PENNDOT

Delaware Valley Regional Planning Commission

JULY 2008

ERIE AVENUE AND OLNEY AVENUE

Road Safety Audit

Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty and intercity agency that provides continuing, comprehensive and coordinated planning to shape a vision for the future growth of the Delaware Valley region. The region includes Bucks, Chester, Delaware, and Montgomery counties, as well as the City of Philadelphia, in Pennsylvania; and Burlington, Camden, Gloucester and Mercer counties in New Jersey. DVRPC provides technical assistance and services; conducts high priority studies that respond to the requests and demands of member state and local governments; fosters cooperation among various constituents to forge a consensus on diverse regional issues; determines and meets the needs of the private sector; and practices public outreach efforts to promote two-way communication and public awareness of regional issues and the Commission.

Our logo is adapted from the official DVRPC seal, and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole, while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. The authors, however, are solely responsible for its findings and conclusions, which may not represent the official views or policies of the funding agencies.

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APPENDICIES

The crash data used in this report was provided by the Pennsylvania Department of Transportation for the Delaware Valley Regional Planning Commission's traffic safety related transportation planning and programming purposes only. The raw data remains the property of the Pennsylvania Department of Transportation and its release to third parties is expressly prohibited without the written consent of the Department.

SR 1004 Erie Avenue and SR 4004 Olney Avenue Road Safety Audit

1.0 Background

This document is the final report for the Erie Avenue (SR 1004) and Olney Avenue (SR 4004) Road Safety Audits held on Wednesday and Thursday, April 9th and 10th, 2008. These corridors were identified in the Pennsylvania Department of Transportation's Top 5% Report. This annual report—a federal requirement for all states—lists not less than 5% of public road locations exhibiting the most severe safety needs as a condition for obligating Highway Safety Improvement Program (HSIP) funding. The Road Safety Audits performed on Erie and Olney Avenues advance Pennsylvania's statewide safety goals.

This project represents the coordination of the Delaware Valley Regional Planning Commission's (DVRPC) Planning Work Program and the PennDOT District 6 Safety Plan. Road Safety Audits are a program component of DVRPC's annual work program. In Pennsylvania each PennDOT District Office is required to develop a safety plan to be incorporated into the state's SHSP. The recommended improvements identified for Erie and Olney Avenues through the Road Safety Audit process will be eligible for dedicated safety funding.

Whereas the goal of this project is to improve and promote transportation safety on the region's roadways while maintaining mobility, the main objective is to address the safe operation of the roadway and ensure a high level of safety for all road users. The road safety audit program is conducted to generate improvement recommendations and countermeasures for roadway segments demonstrating a history of, or potential for, a high incidence of motor vehicle crashes. The emphasis is placed on identifying low-cost, quick turnaround safety projects, but not at the exclusion of more complex, long term safety improvement recommendations.

1.1 The Audits

Prior to the road safety audit activities on site, DVRPC collected, reviewed, and analyzed data (video of roadway under different conditions, traffic volume data, turning movement counts, maps, aerial photographs, crash data and police reports, and completed transportation/traffic studies). Using the crash data, crash clusters were identified and mapped for locations along Erie and Olney Avenues. These locations were the main focus of the road safety audits.

To best utilize the time and expertise of our team members we conducted the Pre-audit meetings and field visits for both Erie and Olney Avenues all on the same day: Wednesday, April 9th. This was possible because the corridors are located

close to one another, both study sections were relatively short, and we were using the same team for both audits. Several details are covered during the Pre-audit meeting: definition of the road safety audit and how it differs from the corridor study process, the required steps of an audit, presentation of the corridor issues, and an exchange of ideas and knowledge of the roadway.

The largest part of the meeting was spent in an open forum discussing the findings of the crash analysis, the influence of traffic patterns, and identifying major trip generators. It is during these Pre-Audit meeting discussions that local knowledge and transportation expertise come together to establish a background of information that will be drawn from during the field visit. Lastly, a video showing each corridor under nighttime conditions was shown. These videos help team members identify lighting issues that are not apparent during the daytime field visit.

The field visit was conducted immediately following the Pre-audit meetings. The audit team, made up of federal, state, and local officials and other stakeholders, walked each corridor and identified transportation safety issues. The field visit for Erie Avenue was conducted first, followed by Olney Avenue in the afternoon (see Appendix A for the list of audit team members). On Thursday, April 10th, the Post-audit meeting was held during which the audit team spent most of the day discussing the findings from the field view, identifying strategies to address issues, and determining priorities.

2.0 SR 1004 Erie Avenue

Roadway Characteristics

The study area consists of approximately 2.5 miles of Erie Avenue (SR 1004) from Broad Street (PA 611) east to K Street in North Philadelphia (see Appendix B for Study Area Map). Erie Avenue has a functional class designation of principal arterial and runs in an east-west direction. The study area section of Erie Avenue is one lane in each direction with a center lane formerly used by the SEPTA #53 Trolley, and currently used in some sections of the corridor by SEPTA buses and as a left turn lane in many locations. The center lane has two sets of trolley tracks along a portion of the corridor, some of which are set within a raised concrete island. There is parking permitted curbside on both sides of the street intermittently throughout the study area. The speed limit in the study area is 30 MPH and there are no shoulders. There are a total of 36 intersections in the study area, 23 of which form four way intersections, 12 are "T" intersections, and 1 is a six way intersection; 18 are signalized.

Traffic volumes along the corridor vary. The highest were found in the eastern section between Whitaker Avenue and D Street where an AADT of 16,993 was recorded in 2005. This is within the heart of the corridor's light industrial section. Continuing through the eastern section volumes remain fairly consistent at approximately 15,000 (1999) and approximately 17,000 (2000) recorded at G Street and I Street respectively. In the western section near 10th Street volumes dropped to nearly half at 8,043 in 2005. Turning movement counts were conducted at six signalized intersections. The highest combined peak hour (AM and PM) intersection volumes were recorded at the Erie Avenue and B Street / Whitaker Avenue intersection which experienced an AM peak hour of 3,106 vehicles between 7:30 and 8:30 AM, and a PM peak period of 3,425 between 4:30 and 5:30 PM. The lowest combined peak period volume intersection was recorded at Erie Avenue and 5th Street through which 1,714 vehicles passed between 8:00 and 9:00 AM, and 2,426 vehicles between 4:45 and 5:45 PM. The remaining four intersections had peak volumes between the highest and lowest volumes.

Transit

There are several transit routes that travel through the study area. A station for the Broad Street Line subway is located at the intersection of Broad Street and Erie Avenue. The Broad Street Line subway, a rapid transit line, runs from the Fern Rock Transportation Center in North Philadelphia to Pattison Avenue in South Philadelphia. The Erie Avenue Subway Station provides access to the following connecting bus routes: 23, 53, and 56, C, H, and XH. The routes 53, 56, and 89

buses serve the study area and utilize the former trolley lanes. This requires pedestrians to cross one lane of traffic to board the bus.

The SEPTA route 53 bus travels from West Mount Airy to Huntington Park. The route 53 bus travels through the study area from Broad Street to 10th Street along Erie Avenue. Although Erie Avenue follows an east-west alignment, SEPTA considers the route 53 bus as following a north-south alignment. There are 27 AM southbound (eastbound) weekday buses, 31 southbound weekday PM buses, 26 AM northbound (westbound) weekday buses, and 29 PM northbound weekday buses. The average daily boarding for this service in 2007 was 2,593. The route 56 bus travels from Tacony to Nicetown via Torresdale and Erie Avenues. The route 56 bus travels the length of the study area. There are 44 AM eastbound weekday buses, 47 eastbound weekday PM buses, 40 AM westbound weekday buses, and 56 westbound weekday PM buses. The average daily boarding for this service in 2007 was 9,992. The route 89 bus travels from Kensington to Frankford. The route 89 bus travels in the study area from to B Street to G Street. There are 16 AM southbound weekday buses, 22 southbound weekday PM buses, 16 AM northbound weekday buses, and 21 northbound weekday PM buses. The average daily boarding for this service in 2007 was 1,952 passengers.

Land Use

Philadelphia is a city of neighborhoods, and the study section of Erie Avenue traverses several. The study area begins in the Lower Tioga neighborhood, travels through the Huntington Park South neighborhood and the East Huntington Park Industrial Area, and ends in the Juniata Park neighborhood. The western portion of the study area begins at the signalized intersection of Broad Street and Erie Avenue and stretches to the intersection of Erie Avenue and 2nd Street. Along this portion of the study area the land use is a dense urban mix of residential (attached, multifamily housing), commercial, and community use. The Broad Street intersection serves as a major commercial and transportation center for the surrounding neighborhoods; consequently there is heavy pedestrian activity at the intersection. Moving eastward, the Iglesia Evangelica Bautista Church is located at the six-way Erie Avenue/ Rising Sun Avenue/ 7th Street intersection, and there is increased pedestrian and commercial activity surrounding the intersection. The Taylor Bayard Elementary School is located between 6th and North Randolph Streets. At Lawrence Street the land use begins to transition from commercial and residential to industrial uses that typify the eastern section of the corridor.

Beginning at the signalized intersection of Erie Avenue and 2nd Street, the eastern portion of the study area stretches to the intersection of Erie Avenue and K Street. Along the eastern portion of the study area the land use is primarily industrial with pockets of commercial, residential, institutional, and community uses. The Roberto Clemente Middle School

is located between 2nd Street and North Front Street and St. Christopher's Hospital for Children is located between North Front Street and B Street. Along Erie Avenue there are a number of large manufacturing complexes, including the Coca-Cola bottling plant. The study area ends at K Street, at which point the land use has already begun to transition from industrial and commercial back to residential uses.

Crash Analysis

According to PennDOT's crash data there were 188 reportable crashes between 2004 and 2006. Reportable crashes are those that may result in a fatality, injury, and/or property damage rendering the vehicle disabled, requiring it be towed from the scene. A comprehensive analysis of the crash data is shown in Appendix C. There were 80 crashes recorded in 2004 (43%), 47 in 2005 (25%), and 61 in 2006 (32%). When analyzing crash frequency by month, June and March had the first and second highest number of crashes with 26 and 25 respectively. The months of July through December showed the most consistency where each recorded between 13 and 17 crashes. May, April, and February experienced 14, 12, and 11 each. Finally, the lowest crash total of the three-year period was 8 crashes recorded in January. Crash totals by day of week were somewhat more evenly distributed. The highest number was recorded on Wednesdays (31), and the least on Sundays (19). The remaining days had between 24 and 30 crashes. Regarding time of day, the afternoon hours between 2:00 PM and 6:00 PM had the highest concentration of crashes at 65 or 34.6%. Another less significant trend took place between 6:00 AM and 12:00 noon, which varied between 5 and 10 crashes per hour. The highest two hours, which had 17 crashes each, were 3:00 and 4:00 PM; the lowest was 5:00 AM which had 1 crash.

The top three collision types were angle crashes (61) at 32.4%, rear-end crashes (43) at 22.9%, and pedestrian crashes (29) at 15.4%. It is not uncommon to have a higher proportion of pedestrian crashes in an urban environment as walking and transit ridership are much more prevalent. There was one fatal crash during the study period, 162 (86.2%) injury crashes of varying levels of severity, 8 crashes coded as "unknown if injured", and 17 (9%) property damage only crashes. The majority of the crashes occurred during fair weather (75.5%) with 19.5% occurring during rainy conditions. Seventy six percent of the total occurred under dry road surface conditions. Typically the majority of crashes occur during daylight, but on Erie Avenue that percentage was only 61%, with 32% occurring under streetlights.

2.1 Findings and Recommendations – Erie Avenue

The following table summarizes the findings and recommendations of the Erie Avenue (SR 1004) Road Safety Audit. Shaded areas represent recommended strategies requiring a low level of effort for implementation with a high level of potential safety benefits.

SR 1004 Erie Avenue
Road Safety Audit

Corridor-wide Safety Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
Sidewalks			
• Sidewalks are in poor condition (cracked, missing, etc) maintenance needed, i.e., trash, debris	• Reconstruct and rehabilitate sidewalks for the safe travel of pedestrians. Coordinate with City of Philadelphia Department of Public Works, neighborhood associations and residence to perform needed maintenance and cleaning on a regular basis	**Medium**	**High**
• Bollards on the sidewalk obstruct pedestrian way and create a hit fixed object crash hazard for vehicles	• Bollards are typically not illegal, and are used to prevent vehicles from parking on sidewalks. Coordinate with the Philadelphia Streets Dept. to develop another method to prevent sidewalk parking which doesn't obstruct the pedestrian way or create a potential hazard for motorists	**Medium**	**High**

Corridor-wide Safety Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
Pedestrian Crossings			
• Crosswalk pavement markings are faded or missing	• Re-stripe and add pavement markings where missing in continental style striping (zebra-like lines installed perpendicular to the stop bar) and make consistent throughout corridor. Enhance these crossings with a backdrop over trolley tracks (highest/best lighted crosswalk if possible); conduct inventory and add as needed.	**Medium**	**High**
• Trolley tracks in crosswalks create tripping hazard	• Re-grade pavement to eliminate tripping hazard	**High**	**High**
• Intersection corners and curbs are deteriorated; drainage problems as evidenced by water pooling at the curbs	• Re-construct intersection corners and curbs	**High**	**High**
• Pedestrian ramps are inadequate and not ADA compliant	• Upgrade ramps with truncated domes and make ADA compliant	**Medium**	**High**
• Pedestrian signal heads do not have necessary indication	• Upgrade pedestrian signal heads with man/hand indicators and/or count-down timers	**Medium**	**High**
Signs			
• Evidence of graffiti and other damage to signs along corridor	• Conduct an inventory of street name sign and address as appropriate (posts, correct proximity to intersection, graffiti, legibility)	**Low**	**High**

Corridor-wide Safety Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
• Street name signs posted too far back from the intersection	• Correct the placement of street signs in accordance with PennDOT regulations and/or Manual on Uniform Traffic Control Devices (MUTCD)	**Low**	**High**
Abandoned SEPTA Trolley Tracks and Concrete ROW • Excess / unusable capacity due to trolley ROW • Former trolley infrastructure is used in a seemingly unregulated manner by SEPTA's buses which presents safety issues • At grade trolley ROW serves as center turn lane, but is poorly marked and somewhat confusing • Road surface changes without any notice and is in poor condition in some locations	**Long Term** • Remove the tracks and concrete ROW • Implement a "complete streets" improvement including a two-way left turn lane and bike lanes from capacity gained by removing infrastructure **NOTE: SEPTA's official position is to re-instate the #56 trolley which would preclude removing the tracks and infrastructure** **Medium Term** • Cover/fill tracks with a rubber cap to make crossing safer for cyclists and disabled users • Remove outdated and unused concrete poles, and wires **Short Term:**	**High** **High** **High** **Medium**	**High** **High** **High** **High**

Corridor-wide Safety Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
	• Prohibit buses from using the former trolley ROW (between Broad St and 12th St) as a dedicated bus lane due to the inherent safety issues resulting from merging between the Trolley ROW and the vehicle travel lanes	**Low**	**High**
Parking • Vehicles parked too close to the intersection • Vehicles parked in the bus pull-off areas • Parking on sidewalks	• Consider constructing bulb-outs on the corners where existing bus pull-offs are located • Install "No Parking" signs at bus stop locations • Develop corridor-wide strategy to prevent parking on sidewalks, possible solutions: -increased coordinated enforcement -new parking areas created by road geometry changes	**High (due to ADA compliance)** **Low** **Medium**	**High** **Medium** **High**
Speeding • Buses and vehicles speeding along corridor	• Coordinated enforcement between City of Philadelphia Police Department and SEPTA	**Low**	**High**
Signals • Pole mounted signals are	• Install signals on mast arms as	**High**	**High**

Corridor-wide Safety Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
outdated and difficult for motorists to see because they are located off to the side of roadway out of the cone of vision. (approximately 60% of all crashes in the last 5 years are signal related according to the data)	appropriate		
Bicycling			
• No bike lanes for bicyclists	• Add bike lanes, consider upgraded bike lane that includes a rumble strip edge line creating a potentially safer bicycling accommodation **NOTE: special application requires BHSTE design exception**	**Medium**	**High**
• No "Share The Road" signs	• Install "Share the Road" warning signs as appropriate to raise bicyclists' profile	**Low**	**High**
• Lack of bicycle parking	• Add bicycle parking where appropriate	**Medium**	**Medium**
Left Turn Accommodation			
• Need for left turn accommodation	• Establish former trolley ROW as a formal left turn lane where possible with upgraded striping and signage	**Low**	**High**

Corridor-wide Safety Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
Blocked Drainage Grates			
• Evidence of trash obstructing drainage crates	• Coordinate with the Philadelphia Public Works Dept. to remove trash and debris on a regular basis	**Low**	**High**

Site-Specific Safety Issues	Potential Improvements	Level of Effort	Potential Safety Benefit
Broad Street and Germantown Ave			
• Pedestrian crossing over Erie Ave on eastside of Broad Street is very long and undefined, lane striping faded/ missing	• Stripe crosswalk and create a pedestrian refuge over Erie Ave for pedestrians, add pavement marking to assist in guiding motorists and informing pedestrians	**Medium**	**High**
• High pedestrian volumes, and movements are somewhat erratic; missing pedestrian signal heads; signs missing / damaged	• Implement a "pedestrian scramble" signal phase and intersection treatments (pedestrian signal heads with countdown timers)	**Medium**	**High**
• Reported red light running	• Install red light running cameras to further compliance	**High**	**High**
• Trolley tracks present hazard for bikers, and for the disabled	• Remove trolley tracks	**High**	**High**
• Undefined / inconsistent parking; parked vehicles compromise sight distance	• Enforce parking restrictions through increased police presence	**Medium**	**High**

Site-Specific Safety Issues	Potential Improvements	Level of Effort	Potential Safety Benefit
Between Elder Street and 13th Street			
• Sidewalk depression gathering trash/water	• Address drainage problem and repair sidewalk	**Medium**	**High**
• Trolley island flashing yellow signals not working	• Repair flashing signal	**Low**	**High**
Old York Rd			
• Short signal pole located in clear zone presents an HFO hazard	• Relocate/remove signal pole	**Medium**	**High**
Marvine St			
• Missing sidewalk section	• Replace missing sidewalk section	**Medium**	**High**
Germantown Ave to N Delhi St.			
• Transit boarding area located in the center of the roadway is poorly maintained and has a low profile making it an Hit Fixed Object (HFO) hazard	• Improve and raise visibility of center boarding zone, add new color (bring to standard), add reflective markings	**Low**	**High**
• Center transit boarding stop is difficult to access for the disabled	• Improve access to center boarding zone (make ADA compliant)	**Low**	**High**
• Transit buses weave between former trolley ROW and travel lanes	• Prohibit buses from using the former trolley ROW due to safety implications of merging on and off the raised concrete	**Low**	**High**
Vicinity of bridge (near Cousin's supermarket)			
• Potentially dangerous merge by	• Prohibit buses from using the	**Low**	**High**

Site-Specific Safety Issues	Potential Improvements	Level of Effort	Potential Safety Benefit
buses on/off the raised trolley ROW	trolley ROW due to safety implications of merging on and off the raised concrete.		
10th St.			
• Signal may not be warranted	• Verify signal warrant analysis via study	**Low**	**Medium**
• Grading inconsistencies present problems for pedestrians; facility not in compliance with ADA regulations	• Remove tracks, re-grade, make safer for pedestrians	**High**	**High**
• Trolley tracks turn onto 10th St from Erie Ave and create a hazard for bicyclists	• Remove tracks, make safer/more accessible for bicyclists	**High**	**High**
• Signal heads turned askew	• Re-orient the signal head to face on-coming traffic. **NOTE: Philadelphia Streets Department representatives notified Maintenance of the issue during the field visit.**	**Low**	**High**
Delhi St.			
• Stop sign on the NW corner is turned away from southbound traffic on Delhi St	• Orient stop sign for southbound motorist	**Low**	**High**
• Curb ramps are not ADA compliant	• Install ADA compliant curb ramps	**Medium**	**High**
Percy, 9th St.			
• Curb ramps are too steep and water is pooled at the base	• Repair or replace curb ramps making them ADA compliant and	**Medium**	**High**

Site-Specific Safety Issues	Potential Improvements	Level of Effort	Potential Safety Benefit
• Bollards obstruct pedestrian way	address drainage issues • Since bollards are allowed, develop corridor-wide strategy to prevent parking on sidewalks, i.e.: increased enforcement	**Medium**	**High**
• Signal at southeast corner of 9th misaligned	• Re-align signal head	**Low**	**High**
• Heavy pedestrian traffic associated with the C bus transfers at 9th St combined with heavy traffic volume is potentially hazardous	• Make transit stop more prominent, add necessary amenities	**Medium**	**High**
8th St			
• Drainage issues at curb ramp on the NW corner	• Repair or replace with ADA compliant curb ramps and address drainage issues	**Medium**	**High**
• No amenities for transit passengers (shelters, benches, etc.)	• Coordinate with SEPTA, the City of Philadelphia and appropriate neighborhood association for the provision of necessary amenities	**Medium**	**High**
Franklin St			
• Street sign is covered with graffiti	• Remove graffiti or replace sign	**Low**	**High**
Rising Sun Avenue/7th St			
• Complicated signal timing (for traffic and pedestrians), too many signals	• Evaluate need for a signal upgrade	**Medium**	**High**
• Crosswalks are too long over Rising Sun Ave, crosswalk striping is	• Reorient the crosswalks, install bulb-outs; evaluate the	**Medium**	**Medium**

Site-Specific Safety Issues	Potential Improvements	Level of Effort	Potential Safety Benefit
inconsistent	appropriateness of a pedestrian scramble to ease crossings and reduce crossing times and delay		
• Cobblestone center lane is functioning as a two way LT lane, but is not signed or striped appropriately	• Better establish the center lane as a turn lane through lane striping and signs	**Medium**	**High**
• Missing pedestrian crossing over 7th St	• Provide pedestrian crossing over 7th St	**Low**	**High**
• Vehicles parked near intersection compromises sight distance	• Limit parking at intersection to improve visibility, enforce no parking areas	**Low**	**High**
• No amenities for transit passengers (shelters, benches, etc.)	• Coordinate with SEPTA, the City of Philadelphia, and appropriate neighborhood association to provide necessary transit amenities	**Low**	**High**
6th St			
• Post mounted flashing school zone signs are not highly visible	• Install school flashing signals on mast arms	**Medium**	**High**
• 6th St westbound school crossing sign is faded	• Replace school crossing sign	**Medium**	**High**
Bayard Taylor School (between Randolph St and 6th St)			
• Children cross 6th St to a church/school facility	• Increase pedestrian crossing amenities	**Low**	**High**

Site-Specific Safety Issues	Potential Improvements	Level of Effort	Potential Safety Benefit
• Need for consistent school zone signing	• Make school zone amenities/signs consistent with other school zones in the corridor	**Medium**	**High**
5th St • Cars are pulling up past stop bar into the crosswalks	• Add "Stop Here on Red" signs; add more space between the crosswalk and stop bar	**Low**	**Medium**
Bridge between Lawrence and 3rd St • Steel plates on the bridge are potential hazard (for bicyclists) • Guide rail approaching the bridge needs upgrade, presents a HFO hazard because it has no transition and/or end treatment and is doubled paneled	• Remove steel plates (bike hazard) and rehab as appropriate • Add guide rail delineation; upgrade end treatment and transitions Additional recommendation: Evaluate the need for bridge weight restriction	**Low** **Low**	**High** **High**
3rd St • Used car lot obstructing the sidewalk with parked cars	• Enforce no parking on sidewalk	**Low**	**High**
2nd Street and Sedgley Ave • Time sensitive left turn restrictions at the intersection create confusion for the motorists	• Consider re-routing NB Sedgley Ave. traffic enroute to Erie Ave. onto 3rd St or 5th St where they can access via a signalized intersection; analyze potential neighborhood impacts	**Medium**	**Medium**

Site-Specific Safety Issues	Potential Improvements	Level of Effort	Potential Safety Benefit
• These two intersections in close proximity create potentially unsafe conditions especially for 2nd St, left turns from northbound Sedgley, and for westbound Erie Ave left turns to Sedgley	• Consider signalizing Sedgley Ave and adding to the 2nd St signal plan; upgrade overall signalization	**Medium**	**High**
• Left turn accommodation for westbound Erie Ave to southbound Sedgley Ave missing	• Add LT lane on westbound Erie Ave for turns to southbound Sedgley Ave <u>Additional recommendation:</u> Consider making 2nd St 1-way South, from Erie to improve LOS on the Sedgley Ave signal plan idea	**Low**	**High**
• Faded or missing lane striping; motorists are pulling up past stop bar into the crosswalks	• Restripe pavement markings and add more space between the stop lines and crosswalk; install "Stop Here on Red" signs	**Low**	**High**
• Cars illegally parked on sidewalk	• Enforce no parking on sidewalks	**Low**	**High**
• Curb cuts/ramps are offset from 2nd St	• Realign curb ramps	**Medium**	**High**
Roberto Clemente School (between 2nd and Front)			
• Inconsistent school zone signing	• Install consistent school zone sign	**Low**	**High**
• Missing pedestrian signal	• Add pedestrian signal during the intersection improvement	**Medium**	**Medium**
• Sidewalk pavement is missing	• Replace sidewalk	**Medium**	**High**

Site-Specific Safety Issues	Potential Improvements	Level of Effort	Potential Safety Benefit
along sidewalk opposite of school • No curb ramps at the school midblock crossing	• Install ADA compliant curb ramps at the midblock crossing	**Medium**	**High**
Front St • Missing pedestrian signals	• Add man/hand pedestrian signals with countdown timers	**Medium**	**High**
• Confusing and potentially hazardous pedestrian crossing	• Improve pedestrian crossing with continental striping	**Low**	**High**
• Yield sign (located near the bus stop) on north side should be reoriented towards Erie Ave	• Install yield saw tooth pavement markings; possibly relocate yield sign	**Low**	**High**
• Cars are parked on the sidewalk on the northwest corner forcing pedestrians to walk in the roadway and obstruct the view of the crosswalk	• Prohibit/enforce no parking on northwest corner, widen sidewalks on northwest corner to better accommodate pedestrians	**Low**	**High**
• Number 56 bus (WB) stop is at the channelized island on the northeast corner which present difficulty for school children to cross the roadway and proceed northbound on Front St	• Relocate westbound #56 bus stop to a safer location	**Low**	**High**
	Long Term		
	• Consider roundabout	**High**	**High**
	• Consider intersection redesign	**High**	**High**
	• Reconfigure the channelized right – evaluate the need and possibly remove if not warranted	**Medium**	**Medium**

Site-Specific Safety Issues	Potential Improvements	Level of Effort	Potential Safety Benefit
A Street			
• In trolley track area, 4 to 5 inch dip (tripping hazard) similar to I St intersection	• Cover/fill tracks with a rubber cap (or other material) to make crossing safer for bikes and ADA compliance	**High**	**High**
• Bus shelter obstructs sidewalk	• Consider relocating bus shelter, or widening sidewalk	**Medium**	**Medium**
• Erie is very wide–therefore promoting higher speeds	• Consider traffic calming measures, i.e., narrow the lanes through striping	**Medium**	**High**
B / Whitaker St. to I St.			
• Missing speed limit signs	• Install speed limit signs	**Low**	**Medium**
B St/ Whitaker St			
• Trolley island creates confusion	• Remove trolley island, or use reflective markings to make more visible, prominent	**Low to High** (depending on level of imprvt)	**High**
• On the southeast corner there is a gas station with uncontrolled access	• Implement access management for gas station	**Medium**	**High**
• Left turn from Erie Ave to Whitaker St not clearly marked	• Re-establish the center turn lane with lane striping and signs	**Low**	**High**
• Southbound Whitaker St right turn onto Erie Ave westbound and northbound right turn onto Whitaker St from Erie Ave-vehicles observed using shoulder for parking	• Enforce no parking zone	**Medium**	**High**
• High number of angle crashes	• Evaluate effects of increasing the	**Medium**	**High**

Site-Specific Safety Issues	Potential Improvements	Level of Effort	Potential Safety Benefit
	all red signal phase to address angle crashes		
• Missing cross walk over B St	• Replace missing cross walk striping	**Low**	**High**
• Missing yield pavement markings on channelized right turn	• Install saw tooth yield markings on channelized right turn	**Low**	**High**
	NOTE: Philadelphia Streets Department representatives stated this will be addressed under pending contract		
I St intersection			
• Unused SEPTA pole creates tripping hazard	• Remove unused SEPTA pole	**Low**	**High**
• Missing lane designation striping	• Upgrade lane striping; add formalized left turn lane for all four approaches	**Low**	**High**
• Pedestrian crosswalks are lacking	• Add continental style pedestrian crosswalk striping	**Low**	**High**
• Tracks and bridge uneven through intersection	• Remove trolley tracks	**High**	**High**

PRIORITY SUGGESTIONS

-Remove trolley infrastructure along the corridor (in phases in combination with road projects that address the major issues)

-Prohibit buses from raised trolley ROW

-Restripe/upgrade all crosswalks to continental style at every signalized intersection and high-priority pedestrian crossing location

3.0 SR 4004 Olney Avenue

Roadway Characteristics

The study area consists of a 1.6-mile stretch along Olney Avenue (SR 4004) in Philadelphia (see *Appendix B* for Study Area Map). The study area begins at the intersection of Olney and Broad Street (SR 0611) and continues on until Rising Sun Avenue (SR 1001). Olney Avenue runs in an east-west direction and has a functional classification of major arterial. Olney Avenue is one lane in each direction along the study area and has no shoulder, but does have on street parking permitted in select sections along the corridor. The speed limit in the study area is 30 MPH. There are a total of 28 intersections in the study area, 17 of which form four way intersections, and 11 "T" intersections; 16 are signalized.

Traffic volumes along the corridor are fairly consistent. The highest Average Annual Daily Traffic (AADT) was found in the eastern end of the corridor near Rising Sun Avenue where the AADT was approximately 12,500 vehicles per day between the years 2000 and 2005. This is most likely due to the higher volumes carried by Rising Sun Avenue, a major transportation corridor that connects to US 1 and carries traffic to Northeast Philadelphia. Continuing westward volumes remain fairly consistent where a volume of 13,500 (1998) was recorded near the intersection of 7th Street. Closer to Broad Street volumes dropped to 10,000 (1998) near 12th Street.

Turning movement counts were conducted at four signalized intersections. The highest combined peak hour (AM and PM) intersection volumes were recorded at the intersection of Olney and Broad Street, which experienced an AM peak hour of 3,826 vehicles between 7:45 and 8:45 AM, and a PM peak period of 3,605 between 5:30 and 6:30 PM. The remaining three intersections had significantly lower combined AM and PM volumes ranging between 3,563 and 4,734. Turning movement diagrams for each of the four intersections is included in the appendix.

Transit

Several transit routes travel through the study area. The Olney Transportation Center is located at the intersection of Broad Street and Olney Avenue and provides access to the Broad Street Line Subway Station and SEPTA bus terminal. The Broad Street Line Subway, a rapid transit line, runs from the Fern Rock Transportation Center in North Philadelphia to Pattison Avenue in South Philadelphia. The Olney Transportation Center also serves bus routes 6, 8, 18, 22, 26, 55, and 80, BSL, C and L. Sigler Travel, a division of Greyhound Bus Service, also uses the terminal to provide bus service to Atlantic City and to the Easton-Scranton area.

SEPTA bus routes 26 and 18 serve the length of the study area. The 26 bus, which travels from Germantown to Olney and the Frankford Transportation Center via Olney Avenue, operates 42 AM weekday eastbound buses, 51 PM weekday eastbound buses, 48 AM weekday westbound buses, and 55 PM weekday westbound buses. Average daily boardings for this service in 2007 were 11,403. The route 18 bus, which travels from Cedarbrook to Lawndale and Fox Chase via Olney and Rising Sun Avenues, operates 43 AM weekday westbound buses, 85 PM weekday westbound buses, 78 AM weekday eastbound buses, and 58 PM weekday eastbound buses. Average daily boardings for this service in 2007 were 18,025. The 57 bus route serves the study area from Front Street to Rising Sun Avenue, and travels from South Philadelphia to Fern Rock Transportation Center via American, 3rd, and 4th Streets. The route 57 bus operates 40 weekday northbound AM buses and 52 weekday northbound PM buses, with an average daily boarding of 10,096.

Land Use

The study area is located in the Olney-Oak Lane section of North Philadelphia. The study area begins bordering the eastern edge of the Fern Rock and East Logan neighborhoods and then travels through the Olney neighborhood. The western portion of Olney Avenue in the study area stretches from the intersection with Broad Street to the intersection with 5th Street. Einstein Hospital and the Olney Transportation Center—plus a number of commercial uses—are located at the Broad Street intersection. Along the western portion of the study area from Broad Street to 5th Avenue the land use is mixed residential, commercial, and parking. The intersection of Olney and 5th Avenues serves as a major destination due to the heavy commercial activity located on and around 5th Avenue and resulting in increased pedestrian activity in the vicinity.

The eastern portion of Olney Avenue in the study area stretches from 5th Avenue to Rising Sun Avenue. The land use throughout the eastern portion is mixed residential, commercial, and community use. The One and Olney Square, a large shopping center, is located at the intersection of Front Street and Olney Avenue. Grover Washington Middle School and a recreational park straddle Olney Avenue between Front and B Streets. The study area ends at Rising Sun Avenue, across from which is located Tacony Creek Park.

Crash Data

According to PennDOT's crash data there were 132 reportable crashes between 2004 and 2006. Reportable crashes are crashes that may result in a fatality, injury, and/or property damage rendering the vehicle disabled, requiring it be towed from the scene. A comprehensive analysis of the crash data is shown in Appendix F. There were 43 crashes recorded in 2004 (32.5%), 40 in 2005 (30%), and 49 in 2006 (37.5%). When analyzing crash frequency by month, February had the

most crashes with 17, and March and October had the least with 7 each, closely followed by January, which had 8. July and May had the next highest crashes with 14 and 13 respectively. Twelve crashes per month were recorded in June, September, November, and December. April and August saw 9 crashes each. Crash totals by day of week were less evenly distributed. The highest crash total was recorded on Tuesdays (31), and the least on Sundays (11). The remaining days had between 13 and 24 crashes. Regarding time of day, the late morning until mid-afternoon hours between 11:00 AM and 3:00 PM had the highest concentration of crashes at 45 or 34%. Another trend—albeit less significant—occurred during the evening commute time of 4:00 PM to 7:00 PM when an average of 7 crashes per hour was recorded. When combined, they account for 20% of the total. A spike of 11 crashes was recorded during the 8:00 AM hour, which may be a reflection of increased volumes during the morning commute.

The top three collision types were angle crashes (40) at 30%, pedestrian crashes (35) at 26%, and rear-end crashes (32) at 24%. As was also the case along Erie Avenue, it is not uncommon to have a higher proportion of pedestrian crashes in an urban environment, as walking and transit usage are much more prevalent. There were two fatal crashes during the study period, 127 (96%) injury crashes of varying levels of severity, 1 crash coded as “unknown if injured”, and 2 property damage only crashes. Eighty four percent of the crashes occurred under clear weather conditions, with 12% occurring during rainy conditions. Eighty three percent of the total occurred on dry road surface conditions and seventy four percent during daylight hours.

3.1 Findings and Recommendations – Olney Avenue

The following table summarizes the findings and recommendations of the SR 4004 Olney Avenue Road Safety Audit. Shaded areas represent recommended strategies requiring a low level of effort for implementation with a high level of potential safety benefits.

SR 4004 Olney Avenue
Road Safety Audit

Corridor-wide Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
Signals			
• Some signals may not be warranted	• Re-evaluate signal warrants	**Low**	**Medium**
• Approximately 64% of all crashes have occurred at signalized intersections from 2004 to 2006	• Re-evaluate clearance interval	**Medium**	**High**
• Sun glare compromises sight distance	• Add back plates to signal heads	**Low**	**High**
• Signal mountings are outdated	• Upgrade signals with mast arms	**High**	**Medium**
Signs			
• Inconsistent location of street name and one-way signs	• Conduct a sign inventory and address consistency issue	**Low**	**High**
• Signs were unreadable, outdated, and without reflectivity	• Replace with new signs that meet code specifications and are reflective	**Medium**	**High**

Corridor-wide Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
Pedestrian Crossings			
• Missing pedestrian signal heads at every intersection except at Broad Street.	• Upgrade existing traffic signals with man/hand pedestrian signal heads with countdown timers	**Medium**	**High**
• Damaged/depressed/missing curbs	• Repair walkways at intersections (consider bulb outs as needed)	**Medium**	**High**
• Curb ramps not consistently ADA compliant	• Make all curb ramps ADA compliant	**Medium**	**High**
• Drainage issues at curb ramps	• Address drainage issues at curb ramps	**Medium**	**High**
• Mixed crosswalk types (conventional and continental) **NOTE: Twenty six percent (26%) of all crashes were pedestrian related from 2004 to 2006.**	• Standardize all signalized intersections with continental style striping, install at non-signalized intersections where deemed necessary, i.e. school zones, or other trip generators	**Medium**	**High**
Sidewalks			
• Sidewalks in disrepair and/or missing	• Repair/replace sidewalks where necessary	**Medium**	**High**
• SEPTA poles obstruct the sidewalk	• Remove old poles	**Medium**	**Medium**
• Poorly set drainage grates create obstructions for bicyclists and pedestrians	• Reset drainage grates as necessary and make flush with pavement	**Medium**	**High**
• Illegal parking on sidewalks	• Coordinate with the Philadelphia Streets Dept. to develop a strategy to prevent sidewalk parking that obstructs the pedestrian way	**Medium**	**High**

Corridor-wide Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
Bicycling			
• Substandard drainage grates for bicycling	• Convert to bicycle safe drainage grates, improve in tandem with improved ADA compliant curb ramps	**Medium**	**High**
• Bicycle accommodation is not provided	• Install shared lane markings (aka "sharrows"), and add additional "share the road" signs	**Low**	**High**
• Lack of bike parking at commercial centers and at Olney Transportation Center	• Install appropriate bicycle parking at the transportation center and commercial centers	**Low**	**Medium**
• Poorly defined ROW at intersections	• Re-stripe lanes as necessary	**Low**	**High**
.	**NOTE: Although only 2 out of 132 crashes were pedalcycle related this is considered an indicator of bicycle usage. These improvements are pro-active in an effort to improve the bicycling environment.**		
Transit			
• Buses stopped in the travel way cause traffic to back up, resulting in motorists using the opposing lane to bypass buses	• Enforce parking restrictions at bus stops	**Low**	**High**
	• Consider curb bulb outs at selected bus stop locations that have high ridership	**Medium**	**High**

Corridor-wide Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
Speeding • Field observations revealed excessive speeds and red light running	• Potential for speed reduction through engineering and enforcement strategies i.e., lane narrowing (note: existing lanes are already 10 feet wide along some parts of the corridor), automated enforcement, targeted police patrol, "Safety Corridor" designation (where fines are doubled); evaluate feasibility of reducing the posted speed limit to 25 mph based on speed study	**Low to Medium** (depending on which strategies are pursued)	**Medium To High** (depending on which strategies are pursued)

Site-Specific Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
Rising Sun Avenue • Trolley tracks create problems for motorists and bicyclists	• Address track issues by removing/paving over/or other safety treatment	**High**	**High**
• Uncontrolled access at gas station on both Olney Ave and Rising Sun Ave	• Design access management plan for gas station, close off duplicative access to provide improved pedestrian conditions, i.e., more sidewalk and a formal/prominent bus stop location	**Medium**	**High**

Site-Specific Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
• Number 18 SEPTA bus stop on Rising Sun Ave southbound causes back ups and pedestrian problems	• Relocate bus stop to 2nd block of Olney Ave	**Medium**	**High**
• Stop bar location on Olney Ave eastbound at Rising Sun Ave constricts mobility	• Push back the Olney Ave eastbound approach stop bar to allow easier movements from Rising Sun Ave northbound to Olney Ave westbound	**Low**	**High**
	Additional recommendations: • Consider shifting double yellow center lines to create a wider westbound lane on Olney Ave to ease left turns from Rising Sun Ave northbound	**Medium**	**Medium**
	• Add dotted lead line to guide turning traffic	**Low**	**High**
	• Investigate need for former trolley turn around, consider better use/new design for transit transfer	**Medium**	**Medium**
Between Rosehill St and Ormes St			
• Two and a half (2.5) foot diameter tree trunk in clear zone	• Remove tree trunk	**Low**	**High**
• Missing curb	• Replace curbs	**Medium**	**Medium**
• Old trolley pole across from Rosehill St	• Remove pole	**Medium**	**Medium**

Site-Specific Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
• Missing curb near Ormes St, and alley between Ormes St and B St is missing pavement	• Replace curbs and missing pavement	**Medium**	**High**
B St			
• Missing school zone ahead warning sign on B St approaching Olney Ave	• Add school zone warning sign	**Medium**	**High**
• Traffic signal head is tilted out of view for motorists on northbound B St	• Position the traffic signal head facing oncoming northbound traffic on B Street	**Low**	**High**
• SEPTA “no stopping” sign is faded	• Replace the sign	**Low**	**Medium**
• School crossing sign is ineffective	• Add arrow plaque to the bottom of the existing school crossing sign for westbound Olney Ave	**Low**	**Medium**
Area of RR Overpass (Front St to B St)			
• Sidewalk trash, fence in disrepair, missing and broken sidewalks/curbs (especially along Olney Ave westbound near Front St., deformed sidewalk patch is tripping hazard)	• Perform sidewalk maintenance, repair/replace as necessary; remove trash	**Low**	**Medium**
• Hilly terrain encourages speeding	• Calming traffic by narrowing lanes (widen striped center area)	**Medium**	**High**
• Unsanctioned drop off and pick up area by school used regularly	• Establish a designated drop-off and pick-up zone for the school	**Low**	**High**

Site-Specific Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
Front St			
• Missing/broken/uneven sidewalks	• Repair/replace sidewalks	**Medium**	**Medium**
• Southeast corner there is a low point gathering water	• Repair low point to address drainage problem	**Medium**	**High**
• Faded pavement markings and pedestrian crossings	• Re-stripe all pavement markings	**Low**	**High**
Mascher St			
• Drainage issue at the northwest corner at the curb ramp	• Repair ramp and fix drainage issue	**Medium**	**High**
• Faded/missing pedestrian crossing markings	• Upgrade all pedestrian crossings with continental style crosswalks	**Low**	**High**
• Crosswalks appear too close to stop bar	• Reposition stop bars to appropriate location	**Low**	**Medium**
• South side of Olney Ave west of Mascher St, sidewalk is badly damaged	• Repair sidewalk	**Medium**	**Medium**
Between Palethorp St and 2nd St			
• Big hole forming in pavement	• Evaluate need for base repair	**High**	**High**
American St			
• Open trench obstructing pedestrian way	• Clear way and repair sidewalk	**Medium**	**High**
3rd St			
• One way sign facing wrong way	• Reorient sign	**Low**	**High**
4th St			
• Traffic signal pole is located in curb ramp (SW corner)	• Relocate signal pole or curb ramp as appropriate	**High**	**High**
• Signal may not be warranted	• Re-evaluate signal warrants	**Medium**	**Medium**

Site-Specific Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
5th St			
• Drainage inlet located in curb ramp area	• Relocate curb ramp and/or inlet	**Medium**	**High**
• Heavy pedestrian volume in the 5th St business district	• Evaluate needs and benefits of a pedestrian scramble phase and lane striping for intersection	**Low**	**High**
• Heavy bus transfer volume between the following SEPTA bus routes (47, 18, 26)	• Add pedestrian signal heads w/ countdown timers	**High**	**High**
• Missing "no turn on red" signs	• Add "no turn on red" signs, enforce	**Low**	**High**
• Pedestrian crossings are faded	• Re-stripe pedestrian crossings	**Low**	**High**
• Post mounted signal heads can be hard to see	• Install traffic signals on overhead mast arms for better visibility	**High**	**High**
Fairhill St			
• Poor roadway condition	• Repair roadway, repave, re-stripe	**High**	**High**
• Local car wash/inspection station using sidewalk to store vehicles, obstructing pedestrian ROW	• Enforce no parking on sidewalks	**Low**	**High**
• Poor sidewalk condition in vicinity of 6th St, drainage problem	• Address drainage issues and repair sidewalk	**Medium**	**High**
Southside of Olney Ave between 6th St and Fairhill St			
• Broken post	• Remove post or replace missing sign	**Medium**	**Medium**
West of 7th St. (moving west)			
• Missing bridge height restriction sign	• Replace sign	**Medium**	**High**
• Hospital sign badly faded	• Replace sign	**Medium**	**High**

Site-Specific Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
• Lump of asphalt creating tripping hazard	• Remove tripping hazard	**Low**	**Medium**
• Drainage problem on north side	• Address drainage problem	**Medium**	**Medium**
Southeast Corner of Wagner St and Olney Ave			
• General lack of maintenance and deterioration in the area of the bridge overpass	• Conduct an evaluation and perform maintenance and repair where needed	**Medium**	**High**
• Bus stop area missing crosswalk and designated pedestrian crossing area	• Add pedestrian crosswalks, warning signs, and standard pedestrian amenities; this is supported by observed pedestrian activity	**Medium**	**High**
10th St			
• Southwest corner drainage grate is a tripping hazard	• Remove tripping hazard	**Low**	**Medium**
• 10th St carries the SEPTA C bus and there is a significant transfer point at Olney Ave—high traffic volume at this point is a safety hazard to pedestrians	• Raise the profile of pedestrians and transit riders by improving the transit and pedestrian amenities	**Medium**	**High**
Btw 10th and 11th			
• Damaged curb and sidewalk	• Upgrade curb and sidewalk	**Medium**	**High**
11th St			
• Hospital sign is faded	• Replace hospital sign	**Low**	**Medium**
• Gas utility cover ajar	• Replace utility cover and make flush with pavement	**Low**	**Medium**

Site-Specific Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
• Curb ramps are collecting water	• Repair curb ramps to address drainage, make ADA compliant; coordinate w/ Philadelphia Public Works dept.	**Medium**	**High**
• Debris in the area	• Clean up the area	**Low**	**Medium**
• Damaged signal visor	• Repair signal visor	**Low**	**High**
Btw 11th and Broad			
• Marvine St curb ramp is offset	• Realign curb ramp and make ADA compliant.	**Medium**	**High**
• At 12th St, "no parking" signs for bus zone are damaged	• Replace no parking signs, enforce zones	**Medium**	**High**
• Stop sign at 12th St was turned wrong way	• Reposition stop sign	**Low**	**High**
• At Park Ave one way sign facing wrong way, and is blocked by the pole	• Move/reposition one way sign	**Low**	**High**
Park St and Olney Ave			
• Missing pedestrian signal heads, other amenities	• Install pedestrian countdown signal heads, and other pedestrian amenities as deemed appropriate	**Medium**	**High**
• Vehicles bypassing stop bar and stopping in crosswalk, obstructing pedestrians	• Consider prohibiting traffic from Olney between Park and Broad, make bus only with dedicated pedestrian plaza, evaluate impacts of traffic diversion	**High**	**Medium**

Site-Specific Issues	Recommended Improvements	Level of Effort	Potential Safety Benefit
Olney Ave and Broad St			
• Heavy pedestrian traffic with heavy vehicular traffic in the area, which heightens pedestrian safety concerns	• Consider signs and pavement markings to raise the profile of pedestrians/transit riders	**Low**	**High**
• Pedestrian crossings over Broad St are very long	• Consider redesign of pedestrian refuge island at the Broad St crossing	**Medium**	**High**
• Pedestrian heads not working properly	• Repair pedestrian signal heads (i.e., walk/don't walk/walk)	**Low**	**High**

PRIORITY SUGGESTIONS

OLNEY AVENUE

-Improved pedestrian environment
-Rising Sun Ave intersection improvements
-Sign and signal inventory and upgrades
-Recirculation of the Bus Transfer area
-Enforce no parking on sidewalks

4.0 Conclusions

As discussed earlier, the road safety audit program is conducted to generate improvement recommendations and countermeasures for roadway segments demonstrating a history of, or potential for, a high incidence of motor vehicle crashes. The safety issues identified during the audit and documented in this report along with recommended strategies should improve the overall safety of both Erie and Olney Avenues. These remedial strategies can be implemented as time and budget limitations permit. Both corridors were identified in PennDOT's Top 5% Report making them eligible for Highway Safety Improvement Program funding. It should be noted that many of the identified strategies can be implemented during routine maintenance.

The prevalence of pedestrian involved crashes in both the Erie (15%) and Olney (26%) corridors is of particular concern. Although this is more common in the urban environment, it is none the less an important finding. Many of the recommendations, both corridor-wide and site specific, address pedestrian issues to make crossings safer and to raise the profile of walkers and transit riders. These improvements are especially important at the Broad Street intersections of both corridors due to the high volume of pedestrians accessing transit, combined with heavy traffic volumes.

Lastly, the former trolley right-of-way along Erie Avenue, particularly the raised concrete section found in the western portion of the corridor, was an issue of great concern among audit team members. The field visit revealed SEPTA buses utilizing this center lane as a dedicated bus-way. Buses mounting and dismounting the raised platform at considerable speeds, combined with transit riders having to board in the middle of street, presents safety compromises that need to be addressed in the short term.

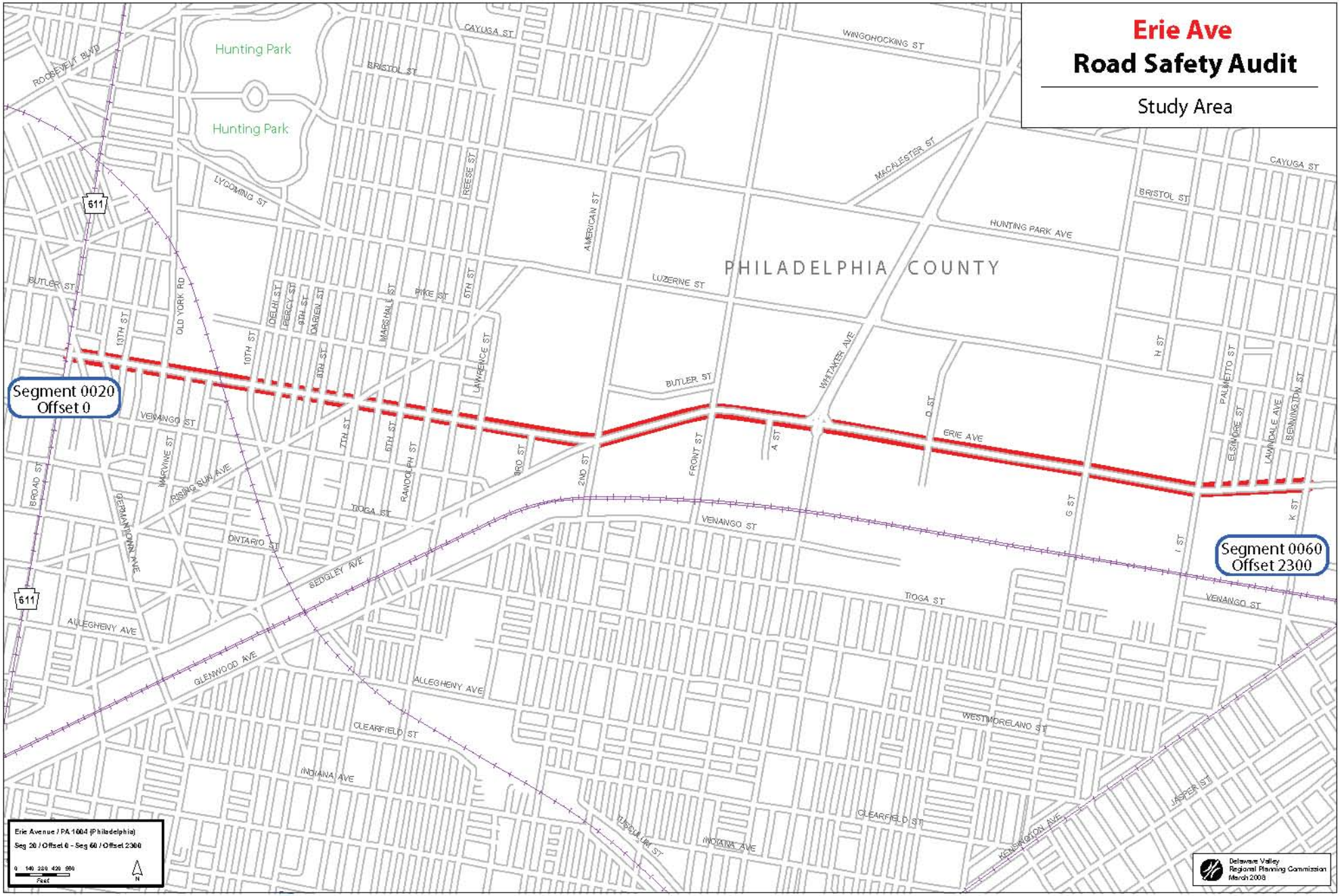
APPENDIX A
Audit Team

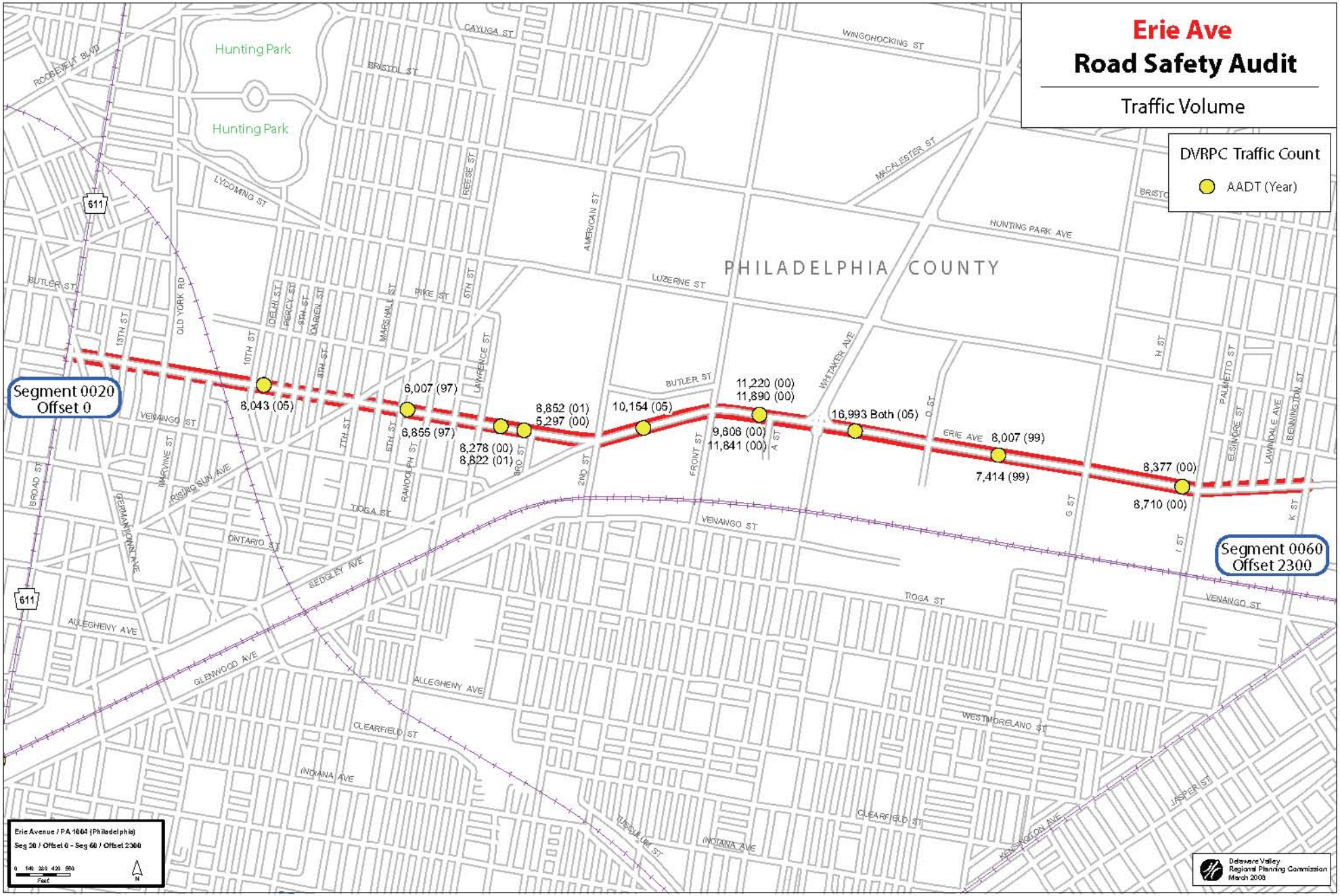
SR 1004 Erie Avenue and SR 4004 Olney Avenue - Road Safety Audit

Audit Team

Name	Organization
Rosemarie Anderson	Delaware Valley Regional Planning Commission
John Boyle	Bicycle Coalition of Philadelphia
Sgt. Christopher Bradshaw	Philadelphia Police Department - 35th District
Lawrence Bucci	Pennsylvania Department of Transportation - District 6
Mike Castellano	Federal Highway Administration
Sgt. Doreen Dean	Philadelphia Police Department - Truck Enforcement
Jim Dellipriscoli	Southeastern Pennsylvania Transportation Authority
David Dlugosz	City of Philadelphia Streets Department
Joseph M. Doyle	City of Philadelphia - Street Lighting
Joseph M. Fiocco, P.E., PTOE	McMahon Associates, Inc.
Chris Henrick	Delaware Valley Regional Planning Commission
John Madera	Delaware Valley Regional Planning Commission
Leonard McCleary	Hunting Park Neighborhood Advisory Committee
Regina Moore	Delaware Valley Regional Planning Commission
Kevin Murphy	Delaware Valley Regional Planning Commission
Jillian Puleo	Delaware Valley Regional Planning Commission
Mark Washington	City of Philadelphia Streets Department

APPENDIX B
Maps – Erie Avenue


Erie Ave
Road Safety Audit
Study Area
Segment 0020
Offset 0
Segment 0060
Offset 2300
PHILADELPHIA COUNTY
Hunting Park
Hunting Park
ERIE AVE
BUTLER ST
VENANGO ST
TIOGA ST
ALLEGHENY AVE
CAYUGA ST
BRISTOL ST
HUNTING PARK AVE
LUZERNE ST
WESTMORELAND ST
CLEARFIELD ST
INDIANA AVE
LYCOMING ST
ROOSEVELT BLVD
OLD YORK RD
BROAD ST
GERMANTOWN AVE
GLENWOOD AVE
SEDGLEY AVE
ONTARIO ST
RISING SUN AVE
KENSINGTON AVE
JASPER ST
WINGOHOCKING ST
MACALESTER ST
611
Erie Avenue / PA 1004 (Philadelphia)
Seg 20 / Offset 0 - Seg 60 / Offset 2300
0 140 280 420 560
Feet
N
Delaware Valley
Regional Planning Commission
March 2008


Erie Ave
Road Safety Audit
Traffic Volume
DVRPC Traffic Count
AADT (Year)
Segment 0020
Offset 0
Segment 0060
Offset 2300
8,043 (05)
6,007 (97)
6,855 (97)
8,278 (00)
8,822 (01)
8,852 (01)
5,297 (00)
10,154 (05)
11,220 (00)
11,890 (00)
9,606 (00)
11,841 (00)
16,993 Both (05)
8,007 (99)
7,414 (99)
8,377 (00)
8,710 (00)
PHILADELPHIA COUNTY
Hunting Park
Hunting Park
ROOSEVELT BLVD
CAYUGA ST
BRISTOL ST
WINGOHOCKING ST
LYCOMING ST
REESE ST
AMERICAN ST
MACALESTER ST
HUNTING PARK AVE
LUZERNE ST
BUTLER ST
15TH ST
OLD YORK RD
10TH ST
DELHI ST
PIGGOTT ST
9TH ST
CARGIL ST
8TH ST
MARSHALL ST
PIKE ST
6TH ST
LAWRENCE ST
WHITAKER AVE
D ST
ERIE AVE
H ST
PALMETTO ST
ELSINORE ST
LAWNDALE AVE
BENNINGTON ST
K ST
BROAD ST
IMARVINE ST
RISING SUN AVE
GERMANTOWN AVE
7TH ST
6TH ST
RANDOLPH ST
3RD ST
2ND ST
FRONT ST
A ST
G ST
I ST
TIOGA ST
VENANGO ST
ONTARIO ST
SEDGLEY AVE
ALLEGHENY AVE
GLENWOOD AVE
CLEARFIELD ST
INDIANA AVE
TUSCULUM ST
WESTMORELAND ST
KENSINGTON AVE
JASPER ST
611
Erie Avenue / PA 1004 (Philadelphia)
Seg 20 / Offset 0 - Seg 60 / Offset 2300
0 140 280 420 560
Feet
N
Delaware Valley
Regional Planning Commission
March 2008

APPENDIX C
Traffic Data – Erie Avenue

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1 The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete
Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years
Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

REPORT PARAMETERS:

Query ID:	0620080310003
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 1004(P) Between Segment 0020 Offset 0 and Segment 0070 Offset 20)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

RSA ERIE AVE 0020/0000 TO 0070/0020

Date Range: 1/1/2004 to 12/31/2006
Area of Interest: (In County 67 On State Route 1004(P) Between Segment 0020 Offset 0 and Segment 0070 Offset 20)

USER ID/QUERY ID:
lkubli/ 0620080310003

MONTH OF YEAR

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
CRASHES	8	11	25	12	14	26	13	14	16	17	17	15	188
PCT	4%	5%	13%	6%	7%	13%	6%	7%	8%	9%	9%	7%	100%

DAY OF WEEK

	SUN	MON	TUE	WED	THR	FRI	SAT	
CRASHES	19	24	30	31	26	30	28	188
PCT	10%	12%	15%	16%	13%	15%	14%	100%

HOUR OF DAY

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	99	
CRASHES	7	4	4	4	2	1	6	9	8	6	10	5	8	3	9	17	17	11	11	6	13	7	3	4	13	188
PCT	3%	2%	2%	2%	1%	0%	3%	4%	4%	3%	5%	2%	4%	1%	4%	9%	9%	5%	5%	3%	6%	3%	1%	2%	6%	100%

YEAR

	CRASHES	PCT
2004	80	42%
2005	47	25%
2006	61	32%
TOTAL	188	100%

COLLISION TYPE

	CRASHES	PCT
ANGLE	61	32%
REAR END	43	22%
PEDESTRIAN	29	15%
HEAD ON	18	9%
HIT FIX OBJ	16	8%
SAME DIR SS	16	8%
OPP DIR SS	5	2%
TOTAL	188	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
FATAL	1	0%
MAJOR	7	3%
MODERATE	34	18%
MINOR	82	43%
UNK SEVERITY	39	20%
UNK IF INJURED	8	4%
PDO	17	9%
TOTAL	188	100%

SEVERITY COUNT

	PERSONS
FATALITIES	1
MAJOR	7
MODERATE	42
MINOR	134
UNK SEVERITY	74
UNK IF INJURED	55

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	151	38%
UNKNOWN	109	27%
OTHER IMPROPER DRIVING	30	7%
IMPROPER/CARELESS TURN	14	3%
RUNNING RED LIGHT	9	2%
DRIVER WAS DISTRACTED	8	2%
TOO FAST FOR CONDITION	8	2%
SUDDEN SLOWING/STOP	7	1%
TAILGATING	7	1%
CARELESS PASS/LN CHNG	6	1%
MAKING ILLEGAL U-TURN	6	1%
AFFECTED PHYSICAL COND	5	1%
OTHERS	36	9%
TOTAL	396	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	266	73%
VAN	23	6%
SMALL TRUCK	16	4%
SUV	16	4%
LARGE TRUCK	13	3%
MOTORCYCLE	8	2%
BUS	8	2%
UNK VEHICLE	6	1%
PEDALCYCLE	4	1%
OTHER VEHICLE	2	0%
TOTAL	362	100%

ROAD CONDITION

	CRASHES	PCT
DRY	143	76%
WET	43	22%
OTHER	2	1%
TOTAL	188	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	115	61%
STREET LIGHTS	61	32%
DUSK	5	2%
DARK	3	1%
DAWN	1	0%
OTHER	1	0%
UNK	1	0%
UNK LIGHTING	1	0%
TOTAL	188	100%

WEATHER

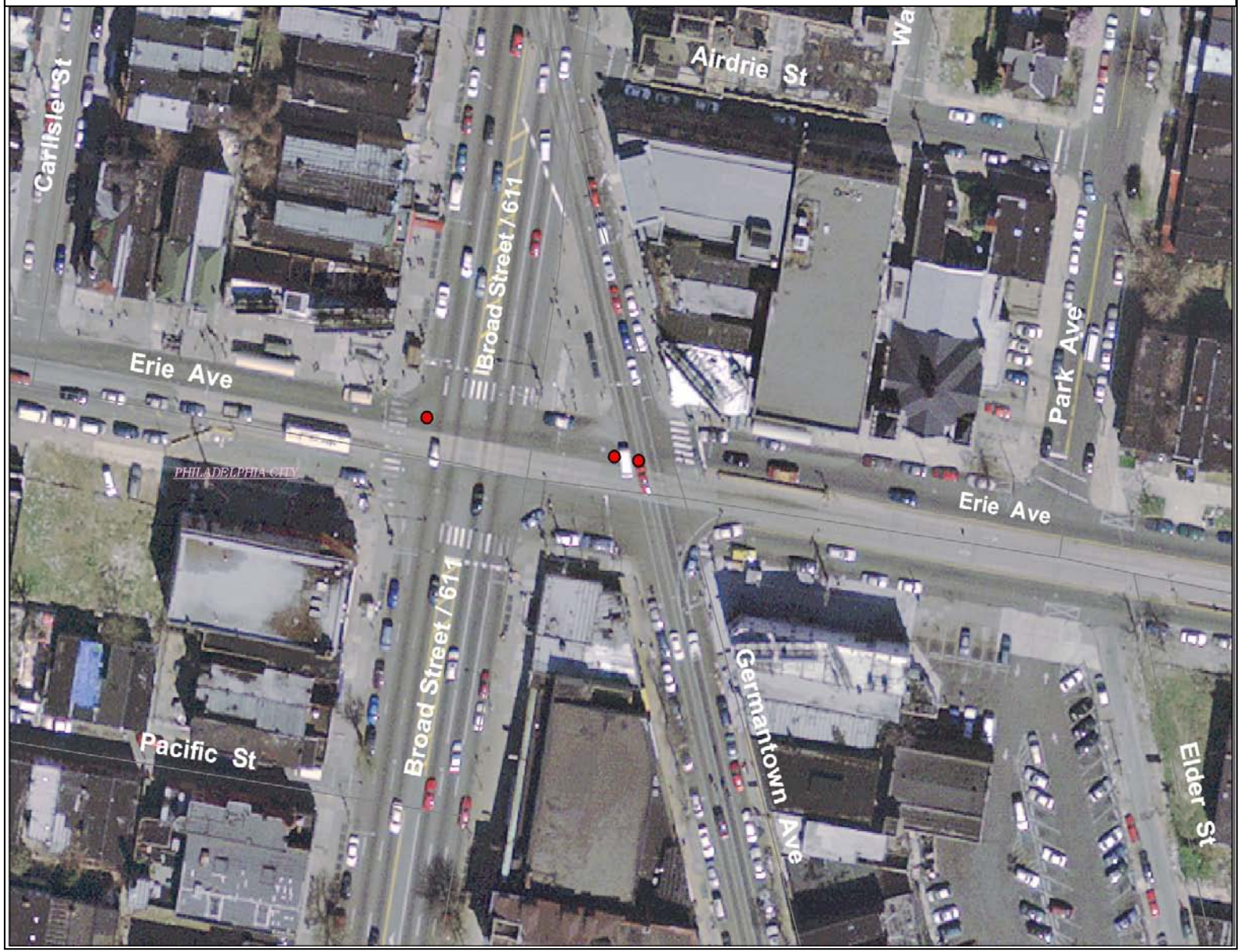
	CRASHES	PCT
CLEAR	142	75%
RAIN	37	19%
UNK	5	2%
SNOW	2	1%
OTHER	1	0%
SLEET	1	0%
TOTAL	188	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	152	77%
UNKNOWN	19	9%
SLIPPERY ICE/SNOW	14	7%
OTHER WEATHER COND	6	3%
OTHER RDWY FACTOR	2	1%
WINDY CONDITIONS	2	1%
OTHER ENVIR FACTOR	1	0%
SUDDEN WEATHER COND	1	0%
TOTAL	197	100%

1. SR 1004 Erie Avenue from Broad Street to Germantown Avenue

Segment 20, Offset 0 to Segment 20, Offset 130



COLLISION TYPE	
Pedestrian	7
Angle	3
Rear-end	2
Same Dir Sideswipe	2
Hit Fixed Object	1
Opp Dir Sideswipe	1
Total	**16**

ILLUMINATION	
Street Lights	7
Daylight	5
Dusk	2
Dark	1
Unk Lighting	1
Total	**16**

WEATHER	
Clear	11
Rain	3
Unknown	2
Total	**16**

SEVERITY COUNT	
Fatalities	0
Major	0
Moderate	2
Minor	13
Unk Severity	5
Unk If Injured	7

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

RSA ERIE AVE 0020/0000 TO 0020/0130

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 1004(P) Between Segment 0020 Offset 0 and Segment 0020 Offset 130) or (In County 67 On State Route 1004(S) Between Segment 0021 Offset 0 and Segment 0021 Offset 130)

USER_ID/QUERY ID: lkubli/ 0620080310001

MONTH OF YEAR

	FEB	MAR	APR	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
CRASHES	1	4	1	4	1	1	1	1	1	1	16
PCT	6%	25%	6%	25%	6%	6%	6%	6%	6%	6%	100%

DAY OF WEEK

	SUN	MON	TUE	WED	THR	FRI	SAT	
CRASHES	1	1	2	3	1	1	7	16
PCT	6%	6%	12%	18%	6%	6%	43%	100%

HOUR OF DAY

	00	01	07	12	15	18	20	21	22	99	
CRASHES	1	2	1	1	1	1	5	1	2	1	16
PCT	6%	12%	6%	6%	6%	6%	31%	6%	12%	6%	100%

YEAR

	CRASHES	PCT
2004	7	43%
2005	4	25%
2006	5	31%
TOTAL	16	100%

COLLISION TYPE

	CRASHES	PCT
PEDESTRIAN	7	43%
ANGLE	3	18%
REAR END	2	12%
SAME DIR SS	2	12%
HIT FIX OBJ	1	6%
OPP DIR SS	1	6%
TOTAL	16	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MODERATE	2	12%
MINOR	8	50%
UNK SEVERITY	4	25%
UNK IF INJURED	1	6%
PDO	1	6%
TOTAL	16	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	0
MODERATE	2
MINOR	13
UNK SEVERITY	5
UNK IF INJURED	7

DRIVER ACTIONS

	ACTIONS	PCT
UNKNOWN	11	44%
NO CONTRIBUTING ACTION	5	20%
OTHER IMPROPER DRIVING	3	12%
AFFECTED PHYSICAL COND	1	4%
MAKING ILLEGAL U-TURN	1	4%
RUNNING RED LIGHT	1	4%
TOO FAST FOR CONDITION	1	4%
USING HAND-HELD PHONE	1	4%
WRONG WAY ON 1-WAY	1	4%
TOTAL	25	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	15	65%
BUS	2	8%
VAN	2	8%
UNK VEHICLE	2	8%
SMALL TRUCK	1	4%
PEDALCYCLE	1	4%
TOTAL	23	100%

ROAD CONDITION

	CRASHES	PCT
DRY	10	62%
WET	5	31%
OTHER	1	6%
TOTAL	16	100%

ILLUMINATION

	CRASHES	PCT
STREET LIGHTS	7	43%
DAYLIGHT	5	31%
DUSK	2	12%
DARK	1	6%
UNK LIGHTING	1	6%
TOTAL	16	100%

WEATHER

	CRASHES	PCT
CLEAR	11	68%
RAIN	3	18%
UNK	2	12%
TOTAL	16	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	11	64%
UNKNOWN	3	17%
OTHER ENVIR FACTOR	1	5%
OTHER WEATHER COND	1	5%
SLIPPERY ICE/SNOW	1	5%
TOTAL	17	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete

Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

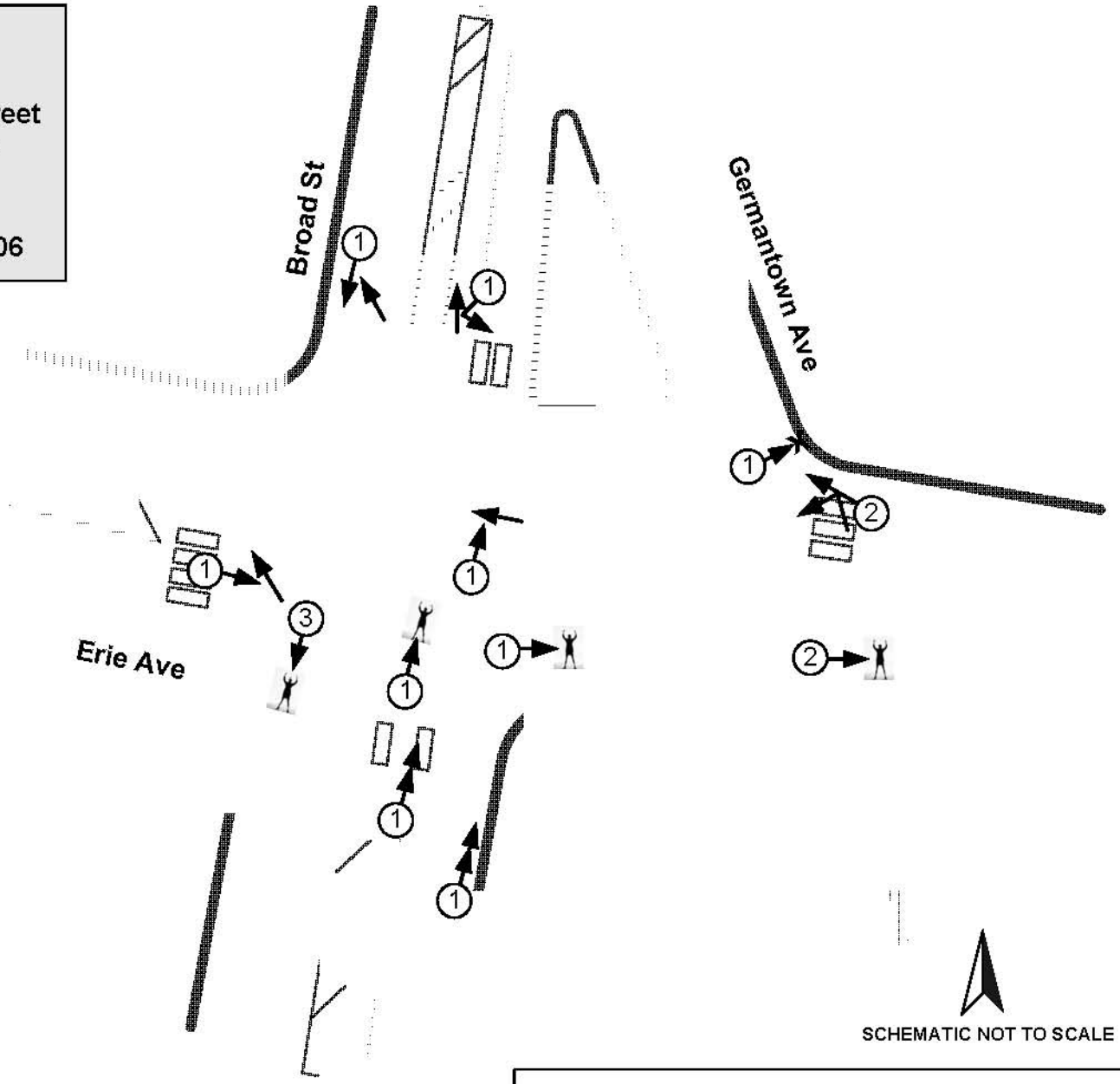
REPORT PARAMETERS:

Query ID:	0620080310001
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 1004(P) Between Segment 0020 Offset 0 and Segment 0020 Offset 130) or (In County 67 On State Route 1004(S) Between Segment 0021 Offset 0 and Segment 0021 Offset 130)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Erie Avenue from Broad Street to Germantown Avenue

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 16
Pedestrian Crashes = 7



Crash Type Legend

- ① = # crashes
- Rear End
- Angle
- Sideswipe
- Opposite Direction Sideswipe
- Hit Pedestrian
- Hit Fixed Object

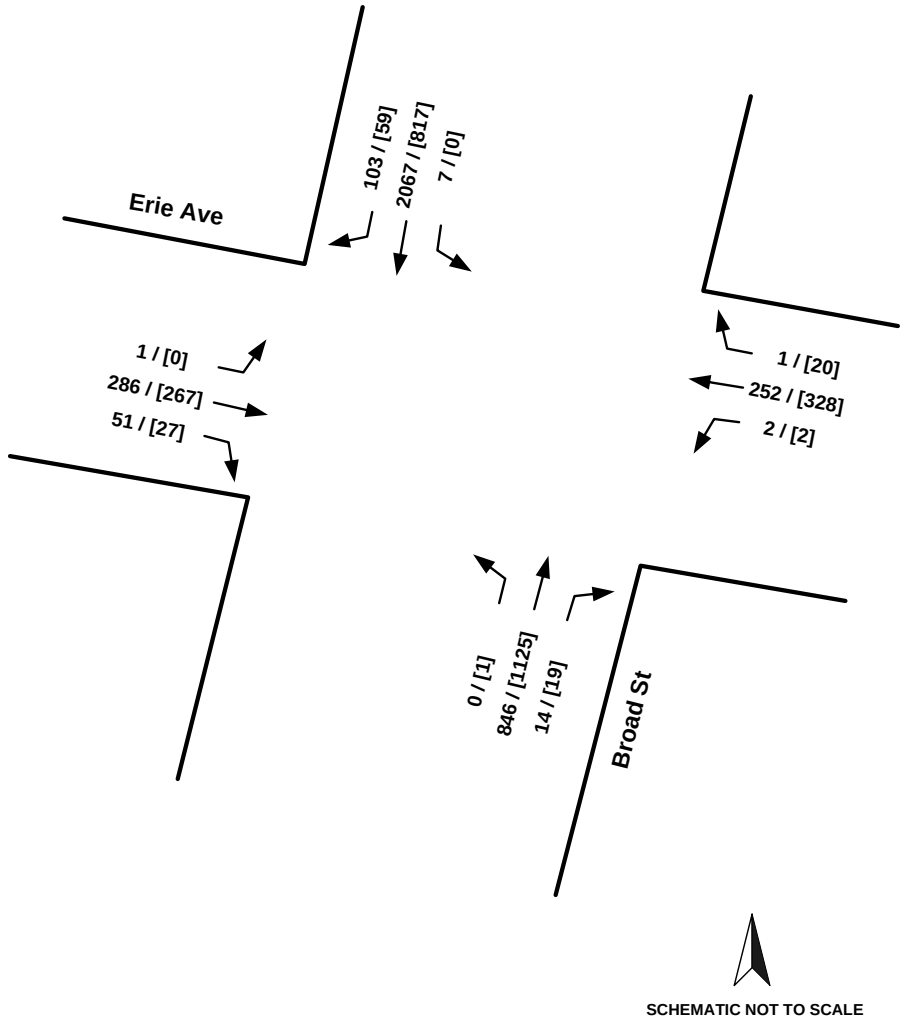
SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

Erie Avenue and SR 611 Broad Street Intersection

Peak Hour Turning Movement Counts AM & [PM]

Peak Hours
AM: 7:30 - 8:30
PM: 5:00 - 6:00

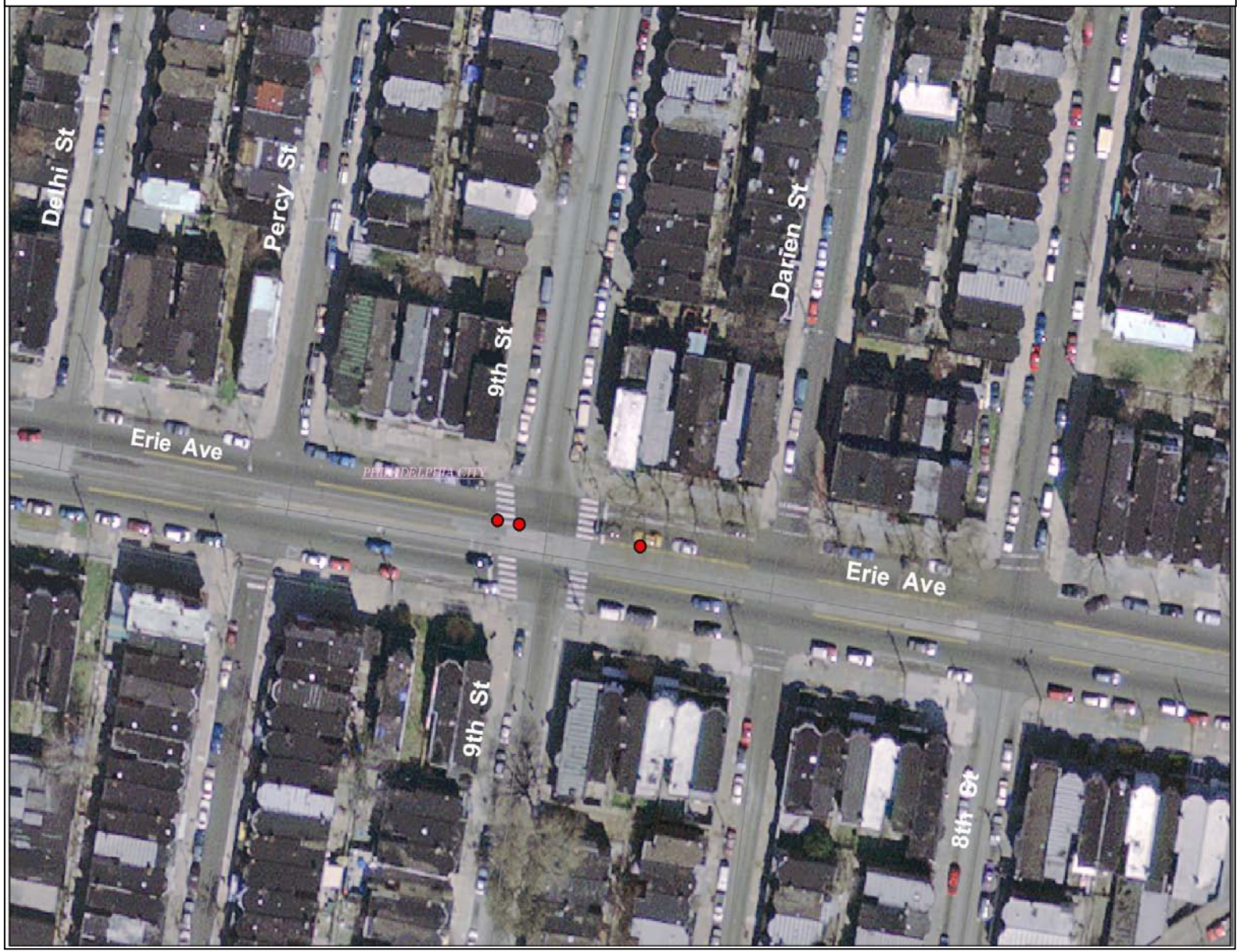


SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

2. SR 1004 Erie Avenue at 9th Street

Segment 30, Offset 796 to Segment 30, Offset 882



COLLISION TYPE	
Pedestrian	3
Rear-end	1
Total	**4**
ILLUMINATION	
Daylight	3
Street Lights	1
Total	**4**
WEATHER	
Clear	2
Rain	1
Unknown	1
Total	**4**
SEVERITY COUNT	
Fatalities	1
Major	1
Moderate	0
Minor	1
Unk Severity	1
Unk If Injured	2

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

RSA ERIE AVE 0030/0796 to 0030/0882

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 1004(P) Between Segment 0030 Offset 796 and Segment 0030 Offset 882) or (In County 67 On State Route 1004(S) Between Segment 0031 Offset 796 and Segment 0031 Offset 882)

USER_ID/QUERY ID: lkubli/ 0620080310004

MONTH OF YEAR

	APR	MAY	OCT	NOV	
CRASHES	1	1	1	1	4
PCT	25%	25%	25%	25%	100%

DAY OF WEEK

	TUE	WED	SAT	
CRASHES	1	1	2	4
PCT	25%	25%	50%	100%

HOUR OF DAY

	03	07	10	16	
CRASHES	1	1	1	1	4
PCT	25%	25%	25%	25%	100%

YEAR

	CRASHES	PCT
2004	3	75%
2005	1	25%
TOTAL	4	100%

COLLISION TYPE

	CRASHES	PCT
PEDESTRIAN	3	75%
REAR END	1	25%
TOTAL	4	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
FATAL	1	25%
MAJOR	1	25%
MINOR	1	25%
UNK SEVERITY	1	25%
TOTAL	4	100%

SEVERITY COUNT

	PERSONS
FATALITIES	1
MAJOR	1
MODERATE	0
MINOR	1
UNK SEVERITY	1
UNK IF INJURED	2

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	2	40%
CARELESS PASS/LN CHNG	1	20%
TAILGATING	1	20%
UNKNOWN	1	20%
TOTAL	5	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	3	60%
BUS	1	20%
LARGE TRUCK	1	20%
TOTAL	5	100%

ROAD CONDITION

	CRASHES	PCT
DRY	3	75%
WET	1	25%
TOTAL	4	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	3	75%
STREET LIGHTS	1	25%
TOTAL	4	100%

WEATHER

	CRASHES	PCT
CLEAR	2	50%
RAIN	1	25%
UNK	1	25%
TOTAL	4	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	3	75%
UNKNOWN	1	25%
TOTAL	4	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1 The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete
Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years
Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

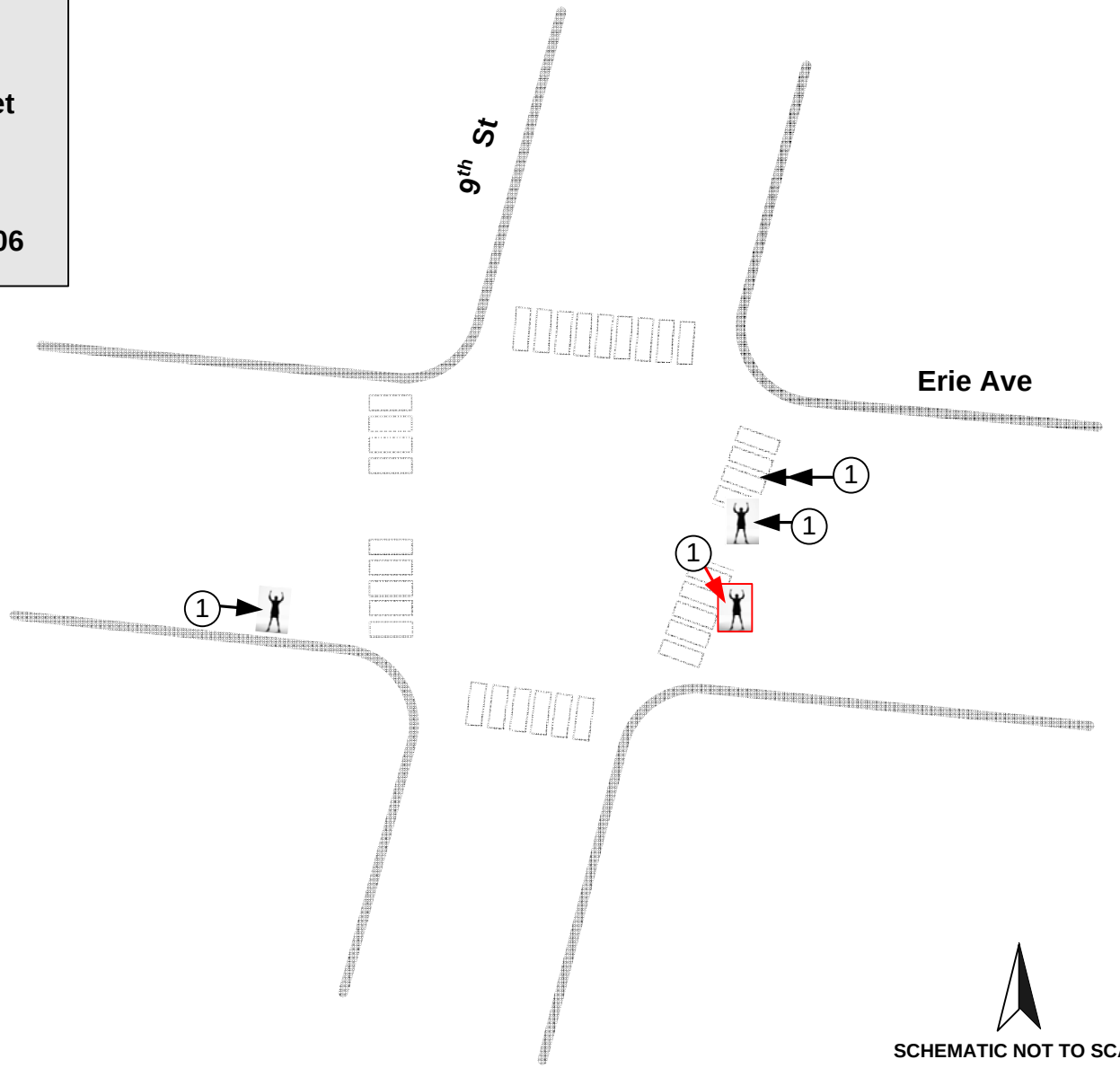
REPORT PARAMETERS:

Query ID:	0620080310004
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 1004(P) Between Segment 0030 Offset 796 and Segment 0030 Offset 882) or (In County 67 On State Route 1004(S) Between Segment 0031 Offset 796 and Segment 0031 Offset 882)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Erie Avenue and 9th Street
Intersection

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 4
Pedestrian Crashes = 3



Crash Type Legend

1 = # crashes

Rear End

Hit Pedestrian

Fatal

SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

3. SR 1004 Erie Avenue at 7th Street and Rising Sun Avenue

Segment 30, Offset 1432 to Segment 30, Offset 1446

COLLISION TYPE	
Pedestrian	3
Rear-end	2
Angle	1
Total	**6**
ILLUMINATION	
Daylight	4
Street Lights	2
Total	**6**
WEATHER	
Clear	6
Total	**6**
SEVERITY COUNT	
Fatalities	0
Major	0
Moderate	1
Minor	3
Unk Severity	2
Unk If Injured	0

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

RSA ERIE AVE 0030/1432 to 0030/1446

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 1004(P) Between Segment 0030 Offset 1432 and Segment 0030 Offset 1446) or (In County 67 On State Route 1004(S) Between Segment 0031 Offset 1432 and Segment 0031 Offset 1446)

USER_ID/QUERY ID: lkubli/ 0620080310005

MONTH OF YEAR

	MAY	JUN	SEP	OCT	
CRASHES	1	3	1	1	6
PCT	16%	50%	16%	16%	100%

DAY OF WEEK

	MON	TUE	WED	THR	
CRASHES	1	1	3	1	6
PCT	16%	16%	50%	16%	100%

HOUR OF DAY

	07	10	12	15	18	99	
CRASHES	1	1	1	1	1	1	6
PCT	16%	16%	16%	16%	16%	16%	100%

YEAR

	CRASHES	PCT
2004	3	50%
2006	3	50%
TOTAL	6	100%

COLLISION TYPE

	CRASHES	PCT
PEDESTRIAN	3	50%
REAR END	2	33%
ANGLE	1	16%
TOTAL	6	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MODERATE	1	16%
MINOR	2	33%
UNK SEVERITY	2	33%
PDO	1	16%
TOTAL	6	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	0
MODERATE	1
MINOR	3
UNK SEVERITY	2
UNK IF INJURED	0

DRIVER ACTIONS

	ACTIONS	PCT
UNKNOWN	5	55%
NO CONTRIBUTING ACTION	3	33%
CARELESS/ILLEGAL BACKING	1	11%
TOTAL	9	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	6	66%
SUV	2	22%
SMALL TRUCK	1	11%
TOTAL	9	100%

ROAD CONDITION

	CRASHES	PCT
DRY	6	100%
TOTAL	6	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	4	66%
STREET LIGHTS	2	33%
TOTAL	6	100%

WEATHER

	CRASHES	PCT
CLEAR	6	100%
TOTAL	6	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	4	66%
UNKNOWN	2	33%
TOTAL	6	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1 The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete
Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years
Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

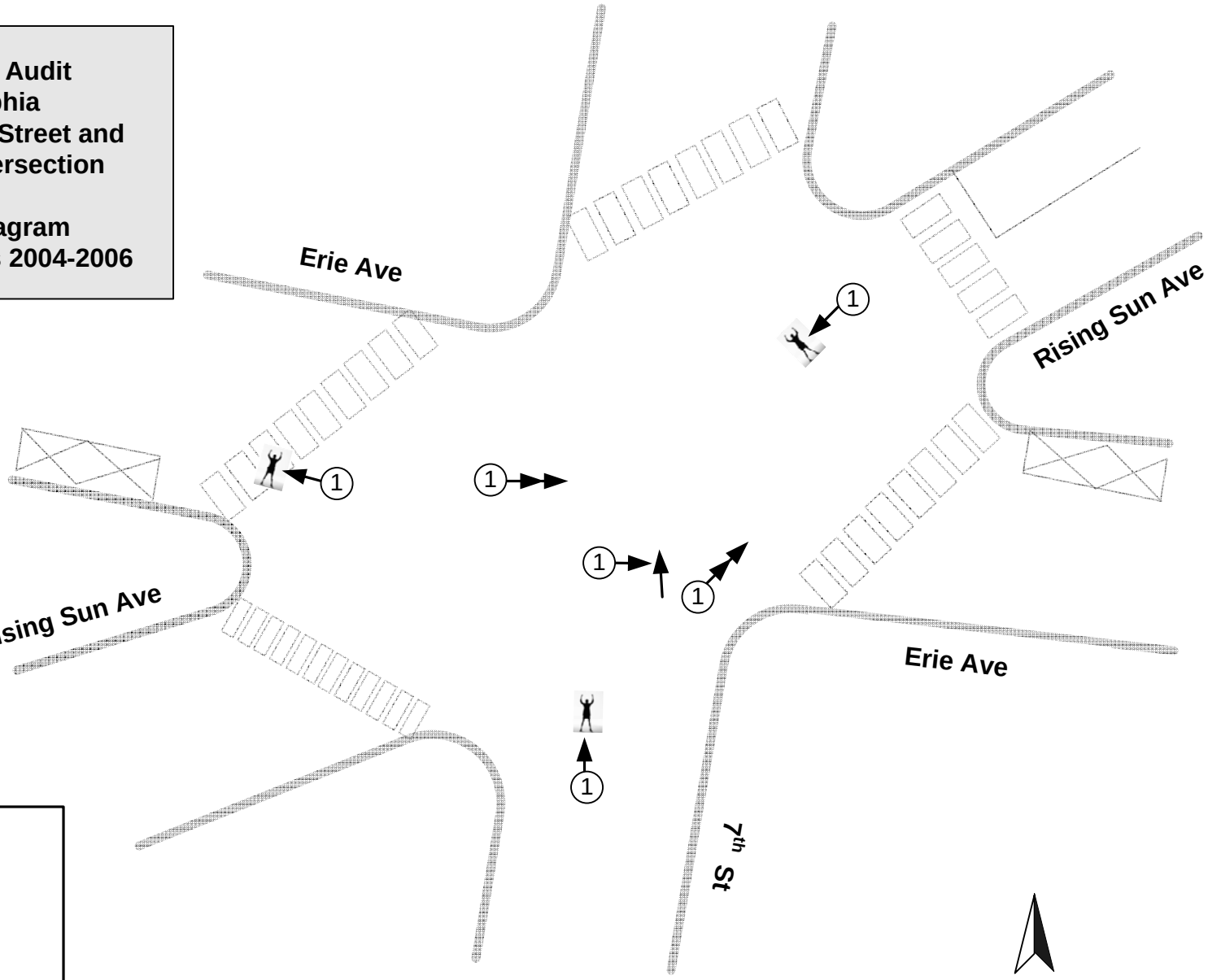
REPORT PARAMETERS:

Query ID:	0620080310005
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 1004(P) Between Segment 0030 Offset 1432 and Segment 0030 Offset 1446) or (In County 67 On State Route 1004(S) Between Segment 0031 Offset 1432 and Segment 0031 Offset 1446)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Erie Avenue, 7th Street and Rising Sun Intersection

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 6
Pedestrian Crashes = 3



Crash Type Legend

(1)	= # crashes
→	Rear End
→	Hit Pedestrian
↓←	Angle

SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

4. SR 1004 Erie Avenue vicinity of 5th and Lawrence Streets

Segment 40, Offset 0 to Segment 40, Offset 266

COLLISION TYPE	
Pedestrian	4
Angle	3
Rear-end	3
Total	**10**
ILLUMINATION	
Daylight	7
Street Lights	3
Total	**10**
WEATHER	
Clear	8
Rain	2
Total	**10**
SEVERITY COUNT	
Fatalities	0
Major	0
Moderate	2
Minor	7
Unk Severity	3
Unk If Injured	2

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

RSA ERIE AVE 0040/0000 TO 0040/0266

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 1004(P) Between Segment 0040 Offset 0 and Segment 0040 Offset 266) or (In County 67 On State Route 1004(S) Between Segment 0041 Offset 0 and Segment 0041 Offset 266)

USER_ID/QUERY ID: lkubli/ 0620080310006

MONTH OF YEAR

	FEB	MAR	APR	JUN	SEP	OCT	DEC	
CRASHES	1	1	1	1	3	1	2	10
PCT	10%	10%	10%	10%	30%	10%	20%	100%

DAY OF WEEK

	SUN	MON	TUE	WED	THR	FRI	SAT	
CRASHES	1	1	2	1	1	3	1	10
PCT	10%	10%	20%	10%	10%	30%	10%	100%

HOUR OF DAY

	08	10	12	15	17	19	20	99	
CRASHES	1	1	1	2	1	2	1	1	10
PCT	10%	10%	10%	20%	10%	20%	10%	10%	100%

YEAR

	CRASHES	PCT
2004	4	40%
2005	1	10%
2006	5	50%
TOTAL	10	100%

COLLISION TYPE

	CRASHES	PCT
PEDESTRIAN	4	40%
ANGLE	3	30%
REAR END	3	30%
TOTAL	10	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MODERATE	1	10%
MINOR	6	60%
UNK SEVERITY	3	30%
TOTAL	10	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	0
MODERATE	2
MINOR	7
UNK SEVERITY	3
UNK IF INJURED	2

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	8	34%
OTHER IMPROPER DRIVING	3	13%
TOO FAST FOR CONDITION	3	13%
UNKNOWN	3	13%
SPEEDING	2	8%
FAILURE TO RESPOND TCD	1	4%
MAKING ILLEGAL U-TURN	1	4%
RUNNING RED LIGHT	1	4%
SUDDEN SLOWING/STOP	1	4%
TOTAL	23	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	14	82%
SUV	2	11%
MOTORCYCLE	1	5%
TOTAL	17	100%

ROAD CONDITION

	CRASHES	PCT
DRY	8	80%
WET	2	20%
TOTAL	10	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	7	70%
STREET LIGHTS	3	30%
TOTAL	10	100%

WEATHER

	CRASHES	PCT
CLEAR	8	80%
RAIN	2	20%
TOTAL	10	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	8	80%
UNKNOWN	2	20%
TOTAL	10	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1 The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete
Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years
Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

REPORT PARAMETERS:

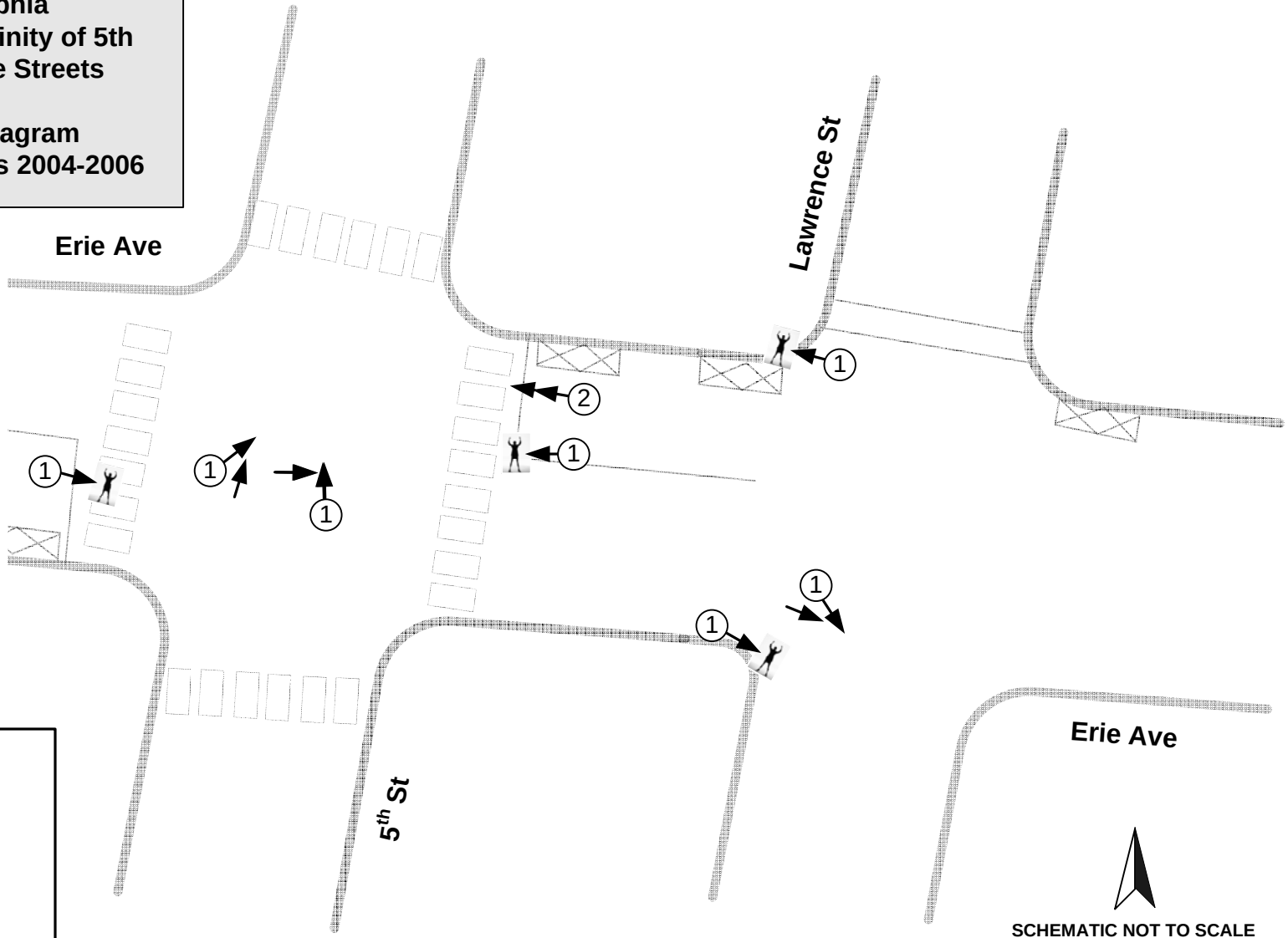
Query ID:	0620080310006
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 1004(P) Between Segment 0040 Offset 0 and Segment 0040 Offset 266) or (In County 67 On State Route 1004(S) Between Segment 0041 Offset 0 and Segment 0041 Offset 266)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Erie Avenue vicinity of 5th and Lawrence Streets

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 9
Pedestrian Crashes = 4

*Diagram crash total differs from summary due to miscoding



Crash Type Legend

- (1) = # crashes
- Angle
- Rear End
- Hit Pedestrian

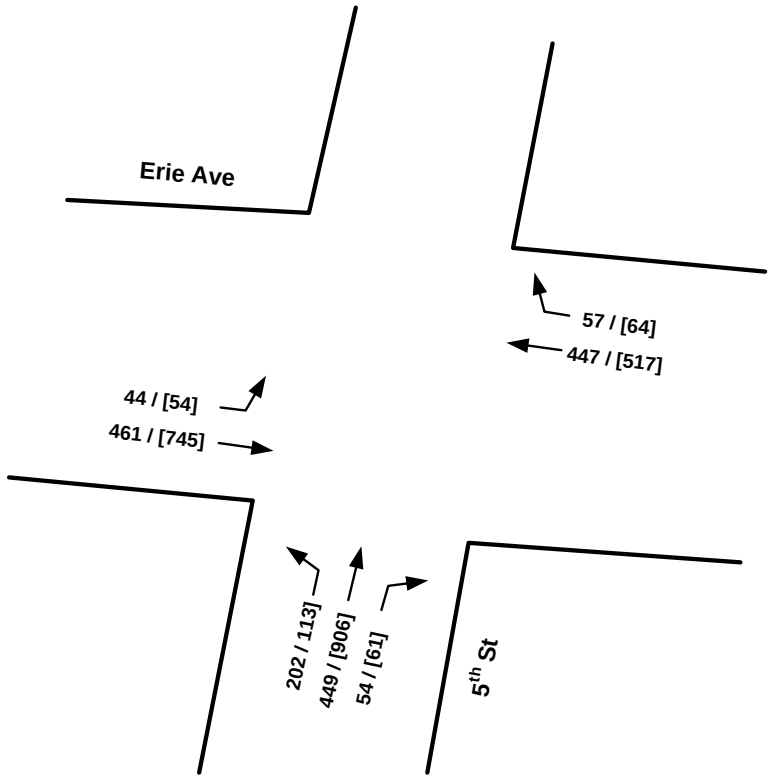
SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

Erie Avenue and 5th Street Intersection

Peak Hour Turning Movement Counts AM & [PM]

Peak Hours
AM: 8:00 - 9:00
PM: 4:45 - 5:45

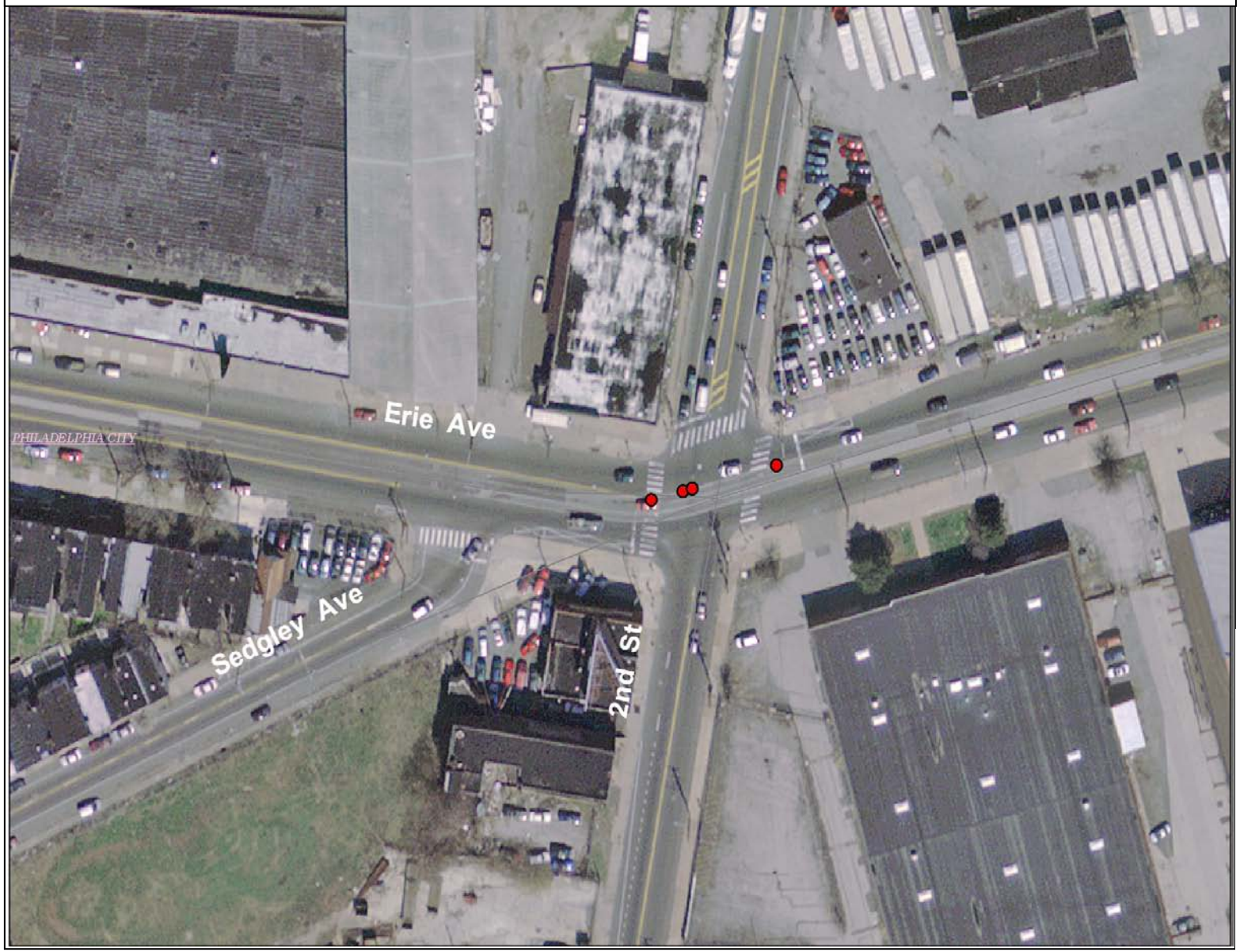


SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

5. SR 1004 Erie Avenue at 2nd Avenue and Sedgley Avenue

Segment 40, Offset 1466 to Segment 40, Offset 1552



COLLISION TYPE	
Angle	6
Head-on	5
Same Dir Sideswipe	4
Rear-end	2
Hit Fixed Object	1
Opp Dir Sideswipe	1
Total	**19**
ILLUMINATION	
Daylight	9
Street Lights	8
Dusk	1
Unknown	1
Total	**19**
WEATHER	
Clear	10
Rain	8
Other	1
Total	**19**
SEVERITY COUNT	
Fatalities	0
Major	2
Moderate	6
Minor	13
Unk Severity	1
Unk If Injured	6

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

RSA ERIE AVE 0040/1466 to 0040/1552

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 1004(P) Between Segment 0040 Offset 1466 and Segment 0040 Offset 1552) or (In County 67 On State Route 1004(S) Between Segment 0041 Offset 1466 and Segment 0041 Offset 1552)

USER_ID/QUERY ID: lkubli/ 0620080310007

MONTH OF YEAR

	JAN	FEB	MAR	MAY	JUN	AUG	SEP	OCT	NOV	
CRASHES	4	1	2	2	3	2	1	2	2	19
PCT	21%	5%	10%	10%	15%	10%	5%	10%	10%	100%

DAY OF WEEK

	SUN	MON	TUE	WED	THR	FRI	SAT	
CRASHES	3	3	3	1	3	3	3	19
PCT	15%	15%	15%	5%	15%	15%	15%	100%

HOUR OF DAY

	00	02	09	10	11	12	14	16	17	18	19	20	21	23	
CRASHES	2	1	1	1	1	1	1	4	1	1	1	2	1	1	19
PCT	10%	5%	5%	5%	5%	5%	5%	21%	5%	5%	5%	10%	5%	5%	100%

YEAR

	CRASHES	PCT
2004	8	42%
2005	6	31%
2006	5	26%
TOTAL	19	100%

COLLISION TYPE

	CRASHES	PCT
ANGLE	6	31%
HEAD ON	5	26%
SAME DIR SS	4	21%
REAR END	2	10%
HIT FIX OBJ	1	5%
OPP DIR SS	1	5%
TOTAL	19	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MAJOR	2	10%
MODERATE	5	26%
MINOR	7	36%
UNK IF INJURED	2	10%
PDO	3	15%
TOTAL	19	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	2
MODERATE	6
MINOR	13
UNK SEVERITY	1
UNK IF INJURED	6

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	15	36%
UNKNOWN	9	21%
IMPROPER/CARELESS TURN	4	9%
OTHER IMPROPER DRIVING	4	9%
CARELESS PASS/LN CHNG	2	4%
AFFECTED PHYSICAL COND	1	2%
CARELESS PARKING/UNPARK	1	2%
DRIVER WAS DISTRACTED	1	2%
FAILR MAINT PROP SPEED	1	2%
MAKING ILLEGAL U-TURN	1	2%
SUDDEN SLOWING/STOP	1	2%
WRONG SIDE OF ROADWAY	1	2%
TOTAL	41	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	27	69%
LARGE TRUCK	4	10%
VAN	3	7%
SMALL TRUCK	2	5%
OTHER VEHICLE	2	5%
SUV	1	2%
TOTAL	39	100%

ROAD CONDITION

	CRASHES	PCT
DRY	11	57%
WET	8	42%
TOTAL	19	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	9	47%
STREET LIGHTS	8	42%
DUSK	1	5%
UNK	1	5%
TOTAL	19	100%

WEATHER

	CRASHES	PCT
CLEAR	10	52%
RAIN	8	42%
OTHER	1	5%
TOTAL	19	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	14	70%
SLIPPERY ICE/SNOW	3	15%
UNKNOWN	3	15%
TOTAL	20	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete

Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

REPORT PARAMETERS:

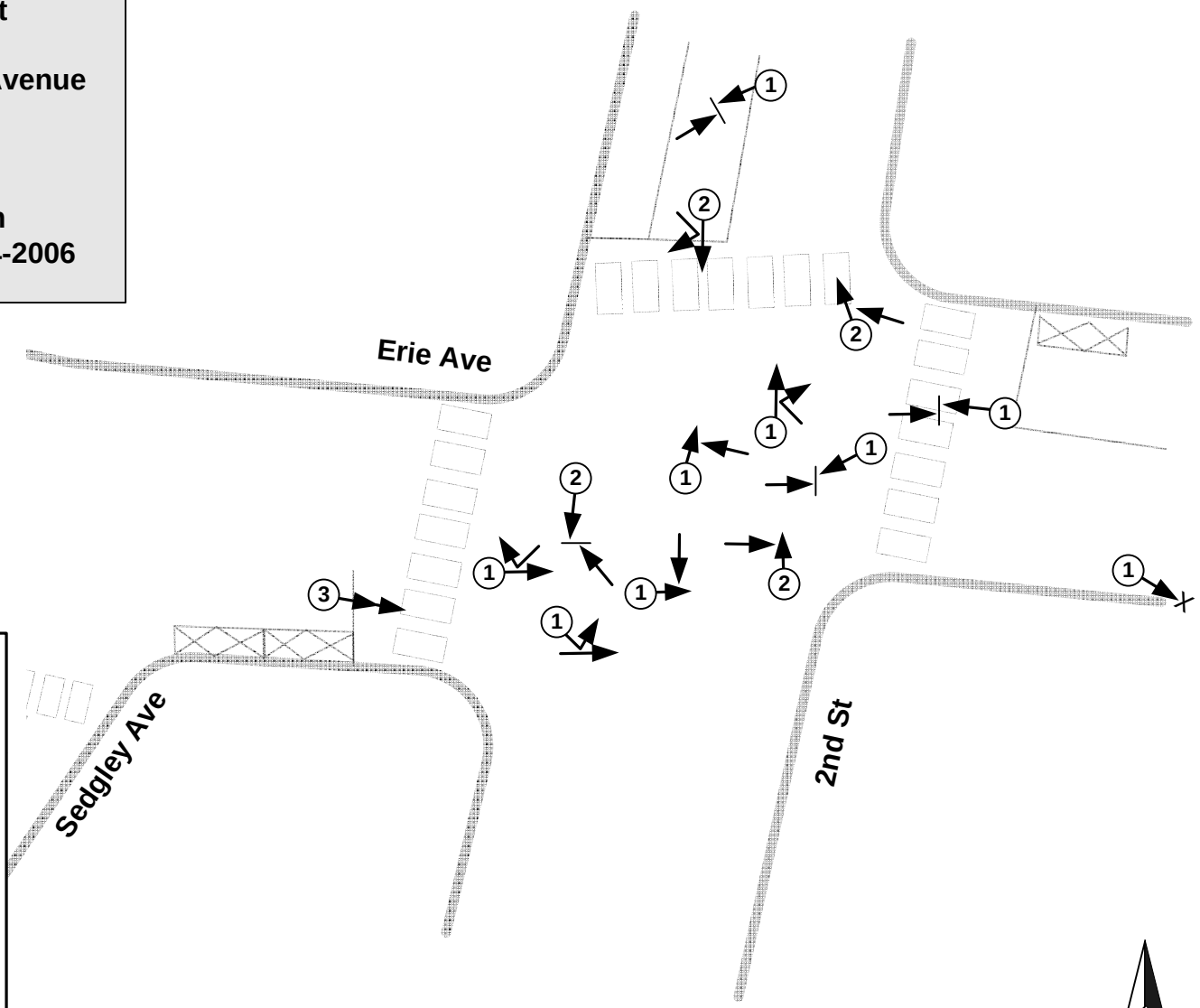
Query ID:	0620080310007
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 1004(P) Between Segment 0040 Offset 1466 and Segment 0040 Offset 1552) or (In County 67 On State Route 1004(S) Between Segment 0041 Offset 1466 and Segment 0041 Offset 1552)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Erie Avenue, Sedgley Avenue and 2nd Street Intersection

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 20
Pedestrian Crashes = 0

*Diagram crash total differs from summary due to miscoding



Crash Type Legend

- (1) = # crashes
- Angle
- Same Direction Sideswipe
- Opposite Direction Sideswipe
- Head On
- Rear End
- X Hit Fixed Object

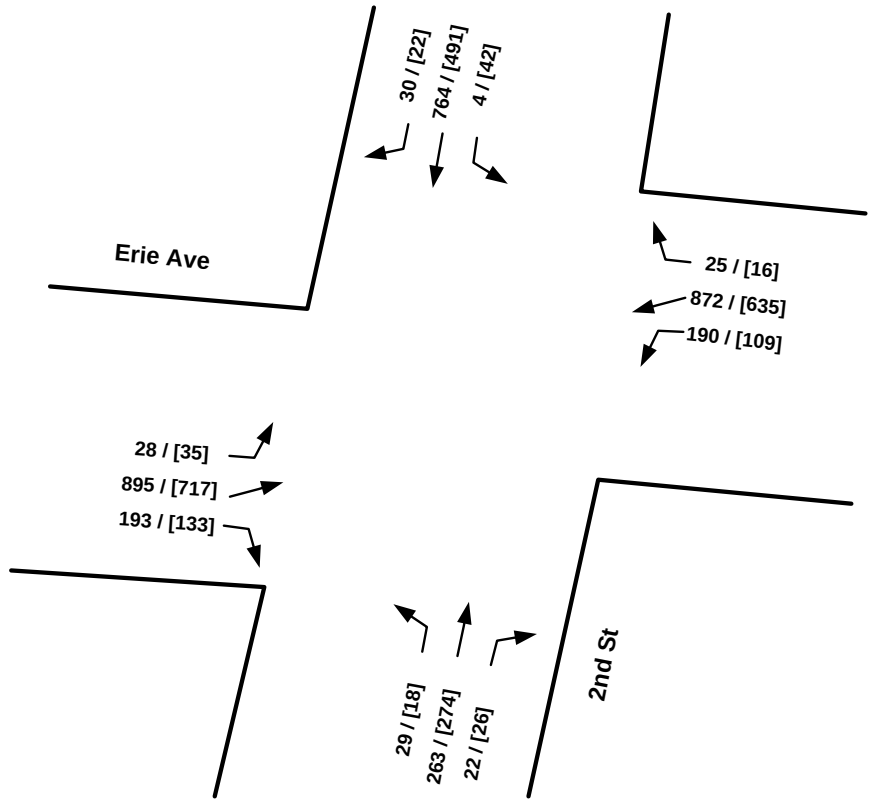
SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

Erie Avenue and 2nd Street Intersection

Peak Hour Turning Movement Counts AM & [PM]

Peak Hours
AM: 7:30 - 8:30
PM: 5:00 - 6:00



SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

6. SR 1004 Erie Avenue vicinity of Front Street

Segment 40, Offset 2386 to Segment 50, Offset 307

COLLISION TYPE	
Angle	7
Rear-end	7
Pedestrian	4
Same Dir Sideswipe	3
Hit Fixed Object	2
Head-on	1
Total	**24**
ILLUMINATION	
Daylight	13
Street Lights	10
Other	1
Total	**24**
WEATHER	
Clear	18
Rain	5
Sleet	1
Total	**24**
SEVERITY COUNT	
Fatalities	0
Major	2
Moderate	9
Minor	16
Unk Severity	4
Unk If Injured	6

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

RSA ERIE AVE 0040/2386 TO 0050/0307

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 1004(P) Between Segment 0040 Offset 2386 and Segment 0050 Offset 307) or (In County 67 On State Route 1004(S) Between Segment 0041 Offset 2386 and Segment 0051 Offset 307)

USER_ID/QUERY ID: lkubli/ 0620080310008

MONTH OF YEAR

	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	NOV	DEC	
CRASHES	4	3	1	4	1	1	2	4	2	2	24
PCT	16%	12%	4%	16%	4%	4%	8%	16%	8%	8%	100%

DAY OF WEEK

	SUN	MON	TUE	WED	THR	FRI	SAT	
CRASHES	2	3	4	4	3	6	2	24
PCT	8%	12%	16%	16%	12%	25%	8%	100%

HOUR OF DAY

	00	01	02	07	08	09	10	11	12	15	16	17	18	19	20	23	
CRASHES	1	2	1	2	4	1	1	1	1	2	1	1	1	1	3	1	24
PCT	4%	8%	4%	8%	16%	4%	4%	4%	4%	8%	4%	4%	4%	4%	12%	4%	100%

YEAR

	CRASHES	PCT
2004	11	45%
2005	6	25%
2006	7	29%
TOTAL	24	100%

COLLISION TYPE

	CRASHES	PCT
ANGLE	7	29%
REAR END	7	29%
PEDESTRIAN	4	16%
SAME DIR SS	3	12%
HIT FIX OBJ	2	8%
HEAD ON	1	4%
TOTAL	24	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MAJOR	2	8%
MODERATE	7	29%
MINOR	10	41%
UNK SEVERITY	2	8%
UNK IF INJURED	1	4%
PDO	2	8%
TOTAL	24	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	2
MODERATE	9
MINOR	16
UNK SEVERITY	4
UNK IF INJURED	6

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	19	36%
UNKNOWN	17	32%
OTHER IMPROPER DRIVING	4	7%
FAILR MAINT PROP SPEED	2	3%
MAKING ILLEGAL U-TURN	2	3%
SUDDEN SLOWING/STOP	2	3%
TOO FAST FOR CONDITION	2	3%
IMPROPER ENTRANCE HWY	1	1%
IMPROPER/CARELESS TURN	1	1%
TAILGATING	1	1%
WRONG SIDE OF ROADWAY	1	1%
TOTAL	52	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	37	80%
SMALL TRUCK	3	6%
SUV	2	4%
VAN	2	4%
BUS	1	2%
LARGE TRUCK	1	2%
TOTAL	46	100%

ROAD CONDITION

	CRASHES	PCT
DRY	19	79%
WET	5	20%
TOTAL	24	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	13	54%
STREET LIGHTS	10	41%
OTHER	1	4%
TOTAL	24	100%

WEATHER

	CRASHES	PCT
CLEAR	18	75%
RAIN	5	20%
SLEET	1	4%
TOTAL	24	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	18	66%
SLIPPERY ICE/SNOW	4	14%
UNKNOWN	2	7%
OTHER RDWY FACTOR	1	3%
OTHER WEATHER COND	1	3%
WINDY CONDITIONS	1	3%
TOTAL	27	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete

Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

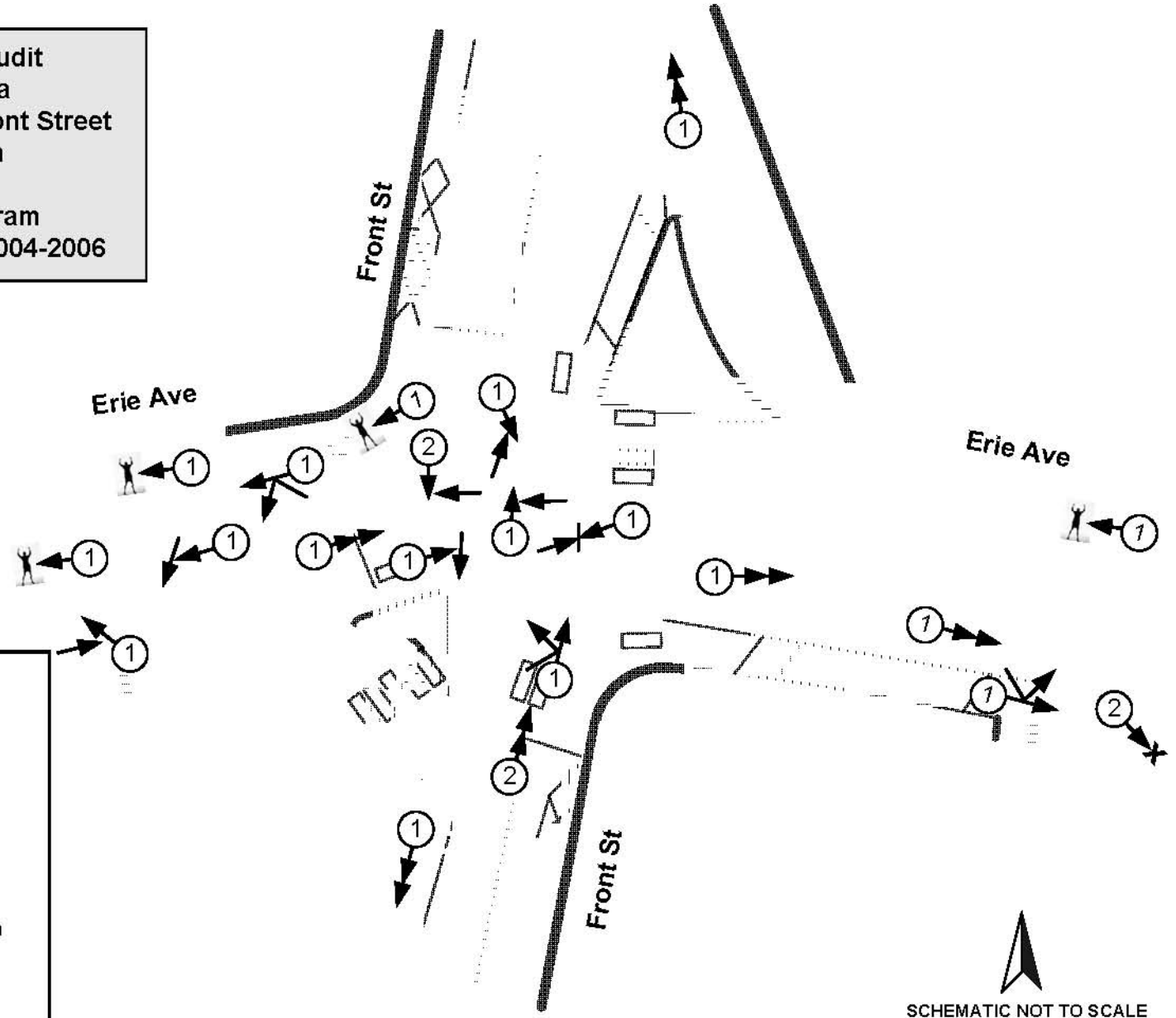
REPORT PARAMETERS:

Query ID:	0620080310008
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 1004(P) Between Segment 0040 Offset 2386 and Segment 0050 Offset 307) or (In County 67 On State Route 1004(S) Between Segment 0041 Offset 2386 and Segment 0051 Offset 307)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Erie Avenue and Front Street
Intersection

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 24
Pedestrian Crashes = 4



Crash Type Legend

- (1) = # crashes
- Rear End
- Angle
- Same Direction Sideswipe
- Head On
- Hit Pedestrian
- Hit Fixed Object

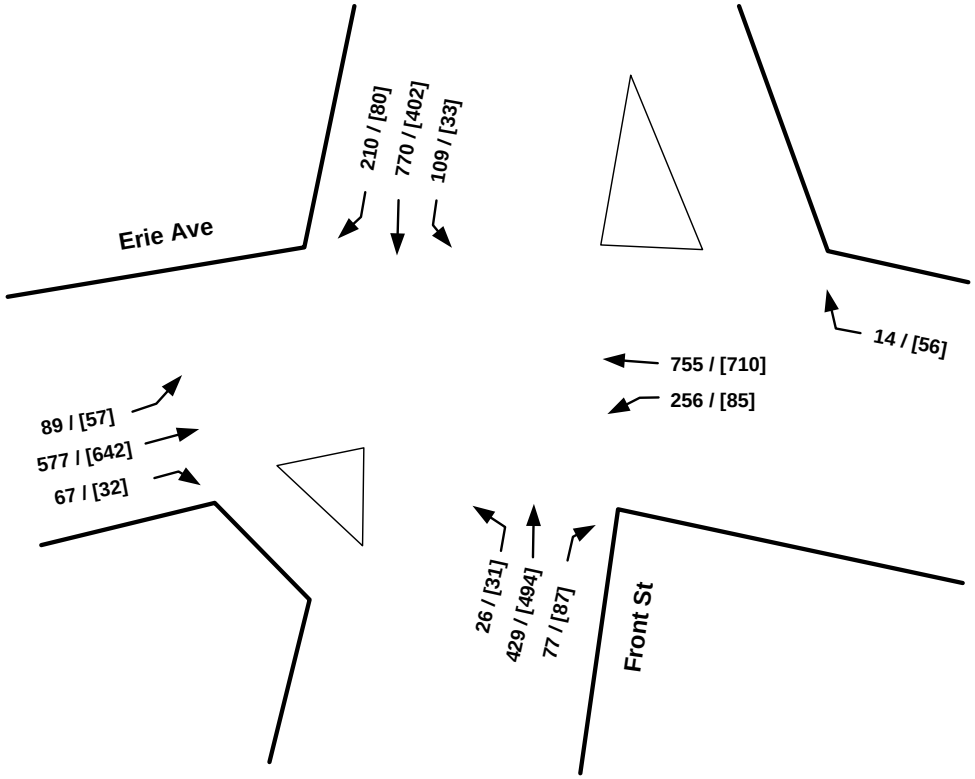
SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

Erie Avenue and Front Street Intersection

Peak Hour Turning Movement Counts AM & [PM]

Peak Hours
AM: 7:45 - 8:45
PM: 5:45 - 6:45



SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

7. SR 1004 Erie Avenue at Intersection of B Street and Whitaker Avenue

Segment 50, Offset 864 to Segment 50, Offset 1102

COLLISION TYPE	
Angle	11
Rear-end	5
Head-on	4
Same Dir Sideswipe	3
Hit Fixed Object	2
Opp Dir Sideswipe	1
Total	**26**
ILLUMINATION	
Daylight	18
Street Lights	7
Dark	1
Total	**26**
WEATHER	
Clear	22
Rain	3
Unknown	1
Total	**26**
SEVERITY COUNT	
Fatalities	0
Major	1
Moderate	6
Minor	21
Unk Severity	12
Unk If Injured	9

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

RSA ERIE AVE 0050/864 TO 0050/1102

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 1004(P) Between Segment 0050 Offset 864 and Segment 0050 Offset 1102) or (In County 67 On State Route 1004(S) Between Segment 0051 Offset 864 and Segment 0051 Offset 1102)

USER_ID/QUERY ID: lkubli/ 0620080310010

MONTH OF YEAR

	MAR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
CRASHES	3	1	5	2	4	2	3	3	3	26
PCT	11%	3%	19%	7%	15%	7%	11%	11%	11%	100%

DAY OF WEEK

	SUN	MON	TUE	WED	THR	FRI	SAT	
CRASHES	2	3	4	3	5	4	5	26
PCT	7%	11%	15%	11%	19%	15%	19%	100%

HOUR OF DAY

	02	03	04	06	07	10	12	14	15	16	17	18	21	99	
CRASHES	1	1	1	2	1	1	1	2	4	3	3	1	2	3	26
PCT	3%	3%	3%	7%	3%	3%	3%	7%	15%	11%	11%	3%	7%	11%	100%

YEAR

	CRASHES	PCT
2004	10	38%
2005	7	26%
2006	9	34%
TOTAL	26	100%

COLLISION TYPE

	CRASHES	PCT
ANGLE	11	42%
REAR END	5	19%
HEAD ON	4	15%
SAME DIR SS	3	11%
HIT FIX OBJ	2	7%
OPP DIR SS	1	3%
TOTAL	26	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MAJOR	1	3%
MODERATE	5	19%
MINOR	10	38%
UNK SEVERITY	7	26%
PDO	3	11%
TOTAL	26	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	1
MODERATE	6
MINOR	21
UNK SEVERITY	12
UNK IF INJURED	9

DRIVER ACTIONS

	ACTIONS	PCT
UNKNOWN	25	43%
NO CONTRIBUTING ACTION	18	31%
IMPROPER/CARELESS TURN	3	5%
TAILGATING	3	5%
OTHER IMPROPER DRIVING	2	3%
DRIVER INEXPERIENCED	1	1%
DRIVER WAS DISTRACTED	1	1%
RUNNING RED LIGHT	1	1%
RUNNING STOP SIGN	1	1%
SUDDEN SLOWING/STOP	1	1%
USING HAND-HELD PHONE	1	1%
TOTAL	57	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	43	75%
VAN	5	8%
LARGE TRUCK	3	5%
MOTORCYCLE	2	3%
SMALL TRUCK	2	3%
PEDALCYCLE	2	3%
TOTAL	57	100%

ROAD CONDITION

	CRASHES	PCT
DRY	23	88%
WET	2	7%
OTHER	1	3%
TOTAL	26	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	18	69%
STREET LIGHTS	7	26%
DARK	1	3%
TOTAL	26	100%

WEATHER

	CRASHES	PCT
CLEAR	22	84%
RAIN	3	11%
UNK	1	3%
TOTAL	26	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	21	80%
UNKNOWN	4	15%
SLIPPERY ICE/SNOW	1	3%
TOTAL	26	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

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2 2007 crash records are incomplete

Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

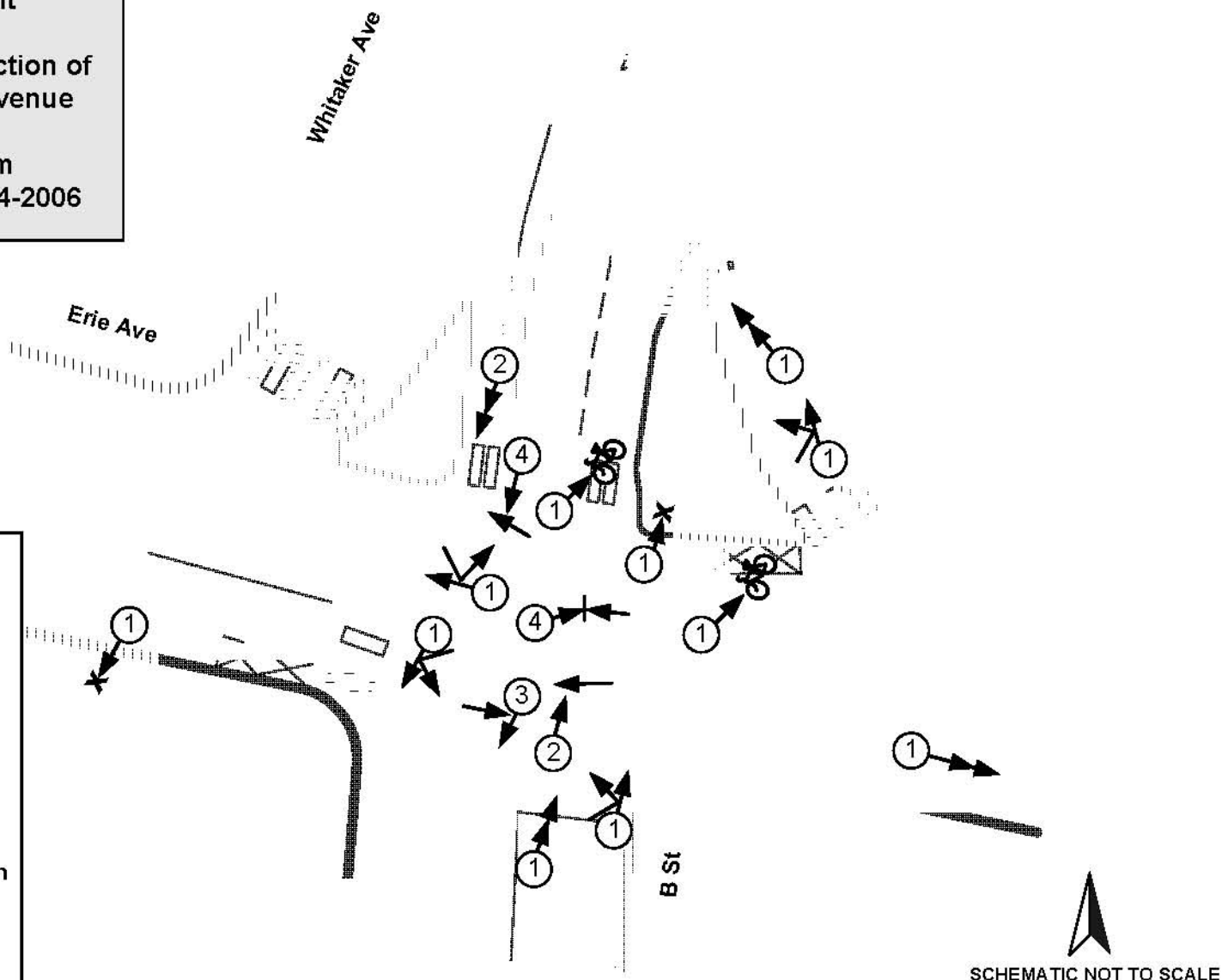
REPORT PARAMETERS:

Query ID:	0620080310010
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 1004(P) Between Segment 0050 Offset 864 and Segment 0050 Offset 1102) or (In County 67 On State Route 1004(S) Between Segment 0051 Offset 864 and Segment 0051 Offset 1102)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Erie Avenue at Intersection of
B Street / Whitaker Avenue

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 26
Pedestrian Crashes = 0



Crash Type Legend

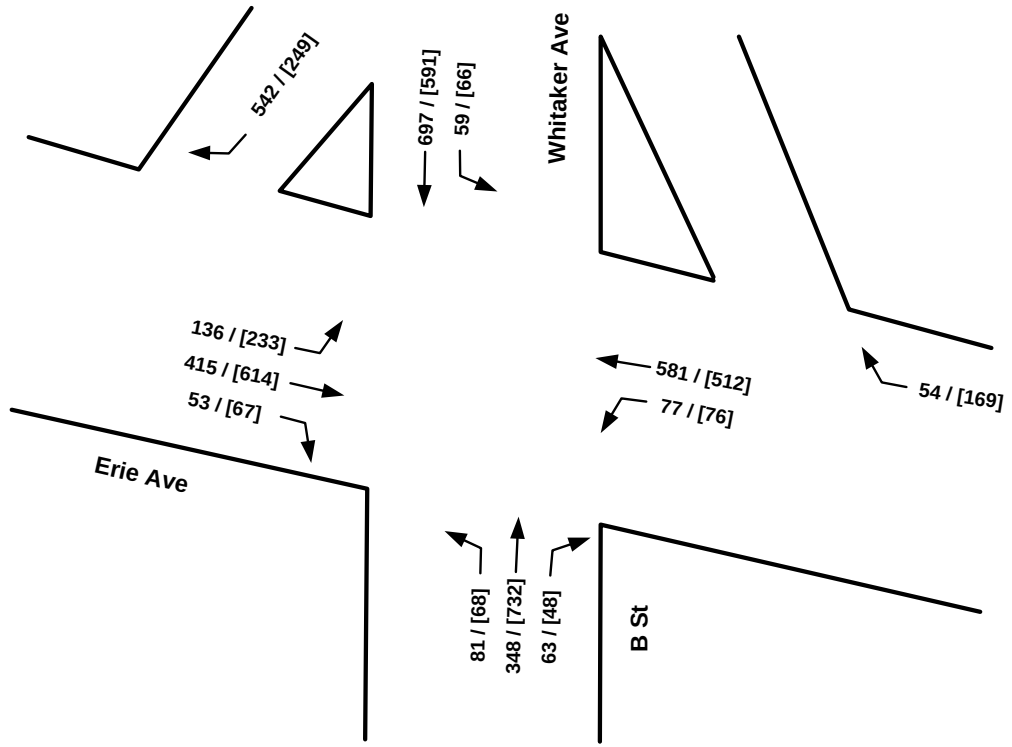
- (1) = # crashes
- Rear End
- Angle
- Angle w/ Bicycle
- Opposite Direction Sideswipe
- Same Direction Sideswipe
- Head On
- Hit Fixed Object

SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
February 2008

Erie Avenue and
B Street / Whitaker Avenue Intersection
Peak Hour Turning Movement Counts AM & [PM]

Peak Hours
AM: 7:30 - 8:30
PM: 4:30 - 5:30



SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

8. SR 1004 Erie Avenue at I Street

Segment 60, Offset 1074 to Segment 60, Offset 1252

COLLISION TYPE	
Angle	2
Head-on	2
Hit Fixed Object	2
Rear-end	1
Total	**7**
ILLUMINATION	
Daylight	6
Street Lights	1
Total	**7**
WEATHER	
Clear	5
Rain	2
Total	**7**
SEVERITY COUNT	
Fatalities	0
Major	0
Moderate	1
Minor	16
Unk Severity	3
Unk If Injured	1

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

RSA ERIE AVE 0060/1074 to 0060/1252

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 1004(P) Between Segment 0060 Offset 1074 and Segment 0060 Offset 1252) or (In County 67 On State Route 1004(S) Between Segment 0061 Offset 1074 and Segment 0061 Offset 1252)

USER_ID/QUERY ID: lkubli/ 0620080310012

MONTH OF YEAR

	MAR	APR	MAY	SEP	OCT	NOV	
CRASHES	2	1	1	1	1	1	7
PCT	28%	14%	14%	14%	14%	14%	100%

DAY OF WEEK

	TUE	WED	FRI	SAT	
CRASHES	1	2	3	1	7
PCT	14%	28%	42%	14%	100%

HOUR OF DAY

	10	11	12	14	16	21	
CRASHES	1	1	1	2	1	1	7
PCT	14%	14%	14%	28%	14%	14%	100%

YEAR

	CRASHES	PCT
2004	7	100%
TOTAL	7	100%

COLLISION TYPE

	CRASHES	PCT
ANGLE	2	28%
HEAD ON	2	28%
HIT FIX OBJ	2	28%
REAR END	1	14%
TOTAL	7	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MODERATE	1	14%
MINOR	5	71%
PDO	1	14%
TOTAL	7	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	0
MODERATE	1
MINOR	16
UNK SEVERITY	3
UNK IF INJURED	1

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	5	26%
OTHER IMPROPER DRIVING	2	10%
SPEEDING	2	10%
TURN FROM WRONG LANE	2	10%
UNKNOWN	2	10%
IMPROPER EXIT FROM HWY	1	5%
IMPROPER/CARELESS TURN	1	5%
MAKING ILLEGAL U-TURN	1	5%
SUDDEN SLOWING/STOP	1	5%
TAILGATING	1	5%
TOO FAST FOR CONDITION	1	5%
TOTAL	19	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	7	53%
MOTORCYCLE	1	7%
BUS	1	7%
SMALL TRUCK	1	7%
LARGE TRUCK	1	7%
VAN	1	7%
PEDALCYCLE	1	7%
TOTAL	13	100%

ROAD CONDITION

	CRASHES	PCT
DRY	5	71%
WET	2	28%
TOTAL	7	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	6	85%
STREET LIGHTS	1	14%
TOTAL	7	100%

WEATHER

	CRASHES	PCT
CLEAR	5	71%
RAIN	2	28%
TOTAL	7	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	7	77%
OTHER WEATHER COND	1	11%
WINDY CONDITIONS	1	11%
TOTAL	9	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete

Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

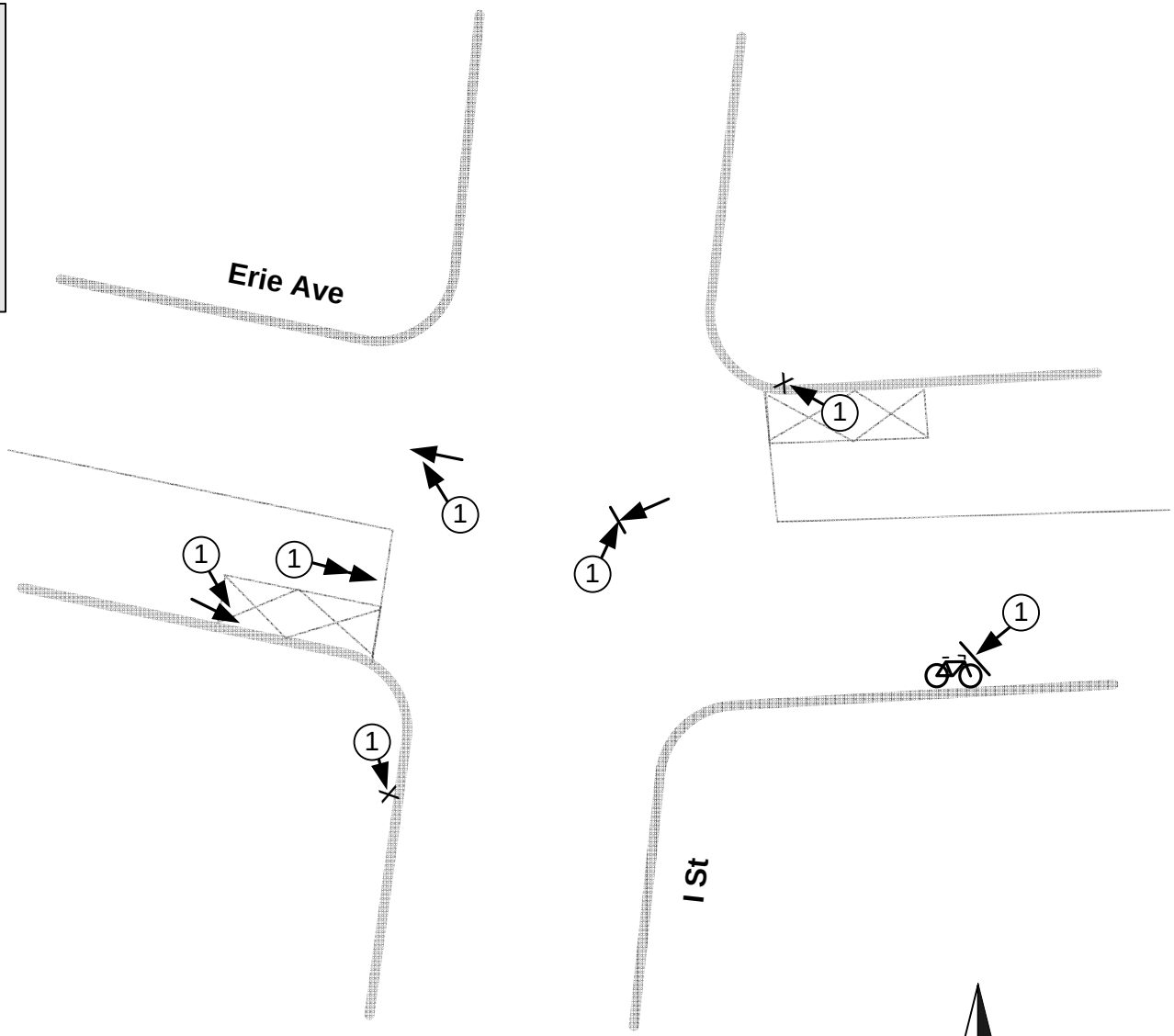
REPORT PARAMETERS:

Query ID:	0620080310012
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 1004(P) Between Segment 0060 Offset 1074 and Segment 0060 Offset 1252) or (In County 67 On State Route 1004(S) Between Segment 0061 Offset 1074 and Segment 0061 Offset 1252)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Erie Avenue and I Street
Intersection

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 7
Pedestrian Crashes = 0



Crash Type Legend

- (1) = # crashes
- Rear End
- Angle
- Head On w/ Pedacycle
- Head On
- X Hit Fixed Object

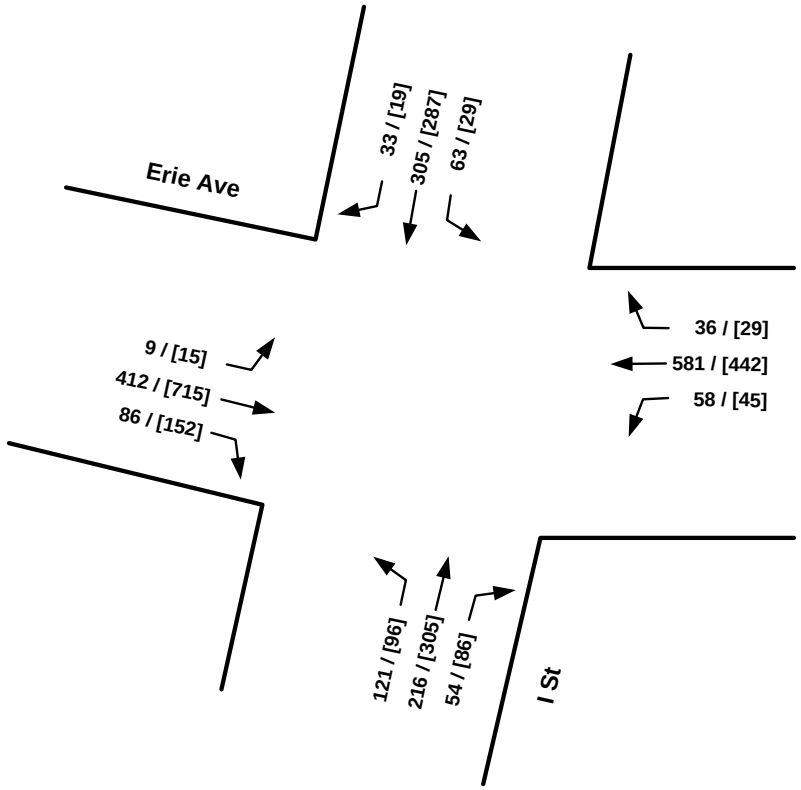
SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

Erie Avenue and I Street Intersection

Peak Hour Turning Movement Counts AM & [PM]

Peak Hours
AM: 7:30 - 8:30
PM: 4:00 - 5:00



SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

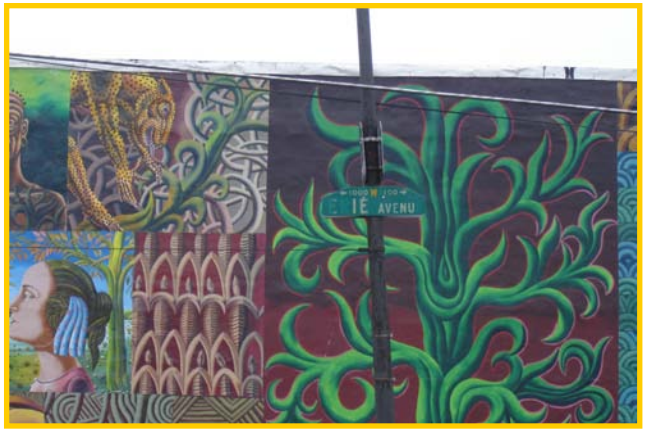
APPENDIX D
Photo Log – Erie Avenue

SIGNS

Damaged/vandalized street sign along Erie Avenue

Sign from former Erie Avenue trolley

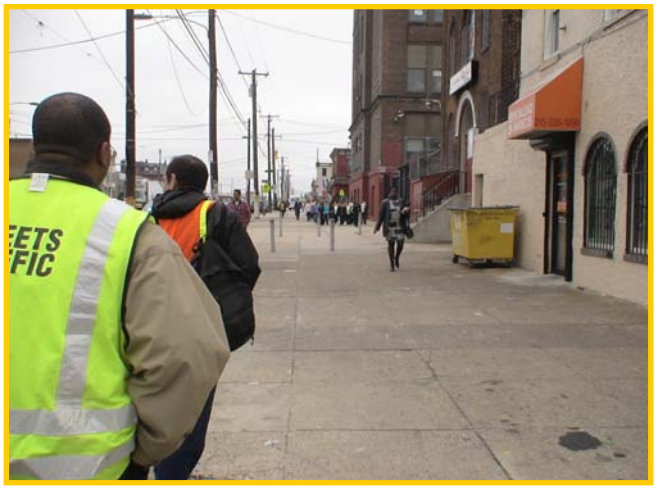
Faded street sign along Erie Avenue



Example of vandalism to street sign

SIDEWALKS

Bollards on sidewalk near 9th Street



Sidewalk bollards in vicinity of Randolph Street

Sidewalk disrepair along Erie Avenue

SIDEWALKS

Deteriorated and obstructed sidewalk along Erie Avenue

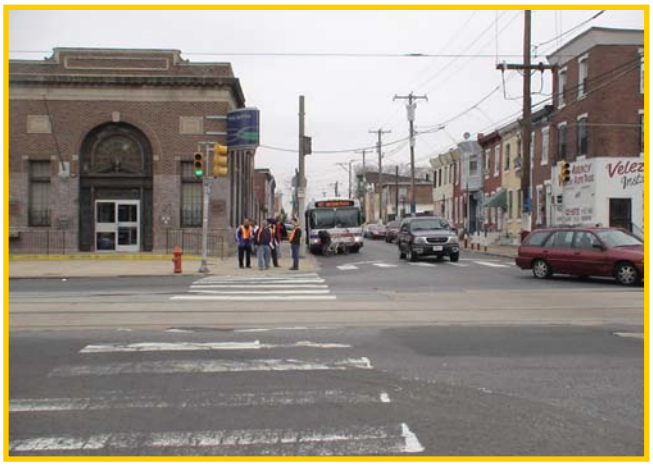
Example of neglect, litter near Germantown Avenue

Tripping hazard along Erie Avenue

PEDESTRIAN CROSSINGS

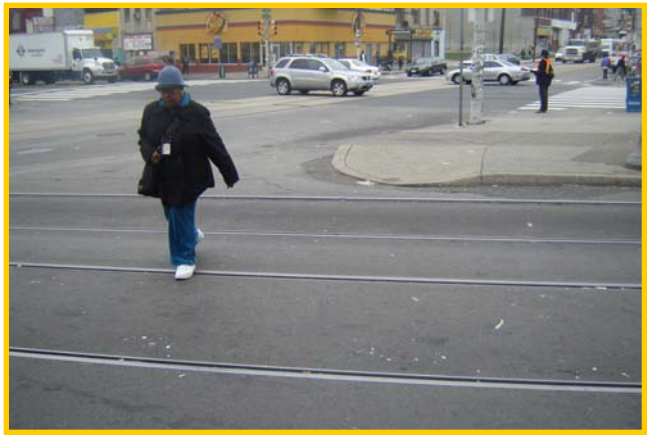
Deteriorated pedestrian crossing near Germantown Avenue

Former trolley right-of-way obstructs pedestrian crossing over Erie Avenue near Rising Sun Avenue, corridorwide issue.



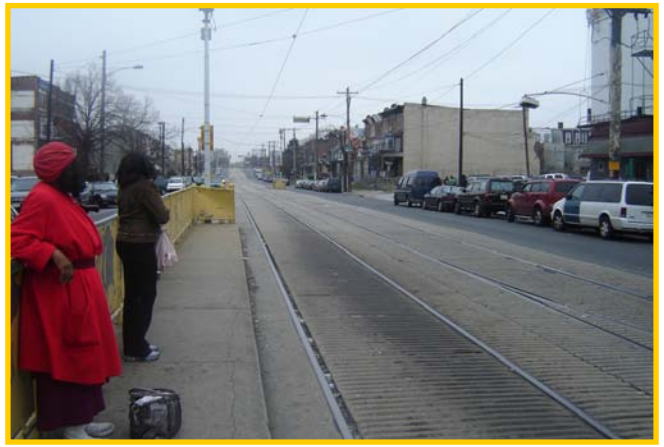
Example of sidewalk disrepair along Erie Avenue, corridorwide issue

Former trolley tracks create tripping hazard



TRANSIT

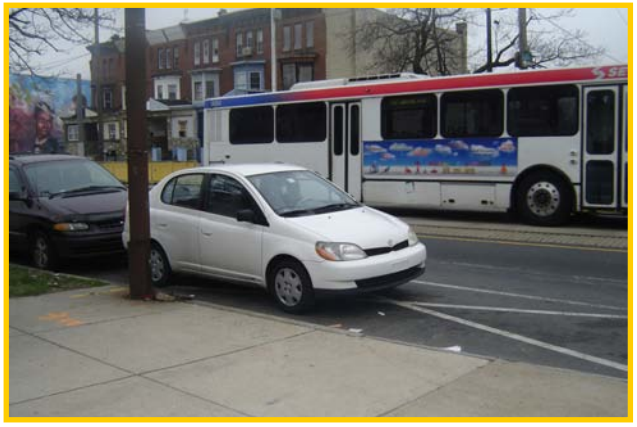
Former trolley boarding area, now used for bus boarding



SEPTA Bus utilizing former trolley right-of-way

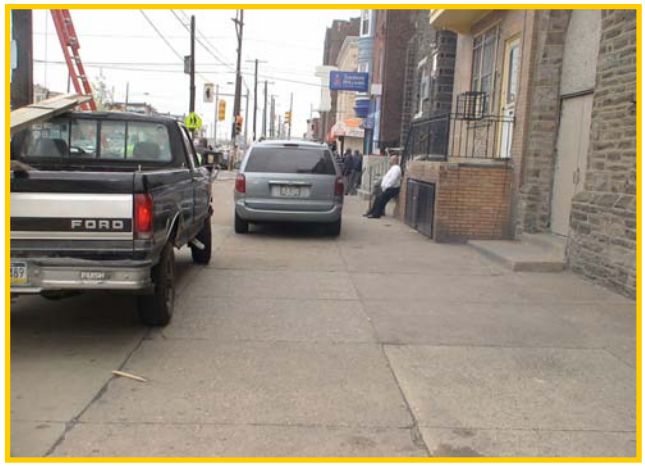
Bus stop near hospital east of Front Street

Example of unauthorized parking in bus pull-off area, corridorwide issue

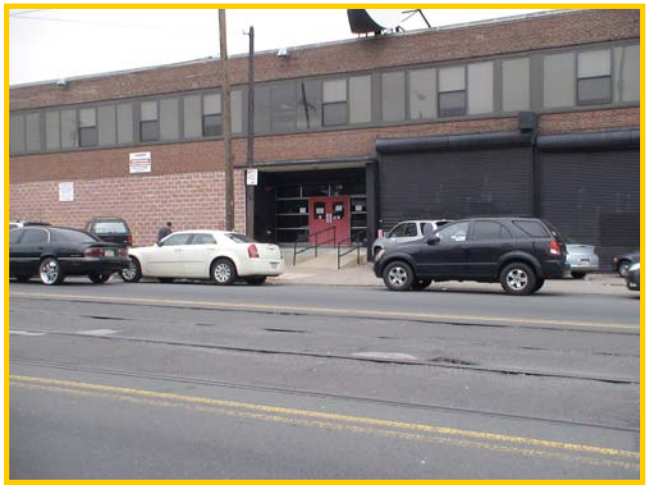


PARKING

Unauthorized parking on sidewalk along Erie Avenue



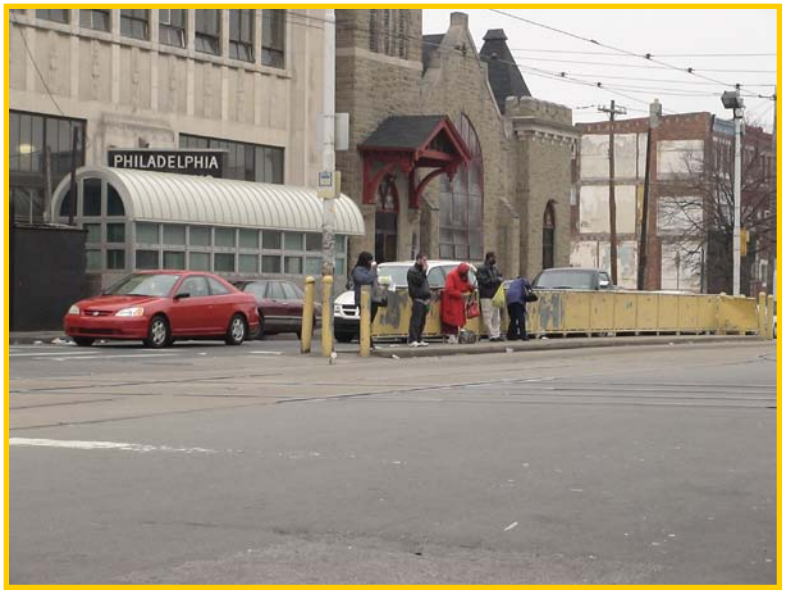
Illegal on-street and sidewalk parking



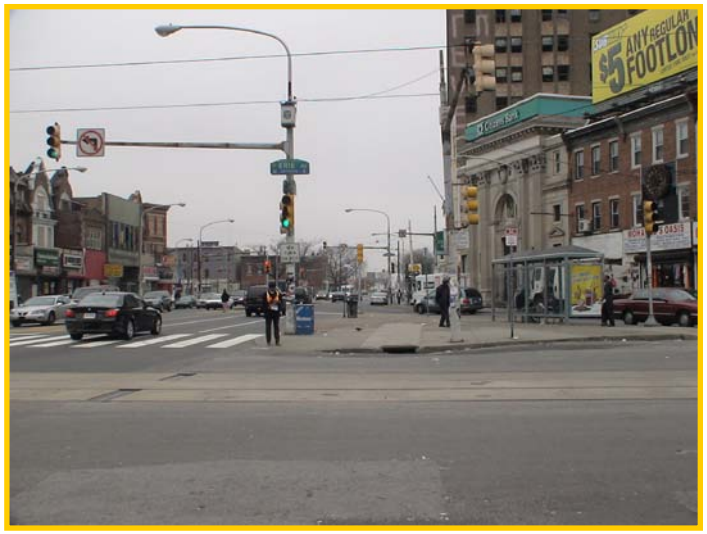
Sidewalk obstructed by unauthorized parking along Erie Avenue

BROAD STREET

Bus riders waiting along Erie Avenue at Germantown Avenue



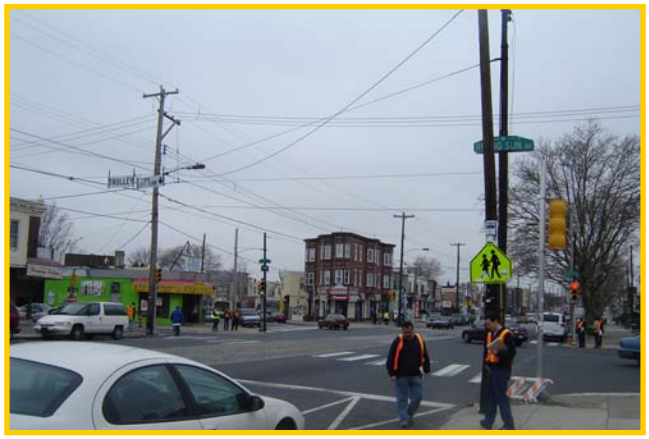
Missing crosswalk over Erie Avenue at Broad Street



Dangerous mix of traffic and pedestrians at Broad and Erie

CORRIDOR-WIDE ISSUES

Complicated intersection at Rising Sun Avenue and 7th Street



Example of deteriorated infrastructure along Erie Avenue

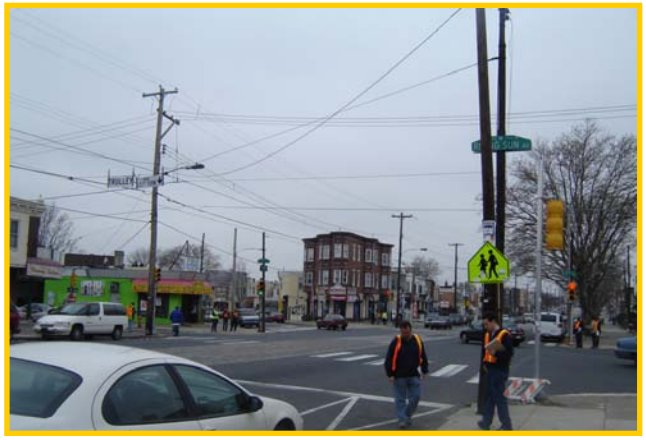
Raised former trolley right-of-way near Whitaker Avenue

CORRIDOR-WIDE ISSUES

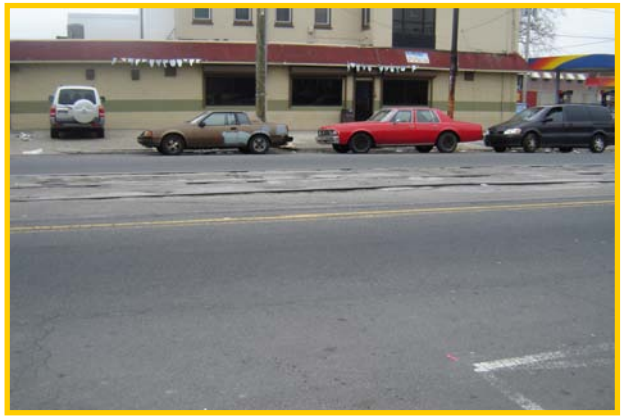
Example of inconsistent center-lane surface treatment, corridorwide issue

Example of inconsistent center-lane surface treatment at Whitaker Avenue

Erie Avenue at Rising Sun Road



Example of hazardous former trolley right-of-way



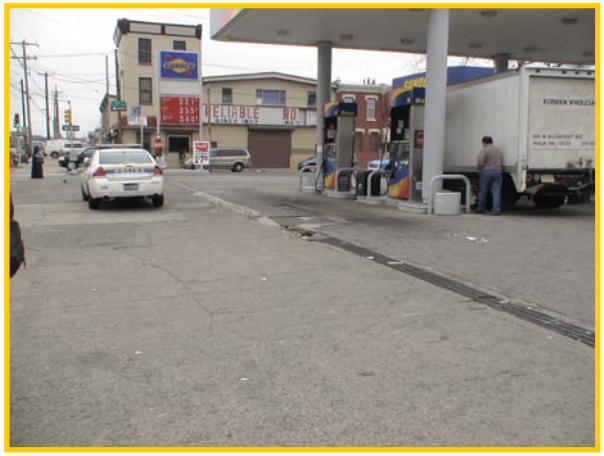
CORRIDOR-WIDE ISSUES

Erie at 2nd Street

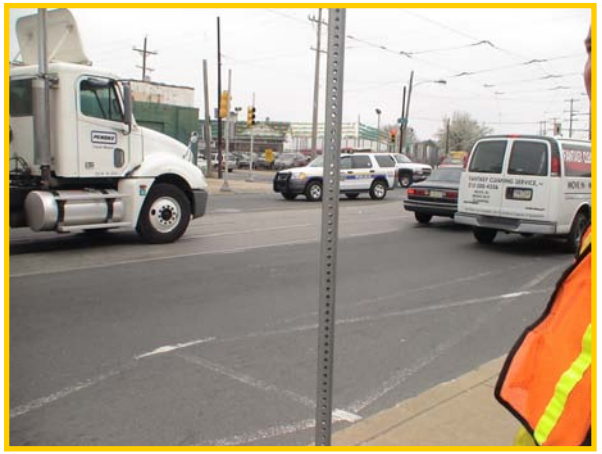
Erie at Sedgley Avenue (time restricted left turn sign)

Erie at Front Street intersection

Need for access management along Erie Avenue



Confusing traffic pattern at 2nd Street and Sedgley Avenue



CORRIDOR-WIDE ISSUES

RSA team members examine conditions at 6th Street and Erie Avenue

APPENDIX E
Response Sheet – Erie Avenue

SR 1004 Erie Avenue Road Safety Audit

RSA Response Sheet

Corridor-wide Safety Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
Sidewalks				
• Sidewalks are in poor condition (cracked, missing, etc) maintenance needed, i.e., trash, debris	• Reconstruct and rehabilitate sidewalks for the safe travel of pedestrians. Coordinate with City of Philadelphia Department of Public Works, neighborhood associations and residence to perform needed maintenance and cleaning on a regular basis			
• Bollards on the sidewalk obstruct pedestrian way and create a hit fixed object crash hazard for vehicles	• Bollards are typically not illegal, and are used to prevent vehicles from parking on sidewalks. Coordinate with the Philadelphia Streets Dept. to develop another method to prevent sidewalk parking which doesn't obstruct the pedestrian way or create a potential hazard for motorists			
Pedestrian Crossings				
• Crosswalk pavement markings are faded or	• Re-stripe and add pavement markings where missing in			

Corridor-wide Safety Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
missing	continental style striping and make consistent throughout corridor. Enhance continental style crossing with a backdrop over trolley tracks (use highest/best lighted crosswalk if possible), conduct inventory and add as needed.			
• Trolley tracks in crosswalks create tripping hazard • Intersection corners and curbs are deteriorated; drainage problems as evidenced by water pooling at the curbs	• Re-grade pavement to eliminate tripping hazard • Re-construct intersection corners and curbs			
• Pedestrian ramps are inadequate and not ADA compliant • Pedestrian signal heads do not have necessary indication	• Upgrade ramps with truncated domes and make ADA compliant • Upgrade pedestrian signal heads with man/hand indicators and/or count-down timers			
Signs • Evidence of graffiti and other damage to signs along corridor	• Conduct an inventory of street name sign and address as appropriate (posts, correct proximity to intersection,			

Corridor-wide Safety Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
• Street name signs posted too far back from the intersection	graffiti, legibility) • Correct the placement of street signs in accordance with PennDOT regulations and/or MUTCD			
Abandoned SEPTA Trolley Tracks and Concrete ROW • Excess / unusable capacity due to trolley ROW • Former trolley infrastructure is used in a seemingly unregulated manner by SEPTA's buses which presents safety issues • At grade trolley ROW serves as center turn lane, but is poorly marked and somewhat confusing • Road surface changes without any notice and is in poor condition in some locations	**<u>Long Term</u>** • Remove the tracks and concrete ROW • Implement a "complete streets" improvement including a two-way left turn lane and bike lanes from capacity gained by removing infrastructure **NOTE: SEPTA's official position is to re-instate the #56 trolley which would preclude removing the tracks and infrastructure** **<u>Medium Term</u>** • Cover/fill tracks with a rubber cap to make crossing safer for cyclists and disabled users • Remove outdated and unused concrete poles, and wires			

Corridor-wide Safety Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
	<u>Short Term:</u> • Prohibit buses from using the former trolley ROW (between Broad St and 12th St) as a dedicated bus lane due to the inherent safety issues resulting from merging between the Trolley ROW and the vehicle travel lanes			
Parking • Vehicles parked too close to the intersection • Vehicles parked in the bus pull-off areas • Parking on sidewalks	• Consider constructing bulb-outs on the corners where existing bus pull-offs are located • Install "No Parking" signs at bus stop locations • Develop corridor-wide strategy to prevent parking on sidewalks, possible solutions: -increased coordinated enforcement -new parking areas created by road geometry changes			
Speeding • Buses and vehicles speeding along corridor	• Coordinated enforcement between City of Philadelphia Police Department and SEPTA			

Corridor-wide Safety Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
Signals • Pole mounted signals are outdated and difficult for motorists to see because they are located off to the side of roadway out of the cone of vision. (approximately 60% of all crashes in the last 5 years are signal related according to the data)	• Install signals on mast arms as appropriate			
Bicycling • No bike lanes for bicyclists	• Add bike lanes, consider upgraded bike lane that includes a rumble strip edge line creating a potentially safer bicycling accommodation **NOTE: special application requires BHSTE design exception**			
• No “Share The Road” signs	• Install “Share the Road” warning signs as appropriate to raise bicyclists’ profile			
• Lack of bicycle parking	• Add bicycle parking where appropriate			

Corridor-wide Safety Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
Left Turn Accommodation • Need for left turn accommodation	• Establish former trolley ROW as a formal left turn lane where possible with upgraded striping and signage			
Blocked Drainage Grates • Evidence of trash obstructing drainage crates	• Coordinate with the Philadelphia Public Works Dept. to remove trash and debris on a regular basis			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
Broad Street and Germantown Ave				
• Pedestrian crossing over Erie Ave on eastside of Broad Street is very long and undefined, lane striping faded/ missing	• Stripe crosswalk and create a pedestrian refuge over Erie Ave for pedestrians, add pavement marking to assist in guiding motorists and informing pedestrians			
• High pedestrian volumes, and movements are somewhat erratic; missing pedestrian signal heads; signs missing / damaged	• Implement a "pedestrian scramble" signal phase and intersection treatments (pedestrian signal heads with countdown timers)			
• Reported red light running	• Install red light running cameras to further compliance			
• Trolley tracks present hazard for bikers, and for the disabled	• Remove trolley tracks			
• Undefined / inconsistent parking; parked vehicles compromise sight distance	• Enforce parking restrictions through increased police presence			
Between Elder Street and 13th Street				
• Sidewalk depression gathering trash/water	• Address drainage problem and repair sidewalk			
• Trolley island flashing yellow	• Repair flashing signal			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
signals not working				
Old York Rd • Short signal pole located in clear zone presents an HFO hazard	• Relocate/remove signal pole			
Marvine St • Missing sidewalk section	• Replace missing sidewalk section			
Germantown Ave to N Delhi St. • Transit boarding area located in the center of the roadway is poorly maintained and has a low profile making it an HFO hazard • Center transit boarding stop is difficult to access for the disabled • Transit buses weave between former trolley ROW and travel lanes	• Improve and raise visibility of center boarding zone, add new color (bring to standard), add reflective markings • Improve access to center boarding zone (make ADA compliant) • Prohibit buses from using the former trolley ROW due to safety implications of merging on and off the raised concrete			
Vicinity of bridge (near Cousin's supermarket) • Potentially dangerous merge by buses on/off the raised	• Prohibit buses from using the trolley ROW due to safety			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
trolley ROW	implications of merging on and off the raised concrete.			
10th St. • Signal may not be warranted • Grading inconsistencies present problems for pedestrians; facility not in compliance with ADA regulations • Trolley tracks turn onto 10th St from Erie Ave and create a hazard for bicyclists • Signal heads turned askew	• Verify signal warrant analysis via study • Remove tracks, re-grade, make safer for pedestrians • Remove tracks, make safer/more accessibe for bicyclists • Re-orient the signal head to face on-coming traffic. **NOTE: Philadelphia Streets Department representatives notified Maintenance of the issue during the field visit.**			
Delhi St. • Stop sign on the NW corner is turned away from southbound traffic on Delhi St • Curb ramps are not ADA compliant	• Orient stop sign for southbound motorist • Install ADA compliant curb ramps			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
Percy, 9th St. • Curb ramps are too steep and water is pooled at the base • Bollards obstruct pedestrian way • Signal at southeast corner of 9th misaligned • Heavy pedestrian traffic associated with the C bus transfers at 9th St combined with heavy traffic volume is potentially hazardous	• Repair or replace curb ramps making them ADA compliant and address drainage issues • Since bollards are allowed, develop corridor-wide strategy to prevent parking on sidewalks, i.e.: increased enforcement • Re-align signal head • Make transit stop more prominent, add necessary amenities			
8th St • Drainage issues at curb ramp on the NW corner • No amenities for transit passengers (shelters, benches, etc.)	• Repair or replace with ADA compliant curb ramps and address drainage issues • Coordinate with SEPTA, the City of Philadelphia and appropriate neighborhood association for the provision of necessary amenities			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
Franklin St • Street sign is covered with graffiti	• Remove graffiti or replace sign			
Rising Sun Avenue/7th St • Complicated signal timing (for traffic and pedestrians), too many signals • Crosswalks are too long over Rising Sun Ave, crosswalk striping is inconsistent • Cobblestone center lane is functioning as a two way LT lane, but is not signed or striped appropriately • Missing pedestrian crossing over 7th St • Vehicles parked near intersection compromises sight distance • No amenities for transit passengers (shelters, benches, etc.)	• Evaluate need for a signal upgrade • Reorient the crosswalks, install bulb-outs; evaluate the appropriateness of a pedestrian scramble to ease crossings and reduce crossing times and delay • Better establish the center lane as a turn lane through lane striping and signs • Provide pedestrian crossing over 7th St • Limit parking at intersection to improve visibility, enforce no parking areas • Coordinate with SEPTA, the City of Philadelphia, and appropriate neighborhood association to provide necessary transit amenities			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
6th St • Post mounted flashing school zone signs are not highly visible • 6th St westbound school crossing sign is faded	• Install school flashing signals on mast arms • Replace school crossing sign			
Bayard Taylor School (between Randolph St and 6th St) • Children cross 6th St to a church/school facility • Need for consistent school zone signing	• Increase pedestrian crossing amenities • Make school zone amenities/signs consistent with other school zones in the corridor			
5th St • Cars are pulling up past stop bar into the crosswalks	• Add “Stop Here on Red” signs; add more space between the crosswalk and stop bar			
Bridge between Lawrence and 3rd St • Steel plates on the bridge are potential hazard (for bicyclists) • Guide rail approaching the bridge needs upgrade,	• Remove steel plates (bike hazard) and rehab as appropriate • Add guide rail delineation; upgrade end treatment and			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
presents a HFO hazard because it has no transition and/or end treatment and is doubled paneled	transitions <u>Additional recommendation:</u> Evaluate the need for bridge weight restriction			
3rd St • Used car lot obstructing the sidewalk with parked cars	• Enforce no parking on sidewalk			
2nd Street and Sedgley Ave • Time sensitive left turn restrictions at the intersection create confusion for the motorists • These two intersections in close proximity create potentially unsafe conditions especially for 2nd St, left turns from northbound Sedgley, and for westbound Erie Ave left turns to Sedgley • Left turn accommodation for westbound Erie Ave to southbound Sedgley Ave	• Consider re-routing NB Sedgley Ave. traffic enroute to Erie Ave. onto 3rd St or 5th St where they can access via a signalized intersection; analyze potential neighborhood impacts • Consider signalizing Sedgley Ave and adding to the 2nd St signal plan; upgrade overall signalization • Add LT lane on westbound Erie Ave for turns to southbound Sedgley Ave			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
missing • Faded or missing lane striping; motorists are pulling up past stop bar into the crosswalks • Cars illegally parked on sidewalk • Curb cuts/ramps are offset from 2nd St	<u>Additional recommendation:</u> Consider making 2nd St 1-way South, from Erie to improve LOS on the Sedgley Ave signal plan idea • Restripe pavement markings and add more space between the stop lines and crosswalk; install "Stop Here on Red" signs • Enforce no parking on sidewalks • Realign curb ramps			
Roberto Clemente School (between 2nd and Front) • Inconsistent school zone signing • Missing pedestrian signal • Sidewalk pavement is missing along sidewalk opposite of school • No curb ramps at the school midblock crossing	• Install consistent school zone sign • Add pedestrian signal during the intersection improvement • Replace sidewalk • Install ADA compliant curb ramps at the midblock crossing			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
Front St • Missing pedestrian signals • Confusing and potentially hazardous pedestrian crossing • Yield sign (located near the bus stop) on north side should be reoriented towards Erie Ave • Cars are parked on the sidewalk on the northwest corner forcing pedestrians to walk in the roadway and obstruct the view of the crosswalk • Number 56 bus (WB) stop is at the channelized island on the northeast corner which present difficulty for school children to cross the roadway and proceed northbound on Front St	• Add man/hand pedestrian signals with countdown timers • Improve pedestrian crossing with continental striping • Install yield saw tooth pavement markings; possibly relocate yield sign • Prohibit/enforce no parking on northwest corner, widen sidewalks on northwest corner to better accommodate pedestrians • Relocate westbound #56 bus stop to a safer location **<u>Long Term</u>** • Consider roundabout • Consider intersection redesign Reconfigure the channelized right – evaluate the need and possibly remove if not warranted			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
A Street • In trolley track area, 4 to 5 inch dip (tripping hazard) similar to I St intersection • Bus shelter obstructs sidewalk • Erie is very wide–therefore promoting higher speeds	• Cover/fill tracks with a rubber cap (or other material) to make crossing safer for bikes and ADA compliance • Consider relocating bus shelter, or widening sidewalk • Consider traffic calming measures, i.e., narrow the lanes through striping			
B / Whitaker St. to I St. • Missing speed limit signs	• Install speed limit signs			
B St/ Whitaker St • Trolley island creates confusion • On the southeast corner there is a gas station with uncontrolled access • Left turn from Erie Ave to Whitaker St not clearly marked • Southbound Whitaker St right turn onto Erie Ave westbound and northbound right turn	• Remove trolley island, or use reflective markings to make more visible, prominent • Implement access management for gas station • Re-establish the center turn lane with lane striping and signs • Enforce no parking zone			

Site-Specific Safety Issues	Potential Improvements	Decision Agree/Reject	Planned Completion Date	Comments
onto Whitaker St from Erie Ave-vehicles observed using shoulder for parking • High number of angle crashes • Missing cross walk over B St • Missing yield pavement markings on channelized right turn	 • Evaluate effects of increasing the all red signal phase to clear intersection to address angle crashes • Replace missing cross walk striping • Install saw tooth yield markings on channelized right turn **NOTE: Philadelphia Streets Department representatives stated this will be addressed under pending contract**			
I St intersection • Unused SEPTA pole creates tripping hazard • Missing lane designation striping • Pedestrian crosswalks are lacking • Tracks and bridge uneven through intersection	 • Remove unused SEPTA pole • Upgrade lane striping; add formalized left turn lane for all four approaches • Add continental style pedestrian crosswalk striping • Remove trolley tracks			

APPENDIX F
PennDOT Scope of Work – Erie Avenue

Project Purpose:

The purpose of this project is to reduce the number of crashes and related injuries and severity of the crashes which occur along the approximate 2.5 mile section of Erie Avenue, between Broad Street and K Street, in the City of Philadelphia. The anticipated benefits of this project are:

- Minimization of the number of vehicle/pedestrian crashes.
- Minimization of the number of vehicular only crashes, specifically angle and rear-end type crashes.

Project Scope:

The scope of work for this project was developed from the Road Safety Audit which was conducted in April 2008 and undertaken by DVRPC in conjunction with the Pennsylvania Department of Transportation. A more detailed description of the scope of work is included in the attached cost estimate, and is summarized below:

- Conduct traffic signal warrant analyses at select intersections to determine the appropriateness (warrants met) of the existing traffic signals and alternative traffic controls where appropriate.
- Install overhead mast-arm traffic signals consistently throughout the corridor.
- Install pedestrian signals and other pedestrian amenities (crosswalks, signing, etc) throughout the corridor.
- Replace sidewalks and curbing within the corridor.
- Remove trolley tracks and pave entire roadway.
- Restripe the roadway.
- Improve drainage problems along the corridor.

Total Cost ~ $25.6 million

Alternate Scope "A"

- This alternate assumes that the SEPTA trolley tracks and track base remains in place and the described improvements are implemented (left turn lanes, stop bars, crosswalks, etc.) on top of the existing track area, much like the trolley area is treated on Erie Avenue/Torresdale Avenue north of the study area.

Total Cost ~ $17.0 million

Alternate Scope "B"

- This alternate assumes that all of the SEPTA trolley hardware (tracks, track base, overhead wires, poles, rider platforms, etc.) remains in place and the remaining improvements are implemented as possible given the trolley infrastructure.

Total Cost ~ $6.5 million

<u>Benefit-to-Cost Ratio Calculation</u>

The estimated benefit, in terms of crash reductions, for this project is $3.75 million per year. See attached sheet Titled "Erie Avenue HSIP Benefit Calculations".

The estimated cost for the above scope of work is $25.6 million. See the attached "Cost Estimate Sheet" (three pages). Assuming a 20-year life cycle for this safety project, the annual cost of the project is $1.28 million.

The project will have an annual benefit-to-cost ratio of $3,750,000:$1,280,000 or 2.9 to 1.

Alternate Scope A
The project will have an annual benefit-to-cost ratio of $1,888,000: $850,000 or 2.2 to 1.

Alternate Scope B
The project will have an annual benefit-to-cost ratio of $750,000: $325,000 or 2.3 to 1.

ERIE AVENUE HSIP BENEFIT CALCULATIONS

Crashes: 2003 through 2007

Crash Type	# of Crashes		Average Cost per Crash[1]		Total Costs
Angle	103	X	$ 76,000	=	$ 7,828,000
Rear End	70	X	$ 39,400	=	$ 2,758,000
Pedestrian	52	X	$214,700	=	$11,164,400
Other	103	X	$ 39,700	=	$ 4,089,100
Total	328		Total 5 Year Cost	=	$25,839,500
			Average Annual Cost	=	$5.2 million

1 From CDART: Accident Cost by Category Report for Accidents in Years 2003 to 2007.

According to the CDART data, the crash rate for the study corridor ranged from 1.35 to 6.60 times higher than PennDOT's homogeneous five-year rate for the same time period. The average crash rate is (1.35 + 2.21 + 2.94 + 4.81 +6.60) = 17.91 ÷ 5 = 3.58.

The corridor experienced an average crash rate that was approximately 3.58 times higher than corridors with similar characteristics during the 2003 through 2007 period. If it is assumed that the planned safety improvements will produce a crash rate (results in a reduction) that is consistent with statewide averages for similar corridors, then the expected crash rate for the post-improvement period will be 1 ÷ 3.58 or 28 percent of the current rate. This translates into a post-improvement annual cost of $1.45 million. The expected benefit will be $5.2 million – $1.45 million or $3.75 million per year.

Alternate Scope A
Alternate A is estimated to cost $17.0 million or $850,000 per year assuming a 20 year life cycle. The expected benefit is estimated to be 50% of the Total Scope, or $1.88 million per year.

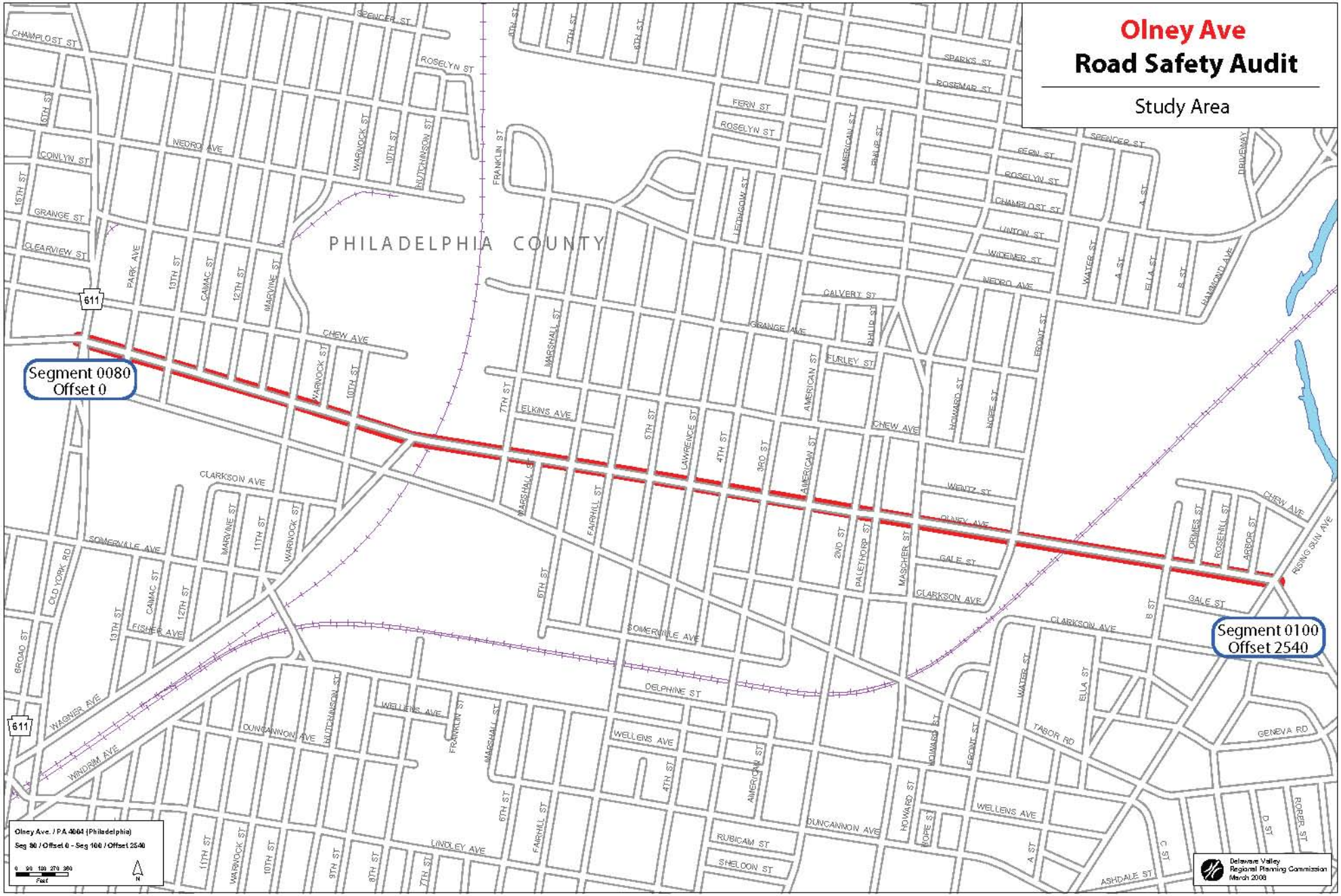
Alternate Scope B
Alternate B is estimated to cost $6.5 million or $325,000 per year assuming a 20 year life cycle. The expected benefit is estimated to be 20% of the Total Scope, or $750,000 thousand per year.

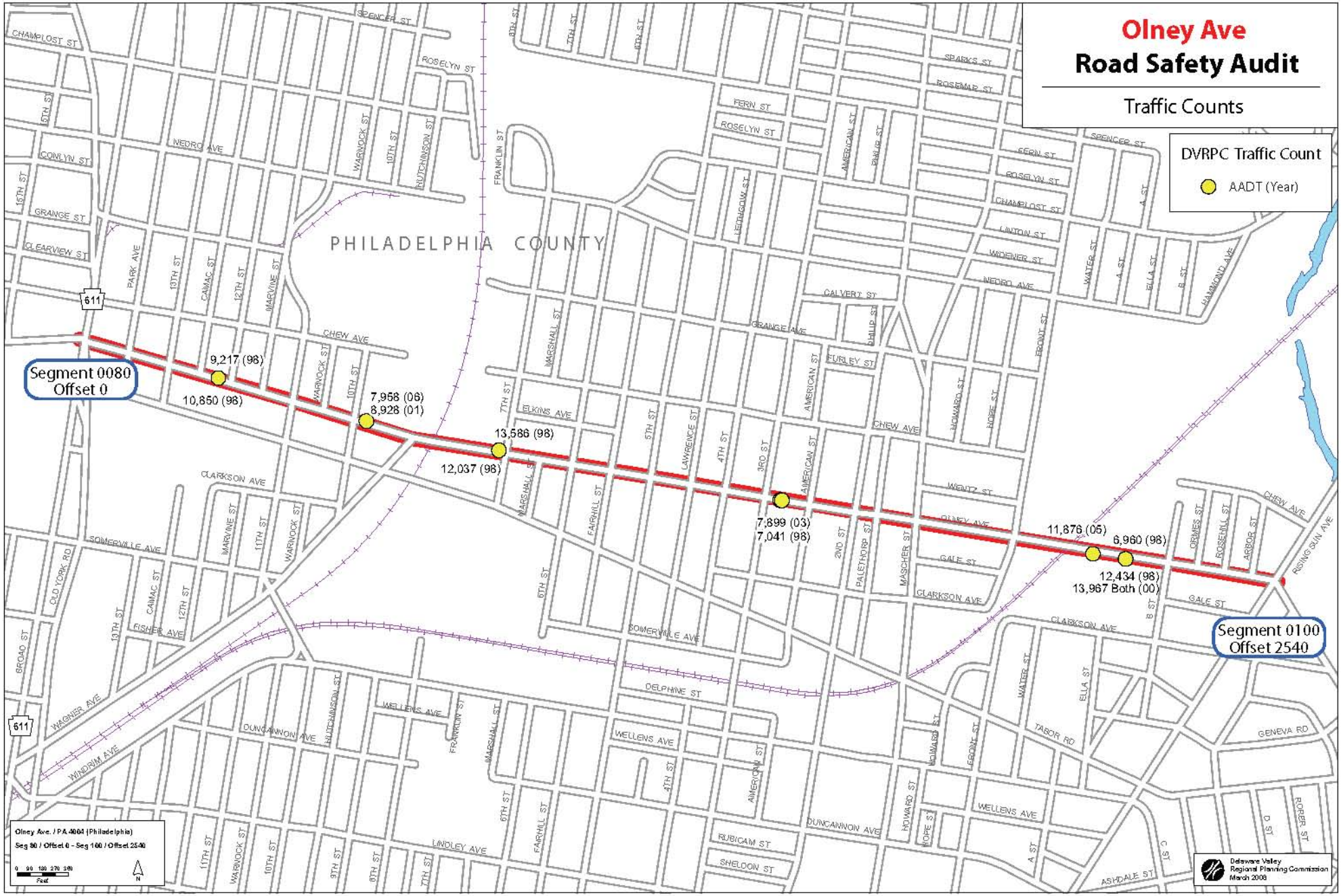
COST ESTIMATE:

Intersection / Location	Proposed Work	Construction	Engineering cost	Order of Magnitude Cost Estimate
Broad Street/Germantown Avenue	Install new signal with mast arms	$100,000	$15,000	$115,000
Old York Road	Install new signal with mast arms	$70,000	$10,500	$80,500
North 10th Street	Install new signal with mast arms	$70,000	$10,500	$80,500
North 9th Street	Install new signal with mast arms	$70,000	$10,500	$80,500
Rising Sun Avenue/North 7th Street	Install new signal with mast arms	$102,000	$15,300	$117,300
North 6th Street	Install new signal with mast arms	$70,000	$10,500	$80,500
Randolph Street	Install new signal with mast arms	$70,000	$10,500	$80,500
North 5th Street	Install new signal with mast arms	$70,000	$10,500	$80,500
North 3rd Street	Install new signal with mast arms	$55,000	$8,250	$63,250
North 2nd Street	Install new signal with mast arms	$70,000	$10,500	$80,500
North Front Street	Install new signal with mast arms	$70,000	$10,500	$80,500
A Street	Install new signal with mast arms	$55,000	$8,250	$63,250
B Street/Whitaker Avenue	Install new signal with mast arms	$70,000	$10,500	$80,500
D Street	Install new signal with mast arms	$70,000	$10,500	$80,500
G Street	Install new signal with mast arms	$70,000	$10,500	$80,500

I Street	Install new signal with mast arms	$70,000	$10,500	$80,500
Corridor Wide	Remove trolley tracks, repave the roadway, install new curbing and sidewalk, restripe roadway, install new drainage (Lump Sum)	$19,115,125	$2,867,269	$21,982,394
	Subtotal	$20,267,125	$3,040,069	$23,307,194
	Contingency (10%)	$2,026,713	$304,007	$2,330,720
	Total			**$25,637,914**

APPENDIX G
Maps – Olney Avenue


Olney Ave
Road Safety Audit
Study Area
PHILADELPHIA COUNTY
Segment 0080
Offset 0
Segment 0100
Offset 2540
CHAMPLOST ST
SPENCER ST
ROSELYN ST
FERN ST
SPARKS ST
ROSEMAR ST
CONLYN ST
NEDRO AVE
GRANGE ST
CLEARVIEW ST
CHEW AVE
CALVERT ST
WIDENER ST
LINTON ST
DRIVEWAY
CLARKSON AVE
SOMERVILLE AVE
FISHER AVE
WAGNER AVE
WINDRIM AVE
DUNCANNON AVE
WELLENS AVE
DELPHINE ST
LINDLEY AVE
RUBICAM ST
SHELDON ST
ELKINS AVE
FURLEY ST
WENTZ ST
OLNEY AVE
GALE ST
TABOR RD
GENEVA RD
ASHDALE ST
RISING SUN AVE
PARK AVE
13TH ST
CAMAC ST
12TH ST
MARVINE ST
11TH ST
WARNOCK ST
10TH ST
9TH ST
8TH ST
7TH ST
6TH ST
5TH ST
4TH ST
3RD ST
2ND ST
BUTCHINSON ST
FRANKLIN ST
MARSHALL ST
FAIRHILL ST
LAWRENCE ST
AMERICAN ST
PHILIP ST
HOWARD ST
HOPE ST
FRONT ST
WATER ST
ELLA ST
A ST
B ST
C ST
D ST
RAYMOND AVE
LEDYARD ST
PALETHORP ST
MASCHER ST
ORMES ST
ROSEHILL ST
ARBOR ST
ROBERT ST
OLD YORK RD
BROAD ST
611
Olney Ave. / PA 4004 (Philadelphia)
Seg 80 / Offset 0 - Seg 100 / Offset 2540
Feet
Delaware Valley
Regional Planning Commission
March 2008


Olney Ave
Road Safety Audit
Traffic Counts
DVRPC Traffic Count
AADT (Year)
PHILADELPHIA COUNTY
Segment 0080
Offset 0
9,217 (98)
10,850 (98)
7,958 (06)
8,928 (01)
13,586 (98)
12,037 (98)
7,899 (03)
7,041 (98)
11,876 (05)
6,960 (98)
12,434 (98)
13,967 Both (00)
Segment 0100
Offset 2540
CHEW AVE
OLNEY AVE
GALE ST
CLARKSON AVE
SOMERVILLE AVE
DELPHINE ST
WELLENS AVE
DUNCANNON AVE
LINDLEY AVE
GRANGE AVE
CALVERT ST
FURLEY ST
WENTZ ST
ELKINS AVE
CLEARVIEW ST
NEDRO AVE
ROSELYN ST
FERN ST
SPENCER ST
CHAMPLOST ST
LINTON ST
WIDENER ST
RAMMOND AVE
FISHER AVE
WAGNER AVE
WINDRIM AVE
TABOR RD
GENEVA RD
ASHDALE ST
RUBICAM ST
SHELDON ST
611
Olney Ave. / PA 4004 (Philadelphia)
Seg 80 / Offset 0 - Seg 100 / Offset 2540
Delaware Valley Regional Planning Commission
March 2008

APPENDIX H
Traffic Data – Olney Avenue

rsa olney ave corridor summary

Date Range: 1/1/2004 to 12/31/2006
Area of Interest: (In County 67 On State Route 4004(P) Between Segment 0050 Offset 1387 and Segment 0100 Offset 2540)

USER_ID/QUERY ID:
lkubli/ 0620080310013

MONTH OF YEAR

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
CRASHES	8	17	7	9	13	12	14	9	12	7	12	12	132
PCT	6%	12%	5%	6%	9%	9%	10%	6%	9%	5%	9%	9%	100%

DAY OF WEEK

	SUN	MON	TUE	WED	THR	FRI	SAT	
CRASHES	11	17	30	13	18	24	19	132
PCT	8%	12%	22%	9%	13%	18%	14%	100%

HOUR OF DAY

	00	01	02	03	04	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	99	
CRASHES	2	2	2	1	1	3	5	11	6	3	8	9	7	9	12	7	6	9	5	6	6	3	2	7	132
PCT	1%	1%	1%	0%	0%	2%	3%	8%	4%	2%	6%	6%	5%	6%	9%	5%	4%	6%	3%	4%	4%	2%	1%	5%	100%

YEAR

	CRASHES	PCT
2004	43	32%
2005	40	30%
2006	49	37%
TOTAL	132	100%

COLLISION TYPE

	CRASHES	PCT
ANGLE	40	30%
PEDESTRIAN	35	26%
REAR END	32	24%
HEAD ON	10	7%
SAME DIR SS	7	5%
OPP DIR SS	5	3%
HIT FIX OBJ	2	1%
BACKING	1	0%
TOTAL	132	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
FATAL	2	1%
MAJOR	6	4%
MODERATE	15	11%
MINOR	72	54%
UNK SEVERITY	34	25%
UNK IF INJURED	1	0%
PDO	2	1%
TOTAL	132	100%

SEVERITY COUNT

	PERSONS
FATALITIES	2
MAJOR	6
MODERATE	16
MINOR	115
UNK SEVERITY	75
UNK IF INJURED	31

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	141	42%
UNKNOWN	43	13%
OTHER IMPROPER DRIVING	34	10%
IMPROPER/CARELESS TURN	20	6%
PROCEED W/O CLEARANCE	14	4%
TOO FAST FOR CONDITION	12	3%
RUNNING RED LIGHT	11	3%
DRIVER WAS DISTRACTED	7	2%
CARELESS PASS/LN CHNG	5	1%
FAILR MAINT PROP SPEED	5	1%
RUNNING STOP SIGN	5	1%
SPEEDING	5	1%
OTHERS	26	7%
TOTAL	328	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	206	79%
VAN	13	5%
SMALL TRUCK	11	4%
SUV	11	4%
BUS	10	3%
MOTORCYCLE	3	1%
LARGE TRUCK	2	0%
PEDALCYCLE	2	0%
OTHER VEHICLE	1	0%
TOTAL	259	100%

ROAD CONDITION

	CRASHES	PCT
DRY	110	83%
WET	19	14%
ICE	2	1%
ICE PATCH	1	0%
TOTAL	132	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	98	74%
STREET LIGHTS	30	22%
DARK	2	1%
DAWN	1	0%
UNK LIGHTING	1	0%
TOTAL	132	100%

WEATHER

	CRASHES	PCT
CLEAR	112	84%
RAIN	16	12%
OTHER	2	1%
SNOW	2	1%
TOTAL	132	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	116	83%
SLIPPERY ICE/SNOW	6	4%
UNKNOWN	5	3%
ANIMAL IN RDWY	3	2%
GLARE	3	2%
OTHER WEATHER COND	3	2%
OTHER RDWY FACTOR	1	0%
SUDDEN WEATHER COND	1	0%
TCD OBSTRUCTED	1	0%
TOTAL	139	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete

Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

REPORT PARAMETERS:

Query ID:	0620080310013
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 4004(P) Between Segment 0050 Offset 1387 and Segment 0100 Offset 2540)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

1. SR 4004 Olney Avenue, vicinity of Broad Street, Old York Road, and Park Avenue

Segment 50, Offset 1387 to Segment 80, Offset 322

COLLISION TYPE	
Rear-end	13
Pedestrian	11
Angle	4
Opp Dir Sideswipe	1
Total	**29**
ILLUMINATION	
Daylight	23
Street Lights	6
Total	**29**
WEATHER	
Clear	27
Rain	2
Total	**29**
SEVERITY COUNT	
Fatalities	1
Major	1
Moderate	6
Minor	28
Unk Severity	8
Unk If Injured	7

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

rsa olney ave 50/1387 to 80/0175

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 4004(P) Between Segment 0050 Offset 1387 and Segment 0080 Offset 175) or (In County 67 On State Route 4004(S) Between Segment 0051 Offset 1387 and Segment 0081 Offset 175)

USER_ID/QUERY ID: lkubli/ 0620080310016

MONTH OF YEAR

	JAN	FEB	APR	MAY	JUN	JUL	SEP	OCT	NOV	DEC	
CRASHES	1	2	2	3	5	1	3	3	2	2	24
PCT	4%	8%	8%	12%	20%	4%	12%	12%	8%	8%	100%

DAY OF WEEK

	SUN	MON	TUE	WED	THR	FRI	SAT	
CRASHES	1	5	3	3	3	4	5	24
PCT	4%	20%	12%	12%	12%	16%	20%	100%

HOUR OF DAY

	02	08	09	11	12	13	14	15	18	19	20	22	99	
CRASHES	1	1	2	1	6	1	2	4	1	1	1	1	2	24
PCT	4%	4%	8%	4%	25%	4%	8%	16%	4%	4%	4%	4%	8%	100%

YEAR

	CRASHES	PCT
2004	9	37%
2005	7	29%
2006	8	33%
TOTAL	24	100%

COLLISION TYPE

	CRASHES	PCT
REAR END	11	45%
PEDESTRIAN	9	37%
ANGLE	3	12%
OPP DIR SS	1	4%
TOTAL	24	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
FATAL	1	4%
MAJOR	1	4%
MODERATE	5	20%
MINOR	15	62%
UNK SEVERITY	2	8%
TOTAL	24	100%

SEVERITY COUNT

	PERSONS
FATALITIES	1
MAJOR	1
MODERATE	5
MINOR	25
UNK SEVERITY	7
UNK IF INJURED	6

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	28	45%
OTHER IMPROPER DRIVING	9	14%
UNKNOWN	8	13%
CARELESS/ILLEGAL BACKING	2	3%
DRIVER WAS DISTRACTED	2	3%
FAILR MAINT PROP SPEED	2	3%
PROCEED W/O CLEARANCE	2	3%
CARELESS PASS/LN CHNG	1	1%
FAILURE USE SPCL EQUIP	1	1%
IMPROPER/CARELESS TURN	1	1%
MAKING ILLEGAL U-TURN	1	1%
RUNNING RED LIGHT	1	1%
OTHERS	3	4%
TOTAL	61	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	26	56%
BUS	8	17%
SUV	5	10%
SMALL TRUCK	3	6%
MOTORCYCLE	1	2%
VAN	1	2%
PEDALCYCLE	1	2%
OTHER VEHICLE	1	2%
TOTAL	46	100%

ROAD CONDITION

	CRASHES	PCT
DRY	23	95%
WET	1	4%
TOTAL	24	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	19	79%
STREET LIGHTS	5	20%
TOTAL	24	100%

WEATHER

	CRASHES	PCT
CLEAR	23	95%
RAIN	1	4%
TOTAL	24	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	22	91%
ANIMAL IN RDWY	1	4%
OTHER WEATHER COND	1	4%
TOTAL	24	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete

Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

REPORT PARAMETERS:

Query ID:	0620080310016
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 4004(P) Between Segment 0050 Offset 1387 and Segment 0080 Offset 175) or (In County 67 On State Route 4004(S) Between Segment 0051 Offset 1387 and Segment 0081 Offset 175)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

rsa olney ave 80 0301 to 80/0322

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 4004(P) Between Segment 0080 Offset 301 and Segment 0080 Offset 322) or (In County 67 On State Route 4004(S) Between Segment 0081 Offset 301 and Segment 0081 Offset 322)

USER_ID/QUERY ID: lkubli/ 0620080310017

MONTH OF YEAR

	APR	MAY	JUN	AUG	SEP	
CRASHES	1	1	1	1	1	5
PCT	20%	20%	20%	20%	20%	100%

DAY OF WEEK

	MON	TUE	THR	FRI	
CRASHES	2	1	1	1	5
PCT	40%	20%	20%	20%	100%

HOUR OF DAY

	07	09	16	21	
CRASHES	1	1	2	1	5
PCT	20%	20%	40%	20%	100%

YEAR

	CRASHES	PCT
2004	2	40%
2005	3	60%
TOTAL	5	100%

COLLISION TYPE

	CRASHES	PCT
PEDESTRIAN	2	40%
REAR END	2	40%
ANGLE	1	20%
TOTAL	5	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MODERATE	1	20%
MINOR	3	60%
UNK SEVERITY	1	20%
TOTAL	5	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	0
MODERATE	1
MINOR	3
UNK SEVERITY	1
UNK IF INJURED	1

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	6	50%
UNKNOWN	2	16%
DRIVER WAS DISTRACTED	1	8%
MAKING ILLEGAL U-TURN	1	8%
TAILGATING	1	8%
TOO FAST FOR CONDITION	1	8%
TOTAL	12	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	5	62%
BUS	1	12%
SMALL TRUCK	1	12%
VAN	1	12%
TOTAL	8	100%

ROAD CONDITION

	CRASHES	PCT
DRY	4	80%
WET	1	20%
TOTAL	5	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	4	80%
STREET LIGHTS	1	20%
TOTAL	5	100%

WEATHER

	CRASHES	PCT
CLEAR	4	80%
RAIN	1	20%
TOTAL	5	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	5	100%
TOTAL	5	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

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3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

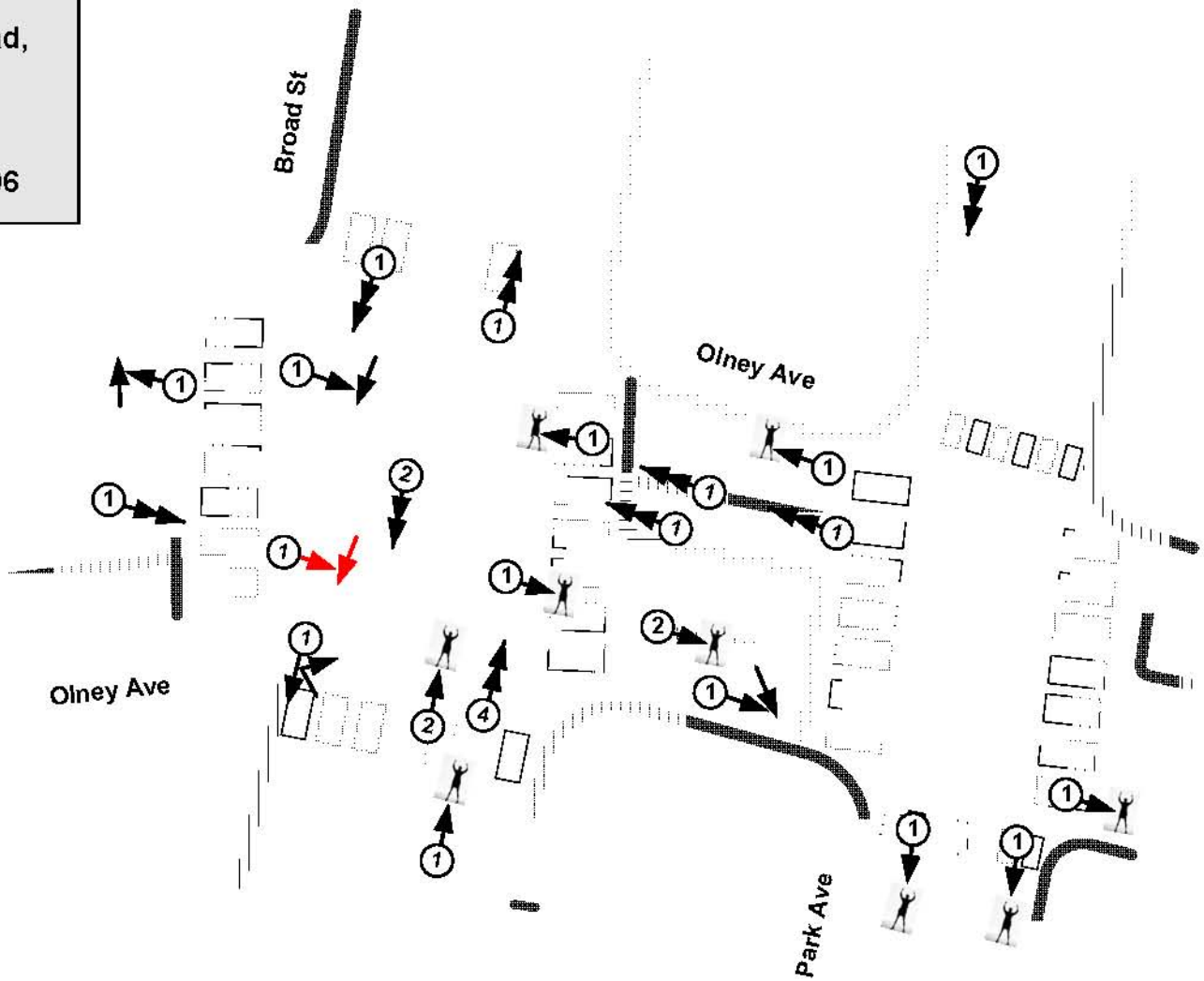
REPORT PARAMETERS:

Query ID:	0620080310017
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 4004(P) Between Segment 0080 Offset 301 and Segment 0080 Offset 322) or (In County 67 On State Route 4004(S) Between Segment 0081 Offset 301 and Segment 0081 Offset 322)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Olney Avenue vicinity of
Broad Street, Old York Road,
and Park Avenue

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 29
Pedestrian Crashes = 11



Crash Type Legend

- (1) = # crashes
- Angle
- Rear End
- Opposite Direction Sideswipe
- Hit Pedestrian
- Fatal

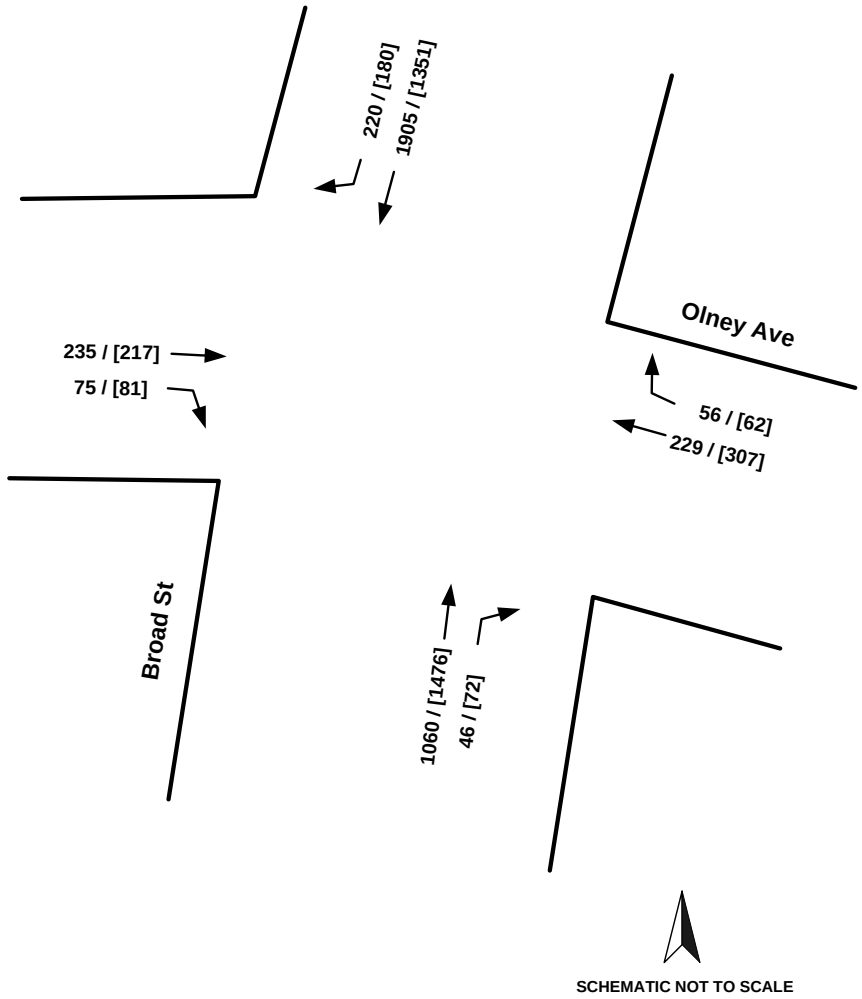
SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

Olney Avenue and Broad Street Intersection

Peak Hour Turning Movement Counts AM & [PM]

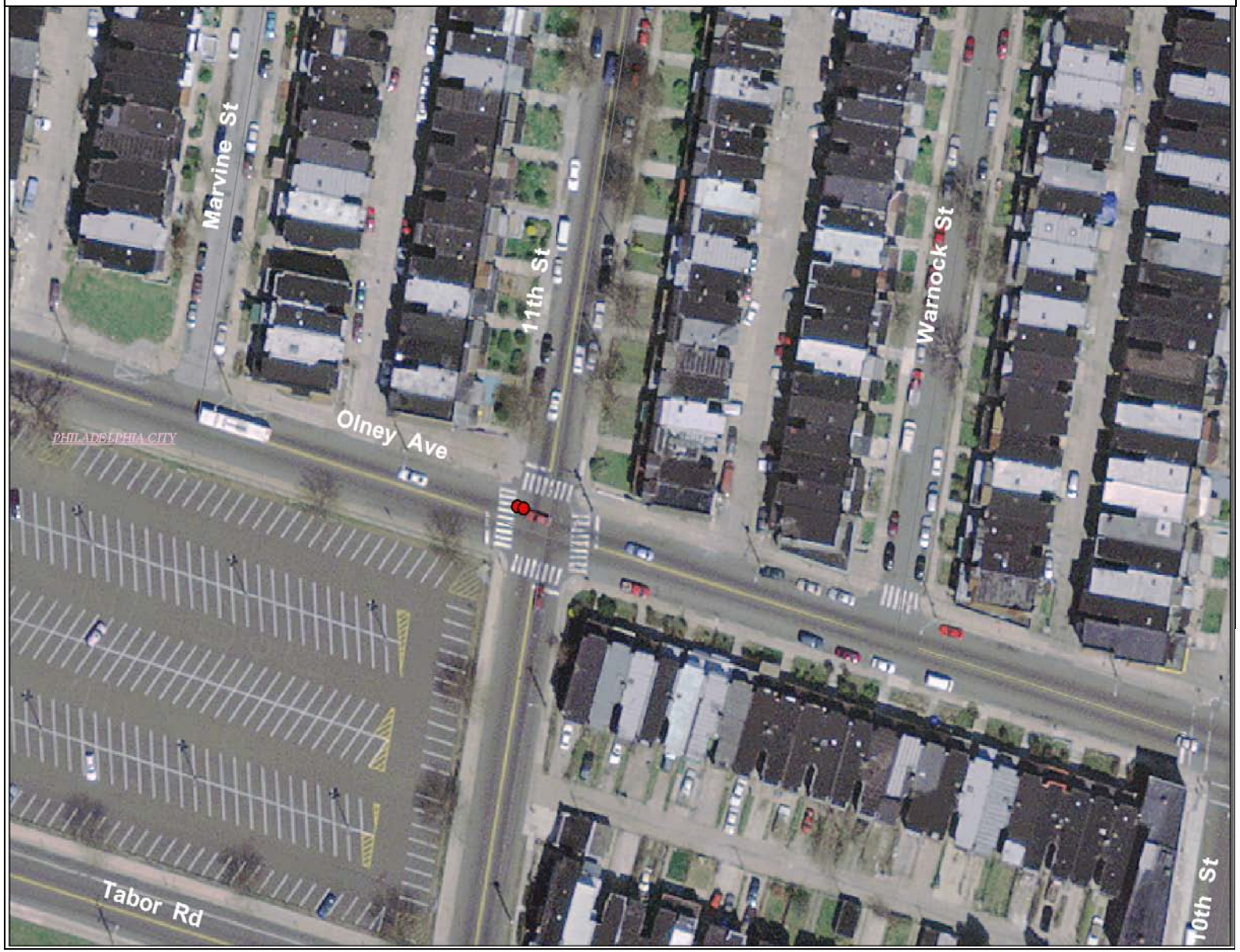
Peak Hours
AM: 7:45 - 8:45
PM: 5:30 - 6:30



Delaware Valley Regional Planning Commission
April 2008

2. SR 4004 Olney Avenue at 11th Street

Segment 80, Offset 1521 to Segment 80, Offset 1525



COLLISION TYPE	
Angle	5
Pedestrian	2
Backing	1
Total	**8**
ILLUMINATION	
Daylight	6
Street Lights	2
Total	**8**
WEATHER	
Clear	7
Rain	1
Total	**8**
SEVERITY COUNT	
Fatalities	0
Major	0
Moderate	2
Minor	8
Unk Severity	3
Unk If Injured	1

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

rsa olney ave 80/1521 to 80/1525

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 4004(P) Between Segment 0080 Offset 1521 and Segment 0080 Offset 1525) or (In County 67 On State Route 4004(S) Between Segment 0081 Offset 1521 and Segment 0081 Offset 1525)

USER_ID/QUERY ID: lkubli/ 0620080310018

MONTH OF YEAR

	JAN	FEB	MAY	JUL	NOV	
CRASHES	1	3	1	2	1	8
PCT	12%	37%	12%	25%	12%	100%

DAY OF WEEK

	MON	TUE	THR	FRI	SAT	
CRASHES	1	2	2	1	2	8
PCT	12%	25%	25%	12%	25%	100%

HOUR OF DAY

	08	10	14	15	18	21	
CRASHES	1	1	3	1	1	1	8
PCT	12%	12%	37%	12%	12%	12%	100%

YEAR

	CRASHES	PCT
2004	5	62%
2005	3	37%
TOTAL	8	100%

COLLISION TYPE

	CRASHES	PCT
ANGLE	5	62%
PEDESTRIAN	2	25%
BACKING	1	12%
TOTAL	8	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MODERATE	2	25%
MINOR	5	62%
PDO	1	12%
TOTAL	8	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	0
MODERATE	2
MINOR	8
UNK SEVERITY	3
UNK IF INJURED	1

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	8	47%
RUNNING RED LIGHT	3	17%
OTHER IMPROPER DRIVING	2	11%
DRIVER WAS DISTRACTED	1	5%
IMPROPER/CARELESS TURN	1	5%
TOO FAST FOR CONDITION	1	5%
UNKNOWN	1	5%
TOTAL	17	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	13	86%
SMALL TRUCK	2	13%
TOTAL	15	100%

ROAD CONDITION

	CRASHES	PCT
DRY	7	87%
WET	1	12%
TOTAL	8	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	6	75%
STREET LIGHTS	2	25%
TOTAL	8	100%

WEATHER

	CRASHES	PCT
CLEAR	7	87%
RAIN	1	12%
TOTAL	8	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	7	77%
ANIMAL IN RDWY	1	11%
TCD OBSTRUCTED	1	11%
TOTAL	9	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete

Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

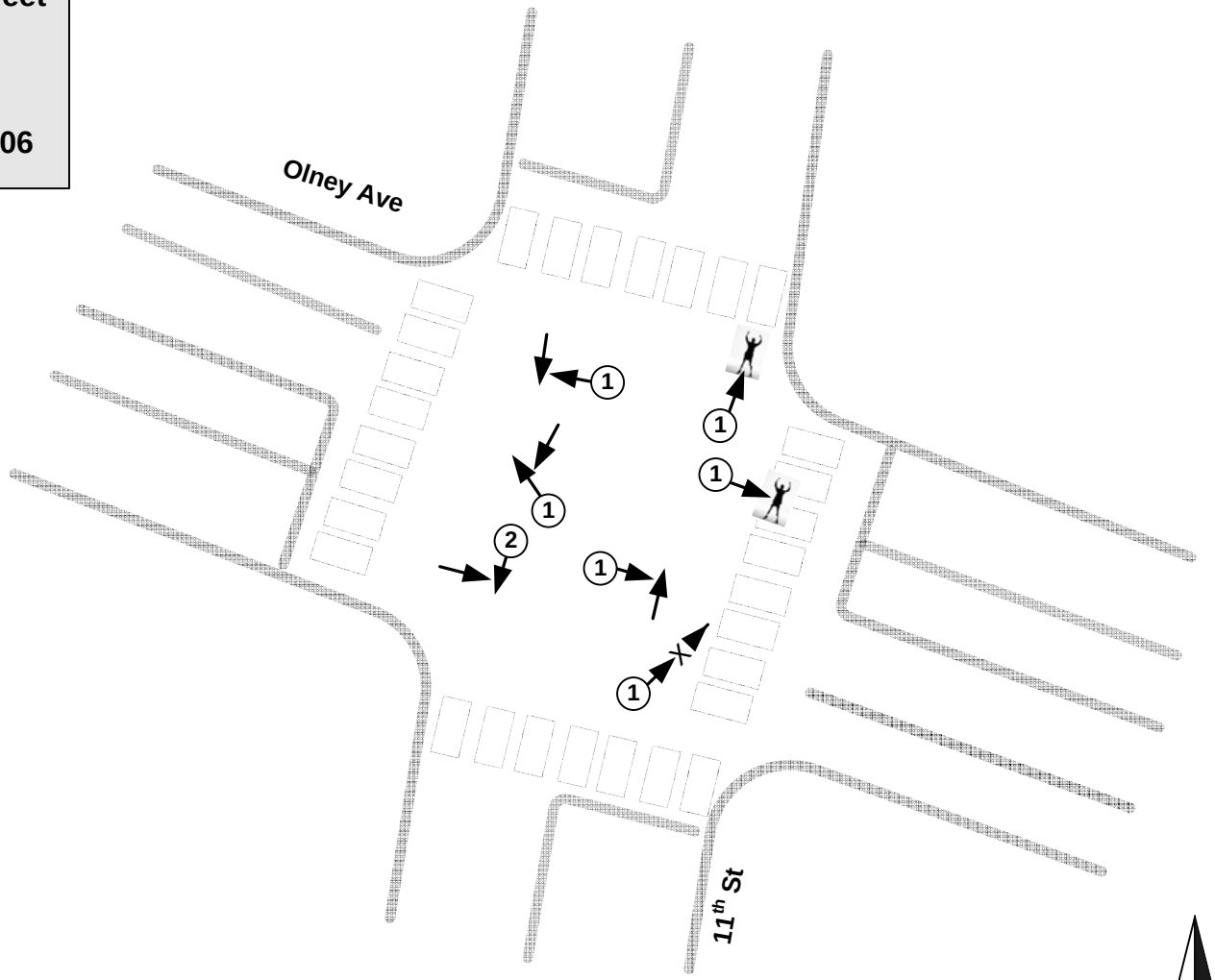
REPORT PARAMETERS:

Query ID:	0620080310018
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 4004(P) Between Segment 0080 Offset 1521 and Segment 0080 Offset 1525) or (In County 67 On State Route 4004(S) Between Segment 0081 Offset 1521 and Segment 0081 Offset 1525)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Olney Avenue and 11th Street Intersection

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 8
Pedestrian Crashes = 2



Crash Type Legend

- (1) = # crashes
- Angle
- X Backing
- Hit Pedestrian

SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

3. SR 4004 Olney Avenue at 5th Street

Segment 90, Offset 1548 to Segment 90, Offset 1585

COLLISION TYPE	
Pedestrian	7
Angle	3
Head-on	1
Hit Fixed Object	1
Rear-end	1
Total	**13**
ILLUMINATION	
Daylight	10
Street Lights	3
Total	**13**
WEATHER	
Clear	11
Rain	2
Total	**13**
SEVERITY COUNT	
Fatalities	0
Major	1
Moderate	2
Minor	6
Unk Severity	7
Unk If Injured	1

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

rsa olney ave 90/1548 to 90/1585

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 4004(P) Between Segment 0090 Offset 1548 and Segment 0090 Offset 1585) or (In County 67 On State Route 4004(S) Between Segment 0091 Offset 1548 and Segment 0091 Offset 1585)

USER_ID/QUERY ID:
lkubli/ 0620080310019

MONTH OF YEAR

	JAN	FEB	MAR	APR	JUL	AUG	SEP	DEC	
CRASHES	1	1	1	2	1	2	1	4	13
PCT	7%	7%	7%	15%	7%	15%	7%	30%	100%

DAY OF WEEK

	SUN	MON	TUE	WED	THR	FRI	
CRASHES	2	2	5	1	1	2	13
PCT	15%	15%	38%	7%	7%	15%	100%

HOUR OF DAY

	04	08	09	11	13	14	16	18	20	
CRASHES	1	1	2	2	2	1	1	2	1	13
PCT	7%	7%	15%	15%	15%	7%	7%	15%	7%	100%

YEAR

	CRASHES	PCT
2004	5	38%
2005	4	30%
2006	4	30%
TOTAL	13	100%

COLLISION TYPE

	CRASHES	PCT
PEDESTRIAN	7	53%
ANGLE	3	23%
HEAD ON	1	7%
HIT FIX OBJ	1	7%
REAR END	1	7%
TOTAL	13	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MAJOR	1	7%
MODERATE	1	7%
MINOR	6	46%
UNK SEVERITY	5	38%
TOTAL	13	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	1
MODERATE	2
MINOR	6
UNK SEVERITY	7
UNK IF INJURED	1

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	12	52%
RUNNING RED LIGHT	3	13%
OTHER IMPROPER DRIVING	2	8%
UNKNOWN	2	8%
FAILR MAINT PROP SPEED	1	4%
IMPROPER/CARELESS TURN	1	4%
TAILGATING	1	4%
TOO FAST FOR CONDITION	1	4%
TOTAL	23	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	15	78%
SMALL TRUCK	1	5%
LARGE TRUCK	1	5%
SUV	1	5%
VAN	1	5%
TOTAL	19	100%

ROAD CONDITION

	CRASHES	PCT
DRY	11	84%
WET	2	15%
TOTAL	13	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	10	76%
STREET LIGHTS	3	23%
TOTAL	13	100%

WEATHER

	CRASHES	PCT
CLEAR	11	84%
RAIN	2	15%
TOTAL	13	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	11	78%
UNKNOWN	2	14%
GLARE	1	7%
TOTAL	14	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete

Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

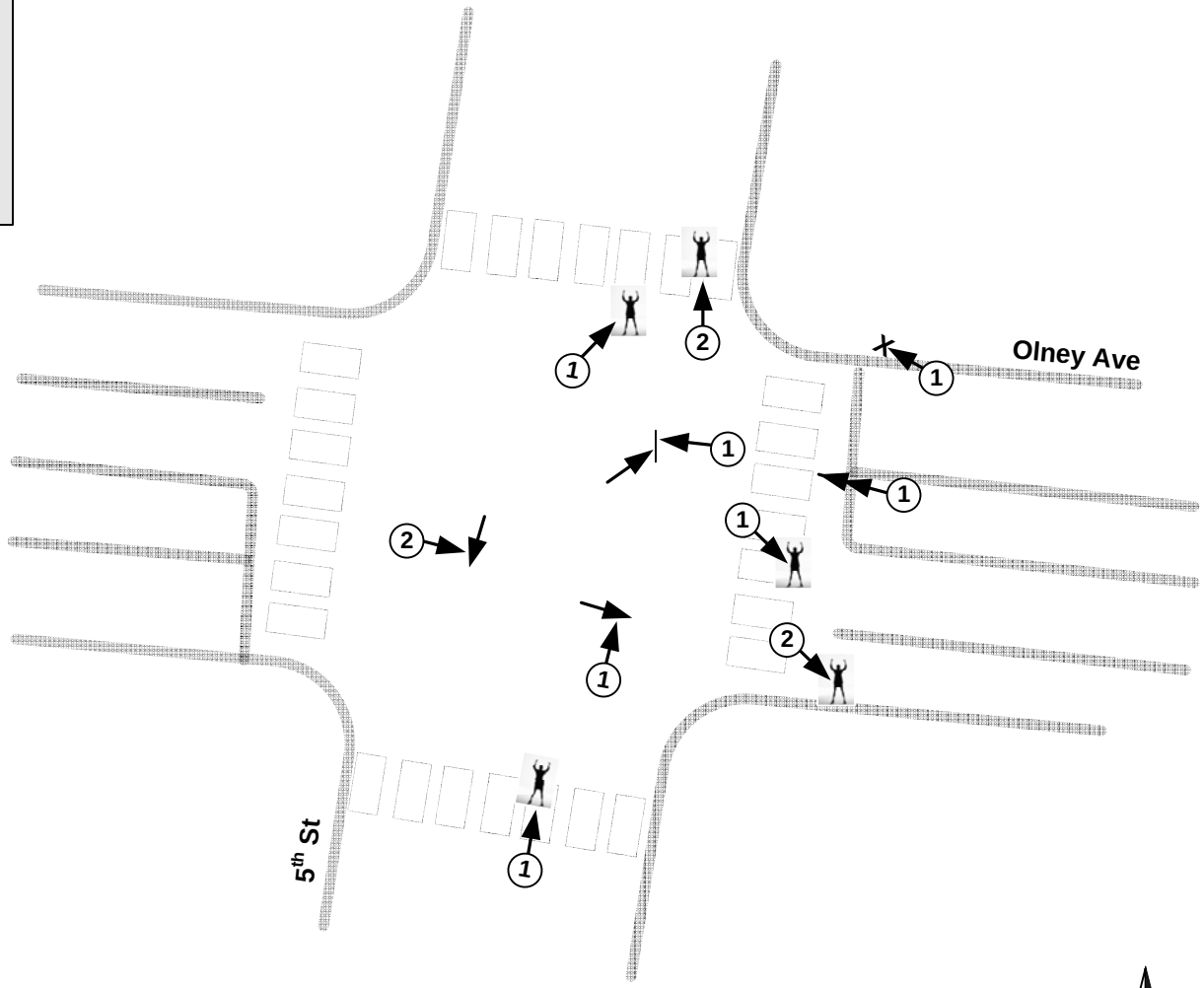
REPORT PARAMETERS:

Query ID:	0620080310019
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 4004(P) Between Segment 0090 Offset 1548 and Segment 0090 Offset 1585) or (In County 67 On State Route 4004(S) Between Segment 0091 Offset 1548 and Segment 0091 Offset 1585)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Olney Avenue and 5th Street Intersection

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 13
Pedestrian Crashes = 7



Crash Type Legend

- (1) = # crashes
- Rear End
- Angle
- Head On
- X Hit Fixed Object
- Hit Pedestrian

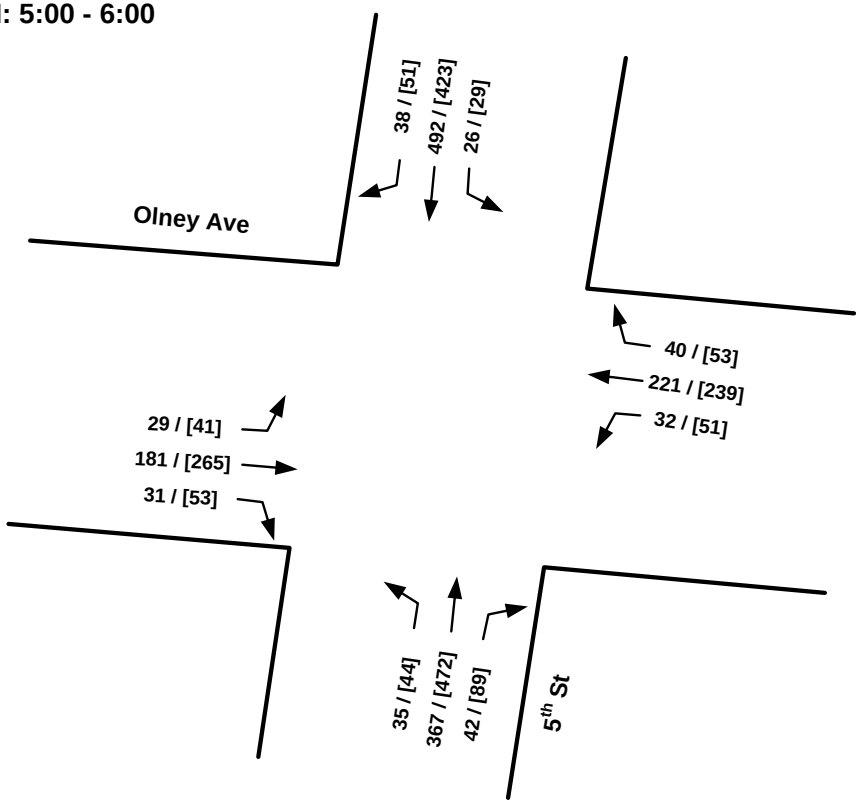
SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

Olney Avenue and 5th Street Intersection

Peak Hour Turning Movement Counts AM & [PM]

Peak Hours
AM: 8:00 - 9:00
PM: 5:00 - 6:00

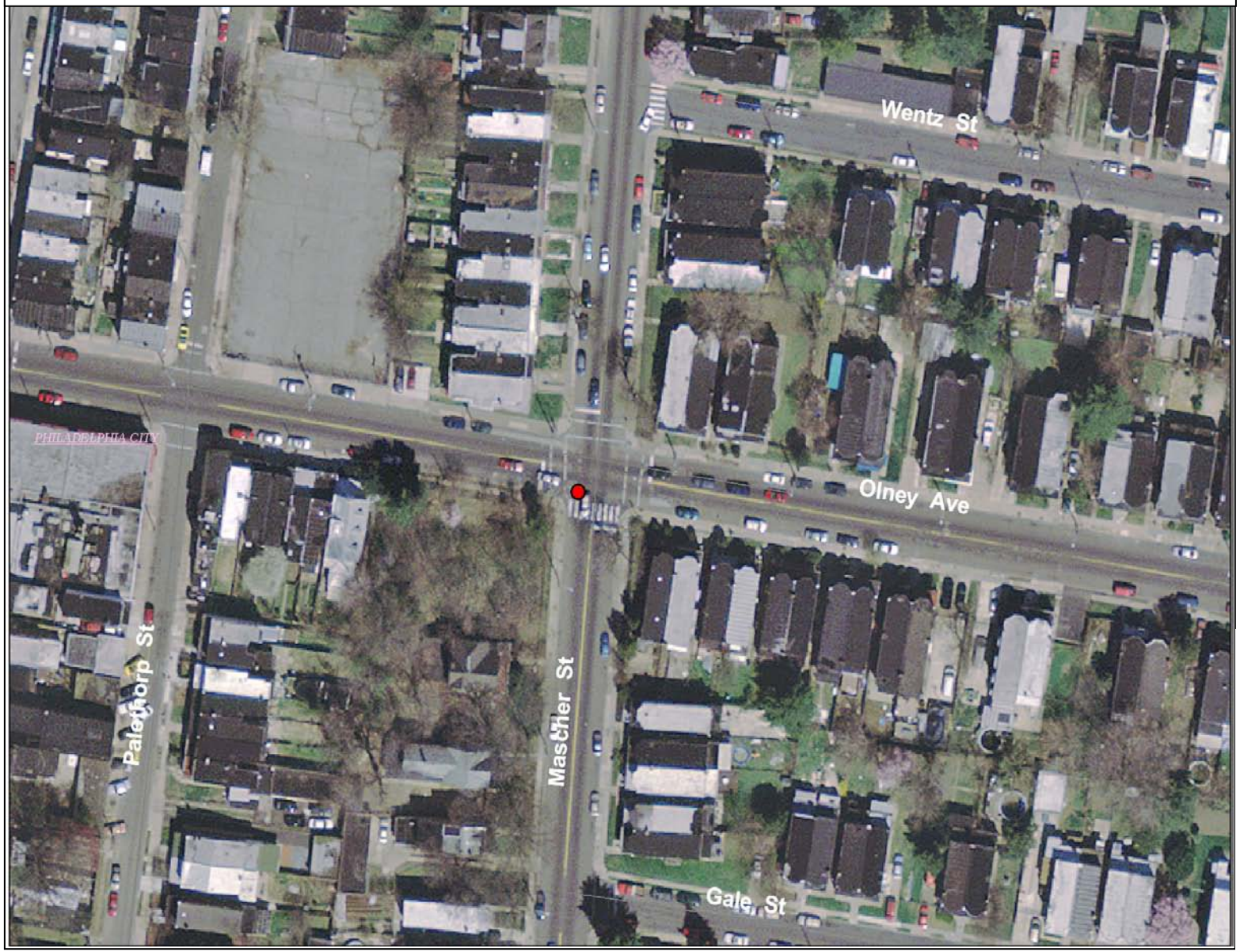


SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

4. SR 4004 Olney Avenue at Mascher Street

Segment 100, Offset 0 to Segment 100, Offset 10



COLLISION TYPE	
Angle	4
Pedestrian	2
Rear-end	2
Head-on	1
Opp Dir Sideswipe	1
Total	**10**
ILLUMINATION	
Daylight	8
Street Lights	2
Total	**10**
WEATHER	
Clear	8
Other	1
Rain	1
Total	**10**
SEVERITY COUNT	
Fatalities	0
Major	0
Moderate	1
Minor	8
Unk Severity	6
Unk If Injured	4

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

rsa olney ave 100/0000 to 100/0010

Date Range: 1/1/2004 to 12/31/2006

Area of Interest: (In County 67 On State Route 4004(P) Between Segment 0100 Offset 0 and Segment 0100 Offset 10) or (In County 67 On State Route 4004(S) Between Segment 0101 Offset 0 and Segment 0101 Offset 10)

USER_ID/QUERY ID: lkubli/ 0620080310020

MONTH OF YEAR

	JAN	FEB	MAR	APR	MAY	JUL	DEC	
CRASHES	1	1	2	2	2	1	1	10
PCT	10%	10%	20%	20%	20%	10%	10%	100%

DAY OF WEEK

	SUN	TUE	THR	FRI	SAT	
CRASHES	2	1	1	4	2	10
PCT	20%	10%	10%	40%	20%	100%

HOUR OF DAY

	08	10	11	12	15	16	17	21	23	
CRASHES	1	1	1	1	1	1	2	1	1	10
PCT	10%	10%	10%	10%	10%	10%	20%	10%	10%	100%

YEAR

	CRASHES	PCT
2004	5	50%
2005	2	20%
2006	3	30%
TOTAL	10	100%

COLLISION TYPE

	CRASHES	PCT
ANGLE	4	40%
PEDESTRIAN	2	20%
REAR END	2	20%
HEAD ON	1	10%
OPP DIR SS	1	10%
TOTAL	10	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MODERATE	1	10%
MINOR	5	50%
UNK SEVERITY	4	40%
TOTAL	10	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	0
MODERATE	1
MINOR	8
UNK SEVERITY	6
UNK IF INJURED	4

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	10	41%
IMPROPER/CARELESS TURN	3	12%
OTHER IMPROPER DRIVING	3	12%
PROCEED W/O CLEARANCE	2	8%
RUNNING RED LIGHT	2	8%
FAILR MAINT PROP SPEED	1	4%
RUNNING STOP SIGN	1	4%
TAILGATING	1	4%
UNKNOWN	1	4%
TOTAL	24	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	16	84%
SMALL TRUCK	2	10%
PEDALCYCLE	1	5%
TOTAL	19	100%

ROAD CONDITION

	CRASHES	PCT
DRY	8	80%
ICE	1	10%
WET	1	10%
TOTAL	10	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	8	80%
STREET LIGHTS	2	20%
TOTAL	10	100%

WEATHER

	CRASHES	PCT
CLEAR	8	80%
OTHER	1	10%
RAIN	1	10%
TOTAL	10	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	9	90%
SLIPPERY ICE/SNOW	1	10%
TOTAL	10	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

The data available in this application is dynamic and should be used with care. Please take note of the following data alerts:

2 2007 crash records are incomplete

Data for the current year, 2007, is not fully represented in CDART. Crashes will be added for this year as they are made available to the Department. Include this year in queries with caution.

3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

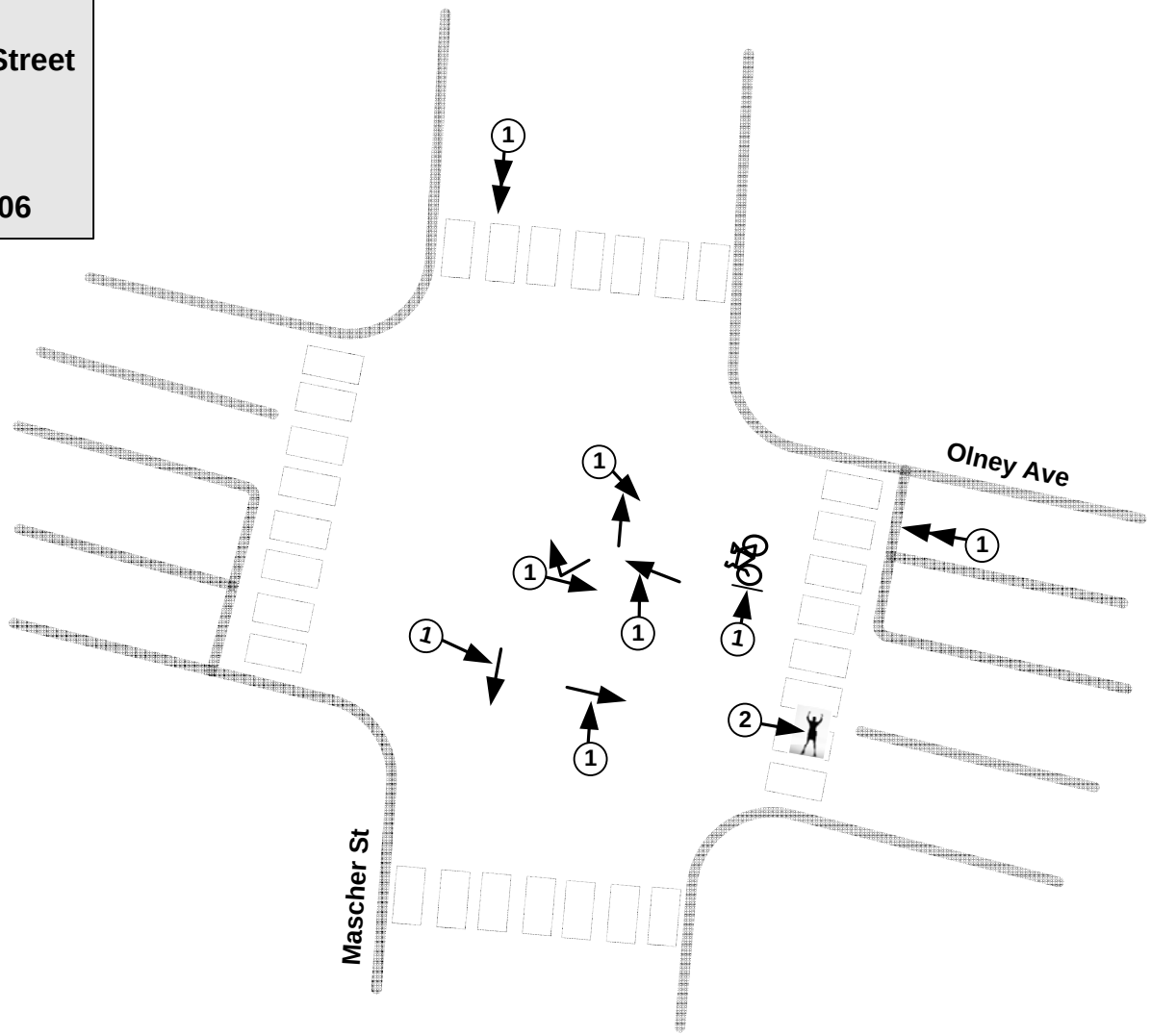
REPORT PARAMETERS:

Query ID:	0620080310020
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 4004(P) Between Segment 0100 Offset 0 and Segment 0100 Offset 10) or (In County 67 On State Route 4004(S) Between Segment 0101 Offset 0 and Segment 0101 Offset 10)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Olney Avenue and Mascher Street Intersection

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 10
Pedestrian Crashes = 2



Crash Type Legend

- ① = # crashes
- Rear End
- Angle
- Opposite Direction Sideswipe
- Head On w/ Bicycle
- Hit Pedestrian

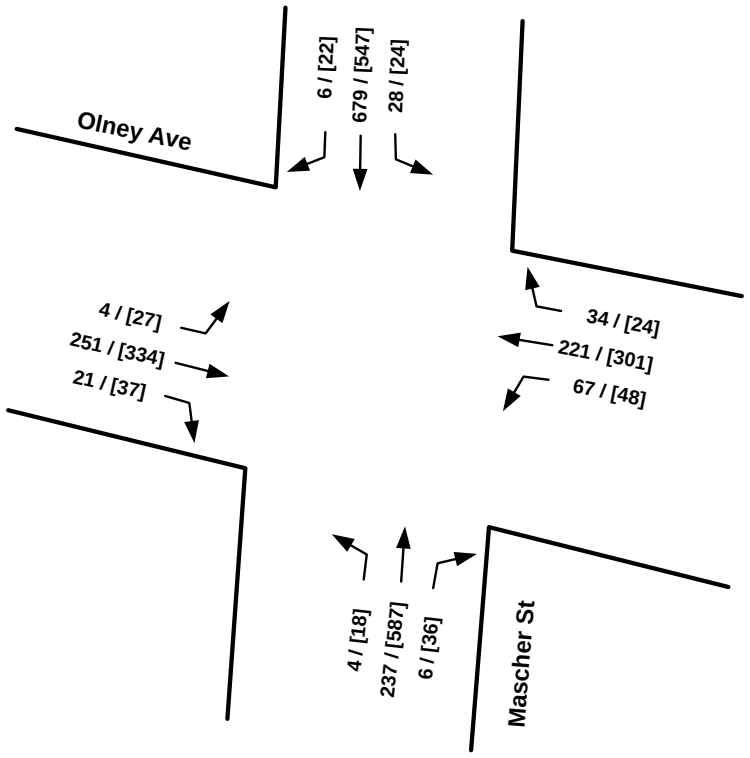
SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

Olney Avenue and Masher Street Intersection

Peak Hour Turning Movement Counts AM & [PM]

Peak Hours
AM: 7:45 - 8:45
PM: 5:30 - 6:30



SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

5. SR 4004 Olney Avenue from Arbor Street to Rising Sun Avenue

Segment 100, Offset 2382 to Segment 100, Offset 2540

COLLISION TYPE	
Angle	4
Pedestrian	3
Rear-end	2
Total	**9**
ILLUMINATION	
Daylight	7
Dawn	1
Street Lights	1
Total	**9**
WEATHER	
Clear	6
Rain	2
Other	1
Total	**9**
SEVERITY COUNT	
Fatalities	0
Major	1
Moderate	2
Minor	10
Unk Severity	1
Unk If Injured	1

N

Crash Location

Delaware Valley Regional Planning Commission
April 2008

rsa olney ave 100/2382 to 100/2540

Date Range: 1/1/2004 to 12/31/2006
Area of Interest: (In County 67 On State Route 4004(P) Between Segment 0100 Offset 2382 and Segment 0100 Offset 2540)

USER_ID/QUERY ID:
lkubli/ 0620080310022

MONTH OF YEAR

	MAR	APR	JUN	JUL	AUG	SEP	NOV	
CRASHES	1	1	2	2	1	1	1	9
PCT	11%	11%	22%	22%	11%	11%	11%	100%

DAY OF WEEK

	SUN	MON	WED	THR	FRI	SAT	
CRASHES	1	2	1	2	1	2	9
PCT	11%	22%	11%	22%	11%	22%	100%

HOUR OF DAY

	00	06	08	15	17	18	99	
CRASHES	1	1	1	2	2	1	1	9
PCT	11%	11%	11%	22%	22%	11%	11%	100%

YEAR

	CRASHES	PCT
2004	4	44%
2005	2	22%
2006	3	33%
TOTAL	9	100%

COLLISION TYPE

	CRASHES	PCT
ANGLE	4	44%
PEDESTRIAN	3	33%
REAR END	2	22%
TOTAL	9	100%

CRASH SEVERITY LEVEL

	CRASHES	PCT
MAJOR	1	11%
MODERATE	2	22%
MINOR	5	55%
UNK SEVERITY	1	11%
TOTAL	9	100%

SEVERITY COUNT

	PERSONS
FATALITIES	0
MAJOR	1
MODERATE	2
MINOR	10
UNK SEVERITY	1
UNK IF INJURED	1

DRIVER ACTIONS

	ACTIONS	PCT
NO CONTRIBUTING ACTION	7	38%
IMPROPER/CARELESS TURN	3	16%
OTHER IMPROPER DRIVING	2	11%
UNKNOWN	2	11%
AFFECTED PHYSICAL COND	1	5%
CARELESS PASS/LN CHNG	1	5%
TOO FAST FOR CONDITION	1	5%
USING HAND-HELD PHONE	1	5%
TOTAL	18	100%

VEHICLE TYPE

	VEHICLES	PCT
AUTOMOBILE	16	94%
VAN	1	5%
TOTAL	17	100%

ROAD CONDITION

	CRASHES	PCT
DRY	5	55%
WET	4	44%
TOTAL	9	100%

ILLUMINATION

	CRASHES	PCT
DAYLIGHT	7	77%
DAWN	1	11%
STREET LIGHTS	1	11%
TOTAL	9	100%

WEATHER

	CRASHES	PCT
CLEAR	6	66%
RAIN	2	22%
OTHER	1	11%
TOTAL	9	100%

ENVIR/ROADWAY FACTORS

	FACTORS	PCT
NONE	7	70%
ANIMAL IN RDWY	1	10%
OTHER WEATHER COND	1	10%
SLIPPERY ICE/SNOW	1	10%
TOTAL	10	100%

CDART - CRASH SUMMARY REPORT (09-06)

NOTES:

1

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2 2007 crash records are incomplete

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3 Complete data years

Complete records of reportable crashes are available in CDART for the following years: 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005,2006

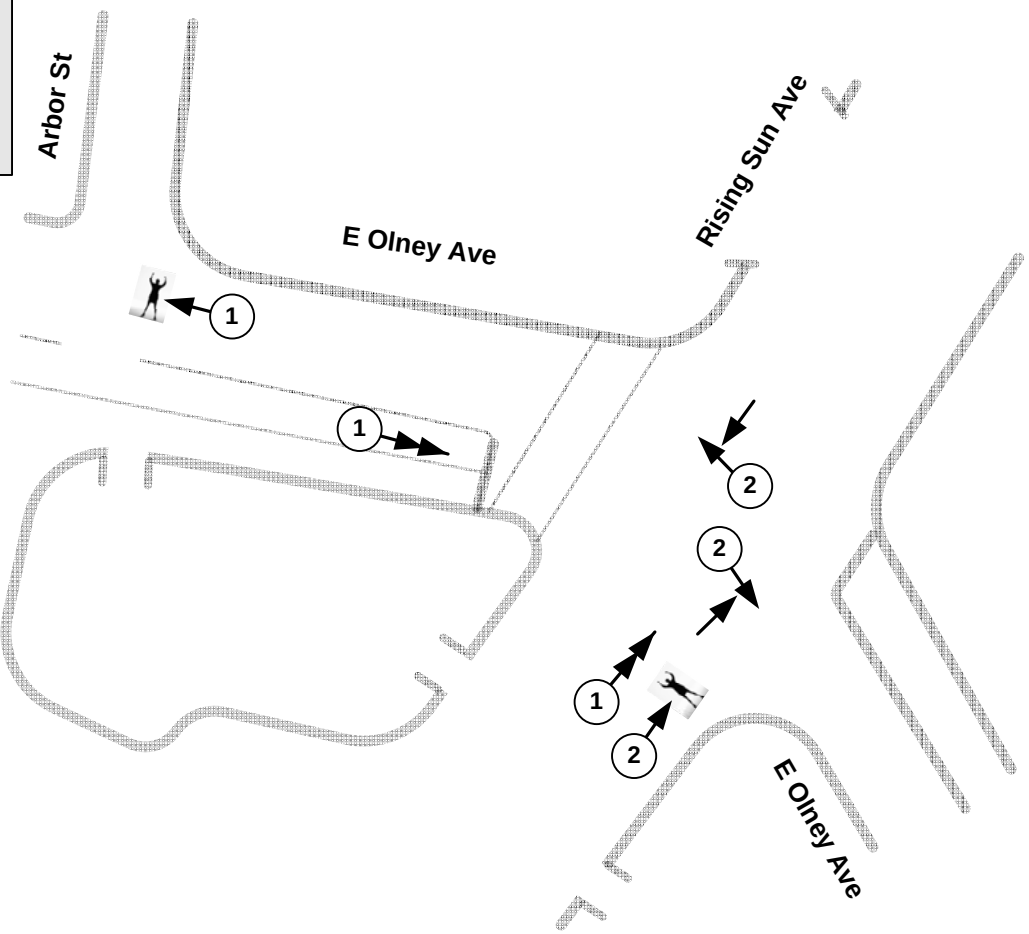
REPORT PARAMETERS:

Query ID:	0620080310022
User ID:	lkubli
Area of Interest:	(In County 67 On State Route 4004(P) Between Segment 0100 Offset 2382 and Segment 0100 Offset 2540)
Date Range:	1/1/2004 to 12/31/2006
Criteria:	STATE ROAD

Road Safety Audit
Philadelphia
Olney Avenue from Arbor Street to Rising Sun Avenue

Collision Diagram
Crash Data Years 2004-2006

Total Crashes = 9
Pedestrian Crashes = 3



Crash Type Legend

- 1 = # crashes
- Rear End
- Angle
- Hit Pedestrian

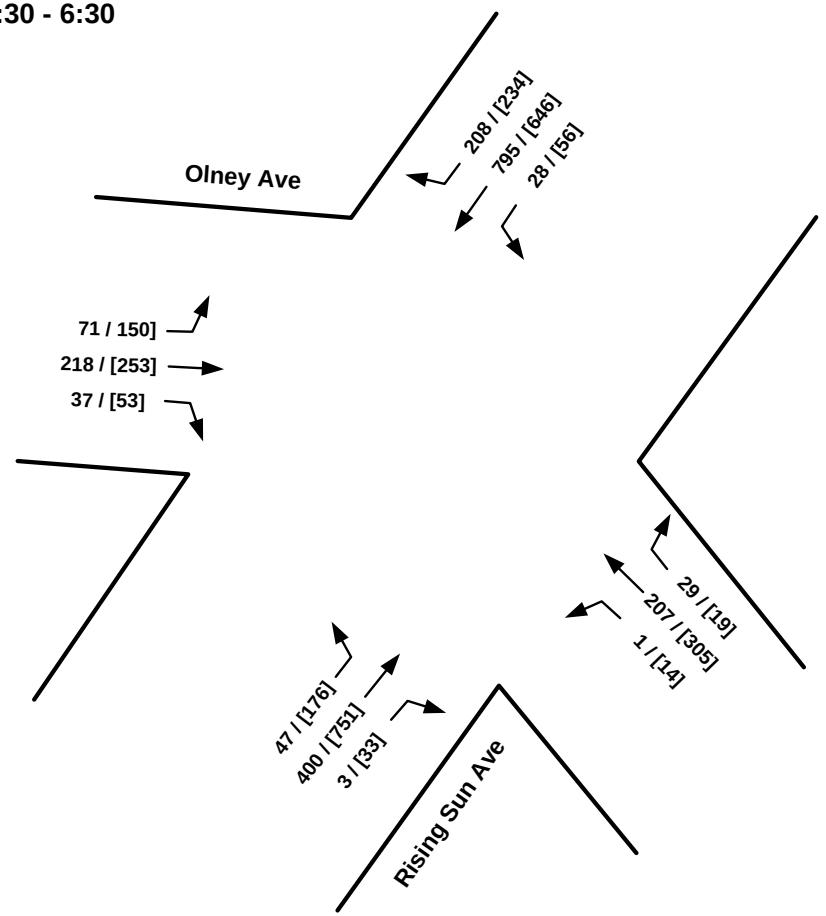
SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

Olney Avenue and Rising Sun Avenue Intersection

Peak Hour Turning Movement Counts AM & [PM]

Peak Hours
AM: 8:00 - 9:00
PM: 5:30 - 6:30



SCHEMATIC NOT TO SCALE

Delaware Valley Regional Planning Commission
April 2008

APPENDIX I
Photo Log – Olney Avenue

SIDEWALKS

Example of sidewalk disrepair/urban ills, corridor-wide issue

Sidewalk tripping hazard along Olney Avenue near Front Street

Deteriorated sidewalk at bus stop along Olney Avenue

Sidewalk in disrepair between Front and B Streets

SIDEWALKS

Crosswalk deterioration, sidewalk obstruction at Olney and Fairhill Streets

Drainage inlet along Olney Avenue

Deteriorated sidewalk/tripping hazard at Wagner Street

Construction temporarily blocks pedestrian way on Olney Avenue

PEDESTRIAN CROSSINGS

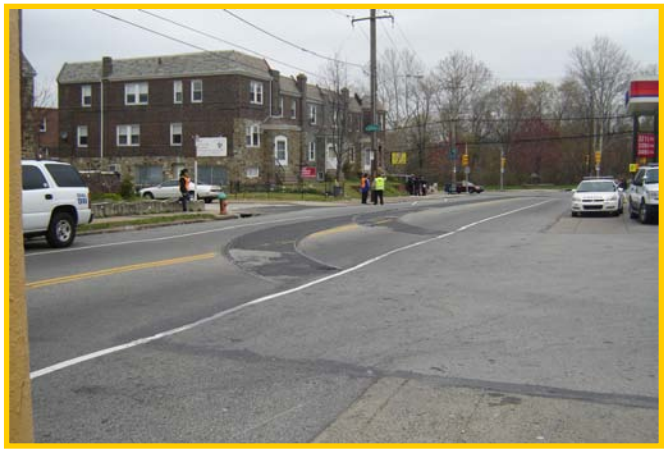
Missing curb ramp along Olney Avenue

Faded crosswalk markings over side street along Olney Avenue

Faded crosswalk over Olney Avenue side street

RISING SUN AVENUE

Trolley tracks from former Olney Avenue trolley near Rising Sun Avenue



Bus stop on Olney eastbound near Rising Sun Avenue

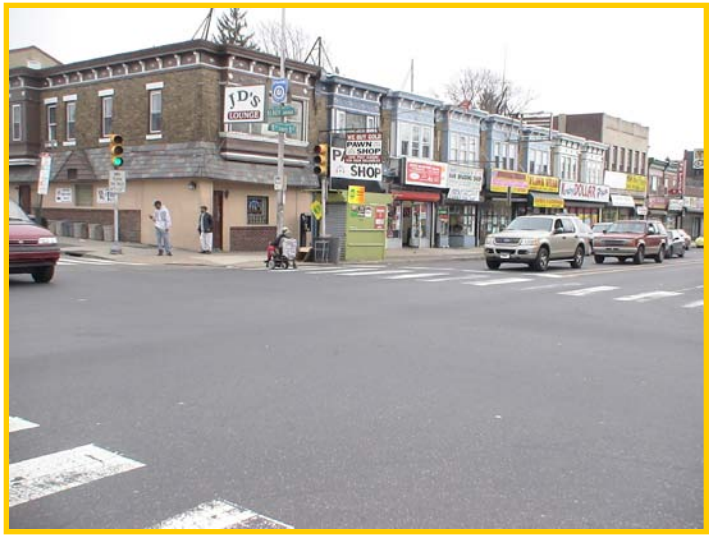
Bus stop on Olney Avenue at Arbor Street near Rising Sun Avenue

Rail tracks of former Olney Avenue Trolley near rising Sun Avenue

5th STREET

Obstructed walkway along Olney Avenue at 5th Street

Faded pedestrian crosswalk at Olney Avenue and 5th Street

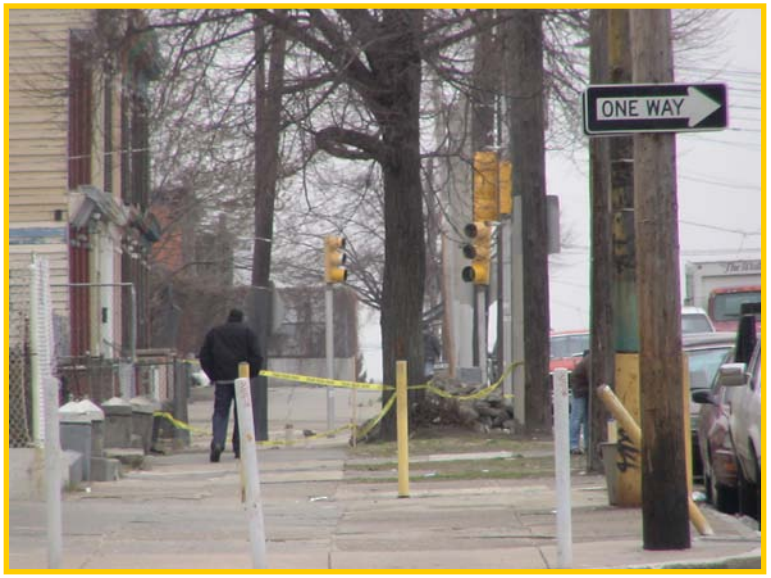


Bus stop at Olney and 5th Streets

10th STREET

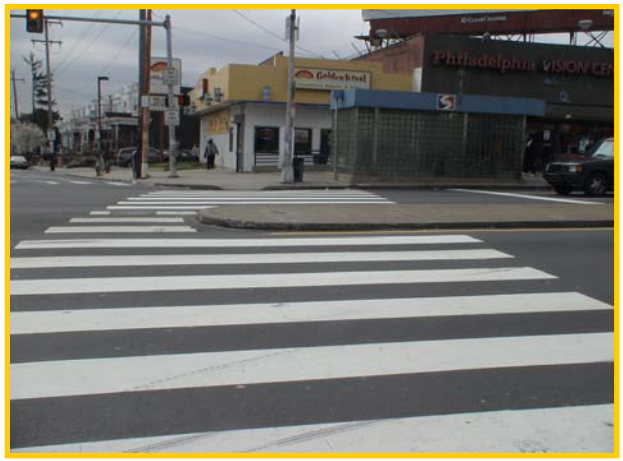
Tripping hazard on Olney Avenue near 10th Street

Looking east toward 10th Street



OLNEY STATION at BROAD STREET

Crossing over Broad Street at Olney station



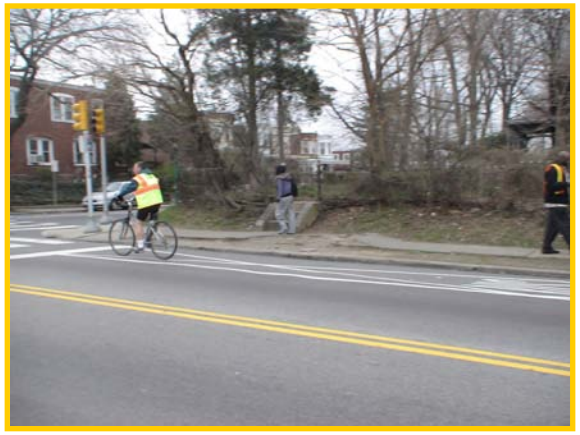
Olney station at Broad and Olney Streets

At Olney Station looking south on Broad Street

Traffic congestion and foot traffic at Park Avenue near Olney Station

CORRIDOR-WIDE ISSUES

Cyclist on Olney Avenue



Trash along Olney Avenue

Deteriorated pavement along Olney Avenue

CORRIDOR-WIDE ISSUES

Obstructed sidewalk on Olney Avenue near 7th Street

Tripping hazard, general neglect along Olney Avenue

Inconsistent sidewalk type, litter, general neglect

CORRIDOR-WIDE ISSUES

Tripping hazard

Prohibited parking at School drop-off near B Street

Example of sign vandalism along Olney Avenue

APPENDIX J
Response Sheet – Olney Avenue

SR 4004 Olney Avenue Road Safety Audit

RSA Response Sheet

Corridor-wide Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
Signals • Some signals may not be warranted • Approximately 64% of all crashes have occurred at signalized intersections from 2004 to 2006 • Sun glare compromises sight distance • Signal mountings are outdated	• Re-evaluate signal warrants • Re-evaluate clearance interval • Add back plates to signal heads • Upgrade signals with mast arms			
Signs • Inconsistent location of street name and one-way signs • Signs were unreadable, outdated, and without reflectivity	• Conduct a sign inventory and address consistency issue • Replace with new signs that meet code specifications and are reflective			
Pedestrian Crossings • Missing pedestrian signal heads at every intersection	• Upgrade existing traffic signals with man/hand pedestrian			

Corridor-wide Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
except at Broad Street. • Damaged/depressed/ missing curbs • Curb ramps not consistently ADA compliant • Drainage issues at curb ramps • Mixed crosswalk types (conventional and continental) **NOTE: Twenty six percent (26%) of all crashes were pedestrian related from 2004 to 2006.**	signal heads with countdown timers • Repair walkways at intersections (consider bulb outs as needed) • Make all curb ramps ADA compliant • Address drainage issues at curb ramps • Standardize all signalized intersections with continental style striping, install at non-signalized intersections where deemed necessary, i.e. school zones, or other trip generators			
Sidewalks • Sidewalks in disrepair and/or missing • SEPTA poles obstruct the sidewalk • Poorly set drainage grates create obstructions for bicyclists and pedestrians • Illegal parking on sidewalks	• Repair/replace sidewalks where necessary • Remove old poles • Reset drainage grates as necessary and make flush with pavement • Coordinate with the Philadelphia Streets Dept. to			

Corridor-wide Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
	develop a strategy to prevent sidewalk parking that obstructs the pedestrian way			
Bicycling • Substandard drainage grates for bicycling • Bicycle accommodation is not provided • Lack of bike parking at commercial centers and at Olney Transportation Center • Poorly defined ROW at intersections .	• Convert to bicycle safe drainage grates, improve in tandem with improved ADA compliant curb ramps • Install shared lane markings (aka “sharrows”), and add additional “share the road” signs • Install appropriate bicycle parking at the transportation center and commercial centers • Re-stripe lanes as necessary **NOTE: Although only 2 out of 132 crashes were pedalcycle related this is considered an indicator of bicycle usage. These improvements are pro-active in an effort to improve the bicycling environment.**			

Corridor-wide Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
Transit • Buses stopped in the travel way cause traffic to back up, result in motorists using the opposing lane to bypass buses	• Enforce parking restrictions at bus stops • Consider curb bulb outs at selected bus stop locations that have high ridership			
Speeding • Field observations revealed excessive speeds and red light running	• Potential for speed reduction through engineering and enforcement strategies i.e., lane narrowing (note: existing lanes are already 10 feet wide along some parts of the corridor), automated enforcement, targeted police patrol, “Safety Corridor” designation (where fines are doubled); evaluate feasibility of reducing the posted speed limit to 25 mph based on speed study			

Site-Specific Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
Rising Sun Avenue • Trolley tracks create problems for motorists and bicyclists • Uncontrolled access at gas station on both Olney Ave and Rising Sun Ave • Number 18 SEPTA bus stop on Rising Sun Ave southbound causes back ups and pedestrian problems • Stop bar location on Olney Ave eastbound at Rising Sun Ave constricts mobility	• Address track issues by removing/paving over/or other safety treatment • Design access management plan for gas station, close off duplicative access to provide improved pedestrian conditions, i.e., more sidewalk and a formal/prominent bus stop location • Relocate bus stop to 2nd block of Olney Ave • Push back the Olney Ave eastbound approach stop bar to allow easier movements from Rising Sun Ave northbound to Olney Ave westbound **Additional recommendations:** • Consider shifting double yellow center lines to create a wider westbound lane on Olney Ave			

Site-Specific Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
	to ease left turns from Rising Sun Ave northbound • Add dotted lead line to guide turning traffic • Investigate need for former trolley turn around, consider better use/new design for transit transfer			
Between Rosehill St and Ormes St • Two and a half (2.5) foot diameter tree trunk in clear zone • Missing curb • Old trolley pole across from Rosehill St • Missing curb near Ormes St, and alley between Ormes St and B St is missing pavement	• Remove tree trunk • Replace curbs • Remove pole • Replace curbs and missing pavement			
B St • Missing school zone ahead warning sign on B St approaching Olney Ave • Traffic signal head is tilted out of view for motorists on	• Add school zone warning sign • Position the traffic signal head facing oncoming northbound			

Site-Specific Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
northbound B St • SEPTA “no stopping” sign is faded • School crossing sign is ineffective	traffic on B Street • Replace the sign • Add arrow plaque to the bottom of the existing school crossing sign for westbound Olney Ave			
Area of RR Overpass (Front St to B St) • Sidewalk trash, fence in disrepair, missing and broken sidewalks/curbs (especially along Olney Ave westbound near Front St., deformed sidewalk patch is tripping hazard) • Hilly terrain encourages speeding • Unsanctioned drop off and pick up area by school used regularly	• Perform sidewalk maintenance, repair/replace as necessary; remove trash • Consider calming traffic by narrowing lanes (widen striped center area) • Establish a designated drop-off and pick-up zone for the school			
Front St • Missing/broken/uneven sidewalks • Southeast corner there is a low point gathering water	• Repair/replace sidewalks • Repair low point to address drainage problem			

Site-Specific Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
• Faded pavement markings and pedestrian crossings	• Re-stripe all pavement markings			
Mascher St • Drainage issue at the northwest corner at the curb ramp • Faded/missing pedestrian crossing markings • Crosswalks appear too close to stop bar • South side of Olney Ave west of Mascher St, sidewalk is badly damaged	• Repair ramp and fix drainage issue • Upgrade all pedestrian crossings with continental style crosswalks • Reposition stop bars to appropriate location • Repair sidewalk			
Between Palethorp St and 2nd St • Big hole forming in pavement	• Evaluate need for base repair			
American St • Open trench obstructing pedestrian way	• Clear way and repair sidewalk			
3rd St • One way sign facing wrong way	• Reorient sign			
4th St • Traffic signal pole is located in curb ramp (SW corner)	• Relocate signal pole or curb ramp as appropriate			

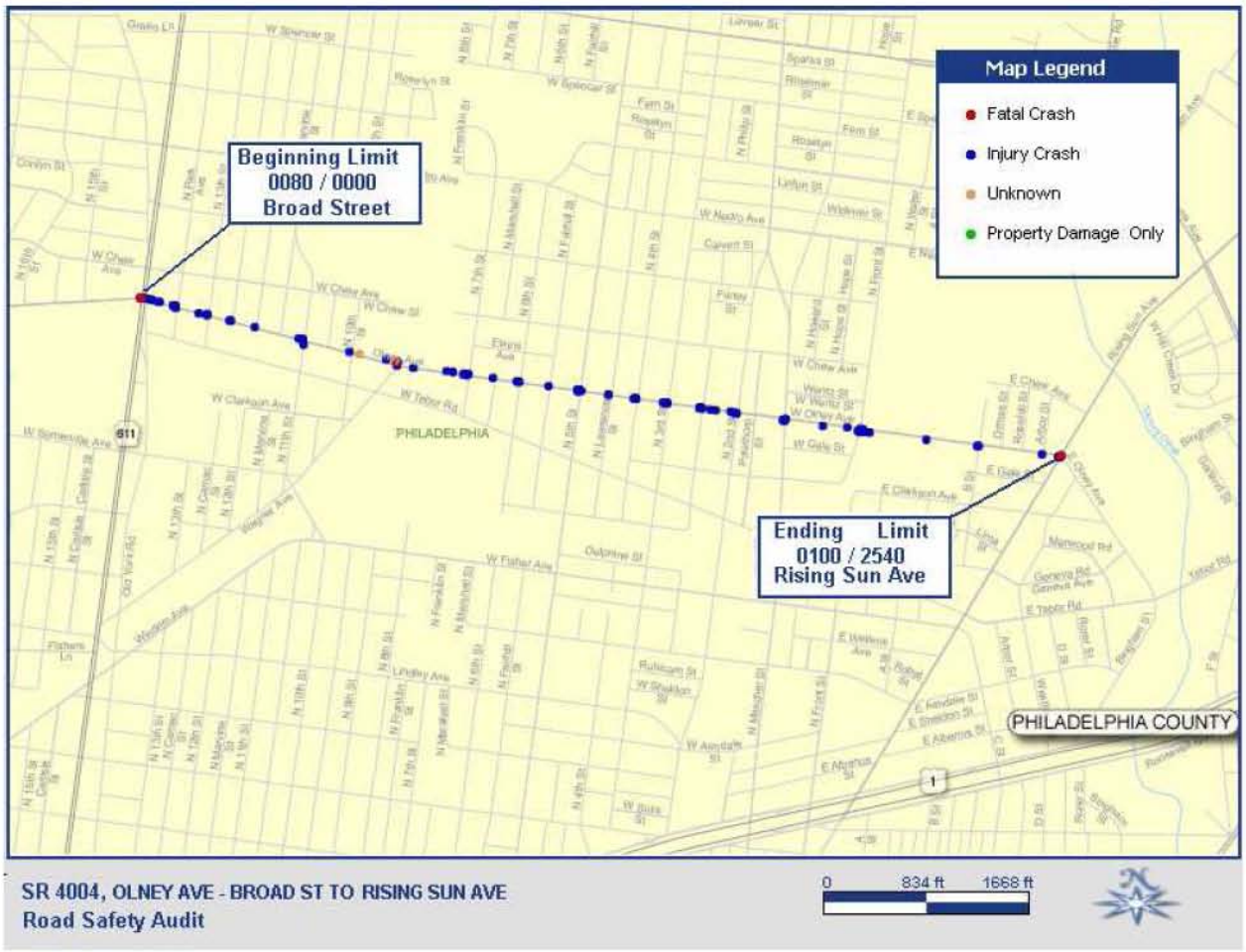
Site-Specific Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
• Signal may not be warranted	• Re-evaluate signal warrants			
5th St				
• Drainage inlet located in curb ramp area	• Relocate curb ramp and/or inlet			
• Heavy pedestrian volume in the 5th St business district	• Evaluate needs and benefits of a pedestrian scramble phase and lane striping for intersection			
• Heavy bus transfer volume between the following SEPTA bus routes (47, 18, 26)	• Add pedestrian signal heads w/ countdown timers			
• Missing “no turn on red” signs	• Add “no turn on red” signs, enforce			
• Pedestrian crossings are faded	• Re-stripe pedestrian crossings			
• Post mounted signal heads can be hard to see	• Install traffic signals on overhead mast arms for better visibility			
Fairhill St				
• Poor roadway condition	• Repair roadway, repave, re-stripe			
• Local car wash/inspection station using sidewalk to store vehicles, obstructing pedestrian ROW	• Enforce no parking on sidewalks			
• Poor sidewalk condition in	• Address drainage issues and			

Site-Specific Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
vicinity of 6th St, drainage problem	repair sidewalk			
Southside of Olney Ave between 6th St and Fairhill St • Broken post	• Remove post or replace missing sign			
West of 7th St. (moving west) • Missing bridge height restriction sign • Hospital sign badly faded • Lump of asphalt creating tripping hazard • Drainage problem on north side	• Replace sign • Replace sign • Remove tripping hazard • Address drainage problem			
Southeast Corner of Wagner St and Olney Ave • General lack of maintenance and deterioration in the area of the bridge overpass • Bus stop area missing crosswalk and designated pedestrian crossing area	• Conduct an evaluation and perform maintenance and repair where needed • Add pedestrian crosswalks, warning signs, and standard pedestrian amenities; this is supported by observed pedestrian activity			
10th St • Southwest corner drainage grate is a tripping hazard	• Remove tripping hazard			

Corridor-wide Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
• 10th St carries the SEPTA C bus and there is a significant transfer point at Olney Ave—high traffic volume at this point is a safety hazard to pedestrians	• Raise the profile of pedestrians and transit riders by improving the transit and pedestrian amenities			
Btw 10th and 11th • Damaged curb and sidewalk	• Upgrade curb and sidewalk			
11th St • Hospital sign is faded • Gas utility cover ajar • Curb ramps are collecting water • Debris in the area • Damaged signal visor	• Replace hospital sign • Replace utility cover and make flush with pavement • Repair curb ramps to address drainage, make ADA compliant; coordinate w/ Philadelphia Public Works Dept. • Clean up the area • Repair signal visor			
Btw 11th and Broad • Marvine St curb ramp is offset • At 12th St, “no parking” signs for bus zone are damaged • Stop sign at 12th St was	• Realign curb ramp and make ADA compliant. • Replace no parking signs, enforce zones • Reposition stop sign			

Site-Specific Issues	Recommended Improvements	Decision Agree/Reject	Planned Completion Date	Comments
turned wrong way • At Park Ave one way sign facing wrong way, and is blocked by the pole	• Move/reposition one way sign			
Park St and Olney Ave • Missing pedestrian signal heads, other amenities • Vehicles bypassing stop bar and stopping in crosswalk, obstructing pedestrians	• Install pedestrian countdown signal heads, and other pedestrian amenities as deemed appropriate • Consider prohibiting traffic from Olney between Park and Broad, make bus only with dedicated pedestrian plaza, evaluate impacts of traffic diversion			
Olney Ave and Broad St • Heavy pedestrian traffic with heavy vehicular traffic in the area, which heightens pedestrian safety concerns • Pedestrian crossings over Broad St are very long • Pedestrian heads not working properly	• Consider signs and pavement markings to raise the profile of pedestrians/transit riders • Consider redesign of pedestrian refuge island at the Broad St crossing • Repair pedestrian signal heads (i.e., walk/don't walk/walk)			

APPENDIX K
PennDOT Scope of Work – Olney Avenue



Project Purpose:

The purpose of this project is to reduce the number of crashes and related injuries and severity of the crashes which occur along the approximate 1.5 mile section of Olney Avenue, between Broad Street and Rising Sun Avenue, in the City of Philadelphia. The anticipated benefits of this project are:

- Minimization of the number of vehicle/pedestrian crashes.
- Minimization of the number of vehicular only crashes, specifically angle and rear-end type crashes.

Project Scope:

The scope of work for this project was developed from the Road Safety Audit which was conducted in April 2008 and undertaken by DVRPC in conjunction with the Pennsylvania Department of Transportation. A more detailed description of the scope of work is included in the attached cost estimate, and is summarized below:

- Conduct traffic signal warrant analyses at select intersections to determine the appropriateness (warrants met) of the existing traffic signals and alternative traffic controls where appropriate.
- Install overhead mast-arm traffic signals consistently throughout the corridor.
- Install pedestrian signals and other pedestrian amenities (crosswalks, signing, etc) throughout the corridor.
- Install flashing school signs and speed limits at select locations within the corridor.
- Repair/Replace sidewalks within the corridor.
- Make all curb ramps ADA compliant.

Benefit-to-Cost Ratio Calculation

The estimated benefit, in terms of crash reductions, for this project is $3.48 million per year. See attached sheet Titled “Olney Avenue HSIP Benefit Calculations”.

The estimated cost for the above scope of work is $ 5.25 million. See the attached ”Cost Estimate Sheet” (three pages). Assuming a 20-year life cycle for this safety project, the annual cost of the project is $262,500.

The project will have an annual benefit-to-cost ratio of $3,480,000:$262,500 or 13.3 to 1.

OLNEY AVENUE HSIP BENEFIT CALCULATIONS

Crashes: 2003 through 2007

Crash Type	# of Crashes		Average Cost per Crash[1]		Total Costs
Head On	18	X	$248,122	=	$ 4,466,196
Angle	58	X	$ 76,035	=	$ 4,410,030
Rear End	46	X	$ 39,403	=	$ 1,812,538
Pedestrian	48	X	$214,683	=	$10,304,784
Sideswipe	16	X	$ 65,301	=	$ 1,044,816
Hit Fixed Object	5	X	$ 93,009	=	$ 465,045
Other	1	X	$ 39,706	=	$ 39,706
Total	192		Total 5 Year Cost	=	$22,543,115
			Average Annual Cost	=	$4.5 million

1 From CDART: Accident Cost by Category Report for Accidents in Years 2003 to 2007.

According to the CDART data, the crash rate for the study corridor ranged from 3.11 to 5.66 times higher than PennDOT's homogeneous five-year rate for the same time period. The average crash rate for the three sections is (3.11+4.52+5.66) = 13.29 ÷ 3 = 4.43.

The corridor experienced an average crash rate that was approximately 4.43 times higher than corridors with similar characteristics during the 2003 through 2007 period. If it is assumed that the planned safety improvements will produce a crash rate (results in a reduction) that is consistent with statewide averages for similar corridors, then the expected crash rate for the post-improvement period will be 1 ÷ 4.43 or 22.6 percent of the current rate. This translates into a post-improvement annual cost of $1.02 million. The expected benefit will be $4.5 million – $1.02 million or $3.48 million per year.

COST ESTIMATE:

Intersection / Location	Proposed Work	Construction	Engineering cost	Order of Magnitude Cost Estimate
Broad Street	Install new signal with mast arms, install signs and pavement markings to raise profile of pedestrians and transit riders, redesign pedestrian refuge island at Broad Street crossing	$90,000	$13,500	$103,500
Park Street	Install new signal with mast arms	$70,000	$10,500	$80,500
North 13th Street	Install new signal with mast arms	$70,000	$10,500	$80,500
Between North 11th Street and Broad Street	Realign curb ramp and make ADA compliant	$8,000	$1,200	$9,200
North 11th Street	Install new signal with mast arms	$70,000	$10,500	$80,500
	Replace utility cover and make flush with pavement	$5,000	$750	$5,750
	Repair curb ramps to address drainage, make ADA compliant	$5,000	$750	$5,750
North 10th Street	Install new signal with mast arms	$70,000	$10,500	$80,500
Between North 10th Street and North 11th Street	Raise the profile of pedestrians and transit riders by improving transit and pedestrian amenities	$10,000	$1,500	$11,500
North 7th Street	Install new signal with mast arms	$70,000	$10,500	$80,500

Southeast corner of of Wagner Street and Olney Avenue	Install pedestrian crossing, pedestrian warning signs, and general pedestrian amenities	$2,500	$375	$2,875
West of North 7th Street (westbound)	Address drainage issues	$5,000	$750	$5,750
North 6th Street	Install new signal with mast arms	$70,000	$10,500	$80,500
Fairhill Street	Address drainage issues and repave roadway	$5,000	$750	$5,750
North 5th Street	Implement pedestrian scramble phase and lane striping for intersection, install new signal with mast arms, relocate curb ramp and/or inlet, install no turn on red signs and restripe pedestrian crossings	$75,000	$11,250	$86,250
North 4th Street	Install new signal with mast arms	$70,000	$10,500	$80,500
North 3rd Street	Install new signal with mast arms	$70,000	$10,500	$80,500
American Street	Replace sidewalk	$90,000	$13,500	$103,500
North 2nd Street	Install new signal with mast arms	$70,000	$10,500	$80,500
Mascher Street	Install new signal with mast arms	$70,000	$10,500	$80,500
	Repair ramp and fix drainage issues	$5,000	$750	$5,750
	Repair/replace sidewalks, reposition stop bars to appropriate location	$15,000	$2,250	$17,250
Front Street	Install new signal with mast arms	$70,000	$10,500	$80,500

	Repair/replace sidewalks	$15,000	$2,250	$17,250
	Repair low point to address drainage issue	$5,000	$750	$5,750
Area of RR Overpass (Front Street to B Street)	Consider traffic calming by narrowing lanes (widen center area)	$5,000	$750	$5,750
	Establish a safe drop-off and pick-up zone for the school	$5,000	$750	$5,750
B Street	Install new signal with mast arms	$70,000	$10,500	$80,500
Between Rosehill Street and Ormes Street	Replace missing curb, remove old trolley pole across from Rosehill Street	$5,000	$750	$5,750
	Replace missing curb near Ormes Street and the missing pavement between Ormes Street and B Street	$15,000	$2,250	$17,250
Rising Sun Avenue	Install new signal with mast arms	$70,000	$10,500	$80,500
	Address trolley track issues by removing Design access management plan for the gas station and close off duplicative access to provide improved pedestrian conditions, push back the Olney Avenue approach stop bar to allow for easier movements from Rising Sun Avenue NB to Olney Avenue WB, push back the Olney Avenue approach stop bar to allow for easier movements from Rising Sun Avenue NB to Olney Avenue WB, relocate bus stop to 2nd block of Olney Avenue, consider	$250,000	$37,500	$287,500
		$125,000	$18,750	$143,750

	shifting double yellow center lines to create wider WB lane for increased mobility from Rising Sun Avenue, add dotted center line			
Corridor Wide	Repair curb and sidewalk at select locations	$1,250,000	$187,500	$1,437,500
	Redesign/repair ADA compliant curb ramps and inlets at select intersections	$1,250,000	$187,500	$1,437,500
		$4,150,500	$622,575	$4,773,075
	Contingency (10 %)	$415,050	$62,258	$477,308
	Total			**$5,250,383**

APPENDIX L
Checklist

CHECKLIST

Audit Team Member_____

GENERAL ISSUES

Item #	***Description***	***Check***	***Comments***
1 Drainage	Do drainage items seem to be adequate?		
	Are drainage items clear of debris?		
2 Landscaping	Is landscaping in accordance with guidelines (sight distance, clearances etc.)		
3 Public Utilities	Are boxes, poles, and/or posts located in a safe position?		
	Do the above items interfere with sight distance?		
4 Access Management	Are there locations where access management is problematic?		
	Are driveways placed close to crossing?		
5 Lighting	Is lighting needed in specific locations?		

ALIGNMENT AND CROSS SECTION

Item #	***Description***	***Check***	***Comments***
1 Visibility	Are sight distances adequate for the speed of traffic on Erie/Olney Avenues?		
	Is adequate sight distance provided at intersections?		

2 Driver expectation	Are there any sections of the roadway which may cause driver confusion such as:		
	a. Is alignment of roadway clearly defined?		
	b. Are crossroads or hidden driveways properly signed along corridor?		
	c. Do streetlight and tree lines conform to the road alignment?		
3 Widths	Are all the traffic lanes and roadway widths adequate?		
4 Erie Avenue old trolley line	Is the old trolley line used for left turning vehicles?		
	Is trolley line used as pedestrian refuge for bus passengers?		
	Is the trolley line clearly delineated from travel lanes?		

INTERSECTIONS

Item #	***Description***	***Check***	***Comments***
1 Location	Are there any roadside objects nearby which would intrude on driver's line of sight?		
	Are the intersections adequate for all vehicular movements?		
2 Controls	Are pavement markings and intersection control signing satisfactory?		
	Are there any pedestrian signals?		
3 Signage	Is the intersection appropriately signed?		

	Are there advance warning signs indicating the intersection?		
	Are signs appropriately located and of the appropriate size?		
4 Layout	Is the intersection layout obvious to all users?		
	Is the alignment of curbs satisfactory?		
	Are turning radii and tapers appropriate?		
	Are driveways located at or near the intersections?		
5 Visibility, sight distance	Is sight distance adequate for all movements and all users?		
	Does a skewed intersection direct drivers' focus away from crossing pedestrians?		
6 Transit	Are there bus stops located near the intersections?		
	a. If so are the bus stops on the near side or far side?		
7 Turn Lanes	Do the turning lanes have sufficient storage?		
	Are there locations where a left turn lane needs to be provided?		
	Do turning vehicles pose a hazard to pedestrians?		

TRAFFIC SIGNALS

Item #	***Description***	***Check***	***Comments***

1 Signal Operation	Are traffic signals operating correctly? (Example clearance time)		
2 Visibility	Are traffic signals clearly visible to approaching motorists?		
3 Signal Upgrading	Do the signals need to be upgraded?		
4 Pedestrian Signal Timing	Are traffic and pedestrian signals timed so that wait times and crossing times are reasonable?		
	Is there a problem because of an inconsistency in pedestrian actuation (or detection) types?		
	Are all pedestrian signals and push buttons functioning correctly and safely?		
	Are ADA accessible push buttons provided and properly located?		
	Are there locations where a pedestrian signal is warranted?		

PEDESTRIANS

Item #	***Description***	***Check***	***Comments***
1 Land Use Factors	Are there schools, transit stations, or other pedestrian generators nearby?		
2 Sidewalks	Are sidewalks continuous throughout the corridor?		
	Are the sidewalks in good condition (not even, cracked, etc.)?		
	Are the sidewalks wide enough to accommodate persons using mobility aides?		
	Is the sidewalk width adequate for pedestrian volumes?		

3 Driveways	Are the conditions at driveways intersecting sidewalks endangering pedestrians?		
	Do drivers look for and yield to pedestrians when turning into and out of driveways?		
4 Facilities at Intersections	Are crosswalks provided at intersections?		
	Are the pedestrian ramps adequate?		
	Is a there any pedestrian refuge island needed at key intersections?		
	Are there pedestrian signals located at intersections?		
	Is the intersection clearly delineated for the visually impaired?		
	Is there adequate drainage at the intersection to prevent ponding?		
5 Around Schools	Is there a school zone?		
	Is a school crossing provided?		
	Are there appropriate advance warning signs provided?		
6 Erie & Olney Avenues	Is the speed limit appropriate for all road users?		
	Is there on-street parking that would impede pedestrian visibility?		
	Are there safety concerns for pedestrian crossings at unsignalized intersection?		
7 Lighting	Is the sidewalk adequately lit for pedestrians to see and feel safe?		

	Are there dark places or hiding places that represent a personal security issue?		
	Are the pedestrian crosswalks adequately lit for pedestrians and motorists?		
8 Fencing	Are there locations where a fence should be provided?		
9 Visibility and Sight Distance	Are pedestrians waiting to cross the street visible to motorists?		
	Can pedestrians see approaching vehicles?		
	Are there temporary or permanent obstructions near crosswalks (parked vehicles, vegetation, fences, etc.)		

BICYCLISTS

Item #	***Description***	***Check***	***Comments***
	Are there share the road signs posted?		
	Is the road surface of suitable quality for bicyclists?		
	Are drainage grates bicycle friendly?		
	Are parked vehicles an obstruction to bicyclists?		

TRANSIT

Item #	***Description***	***Check***	***Comments***
1 Buses	Are bus stops located at the far side or near side of the intersection?		

	Are bus stops signed appropriately?		
	Are bus stop locations near existing driveways?		
	Are there adequate waiting areas for pedestrians around bus stops (shelter or bench)?		
	Are bus stop locations safe for passengers boarding and disembarking or leaving the bus?		
	Is fencing needed at transit facilities?		
	Are vehicles illegally parked at bus stops?		

ON STREET PARKING

Item #	***Description***	***Check***	***Comments***
1 Parking	Are there time parking restriction signs posted?		
	Does parking obstruct bicycle or through-lane traffic?		
	Is parking located at the edge of intersections that could cause conflict for right turning traffic?		
	Does parking obstruct vehicular or pedestrian movement?		

SIGNAGE, PAVEMENT MARKINGS, DELINEATION, AND LIGHTING

Item #	***Description***	***Check***	***Comments***
1 Signage	Are there signs missing from key locations?		

	Are signs easy to understand?		
	Are the correct signs used for each situation, and is each sign necessary?		
	Are signs effective for all likely conditions (i.e., day, night, oncoming headlights, etc)?		
	Are there locations where there is sign clutter?		
	Are all necessary regulatory, warning, and direction signs (including detours) in place? Are they conspicuous?		
	Are they redundant?		
	Are traffic signs in their correct locations and properly positioned with respect to lateral clearance and height?		
	Are signs placed so as to restrict sight distance, particularly for vehicles?		
	Do signs supports conform to guidelines?		
2 Pavement Markings and Delineation	Does existing pavement markings need to be re-painted?		
	Have raised pavement markers been installed?		
	Are pavement markings easily visible and effective for all likely conditions (i.e., at night, day, inclement weather, etc.)?		
	Are guide posts correctly placed, clean, and visible?		
	Are marked crosswalks wide enough?		
3 Lighting	Is appropriate lighting installed at intersections, pedestrian and bicycle crossings?		

	Are the appropriate types of poles used for all locations and correctly installed?		
	Are all locations free of any lighting that may conflict visually with signs?		

PAVEMENT

Item #	***Description***	***Check***	***Comments***
1 Pavement defects	Is the pavement free of defects (i.e., excessive roughness, potholes) that could result in safety problems?		
2 Ponding	Is the pavement free of areas where ponding may occur resulting in a safety problem?		

Title of Report: ERIE AVENUE AND OLNEY AVENUE ROAD SAFETY AUDIT – CITY OF PHILADELPHIA

Publication No.: 08048

Date Published: July 2008

Geographic Area Covered: The study area includes portions of both Erie and Olney Avenues located east of Broad Street in Philadelphia, PA.

Key Words: Road, safety, audit, potential, fatalities, injuries, reportable, crashes, issues, strategies, coordination, engineering, enforcement, education, stakeholders, prioritize, intersection, speed limit, traffic volumes, stakeholders, audit team, geometry, pavement markings, ADA, signs, traffic signals, crosswalk, sidewalk, curb ramp.

ABSTRACT: This report documents the process and findings of the Erie and Olney Avenues, Road Safety Audits (RSA) undertaken by the Delaware Valley Regional Planning Commission (DVRPC). This project reflects the collaboration between PennDOT District 6 and DVRPC to address locations in the region with safety issues in order to obligate Highway Safety Improvement Program (HSIP) funding for remedial actions with the aim of making the region's roadways safer. These corridors were identified in Pennsylvania's Top Five Percent Report in 2007 as two of seventeen locations exhibiting the most severe safety needs. The goal of the audit is to generate improvement recommendations and countermeasures for these sections of Erie and Olney Avenues in an effort to reduce the incidence of motor vehicle crashes. Emphasis is placed on identifying low-cost, quick turnaround safety projects to address the issues where possible. The report details safety issues and remedial improvement strategies along each study corridor, identified by the audit team. Priorities for implementation are identified as well as a scope of work and cost estimates formulated by a consultant team under contract with PennDOT District 6.

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