2000 - 2015 TRAVEL TRENDS
IN THE PHILADELPHIA CENTRAL BUSINESS DISTRICT

NOVEMBER 2017

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

The Delaware Valley Regional Planning Commission is the federally designated Metropolitan Planning Organization for a diverse nine-county region in two states: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey.

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DVRPC's vision for the Greater Philadelphia Region is a prosperous, innovative, equitable, resilient, and sustainable region that increases mobility choices by investing in a safe and modern transportation system; that protects and preserves our natural resources while creating healthy communities; and that fosters greater opportunities for all.

DVRPC's mission is to achieve this vision by convening the widest array of partners to inform and facilitate data-driven decision-making. We are engaged across the region, and strive to be leaders and innovators, exploring new ideas and creating best practices.

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Executive Summary

This report assesses travel trends between 2000 and 2015 in the Philadelphia Central Business District (CBD), also known as Center City. Traffic volumes are expressed in terms of both vehicle and person trips crossing each of the four Center City screenlines: Callowhill and South streets to the north and south, respectively, and the Delaware and Schuylkill rivers to the east and west, respectively. Center City's grid street network was originally laid out in 1683[1] and is very compact and walkable, spanning approximately 2 miles from river to river, and 1 mile between Callowhill and South streets. Average weekday screenline auto, transit, bike, and pedestrian counts collected in 2015 are compared with similar data collected in 2000, 2005, and 2010.

The major findings of this study are:

- Travel to Center City is growing once again. In the aftermath of the Great Recession, the total number of daily trips decreased by 6.0 percent between 2005 and 2010. But since 2010, the trend has turned positive, with total trips increasing by 7.4 percent.
- On average, just over 2 million people traveled to and from Center City Philadelphia each weekday in 2015.
- There is a considerable amount of variation between the four screenlines. Trips crossing the East Screenline decreased by 3.3 percent between 2010 and 2015, while trips crossing the South Screenline increased by 23.3 percent.
- In terms of mode split, 66 percent of total daily trips crossing the screenlines are by automobile, 28 percent are by public transit, 5 percent are by pedestrians, and 1 percent are by bicycle.
- Regional rail ridership continues to experience strong growth, increasing by 15.7 percent between 2005 and 2010, and by another 16.6 percent between 2010 and 2015.
- Although still a relatively small share of total trips, bicycle trips are the fastest growing mode. They experienced the largest percentage increase (60 percent) between 2010 and 2015.

[1] https://en.wikipedia.org/wiki/Philadelphia#/media/File:A_Portraiture_of_the_City_of_Philadelphia.JPG

I. Introduction

The Delaware Valley Regional Planning Commission (DVRPC) has conducted periodic monitoring of travel trends and patterns throughout the nine-county area since its predecessor agency, the Penn-Jersey Transportation Study, conducted the first travel survey in 1960. That initial database included several screenline and cordon line counts used to study travel movements entering and leaving specific areas such as the Philadelphia CBD, which is also known as Center City Philadelphia. The collected data measured traffic volumes crossing county boundaries and major geographical barriers, such as the Schuylkill and Delaware rivers. The data is used in several ways: to assess transportation trends in and out of Center City; to calibrate the DVRPC travel demand forecasting model; and to estimate vehicle miles traveled for air quality conformity analysis.

DVRPC realizes the importance of Center City to the region's economy. In terms of employment, 233,239 jobs were located in Center City in 2015, making it the region's largest employment center. Between 2010 and 2015, the residential population in Center City increased by 8.3 percent, from 58,127 to 62,939.[2]

In terms of transportation infrastructure, Center City is served by several major highways. The Schuylkill Expressway (I-76), the Vine Street Expressway (I-676), and I-95 are part of the interstate highway system linking Philadelphia with the rest of the country. Center City is also the hub of the region's transit network. The regional rail system, the subway system, and many of the region's bus routes pass through Center City, transporting suburban residents to Center City jobs and moving city residents to suburban employment opportunities.

Given the importance of Center City, DVRPC staff recognizes the need to continuously monitor travel trends in and out of the CBD as a means of increasing the service and efficiency of the region's transportation system. Along these lines, DVRPC conducts comprehensive screenline counts of both highway and public transportation users every five years. Four CBD screenlines define the cordon surrounding Center City: the northern boundary is located just north of Callowhill Street, the southern boundary is located just south of South Street, the eastern boundary is the Delaware River, and the western boundary is the Schuylkill River. The screenlines, with locations for highway and public transportation counts, are illustrated in **Figure 1.**

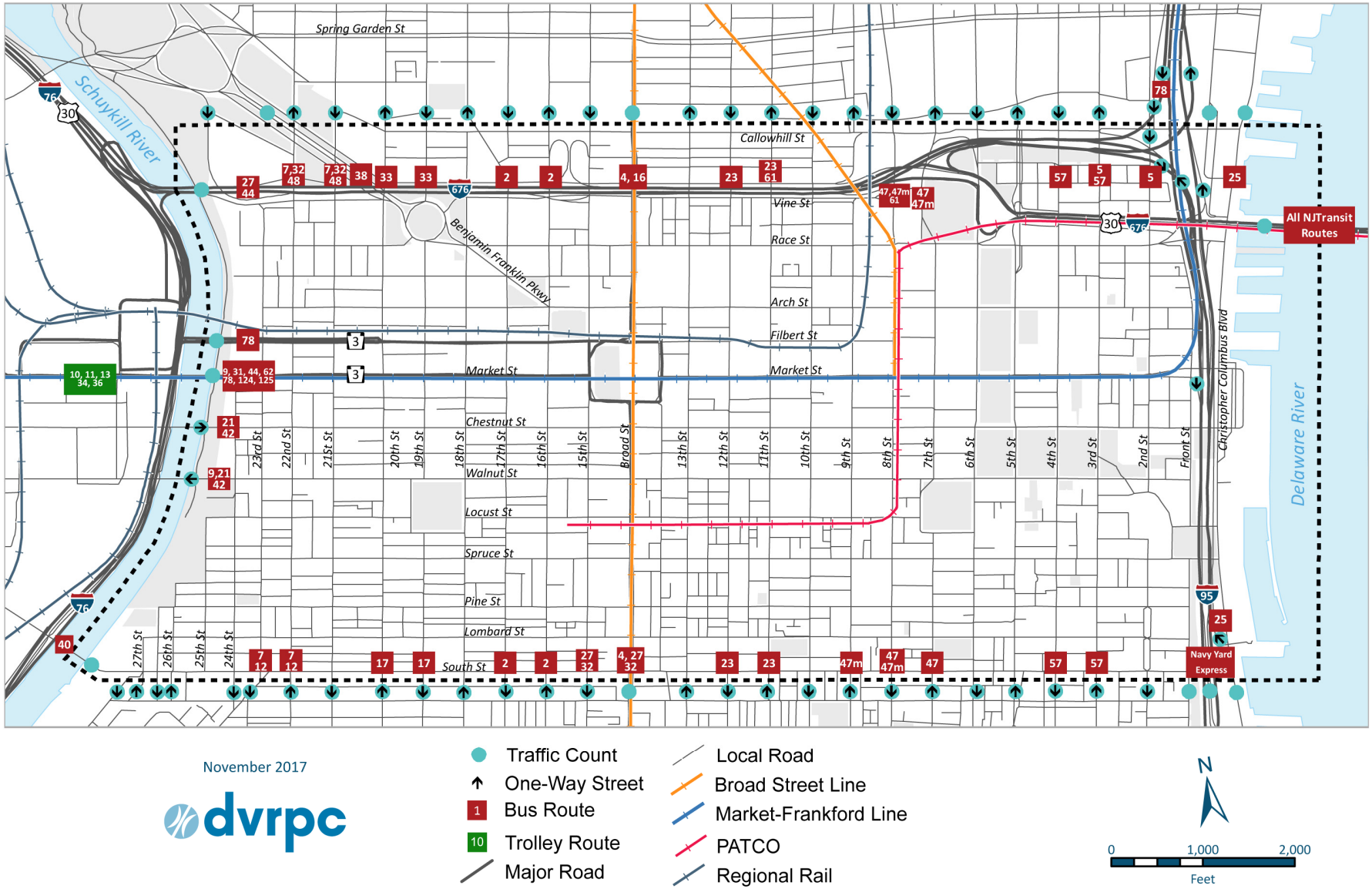
This report presents the 2015 highway traffic, public transportation ridership, bicycle, and pedestrian counts collected for the Center City Cordon Line. The highway traffic counts were taken between fall of 2014 and spring of 2016 by DVRPC staff and augmented with information from the Delaware River Port Authority (DRPA), and data provided by Traffic.com for counts of major highways in the DVRPC region.

Public transportation ridership counts were provided by the respective transit operators. The Port Authority Transit Corporation (PATCO) and New Jersey Transit (NJ Transit) bus and rail counts were based on recent turnstile or farebox counts, which were then aggregated into specific route and time categories. The Southeastern Pennsylvania Transportation Authority (SEPTA) bus and rail counts were based on ride checks which can be gathered manually or by the use of Automatic Passenger Counter (APC) technology. Since manual ride checks have several limitations (e.g., time-consuming, expensive, etc.), SEPTA expanded its use of APC between 2010 and 2015. At the same time, SEPTA continues to conduct manual ride checks which can be used to calibrate APC results. Where this data was not current enough for this project, DVRPC contracted with SEPTA to gather current data. In every case the most recently available data was used.

The pedestrian and bicycle counts were also collected by DVRPC staff. Philadelphia is considered one of the most walkable and bike friendly cities in the United States, and beginning in 2010, DVRPC staff started counting pedestrians and bicyclists, as well as autos and transit passengers. This additional data provides a more complete and accurate picture of travel patterns in Philadelphia.

[2] Delaware Valley Regional Planning Commission, Population and Employment Data, https://www.dvrpc.org/asp/DataNavigator/

Figure 1: Center City—2015 Cordon Line Count Locations



II. Data Collection and Study Method

The highway traffic counts for the North, South (exclusive of I-95), and West Screenlines were taken by DVRPC field crews at the locations indicated in Figure 1. I-95 counts were obtained from microwave radar stations operated by Traffic.com. East Screenline counts were collected by DRPA, which owns and operates the Benjamin Franklin Bridge and collects traffic data on a regular basis. Pennsylvania public transportation ridership numbers were obtained from SEPTA, the operator of service into Center City. Transit ridership from New Jersey was based on data collected by PATCO and NJ Transit. Counts of bicyclists and pedestrians were also made by DVRPC field crews.

A. Highway Traffic Counts

DVRPC staff counted vehicles on highways and bridges by direction and time of day using pneumatic tubes. Highway counts are conducted over a continuous 48 hour period during the work week (Monday through Friday). Appropriate seasonal and area travel pattern factors, as provided by the Pennsylvania Department of Transportation (PennDOT) were applied to the raw counts to convert them to annual average daily traffic (AADT) estimates. Person trip volumes were derived from the vehicular counts using an Average Vehicle Occupancy Factor.

Traffic.com has embarked on a program of installing microwave radar traffic monitoring devices along the key highways throughout the DVRPC region. Speed and travel time information collected from this equipment is sold to radio and television stations as well as other private entities. As part of their agreement to install the equipment on public rights-of-way, they also provide the data they collect, including traffic volumes, to PennDOT and DVRPC. Traffic.com collected data on the ramps to and from the Vine Street Expressway (I-676) and the Walt Whitman Bridge. DVRPC field crews also counted the on- and off-ramps between South Street and the Walt Whitman Bridge. The combination of this data provided I-95 volumes crossing the South Screenline.

The East Screenline is unique since access in or out of Center City is limited to the Benjamin Franklin Bridge. In 1992 DRPA changed the toll collection procedure on its bridges, raising the toll for automobiles from $0.90 collected in each direction to $2.00. Then in January 2000 DRPA raised the toll to $3.00, collected only from westbound vehicles, and in July 2011 DRPA raised the toll to $5.00. Consequently, vehicle counts supplied by DRPA are taken in the westbound direction only. Westbound flow is assumed to be balanced by an equivalent eastbound flow. The hourly highway counts from the bridge are adjusted based on historic multipliers to derive daily counts.

B. Public Transportation Ridership

SEPTA operates most public transportation services that connect Center City with the rest of the Philadelphia urban area and suburbs. For its bus and trolley service, SEPTA conducts several types of passenger traffic checks.[3] Corner checks are counts of passengers on board a transit vehicle passing a specific time point along a route. Ride checks are counts of passenger boards and leaves, by stop, along a route. Ride check data can be gathered manually or by use of Automatic Passenger Counters (APC). These counts were taken throughout 2015 for routes crossing the screenlines into the CBD.

Ridership on SEPTA's regional rail service is based on the 2015 rail ridership census.[4] The passenger counts for the North Screenline were taken north of Jefferson Station. The passenger counts for the West Screenline were collected west of the 30th Street Station. Since many passengers board and alight at 30th Street Station, the count data was adjusted to derive the true number of passengers crossing the Schuylkill River.

[3] Southeastern Pennsylvania Transportation Authority, *SEPTA Regional Rail Ridership Census 2009 and 2015*.
[4] SEPTA, *Service Standards and Process*, October 2016. http://septa.org/strategic-plan/reports/service-standards-2016.pdf

For its subway service, SEPTA personnel use a combination of Traffic Check platform counts as well as Turnstile counts at stations. Turnstile counts give only total boards, so total leaves must be counted by Traffic Checkers on the platform. Traffic Checkers counted “ons” and “offs” at each station along each route in both the inbound and outbound directions over the course of an entire day and then used this data to estimate daily ridership.

PATCO is a subsidiary of DRPA and operates a rail transit line across the Benjamin Franklin Bridge between Philadelphia and New Jersey. NJ Transit operates bus service over the Benjamin Franklin Bridge to and from New Jersey. The PATCO and NJ Transit counts were compiled from farebox counts and zonal data collected in 2015. Transit counts were taken from 6:00 AM to 12:00 midnight.

C. Bicycle and Pedestrian Volumes

Increasing emphasis is being placed on non-motorized travel—that is, travel by bicyclists and pedestrians. Measuring the volume of these travelers has always presented a challenge. Traditionally, counts were gathered manually by stationing a person along a transportation facility and having them tally the number of cyclists or pedestrians. This type of counting was acceptable for a short-term count lasting only a few hours. Taking a 24-hour count similar to vehicle counts proved cost prohibitive, and there is a well-documented issue with observer fatigue affecting the quality of the data. Since the 2005 version of the Center City screenline monitoring effort, technology has become available that allows the automated counting of pedestrians and bicycles.

Bicycle counting at DVRPC is conducted using technology that is similar to what is used for vehicle counting: a pneumatic tube stretched across the transportation facility. When a tire rolls across the tube, an increase in air pressure activates a switch in the counter, recording the tire. The spacing between the axles allows the counter to distinguish between a bicycle and a motorized vehicle. As with any technology, a validation procedure was conducted on the equipment to develop an adjustment factor to account for any variance between machine and manual count.

DVRPC uses passive infrared technology to count pedestrians on sidewalks. A unit is mounted on a fixed object like a sign post and measures the heat signature of a person walking by the unit. Dual sensors allow the unit to distinguish direction of travel. It is recommended that the unit be mounted at hip height, preventing each leg of a pedestrian from being counted as an individual. This presents the possibility of undercounting due to infants in carriages or small children. There is also the problem of occlusion: where two persons are walking exactly abreast, only one signature is registered. Another issue is bicyclists riding on sidewalks. It is illegal in the City of Philadelphia, but some people still do it. An extensive validation procedure was undertaken to develop an expansion factor to account for these issues.

There is a higher degree of variability, from day to day, for bicycle and pedestrian counts than for auto and transit counts. For example, whereas a person who drives to work is probably going to continue to drive regardless of the weather outside, a person who walks may decide to ride the bus or carpool on rainy or extremely cold days. For this reason, the counting equipment for bicycle and pedestrian counts is set up for a minimum of seven continuous days at each cordon location census.

III. Trends in Center City Screenline Travel Volumes

A. North Screenline

The North Screenline is located just north of Callowhill Street so that the entire length of the Vine Street Expressway (I-676) is included within the Center City Cordon Line. This screenline includes traffic on the eastbound on-ramp (24th Street) to the Vine Street Expressway from the Benjamin Franklin Parkway, though the expressway itself does not cross the screenline. Much of the expressway traffic is "through" traffic that exits Center City either via the Benjamin Franklin Bridge (I-676) or I-95. The North Screenline also includes traffic volumes on I-95 (the Delaware Expressway) as well as numerous local streets.

Vehicular screenline volumes crossing the North Screenline are shown in **Table 1**. Between 2010 and 2015, the volume of traffic on the interstates (I-95 and I-676) decreased by approximately 12.1 percent. The main reason for this decrease was construction work. The I-95 interchange at Girard Avenue, and the surface street bridges crossing I-676 were under construction during much of 2015. Many travelers found alternative routes to avoid the ramp and lane closures on the interstates.

Traffic on the local streets crossing the North Screenline increased by 10.0 percent between 2010 and 2015. The Benjamin Franklin Parkway, which carries traffic from Kelly and West River drives in Fairmount Park, as well as from the Schuylkill Expressway via Spring Garden Street, continues to be the busiest of the local streets. In 2015, the Benjamin Franklin Parkway had a screenline volume of 34,299 vehicles per day (vpd), an 8.3 percent increase from 2010. However, the vehicle count in 2015 is 28.6 percent below the 2005 level. The same trend is evident with two other major local streets crossing the North Screenline. Broad Street had a 2015 screenline volume of 22,615 vpd, a 7.0 percent increase from 2010 but 23.3 percent below the 2005 level; and Columbus Boulevard had a 2015 screenline volume of 21,483 vpd, a 10.1 percent increase from 2010 but 16.8 percent below the 2005 level.

Daily transit passengers crossing the North Screenline are shown in **Table 2**. The overall number of transit passengers has risen steadily since 2000. It increased by 12.6 percent from 2000 to 2005, by 3.1 percent from 2005 to 2010, and by 7.1 percent between 2010 and 2015. Of the three transit modes (bus, regional rail, subway) crossing the North Screenline, regional rail showed the greatest percentage increase. It increased from 49,355 passengers per day in 2010 to 57,475 passengers per day in 2015, a 16.5 percent increase.

The subway mode includes the Market-Frankford Subway Elevated (MFSE), the Broad Street Subway (BSS), and the Broad Ridge Spur (BRS). Ridership on MFSE increased from 54,865 to 65,517 passengers per day, a 19.4 percent increase. Ridership increased by 4.4 percent on the BRS Line, and decreased by 1.8 percent on the BSS Line. Overall, for the three subway lines combined, ridership increased by 7.1 percent between 2010 and 2015.

While regional rail and subway increased, ridership on buses has slightly declined since 2010. In 2005, there were 40,878 bus passengers crossing the North Screenline each day, this declined to 38,560 in 2010, and 36,931 in 2015. This is approximately a 9.7 percent decline between 2005 and 2015, and a 4.2 percent decrease between 2010 and 2015.

Pedestrian trips crossing the North Screenline are displayed in **Table 3.** Pedestrian trips increased by 74.0 percent between 2010 and 2015. Two local streets in particular experienced very large increases. The Benjamin Franklin Parkway (BFP) had a count of 8,051 pedestrians per day (ppd) in 2015, a 618.2 percent increase from 2010. One possible reason for the increase was that the sidewalks along BFP were being reconstructed during 2010, which would have suppressed pedestrian traffic. 18th Street also experienced a significant increase. Pedestrian traffic increased from 1,381 ppd in 2010 to 9,961 ppd in 2015, a 621.3 percent increase. A large new apartment building on 18th was opened in early 2016 (data collection year). The new building is located directly across from the Community College of Philadelphia, and a short walk (0.1 mile) north of the screenline (Callowhill Street). Many of the residents of the new apartment building may be students, walking between campus, home, and the shopping and restaurants located along Callowhill Street.

Bicycle trips crossing the North Screenline (**Table 4**) increased by 44.9 percent since 2010. Philadelphia is becoming one of the best biking cities in the country. The City of Philadelphia and other local agencies are promoting bicycling through advocacy and education. For example, in April 2015 the City funded the Indego Bicycle Sharing Program.[5] The program was started with 600 bikes and 60 stations located throughout the City. It has since expanded to over 100 stations. The City is also expanding its network of bike lanes.

Figure 2 shows the highway, public transit, pedestrian, and bicycle trends for the North Screenline. To make it possible to compare data across all modes, the highway vehicle counts were converted to person trips using an average vehicle occupancy factor of 1.39. The data is shown for the years 2000, 2005, 2010, and 2015.

Public transportation and in particular regional rail has shown a steady increase since 2000. The average annual increase for transit over this time period was 2.4 percent between 2000 and 2005, 0.6 percent between 2005 and 2010, and 1.4 percent between 2010 and 2015. The average annual growth for highway travel was negative 0.4 percent between 2000 and 2005, negative 0.7 percent between 2005 and 2010, and negative 0.3 percent between 2010 and 2015. Between 2010 and 2015, the average annual percentage increase for pedestrians and bicyclists was 11.7 percent and 7.7 percent, respectively.

Mode split is compared for the two years that data is available for pedestrian, and bike trips as well as transit and highway. Although auto travel is still the dominant mode of travel to and from Center City, the data shows a decrease in auto's share of total trips, and a corresponding increase in pedestrian, bike, and public transit. The share of highway trips declined from 67.8 percent in 2010 to 65.3 percent in 2015. Meanwhile, the share of trips made by pedestrians increased from 3.2 percent to 5.2 percent. The share of trips made by bicyclists increased from 0.3 percent to 0.5 percent. And the share of trips made by transit increased from 28.6 percent to 29.0 percent.

[5] https://www.rideindego.com/

Table 1: Daily Highway Vehicle Trips Crossing the Center City North Screenline

	Average Daily Traffic Volume				Percentage Change			Average Annual Growth		
Street	2000	2005	2010	2015	2000 to 2005	2005 to 2010	2010 to 2015	2000 to 2005	2005 to 2010	2010 to 2015
Columbus Boulevard	21,231	25,829	19,509	21,483	21.7%	-24.5%	10.1%	4.0%	-5.5%	1.9%
Front Street	571	2,121	385	169	271.5%	-81.8%	-56.1%	30.0%	-28.9%	-15.2%
2nd Street	5,913	7,715	7,966	7,875	30.5%	3.3%	-1.1%	5.5%	0.6%	-0.2%
3rd Street	4,547	4,519	4,064	6,954	-0.6%	-10.1%	71.1%	-0.1%	-2.1%	11.3%
4th Street	4,823	4,742	4,022	5,080	-1.7%	-15.2%	26.3%	-0.3%	-3.2%	4.8%
5th Street	10,904	10,035	14,494	7,892	-8.0%	44.4%	-45.5%	-1.6%	7.6%	-11.4%
6th Street	8,397	6,696	7,074	8,630	-20.3%	5.6%	22.0%	-4.4%	1.1%	4.1%
7th Street	7,864	8,889	8,643	10,513	13.0%	-2.8%	21.6%	2.5%	-0.6%	4.0%
8th Street	5,753	5,648	6,432	7,186	-1.8%	13.9%	11.7%	-0.4%	2.6%	2.2%
9th Street	1,399	1,713	1,357	1,455	22.4%	-20.8%	7.2%	4.1%	-4.6%	1.4%
Ridge Avenue	4,033	4,153	3,879	4,148	3.0%	-6.6%	6.9%	0.6%	-1.4%	1.4%
10th Street	3,146	3,203	3,208	2,633	1.8%	0.2%	-17.9%	0.4%	0.0%	-3.9%
11th Street	4,084	4,609	6,488	5,691	12.9%	40.8%	-12.3%	2.4%	7.1%	-2.6%
12th Street	5,881	4,190	4,441	6,765	-28.8%	6.0%	52.3%	-6.6%	1.2%	8.8%
13th Street	4,896	4,928	4,249	4,936	0.7%	-13.8%	16.2%	0.1%	-2.9%	3.0%
Broad Street	29,957	29,447	21,133	22,615	-1.7%	-28.2%	7.0%	-0.3%	-6.4%	1.4%
15th Street	8,224	6,186	6,737	7,275	-24.8%	8.9%	8.0%	-5.5%	1.7%	1.5%
16th Street	7,891	8,932	8,363	9,556	13.2%	-6.4%	14.3%	2.5%	-1.3%	2.7%
17th Street	5,793	4,494	4,502	4,867	-22.4%	0.2%	8.1%	-5.0%	0.0%	1.6%
18th Street	6,683	6,854	4,051	4,582	2.6%	-40.9%	13.1%	0.5%	-10.0%	2.5%
19th Street	7,212	4,286	4,965	3,953	-40.6%	15.8%	-20.4%	-9.9%	3.0%	-4.5%
20th Street	7,242	7,402	5,762	7,150	2.2%	-22.2%	24.1%	0.4%	-4.9%	4.4%
21st Street	10,343	10,227	4,091	8,382	-1.1%	-60.0%	104.9%	-0.2%	-16.7%	15.4%
Benjamin Franklin Parkway	41,686	44,319	31,657	34,299	6.3%	-28.6%	8.3%	1.2%	-6.5%	1.6%
22nd Street	9,240	9,598	5,389	7,987	3.9%	-43.9%	48.2%	0.8%	-10.9%	8.2%
Subtotal	227,713	230,735	192,861	212,076	1.3%	-16.4%	10.0%	0.3%	-3.5%	1.9%
I-95	173,013	162,807	186,978	165,746	-5.9%	14.8%	-11.4%	-1.2%	2.8%	-2.4%
Ramp to I-676	13,260	13,130	13,208	10,172	-1.0%	0.6%	-23.0%	-0.2%	0.1%	-5.1%
Subtotal	186,273	175,937	200,186	175,918	-5.5%	13.8%	-12.1%	-1.1%	2.6%	-2.6%
TOTAL	**413,986**	**406,672**	**393,047**	**387,994**	**-1.8%**	**-3.4%**	**-1.3%**	**-0.4%**	**-0.7%**	**-0.3%**

Source: Delaware Valley Regional Planning Commission, 2015

Table 2: Daily Public Transportation Trips Crossing the Center City North Screenline

		Passenger Count				Percentage Change			Average Annual Growth		
Route	Type	2000	2005	2010	2015	2000 to 2005	2005 to 2010	2010 to 2015	2000 to 2005	2005 to 2010	2010 to 2015
2	Bus	2,349	2,306	2,438	1,948	-1.8%	5.7%	-20.1%	-0.4%	1.1%	-4.4%
C [a] (4, 16)	Bus	5,001	5,518	4,509	4,249	10.3%	-18.3%	-5.8%	2.0%	-4.0%	-1.2%
5	Bus	455	529	564	629	16.3%	6.6%	11.5%	3.1%	1.3%	2.2%
7, 32, 48	Bus	9,158	8,884	8,409	7,941	-3.0%	-5.3%	-5.6%	-0.6%	-1.1%	-1.1%
23	Bus	3,698	4,341	4,716	5,101	17.4%	8.6%	8.2%	3.3%	1.7%	1.6%
25	Bus	183	415	682	667	126.8%	64.3%	-2.2%	17.8%	10.4%	-0.4%
33	Bus	7,805	7,041	6,283	6,375	-9.8%	-10.8%	1.5%	-2.0%	-2.3%	0.3%
38, 76 [b]	Bus	2,225	2,177	2,075	1,826	-2.2%	-4.7%	-12.0%	-0.4%	-1.0%	-2.5%
47, 47m	Bus	4,874	5,043	4,538	4,527	3.5%	-10.0%	-0.2%	0.7%	-2.1%	0.0%
57	Bus	2,118	2,599	2,457	2,270	22.7%	-5.5%	-7.6%	4.2%	-1.1%	-1.6%
61	Bus	1,783	2,025	1,889	1,175	13.6%	-6.7%	-37.8%	2.6%	-1.4%	-9.1%
78 [c]	Bus	na	na	na	223	na	na	na	na	na	na
BRS	Subway	6,726	7,603	7,381	7,703	13.0%	-2.9%	4.4%	2.5%	-0.6%	0.9%
BSS	Subway	62,185	67,337	73,712	72,368	8.3%	9.5%	-1.8%	1.6%	1.8%	-0.4%
MFSE	Subway	49,822	58,421	54,865	65,517	17.3%	-6.1%	19.4%	3.2%	-1.2%	3.6%
RRD	Rail	34,514	42,892	49,355	57,475	24.3%	15.1%	16.5%	4.4%	2.8%	3.1%
TOTAL		**192,896**	**217,131**	**223,873**	**239,994**	**12.6%**	**3.1%**	**7.1%**	**2.4%**	**0.6%**	**1.4%**

Source: Southeastern Pennsylvania Transportation Authority, 2015

Notes:

BRS - Broad Ridge Spur

BSS – Broad Street Subway

MFSE – Market-Frankford Subway Elevated

RRD – Regional Rail Division

C [a] – Split into two separate routes: 4 & 16 in Feb. 2012

Route 76 [b] – Discontinued in 2001

Route 78 [c] – Started in fall 2010

Table 3: Daily Pedestrian Person Trips Crossing the Center City North Screenline

	Pedestrians		Percentage Change	Average Annual Growth
Street	2010	2015	2010 to 2015	2010 to 2015
Columbus Boulevard	821	1,209	47.3%	8.0%
Front Street	176	419	138.1%	18.9%
2nd Street	518	507	-2.1%	-0.4%
3rd Street	669	711	6.3%	1.2%
4th Street	463	706	52.5%	8.8%
5th Street	196	172	-12.2%	-2.6%
6th Street	237	274	15.6%	2.9%
7th Street	395	388	-1.8%	-0.4%
8th Street	772	571	-26.0%	-5.9%
9th Street	315	215	-31.7%	-7.4%
Ridge Avenue	694	767	10.5%	2.0%
10th Street	1,039	1,021	-1.7%	-0.3%
11th Street	857	567	-33.8%	-7.9%
12th Street	923	1,143	23.8%	4.4%
13th Street	787	1,037	31.8%	5.7%
Broad Street	2,495	2,120	-15.0%	-3.2%
15th Street	1,436	1,232	-14.2%	-3.0%
16th Street	1,765	934	-47.1%	-12.0%
17th Street	1,389	1,327	-4.5%	-0.9%
18th Street	1,381	9,961	621.3%	48.5%
19th Street	1,232	2,773	125.1%	17.6%
20th Street	2,382	4,069	70.8%	11.3%
21st Street	1,557	1,895	21.7%	4.0%
Benjamin Franklin Parkway	1,121	8,051	618.2%	48.3%
22nd Street	1,259	1,230	-2.3%	-0.5%
TOTAL	24,881	43,299	74.0%	11.7%

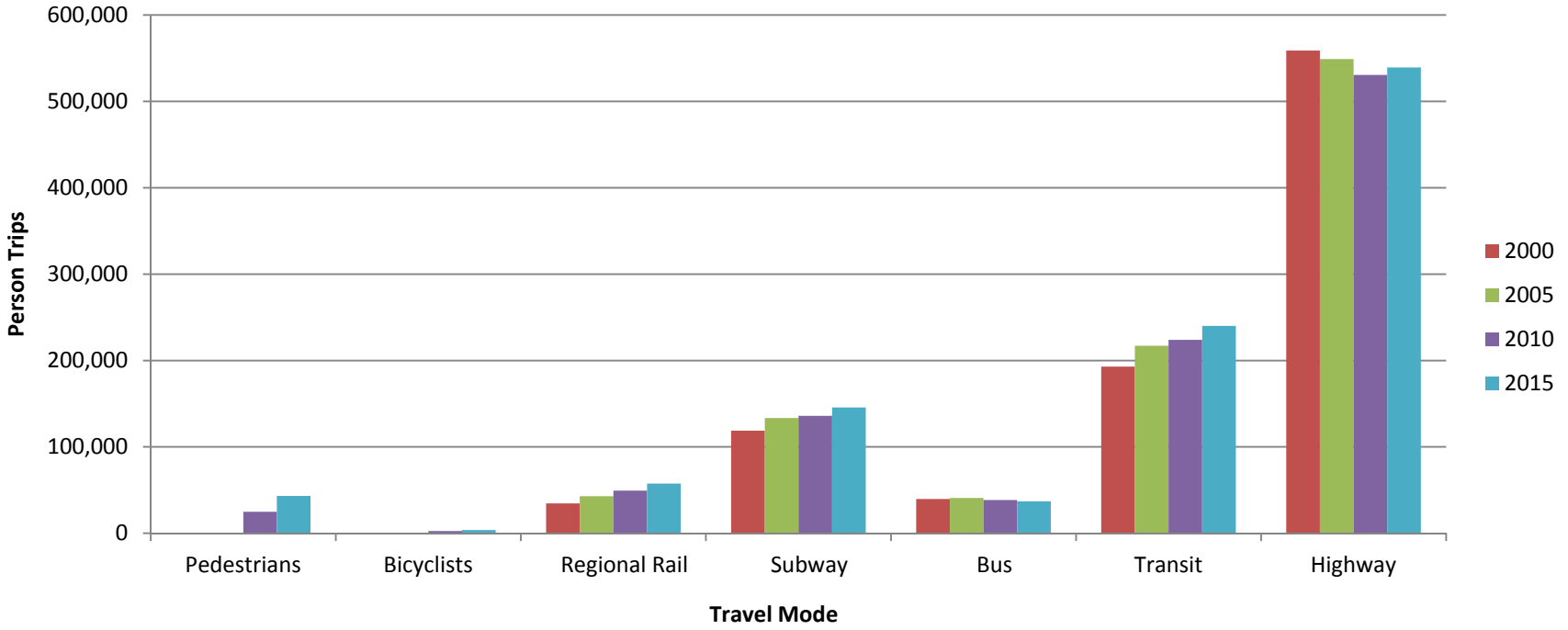
Source: Delaware Valley Regional Planning Commission, 2015

Table 4: Daily Bicycle Person Trips Crossing the Center City North Screenline

	Bicyclists		Percentage Change	Average Annual Growth
Street	2010	2015	2010 to 2015	2010 to 2015
Columbus Boulevard	133	290	118.0%	16.9%
Front Street	4	9	125.0%	17.6%
2nd	55	127	130.9%	18.2%
3rd Street	277	199	-28.2%	-6.4%
4th Street	101	162	60.4%	9.9%
5th Street	149	34	-77.2%	-25.6%
6th Street	122	270	121.3%	17.2%
7th Street	125	81	-35.2%	-8.3%
8th Street	61	44	-27.9%	-6.3%
9th Street	21	16	-23.8%	-5.3%
Ridge Avenue	90	108	20.0%	3.7%
10th Street	119	153	28.6%	5.2%
11th Street	11	161	1363.6%	71.0%
12th Street	67	194	189.6%	23.7%
13th Street	87	200	129.9%	18.1%
Broad Street	292	175	-40.1%	-9.7%
15th Street	261	115	-55.9%	-15.1%
16th Street	90	86	-4.4%	-0.9%
17th Street	12	132	1000.0%	61.5%
18th Street	29	86	196.6%	24.3%
19th Street	156	117	-25.0%	-5.6%
20th Street	81	214	164.2%	21.4%
21st Street	116	162	39.7%	6.9%
Benjamin Franklin Parkway	135	549	306.7%	32.4%
22nd Street	81	192	137.0%	18.8%
TOTAL	2,675	3,876	44.9%	7.7%

Source: Delaware Valley Regional Planning Commission, 2015

Figure 2: Center City North Screenline



	Daily Person Trips				Average Annual Growth		
	2000	2005	2010	2015	2000 to 2005	2005 to 2010	2010 to 2015
Pedestrians	na	na	24,881	43,299	na	na	11.7%
Bicyclists	na	na	2,675	3,876	na	na	7.7%
Regional Rail	34,514	42,892	49,355	57,475	4.4%	2.8%	3.1%
Subway	118,733	133,361	135,958	145,588	2.4%	0.4%	1.4%
Bus	39,649	40,878	38,560	36,931	0.6%	-1.2%	-0.9%
Transit	192,896	217,131	223,873	239,994	2.4%	0.6%	1.4%
Highway	558,881	549,007	530,616	539,312	-0.4%	-0.7%	-0.3%
TOTAL wo Bike and Ped	**751,777**	**766,138**	**754,489**	**779,306**	**0.4%**	**-0.3%**	**0.6%**
TOTAL			**782,045**	**826,481**			**1.1%**

Source: Delaware Valley Regional Planning Commission, 2015

Note: Transit = Regional Rail + Subway + Bus

B. South Screenline

The South Screenline runs along South Street. South Street extends from a bridge (the South Street Bridge) crossing the Schuylkill River eastward to Front Street, and includes I-95 and Columbus Boulevard. Highway traffic crossing this screenline was counted on the south side of South Street for local facilities. For I-95, a microwave radar installation north of the Walt Whitman Bridge provided the starting volume. This was then adjusted with counted ramp volumes between this location and the screenline. Public transportation ridership on the Broad Street Subway was tallied at the Lombard/South Station. For transit buses, SEPTA personnel conducted counts at the bus stops located on the north (for southbound buses) and south (for northbound buses) sides of South Street.

Table 5 displays the individual roadway facility volumes along the South Screenline. The overall traffic counts increased by 29.5 percent between 2010 and 2015. The increase occurred for both Local streets (24.1 percent) as well as I-95 (37.2 percent). The two highest volume local streets crossing the South Screenline are Broad Street and Columbus Boulevard. Broad Street increased by 26.1 percent from 17,504 to 22,065 vpd between 2010 and 2015. Columbus Boulevard increased by 27.8 percent from 18,917 to 24,180 vpd between 2010 and 2015.

There are several possible explanations for the large increase in the volume of traffic crossing the South Screenline. First is the economic recovery following the Great Recession (December 2007 to June 2009). Vehicle trips crossing the South Screenline decreased by 16.5 percent between 2005 and 2010. But parts of South Philadelphia have rebounded since 2010, the prime example being the redevelopment and economic growth occurring at the Navy Yard. Another reason for the increase in traffic crossing the South Screenline is the completion of two major construction projects and the re-opening of these roads to traffic. In 2010, both Columbus Boulevard and the section of I-95 crossing the Schuylkill River at the Girard Point Bridge were under construction. Many drivers used alternative routes while the work was in progress, which suppressed the 2010 counts.

Overall public transportation ridership crossing the South Screenline is displayed in **Table 6**. Ridership had been climbing steadily since 2000. Total ridership increased by 13.7 percent between 2000 and 2005, and by 11.7 percent between 2005 and 2010. However, it only increased by 3.3 percent between 2010 and 2015. The only rail service crossing the South Screenline, the Broad Street Subway (BSS), constitutes approximately one half of the total public transportation ridership (52.8 percent). But despite the rapid growth at the Navy Yard, BSS ridership only increased by 4.1 percent between 2010 and 2015. Part of this may be due to the lack of a direct connection. Currently passengers traveling to the Navy Yard have to transfer from BSS to a shuttle bus at AT&T station, approximately 1 mile north of their final destination. Also, with a suburban campus, and plenty of free parking, it may be that many of the new employees at the Navy Yard prefer to drive to work.

Pedestrian trips crossing the South Screenline are displayed in **Table 7.** Daily pedestrian trips decreased from 54,294 to 44,560 between 2010 and 2015, a decrease of 17.9 percent. However, bicycle trips (**Table 8**) increased by 75.0 percent since 2010. There was also a large increase in bike trips crossing the North and West screenlines. Part of the decline in pedestrian trips might be due to some people switching from walking to biking.

Figure 3 shows the highway, public transportation, pedestrian and bicycle trends for the South Screenline. The data is shown for the years 2000, 2005, 2010, and 2015. The figure shows the sharp rebound in highway volumes, and comparatively modest gains in transit. In terms of mode split, unlike the North Screenline, the share of trips made by auto increased between 2010 and 2015 for the South Screenline. Auto's share increased from 71.9 percent in 2010 to 77.8 percent in 2015. The share of trips made by bike also increased, from 1.3 percent to 1.9 percent. But the share of trips made by pedestrians and transit both declined. Transit's share declined from 14.7 percent to 12.3 percent, and the share of trips made by pedestrians decreased from 12.1 percent to 8.0 percent.

Table 5: Daily Highway Vehicle Trips Crossing the Center City South Screenline

	Average Daily Traffic Volume				Percentage Change			Average Annual Growth		
Street	**2000**	**2005**	**2010**	**2015**	**2000 to 2005**	**2005 to 2010**	**2010 to 2015**	**2000 to 2005**	**2005 to 2010**	**2010 to 2015**
27th Street/ Schuylkill Avenue	3,823	2,647	5,226	8,733	-30.8%	97.4%	67.1%	-7.1%	14.6%	10.8%
Taney Street	177	178	59	979	0.6%	-66.9%	1559.3%	0.1%	-19.8%	75.4%
26th Street	212	132	58	194	-37.7%	-56.1%	234.5%	-9.0%	-15.2%	27.3%
24th Street	1,653	1,858	1,924	2,339	12.4%	3.6%	21.6%	2.4%	0.7%	4.0%
Grays Ferry Avenue	2,868	3,261	2,429	2,727	13.7%	-25.5%	12.3%	2.6%	-5.7%	2.3%
22nd Street	5,459	6,324	6,603	6,395	15.8%	4.4%	-3.2%	3.0%	0.9%	-0.6%
21st Street	6,002	5,293	4,159	5,164	-11.8%	-21.4%	24.2%	-2.5%	-4.7%	4.4%
20th Street	4,910	5,037	3,878	4,036	2.6%	-23.0%	4.1%	0.5%	-5.1%	0.8%
19th Street	3,038	2,866	3,073	3,152	-5.7%	7.2%	2.6%	-1.2%	1.4%	0.5%
18th Street	5,015	4,220	3,821	4,073	-15.9%	-9.5%	6.6%	-3.4%	-2.0%	1.3%
17th Street	5,125	4,028	3,831	3,944	-21.4%	-4.9%	2.9%	-4.7%	-1.0%	0.6%
16th Street	5,852	4,479	4,798	4,213	-23.5%	7.1%	-12.2%	-5.2%	1.4%	-2.6%
15th Street	6,183	3,225	3,374	3,313	-47.8%	4.6%	-1.8%	-12.2%	0.9%	-0.4%
Broad Street	23,912	24,575	17,504	22,065	2.8%	-28.8%	26.1%	0.5%	-6.6%	4.7%
13th Street	3,890	3,503	3,248	3,413	-9.9%	-7.3%	5.1%	-2.1%	-1.5%	1.0%
12th Street	4,418	3,816	3,640	3,675	-13.6%	-4.6%	1.0%	-2.9%	-0.9%	0.2%
11th Street	4,696	4,263	3,920	4,187	-9.2%	-8.0%	6.8%	-1.9%	-1.7%	1.3%
10th Street	6,167	4,225	3,493	4,121	-31.5%	-17.3%	18.0%	-7.3%	-3.7%	3.4%
9th Street	5,544	4,305	2,587	5,190	-22.3%	-39.9%	100.6%	-4.9%	-9.7%	14.9%
8th Street	4,800	4,784	3,758	6,749	-0.3%	-21.4%	79.6%	-0.1%	-4.7%	12.4%
7th Street	4,855	4,061	3,407	5,920	-16.4%	-16.1%	73.8%	-3.5%	-3.5%	11.7%
6th Street	4,311	4,609	3,831	4,048	6.9%	-16.9%	5.7%	1.3%	-3.6%	1.1%
5th Street	6,615	5,666	4,580	4,006	-14.3%	-19.2%	-12.5%	-3.0%	-4.2%	-2.6%
4th Street	6,555	4,407	3,447	3,664	-32.8%	-21.8%	6.3%	-7.6%	-4.8%	1.2%
3rd Street	7,003	5,065	3,460	5,018	-27.7%	-31.7%	45.0%	-6.3%	-7.3%	7.7%
2nd Street	7,276	4,272	3,180	3,821	-41.3%	-25.6%	20.2%	-10.1%	-5.7%	3.7%
Front Street	3,746	4,825	3,614	4,973	28.8%	-25.1%	37.6%	5.2%	-5.6%	6.6%
Columbus Boulevard	24,793	31,368	18,917	24,180	26.5%	-39.7%	27.8%	4.8%	-9.6%	5.0%
Subtotal	168,898	157,292	125,819	154,292	-6.9%	-20.0%	24.1%	-1.4%	-4.4%	4.2%
I-95	118,393	129,598	113,873	156,200	9.5%	-12.1%	37.2%	1.8%	-2.6%	6.5%
Subtotal	118,393	129,598	113,873	156,200	9.5%	-12.1%	37.2%	1.8%	-2.6%	6.5%
TOTAL	**287,291**	**286,890**	**239,692**	**310,492**	**-0.1%**	**-16.5%**	**29.5%**	**0.0%**	**-3.5%**	**5.3%**

Source: Delaware Valley Regional Planning Commission, 2015

Table 6: Daily Public Transportation Person Trips Crossing the Center City South Screenline

		Passenger Count				Percentage Change			Average Annual Growth		
Route	Type	2000	2005	2010	2015	2000 to 2005	2005 to 2010	2010 to 2015	2000 to 2005	2005 to 2010	2010 to 2015
2	Bus	2,000	2,040	2,044	1,897	2.0%	0.2%	-7.2%	0.4%	0.0%	-1.5%
C [a] (4,16)	Bus	2,187	2,294	1,871	1,872	4.9%	-18.4%	0.1%	1.0%	-4.0%	0.0%
7, 12	Bus	3,215	3,295	3,334	3,336	2.5%	1.2%	0.1%	0.5%	0.2%	0.0%
17	Bus	6,686	7,081	7,978	7,630	5.9%	12.7%	-4.4%	1.2%	2.4%	-0.9%
23	Bus	2,884	4,140	4,949	4,702	43.6%	19.5%	-5.0%	7.5%	3.6%	-1.0%
25	Bus	158	386	644	659	144.3%	66.8%	2.3%	19.6%	10.8%	0.5%
27, 32	Bus	672	831	1182	1,447	23.7%	42.2%	22.4%	4.3%	7.3%	4.1%
47	Bus	4,585	6,271	5,643	5,044	36.8%	-10.0%	-10.6%	6.5%	-2.1%	-2.2%
47m	Bus	814	540	486	1,400	-33.7%	-10.0%	188.1%	-7.9%	-2.1%	23.6%
57	Bus	3,654	3,543	3,354	3,277	-3.0%	-5.3%	-2.3%	-0.6%	-1.1%	-0.5%
Navy Yard Express	Bus	na	na	na	1,000	na	na	na	na	na	na
BSS	Subway	25,251	28,837	34,699	36,133	14.2%	20.3%	4.1%	2.7%	3.8%	0.8%
TOTAL		**52,106**	**59,258**	**66,184**	**68,397**	**13.7%**	**11.7%**	**3.3%**	**2.6%**	**2.2%**	**0.7%**

Source: Delaware Valley Regional Planning Commission, 2015

Notes:

C [a] – Split into two separate routes: 4 & 16 in Feb. 2012 BSS – Broad Street Subway Navy Yard Express – Service started in Dec. 2013

Table 7: Daily Pedestrian Person Trips Crossing the Center City South Screenline

	Pedestrians		Percentage Change	Average Annual Growth
Street	2010	2015	2010 to 2015	2010 to 2015
Schuylkill Avenue	195	397	103.6%	15.3%
27th Street	226	192	-15.0%	-3.2%
Taney Street	153	262	71.2%	11.4%
26th Street	172	182	5.8%	1.1%
24th Street	792	742	-6.3%	-1.3%
Grays Ferry Avenue	2,020	1,561	-22.7%	-5.0%
22nd Street	1,959	2,096	7.0%	1.4%
21st Street	1,726	1,908	10.5%	2.0%
20th Street	1,995	1,444	-27.6%	-6.3%
19th Street	1,718	2,178	26.8%	4.9%
18th Street	1,975	1,801	-8.8%	-1.8%
17th Street	1,789	1,820	1.7%	0.3%
16th Street	1,600	1,446	-9.6%	-2.0%
15th Street	1,840	1,616	-12.2%	-2.6%
Broad Street	4,687	2,838	-39.5%	-9.6%
13th Street	1,081	1,382	27.8%	5.0%
12th Street	1,405	1,051	-25.2%	-5.6%
11th Street	1,862	1,501	-19.4%	-4.2%
10th Street	2,509	1,862	-25.8%	-5.8%
9th Street	3,399	2,588	-23.9%	-5.3%
8th Street	2,254	1,519	-32.6%	-7.6%
7th Street	2,194	1,143	-47.9%	-12.2%
6th Street	1,772	1,177	-33.6%	-7.9%
5th Street	2,501	2,028	-18.9%	-4.1%
4th Street	5,358	3,882	-27.6%	-6.2%
3rd Street	2,850	2,296	-19.4%	-4.2%
2nd Street	2,618	1,898	-27.5%	-6.2%
Front Street	1,062	907	-14.6%	-3.1%
Columbus Boulevard	582	843	44.9%	7.7%
TOTAL	54,294	44,560	-17.9%	-3.9%

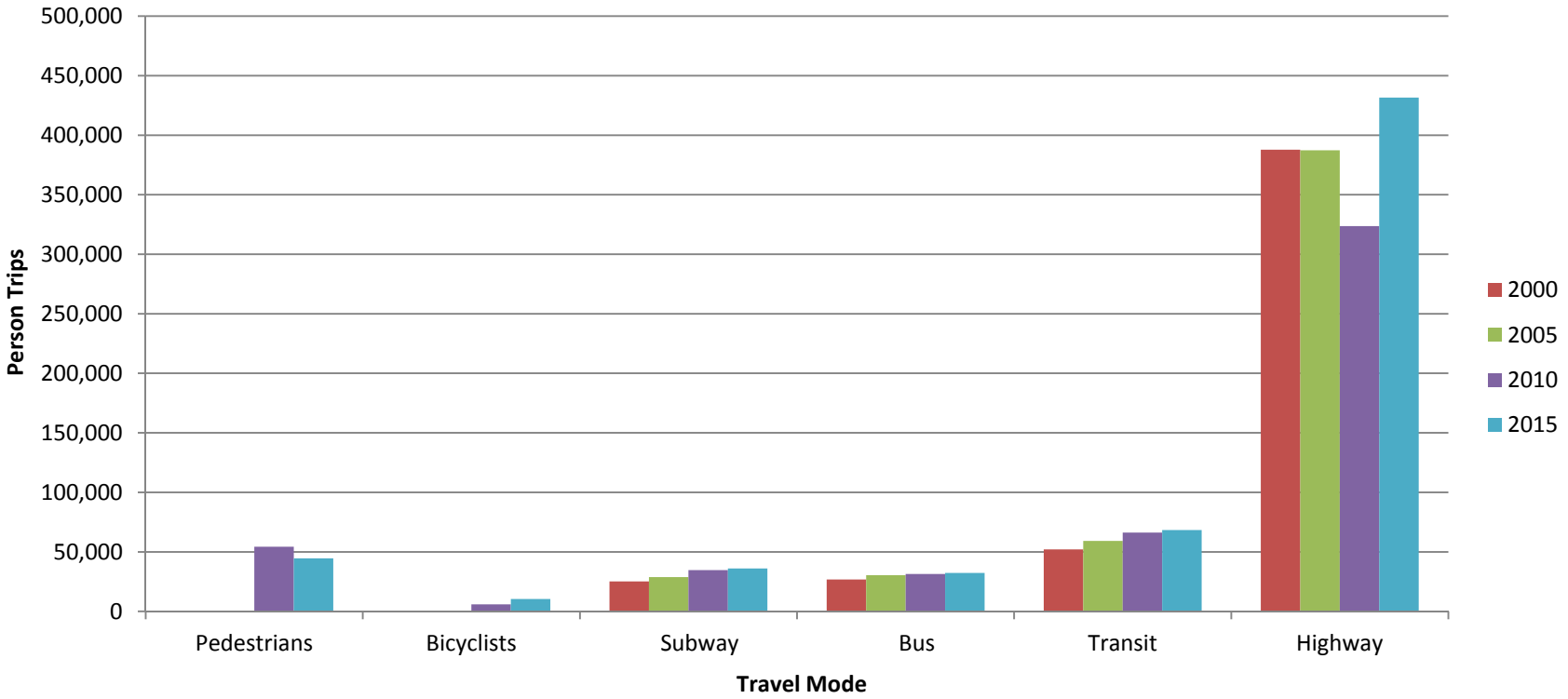
Source: Delaware Valley Regional Planning Commission, 2015

Table 8: Daily Bicycle Person Trips Crossing the Center City South Screenline

	Bicyclists		Percentage Change	Average Annual Growth
Street	2010	2015	2010 to 2015	2010 to 2015
Schuylkill Avenue	7	43	514.3%	43.8%
27th Street	14	140	900.0%	58.5%
Taney Street	6	21	250.0%	28.5%
26th Street	8	15	87.5%	13.4%
24th Street	94	142	51.1%	8.6%
Gray's Ferry Avenue	125	297	137.6%	18.9%
22nd Street	478	676	41.4%	7.2%
21st Street	204	531	160.3%	21.1%
20th Street	228	306	34.2%	6.1%
19th Street	215	348	61.9%	10.1%
18th Street	176	401	127.8%	17.9%
17th Street	209	321	53.6%	9.0%
16th Street	313	367	17.3%	3.2%
15th Street	185	388	109.7%	16.0%
Broad St Northbound Ln	450	304	-32.4%	-7.5%
Broad St Southbound Ln	237	349	47.3%	8.0%
13th Street	243	412	69.5%	11.1%
12th Street	56	308	450.0%	40.6%
11th Street	277	510	84.1%	13.0%
10th Street	364	636	74.7%	11.8%
9th Street	7	500	7042.9%	134.8%
8th Street	304	483	58.9%	9.7%
7th Street	236	488	106.8%	15.6%
6th Street	277	462	66.8%	10.8%
5th Street	193	461	138.9%	19.0%
4th Street	312	535	71.5%	11.4%
3rd Street	300	365	21.7%	4.0%
2nd Street	154	192	24.7%	4.5%
Front Street	102	175	71.6%	11.4%
Columbus Boulevard Northbound Lanes	118	111	-5.9%	-1.2%
Columbus Boulevard Southbound Lanes	52	117	125.0%	17.6%
TOTAL	5,944	10,404	75.0%	11.8%

Source: Delaware Valley Regional Planning Commission, 2015

Figure 3: Center City South Screenline



	Daily Person Trips				Average Annual Growth		
	2000	2005	2010	2015	2000 to 2005	2005 to 2010	2010 to 2015
Pedestrians			54,294	44,560			-3.9%
Bicyclists			5,944	10,404			11.8%
Subway	25,251	28,837	34,699	36,133	2.7%	3.8%	0.8%
Bus	26,855	30,421	31,485	32,264	2.5%	0.7%	0.5%
Transit	52,106	59,258	66,184	68,397	2.6%	2.2%	0.7%
Highway	387,843	387,302	323,584	431,584	0.0%	-3.5%	5.9%
TOTAL wo Bike and Ped	**439,949**	**446,560**	**389,768**	**499,981**	**0.3%**	**-2.7%**	**5.1%**
TOTAL			**450,006**	**554,945**			**4.3%**

Source: Delaware Valley Regional Planning Commission, 2015

C. East Screenline

The Benjamin Franklin Bridge (I-676, US 30) provides the only entry into Center City from the east for autos, public transit passengers, bicyclists, and pedestrians.[6] The bridge, which opened in 1926, carries vehicular traffic, the PATCO rail line from Camden County, buses operated by NJ Transit serving southern New Jersey, as well as bicyclists, and pedestrians. DRPA supplied the vehicle traffic counts used in this report, based on tolls collected in the westbound direction and passenger volumes on PATCO. NJ Transit supplied passenger count information from their on-board fare system.

The number of highway vehicles crossing the Ben Franklin Bridge, as shown in **Table 9,** has decreased from 101,342 in 2010 to 96,389 in 2015, a decrease of 4.9 percent. It was a greater decline than during 2005 to 2010 when the recession occurred. The main reason for the decrease is the construction work on the Vine Street Expressway (I-676), which extends all the way across Center City, crossing both the East and West screenlines. It also has ramps that cross the North Screenline. There was major reconstruction of the surface street bridges crossing the Vine Street Expressway during 2015, which required lane restrictions and total closure of I-676 during portions of the day.

In addition to the construction on the Vine Street Expressway, there was also construction work on the Ben Franklin Bridge. Between 2014 and 2016 the PATCO rail tracks on the bridge were replaced. This work resulted in lane closures for autos, and service delays for PATCO passengers. Finally, the tolls to cross the Ben Franklin were increased in 2011 from $4.00 to $5.00 for passenger vehicles. All of these changes depressed traffic, especially for traffic crossing the Ben Franklin and staying on I-676 all the way through Center City. Many travelers probably found alternative routes to avoid the construction and increased tolls.

For the East Screenline, transit ridership also decreased, from 36,742 ppd in 2010 to 35,423 ppd in 2015, a decline of 3.6 percent. As mentioned above, there were delays on PATCO due to the track replacement. Several New Jersey Transit bus routes (Routes 405 and 407) were also modified. These routes no longer travel across the bridge, between New Jersey and Philadelphia.

Pedestrian trips crossing the East Screenline in 2015 are displayed in **Table 10,** and bicycle trips are displayed in **Table 11.** Pedestrian trips increased, from 739 pedestrians per day in 2010 to 816 pedestrians per day in 2015. Bicycle trips decreased, from 232 bicyclists per day in 2010 to 177 bicyclists per day in 2015.

Figure 4 shows the highway, public transportation, pedestrian, and bicycle trends for the East Screenline. The figure shows an across the board decline in transportation between the Philadelphia CBD and New Jersey. As mentioned above, the main reason for the decline is probably the construction work that occurred in 2015. But there is also some evidence of a widespread change in travel patterns between the Pennsylvania and New Jersey sides of the Delaware River during the 2010 to 2015 timeframe.[7] Of the twelve bridges crossing the Delaware River between Trenton, New Jersey and Wilmington, Delaware, all but four showed a decrease in traffic volumes between 2010 and 2015. The combined traffic crossing all twelve bridges declined by 7.0 percent.

[6] The RiverLink ferry service operates between Penn's Landing in Philadelphia and the Adventure Aquarium in Camden, New Jersey from May through September. http://www.delawareriverwaterfront.com/places/riverlink-ferry

[7] Delaware Valley Regional Planning Commission. *2000 – 2015 Travel Trends in the Delaware Valley Region.* March 2017.

Table 9: Daily Highway Vehicle Trips and Transit Person Trips Crossing the Center City East Screenline

	Highway and Passenger Counts				Percentage Change			Average Annual Growth		
	2000	2005	2010	2015	2000 to 2005	2005 to 2010	2010 to 2015	2000 to 2005	2005 to 2010	2010 to 2015
Highway Vehicle Trips (AADT)										
Ben Franklin Bridge (I-676)	98,734	102,670	101,342	96,389	4.0%	-1.3%	-4.9%	0.8%	-0.3%	-1.0%
Transit Person Trips										
New Jersey Transit Bus	6,385	6,160	5,152	4,370	-3.5%	-16.4%	-15.2%	-0.7%	-3.5%	-3.2%
PATCO	33,234	33,920	31,590	31,053	2.1%	-6.9%	-1.7%	0.4%	-1.4%	-0.3%
TOTAL	**39,619**	**40,080**	**36,742**	**35,423**	**1.2%**	**-8.3%**	**-3.6%**	**0.2%**	**-1.7%**	**-0.7%**

Source: NJ Transit, Delaware Valley Regional Planning Commission, 2015

Note: AADT = Annual Average Daily Traffic ; PATCO = Port Authority Transit Corporation

Table 10: Daily Pedestrian Person Trips Crossing the Center City East Screenline

Street	Pedestrians		Percentage Change	Average Annual Growth
	2010	2015	2010 to 2015	2010 to 2015
Ben Franklin Bridge	739	816	10.4%	2.0%
TOTAL	**739**	**816**	**10.4%**	**2.0%**

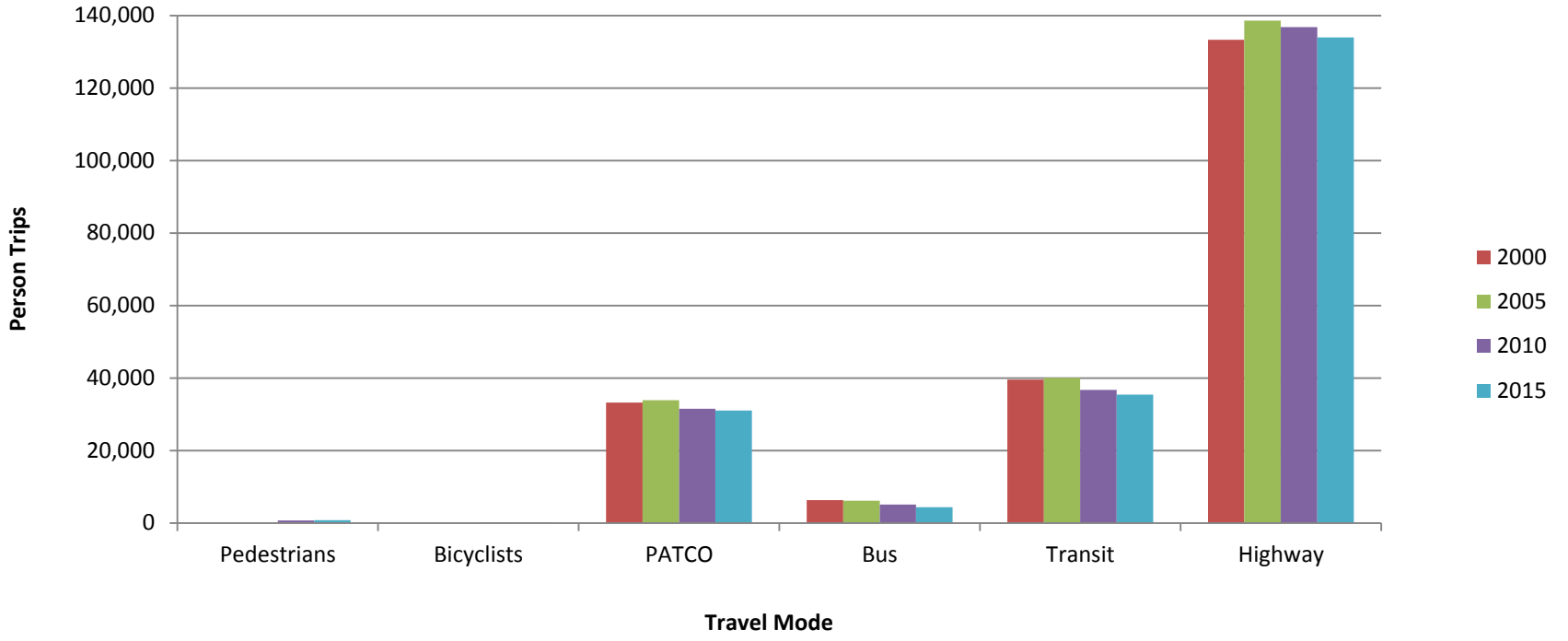
Source: Delaware Valley Regional Planning Commission, 2015

Table 11: Daily Bicycle Person Trips Crossing the Center City East Screenline

Street	Bicyclists		Percentage Change	Average Annual Growth
	2010	2015	2010 to 2015	2010 to 2015
Ben Franklin Bridge	232	177	-23.7%	-5.3%
TOTAL	**232**	**177**	**-23.7%**	**-5.3%**

Source: Delaware Valley Regional Planning Commission, 2015

Figure 4: Center City East Screenline



	Daily Person Trips				Average Annual Growth		
	2000	2005	2010	2015	2000 to 2005	2005 to 2010	2010 to 2015
Pedestrians	na	na	739	816	na	na	2.0%
Bicyclists	na	na	232	177	na	na	-5.3%
PATCO	33,234	33,920	31,590	31,053	0.4%	-1.4%	-0.3%
Bus	6,385	6,160	5,152	4,370	-0.7%	-3.5%	-3.2%
Transit	39,619	40,080	36,742	35,423	0.2%	-1.7%	-0.7%
Highway	133,291	138,605	136,812	133,981	0.8%	-0.3%	-0.4%
TOTAL wo Bike and Ped	**172,910**	**178,685**	**173,554**	**169,404**	**0.7%**	**-0.6%**	**-0.5%**
TOTAL			**174,525**	**170,397**			**-0.5%**

Source: Delaware Valley Regional Planning Commission, 2015

Note: Transit = PATCO + Bus

D. West Screenline

The section of the Schuylkill River comprising the West Screenline is crossed by five streets, an interstate highway, SEPTA's regional rail Center City trunk line, the MFSE subway line, and five trolley lines. Highway traffic crossing this screenline was counted at the bridge crossings. SEPTA provided regional rail conductor counts west of the 30th Street Station. These were adjusted by boardings and alightings at the 30th Street Station to derive the number of passengers crossing the screenline. The MFSE and trolleys share a station (although different platforms) at 30th Street, and this is where ridership data for these routes was collected. Bus patronage was tallied at the last stop prior to buses crossing the river for both inbound and outbound service.

Table 12 provides the individual highway facility counts for the bridges crossing the West Screenline. There was a fairly significant drop in highway volumes between 2010 and 2015. Total traffic volumes decreased from 186,953 vpd in 2010 to 160,186 vpd in 2015, a decrease of 31,945 vpd (14.3 percent). The Vine Street Expressway (I-676), the largest facility crossing the West Screenline, accounts for most of the decrease (26,900 vehicles). The decrease on I-676 was due to construction — it was closed to traffic during the night for much of 2015 while it was being reconstructed. Some traffic probably shifted from I-676 to local streets. J.F. Kennedy Boulevard, which runs parallel, and approximately 0.3 miles south of I-676 saw an increase of 2,527 vehicle trips (22.8 percent). South Street also increased, from 20,416 to 21,664, an increase of 1,248 vpd (6.1 percent).

But many more people probably switched from driving to transit. Transit trips crossing the West Screenline (**Table 13)** increased by approximately 29,195 passengers per day, or 16.8 percent. Regional rail ridership increased from approximately 51,744 to 60,401 passengers per day, an increase of 16.7 percent. The Market-Frankford Subway-Elevated line increased by 16.6 percent. Bus and trolley ridership also increased from 52,307 to 61,281 passengers per day, an increase of 17.2 percent.

Pedestrian trips crossing the West Screenline in 2015 are displayed in **Table 14,** and bicycle trips are displayed in **Table 15.** Pedestrian trips increased from 13,495 to 20,167 pedestrians per day between 2010 and 2015. This is an increase of 49.4 percent. Bicycle trips increased by 48.4 percent.

Figure 5 shows the highway, public transit, pedestrian, and bicycle data in terms of person trips for the West Screenline. The figure shows the sharp decline in highway volumes, and the corresponding increase in other modes. In terms of mode split, the share of trips made by auto decreased from 57.1 percent to 49.5 percent between 2010 and 2015. Meanwhile, the share of trips made by pedestrians increased from 3.1 percent to 4.5 percent. The share of trips made by bicycle increased from 0.6 percent to 0.9 percent. And the share of trips made by transit increased from 39.3 percent to 45.1 percent.

Table 12: Daily Highway Vehicle Trips Crossing the Center City West Screenline

	Average Daily Traffic Volume				Percentage Change			Average Annual Growth		
Street	2000	2005	2010	2015	2000 to 2005	2005 to 2010	2010 to 2015	2000 to 2005	2005 to 2010	2010 to 2015
John F. Kennedy Blvd	13,618	14,392	11,102	13,629	5.7%	-22.9%	22.8%	1.1%	-5.1%	4.2%
Market Street	22,617	19,142	15,676	14,454	-15.4%	-18.1%	-7.8%	-3.3%	-3.9%	-1.6%
Chestnut Street	14,151	14,036	13,076	11,329	-0.8%	-6.8%	-13.4%	-0.2%	-1.4%	-2.8%
Walnut Street	19,104	17,345	14,978	14,302	-9.2%	-13.6%	-4.5%	-1.9%	-2.9%	-0.9%
South Street	22,791	19,341	20,416	21,664	-15.1%	5.6%	6.1%	-3.2%	1.1%	1.2%
Subtotal	92,281	84,256	75,248	75,378	-8.7%	-10.7%	0.2%	-1.8%	-2.2%	0.0%
I-676	127,658	134,643	111,705	84,808	5.5%	-17.0%	-24.1%	1.1%	-3.7%	-5.4%
Subtotal	127,658	134,643	111,705	84,808	5.5%	-17.0%	-24.1%	1.1%	-3.7%	-5.4%
TOTAL	**219,939**	**218,899**	**186,953**	**160,186**	**-0.5%**	**-14.6%**	**-14.3%**	**-0.1%**	**-3.1%**	**-3.0%**

Source: Delaware Valley Regional Planning Commission, 2015

Table 13: Daily Public Transportation Person Trips Crossing the Center City West Screenline

		Average Daily Traffic Volume				Percentage Change			Average Annual Growth		
Route	Type	2000	2005	2010	2015	2000 to 2005	2005 to 2010	2010 to 2015	2000 to 2005	2005 to 2010	2010 to 2015
9, 21, 42	Bus	11,743	14,420	10,776	10,896	22.8%	-25.3%	1.1%	4.2%	-5.7%	0.2%
12 , 40	Bus	1,612	1,796	1,886	2,598	11.4%	5.0%	37.8%	2.2%	1.0%	6.6%
27	Bus	2,205	2,473	2,469	2,701	12.2%	-0.2%	9.4%	2.3%	0.0%	1.8%
31, 62, 124, 125	Bus	2,890	2,517	2,435	3,348	-12.9%	-3.3%	37.5%	-2.7%	-0.7%	6.6%
44, 121 [a]	Bus	2,740	2,487	2,536	2,326	-9.2%	2.0%	-8.3%	-1.9%	0.4%	-1.7%
78 [b]	Bus	na	na	na	169	na	na	na	na	na	na
Trolley	Trolley	29,928	33,070	32,205	39,243	10.5%	-2.6%	21.9%	2.0%	-0.5%	4.0%
MFSE	Subway	63,486	67,999	69,536	81,100	7.1%	2.3%	16.6%	1.4%	0.4%	3.1%
Regional Rail Division	Rail	42,788	44,499	51,744	60,401	4.0%	16.3%	16.7%	0.8%	3.1%	3.1%
TOTAL		**157,392**	**169,261**	**173,587**	**202,782**	**7.5%**	**2.6%**	**16.8%**	**1.5%**	**0.5%**	**3.2%**

Source: Delaware Valley Regional Planning Commission, 2015

Note:
Route 121[a] - Discontinued in 2005 Route 78[b] - Created in fall 2010 MFSE – Market-Frankford Subway Elevated

Table 14: Daily Pedestrian Person Trips Crossing the Center City West Screenline

	Pedestrians		Percentage Change	Average Annual Growth
Street	2010	2015	2010 to 2015	2010 to 2015
John F. Kennedy Boulevard	1,788	2,216	23.9%	4.4%
Market Street Bridge	4,163	5,364	28.8%	5.2%
Chestnut Street Bridge	1,690	3,568	111.1%	16.1%
Walnut Street Bridge	4,058	6,529	60.9%	10.0%
South Street Bridge	1,796	2,490	38.6%	6.8%
TOTAL	**13,495**	**20,167**	**49.4%**	**8.4%**

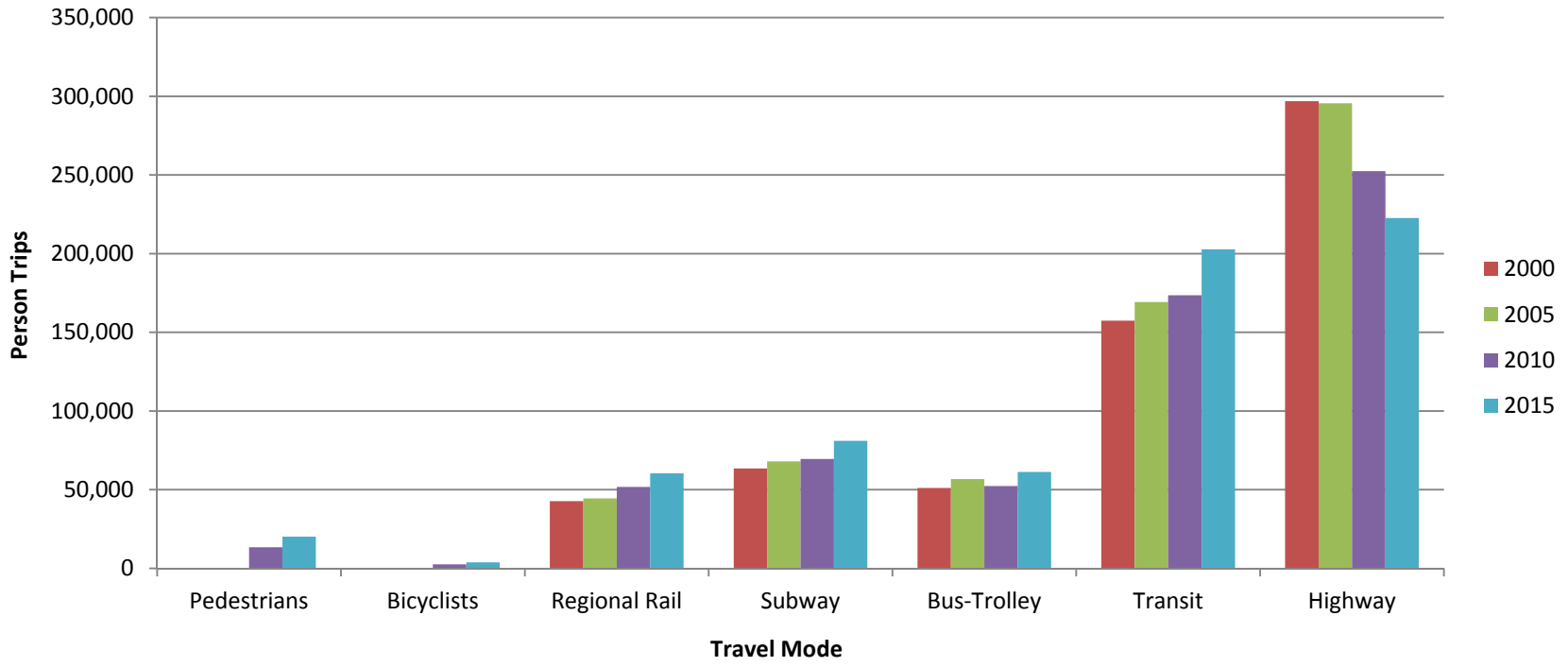
Source: Delaware Valley Regional Planning Commission, 2015

Table 15: Daily Bicycle Person Trips Crossing the Center City West Screenline

	Bicyclists		Percentage Change	Average Annual Growth
Street	2010	2015	2010 to 2015	2010 to 2015
John F. Kennedy Boulevard	7	59	742.9%	53.2%
Market Street Bridge	197	399	102.5%	15.2%
Chestnut Street Bridge	447	444	-0.7%	-0.1%
Walnut Street Bridge	577	831	44.0%	7.6%
South Street Bridge	1,359	2,105	54.9%	9.1%
TOTAL	**2,587**	**3,838**	**48.4%**	**8.2%**

Source: Delaware Valley Regional Planning Commission, 2015

Figure 5: Center City West Screenline



	Daily Person Trips				Average Annual Growth		
	2000	2005	2010	2015	2000 to 2005	2005 to 2010	2010 to 2015
Pedestrians	na	na	13,945	20,167	na	na	7.7%
Bicyclists	na	na	2,587	3,838	na	na	8.2%
Regional Rail	42,788	44,499	51,744	60,401	0.8%	3.1%	3.1%
Subway	63,486	67,999	69,536	81,100	1.4%	0.4%	3.1%
Bus-Trolley	51,118	56,763	52,307	61,281	2.1%	-1.6%	3.2%
Transit	157,392	169,261	173,587	202,782	1.5%	0.5%	3.2%
Highway	296,918	295,514	252,388	222,659	-0.1%	-3.1%	-2.5%
TOTAL wo Bike and Ped	**454,310**	**464,775**	**425,975**	**425,441**	**0.5%**	**-1.7%**	**0.0%**
TOTAL			**442,507**	**449,446**			**0.3%**

Source: Delaware Valley Regional Planning Commission, 2015

E. Total Cordon Line Travel Volume

The total highway, public transit, pedestrian and bicycle person trips crossing the Center City Cordon Line in 2015 were tabulated and compared to data from 2000, 2005, and 2010 in order to assess the long- and short-term trends for each travel mode. **Table 16** displays the number of trips by mode and screenline for each reported year, and **Table 17** shows the percentage change between each year.

The total number of people crossing the Philadelphia CBD Cordon Line on a daily basis has increased from 1.85 million person trips in 2010 to 2.00 million in 2015, an increase of 8.3 percent. The 2015 data indicates that the total number of trips to and from the CBD is growing once again and is slightly higher than the total before the Great Recession. An across the board uptick for all modes is shown in **Figure 6.**

However, the growth has not been evenly distributed geographically. The South Screenline saw strong growth between 2010 and 2015, in part reflecting the economic revitalization in parts of South Philadelphia, such as the Navy Yard. But the East Screenline, which monitors trips between Philadelphia and New Jersey across the Ben Franklin Bridge has continued its gradual decline, returning to levels approximately equal to those of 2000. This decline is primarily due to construction work on major facilities.

Another long-term trend is a gradual shift away from trips made by auto, to trips made by transit, bike, and walking. Data on bike and pedestrian trips is only available since 2010, but it is possible to compare auto to transit as far back as 1980. Beginning in the 2000 to 2005 time period, we begin to see a small but steady decline in auto's share of total trips (**Figure 7**). For the two years that data on bike and pedestrian trips is available, the combined share of bike, pedestrian, and transit trips increased from 32.7 percent in 2010 to 33.7 percent in 2015.

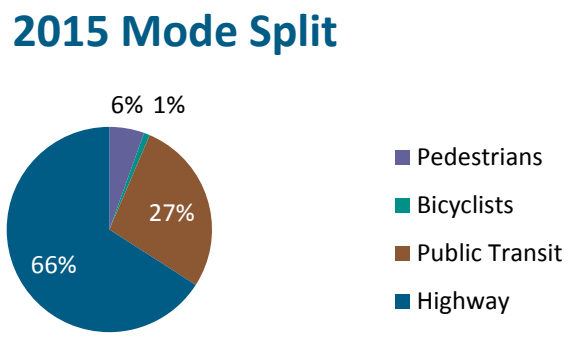
It is important to note that auto trips still comprise the vast majority of trips (66 percent) to and from Center City. And, auto is expected to remain the dominant mode for the foreseeable future. However, bicycle, regional rail, and pedestrian trips are the fastest growing modes, and they are expected to continue to nibble away at auto's share.

Table 16: Summary of Trends in Weekday Person Trips Crossing the Center City Cordon Line

	North				South			
	2000	2005	2010	2015	2000	2005	2010	2015
Pedestrians			24,881	43,299			54,294	44,560
Bicyclists			2,675	3,876			5,944	10,404
Regional Rail	34,514	42,892	49,355	57,475				
Subway	118,733	133,361	135,958	145,588	25,251	28,837	34,699	36,133
Bus-Trolley	39,649	40,878	38,560	36,931	26,855	30,421	31,485	32,264
Transit	192,896	217,131	223,873	239,994	52,106	59,258	66,184	68,397
Highway	558,881	549,007	530,616	539,312	387,843	387,302	323,584	431,584
TOTAL wo Bike and Ped	751,777	766,138	754,489	779,306	439,949	446,560	389,768	499,981
TOTAL			782,045	826,481			450,006	554,945

	East				West			
	2000	2005	2010	2015	2000	2005	2010	2015
Pedestrians			739	816			13,495	20,167
Bicyclists			232	177			2,587	3,838
Regional Rail					42,788	44,499	51,744	60,401
Subway	33,234	33,920	31,590	31,053	63,486	67,999	69,536	81,100
Bus-Trolley	6,385	6,160	5,152	4,370	51,118	56,763	52,307	61,281
Transit	39,619	40,080	36,742	35,423	157,392	169,261	173,587	202,782
Highway	133,291	138,605	136,812	133,981	296,918	295,514	252,388	222,659
TOTAL wo Bike and Ped	172,910	178,685	173,554	169,404	454,310	464,775	425,975	425,441
TOTAL			174,525	170,397			442,057	449,446

	TOTAL			
	2000	2005	2010	2015
Pedestrians			93,409	108,842
Bicyclists			11,438	18,295
Regional Rail	77,302	87,391	101,099	117,876
Subway	240,704	264,117	271,783	293,874
Bus-Trolley	124,007	134,222	127,504	134,846
Transit	442,013	485,730	500,386	546,596
Highway	1,376,933	1,370,428	1,243,400	1,327,535
TOTAL wo Bike and Ped	**1,818,946**	**1,856,158**	**1,743,786**	**1,874,131**
TOTAL			**1,848,633**	**2,001,268**



Source: Delaware Valley Regional Planning Commission, 2015

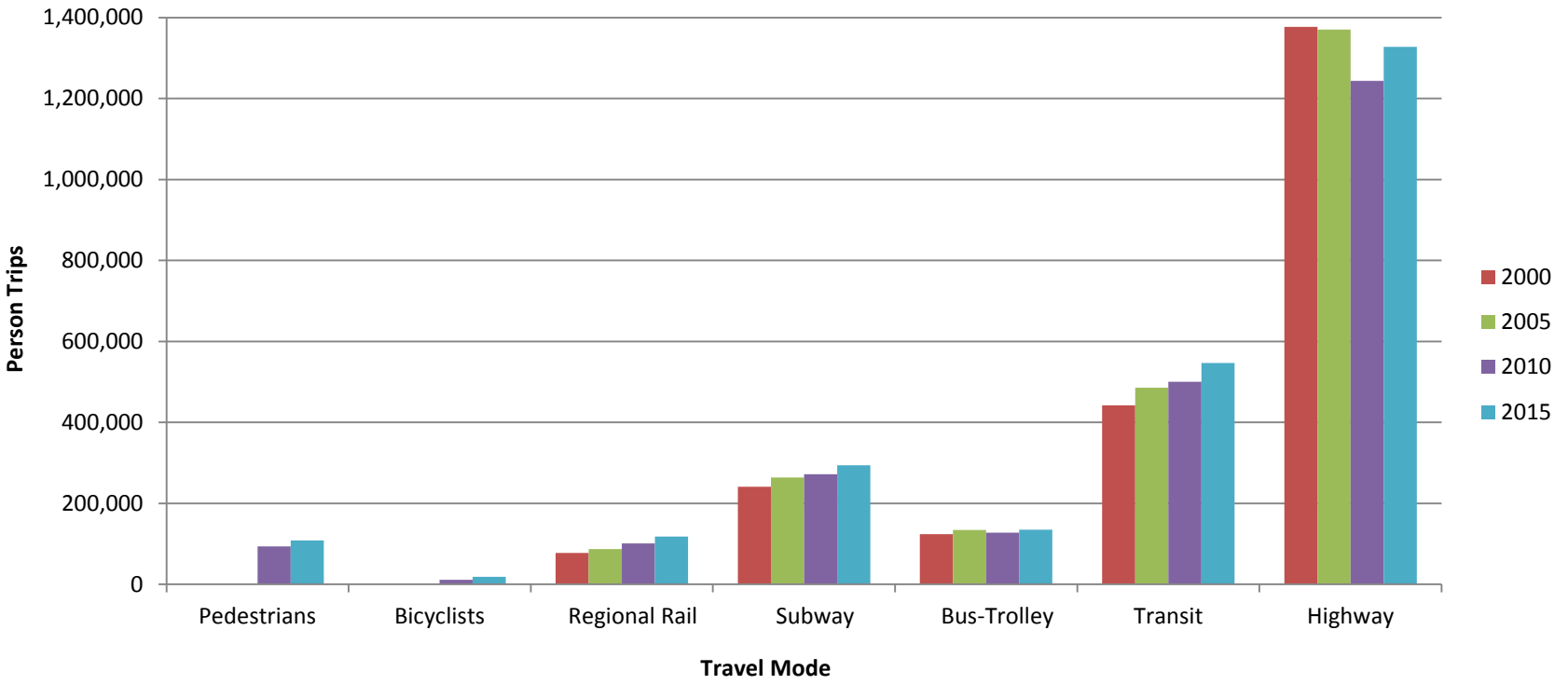
Table 17: Summary of Changes in Weekday Person Trips Crossing the Center City Cordon Line

	North			South		
	2000–2005	2005–2010	2010–2015	2000–2005	2005–2010	2010–2015
Pedestrians			74.0%			-17.9%
Bicyclists			44.9%			75.0%
Regional Rail	24.3%	15.1%	16.5%			
Subway	12.3%	1.9%	7.1%	14.2%	20.3%	4.1%
Bus-Trolley	3.1%	-5.7%	-4.2%	13.3%	3.5%	2.5%
Transit	12.6%	3.1%	7.2%	13.7%	11.7%	3.3%
Highway	-1.8%	-3.3%	1.6%	-0.1%	-16.5%	33.4%
TOTAL wo Bike and Ped	1.9%	-1.5%	3.3%	1.5%	-12.7%	28.3%
TOTAL			5.7%			23.3%

	East			West		
	2000–2005	2005–2010	2010–2015	2000–2005	2005–2010	2010–2015
Pedestrians			10.4%			49.4%
Bicyclists			-23.7%			48.4%
Regional Rail				4.0%	16.3%	16.7%
Subway	2.1%	-6.9%	-1.7%	7.1%	2.3%	16.6%
Bus-Trolley	-3.5%	-16.4%	-15.2%	11.0%	-7.9%	17.2%
Transit	1.2%	-8.3%	-3.6%	7.5%	2.6%	16.8%
Highway	4.0%	-1.3%	-2.1%	-0.5%	-14.6%	-11.8%
TOTAL wo Bike and Ped	3.3%	-2.9%	-2.4%	2.3%	-8.3%	-0.1%
TOTAL			-2.4%			1.7%

	TOTAL		
	2000–2005	2005–2010	2010–2015
Pedestrians			16.5%
Bicyclists			59.9%
Regional Rail	13.1%	15.7%	16.6%
Subway	9.7%	2.9%	8.1%
Bus-Trolley	8.2%	-5.0%	5.8%
Transit	9.9%	3.0%	9.2%
Highway	-0.5%	-9.3%	6.8%
TOTAL wo Bike and Ped	**2.0%**	**-6.1%**	**7.5%**
TOTAL			**8.3%**

Figure 6: Total Center City Cordon Line Crossings

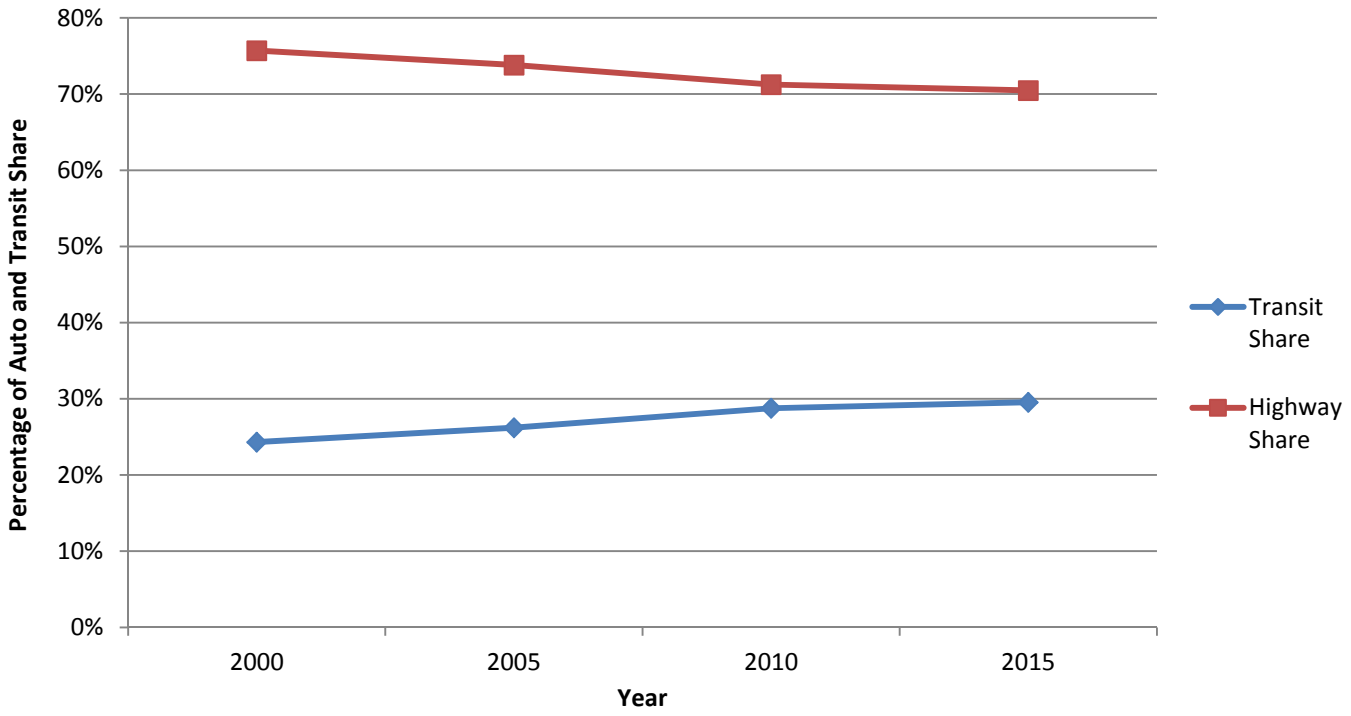


	TOTAL				Average Annual Growth		
	2000	2005	2010	2015	2000–2005	2005–2010	2010–2015
Pedestrians			93,409	108,842			3.1%
Bicyclists			11,438	18,295			9.8%
Regional Rail	77,302	87,391	101,099	117,876	2.5%	3.0%	3.1%
Subway	240,704	264,117	271,783	293,874	1.9%	0.6%	1.6%
Bus-Trolley	124,007	134,222	127,504	134,846	1.6%	-1.0%	1.1%
Transit	442,013	485,730	500,386	546,596	1.9%	0.6%	1.8%
Highway	1,376,933	1,370,428	1,243,400	1,327,535	-0.1%	-1.9%	1.3%
TOTAL wo Bike and Ped	**1,818,946**	**1,856,158**	**1,743,786**	**1,874,131**	0.4%	-1.2%	1.5%
TOTAL			**1,848,633**	**2,001,268**			**1.6%**

Source: Delaware Valley Regional Planning Commission, 2015

Note: Transit = Regional Rail + Subway + Bus-Trolley

Figure 7: Mode Share – Auto versus Transit



IV. Time-of-Day Variation in Center City Cordon Line Daily Crossings

Highway, pedestrian, and bicycle counts were collected at 15-minute intervals, and public transportation ridership counts were collected at hourly intervals. The data are displayed for an entire day, from 12:00 midnight to 12:00 midnight. The time-of-day traffic and ridership counts for each travel mode and screenline are shown in **Appendix A.**

A. 15-Minute Variation in Highway Traffic

The 2015 15-minute highway volumes for individual screenlines are displayed in **Figures A-1, A-6, A-9** and **A-14** in **Appendix A.** **Figure 8** shows the 15-minute variations in highway vehicle trips crossing all four CBD screenlines. The morning inbound peak hour typically occurs between 8:00 and 9:00 AM and is more compact than the afternoon peak hour which occurs from 5:00 to 6:00 PM. There is a mid-day "trough" between the peaks, where the effect of commuter traffic is less pronounced. The percentage of daily inbound trips occurring in the AM peak hour, and the percentage of daily outbound trips occurring in the PM peak hour is displayed in **Table 18.**

Daily traffic patterns typically show a narrower and more clearly defined peak in the AM than in the PM. This is partly due to the fact that school trips and journey-to-work commute trips tend to occur at the same time in the morning, but in the afternoon, students usually return home from school before commuters return home from work. Shopping, social, and recreational trips are more likely to take place in the afternoon, and this also tends to broaden the afternoon peak and introduce greater variability.

Figure 8: 15-Minute Variation in Highway Vehicle Trips

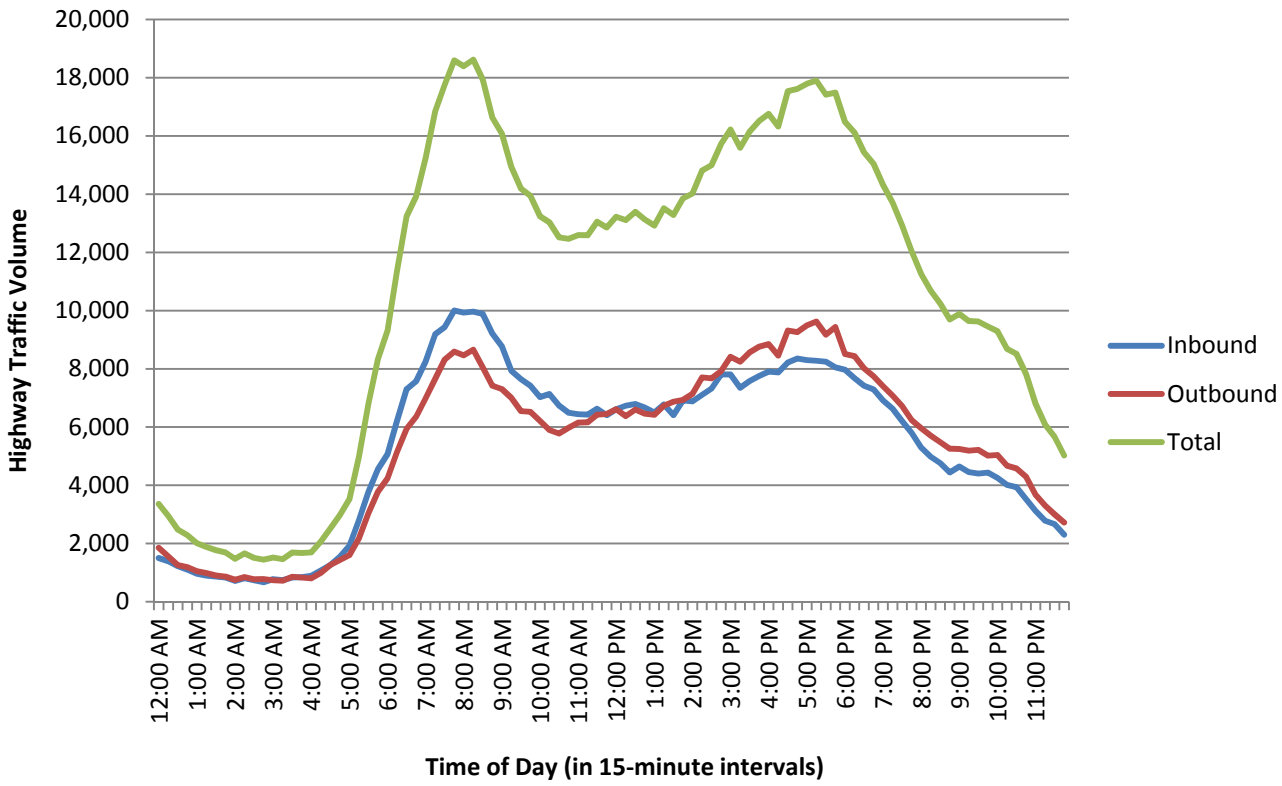


Table 18: 2015 Highway Peak Hour Vehicle Trips by Direction

	Vehicles per Day	Peak Hour Traffic	Percentage
Inbound	517,983	38,998	7.5%
Outbound	518,782	37,728	7.3%
TOTAL	**990,194**	**76,726**	**7.4%**

Source: Delaware Valley Regional Planning Commission, 2015

B. Hourly Variation in Public Transportation Ridership

The hourly variations in public transit passenger volumes crossing all four of the screenlines are displayed in **Figure 9.** The available data for individual screenlines are displayed in **Figures A-2, A-3, A-10, A-11, A-15, and A-16.**

For transit, the morning inbound peak hour occurs from 7:00 to 8:00 AM, and the afternoon outbound peak hour occurs from 5:00 to 6:00 PM. The percentage of daily inbound trips occurring in the AM peak hour, and the percentage of daily outbound trips occurring in the PM peak hour is displayed in **Table 19.**

One characteristic that distinguishes transit ridership from highway traffic patterns is the share of riders carried during the peak hour. For example, approximately 19.1 percent of the inbound transit trips that occur each day are made during the morning peak hour versus only 7.5 percent of the inbound highway trips that occur each day. The morning and afternoon peaks are sharper, and the mid-day trough deeper, than on the corresponding plot of highway volumes.

Figure 9: Hourly Variation in Public Transportation Trips

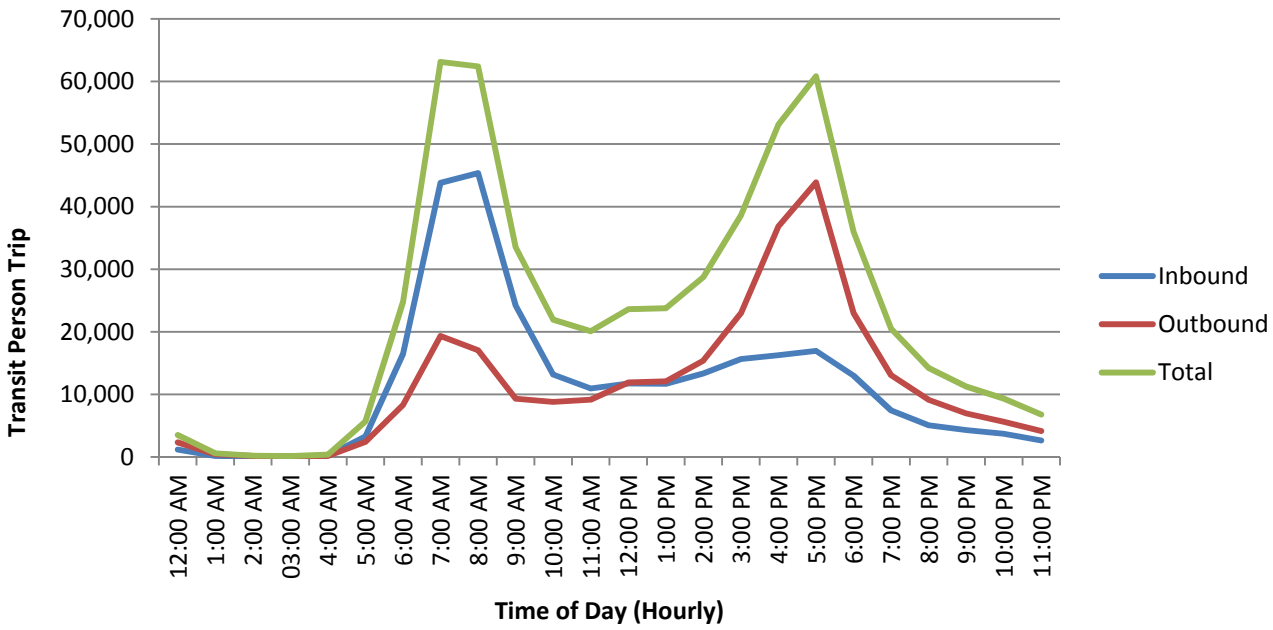


Table 19: 2015 Public Transportation Peak Hour Person Trips by Direction

	Person Trips per Day	Peak Hour Trips	Percentage
Inbound	272,320	45,356	16.7%
Outbound	274,048	43,867	16.0%
TOTAL	**546,368**	**89,223**	**16.3%**

Source: Delaware Valley Regional Planning Commission, 2015

C. 15-Minute Variation in Bicycle and Pedestrian Volumes

The variation in the flow of bicycle and pedestrian trips to and from Center City across all four screenlines by time of day is displayed in **Figure 10.** For pedestrian trips, there are three peaks: the AM Peak Hour, the PM Peak Hour, and the lunch hour. Inbound trips peak between 8:45 and 9:00 AM, and outbound trips peak between 5:15 and 5:30 PM. For bicycle trips, there is a very pronounced and narrow inbound peak at 8:45 AM, and the outbound peak occurs at 5:00 PM.

The percentage of daily inbound trips occurring in the AM peak hour, and the percentage of daily outbound trips occurring in the PM peak hour is displayed in **Table 20.** For both pedestrian and bicycle trips, the share of inbound trips that occurs during the morning peak is approximately equal to the share of outbound trips that occurs during the afternoon peak.

Figure 10: 15-Minute Variation in Bicycle and Pedestrian Person Trips

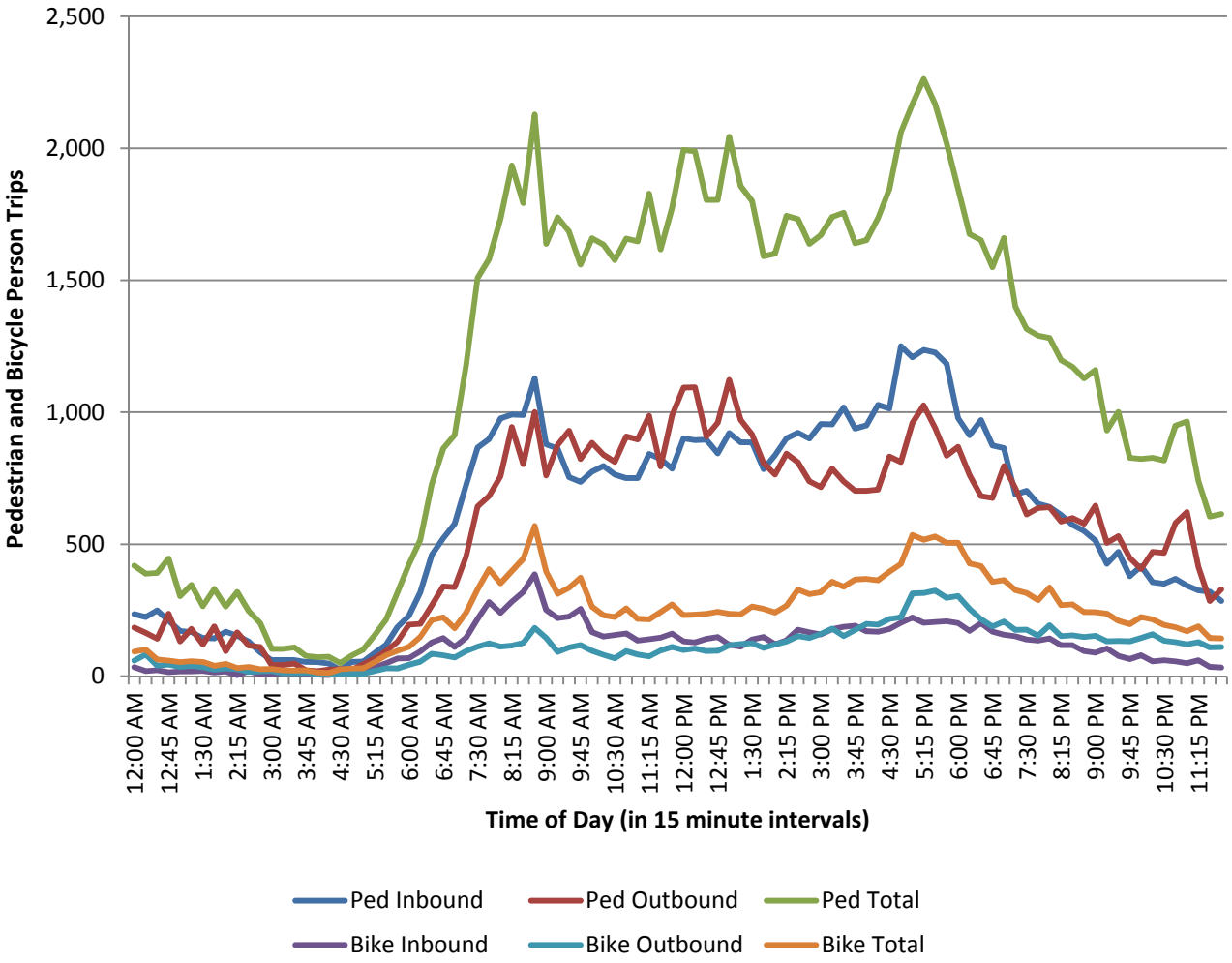


Table 20: 2015 Bicycle and Pedestrian Peak Hour Person Trips by Direction

	Person Trips per Day	Peak Hour Trips	Percentage
Pedestrian Inbound	56,395	4,624	8.20%
Pedestrian Outbound	52,446	4,084	7.79%
PEDESTRIAN TOTAL	**108,842**	**8,708**	**8.00%**
Bicycle Inbound	9,342	1,001	10.72%
Bicycle Outbound	8,953	1,003	11.21%
BICYCLE TOTAL	**18,295**	**2,004**	**10.96%**

Source: Delaware Valley Regional Planning Commission, 2015

D. Accumulation

The hourly accumulation of highway vehicle and public transit person trips in the Philadelphia CBD is shown in **Figure 11.** Basically, this figure tracks the transient population of vehicles and persons in the CBD over the course of an average weekday.

There is a large flow of people and vehicles into the City during the morning commute. The rate of inflow is at its peak between 6:00 and 9:00 AM, and then gradually tapers off. The maximum number of people in the CBD is reached at 12 noon.

Beginning at 1:00 PM, the flow reverses, and vehicles and people begin to leave the City. There is a gradual outflow between 1:00 and 3:00 PM. Then the rate increases sharply as people begin to leave work and travel to homes in the suburbs.

At its mid-day peak, Center City Philadelphia accumulates 136,230 more persons than it contains at night, when the resident population is approximately 62,939.[8] Most of the people traveling to the CBD each day use public transit (71 percent) rather than autos (29 percent). For the people using public transit, 42 percent use subway, 37 percent use regional rail, and 21 percent use bus and trolley.

[8] Delaware Valley Regional Planning Commission, Population and Employment Data, https://www.dvrpc.org/asp/DataNavigator/

Figure 11: 2015 Hourly Accumulation of Vehicle and Person Trips

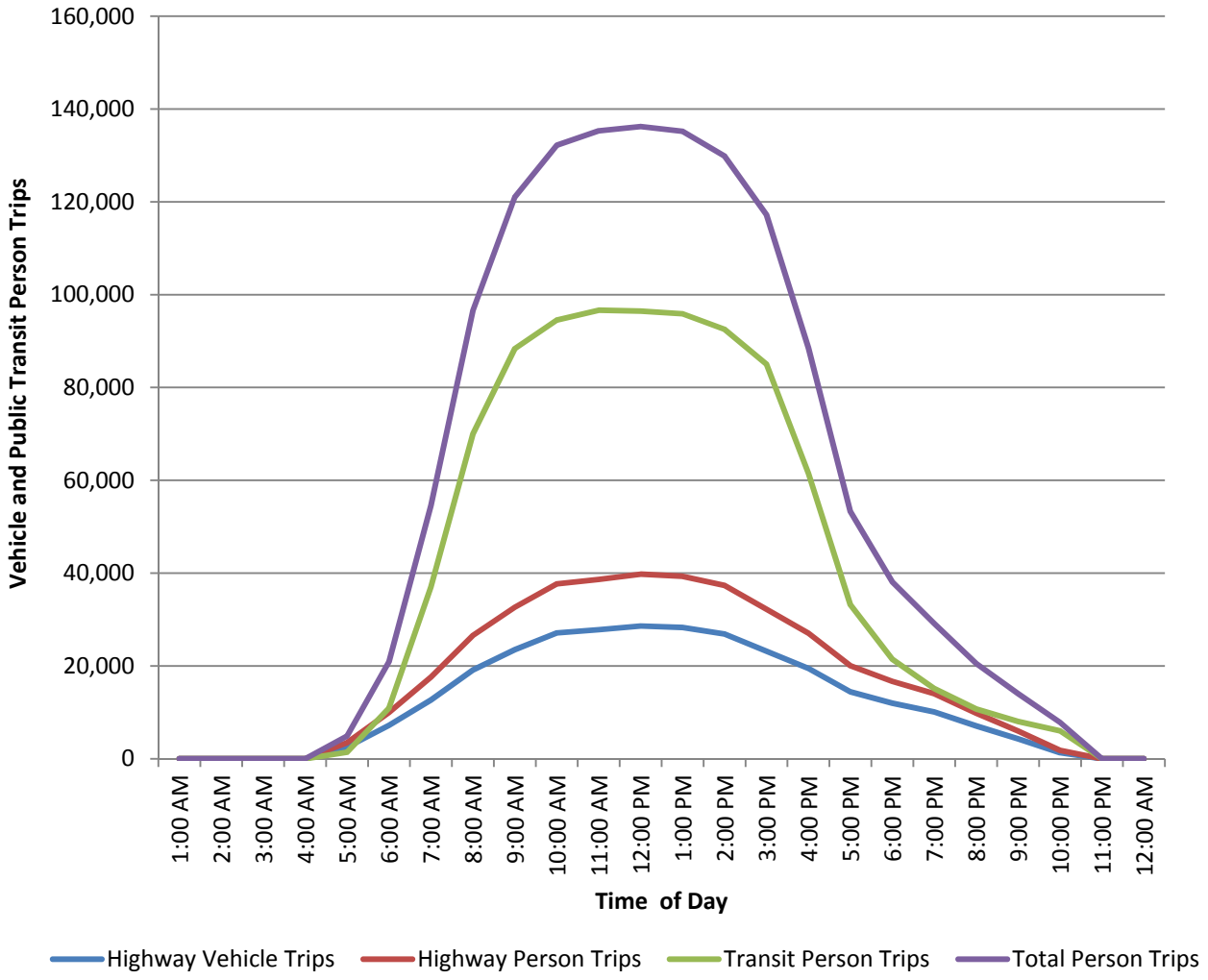


Table 21: 2015 Maximum Accumulation by Vehicle and Person Trips

2015 Maximum Accumulation by Vehicle and Person Trips	
Maximum Accumulation	
Highway Vehicle Trips	28,616
Highway Person Trips	39,776
Public Transit Person Trips	96,454
Accumulation of Persons	136,230

Source: Delaware Valley Regional Planning Commission, 2015

Note: Accumulation of Person Trips = Highway Person Trips + Public Transit Person Trips

Appendix A

Appendix A: 2015 Time-of-Day Variation in Trips Crossing the Center City Screenlines

Figure A-1: 15-min Variation in Highway Vehicle Trips Crossing the North Screenline

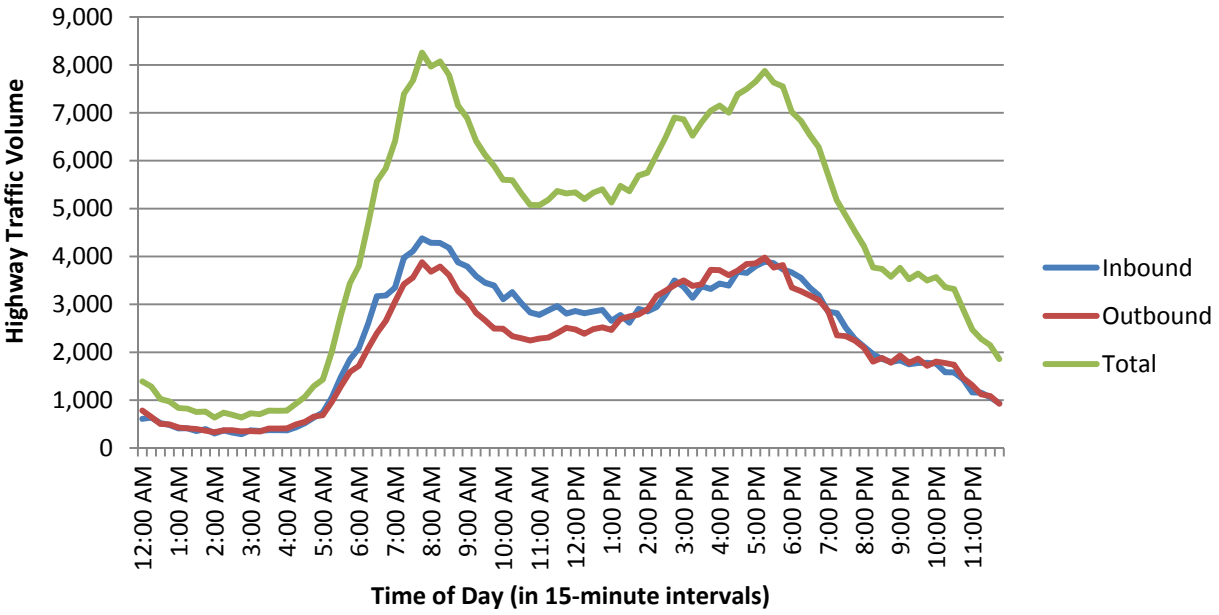


Figure A-2: Hourly Variation in Regional Rail Trips Crossing the North Screenline

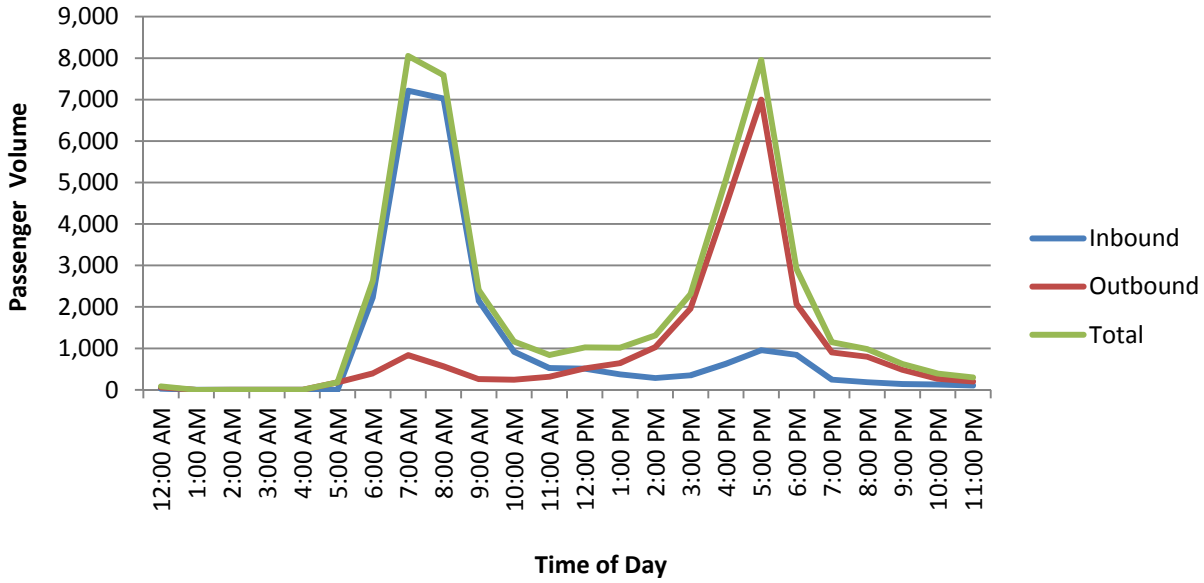


Figure A-3 Hourly Variation in Market-Frankford Trips Crossing the North Screenline

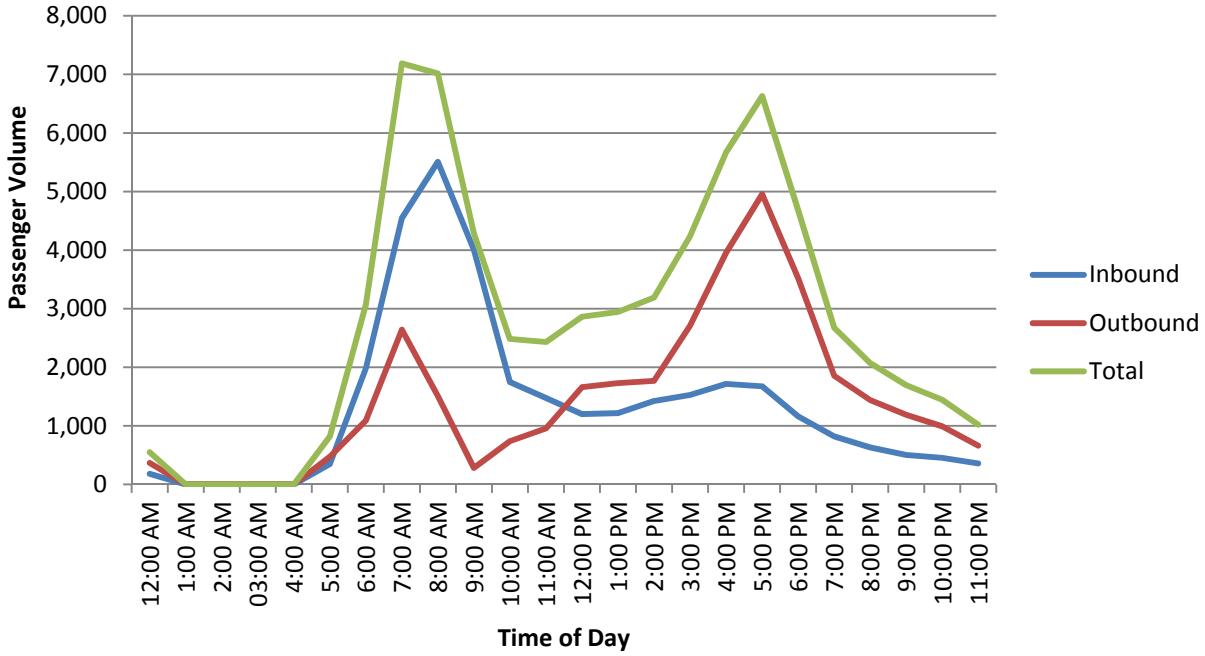


Figure A-4: 15-Minute Variation in Bicycle Trips Crossing the North Screenline

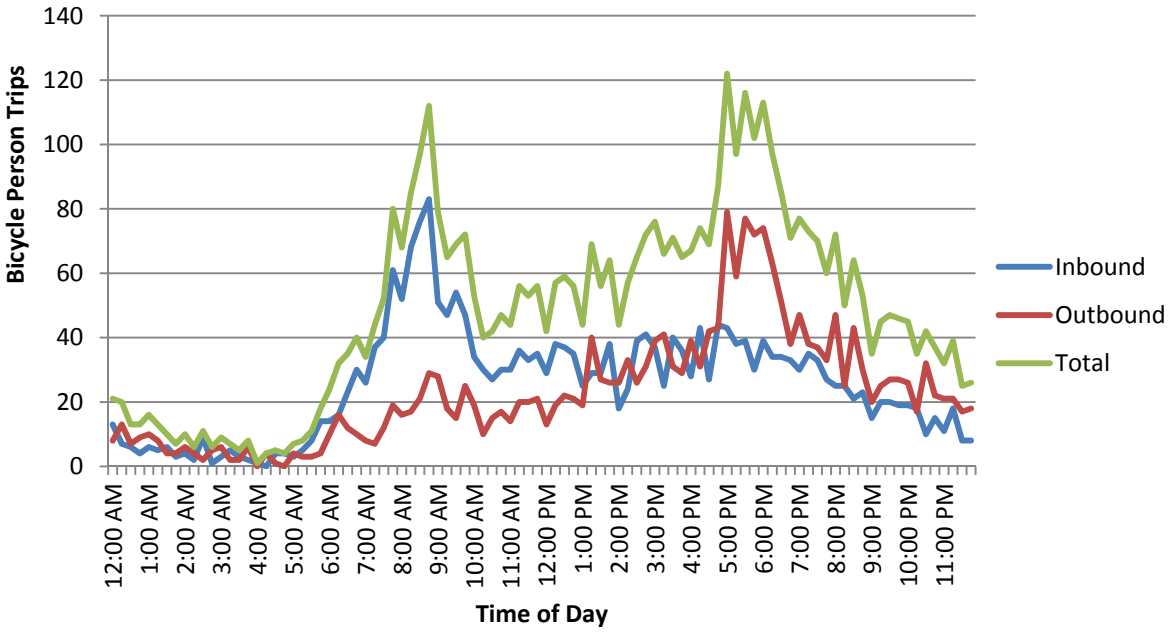


Figure A-5: 15-Minute Variation in Pedestrian Trips Crossing the North Screenline

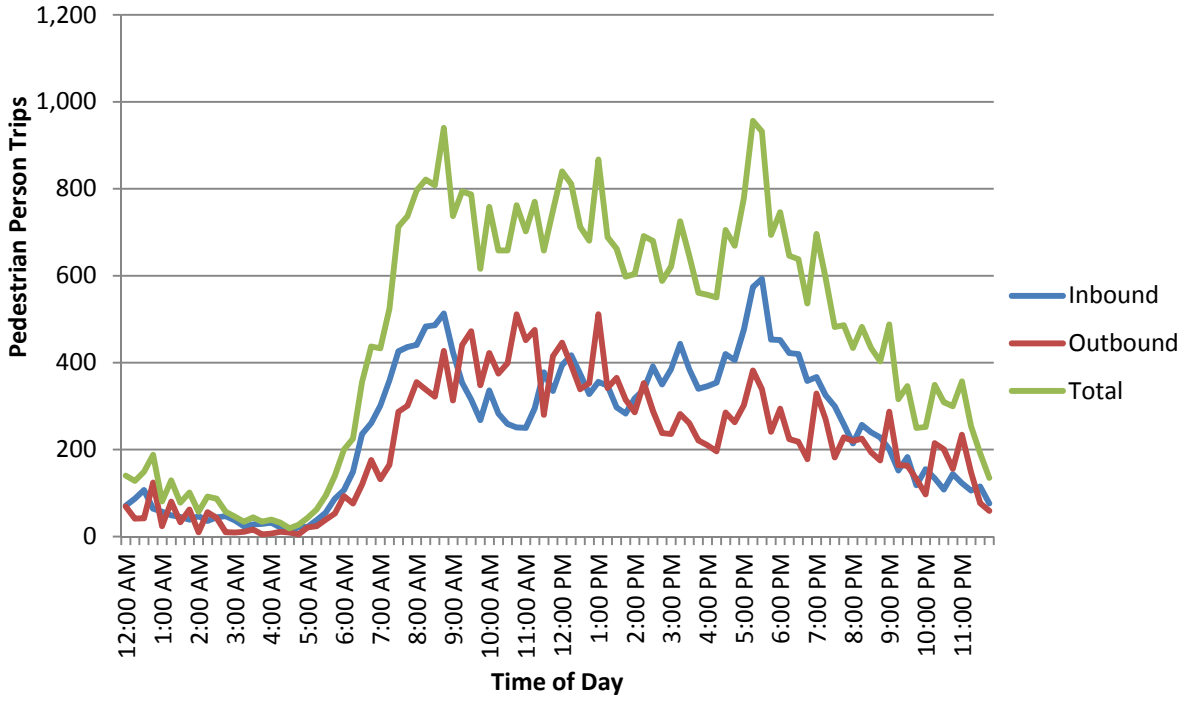


Figure A-6: 15-min Variation in Highway Vehicle Trips Crossing the South Screenline

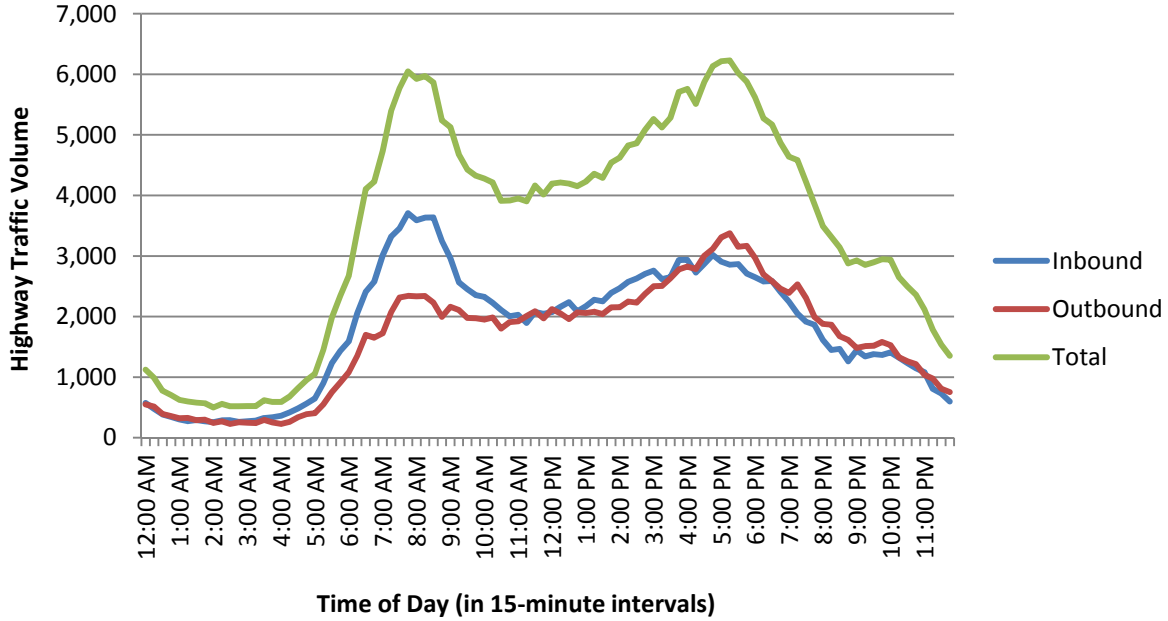


Figure A-7: 15-Minute Variation in Bicycle Trips Crossing the South Screenline

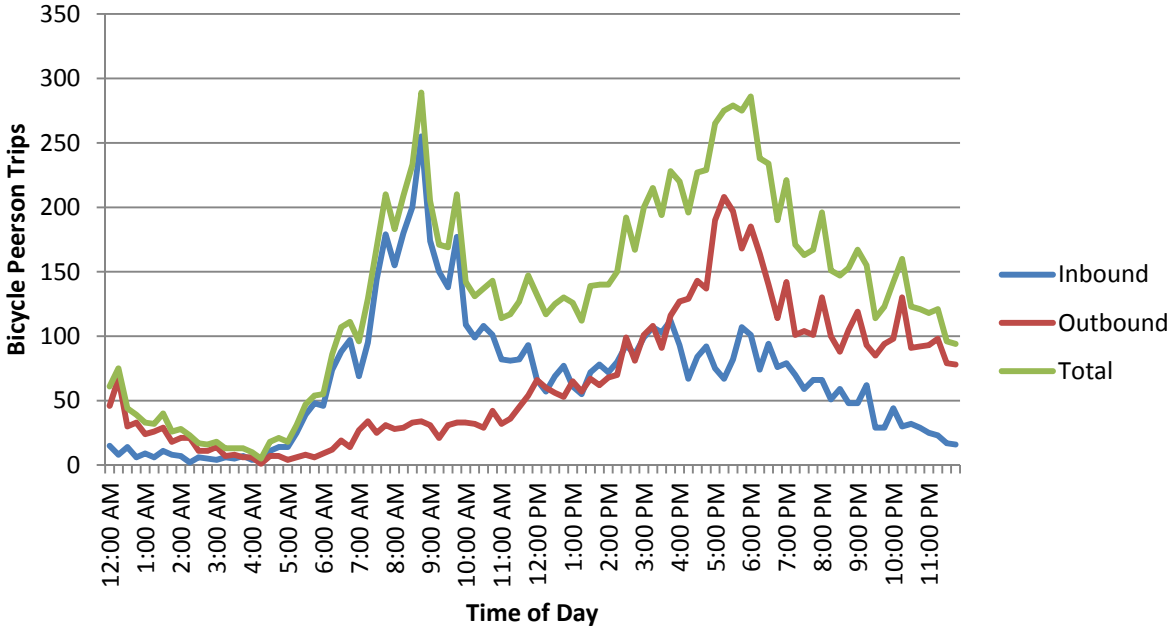


Figure A-8: 15-Minute Variation in Pedestrian Trips Crossing the South Screenline

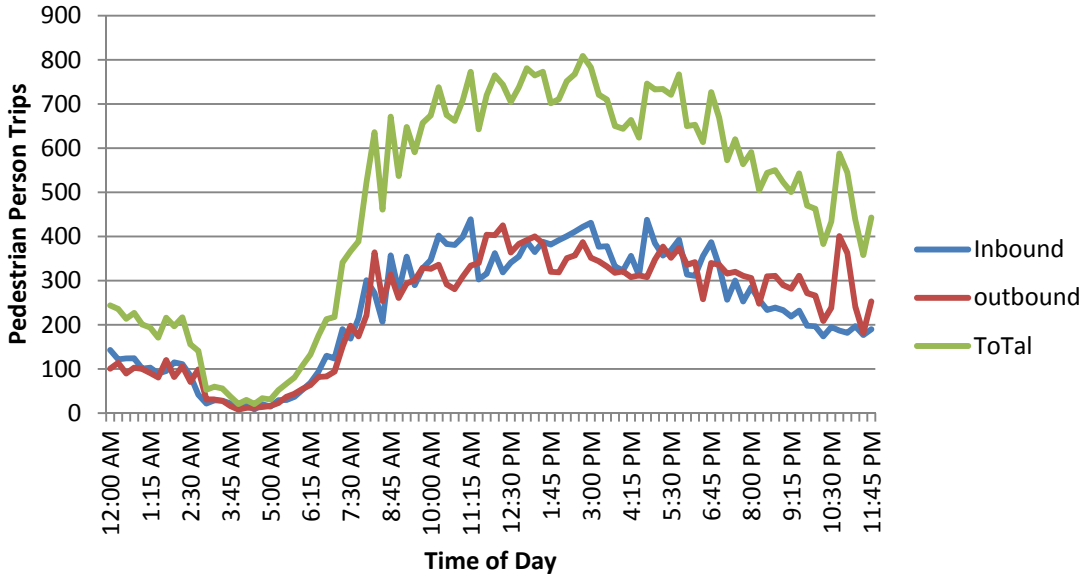


Figure A-9: 15-min Variation in Highway Vehicle Trips Crossing the East Screenline

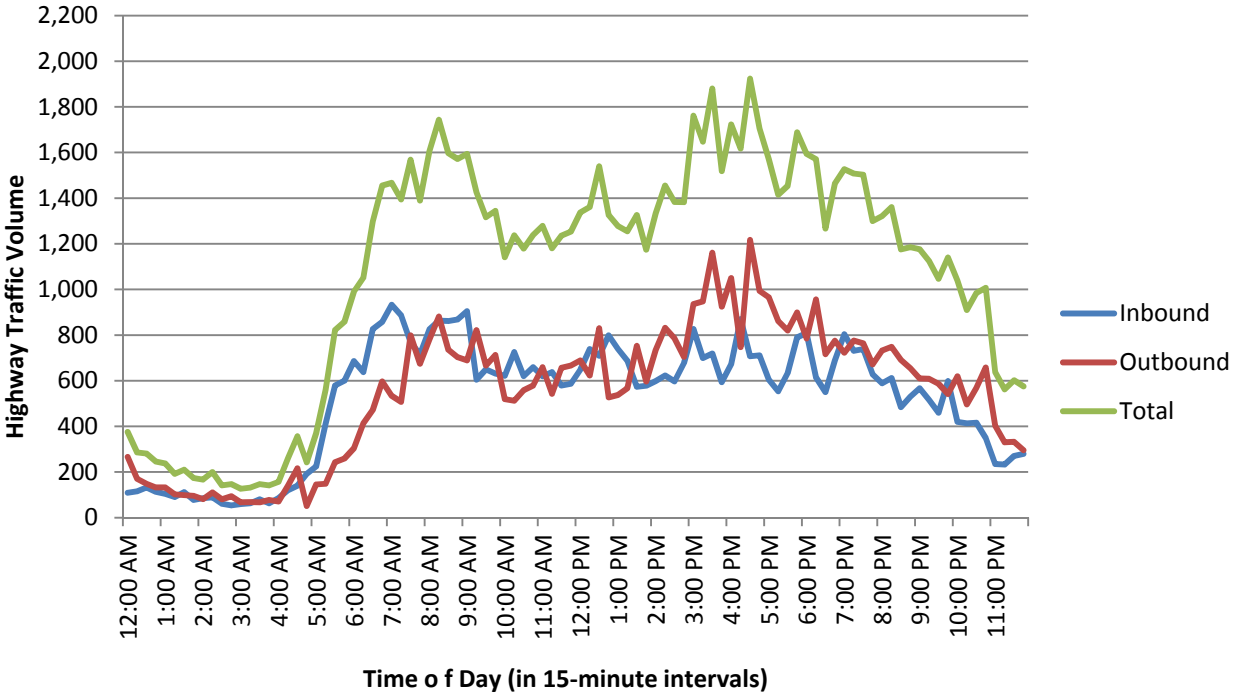


Figure A-10: Hourly Variation in PATCO Transit Trips Crossing the East Screenline

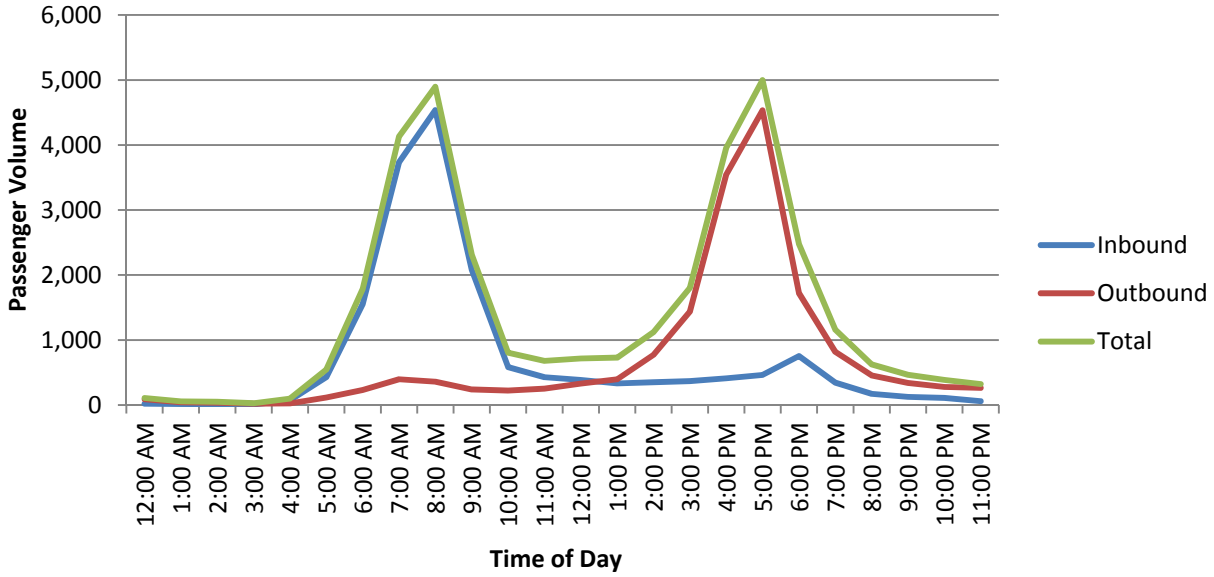


Figure A-11: Hourly Variation in New Jersey Transit Bus Trips Crossing the East Screenline

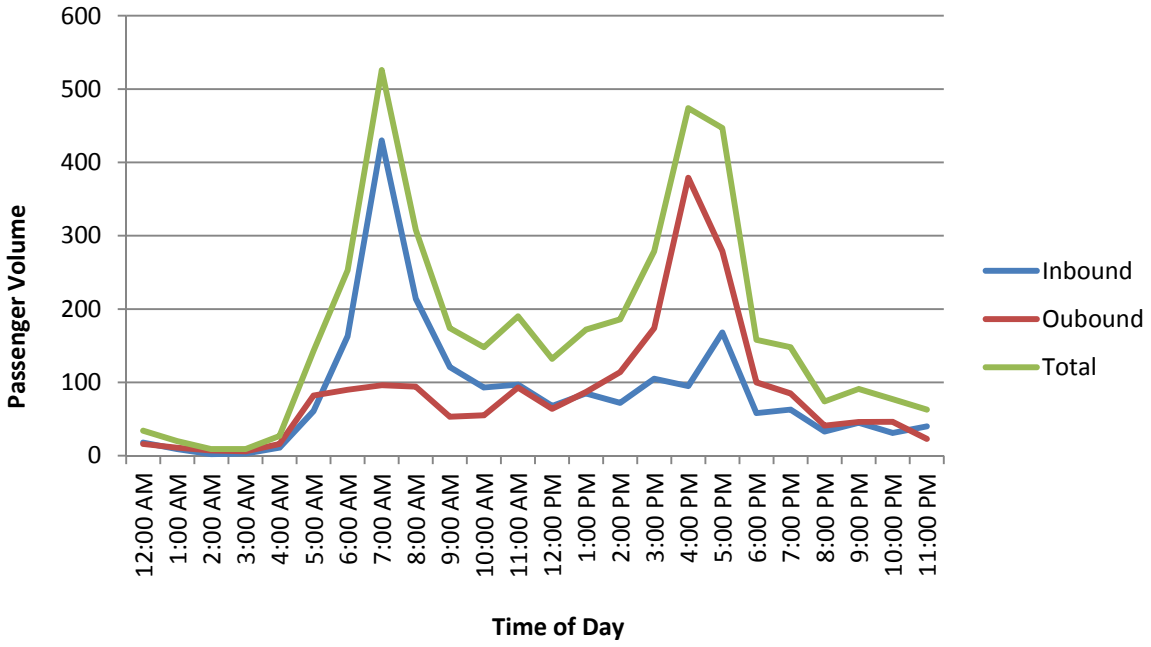


Figure A-12: 15-Minute Variation in Bicycle Trips Crossing the East Screenline

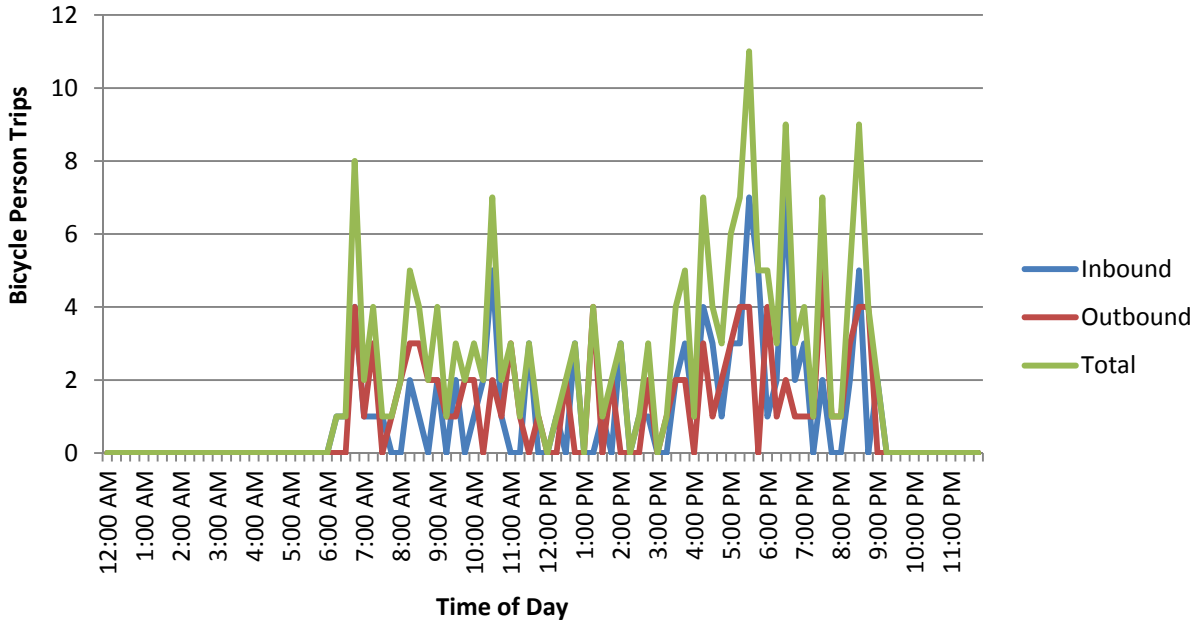


Figure A-13: 15-Minute Variation in Pedestrian Trips Crossing the East Screenline

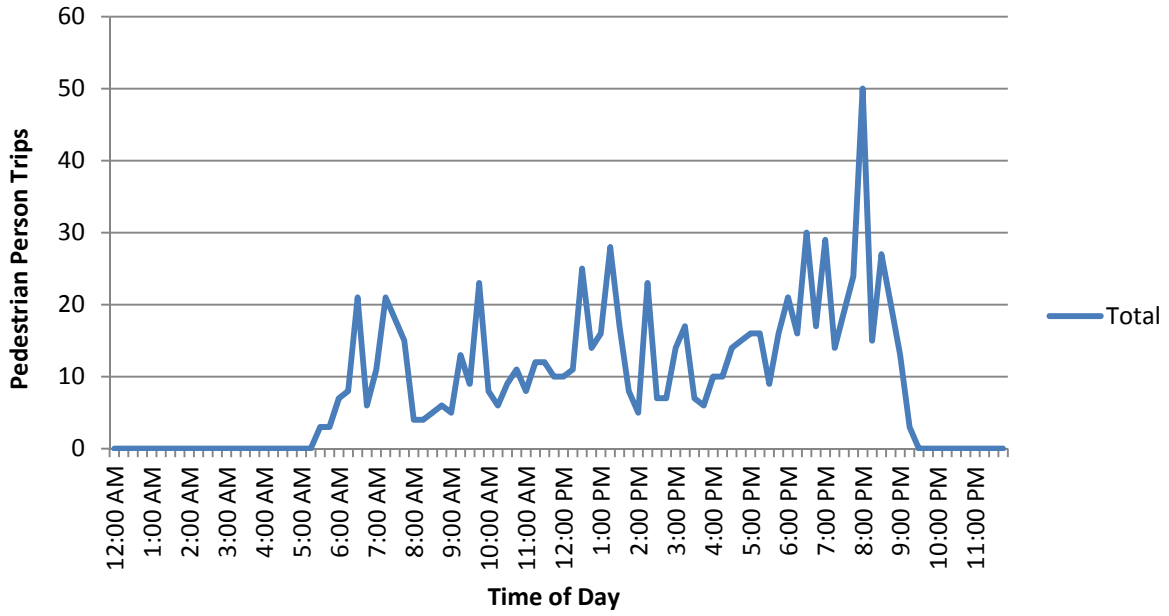


Figure A-14: 15-min Variation in Highway Vehicle Trips Crossing the West Screenline

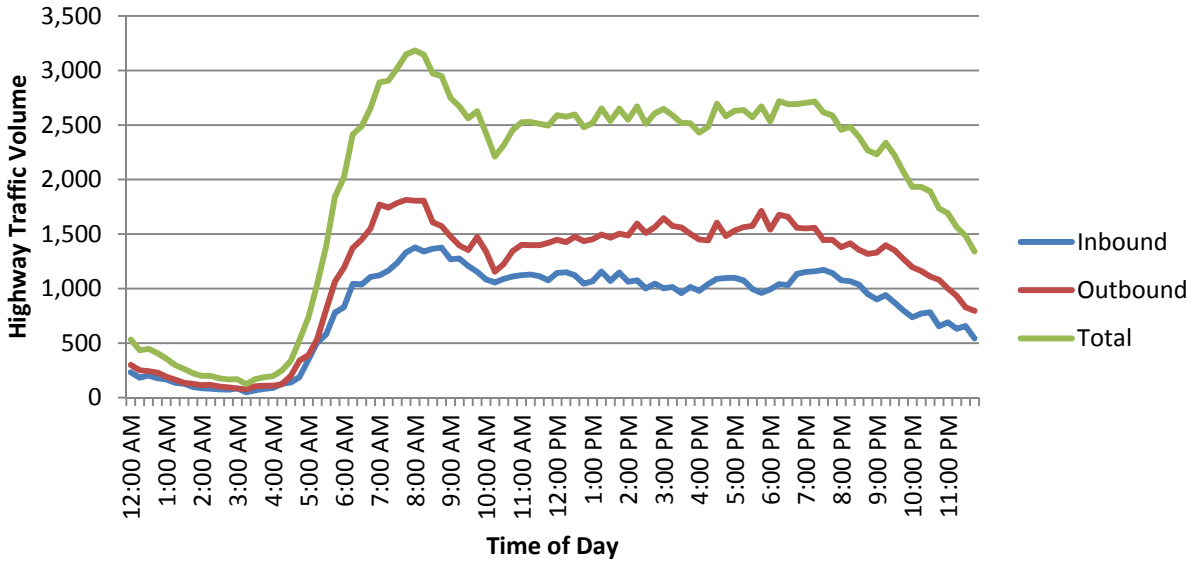


Figure A-15: Hourly Variation in Regional Rail Trips Crossing the West Screenline

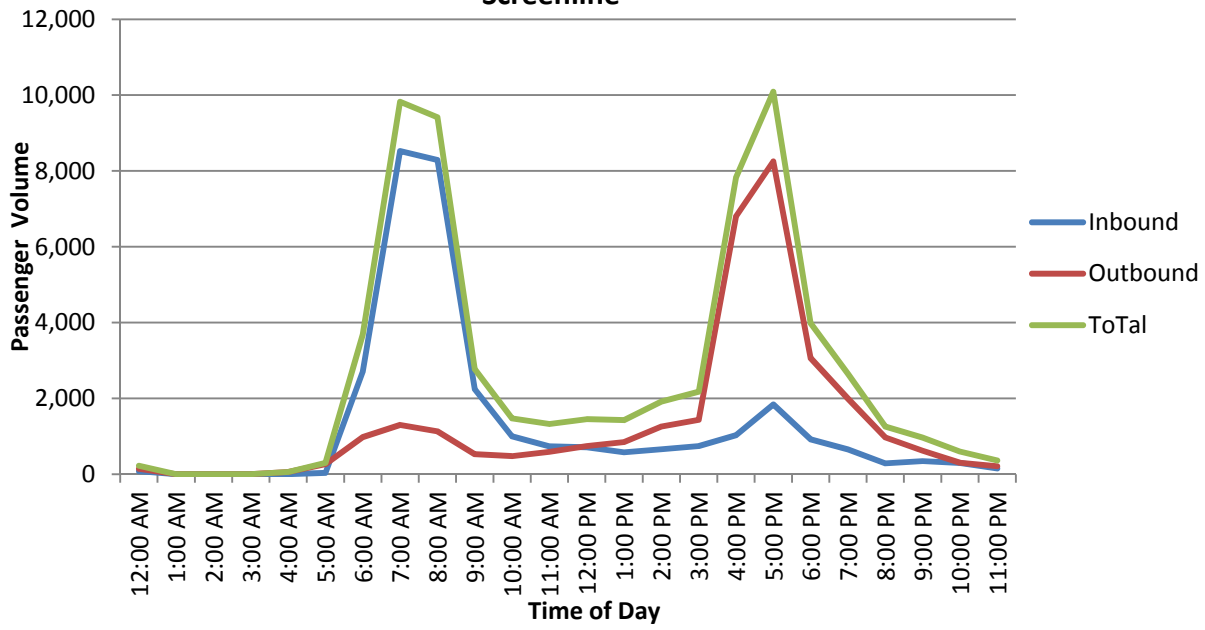


Figure A-16 Hourly variation in Market-Frankford Trips Crossing the West Screenline

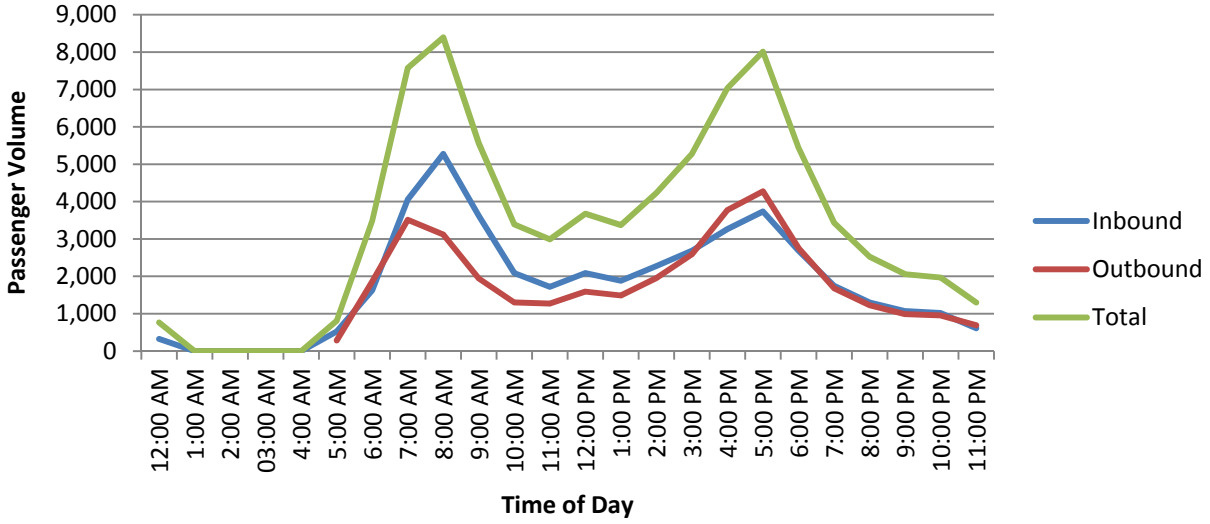


Figure A-17: 15-Minute Variation in Bicycle Trips Crossing the West Screenline

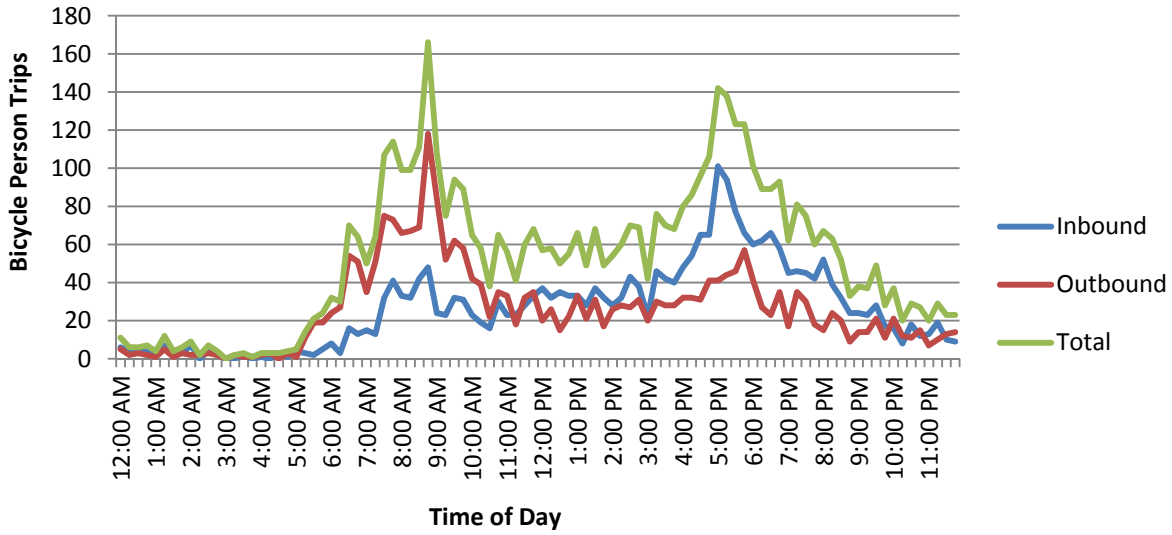
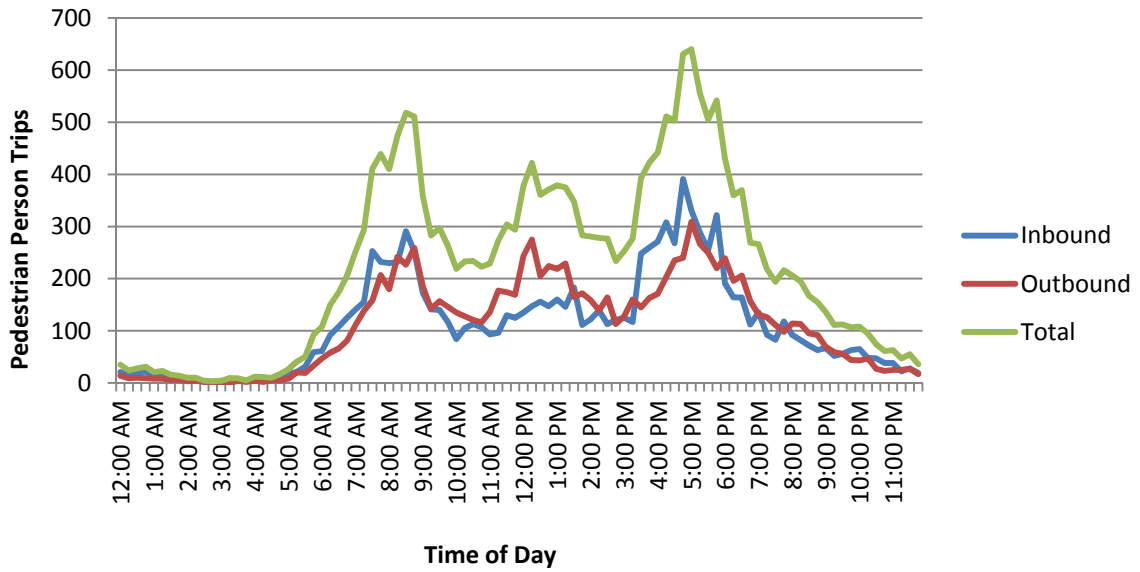


Figure A-18: 15-Minute Variation in Pedestrian Trips Crossing the West Screenline



2000 – 2015 Travel Trends

In the Philadelphia Central Business District

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Geographic Area Covered:
Philadelphia Central Business District

Key Words:
Center City, Philadelphia Central Business District, Traffic Count, Public Transportation Ridership, Regional Rail, Subway, Buses, Trolley, Cordon Line, Screenline, Travel Trends, Vehicle Trips, Person Trips, Transit Trips, Pedestrian Trips, Bicycle Trips, Annual Average Daily Traffic (AADT), Peak Hour Volume

Abstract:
This report assesses the 2000 – 2015 trends in highway traffic volumes, public transit ridership, bicycle trips, and pedestrian trips entering and leaving the Philadelphia Central Business District (CBD). Traffic volumes are expressed as both vehicle and person trips. Public transit, bicycle, and pedestrian trips are expressed as person trips. This report analyzes all trips crossing the North, West, South, and East Screenlines.

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