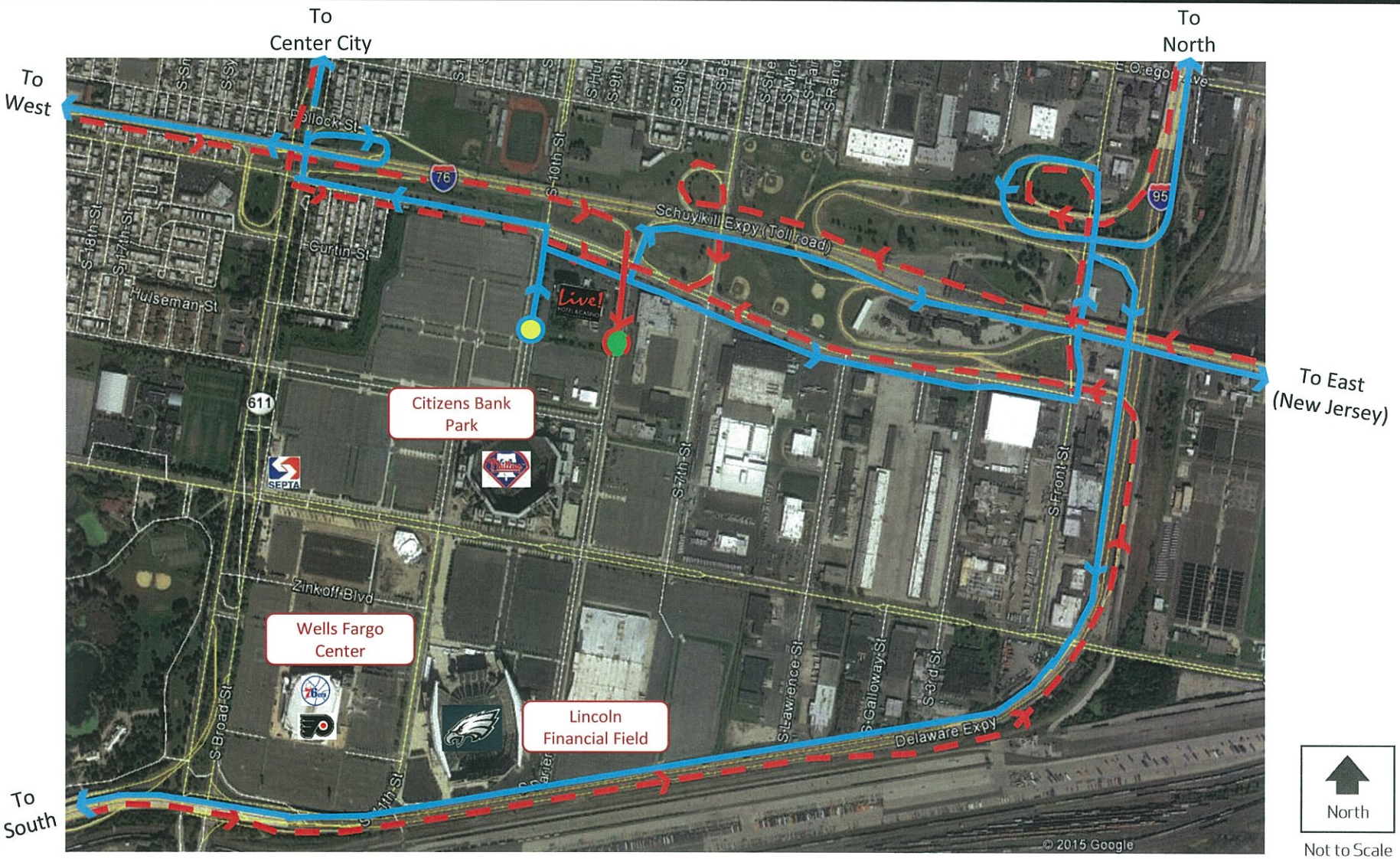
North

Not to Scale

Legend

No Thru Traffic	Barrier Restrictions	No Left Turn	No Right Turn

Figure 2: Preferred Non-Event Day Trip Routes

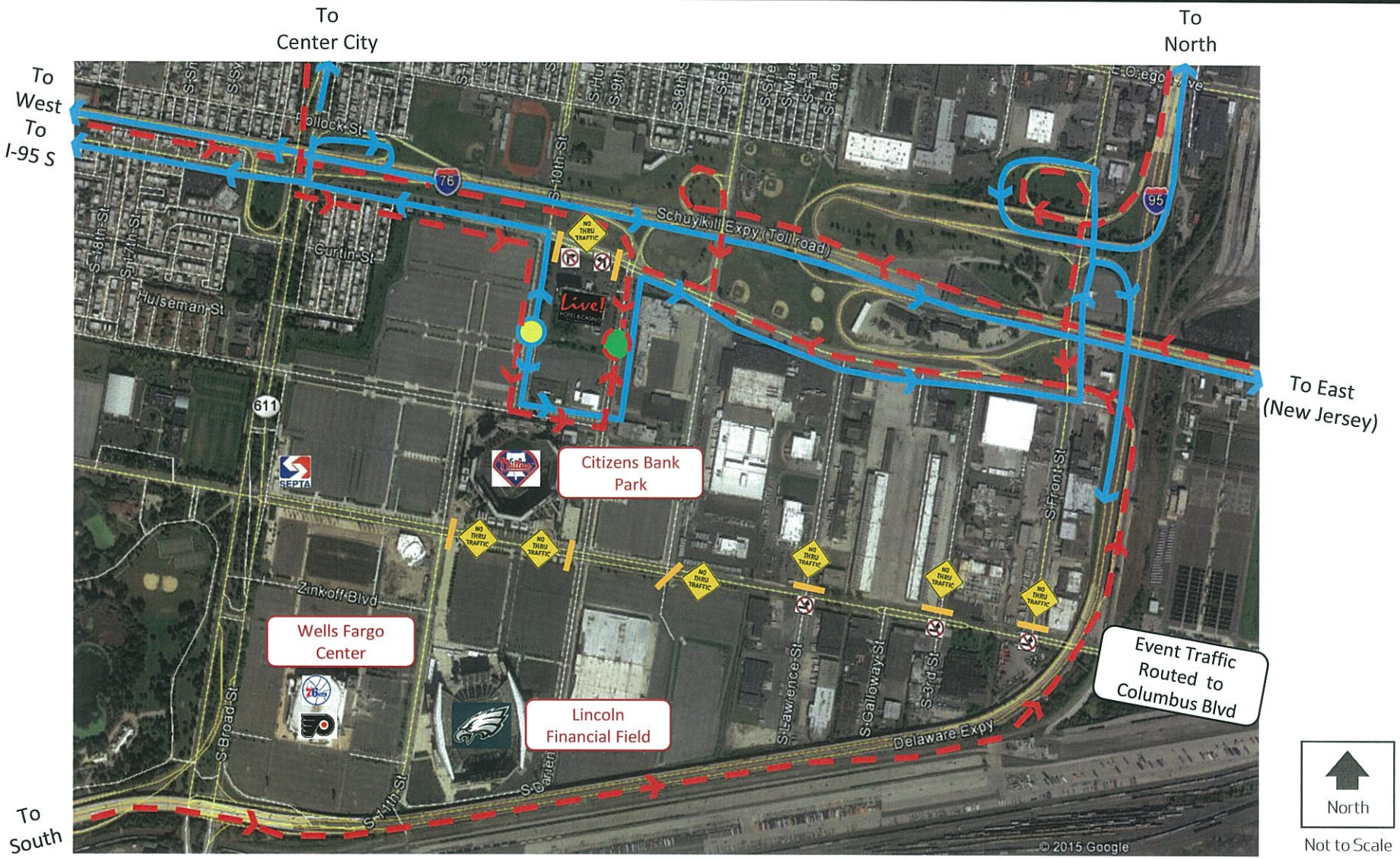


Aerial Image Source: Google Earth

Legend

Inbound	Outbound	Ingress Point	Egress Point

Figure 3: Site Trip Routes During Large Event Traffic Restrictions



Aerial Image Source: Google Earth

Legend

Inbound | Outbound | Ingress Point | Egress Point | No Thru Traffic | No Left Turn | No Right Turn

Figure 4: Destination Sign Locations

Aerial Image Source: Google Earth

North

Not to Scale

Legend

- (A) Highway Network Proposed Destination Sign Location
- (1) City Street Network Proposed Destination Sign Location

Figure 5: Pedestrian Routes to Other Sports Complex Facilities

Aerial Image Source: Google Earth

North

Not to Scale

Legend

Site Access	Pedestrian Route	Destination	0.25 mi Walking Distance

ATTACHMENTS

Attachment A

Previous 12 Months Sports Complex Event Calendar

Event Schedule

SportsComplex SPECIAL SERVICES DISTRICT
South Philadelphia

JUNE 2014

Version 5 – 06/20/2014

SUN	MON	TUES	WED	THURS	FRI	SAT
1 ★ 1:35 PM – CBP PHILLIES vs Mets (35,000) 5:00 PM – WFC SOUL vs Talons (5,000)	2 □ 7:05 PM – CBP PHILLIES vs Mets *>> rescheduled from 4/30* (30,000)	3	4	5	6	7 ○ *12:00 PM - Refinery Community Alert Siren Test* 9:00 AM – CBP Ridiculous Obstacle Challenge 5k (6,000) 2:00 PM – XL! Tap 'N' Run 4k (450)
8 ○ 3:00 PM – XL! Burger Brawl (2,000)	9	10 □ 7:05 PM – CBP PHILLIES vs Padres (30,000)	11 □ 7:05 PM – CBP PHILLIES vs Padres (30,000)	12 □ 1:05 PM – CBP PHILLIES vs Padres (30,000)	13 □ 7:05 PM – CBP PHILLIES vs Cubs (30,000)	14 *Flag Day* ★ 3:05 PM – CBP PHILLIES vs Cubs (30,000) 6:00 PM – WFC SOUL vs Power (5,000) 9:00 PM – XL! The Hooters Concert (n/a)
15 *Father's Day* □ 1:35 PM – CBP PHILLIES vs Cubs (40,000)	16	17	18	19	20	21 ○ 6:00 PM – WFC SOUL vs Gladiators (7,500)
22 ○ 5:00 PM – WFC WWE Wrestling (10,000)	23 □ 7:05 PM – CBP PHILLIES vs Marlins (30,000)	24 □ 7:05 PM – CBP PHILLIES vs Marlins (30,000)	25 □ 7:05 PM – CBP PHILLIES vs Marlins (30,000)	26 □ 7:05 PM – CBP PHILLIES vs Marlins *>>> Fireworks #1* (35,000)	27 ★ 7PM-10PM – WFC NHL Draft (17,000) 7:05 PM – CBP PHILLIES vs Braves *>>> Fireworks #2* (35,000)	28 ★ 10AM-3PM – WFC NHL Draft (7,500) 2:05 PM – CBP PHILLIES vs Braves (30,000) 7:15 PM – CBP PHILLIES vs Braves *>> rescheduled from 4/15* *>>> Fireworks #3* (30,000)
29 □ 9:00 AM – WFC Running for Cover 5k (800) 1:35 PM – CBP PHILLIES vs Braves (35,000)	30					

www.scssd.org

Neighborhood Impact Alert
★ **High** (50,000+)
□ **Med** (25,000 – 50,000)
○ **Low** (<25,000)

(Attendance Estimates)

Venues
WFC – Wells Fargo Center
LFF – Lincoln Financial Field
CBP – Citizens Bank Park
XL! – Xfinity Live!

Event Schedule

SportsComplex SPECIAL SERVICES DISTRICT
South Philadelphia

JULY 2014

Version 6 – 07/18/2014

SUN	MON	TUES	WED	THURS	FRI	SAT
		1	2	3	4 Independence Day	5 ★ *12:00 PM - Refinery Community Alert Siren Test* 8:00 PM – CBP Beyonce and Jay Z Concert (45,000)
6	7 ○ 8:00 PM – WFC SOUL vs Predators (4,500)	8	9	10	11 □ 7:05 PM – CBP PHILLIES vs Nationals (31,000)	12 □ 7:15 PM – CBP PHILLIES vs Nationals (31,000)
13 □ 1:35 PM – CBP PHILLIES vs Nationals (31,000)	14	15	16 ○ 7:30 PM – WFC Queen & Adam Lambert Concert (13,500)	17 ○ 6PM – 10PM Marconi Plaza Park Free Summer Concert (n/a) 4:00 PM – WFC Philaympics (n/a)	18	19 ○ 9:00 AM – WFC The Color Run 5k (9,500) 7:00 PM – XL! Gin Blossoms Concert (800)
20 ○ 4:00 PM – WFC SOUL vs Saber Cats (4,500)	21 □ 7:05 PM – CBP PHILLIES vs Giants (31,000)	22 □ 7:05 PM – CBP PHILLIES vs Giants (31,000)	23 □ 7:05 PM – CBP PHILLIES vs Giants (31,000)	24 □ 1:05 PM – CBP PHILLIES vs Giants (31,000) 7:00PM – WFC Marvel Univ. Live! (6,500)	25 ★ 7:00PM – WFC Marvel Univ. Live! (7,000) 7:05 PM – CBP PHILLIES vs D-backs (31,000)	26 ★ 11:00AM – WFC Marvel Univ. Live! (5,500) 3:00PM – WFC Marvel Univ. Live! (5,500) 7:00PM – WFC Marvel Univ. Live! (6,000) 7:05 PM – CBP PHILLIES vs D-backs (31,000)
27 ★ 1:00PM – WFC Marvel Univ. Live! (6,500) 1:35 PM – CBP PHILLIES vs D-backs (31,000) 5:00PM – WFC Marvel Univ. Live! (5,500)	28 □ 12:15 PM – LFF EAGLES Open Practice #1 (30,000)	29	30	31		

www.scssd.org

Neighborhood Impact Alert
★ **High** (50,000+)
□ **Med** (25,000 – 50,000)
○ **Low** (<25,000)

(Attendance Estimates)

Venues
WFC – Wells Fargo Center
LFF – Lincoln Financial Field
CBP – Citizens Bank Park
XL! – Xfinity Live!

Community Event sponsored by the Sports Complex Special Services District (SCSSD)

Event Schedule

SportsComplex SPECIAL SERVICES DISTRICT
South Philadelphia

AUGUST 2014

Version 4 – 08/08/2014

SUN	MON	TUES	WED	THURS	FRI	SAT
					1 ★ 7:00 PM – CBP Jason Aldean Concert (45,000)	2 ★ *12:00 PM - Refinery Community Alert Siren Test* 1:00 PM – LFF Soccer AS Roma vs Inter Milan (15,000) 7:00 PM – WFC M. Cyrus Concert (15,500) 8:00 PM – CBP Billy Joel Concert (45,000)
3 ■ 12:15 PM – LFF EAGLES Open Practice #2 (30,000)	4 ○ 7:00 PM – WFC Katy Perry Concert #1 (15,500)	5 ★ 7:00 PM – WFC Katy Perry Concert #2 (15,500) 7:05 PM – CBP PHILLIES vs Astros (31,000) 8:15 PM – Marconi Plaza Park The Lego Movie (n/a)	6 ■ 7:05 PM – CBP PHILLIES vs Astros (31,000)	7 ■ 7:05 PM – CBP PHILLIES vs Astros (31,000)	8 ■ 7:05 PM – CBP PHILLIES vs Mets (31,000)	9 ■ 7:05 PM – CBP PHILLIES vs Mets (31,000)
10 ■ 1:35 PM – CBP PHILLIES vs Mets (35,000)	11 ■ 1:05 PM – CBP PHILLIES vs Mets (31,000)	12	13 ★ 7:00 PM – LFF One Direction Concert #1 (50,000)	14 ★ 7:00 PM – LFF One Direction Concert #2 (50,000)	15 ★ 6:00 PM – LFF Luke Bryan Concert (50,000)	16 ○ 11AM – 3PM Vehicle VIN Etching Event at Holiday Inn (n/a) 12:00 PM – XL! Fantasy Football (3,000)
17	18 ■ 7:05 PM – CBP PHILLIES vs Mariners (31,000)	19 ■ 7:05 PM – CBP PHILLIES vs Mariners (31,000)	20 ■ 1:05 PM – CBP PHILLIES vs Mariners (31,000)	21 ★ 7:30 PM – LFF EAGLES vs Steelers – Preseason 3 (60,000)	22 ■ 7:05 PM – CBP PHILLIES vs Cardinals (31,000)	23 ■ 7:05 PM – CBP PHILLIES vs Cardinals (31,000)
24 ■ 1:35 PM – CBP PHILLIES vs Cardinals (31,000)	25 ■ 7:05 PM – CBP PHILLIES vs Nationals (31,000)	26 ■ 7:05 PM – CBP PHILLIES vs Nationals (31,000)	27 ■ 7:05 PM – CBP PHILLIES vs Nationals (31,000)	28 ★ 7:00 PM – LFF EAGLES vs Jets – Preseason 4 (50,000)	29	30 ○ 8:00 AM – WFC Color Me Rad 5k (6,000)
31						

Neighborhood Impact Alert

- ★ **High** (50,000+)
- ■ **Med** (25,000 – 50,000)
- ○ **Low** (<25,000)

(Attendance Estimates)

Venues

- **WFC** – Wells Fargo Center
- **LFF** – Lincoln Financial Field
- **CBP** – Citizens Bank Park
- **XL!** – Xfinity Live!

www.scssd.org

Community Event sponsored by the Sports Complex Special Services District (SCSSD)

Event Schedule

SportsComplex SPECIAL SERVICES DISTRICT
South Philadelphia

SEPTEMBER 2014

Version 4 – 09/19/2014

SUN	MON	TUES	WED	THURS	FRI	SAT
	1 a Day	2	3	4	5 ○ 7:00 PM – WFC Women of Faith (15,000)	6 ○ *12:00 PM - Refinery Community Alert Siren Test* 9:00 AM – WFC Women of Faith (15,000) 1:00 PM – LFF Temple Football vs Navy (15,000)
7 ★ 1:00 PM – LFF EAGLES vs Jaguars (69,000)	8 ★ 7:05 PM – CBP PHILLIES vs Pirates (31,000) 7:30 PM – WFC Ed Sheeran Concert (11,000)	9 ■ 7:05 PM – CBP PHILLIES vs Pirates (31,000)	10 ■ 7:05 PM – CBP PHILLIES vs Pirates (31,000) 7:30 PM – WFC Cirque Varekai (3,000)	11 ■ 7:05 PM – CBP PHILLIES vs Pirates (31,000) 7:30 PM – WFC Cirque Varekai (3,000)	12 ■ 7:05 PM – CBP PHILLIES vs Marlins (31,000) 7:30 PM – WFC Cirque Varekai (2,000)	13 ■ 4:00 PM – WFC Cirque Varekai (2,000) 7:05 PM – CBP PHILLIES vs Marlins (31,000) 7:30 PM – WFC Cirque Varekai (2,000) 8:00 PM – XL! Billy Currington Concert (n/a)
14 ■ 1:30 PM – WFC Cirque Varekai (2,000) 1:35 PM – CBP PHILLIES vs Marlins (31,000) 5:00 PM – WFC Cirque Varekai (3,000)	15 ○ 7:30 PM – WFC Tom Petty Concert (14,000)	16	17	18	19	20 ○ 8:00 AM – CBP Spartan Race (5,000) 12:00 PM – WFC Hero Thrill Show (15,000) 1:00 PM – LFF Temple Football vs Delaware State (5,000) 8:00 PM – WFC The Black Keys Concert (14,000)
21 ★ 1:00 PM – LFF EAGLES vs Redskins (69,000)	22 ○ 7:00 PM – WFC FLYERS vs Capitals – Preseason (15,000)	23	24	25 ○ 7:00 PM – WFC FLYERS vs Devils – Preseason (15,000)	26 ■ 7:05 PM – CBP PHILLIES vs Braves (31,000) 8:00 PM – WFC Aziz Ansari Comedy (7,000)	27 ■ 9:30 AM – LFF Liver Found. Walk (500) 2:00 PM – XL! Oktoberfest (7,500) 7:05 PM – CBP PHILLIES vs Braves (31,000)
28 ■ 1:35 PM – CBP PHILLIES vs Braves (31,000)	29	30 ○ 7:00 PM – WFC FLYERS vs Rangers – Preseason (15,000)				

Neighborhood Impact Alert

- ★ **High** (50,000+)
- ■ **Med** (25,000 – 50,000)
- ○ **Low** (<25,000)

(Attendance Estimates)

Venues

- **WFC** – Wells Fargo Center
- **LFF** – Lincoln Financial Field
- **CBP** – Citizens Bank Park
- **XL!** – Xfinity Live!

www.scssd.org

Event Schedule

SportsComplex SPECIAL SERVICES DISTRICT
South Philadelphia

OCTOBER 2014

Version 4 – 10/01/2014

SUN	MON	TUES	WED	THURS	FRI	SAT
			1	2	3 ○ **7:30 PM – WFC Monster Trucks (8,000)** **6:30 PM – Marconi Pla a Park Movie ight rozen (n/a)**	4 ○ *12:00 PM - Refinery Community Alert Siren Test* **12:00 PM – XL! Bacon Fest (5,000)** **2:00 PM – WFC Monster Trucks (8,000)** **7:30 PM – WFC Monster Trucks (8,000)**
5 ★ **1:00 PM – LFF EAGLES** vs Ra s **(69,000)** **7:00 PM – XL! Eric Paslay Concert (1,000)**	6	7 ○ **7:00 PM – WFC WWE Smackdown (10,500)**	8 ○ **7:00 PM – WFC SIXERS** vs ornets Preseason **(7,500)**	9 ○ **7:00 PM – WFC FLYERS** vs evils **(17,500)**	10	11 ○ **12:00 PM – LFF Temple Football** vs Tulsa **(7,000)** **7:00 PM – WFC FLYERS** vs Canadiens **(17,500)**
12 ★ **8:30 PM – LFF EAGLES** vs Giants **(69,000)**	13 *Columbus Day*	14 ○ **7:00 PM – WFC FLYERS** vs ucks **(17,500)**	15 ○ **8:00 PM – WFC Fleetwood Mac Concert #1 (15,500)**	16 ○ **7:00 PM – WFC SIXERS** vs Celtics Preseason **(7,500)**	17	18 ○ **7:00 PM – WFC Eric Church Concert (12,000)**
19	20	21	22	23	24	25 ○ **9:00 AM – WFC Flyers Charity 5K (3,000)** **3PM – 5PM SCSSD Children's Halloween Party in FDR Park (1,000)** **7:00 PM – WFC FLYERS** vs Red ings **(18,000)**
26	27	28 ○ **7:00 PM – WFC FLYERS** vs ings **(17,500)**	29 ○ **8:00 PM – WFC Fleetwood Mac Concert #2 (15,500)**	30	31 *Halloween* ○ **6:00 PM – WFC Powerhouse Concert (16,000)**	

Neighborhood Impact Alert
★ **High** (50,000+)
☐ **Med** (25,000 – 50,000)
○ **Low** (<25,000)
(Attendance Estimates)

Venues
WFC – Wells Fargo Center
LFF – Lincoln Financial Field
CBP – Citizens Bank Park
XL! – Xfinity Live!

www.scssd.org

Community Event sponsored by the Sports Complex Special Services District (SCSSD)

Event Schedule

SportsComplex SPECIAL SERVICES DISTRICT
South Philadelphia

NOVEMBER 2014

Version 3 – 10/28/2014

SUN	MON	TUES	WED	THURS	FRI	SAT
						1 ○ *12:00 PM - Refinery Community Alert Siren Test* **12:00 PM – LFF Temple Football** vs Carolina **(5,000)** **7:00 PM – WFC SIXERS** vs eat **(15,000)**
2 ○ **9:00 AM – CBP Autism Walk (12,000)**	3 ○ **7:00 PM – WFC SIXERS** vs Rockets **(7,500)**	4 *Election Day* ○ **7:00 PM – WFC FLYERS** vs Oilers **(17,500)**	5 ○ **7:00 PM – WFC SIXERS** vs Magic **(7,500)**	6 ○ **7:00 PM – WFC FLYERS** vs Panthers **(17,500)**	7 ○ **7:00 PM – WFC SIXERS** vs Bulls **(13,500)** **7:30 PM – LFF Temple Football** vs Me his **(5,000)**	8 ○ **9:00 AM – CBP Heart Walk (8,000)** **7:00 PM – WFC FLYERS** vs valanche **(17,500)**
9 ○ **9:00 AM – CBP Alzheimer's Walk (7,000)** **12:00 PM – WFC Villanova Bskt.** vs ack **(6,000)**	10 ★ **8:30 PM – LFF EAGLES** vs Panthers **(69,000)**	11 *Veteran's Day* ○ **7:30 PM – WFC Usher Concert (11,000)**	12	13	14 ○ **7:00 PM – WFC FLYERS** vs Blue ackets **(17,500)** **5:00 PM – CBP High School Lacrosse (2,000)**	15 ○ **9:00 AM – CBP ALS Walk (5,000)**
16 ○ **7:30 PM – WFC Stevie Wonder Concert (13,500)**	17	18	19 ○ **7:00 PM – WFC SIXERS** vs Celtics **(7,500)**	20 ○ **7:00 PM – WFC FLYERS** vs ild **(17,500)**	21 ○ **7:00 PM – WFC SIXERS** vs uns **(12,500)**	22 ○ **7:00 PM – WFC FLYERS** vs Blue ackets **(17,500)**
23 ★ **1:00 PM – LFF EAGLES** vs Titans **(69,000)**	24 ○ **7:00 PM – WFC SIXERS** vs Trail Bla ers **(7,500)**	25	26 ○ **7:00 PM – WFC SIXERS** vs ets **(10,000)**	27 *Thanksgiving Day*	28 ○ **1:00 PM – WFC FLYERS** vs Rangers **(18,500)**	29 ○ **TBD – LFF Temple Football** vs Cincinnati **(5,000)** **7:00 PM – WFC SIXERS** vs Mavericks **(14,000)**
30 ○ **4:30 PM – WFC Villanova Bskt.** vs elaware **(6,000)**						

Neighborhood Impact Alert
★ **High** (50,000+)
☐ **Med** (25,000 – 50,000)
○ **Low** (<25,000)
(Attendance Estimates)

Venues
WFC – Wells Fargo Center
LFF – Lincoln Financial Field
CBP – Citizens Bank Park
XL! – Xfinity Live!

www.scssd.org

Event Schedule

SportsComplex SPECIAL SERVICES DISTRICT
South Philadelphia

DECEMBER 2014

Version 4 – 12/19/2014

SUN	MON	TUES	WED	THURS	FRI	SAT
	1 ○ 6:00 AM – XL! Campout for Hunger (2,000/day) 7:00 PM – WFC SIXERS vs urs (11,000)	**2** ○ 6:00 AM – XL! Campout for Hunger (2,000/day)	**3** ○ 6:00 AM – XL! Campout for Hunger (2,000/day)	**4** ○ 6:00 AM – XL! Campout for Hunger (2,000/day)	**5** ○ 6:00 AM – XL! Campout for Hunger (2,000/day) 7:00 PM – WFC SIXERS vs Thunder (14,500)	**6** *12:00 PM - Refinery Community Alert Siren Test*
7 ★ 4:25 PM – LFF EAGLES vs eahawks (69,000)	**8**	**9**	**10** ○ 7:30 PM – WFC Jingle Ball Concert (15,000)	**11** ○ 7:00 PM – WFC FLYERS vs evils (17,500)	**12**	**13** ○ 1:00 PM – WFC FLYERS vs urricanes (17,500) 7:30 PM – WFC SIXERS vs Gri lies (13,500)
14 ★ 8:30 PM – LFF EAGLES vs Cowbo s (69,000)	**15** ○ 7:00 PM – WFC SIXERS vs Celtics (10,000)	**16** ○ 7:00 PM – WFC FLYERS vs ightning (17,500)	**17** ○ 8:00 PM – WFC Justin Timberlake Concert (16,000)	**18** ○ 7:00 PM – WFC FLYERS vs Panthers (12,500)	**19** ○ 7:00 PM – WFC SIXERS vs ornets (11,000)	**20** ○ 1:00 PM – WFC Villanova Bskt. vs racuse (14,000)
21	**22** ○ 7:00 PM – WFC Temple Bskt. vs ansas (9,500)	**23** ○ 4:00 PM – WFC Trans-Siberian Orchestra (12,000) 8:00 PM – WFC Trans-Siberian Orchestra (14,000)	**24** *Christmas Eve*	**25** *Christmas Day* ○ 2:00 PM – WFC Disney Ice Frozen (8,500) 6:00 PM – WFC Disney Ice Frozen (8,500)	**26** ○ 11:00 AM – WFC Disney Ice Frozen (10,500) 3:00 PM – WFC Disney Ice Frozen (10,500) 7:00 PM – WFC Disney Ice Frozen (10,500)	**27** ○ 11:00 AM – WFC Disney Ice Frozen (11,000) 3:00 PM – WFC Disney Ice Frozen (11,000) 7:00 PM – WFC Disney Ice Frozen (10,000)
28 ○ 11:00 AM – WFC Disney Ice Frozen (11,000) 3:00 PM – WFC Disney Ice Frozen (11,000) 7:00 PM – WFC Disney Ice Frozen (9,000)	**29** ○ 11:00 AM – WFC Disney Ice Frozen (11,000) 3:00 PM – WFC Disney Ice Frozen (10,000) 7:00 PM – WFC Disney Ice Frozen (8,500)	**30** ○ 11:00 AM – WFC Disney Ice Frozen (10,000) 3:00 PM – WFC Disney Ice Frozen (9,000) 7:00 PM – WFC Disney Ice Frozen (8,500)	**31** *New Year's Eve* ○ 11:00 AM – WFC Disney Ice Frozen (8,500) 3:00 PM – WFC Disney Ice Frozen (8,500)			

www.scssd.org

Neighborhood Impact Alert	Venues
★ **High** (50,000+)	**WFC** – Wells Fargo Center
☐ **Med** (25,000 – 50,000)	**LFF** – Lincoln Financial Field
○ **Low** (<25,000)	**CBP** – Citizens Bank Park
(Attendance Estimates)	**XL!** – Xfinity Live!

Event Schedule

SportsComplex SPECIAL SERVICES DISTRICT
South Philadelphia

JANUARY 2015

Version 3 – 12/29/2014

SUN	MON	TUES	WED	THURS	FRI	SAT
				1 e ea Day ○ 2:00 PM – WFC Disney Ice Frozen (9,000)	**2** ○ 3:00 PM – WFC Disney Ice Frozen (9,000) 7:00 PM – WFC Disney Ice Frozen (9,000)	**3** ○ *12:00 PM - Refinery Community Alert Siren Test* 11:00 AM – WFC Disney Ice Frozen (9,500) 3:00 PM – WFC Disney Ice Frozen (10,000) 7:00 PM – WFC Disney Ice Frozen (8,500)
4 ○ 11:00 AM – WFC Disney Ice Frozen (9,000) 3:00 PM – WFC Disney Ice Frozen (8,500) 7:00 PM – WFC Disney Ice Frozen (7,500)	**5** ○ 7:00 PM – WFC SIXERS vs Cavaliers (15,500)	**6** ○ 7:00 PM – WFC FLYERS vs Senators (17,500)	**7** ○ 7:00 PM – WFC SIXERS vs Bucks (10,500)	**8** ○ 7:00 PM – WFC FLYERS vs Capitals (17,500)	**9**	**10** ○ 1:00 PM – WFC FLYERS vs Bruins (18,500) 7:30 PM – WFC SIXERS vs Pacers (14,500)
11	**12** ○ 7:00 PM – WFC FLYERS vs Lightning (17,500)	**13** ○ 7:00 PM – WFC SIXERS vs Hawks (12,500)	**14**	**15** ○ 7:00 PM – WFC FLYERS vs Canucks (17,500)	**16** ○ 7:00 PM – WFC SIXERS vs Pelicans (13,500)	**17**
18	**19** Day	**20** ○ 7:00 PM – WFC FLYERS vs Penguins (18,500)	**21** ○ 7:00 PM – WFC SIXERS vs Knicks (11,500)	**22**	**23** ○ 7:00 PM – WFC SIXERS vs Raptors (12,500)	**24** ○ 10:00 AM – XL! Radio 104.5 Winter Jam Outdoor Concert (7,000)
25 ○ 7:30 PM – WFC WWE Royal Rumble (15,500)	**26**	**27** ○ 7:00 PM – WFC FLYERS vs Coyotes (17,500)	**28** ○ 7:00 PM – WFC SIXERS vs Pistons (11,500)	**29** ○ 7:00 PM – WFC FLYERS vs Jets (17,500)	**30** ○ 6:00 AM – WFC Wing Bowl 23 (15,000) 7:00 PM – WFC SIXERS vs Timberwolves (11,500)	**31** ○ 1:00 PM – WFC College Hockey PSU vs Vermont (10,000) 7:00 PM – WFC FLYERS vs Maple Leafs (17,500)

www.scssd.org

Neighborhood Impact Alert	Venues
★ **High** (50,000+)	**WFC** – Wells Fargo Center
☐ **Med** (25,000 – 50,000)	**LFF** – Lincoln Financial Field
○ **Low** (<25,000)	**CBP** – Citizens Bank Park
(Attendance Estimates)	**XL!** – Xfinity Live!

Event Schedule

SportsComplex SPECIAL SERVICES DISTRICT
South Philadelphia

FEBRUARY 2015

Version 3 – 02/03/2015

SUN	MON	TUES	WED	THURS	FRI	SAT
1	2 nd Day	3 ○ 7:00 PM – WFC SIXERS vs Nuggets (8,500)	4 ○ 7:00 PM – WFC Villanova Bskt. vs Marquette (14,500)	5 ○ 7:00 PM – WFC FLYERS vs Islanders (17,500)	6	7 ○ *12:00 PM - Refinery Community Alert Siren Test* 2:00 PM – WFC Villanova Bskt. vs Georgetown (15,500) 7:30 PM – WFC SIXERS vs Hornets (12,000)
8	9 ○ 7:00 PM – WFC SIXERS vs Warriors (10,000)	10	11 ○ 7:00 PM – WFC Circus Xtreme (8,500)	12 nc n day ○ 10:30 AM – WFC Circus Xtreme (6,500) 7:00 PM – WFC Circus Xtreme (7,000)	13 ○ 10:30 AM – WFC Circus Xtreme (6,500) 7:00 PM – WFC Circus Xtreme (7,000)	14 a en ne Day ○ 11:00 AM – WFC Circus Xtreme (7,000) 3:00 PM – WFC Circus Xtreme (7,000) 7:00 PM – WFC Circus Xtreme (7,000)
15 ○ 11:00 AM – WFC Circus Xtreme (7,000) 3:00 PM – WFC Circus Xtreme (7,000) 7:00 PM – WFC Circus Xtreme (7,000)	16 e den Day ○ 7:00 PM – WFC Circus Xtreme (6,000)	17 ○ 7:00 PM – WFC FLYERS vs Blue Jackets (17,500)	18 ○ 7:30 PM – WFC Chris Brown & Trey Songz Concert (10,500)	19 ○ 7:00 PM – WFC FLYERS vs Sabres (17,500)	20 ○ 7:00 PM – WFC SIXERS vs Pacers (12,000)	21 ○ 1:00 PM – WFC FLYERS vs Predators (17,500)
22 ○ 3:00 PM – WFC FLYERS vs Capitals (18,500)	23	24	25	26	27 ○ 7:00 PM – WFC SIXERS vs Wizards (13,500)	28 ○ 8:00 PM – WFC FLYERS vs Rangers (18,000)

www.scssd.org

Neighborhood Impact Alert
★ **High** (50,000+)
☐ **Med** (25,000 – 50,000)
○ **Low** (<25,000)

(Attendance Estimates)

Venues
WFC – Wells Fargo Center
LFF – Lincoln Financial Field
CBP – Citizens Bank Park
XL! – Xfinity Live!

Event Schedule

SportsComplex SPECIAL SERVICES DISTRICT
South Philadelphia

MARCH 2015

Version 3 – 03/20/2015

SUN	MON	TUES	WED	THURS	FRI	SAT
1 ○ 1:30 PM – WFC Flyers Wives Carnival (6,500)	2 ○ 7:00 PM – WFC SIXERS vs Ra tors (8,500)	3 ○ 7:00 PM – WFC FLYERS vs la es (17,500)	4	5 ○ 7:00 PM – WFC FLYERS vs Blues (17,500)	6 ○ 7:00 PM – WFC SIXERS vs a (12,500)	7 ○ *12:00 PM - Refinery Community Alert Siren Test* 2:00 PM – WFC Villanova Bskt. vs t ohns (13,500) 7:30 PM – WFC SIXERS vs awks (13,500)
8 ○ 12:00 PM – WFC H. Globetrotters (9,000) 5:00 PM – WFC H. Globetrotters (10,000)	9 ○ 7:30 PM – WFC Maroon 5 Concert (16,000)	10 ○ 7:00 PM – WFC FLYERS vs tars (17,500)	11 ○ 7:00 PM – WFC SIXERS vs Bulls (11,500)	12 ○ 7:30 PM – WFC Ariana Grande Concert (13,000)	13 ○ 7:00 PM – WFC SIXERS vs ings (13,000)	14 ○ 1:00 PM – WFC FLYERS vs Red ings (18,000) 7:30 PM – WFC SIXERS vs ets (13,500)
15 ○ 8:00 PM – WFC Neil Diamond Concert (12,000)	16	17 *St. Patrick's Day*	18 ○ 7:00 PM – WFC SIXERS vs Pistons (8,500)	19	20 ○ 7:00 PM – WFC SIXERS vs nicks (11,500)	21 ○ 7:00 PM – WFC Meek Mill Concert (16,000)
22	23	24	25 ○ 8:00 PM – WFC FLYERS vs Blackhawks (18,000)	26	27 ○ 7:00 PM – WFC SIXERS vs Cli ers (13,500)	28 ○ 8:00 AM – CBP Phillies 5K (5,000) 1:00 PM – WFC FLYERS vs harks (17,500)
29	30 ○ 7:00 PM – WFC SIXERS vs akers (9,000)	31				

www.scssd.org

Neighborhood Impact Alert
★ **High** (50,000+)
☐ **Med** (25,000 – 50,000)
○ **Low** (<25,000)

(Attendance Estimates)

Venues
WFC – Wells Fargo Center
LFF – Lincoln Financial Field
CBP – Citizens Bank Park
XL! – Xfinity Live!

Event Schedule

SportsComplex
SPECIAL SERVICES DISTRICT
South Philadelphia

APRIL 2015

Version 7 – 04/17/2015

SUN	MON	TUES	WED	THURS	FRI	SAT
			1	2	3 ☐ 7:05 PM – CBP PHILLIES vs Pirates Preseason (25,000)	4 ☐ *12:00 PM - Refinery Community Alert Siren Test* 1:05 PM – CBP PHILLIES vs Pirates Preseason (25,000)
5 *Easter Day* ○ 12:30 PM – WFC FLYERS vs Penguins (17,500)	6 ★ 3:05 PM – CBP PHILLIES vs Red o > *Home Opener* (43,000)	7 ○ 7:00 PM – WFC FLYERS vs slanders (18,000)	8 ★ 7:00 PM – WFC SIXERS vs i ards (10,000) 7:05 PM – CBP PHILLIES vs Red o (43,000)	9 ★ 7:00 PM – WFC FLYERS vs urricanes (17,000) 7:05 PM – CBP PHILLIES vs Red o (43,000)	10 ☐ 7:05 PM – CBP PHILLIES vs ationals (30,000)	11 ☐ 9AM – 3PM SCSSD Annual Shredding Event (800) 12:30 PM – WFC FLYERS vs enators (17,500) 7:05 PM – CBP PHILLIES vs ationals (30,000)
12 ★ 1:35 PM – CBP PHILLIES vs ationals (30,000) 4:00 PM – WFC SOUL vs harks (11,500)	13 ○ 7:00 PM – WFC SIXERS vs Bucks (10,000)	14	15 *Tax Day* ○ 8:00 PM – WFC SIXERS vs eat (12,500)	16	17	18 ○ 6:00 PM – WFC SOUL vs Gladiators (10,000)
19 ○ 11:00 AM – LFF Flight Market ood Trucks vent (2,000)	20	21 ☐ 7:05 PM – CBP PHILLIES vs Marlins (25,000)	22 ☐ 7:05 PM – CBP PHILLIES vs Marlins (25,000)	23 ☐ 1:05 PM – CBP PHILLIES vs Marlins (25,000)	24 ☐ 7:05 PM – CBP PHILLIES vs Braves (25,000)	25 ☐ 7:05 PM – CBP PHILLIES vs Braves (25,000)
26 ☐ 11:00 AM – LFF Autism Event (3,000) 1:35 PM – CBP PHILLIES vs Braves (30,000)	27	28	29	30 ○ 5:30 PM – LFF Eagles Draft Party (5,000)		

Neighborhood Impact Alert
★ **High** (50,000+)
☐ **Med** (25,000 – 50,000)
○ **Low** (<25,000)

(Attendance Estimates)

Venues
WFC – Wells Fargo Center
LFF – Lincoln Financial Field
CBP – Citizens Bank Park
XL! – Xfinity Live!

www.scssd.org

Event Schedule

SportsComplex
SPECIAL SERVICES DISTRICT
South Philadelphia

MAY 2015

Version 3 - 04/17/2015

SUN	MON	TUES	WED	THURS	FRI	SAT
					1	2 ○ *12:00 PM - Refinery Community Alert Siren Test* 6:00 PM – WFC SOUL vs Thunder (5,000)
3 ☐ 8:00 AM – Broad Street Run ends at av ard (40,000)	4	5	6	7	8 ★ 7:05 PM – CBP PHILLIES vs Mets (25,000) 7:30 PM – WFC SOUL vs Predators (5,000)	9 ☐ 12:00 PM – XL! Taste of 3 Cities ood Trucks vent (7,500) 7:05 PM – CBP PHILLIES vs Mets (25,000)
10 *Mother's Day* ☐ 1:35 PM – CBP PHILLIES vs Mets (35,000)	11 ☐ 7:05 PM – CBP PHILLIES vs Pirates (25,000)	12 ☐ 7:05 PM – CBP PHILLIES vs Pirates (25,000)	13 ☐ 7:05 PM – CBP PHILLIES vs Pirates (25,000)	14 ☐ 1:05 PM – CBP PHILLIES vs Pirates (25,000)	15 ☐ 7:05 PM – CBP PHILLIES vs backs (25,000)	16 ☐ 7:05 PM – CBP PHILLIES vs backs (25,000)
17 ★ 7:00 AM – CBP Phillies Charities Bike Ride (1,000) 1:35 PM – CBP PHILLIES vs backs (25,000) 7:30 PM – WFC The Who Concert (13,500)	18	19 *Primary Elections*	20	21	22	23 ☐ 1:00 PM – LFF NCAA Lacrosse e inal Ga e (40,000) 3:30 PM – LFF NCAA Lacrosse e inal Ga e (40,000)
24 ☐ 1:00 PM – LFF NCAA Lacrosse Cha ionshi (15,000) 4:00 PM – LFF NCAA Lacrosse Cha ionshi (15,000)	25 *Memorial Day* ☐ 1:00 PM – LFF NCAA Lacrosse Cha ionshi (43,000)	26	27	28	29 ☐ 7:05 PM – CBP PHILLIES vs Rockies (25,000)	30 ★ 3:05 PM – CBP PHILLIES vs Rockies (25,000) 8:00 PM – XL! Buckcherry Concert (1,000)
31 ☐ 1:35 PM – CBP PHILLIES vs Rockies (25,000)						

Neighborhood Impact Alert
★ **High** (50,000+)
☐ **Med** (25,000 – 50,000)
○ **Low** (<25,000)

(Attendance Estimates)

Venues
WFC – Wells Fargo Center
LFF – Lincoln Financial Field
CBP – Citizens Bank Park
XL! – Xfinity Live!

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Attachment B

Sports Complex Parking and Traffic Management Plan (PIDC/Langan)

From September 2008 through August 2009, average baseball attendance was 43,723. During that time there were 87 baseball games and two concerts. High-attendance regular-season Phillies games have resulted in a parking demand of about 10,000 vehicles.

Overlapping or closely scheduled events at two (or more) entertainment facilities can result in magnified traffic and parking issues. These are called "dual-event days". In the time period mentioned above, there were events at both Citizens Bank Park and the Wachovia Complex on 32 days. With the closing of the Wachovia Spectrum, the number of such dual-event days may increase. For example, there may be fewer open days for scheduling concerts and family shows, leading to more event days at the Wachovia Center, and more dual-event dates when a Wachovia Center event is scheduled on the same day as an event at the other venues.

Wachovia Complex (Wachovia Center and Wachovia Spectrum)

The Wachovia Center, with 21,600 seats for basketball games, is home to the Philadelphia 76ers (NBA). The seating capacity is 19,519 for the arena's other major tenants, the Philadelphia Flyers (NHL) and the Philadelphia Wings (NLL). Former part-time tenants of the facility were the Philadelphia Phantoms (AHL) and Philadelphia Soul (AFL).

The Phantoms' primary facility was the Wachovia Spectrum. Formally closed on October 31, 2009, the Spectrum will be demolished and the site reused by the *Philly Live!* development. The Philadelphia KiXX (MISL [soccer]) also called the Spectrum home, though they have now moved to a different facility (Liacouras Center at Temple University) not on the Sports Complex. Seating capacity at the Spectrum was 18,136 for basketball and 17,380 for other sports.

From September 2008 through August 2009, the two arenas hosted approximately 280 major events. About 16% of the events were NBA basketball games and approximately 17% were NHL hockey games. Including the minor league teams mentioned above, sporting events comprised about 58% of the annual events. Another 27% are family shows and 13% are concerts. The remaining 3% of events included private events and religious and motivational speakers. Some examples of non-sporting events hosted at Wachovia are Disney on Ice, monster trucks, the circus, and wrestling.

About 60% of arena events occurred on the same day as another arena event; with 12% of event days having three or four events. The vast majority of dual-event days (days on which an event was scheduled at both the Wachovia Spectrum and the Wachovia Center) occurred on Friday, Saturday, or Sunday. Multi event days (when multiple events occurred at one facility over the course of the day) mostly occurred on Saturday.

The peak attendance for a 76ers game has been approximately 16,000 patrons, for a Flyers game the peak attendance has been approximately 18,000 patrons, and for a sold-out concert the attendance is approximately 20,000 patrons. High-attendance

Flyers and Sixers games result in a regular-season parking demand of about 7,200 vehicles.

Single Day Peak Parking Demand

The Dual Event combination of a Phillies post-season game plus a Flyers game could result in more parked cars than an Eagles game. Table 2 below compares the demand of a typical Eagles game with the demand of a Dual Event day.

The Dual Event day parking counts in the table below are from October 8, 2009, when the Phillies game ended about 45 minutes before the Flyers game began. Thus, not all 19,300 cars were parked simultaneously. However, there are rare occasions when the start and end of two events overlap slightly, increasing the number of cars that would be parked simultaneously.

Table 2
Single Day (Multiple Events) Peak Parking Demand
Existing Events at the Philadelphia Sports Complex

Event	Eagles Game	Phillies Playoff Game + Flyers Game
NFL Game	18,000	
NHL Game		6,000
MLB Post-Season Game		13,300
Total	**18,000**	**19,300**

Existing Transit Conditions

The Southeastern Pennsylvania Transportation Authority (SEPTA) provides subway service to the Sports Complex via the Pattison Station of the Broad Street Line. The Pattison Station is at the intersection of Pattison Avenue and Broad Street, adjacent to the Sports Complex. There are four station head houses, two north of Pattison Avenue and two south of Pattison Avenue, all on the east side of Broad Street. While the subway is the primary means of public transportation to events at the Sports Complex, several local SEPTA bus lines also serve the area.

The ride on the Broad Street Line from Center City to the Sports Complex takes approximately 11 minutes on the local subway service. On certain event days, local service is supplemented by "Sports Express Service". These express trains take eight minutes to complete the same trip. Depending on the size of the event, up to ten Sports Express trains are run, supplementing local service. At the conclusion of events, multiple subway trains are staged at Pattison Station to meet the demand.

Both local and Sports Express trains start at the Fern Rock Transportation Center (the northern terminal of the Broad Street Line), where there are over 600 daily parking spaces in the SEPTA lot. Parking costs $2 for the day on weekdays and is free on weekends.

Table 3 shows average ridership at Pattison Station for peak event days. In general, roughly 10% of all attendees take transit to events at the Sports Complex. SEPTA ridership for Phillies games varies depending on the nature of the event, from roughly 3,500 riders for regular season games, to 5,300 for playoff games, and up to 7,900 for World Series games. The increased ridership for post-season events is likely due to increased activity from non-ticket holders attending events around Citizens Bank Park.

Table 3
SEPTA Ridership for events at the Sports Complex

Event Type	Ridership	SEPTA Mode Share
Phillies Regular Season	3,475	8%
Phillies Playoffs	5,292	N/A
Phillies World Series	7,861	N/A
Flyers	2,106	10%
Sixers	2,248	11%
Eagles	8,693	13%

3 Stakeholder Comments

The consultant team met with several stakeholders at the start of the project. The stakeholders included:

- Mayor's Office of Transportation
- Philadelphia Department of Streets
- Sports Complex Special Services District (SCSSD)
- Philadelphia Police Department
- Philadelphia Eagles
- Philadelphia Phillies
- Comcast-Spectacor
- Central Parking
- The Cordish Companies (developers of *Philly Live!*)

The main stakeholder comments are summarized below, and were used to guide the study:

Coordination

- Stakeholders felt that coordination between gameday operations entities could be improved. A "Standard Operations Plan" (SOP) would help better define the roles of parking and traffic management staff.
- A Traffic Management Center (TMC) at the Wachovia Center currently includes feeds from several cameras located in the Wachovia Lots. The system allows supervisors in the TMC to visualize conditions on the surrounding roadways and parking lots and provide feedback to traffic and parking management personnel. Some stakeholders would like to see this system expanded to include cameras in the Eagles and Phillies lots. There are plans to make these feeds available in the Philadelphia Police Department's offices near the Navy Yard.
- Some stakeholders suggested that operations would be improved if traffic management squad leaders from the Police Department would be able to supervise their staff. In the past, the Lieutenants in charge would be able to visit their staff at various locations to ensure that they were implementing the operations plan as intended. With recent changes in staffing levels, these Lieutenants now help direct traffic at specific locations and do not always have the option to leave their posts to directly supervise their staff.

Operations

- Some stakeholders identified pedestrian management practices and "don't block the box" operations as the most critical issues. Improved pedestrian management and less queuing through intersections would lead to optimal intersection capacity by allowing all users maximum use of available green time.
- Some stakeholders suggested that operations may be improved by reallocating personnel from internal Sports Complex roadways to regional bottlenecks.

- Some stakeholders suggested the use of exclusive pedestrian phases – "Ped Scramble phases" – to help minimize pedestrian-vehicle conflicts.
- Specific event ingress and egress signal timing plans exist for major intersections along Broad Street and Pattison Avenue. However, these signal plans are typically overridden by traffic management personnel. Some stakeholders also expressed concerns about whether the coordination between intersections was configured to allow for the best egress conditions.

Parking Patterns

- Some stakeholders suggested that ingress conditions could be improved using a number of techniques:
  - Increase plaza entry capacity to minimize queues spilling back to area roadways
  - Simplify the parking plan to reduce the number of parking categories
  - Re-assess the locations of crosswalks and pedestrian crossing paths to minimize vehicle-pedestrian conflicts
- A suggestion was made to consider alternate fare collection methods, including E-ZPass, to improve plaza processing rates, thereby improving ingress conditions. The teams expressed willingness to introduce new parking patterns if it helps improve ingress or egress conditions.

Worst-Case Conditions

- The sports entities described the worst-case conditions for their respective events.
- Egress conditions were universally described as being worse than ingress. While stakeholders recognize opportunity for improvement in the ingress condition, arrivals are generally spread over a longer timeframe. The more concentrated nature of departures on egress was cited as the bigger concern.
  - Phillies egress conditions are worst during weekday midday games because the egress period coincides with the weekday evening commuter peak hour.
  - Eagles egress conditions are worst "in the dark", including night games, and late-season afternoon games. This is believed to be because it is difficult for fans to identify lot exits and departure routes with the current signage system.
  - Egress conditions are worst for concerts at the Wachovia Center. Concerts typically end after 11, and the traffic management staff shift ends at 10:50. As a result, concert attendees typically do not have the benefit of traffic management on egress. Concert-goers are also more likely to be unfamiliar with the egress routes, and typically would be most receptive to traffic management guidance.

Community Issues

- This study recognizes the importance of how the operations in and around the sports complex impact the community and that efficient traffic and parking operations during events benefit both the community and the sport venues at the same time.

- The SCSSD commissioned a study in 2006 that identified transportation issues and recommendations to benefit both the community and regional transportation system. This study identified many neighborhood transportation initiatives and traffic calming projects that have been implemented since the completion of the study. Traffic calming islands installed along 20th Street and Packer Avenue are currently operating well and provide a calming affect on traffic along these corridors.

- The corridor that experiences significant volume increases during the "break" of larger events is the 10th Street corridor. This corridor includes two northbound lanes that narrow to one lane at Bigler Street. The cross-section gives the feel of a regional roadway, when in fact it's a residential street that narrows at Bigler Street creating congestion at the intersection. The SCSSD study had identified various options for traffic calming along this corridor and a gateway treatment to better define the character of the roadway and reduce cut-through traffic from using this corridor. This is also a concern regarding the X-gate being open during the "break". Recommendations to restrict traffic from being able to make the left turn onto 10th Street after exiting X-gate would alleviate some of that concern, and has been further defined within the study.

- There are also several community initiatives such as the VSN detail in Districts 1 and 2 and the parking permit programs in District 3 and along 20th Street and Packer Avenue that are vital in providing a level of security and quality of life benefits to the community and these initiatives should be retained in these areas.

- As various recommendations are made through this operations study, it is important to keep in mind the prior recommendations made in prior reports that could be implemented in conjunction with the results of this study to incorporate these community concerns and improve the overall transportation network for the benefit of both the surrounding communities and the sports venues.

4 Data Collection

In order to quantify the traffic patterns and operations at the intersections within the study area, an extensive data collection program was undertaken throughout the study area. Prior to the data collection process, field observations were conducted so that the project team had a better understanding of the traffic patterns and flows and to develop a data collection program that would capture all relevant information needed. Project team members were stationed throughout the study area at critical locations to better understand traffic operations, traffic flow, transit patterns, parking lot operations and pedestrian movements. These field observations took place several times prior to the actual data collection effort took place, and occurred during events at Citizens Bank Park, Lincoln Financial Field, and at the Wachovia Center.

The data collection effort included automatic traffic recorder (ATR) counts on key roadways, manual turning movement (MTM) counts at critical intersections and extensive field observations at other key locations. This data collection effort was conducted during a Phillies game, an Eagles game and a Flyers game. The MTM counts began approximately 2-3 hours prior to the start of the event and the continued until approximately 1-2 hours following the end of the event. After the event, the counts continued until the roadways were back to free-flow conditions. Figures in Appendix A depict the roadway segments and intersections where counts took place, and the traffic patterns for arrival and departure to and from the sports complex.

The Phillies game counts were conducted on Thursday, October 8, 2009 for a 2:37pm game. The pre-game counts were conducted from 12:00pm until 3:00pm and the post-game counts were conducted from 5:00pm until 8:00pm. It is also important to note that a Flyers game was scheduled that evening at 7pm at the Wachovia Center which did cause additional traffic issues and congestion for the departure of the Phillies game and arrival for the Flyers game.

The Eagles game counts were conducted on Sunday, October 11, 2009 for the 1:00pm game. The pre-game counts were conducted from 10:00am until 1:30om and the post-game counts were conducted from 3:30pm until 6:00pm.

The Flyers game counts were conducted on Thursday, November 12, 2009 for the 7:00pm game. For this event, we reduced the number of count locations due to the smaller number of people a Flyers game generates compared to the Phillies or Eagles. The pre-game counts were conducted from 5:30pm until 7:30pm and the post-game counts were conducted from 9:00pm until 10:30pm.

Additional field visits were conducted after the data collection process to conduct additional observations of operations at specific locations.

5 Existing Conditions Operations and Short Term Recommendations

The following section describes observations of gameday operations. For each section, we have identified aspects of the gameday operations plan that may be improved by the proposed recommendations.

Pedestrian Management

Pedestrian Crossings

Stakeholder operational concerns included pedestrians crossing out of phase, jaywalking at intersections, and pedestrians crossing illegally at mid-block locations. In late September 2009, the Eagles and Phillies reassigned some of the Stadium security personnel to the roadways before and after events to help manage pedestrians and traffic. The additional traffic management staff significantly helped mitigate many of the observed pedestrian management issues. After the supplemental staff was in place, pedestrians generally crossed in-phase and at designated locations. Pedestrian crossings at the intersections along Pattison Avenue with 11th Street and with Darien Avenue were highest in the 15-30 minutes before the start of football and baseball events, and in this time period, pedestrians were observed crossing out-of-phase. Pedestrian traffic management staff at these intersections should be directed to override signals as needed only during this peak 30-minute period, and only to allow for pedestrian crossings (i.e. an all pedestrian phase - see Figure 5-1 below).

Figure 5-1: Exclusive pedestrian phases should be implemented close to game time for high attendance events.

Pedestrian conflicts along the Pattison Avenue corridor can be mitigated significantly by implementing a number of improvement measures. Most of the observed issues were due to pedestrians crossing north-south across Pattison Avenue at the intersection of Pattison and 11th to reach their target facility. By encouraging these pedestrians to cross Pattison Avenue to be on the correct side of Pattison before they reach the 11th Avenue intersection, the actual crossing volume at the critical intersection of Pattison and 11th can be greatly reduced.

For example, some pedestrians can be crossed to the event-side sidewalk of Pattison Avenue at the intersection of Broad Street and Pattison Avenue. During some phases, there are opportunities to cross pedestrians north-south at locations in the middle of the intersection where they would not interfere with vehicular movements (see Figure 5-2). These locations are not striped crosswalks; however, traffic management staff can be directed to safely cross pedestrians at these locations during the complimentary phases. By utilizing these opportunities in each cycle to cross pedestrians at conflict-free locations, the volume of pedestrians crossing during phases when cars conflict with pedestrians would be reduced. As a result, the vehicular traffic movements would be able to flow more freely. It should be noted that this new crossing must be managed by traffic enforcement agents, and that they should be trained on how to best maximize efficiency while ensuring pedestrian safety.

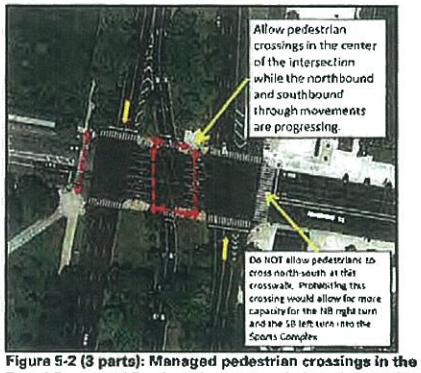
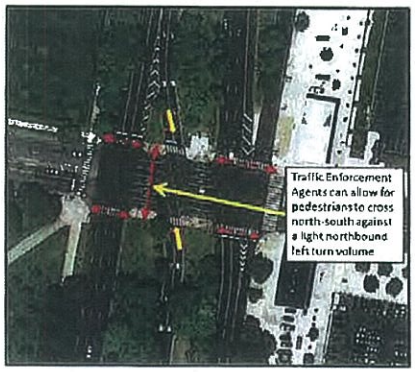


Figure 5-2 (3 parts): Managed pedestrian crossings in the center of the intersection of Broad Street and Pattison Avenue can help reduce pedestrian-vehicle conflicts further east along Pattison Avenue.



The pedestrian crossing volumes can also be managed by strategically directing fans to specific exits from the Pattison Avenue subway station with the use of signs and/or staff. For events at the Lincoln Financial Field and Wachovia Center, all fans should be directed to use the South exits from the Pattison Avenue station whenever practical.

For events at Citizens Bank Park, the northern access points from the Pattison Avenue station provide a more direct route to the venue. In general, over 80% of the pedestrian volume along Pattison Avenue for a Phillies game was observed to

be on the north sidewalk. However, signage should be provided within the Station to direct fans to use the northern entrances. The Southern access points should remain open for access to the Commuter Lot at the Wachovia Center, but signage should be in place to designate these entrances as being intended solely for access to the commuter lot.

Consider the use of bike racks (French barriers) or pedestrian crossing guards at limited locations to restrict midblock crossings.

Jaywalking activities and mid-block crossings were significantly reduced with the introduction of dedicated pedestrian management staff during Lincoln Financial Field and Citizens Bank Park events. The measures outlined above should help further reduce these activities.

Crosswalk locations

Some crosswalk locations can be removed or relocated to reduce pedestrian-vehicle conflicts. The east crosswalk on Pattison Avenue between 11th Street and Broad Street can be relocated east of the entry gate. This would allow eastbound left turns to enter the gate without conflicting with pedestrians (see Figure 5-3). The proposed relocation would also help in the egress condition, when vehicles would be allowed to exit the Pattison Avenue east gate and turn right onto Pattison Avenue westbound. The pedestrian gate may need to be relocated to accommodate this change.

Figure 5-3: Crosswalk relocations can help reduce the number of pedestrian-vehicle conflicts.

Similarly, the crosswalk along Darien Street south of Pattison creates a conflict point between pedestrians and vehicles. Pedestrians from Lots M and N exit via the gate and then use the crosswalk immediately in front of them. The pedestrian crossing movement conflicts with southbound traffic on Darien Street. A series of french

barriers can be provided to encourage pedestrians to walk further south to the next designated crosswalk (see Figure 5-4). This would allow vehicles to enter Lot K at several access points along Darien without conflicting with pedestrians

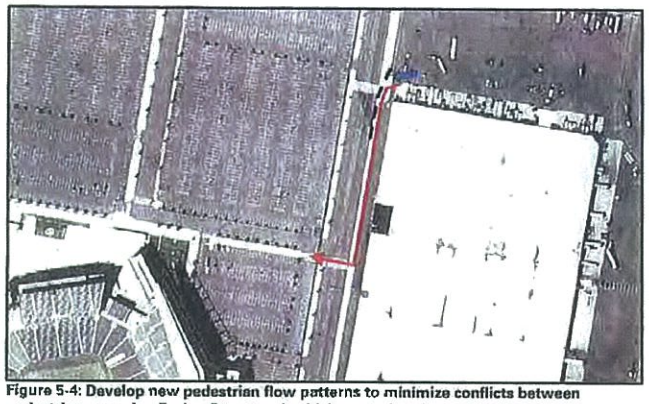


Figure 5-4: Develop new pedestrian flow patterns to minimize conflicts between pedestrians crossing Darien Street and vehicles entering the parking lots.

Lot and Gate Operations

During the ingress period, fare collection operations at parking lot entry gates can significantly affect the magnitude of queues spilling back onto the approach roadways. If a plaza has three entry lanes and processes 240 vehicles per lane, it can accommodate 720 vehicles per hour. If queuing is observed on the approach roads to the plaza, the entry demand in the peak period is higher than the plaza capacity. A 20% increase in the processing rate using the methods described below would allow the same plaza to process over 860 vehicles per hour. The result of this change would be 140 fewer vehicles on the approach roadways per hour, or a reduction in approach queues by 2000 feet on a two-lane approach.[1] Shorter queue spillbacks from entry plazas would in turn allow upstream intersections to flow more freely, leading to a cumulative benefit for ingress traffic.

Higher plaza processing rates can be achieved by implementing the following measures:

- West Gate: During peak ingress periods, pedestrians currently conflict with entering traffic immediately beyond the fare collection point. Entering vehicles stop at the fare collection point, proceed, and are then forced to stop again to avoid conflicts

[1] A one-lane, one-mile long queue contains about 200 vehicles.

with pedestrians. When a vehicle is stopped at the fare collection point after having paid, the next vehicle in queue cannot access the fare collection point, and each vehicle in queue is therefore delayed.

- Slide fare collection point south a couple of car lengths, similar to East Gate. This will provide room for vehicles leaving the far collection area to channelize and maneuver to their respective destination. See Figure 1. Shifting the fare collection points south will allow vehicles to clear the fare collection area before potentially having to stop again to yield to pedestrian, thereby reducing congestion at the fare collection areas.
- Manage vehicular and pedestrian conflicts just beyond the fare collection point. Figure 5-5 shows where a staff can control the interior intersection at the end of the West Gate access drive. Pedestrians can also be redirected to the north side of the drive aisle. The new pedestrian paths would allow pedestrians to cross further north, and would reduce the number of pedestrian-vehicle conflicts.

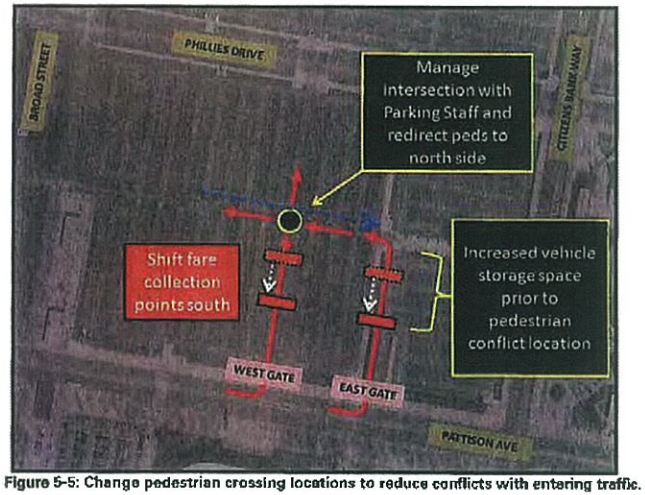


Figure 5-5: Change pedestrian crossing locations to reduce conflicts with entering traffic.

- Consider alternate entrance lane configurations – Figure 5-6 shows an option that can double the entrance capacity of an entry plaza. This example focuses on the 10th Street gate, but the principle can be applied to the Phillies Drive Gate, and possibly the Pattison Avenue Gates, as well as most gates that do not have a physical plaza such as Wachovia gates. For example, although this Gate currently

operates with three fare collection lanes, this change would allow for up to six fare collection lanes. The actual number of lanes can be adjusted to meet demand.

At these existing locations, fare collection is located near the gate entry, and then vehicles are forced to choose to turn left, right, or through. In the proposed alternate configuration, the fare collection is relocated further into the lot, beyond the decision point, to make use of all the departure lanes from the decision point.

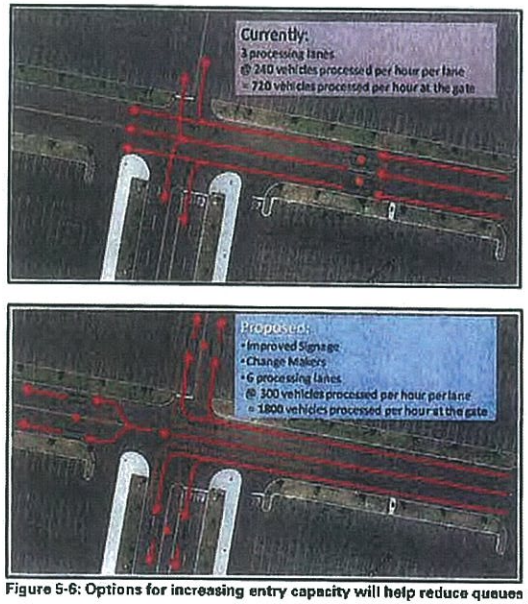


Figure 5-6: Options for increasing entry capacity will help reduce queues on ingress.

- Change Makers – At fare collection points, some staff currently walk down entry aisles, advising drivers of the parking fare and asking them to have their cash ready. Our recommendation is to also have these same staff provide change to drivers in the queues. Instead of merely advising drivers of the parking fare and destinations, these staff can actually make change for drivers, so that by the time they reach the actual point of fare collection, drivers would have exact change, and as a result, they would be processed faster. *This change has been implemented for late-season*

Phillies games on Phillies Drive and the ingress experience at that plaza was noticeably improved.

- Parking Fare – The need to make change for odd parking amounts slows processing time at plazas. In the past, the parking fare for Citizens Bank Park and Wachovia Center events was $12. The rate has since been changed to $15. Based on our observations, the processing rate has improved from approximately 240 vehicles per lane per hour to 320 vehicles per lane per hour based on the change in fare and the addition of change makers (33% increase). If future fare changes are planned, multiples of $5 and $10 should be considered to maintain or improve the processing rates.

- Lot Variable Message Sign - The Pattison Avenue East Gate is not opened until traffic has dissipated on Pattison Avenue itself. This gate is typically opened at about 35-40 minutes following a Phillies game. Before this gate is open, vehicles in lots U/T are directed to use the Phillies Drive exits onto Broad Street. As a result, significant queuing occurs at these exits. Once East gate is opened, it can be used as a much faster alternative exit. However, during observations, many drivers continued to add to the queue for the Phillies Drive exits, apparently unaware that a more efficient alternate route had become available. A variable message sign at this location would help direct fans to the fastest egress route, reducing queuing along Phillies Drive (see Figure 5-7).

  The VMS can be set facing Phillies Drive entrance traffic during pre-game. Under this condition, it could help channelize for preferred or general parking. This would be the most aggressive solution. Parking staff could also be used to much of the same effect.

Figure 5-7: Variable message signs or traffic management staff can advise drivers of the best route to exit.

- X-Gate: The X-Gate, an exit from the northern end of the Citizens Bank Park lots to Packer Avenue, was opened in the past year in a trial program to improve egress from Lots V, W, and X. Observations indicate that these northern most Citizens Bank Park lots typically empty in 25-30 minutes with this gate open. Some stakeholders have stated that these lots typically did not empty for about one hour when the Gate was closed in prior seasons. Observations indicate that the Gate helps event egress traffic and does not cause significant additional congestion along the Packer Avenue corridor. This gate should be open for egress from all Citizens Bank Park events. Cones may be used to force vehicles exiting the Gate to turn right. If necessary, consider extending these cones to the intersection of Packer Avenue and 10th Street to ensure that this exiting traffic continues through on Packer Avenue eastbound ands does not turn onto northbound 10th Street Vehicles exiting via the X-Gate should not be allowed to weave into the eastbound left turn lane at Packer Avenue and 10th Street. Figure 5-8 below shows a proposed coning configuration that would allow for efficient egress from the X-Gate without impacting Packer Avenue traffic. Once the X-Gate demand has cleared, some cones can be removed as shown in Figure 5-9 to allow this lane to operate as a traditional through lane on Packer Avenue.

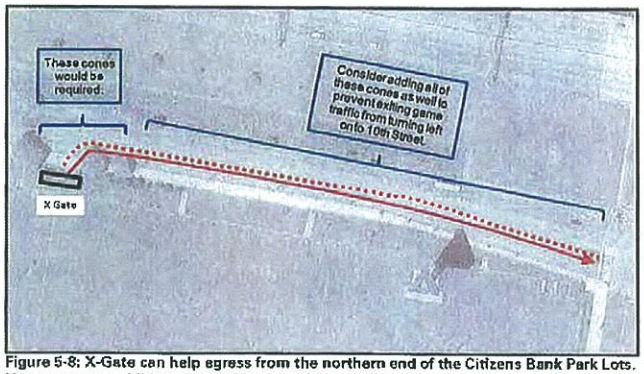


Figure 5-8: X-Gate can help egress from the northern end of the Citizens Bank Park Lots. Use cones to prohibit left turns from the Gate. If necessary, consider extending cones towards 10th Street.

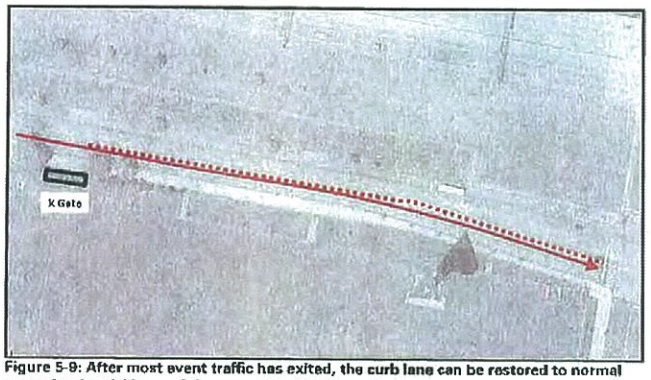


Figure 5-9: After most event traffic has exited, the curb lane can be restored to normal operation by picking up 2-3 cones at the X-Gate exit.

- Mixed cash and permit lots – Some lots are currently used to park a mix cash and permit parkers depending on the venue and event. This practice causes several inefficiencies, such as underutilized lots or poor access and circulation. For example, during Eagles games, cash parkers are turned away once the Wachovia and/or Jetro lots reach a certain capacity. The cut-off time for cash parkers is different for each event, the current configuration of mixed cash and permit lots creates confusion among fans that are used to paying cash to park in certain lots, and are told on some gamedays that those lots or gates are no longer accepting cash parkers.

  During Wachovia events or Phillies games, those seeking access to "nested" permit sections within lots can cause some congestion as vehicles weave and maneuver to their respective destinations. Recommendations vary by event type and lot, and are summarized as follows:

  - Eagles games – To reduce this confusion, consideration could be given to designated lots/gates as cash-only or permit-only. Permit lots can be backfilled with cash as needed close to game time.
  - Wachovia Events – Traffic patterns on 11th Street between Pattison Avenue and Terminal Avenue can be improved to channelize permits and cash vehicles to their respective plaza lanes.

Intersection Signalization

The City of Philadelphia Streets Department, Engineering Division, owns, operates and maintains the traffic signal system enclosed in the Sports Complex area along with all signals within the City limits.

Interconnect

The traffic signals in the system are interconnected with fiber optic cable on three (3) corridors.

1. Broad Street between City Hall to Terminal Avenue
2. Pattison Avenue between 7th Street to Penrose Avenue
3. Front Street between Oregon Avenue to Packer Avenue

All fiber optic cable is multimode with the exception of Pattison Avenue east of Broad Street which is single mode fiber optic cable. The Broad Street and Pattison Avenue corridors are interconnected together. The Front Street corridor is a stand alone system. All fiber optic cable is located in underground conduit.

A gap within the system is on Pattison Avenue from 7th Street to Front Street. When the system is being updated, this gap should be closed.

Controller Cabinet Equipment

The signalized intersections within in the Sports Complex area are equipped with solid state Type 170 controller cabinets, image video detection for vehicle detection, along with upgraded pedestrian facilities including pedestrian countdown Hand/Man signals and ADA compliant handicap ramps.

When the system upgrade is undertaken, complete equipment upgrades are recommended for the traffic signals along Packer Avenue.

Timing

The central hub intersection within the system is located at Broad Street and Pattison Avenue. The controller cabinet houses a special "manual plan select" panel with four (4) buttons that control traffic signal timings and cycle lengths along Broad Street and Pattison Avenue. The limits of the timing changes along the corridors are as follows:

1. Broad Street between Bigler Street to Terminal Avenue
2. Pattison Avenue between 7th Street to Penrose Avenue

Prior to an event, a Philadelphia Police Department representative opens the controller cabinet at Broad Street and Pattison Avenue and institutes one of the following four (4) programs:

- Program 1: normal operation – 90 second cycle length.

- Program 2: pre-game operation – 100-second cycle length. Consistent and synchronized green time on Broad Street.
- Program 3: pre-game operation – 120 second cycle length. Designed to move traffic along Broad Street to Pattison Avenue.
- Program 4: post-game operation – 120 second cycle length. Timing favors Pattison Avenue and progresses traffic flow towards I-95 and I-76.

It is important to note that three hours after a program is instituted normal operation is supposed to return. It has also been reported through stakeholder discussions that normal operations doesn't always resume within those three hours, therefore it would be important that operations staff verify that the time-out feature is functioning properly.

Intelligent Transportation Systems

Currently a stimulus driven ITS design build project is at the 30% design phase named I-95 GR1 ITS. This PennDOT project proposes to install two CCTV cameras on Broad Street and permanent Variable Message Signs (VMS) along both Broad Street and Pattison Avenue. As stated earlier this project is in the early design phase and as such the final locations of these devices has not been determined at the time of this report. The proposed VMS signs are small two line message boards to provide immediate incident manage messages to the motoring public.

Operations

A comprehensive signal plan should be developed – these improvements should be implemented in conjunction with event day signal programs along the Packer Avenue and Front Street corridors to fully realize the benefits of these measures.

Figure 5-10 shows existing queues along the Front Street and Packer Avenue corridors for egress from an Eagles event. After implementing the signal timing changes at Front Street and the I-76 West off-ramp, and improving coordination along the Front Street and Packer Avenue corridors, projected queues may be reduced to the extents shown in Figure 5-11. A side benefit of the reduced queues and overall improved operations along the Front Street and Packer Avenue corridors would likely be a decrease in the number of vehicles using 10th Street north of Packer Avenue as an alternate egress route.

Note that additional coordination may be required in the Front Street and Packer Avenue corridors to ensure that the projected benefits are realized. For example, the intersections along these corridors should be coordinated with the new signal timing.

Figure 5-10: Queues from the intersections along Front Street typically extend back to and add to congestion on Packer Avenue.

Figure 5-11: Signal timing improvements along Front Street should help reduce queues along Packer Street on egress.

Coordinated Signal Control

In general, the program for post-event conditions may improve egress conditions significantly if it is consistently adhered to. The Front Street signal corridor should be connected to the Broad Street and Pattison Avenue signal corridors. Once all three corridors are connected, a central control point, such as at the Traffic Management Center at the Wachovia Center, should be established from which all the signals can be set to operate on the appropriate ingress or egress program.

The event programs should be triggered at the following times, depending on the event type:

Table 4: Recommended Time to Start Ingress Signal Program (Hours Before Event)

Event Venue	Event Start Time		
	Weeknight 7 PM	Weekday 1 PM	Weekend 1 PM
Citizens Bank Park	2	2	2
Lincoln Financial Field	2	N/A	3
Wachovia Center	2	2	2

- The post-event signal program should also include a time-out feature. This time-out feature would be based on the type of event, and would ensure that the system automatically returns to normal weekday operation after event traffic has been processed.
- Post-event signal change operations should be flexible to account for unexpected early departures from a lop-sided result or inclement weather (for baseball games).
- If the police shift ends before an event has concluded, the police should activate the post-event signal timing plan before they leave the Sports Complex.
- The Packer Avenue corridor should be upgraded to be operable on a single system and event programs should be developed to promote access to the Sports Complex. The Packer Avenue corridor is currently not coordinated, and event day programs do not exist. Once upgraded, the Packer Avenue corridor signal system should be tied into the Front Street, Pattison Avenue, and Broad Street corridor signal systems.
- Event programs should be developed for the Pattison Avenue corridor. Traffic management staff at the intersection of Pattison Avenue with 11th Street and with Darien Street should be instructed to allow pedestrian platoons to cross out of phase when necessary. These out-of-phase crossings should only be allowed at these intersections in the peak 30 minutes before events, and only when pedestrian platoons form.
- The traffic signal controller should be reprogrammed to allow as many programs as necessary to implement the proposed event timing plans. If the controller can not accommodate this, it should be replaced.
- Once an event program has been developed and a scheme is in place to implement it at the right times, traffic management staff should be advised to follow the program whenever possible. Management staff should override the signal only when:
    - Queues block an intersection. In this case, traffic management staff should stop traffic on all approaches and prioritize clearing the vehicles queued in the intersection ("clear the box"). It is not necessary to override the signal timing itself for this condition.
    - Incidents impact corridor capacity, so that the event signal program's intended coordination cannot be achieved. In this case, an event day Coordination Leader should direct traffic management agents to override specific intersections.

- The current Pre- and Post-Event signal programs for all the major corridors (Broad Street, Pattison Avenue, Front Street, and Packer Avenue) should be assessed and modified as appropriate to improve operations. Attention should be given to providing proper progression along the corridors. Once the signal timing plans have been evaluated and modified for all signals along each corridor, the practice of placing certain signals on "flashing operation" should be discontinued.

Significant improvements can be achieved both in ingress and egress conditions with minor changes in signal timing at regional bottlenecks. The regional bottlenecks at the intersection of Front Street with the I-76 West Off-Ramp and I-95 South On-Ramp, and at the intersection of Penrose Avenue with 26th Street are two locations where signal timing changes can easily be altered to greatly improve traffic flow.

- Front Street at I-76 West Off-Ramp and I-95 South On-Ramp: During post-event periods, the current signal timing at this intersection allocates only 15-20 seconds of green time to the northbound approach along Front Street (the egress movement from the Sports Complex) out of a 90-second cycle. This significantly limits egress capacity and causes queues along the length of Front Street and onto Packer Avenue. During some events, traffic management agents are positioned to override the signal. A well-timed signal operation at this intersection would reduce queues on Front Street and Packer Avenue, and if timed properly, the intersection would not need to be overridden by traffic management staff. Provide extended green intervals favoring NB Front Street (at SB on-ramp) and left-turn advance to NB I-95 (at NB on-ramp).

  Additional improvement options can be considered in the Front Street corridor. A double-left turn at the downstream intersection of Front Street with the I-95 North on-ramp would allow for increased throughput to I-95, and would allow for this intersection to operate with two equally-utilized through lanes (see Figure 5-12). Some coordination may be required with PennDOT to ensure that there is sufficient right of way to allow for the double left turn movement.

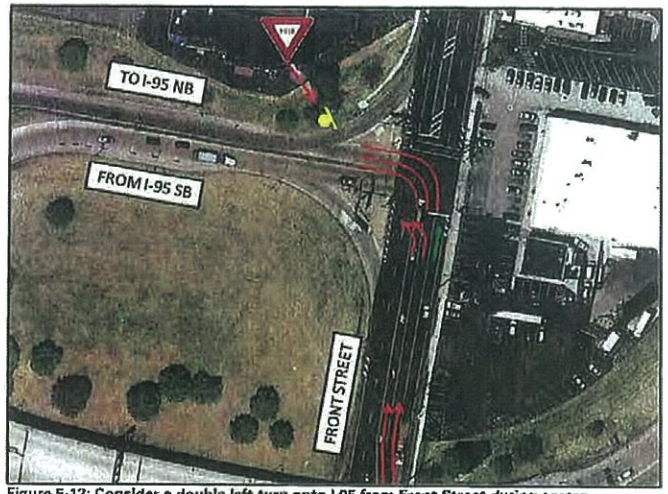


Figure 5-12: Consider a double left-turn onto I-95 from Front Street during egress conditions.

- Penrose Avenue at 26th Street: The current signal plan at this intersection can be improved to allow for additional throughput when movements do not conflict. For example, the eastbound through movement was prohibited while the westbound through movement was allowed. The phasing can be improved to allow for these movements to occur simultaneously since they would not conflict. This intersection should be set to operate with improved phasing and better coordinated with the intersection of Penrose Avenue and Pattison Avenue.

I-95 South Improvements

Post-event operations along the Broad Street southbound corridor can be significantly improved by managing traffic on the I-95 mainline. The volume of traffic on I-95 South on event days is typically under 3,500 vehicles per hour. The volume of traffic on the on-ramp is operating at limited capacity with approximately 1,200 vehicles per hour. The mainline consists of three lanes, and the on-ramp must merge with traffic in the right lane.

The mainline traffic volume on I-95 can be accommodated in two lanes without significantly affecting flow. If the mainline is narrowed down to two lanes before the merge, the entering traffic from Broad Street southbound would have a free merge into

the third lane. (See Figure 5-13) The ramp capacity would then be expected to increase from the current 1,200 vehicles per hour to 1,500-1,600 vehicles per hour. The increased throughput should help improve egress from the Citizens Bank Park lots and the Wachovia lots. Note that this technique would improve egress capacity from the Sports Complex without causing substantial delay to I-95 South.

Figure 5-13: Channelize background traffic on I-95 SB to two lanes to allow additional capacity for traffic entering via Broad Street.

Signage

Signage can help fans get to and from their destination lots in an efficient manner. The current signage system for ingress can be overwhelming for unfamiliar fans. The signage on egress includes mostly static overhead signs directing fans to departure routes; however, the addition of variable message signs may help improve the egress experience significantly.

Ingress Signs

The purpose of ingress signage is to help fans reach their destination lot as efficiently as possible. For this reason, a simplified lot nomenclature system may be considered. The current lot naming system includes 24 letter labels for official on-site lots. While this helps fans distinguish lots, it requires a complex directional lot signage program that can be difficult for fans to interpret in the midst of event traffic. For example, Figure 5-14 shows a sample set of signs on eastbound Pattison Avenue between Broad Street and 11th Street.

Figure 5-14: The current signage program may lead to confusion among some drivers.

This sign set provides directions to Lots D through X. However, the orientation of the signs is such that the sign for Lots "S-X" is on the left, and that for Lots "D-J" is on the right. This is contrary to what drivers expect in terms of sign sequence and quantity of information. Most drivers entering the site are looking for a general, cash parking space. Some general parkers may want to park in a specific lot, while other drivers are preferred parkers with permits for specific lots. Once they have arrived at the Complex, the basic information these drivers need at each decision point is whether they should turn left, turn right, or go through, and which gate they should enter at. A simplified signage system and lot nomenclature can provide this information in a clearer manner. Figure 5-15 shows one proposed improvement concept, based on the lot nomenclature scheme described below.

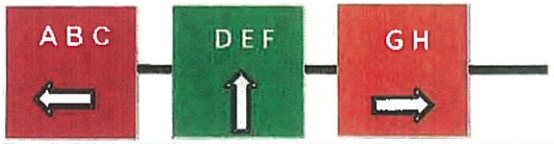


Figure 5-15: A simplified signage plan and lot nomenclature system should help improve ingress conditions.

Figure 5-16 shows the existing lot nomenclature scheme and a proposed lot nomenclature scheme. By creating parking "zones" consisting of several lots, it is possible to direct fans to general destinations. For example, a fan destined for any of the lots within Zone A would follow the signs to *any* entrance into the A zone. Once that fan has entered at a gate, he can follow subsequent detailed signage to a specific lot (say "A-preferred" or "A-5"). Instead of processing all of the information about the destination lot at once, the simplified signage program aims to create "chunks" of information that are relevant to the driver at the relevant decision point. The option of creating colored zones further helps reinforce the lot nomenclature system. The

proposed sample shown in Figure 5-17 is simply meant to be used as a sample. Parking "zones" help simplify the overall signage program.

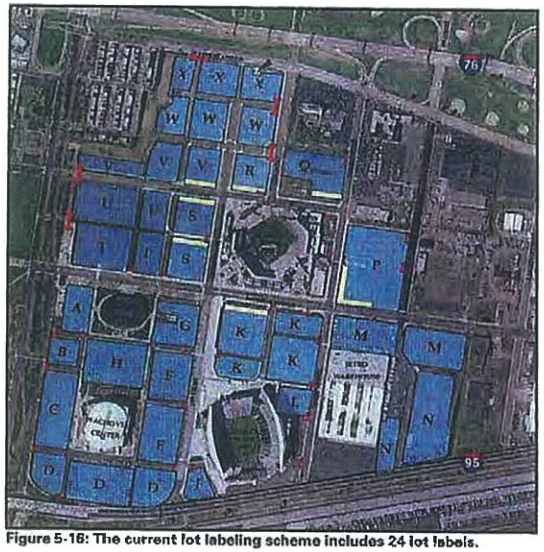


Figure 5-16: The current lot labeling scheme includes 24 lot labels.

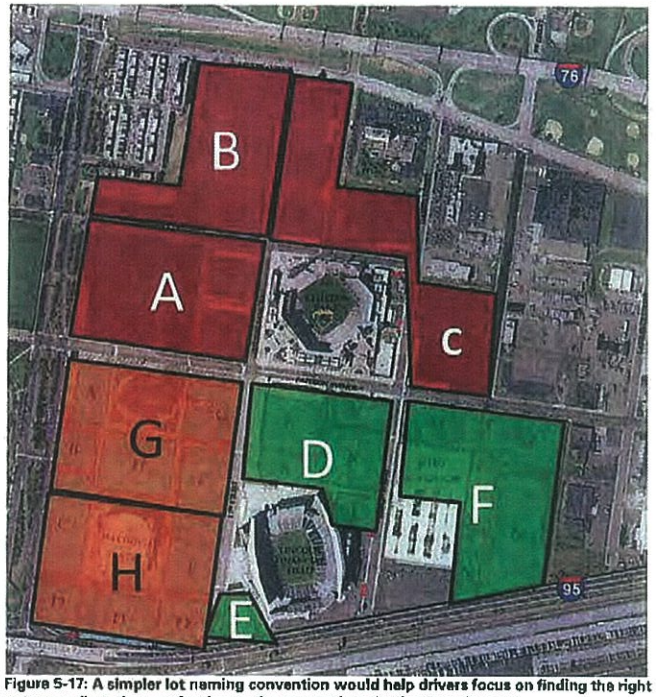


Figure 5-17: A simpler lot naming convention would help drivers focus on finding the right entrances first, then navigating to the appropriate destination after entry.

Egress Signage

During post-event conditions, the use of variable message signs at strategic locations can significantly help improve egress times. The roadway grid network at the Sports Complex provides a good amount of flexibility in accessing regional routes. For example, drivers wishing to access I-95 South from the Pattison Avenue East and West gates can either travel via Packer Avenue to Front Street, or take Broad Street southbound, or alternatively, they can travel on Pattison Avenue to Penrose Avenue (see Figure 5-18).

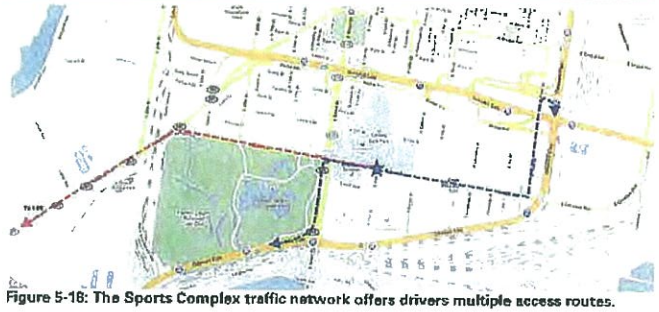


Figure 5-18: The Sports Complex traffic network offers drivers multiple access routes.

A system that uses dynamic, remotely controlled message signs can help take advantage of this flexibility. One example is shown in Figure 5-19. This figure demonstrates how a standalone VMS that can be used to direct drivers to the best route to various destinations.

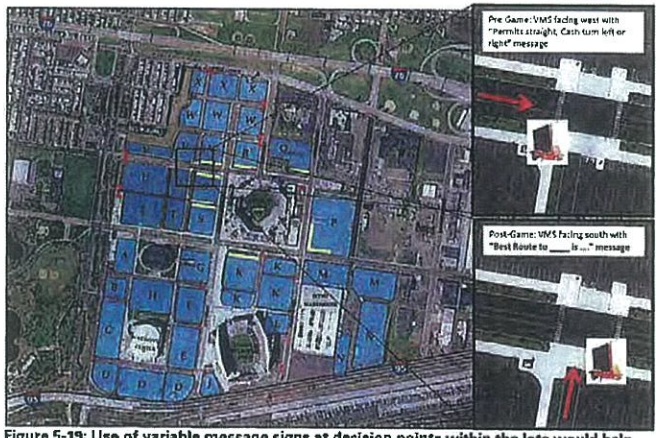


Figure 5-19: Use of variable message signs at decision points within the lots would help communicate both ingress and egress options to drivers.

A variable message system can also be used to route vehicles around incident-related congestion. For example, during observations, an incident at the intersection of Broad Street and Zinkoff Boulevard caused significant congestion along northbound and southbound Broad Street. A series of VMSs would have been helpful in directing drivers toward alternate routes to the regional roadways.

The two priority locations for new portable VMSs would be along Phillies Drive at the intersections of Lots U,V, and S and along southbound Broad Street just north of Pattison Avenue.

The guidelines contained in the Manual on Uniform Traffic Control Devices (MUTCD) should be followed when using VMSs. The MUTCD 2009 Edition Chapter 2L about Changeable Message Signs (CMS, as defined in the MUTCD) contains sections on design characteristics, message length, and units of information. For example, MUTCD guidelines on message panels include the following standards:

- *Each message shall consist of no more than two phases. A phase shall consist of no more than three lines of text. Each phase shall be understood by itself regardless of the sequence in which it is read. Messages shall be centered within each line of legend. Except for signs located on toll plaza structures or other facilities with a similar booth-lane arrangement, if more than one CMS is visible to road users, then only one sign shall display a sequential message at any given time.*
- *The minimum time that an individual phase is displayed should be based on 1 second per word or 2 seconds per unit of information, whichever produces a lesser value. The display time for a phase should never be less than 2 seconds.*
- *The maximum cycle time of a two-phase message should be 8 seconds.*

Figure 5-20 shows how the existing overhead signs may be modified to accommodate variable messages. A small VMS attached to each sign with a "best route" arrow would help direct traffic out of the Sports Complex. These arrows would be dynamically and remotely changed to reflect the best route to each highway at any given time.

Figure 5-20: Consider adding small VMS arrow panels to existing static overhead signs.

As a long term improvement, large illuminated entrance and exit signs could be installed overhead at all of the parking lot gates to aid with egress, especially at night. The signs would be turned on when the gate is opened and turned off when the gate is closed.

Coordination

Event day traffic and parking operations feature a number of entities working together to develop the fan's transportation experience. A plan to enhance coordination between these entities before and on event day can significantly improve Sports Complex access.

Event Day Coordination

A Traffic Management Center is currently located at the Wachovia Center. From this location, parking and traffic managers can use the network of cameras around the Wachovia lots to observe traffic conditions within the lots and on the regional roadways. A Coordination Leader should be positioned at this location to act as a central point of contact for all traffic and parking management personnel. The Coordination Leader should have the authority to make changes to the operations plan based on a global view of event operations. The leader should observe traffic feeds from the network of cameras on-site. For certain events, it may be helpful to conduct observations from the rooftops of certain venues until the camera system is expanded to include feeds from new cameras in the Lincoln Financial Field and Citizens Bank Park. This Coordination Leader would be responsible for all aspects of the event day operations experience:

- Determine if signals should be set to event programs earlier or later than usual (before and after an event)
- Determine if signals need to be overridden at specific locations
- Ensure that coordination between intersections is proceeding as planned
- Supervise parking and traffic management staff and ensure staff are performing stated responsibilities
- Determine when certain gates should be opened or closed and relay this information to traffic and parking staff so they can direct traffic accordingly
- Supervise VMS network and advise when changes are required (or be able to remotely control the VMS directly)
- Reassign staff on a temporary basis as needed to respond to incidents or to clear bottlenecks

It is recommended that the police have a representative on-site at the Traffic Management Center who can work along side the Coordination Leader to help plan and implement the best courses of action as traffic and parking circumstances change throughout the day.

Non-Event Day Coordination

Coordination meetings are currently scheduled between stakeholders on a monthly basis. Stakeholders in attendance include representatives of Comcast-Spectacor, Eagles, Phillies, Central Parking, Expert Parking, City Police, Streets Dept., Fairmount Park Commission, PA State Police, SCSSD, PIDC, and DRPA. In addition to these meetings, it may be helpful to develop and host regular meetings for a Sports Complex

Transportation Task Force. Representatives from the City, Comcast-Spectacor, the Eagles, Phillies, Philadelphia Police Department, and SCSSD would attend these meetings. It would also be advisable to also invite representatives from DRPA, PennDOT, SEPTA, and Central Parking. Once *Philly Live!* is open, a representative from that development may also be invited to this meeting. Public agencies are frequently eager to help improve fans' ingress and egress experience, while simultaneously reducing congestion on the regional roadways. These agencies can provide feedback on the following:

- Opportunities for using regional VMS to divert background traffic away from the site ("Football – Delays in Area – Use Alternate Routes")
- Construction schedules for upcoming roadway projects in or around the Sports Complex
- Timeframes for projected infrastructure improvements
- Special provisions for high-volume event days (e.g., extra trains for dual-event Lincoln Financial Field/Citizens Bank Park event days)

Staffing

Figure 5-21: Traffic and parking management staff should have well-defined roles.

This section describes the role of traffic management staff and parking staff on event days. Event operations staff are asked to address a number of concerns on event days. A common understanding of specific event staff responsibilities can help staff focus on their core responsibilities, which in turn can help improve overall ingress and egress operations.

All event operations staff should be encouraged to be courteous, but they should not feel obligated to answer all fans' questions when queues form at the entry plazas. Instead, these staff can be supplied with flyers listing frequently asked questions that can be distributed to incoming fans. Most questions can be addressed by a well-designed flyer, and all fans will benefit from a faster ingress experience. The flyers may also include information on how fans can obtain additional assistance, including additional Sports Complex support numbers so fans can get answers to their questions after they have parked.

Parking Management Staff

Parking staff responsibilities can be separated into two categories: those involved with fare collection, and those responsible for directing traffic within the lots and access driveways.

The responsibilities of fare collection staff is to process entries as fast as possible to minimize queuing on the approach roadways. To help reach this goal, several methods can be used. As discussed in the earlier section on "Parking Fares", the most critical factor related to processing rates is the actual fare transaction. Odd fare denominations ($12 or $17) can lead to slower processing rates, while parking fares that are easier to make change for (multiples of $5 of $10 – i.e., $20 or $25) can help increase processing rates. Change makers can be used to provide change to drivers in queue at the entry plazas before they arrive at the point of fare collection. Fare collectors themselves should be instructed to process their transactions as quickly as possible. Whenever

possible, pre-paid parking permits should be used. The act of scanning or tearing off a permit is among the fastest transaction types available for event operations.
Parking management staff should designate separate cash and permit parking entrances as described in the section above on "Mixed cash and permit lots."

Tailgating should be managed by a Courtesy Patrol squad. The role of the Courtesy Patrol is described in more detail in the section on tailgating.

Parking staff within the lots should be instructed to direct fans to specific lots based on available supply, and to minimize conflicts between vehicular flows and between vehicles and pedestrians.

Traffic Management Staff

The role of traffic management staff is to minimize pedestrian-vehicular conflicts, and to maximize efficient and safe flow for both pedestrians and vehicles. To meet this objective, traffic management staff should ensure that vehicles queuing through an intersection are cleared as quickly as possible ("clear the box"). Pedestrians should be encouraged to cross in platoons and only during the pedestrian phase whenever possible.

The event signal timing program at most intersections typically should not have to be overridden by traffic management staff. If an intersection has an efficient event signal program, and traffic management staff is focused on keeping the box clear between phases, staff should allow the intersection to operate on the signal program unless directed to intervene from the Traffic Management Center. Signal overrides should only be implemented when required by one of the following factors:

- Higher than usual background traffic volume
- Incidents upstream of the intersection that do not allow for normal operation
- Intersections that are not capable of event signal programs or are not coordinated with adjacent intersections

When staff must override signals, the following principles should be employed:

- Phase lengths should be typically set between 20 seconds and 60 seconds. Shorter phase lengths lead to decreased capacity, and longer phase lengths lead to excessive delays for other phases.
- Cycle lengths should be between 60 and 120 seconds.
- Phases for major event-related flows should be set to start and stop based on arrival patterns from upstream intersections. Most of the arriving traffic from an upstream intersection should arrive during the green phase.
- Signals should be overridden to provide exclusive pedestrian phases only during the peak 30 minute-period before and after an event.

Traffic management staff who are responsible for controlling mid-block pedestrian movements should be instructed to allow for a balance between pedestrian and vehicular flows. Vehicular traffic should be stopped only when a platoon of at least 10-15 pedestrians has formed on one side of the Street, or when pedestrians have been waiting more then 90 seconds to cross.

Other Improvement Measures

Jimmy John

The "Jimmy John" is the existing operating plan used by the police whereby vehicles exiting I-95 South at Broad Street are prevented from turning right onto northbound Broad Street. They are instead directed to make a U-turn at the bottom of the off-ramp and then travel east along Terminal Avenue (which becomes northbound 11th Street) to access the Sports Complex.

The operational issue found with the Jimmy John as currently implemented is that the remaining supply in the Wachovia parking lots cannot handle the demand of vehicles produced by the Jimmy John. As such, many of the vehicles rerouted by the Jimmy John end up turning onto Pattison Avenue, adding to congestion at the intersection of Pattison Avenue and 11th Street (see Figure 5-22).

Recommended Alternatives:

- Implement Jimmy John earlier in the ingress period to fill eastern Wachovia lots while there are fewer pedestrians crossing 11th Street.
- Closer to game time, after eastern Wachovia lots are full, shut down Jimmy John and direct cars into the western Wachovia lots and the Phillies lots. This will reduce pedestrian–vehicular conflicts closer to game time.
- For Eagles games, use signs at I-95 SB ramp to direct permits to use the Jimmy John and cash to use Broad Street (see Figure 5-23). Consider directing permit parkers from I-95 NB to use the Jimmy John as well.
- On dual event days (when a Citizens Bank Park event is followed by a Wachovia event), direct cash and preferred parkers as shown in Figure 5-24 to reserve the spaces in the Wachovia lots for the later event.

Optimize Use of Underutilized Right-of-Way

There is potential to improve ingress and egress conditions by using additional access routes. For example, on ingress during Eagles games, some vehicles access the site via Darien Street, turn right at Pattison Avenue, and turn right into the Pattison East or West Gate. These vehicles add to the congestion and increase pedestrian-vehicle conflicts at the intersections of Pattison Avenue with Darien Street and with 11th Street. Consider directing cash parkers in this stream onto Phillies Drive so they can access the cash lots without traveling along Pattison Avenue. On egress during Eagles games late in the season, consider opening Citizens Bank Way for northbound through traffic at the intersection of Pattison Avenue with 11th Street to provide an alternative route for vehicles to avoid the congestion along Pattison Avenue.

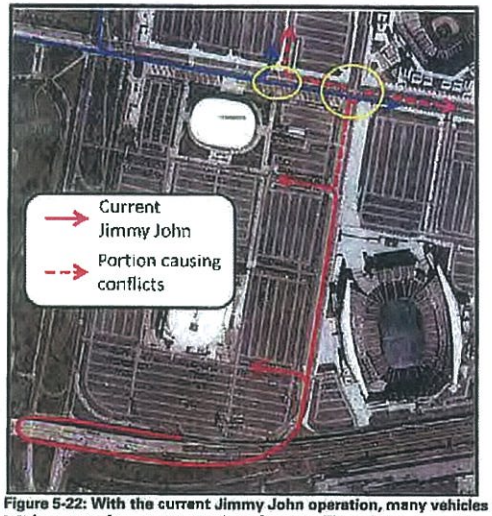


Figure 5-22: With the current Jimmy John operation, many vehicles are observed turning left from 11th Street onto Pattison Avenue. These left turns add to the congestion at the intersection of 11th Street and Pattison Avenue.

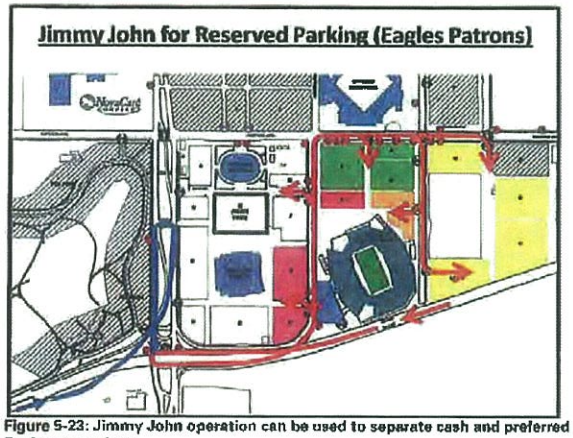


Figure 5-23: Jimmy John operation can be used to separate cash and preferred parkers on Eagles game days.

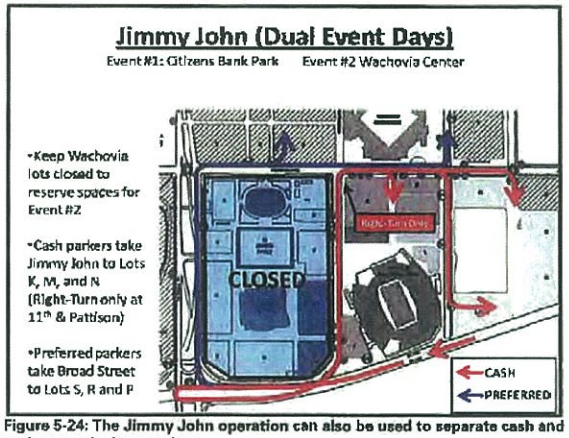


Figure 5-24: The Jimmy John operation can also be used to separate cash and preferred parkers on dual-event days.

Best Practices

Many of the recommendations identified above are based on best practices at other facilities. The following are other best practice principles which do not fall into one of the categories specified above.

Tailgating

In general, tailgating operations do not impact parking supply. The process of backfilling spaces after tailgating setups are consolidated is generally efficient, and most lots are parked near capacity for Eagles games. The Wachovia lots, however, are only filled to approximately 80% of capacity.

The tailgating operation during Eagles games leads to loss of efficiency in the Wachovia lots. While the other lots are seen parked close to capacity near kickoff, the Wachovia lots are typically 15-20% empty. This observation, combined with the fact that some fans who enter the Wachovia lots are actually directed out onto Terminal Avenue and asked to park elsewhere, suggests that the tailgating operation in these lots can be improved. The process of directing vehicles out of a parking zone that may otherwise have spaces available increases the vehicle miles traveled on the surrounding roadways, and contributes to congestion along Broad Street and Pattison Avenue. If fans were encouraged to consolidate their tailgate spaces in the Wachovia lots, additional spaces may be made available to other parkers, fewer vehicles would be directed to leave the Wachovia lots after entering, and the backups on the regional roadways may be reduced.

Consider implementing tailgate "courtesy patrol" teams, who drive around the parking lots (typically on golf carts) looking for tailgaters taking up extra spaces. The courtesy patrol typically asks these fans to consolidate their tailgate so that adjacent spaces are made available for other parkers as the lots approach capacity.

In addition, the measures outlined in the Jimmy John section on Page 37 could help reduce the regional roadway congestion. The essential element of this operation is to direct cash vehicles along Broad Street, and to direct permit holders to the Jimmy John detour so they can readily access the permit holder lots from 11th Street, or via a right turn from 11th Street to Pattison Avenue. This operation would also benefit permit holders by separating them from the stream of cash parkers.

It should be noted that tailgate operations in other lots were generally observed to be efficient, with parking efficiencies of over 95% in the Eagles lots (excluding the VIP zone), and lots M and N.

Parking Permits

General advantages:

- Allows control over the number of spaces to be sold, overall and/or within specific lots

- Helps parking management staff route vehicles through the site
- Can contain a map and directions on the back
- Barcodes on permits can allow for real-time parking statistics and more efficient data collection for analysis of trip origin/destinations and usage patterns
- Reduced processing times vs. cash transactions

It is recommended that the Eagles consider switching to an all-permit operation on-site. Parking permits are used at several other NFL facilities, and all have been well received since implementation. These include the Houston Texans, New York Giants, New York Jets, and a majority of spaces for the Washington Redskins, Dallas Cowboys, and Miami Dolphins. There are several benefits to parking permits:

- Reduce traffic and parking demand significantly – a team can place a premium on the spaces close to the Stadium. A result of this policy is that carpooling increases significantly. For example, vehicle occupancy at the Meadowlands has increased from 2.4 persons per vehicle to 3.0 persons per vehicle after the introduction of permits. For a typical Eagles game, this can equate to a reduction of vehicular demand by several thousand vehicles. Effective supply is projected to decrease during construction of *Philly Live!* and after its completion, so demand management strategies may have to be employed to mitigate the projected shortfall. Permits have proven to be a very effective mitigation measure. Initiating implementation during construction of *Philly Live!* provides justification for the policy change.
- Reserve on-site lots – especially during peak events and when *Philly Live!* opens, a parking permit system ensures that Eagles fans park in the lots closest to the Stadium.
- Improved traffic operations – permits are typically used as hangtags (see Figure 5-25) and fans are instructed to display permits on entry. Traffic management staff can then identify fans' destination lots as they arrive based on the color of their permit, and direct them to the appropriate lots and lanes from a distance (see Figure 5-26).

Figure 5-25: Strategically-designed hangtag permits can help traffic and parking managements staff identify reserved parkers from a distance and direct them to the right lanes.

- Available off-street alternatives: The Philadelphia Sports Complex features a grid network and off-site lots. The grid network allows for non-permit holders to be redirected away from permit lot entrances relatively easily. Vehicles without permits can be directed to one of many off-site lots and fans would be able to walk into the Site (as opposed to being bused in). This is currently being implemented to some degree as Lots M, N and G reach capacity and only "reserved permits" are allowed access while cash are redirected.

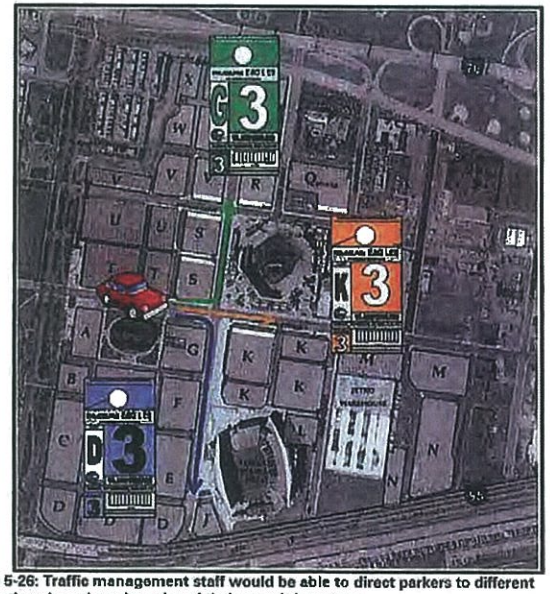


Figure 5-26: Traffic management staff would be able to direct parkers to different destinations based on the color of their permit hangtags.

Fare Collection Methods

As mentioned above, the fare collection transaction is one of the most important factors affecting ingress conditions. A long average transaction time will lead to poor throughput at plazas, and long queues on the approach roadways. The most efficient fare collection method is a pre-paid parking permit with a barcode or a tear-off. With either option, a real time fare collection system is recommended to prevent fraud. A real-time fare collection system can help prevent fraud by identifying duplicate or

counterfeit permits. Most real-time fare collection systems include a network of ground loops and wireless point-of-sale devices which allow for accurate and instant visualization of entries by each plaza, as well as allow for rejection of invalid or duplicate codes. This system can in turn be used to predict remaining supply in specific lots.

Sports Complex Website

Fan education is an important part of the toolbox for improving the gameday experience. One effective method for communicating planned changes in circulation and parking patterns is the use of team or venue websites (and pages on social networking sites like Facebook). Each venue currently has a website which includes traffic and parking directions. A unified Philadelphia Sports Complex website would present a universal destination for fans looking for event day traffic and parking information. Fans would be able to select their destination venue, enter their origin, and generate best driving directions based on the traffic patterns to be implemented on-site. This has been implemented in Dallas (Cowboys Stadium) and in Harrison, NJ (Red Bull Arena), among other places. Fans may be more likely to follow these directions, which are customized based on origin and departure routes, than static circulation diagrams, which cannot account for specific origin-destination combinations. From this website, fans could elect to sign up for email updates that could include planned or sudden changes in traffic or parking at or near the venue.

A section on the website should describe how operations change closer to game time. For example, a fan that arrives 3 hours prior to an Eagles game may have more flexibility in choosing a parking space than one who arrives 1½ hours prior to kickoff. This description should help fans understand the rationale for the operations plan, and should reduce fan concerns about the consistency of gameday operations.

6 Long-Term Recommendations

The following are some of the suggestions for potential long-term improvements. Some of these concepts may require further study; however, one or more of these may be applied to significantly improve the event day experience. The general principles behind these improvements are to minimize conflicting vehicular movements at intersections and to maximize the use of the existing right-of-way, particularly for egress conditions.

Prohibit Left Turns off Pattison Avenue

The first concept is to eliminate left turns off Pattison Avenue (see Figure 6-1). This principle would require additional signage on the approaches to the Sports Complex to advise drivers of the best route to specific reserved lots, since left turns would be prohibited along Pattison Avenue. The majority of fans – most of whom are general parkers – would be directed into specific general parking lots on either side of Pattison Avenue based on their arrival route into the Complex. Reserved pass holders would be given directions to their specific lots.

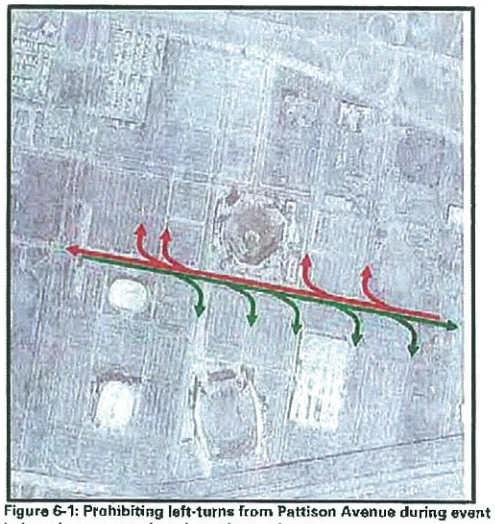


Figure 6-1: Prohibiting left-turns from Pattison Avenue during event ingress periods may help reduce congestion along the roadway.

This concept could improve the flow of traffic along Pattison Avenue. The elimination of left turns should reduce queuing along roadways. Signal timing at the intersections along Pattison Avenue would be reconfigured to take advantage of the extra capacity. The improved throughput on Pattison Avenue should have a cumulative benefit on traffic flow by causing less congestion at the intersections of Pattison Avenue with Broad Street to the west and with Front Street to the east.

One-Way Couple – Pattison and Packer

Another option to minimize conflicts is to consider a one-way couple between Packer Avenue and Pattison Avenue (see Figure 6-2). As is the case with the other concepts, this requires further study and new parking patterns may be required to accommodate it. This has the benefit of using the extensive ROW on both Avenues for one-directional flow. Conversion of two-way streets into one-way couples is typically inadvisable on streets with retail frontage, since there is a perception that it may hurt business. However, both Pattison Avenue and Packer Avenue are mostly free of retail frontage near the Sports Complex, so this recommendation should not face significant opposition from local businesses. Signage changes would obviously be required to accommodate this concept.

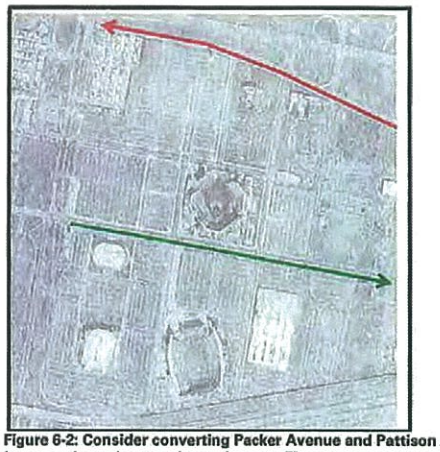


Figure 6-2: Consider converting Packer Avenue and Pattison Avenue to one-way streets to increase throughput and to reduce conflicts.

This option would reduce intersection conflicts and increase roadway capacity by using the entire right-of-way as one-way operation. However, it may limit circulation during certain events, and if not managed properly, has the potential to overload Broad Street.

One-Way Side Streets

Another concept (which may be implemented more readily than those mentioned above) is the use of the side streets intersecting Pattison and Packer as one-way streets (see Figure 6-3). A counter-flow lane would be provided along all streets for emergency access, but the remainder of the right of way would be used to operate these streets as predominantly one-way egress routes during event egress conditions. The use of cones or barriers would allow for the maximum use of the existing right-of-way.

Figure 6-3: Consider making the approaches to Packer Avenue and Pattison Avenue one-way streets during egress conditions. Operational changes would be required to the streets (e.g., cones, traffic management agents).

Transit Incentives

Increasing public transit usage to and from the Sports Complex can improve conditions for vehicles and pedestrians by reducing the number of parked cars. It would be beneficial to explore ways to further incentivize ridership, such as:

- Provide park and ride discounts from strategic stations, or co-sponsor *Philly Live!* incentives
- Subsidize SEPTA Transpass and/or tokens for Sports Complex venue employees and offer discounted season-long passes for full or partial season ticket holders
- Study the potential for SEPTA to provide additional Broad St *express* service for Sports Complex events
- In the long-term, consider further study of transit improvement projects that can expand transit connectivity to surrounding areas (Broad Street Line Extension to Navy Yard, possible connections with South Jersey PATCO lines)

7 Infrastructure Improvements

Although the focus of this study is primarily to evaluate and recommend operational improvements in and around the sports complex, it is still important to discuss potential future infrastructure improvements that can help the regional transportation system, sports venues, and the residential neighbors of SCSSD. The Sports Complex is just one a number of major traffic generators in the area, along with the Food Distribution Center, Navy Yard and the Ports.

Interstate Improvements

Improved access to the interstate system, comprised of I-95 and I-76, should be considered and evaluated as future long-term alternatives to provide better access and relieve the current levels of congestion on the surrounding roadways.

The SCSSD commissioned a study in 2006 to evaluate community concerns regarding the new venues for the sports complex, along with evaluating preliminary options for additional interstate access. Motorists have limited options regarding interstate access and any increase in those options will help to minimize congestion on the local roadways. This study took a preliminary look at additional on-ramps and off-ramps to both I-95 and I-76. Although they have not gone beyond the conceptual design phase, they should be considered potential long-term solutions for improved access to the sports complex area.

Terminal Avenue Extension and 26th Street Extension

Additional infrastructure improvements evaluated also included the Terminal Avenue Extension from 11th Street to Lawrence Street and improved access to the Navy Yard via the extension of 26th Street. These additional infrastructure improvements would compliment any other interstate access improvements, but even alone would improve event traffic flows by providing a south end circulation loop all the way over to Lawrence Street and improved access to the Navy Yard.

For example, as shown in Figure 7-1, the Terminal Avenue Extension would improve ingress for Eagles games by reducing the number of vehicles passing through the intersections of Pattison & 11th and Pattison & Darien. Vehicles arriving from the east and bound for Lots K or L could travel south on Lawrence and west on the Terminal Avenue Extension to reach Darien Street. Vehicles arriving from the west and bound for Lots K, L, or N could travel east on the Terminal Avenue Extension to access Darien Street and the lot gates. This rerouting would improve traffic flow along Pattison Avenue and reduce the potential for pedestrian conflicts.

Figure 7-1: Terminal Avenue Extension would improve access to several parking lots.

During egress, the Terminal Avenue Extension would again reduce the number of vehicles along Pattison Avenue. However, when combined with the 26th Street Extension, an alternate route to I-95 would emerge (see Figure 7-2). Vehicles departing from the Eagles and Wachovia lots could travel along Terminal Avenue to Broad Street, then cross Broad Street and enter the 26th Street Extension. That would take them to Penrose Avenue, where on-ramps for I-95 exist. Additionally, vehicles that have exited the Sports Complex and are heading south along Broad Street could bypass the queue for the I-95 South on-ramp and instead continue to the 26th Street Extension and use it to reach the on-ramp along Penrose Avenue.

8 Philly Live!

Philly Live! is a proposed 414,000 SF mixed-use restaurant, retail, and hotel development just north of the Wachovia Spectrum (see Figure 8-1). The construction phase of *Philly Live!* started with the demolition of the Wachovia Spectrum. At the time of this report, the retail and restaurant portions of the development are projected to be complete by 2012. The following section examines the impact of *Philly Live!* on event days.

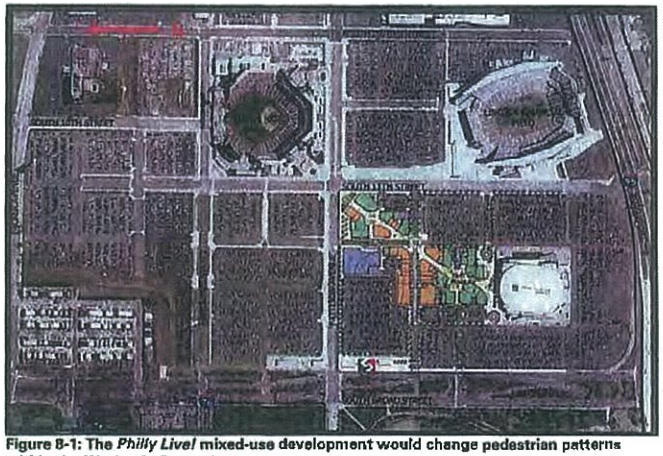


Figure 8-1: The *Philly Live!* mixed-use development would change pedestrian patterns within the Wachovia Center lots.

Methodology

Non-event day traffic and parking projections are based on standard traffic engineering methodologies. Trip generation is based on rates in the *ITE Trip Generation Manual, 8th Edition* with adjustments to account for transit share. Parking demand projections are based on the principles of the Urban Land Institute's *Shared Parking* methodology. This methodology accounts for "sharing" of parking spaces in a mixed-use development, and the resulting projected demand is therefore generally lower than what would be estimated using the standard *ITE Parking Generation* methodology.

Table 5: Trip Generation Projections for *Philly Live!*

Land Use	Size	Unit	PM Highway Peak Hour		PM Peak Event Hour		Peak Saturday Highway Hour	
			Entry	Exit	Entry	Exit	Entry	Exit
Family Entertainment	414,905	kSF			817	668	904	904
Hotel	150	Rooms	51	33	47	42	60	48
Total			51	33	864	710	964	952
Auto Share	80%				691	568	771	761

Trip generation estimates are shown in Table 5. Trip generation estimates were based on a development program consisting of 414,905 SF of a multi-purpose recreational facility and a 150-room hotel. The trip generation estimates per square foot were comparable to projections for Meadowlands Xanadu, a similar multi-purpose sports entertainment facility proposed for the Meadowlands in East Rutherford, New Jersey. Using Meadowlands Xanadu rates, the trip gen numbers would be within 20% of these estimates.

Parking generation estimates are based on the Urban Land Institute's *Shared Parking* methodology, using the Entertainment/Retail land use code for the mixed retail/restaurant portion of the *Philly Live!*, and the hotel land use codes for the proposed hotel. The *Shared Parking* methodology allows for the calculation of parking demand variations over time of day, day of week, and adjusts for seasonality. For example, a retail development generates more parking demand on a Saturday evening in December (during the holiday shopping season) than during a weekday afternoon in July. *Philly Live!* parking projections are shown in Figure 8-2. The peak parking demand of 1,600 spaces occurs on Saturdays in late December (during the peak holiday shopping season). For the purposes of this analysis, however, the baseline *Philly Live!* demand is assumed to be a more typical (non-holiday peak) Saturday in November. The peak parking demand for the *Philly Live!* project during this time is some 1,300 spaces.

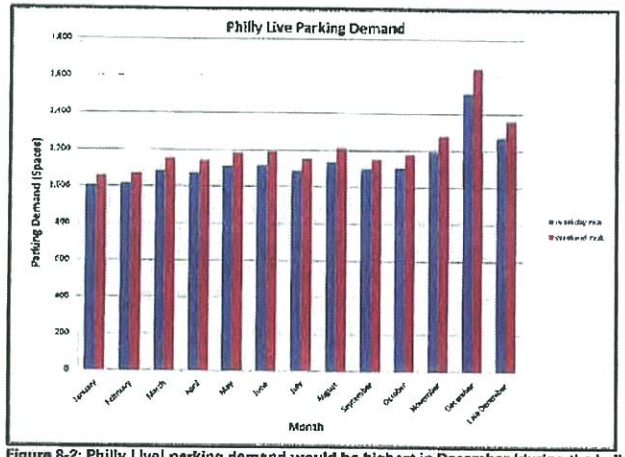


Figure 8-2: Philly Live! parking demand would be highest in December (during the holiday shopping season).

Event Day Operations with Philly Live!

On event days, the traffic and parking generation estimates would be lower than they would be on non-event days due to linked trips and stay away factors; however, some patrons would arrive at the Sports Complex solely for *Philly Live!* (and not for an event). This is evidenced by observations of existing restaurants near the Sports Complex. *McFadden's* and *Chickie's and Pete's* are typically crowded *during* events, indicating there is a strong desire among some fans to be at restaurants near the Sports Complex, even if they don't have event tickets. There are two primary factors in the assessment of *Philly Live!* demand on event days:

- Linked Trips Factor – It can reasonably be assumed that some of the visitors to *Philly Live!* have tickets to an event and would have been at the Sports Complex anyway. For purposes of this study, a link trip factor of up to 25% has been applied. Actual link trip factors vary based on the event venue.

- Stay-Away Factor – The stay-away factor is another important factor in projecting demand. This is based on the assumption that potential attendees would tend to avoid the Sports Complex on busy event days, and would prefer other days when there is lower event parking and traffic demand. For purposes of this study, a stay-away factor of up to 25% was applied and varies based on the event venue. Potential attendees would be more likely

to stay away during a 60,000 –person Lincoln Financial Field event, for example, than during a 17,000–person Wachovia event.

These factors are described in Table 6. For a Lincoln Financial Field peak event or a peak dual event, the factors account for a reduction in parking and traffic demand of nearly 45% from non-event day estimates.

Table 6: Average and Peak *Philly Live!* Parking Demand Projections

	Peak PL	Linked	Stay-Away	Demand
Eagles	1600	25%	25%	900
Phillies	1200	15%	15%	867
Flyers	1600	10%	10%	1296

	Avg PL	Linked	Stay-Away	Demand
Eagles	1200	25%	25%	675
Phillies	1100	15%	15%	795
Flyers	1200	10%	10%	972

Based on these estimates, the proposed Philly Live development would generate a demand for some 675 parking spaces on a typical weekend with a Lincoln Financial Field event. In addition to this projected increase in parking demand, the projected development footprint also results in a reduction in supply of some 650 spaces (see Figure 8-3).

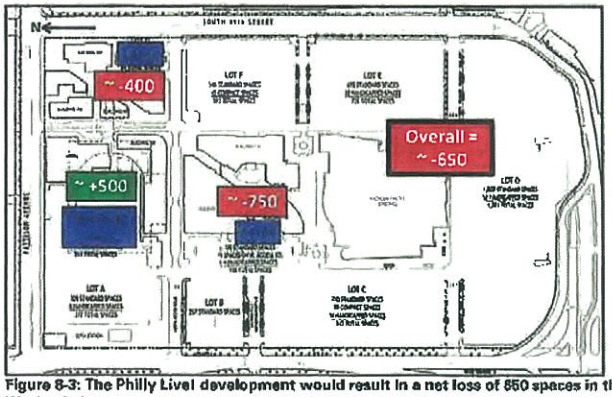


Figure 8-3: The Philly Live! development would result in a net loss of 650 spaces in the Wachovia lots.

The net result is that the effective[2] supply for Lincoln Financial Field event parkers is some 1300 spaces less than it is today. Figure 8-4 shows the projected overall site effective supply and demand for a typical event at each venue, including a dual Citizens Bank Park / Wachovia event. For dual events and some Lincoln Financial Field events, the official on-site parking supply may be at or near capacity. For these types of events in December, *Philly Live!* demand is projected to be higher than what is shown in this figure, and a more significant shortfall of spaces may result.

Scheduling Restrictions

It is recommended that the current restrictions on the scheduling of simultaneous events be revisited now that *Philly Live!* is in construction. As discussed above, the total on-site supply will decrease, and the on-site demand will increase over time. Dual event restrictions may need to be more stringent during construction of *Philly Live!* and during the first few months or first year of opening. It is recommended that studies be conducted during the first year of *Philly Live!* to monitor overall site demand, and that the lease requirements be adjusted as needed based on the actual observed demand from the *Philly Live!* development.

[2] An efficient self-park operation typically operates at a maximum efficiency of 98%.

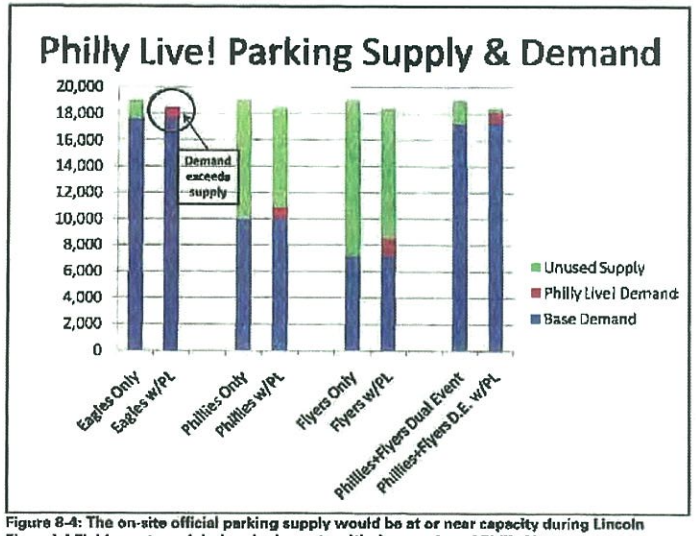


Figure 8-4: The on-site official parking supply would be at or near capacity during Lincoln Financial Field events and during dual events with the opening of Philly Live.

Comparison of 2004 Report Pedestrian Section With *Philly Live!* Site Plan

In the June 2004 *Stadium District Transit Study*, several recommendations were made for pedestrian access and movement throughout the Stadium District. One of the recommendations developed in that report included a *"Sports Village Walk"*. Some of these principles have been incorporated into the plans for *Philly Live!* development. While there are similarities between *Philly Live!* and the proposed *Sports Village Walk* concept, some pedestrian access issues have been identified and are discussed below.

The 2004 *Stadium District Transit Study* discusses how the sports facilities are isolated from the subway as a result of the eastward relocation of Citizens Bank Park and Lincoln Financial Field. Based on the location of each venue within the Stadium District, one of the most immediate issues is the flow of pedestrians between the Pattison Station and the various sports venues. It is critical to channel pedestrians towards the venues in a manner which minimizes vehicular-pedestrian conflicts and allows for efficient traffic flow.

The 2004 *Stadium District Transit Study* analyzed pedestrian routes, and determined which routes may need improvement (pathways which cross parking lots and negative pedestrian routes). The *Stadium District Transit Study* envisioned a new diagonal path connecting Pattison Station to the Wachovia Center and Lincoln Financial Field. This path would have reduced the number of vehicular-pedestrian conflicts within the lots surrounding the Wachovia Spectrum, and would have reduced pedestrian volumes along Pattison Avenue. The *Philly Live!* layout differs in that the diagonal path from Pattison Avenue and 11th Street to the Wachovia Center does not serve pedestrian traffic exiting from Pattison Station.

This new pedestrian path would not help mitigate the vehicular-pedestrian conflict points noted in the 2004 study (see Figure B-5). Due to the additional traffic generated by *Philly Live!*, the volume of conflicting movements at these locations may increase on both event days and non-event days.

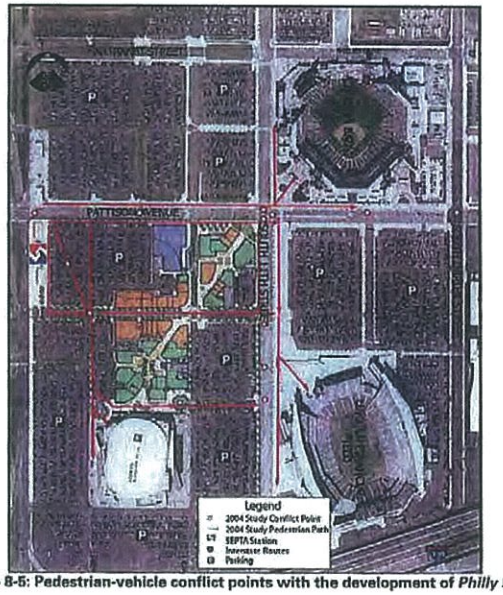


Figure B-5: Pedestrian-vehicle conflict points with the development of *Philly Live!*

Construction of *Philly Live!*

It should be noted that during construction of *Philly Live!*, the effective supply in the Wachovia lots would be reduced by up to 1,500 spaces from where it is before construction starts. During construction, there may also be shortfalls in on-site supply for Lincoln Financial Field events and dual events (see Figure 8-6).

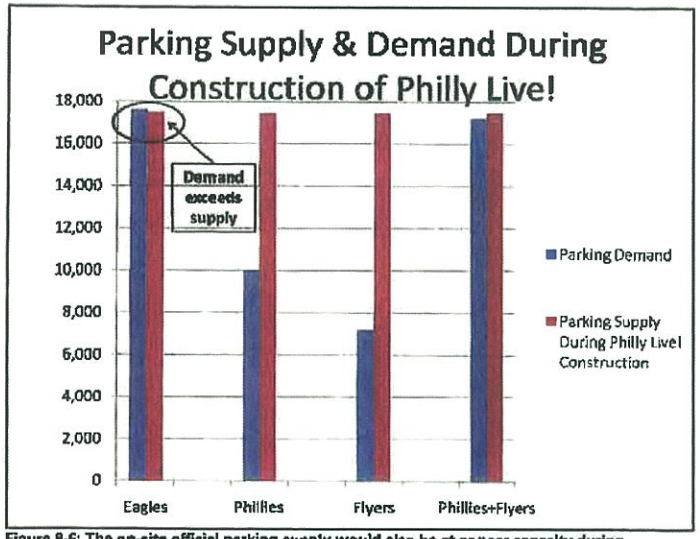


Figure 8-6: The on-site official parking supply would also be at or near capacity during Lincoln Financial Field events and during dual events during the construction of *Philly Live!*

Who Parks Where

A traffic and parking operations plan has not been developed for *Philly Live!*. A traffic and parking plan should be developed with all stakeholders to identify:

- Who parks where – will spaces be reserved for *Philly Live!* customers, or will *Philly Live!* customers be allowed to park anywhere in the general parking lots?
- Parking policies
  - What will be the parking fee for *Philly Live!* customers?

  - What will be done to discourage non-ticket holders from coming on event days? (Currently, during all events, parking staff ask non-ticket holders to leave the parking lots shortly after the event has started.)
- How will parking lot assignments change for Wachovia Center patrons after *Philly Live!* opens?
- What contingencies are in place to deal with potential delays with *Philly Live!* construction?
- What type of signage, if any, will be provided for *Philly Live!*, and will it be consistent with existing Sports Complex signage?
- If shortfalls do result, would stakeholders be willing to park customers off-site and shuttle them to the site?

Appendix A

Traffic Volume Diagrams

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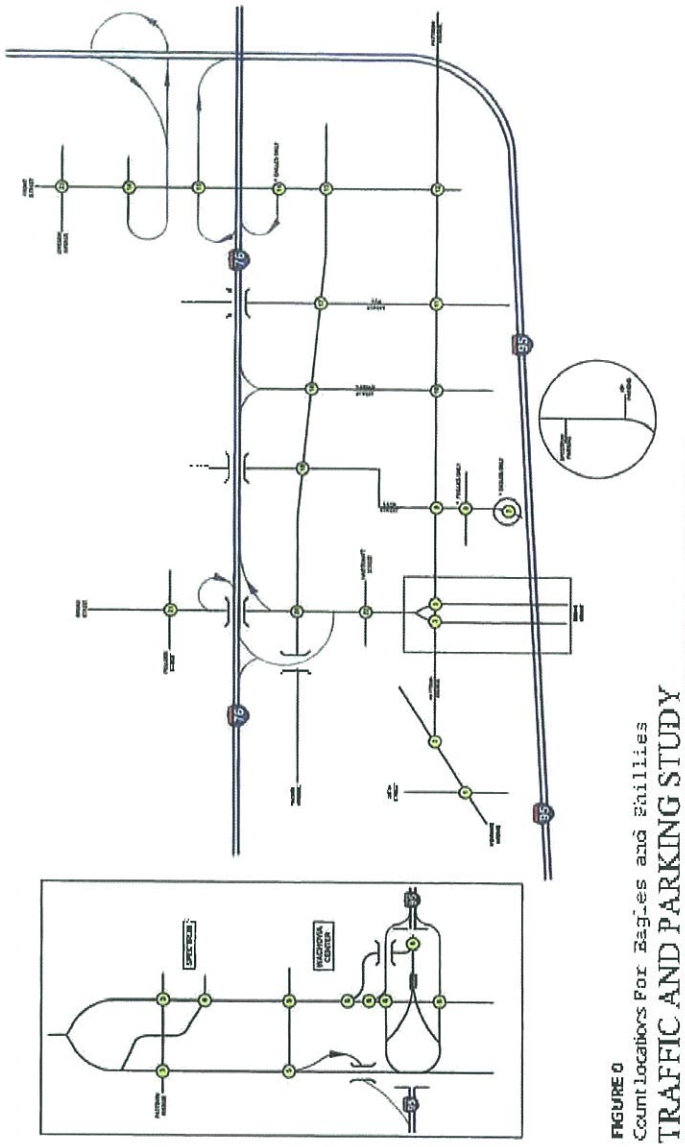
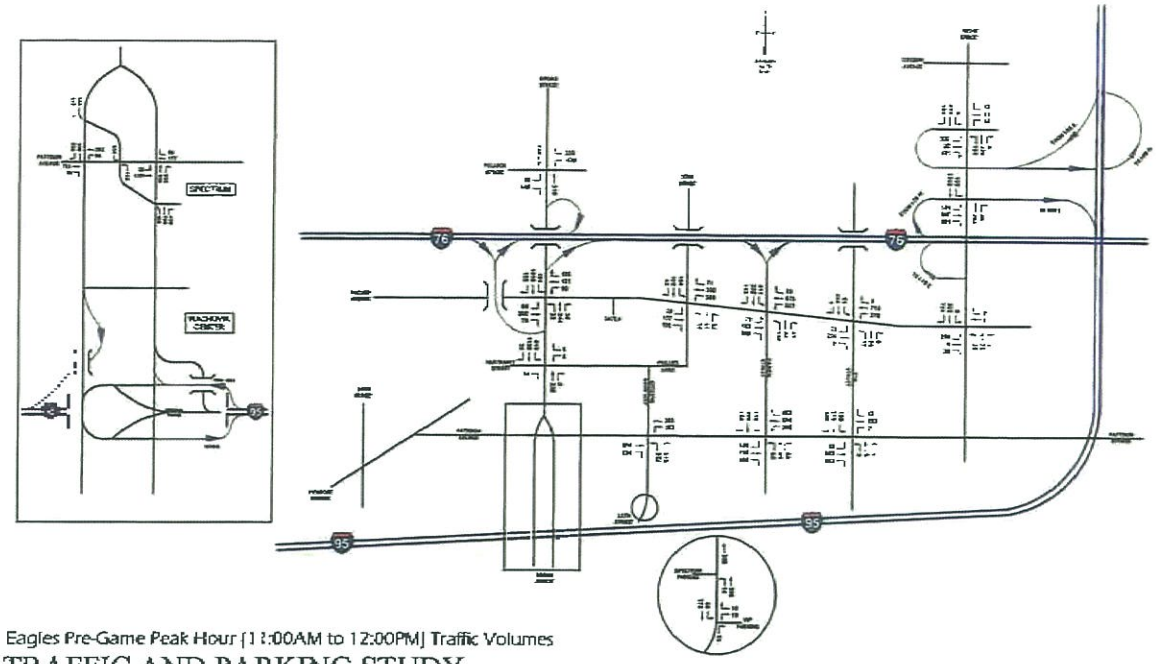


FIGURE 0
Count Locations For Eagles and Phillies
TRAFFIC AND PARKING STUDY
SPORTS COMPLEX SPECIAL SERVICES DISTRICT
CITY OF PHILADELPHIA, PA



Eagles Pre-Game Peak Hour (11:00AM to 12:00PM) Traffic Volumes

TRAFFIC AND PARKING STUDY
SPORTS COMPLEX SPECIAL SERVICES DISTRICT
CITY OF PHILADELPHIA, PA

McMAHON
TRANSPORTATION ENGINEERS & PLANNERS

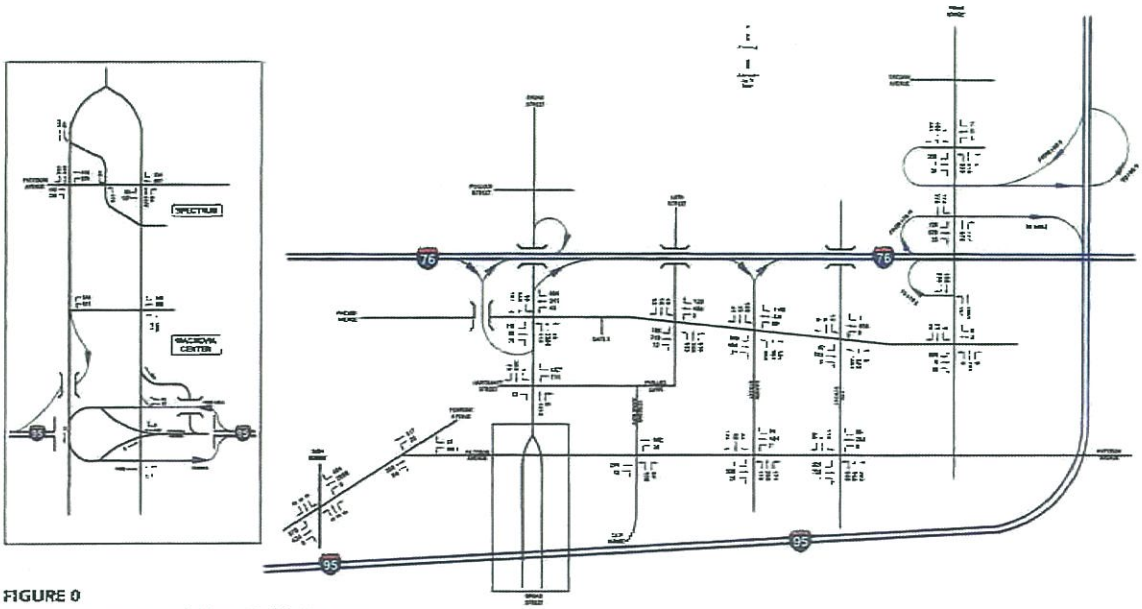


FIGURE 0
Eagles Post-Game Peak Hour Traffic Volumes

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CITY OF PHILADELPHIA, PA

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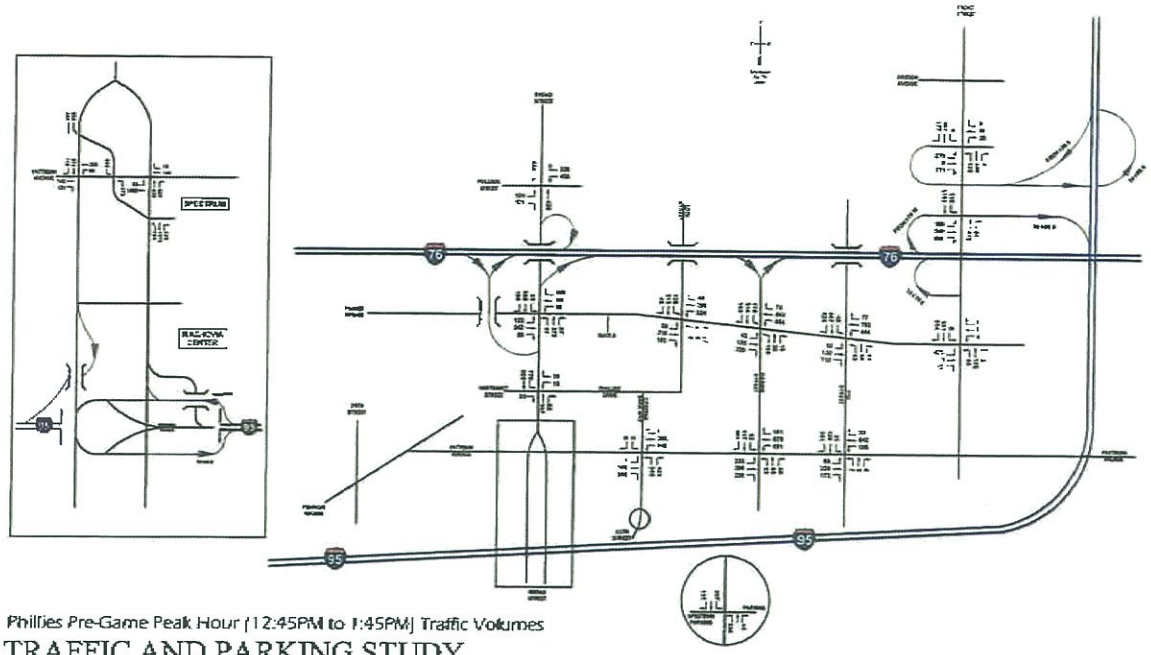

Phillies Pre-Game Peak Hour (12:45PM to 1:45PM) Traffic Volumes

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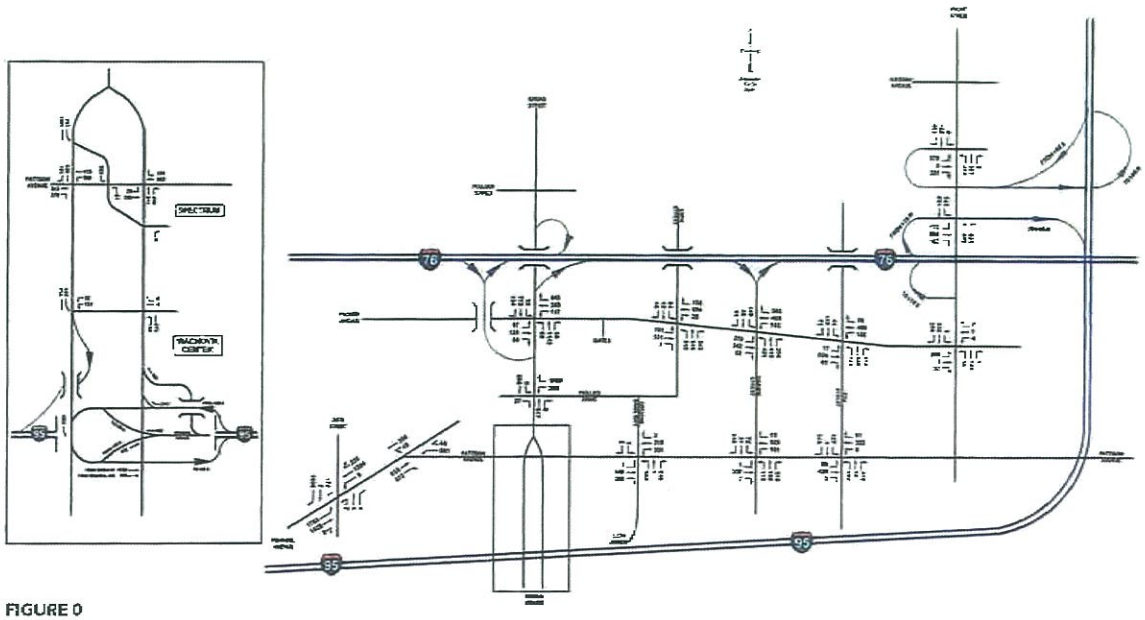

FIGURE 0
Phillies Post-Game Peak Hour Traffic Volumes

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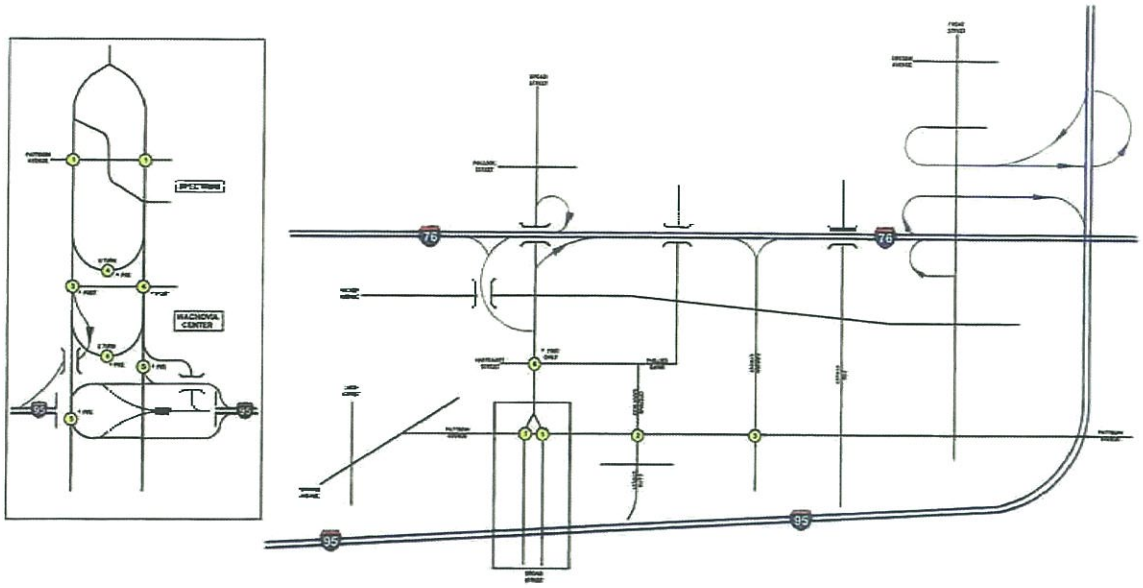
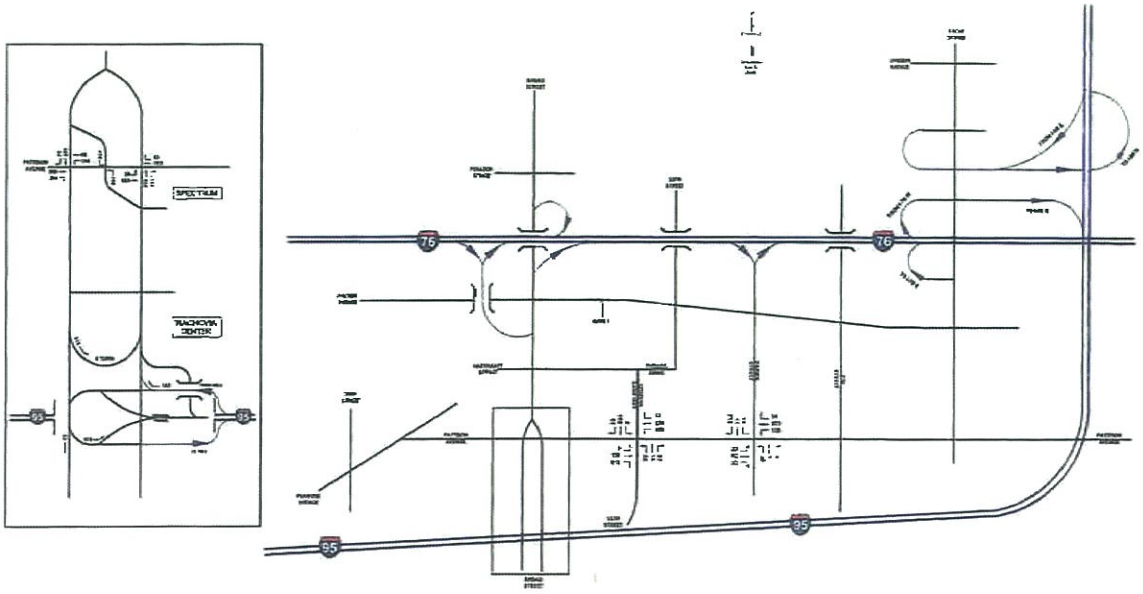


FIGURE 0
Count Locations For Flyers
TRAFFIC AND PARKING STUDY
SPORTS COMPLEX SPECIAL SERVICES DISTRICT
CITY OF PHILADELPHIA, PA



Flyers Pre-Game Peak Hour (6:00PM to 7:00PM) Traffic Volumes
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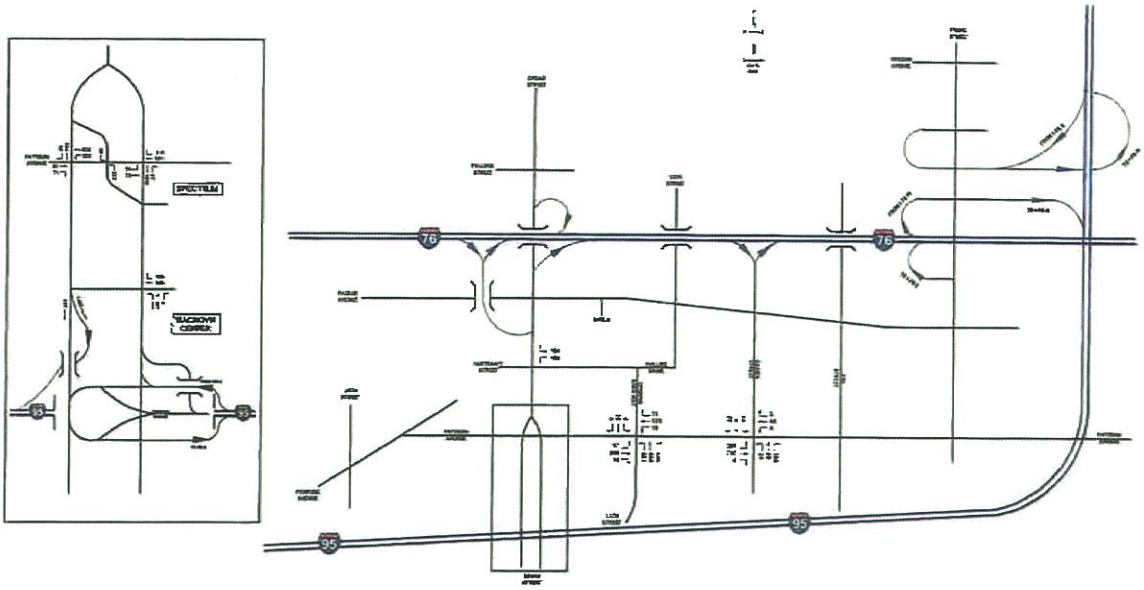

Flyers Post-Game Peak Hour [9:00PM to 10:00PM] Traffic Volumes

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SPORTS COMPLEX SPECIAL SERVICES DISTRICT

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