

BOOTH STREET AREA STUDY CITY OF CHESTER, PA

December 2008

Prepared for:



City of Chester
1 Fourth Street
Chester, PA 19013

Prepared by:



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1. BACKGROUND AND HISTORIC CONTEXT

The City of Chester, located in Delaware County, PA, has undergone drastic demographic and economic shifts over the last 40 years. In 1960, the population of Chester was 63,658 with 66.5% of the population white and 33.4% nonwhite. By the year 2000, the population had decreased to 36,854 and the demographic composition had reversed to 19% white and 81% nonwhite.

The City of Chester's extensive history as a home to industry and manufacturing has led to a series of environmental and human health issues throughout the 20th century; however, as our knowledge and awareness has increased relating to environmental pollution, local, state, and federal regulations have been developed to reduce risks to human health and degradation of natural resources, resulting in an improved quality of life for Chester residents and businesses over previous conditions. The City government and staff have also acknowledged the conflicts between industrial and residential land uses and have taken regulatory steps to reduce these conflicts.

Despite the history of heavy industrial businesses locating in Chester, particularly along the Delaware River waterfront, recent progress is changing the face of the City with planning and zoning initiatives such as the *Vision 2000 Comprehensive Plan*, the *Waterfront Redefined Plan*, and updated zoning in some neighborhoods that state new goals and objectives for the City of Chester. The City of Chester first officially recognized the changing nature of its waterfront in the *Vision 2000 Plan*, the City's award-winning comprehensive plan. From this plan and the *Waterfront Redefined Plan*, zoning was revised to a waterfront district and a waterfront overlay to steer Chester's valuable waterfront in a new direction in terms of land uses. Prior to these planning documents, there was no vision for the waterfront to expand beyond industrial and manufacturing uses.

Several success stories for redevelopment along the Delaware River waterfront have occurred in recent years including the conversion of an abandoned PECO power plant into 400,000 square feet of office space, and the construction of Harrah's Chester Casino and Racetrack on the formerly contaminated Sun Shipbuilding site. With plans for further redevelopment of underused and inactive sites, the waterfront area is on its way to being a destination point as well as a desirable place to live and work. Several remaining industries such as COVANTA and DELCORA perform important functions that are needed to manage the region's solid waste and wastewater, respectively, both of which are necessary and vital services to Delaware County and beyond.

In addition to actively promoting the redevelopment of underused and environmentally contaminated sites into positive uses that benefit the community and create employment opportunities, the City has been diligent in its efforts to reject new development that has the potential to lead to environmental and human health impacts. Several businesses have made recent attempts to locate a manufacturing or industrial facility in Chester that have been turned away, including a proposed Liquefied Natural Gas (LNG) plant and a scrap tire incinerator proposed by Koach Energy.

2. STUDY PURPOSE

The purpose of this study is to conduct an analysis that addresses the environmental concerns of residential neighborhoods along the Route 291 corridor affected by several industrial businesses situated along the Delaware River. Residents are exposed to odors, dust, and noise from the facilities' operations as well as from truck traffic accessing the facilities. This study assesses existing conditions, develops recommendations for mitigating impacts relating to transportation and air quality, and provides a plan for both short and long-term strategies to addressing environmental, planning, and zoning issues relating to heavy industry, that are not only applicable to the Booth Street study area but other areas of the City of Chester as well.

The study area is defined as the parcels with frontage along Booth Street that are located immediately north of an industrial area comprised of DELCORA's Western Regional Treatment Plant, the COVANTA Resource Recovery Facility, and Abbonizio Recycling (Figure 1). Figure 1 also highlights approximately 50 residential parcels that were surveyed door-to-door by the Chester Environmental Partnership (CEP) on environmental and health concerns. This survey was conducted in 2006 to determine concerns and whether homeowners would want to relocate if they were offered the opportunity. The three main facilities that are of concern for Booth Street residents are listed below and are labeled on Figure 1. Other industrial uses exist near these residents such as PECO Energy's utility lines and Fisher Tank Co.

1. Abbonizio Recycling
2900 W Front St, Chester, PA 19013
2. Delaware County Regional Water Quality Control Authority (DELCORA)
100 East Fifth Street, Chester, PA 19016-0999
3. COVANTA Delaware Valley Resource Recovery Facility
10 Highland Avenue, Chester, PA 19013

The properties that are being affected by traffic at the Booth Street access road are located south of Route 291 and north of Front St and the freight rail lines owned and operated by Conrail. Between Route 291 and the railroad lines, nine residential units (4 on the east side, 5 on west side of street) are in the immediate area of concern affected by truck traffic, noise, and dust emissions from neighboring industrial activities. Three other parcels are also located along Booth Street; however, these consist of vacant land or land used by PECO for utilities. Booth Street is primarily used by DELCORA as a vehicle entrance. Harwick Street (south of Route 291) is currently used by Abbonizio Recycling and COVANTA as a primary access point; however, no residential units are located along Harwick Street south of Route 291.



FIGURE 1: BOOTH STREET STUDY AREA

Legend

-  Booth St Study Area Parcels
-  Parcels Surveyed by CEP (2006)
-  Chester City Boundary
-  Rail
-  Parcels



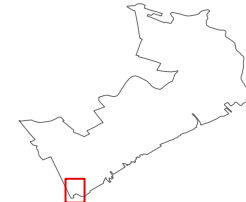
0 0.5 1 2 Miles



1 inch equals 2.5 miles



Area of Interest



3. ENVIRONMENTAL CONDITIONS

Previous Studies

The US Environmental Protection Agency (EPA) Region III conducted an “Environmental Risk Study for the City of Chester”¹ in 1995 and came to the conclusions that blood lead levels in children were higher than the Centers for Disease Control and Prevention’s (CDC) recommended maximum level (10 micrograms per deciliter of blood). Blood lead level statistics from 1989 to 1993 were used in this study and, during this time period, elevated blood lead levels were present in 3.3 to 8.1 percent of the children tested. These findings resulted in recommendations such as targeting sources of air emissions for compliance inspections and following up with any necessary enforcement action. The report did not find fugitive dust emissions to be a significant component of risk in the City; however, EPA recommended a program to minimize fugitive emissions from dirt piles and streets. In addition, noise and odor levels were not shown to be a significant component of risk in the City; however, a noise and odor monitoring program was recommended in areas most likely to suffer from these nuisances.

According to the City of Chester Health Department, a more recent testing was performed in 2007 for children less than seven years of age to determine elevated blood lead levels. Out of 1,688 children tested for lead levels, only 16, or 0.95 percent, were found to have elevated lead levels (>10 micrograms per deciliter). This finding was lower than the percentage of children who were originally tested for lead levels in the 1995 study mentioned previously.

The Crozer-Chester Medical Center completes quarterly reports on the Kids Asthma Management Program (KAMP). Screening tests for asthma were conducted in 2005 of children in the Chester-Upland School District area and the findings show that more children in Chester and surrounding communities have asthma than average. The Philadelphia region is not meeting national air quality standards (see Air Quality section below for more details) and air quality, particularly ground level ozone, particle pollution, and other forms of air pollution can exacerbate and trigger asthma and increase hospital visits for people, specifically kids with asthma. Exposure to pollutants in the air can cause asthma flare-ups and may increase the chance of upper respiratory infections, which can worsen asthma symptoms. A program developed by Keystone Mercy Health Plan called “Healthy Hoops” uses basketball to teach children in Chester and the Philadelphia region how to manage asthma.

The proximity between residential and industrial land uses in Chester and other Delaware County municipalities has generated concerns of environmental justice and impacts on certain communities. The US Environmental Protection Agency (EPA) defines environmental justice as *“The [fair treatment](#) and [meaningful involvement](#) of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”* Title VI of the Civil Rights Act of 1964 is the federal statute that provides protection against discrimination and is the primary mechanism of seeking relief from discriminatory activity in federally funded programs and activities.

¹ www.epa.gov/region03/environmental_justice/index.htm

Numerous studies by state and local agencies and nonprofit organizations have been completed in recent decades regarding Chester and environmental issues. An historic trend has emerged over the past century of locating manufacturing and industrial facilities (both active and inactive) along the Delaware River in higher concentrations than other communities in Delaware County, PA.

Swarthmore College completed a study in 2006 called *"Mapping Environmental Justice in Delaware County"* that lists the top 15 facilities in Delaware County (see Figure 2) in terms of pounds of toxic pollutants released. This information was based on the 2004 Facility Report from the US Environmental Protection Agency's (EPA) Toxic Release Inventory (TRI) and does not necessarily indicate violations of air quality regulations. The Toxic Release Inventory information is required to be reported under the Emergency Planning and Community Right-to-Know Act. At the time of the study, five of the 15 companies releasing the largest quantities of toxic chemicals were located in Chester, PA and the majority of the remaining companies are clustered in municipalities near Chester such as Marcus Hook and Trainer Borough. The five companies on the list in Chester were Kimberly-Clark, Norquay Technology, Inc., Degussa Corporation, Community Light and Sound, and Crown Foundry Co. This list is also provided on www.scorecard.org. Not all industries are required to report toxic releases under the TRI program; therefore, some industrial facilities in Chester may not be included on the aforementioned list.

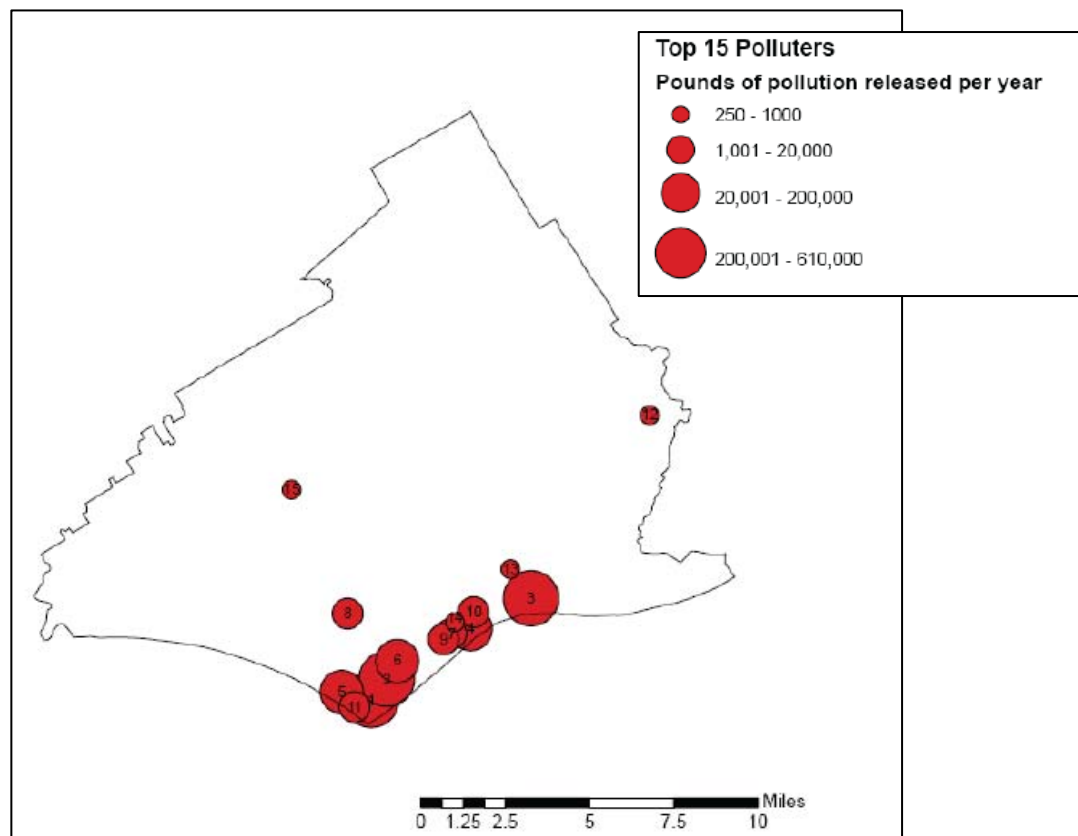


FIGURE 2: 2004 TOP 15 FACILITIES IN DELAWARE COUNTY
(Source: Swarthmore College, 2006)

Air Quality

To address the air quality and transportation issues related to industrial and manufacturing facilities located in Chester, air quality data were collected from available public sources. Mobile sources such as vehicles and trucks are the major sources of air pollutants in Chester and the Philadelphia region, particularly carbon dioxide and particulate matter. The City of Chester is located in the Philadelphia metropolitan region, which is an area that is not in compliance with national air quality standards for ozone and particulate matter (PM). Delaware County and the Philadelphia region is classified as a moderate “nonattainment area” in relation to the National Ambient Air Quality Standards (NAAQS) for 8-hour ozone, and the region is a “nonattainment area” for PM_{2.5} (particulate matter less than 2.5 microns in diameter) (see table below).

Due to this noncompliance with national air quality standards, PA Department of the Environment (DEP) Bureau of Air Quality maintains an ambient air monitoring site in Chester at Front St and Norris St (Site ID 420450002).² Monitoring devices at this site record daily and hourly levels for lead, nitrogen dioxide (NO₂), ozone, PM₁₀, PM_{2.5}, and SO₂; however, for this report, data were evaluated for ozone and particulate matter (PM_{2.5}) as these are the only pollutants exceeding national air quality standards in the region.

National Ambient Air Quality Standards (NAAQS)

Pollutant	Average	Concentration
Carbon Monoxide (CO)	8-Hour	9 ppm
	1-Hour	35 ppm
Lead	Max Quarterly	1.5 ug/m ³
Nitrogen Dioxide (NO ₂)	Annual	0.053 ppm
Ozone	Max Daily 8-Hour	0.085 ppm
Particulate Matter < 10 microns	Annual	Revoked
	24-Hour	150 ug/m ³
Particulate Matter < 2.5 microns	Annual	15 ug/m ³
	24-Hour	35 ug/m ³
Sulfur Dioxide	Annual	0.03 ppm
	24-hour	0.14 ppm

ppm = parts per million, ug = micrograms, m³ = cubic meter

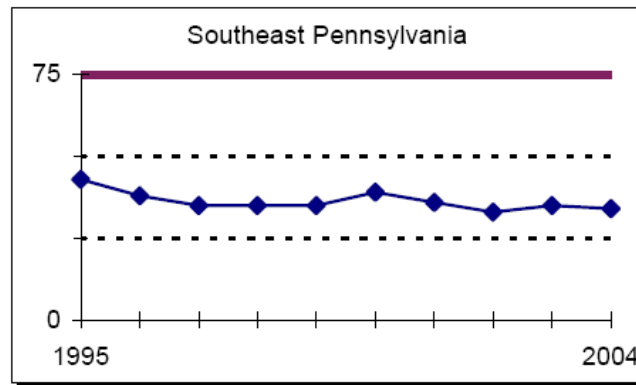
Looking at the City of Chester’s monitoring station data compared to other stations throughout southeastern Pennsylvania and northern Delaware, Chester had comparable air pollutant levels to other sites. For the past two years of daily recordings taken, there were 5 days in 2007 where the highest hourly average recording was 85 parts per billion (ppb) or higher for ozone (8-hour) levels. For 2006, the highest recorded daily average exceeded 85 ppb on 3 days.

In 2006 in Chester, PM_{2.5} (24-hour) data collected showed no recordings for the hourly averages that exceeded the NAAQS for this pollutant. In 2007, 11 days had hourly averages that exceeded 35 ug/m³. These data show that sources within Chester may be contributing to air pollution in the region, but Chester compared with other sites does not have significant pollutant levels that would create a need for drastic mitigation measures.

² www.dep.state.pa.us/aq_apps/aadata/default.asp?varAction=form&varform=3

PA DEP publishes an ambient air quality report annually. The latest report available on the Bureau of Air Quality's website is from 2004³. The following graph was taken from this report and shows historical trends in total suspended particulate levels from 1995 to 2004, which are showing a decreasing trend for the southeast region of Pennsylvania. Particulate matter is composed of soil-related particles such as road and construction dust, and combustion-related particles such as diesel and gas engine emissions. For the City of Chester, the breakdown of particulate matter reflects a typical trend seen in other parts of Pennsylvania where the majority of particles are organic carbon and sulfates. Overall, air pollution in Chester is equivalent to other municipalities in the region.

Total Suspended Particulate Trends in Southeast Pennsylvania 1995 to 2004
Annual Geometric Means (micrograms per cubic meter)



Environmental Compliance

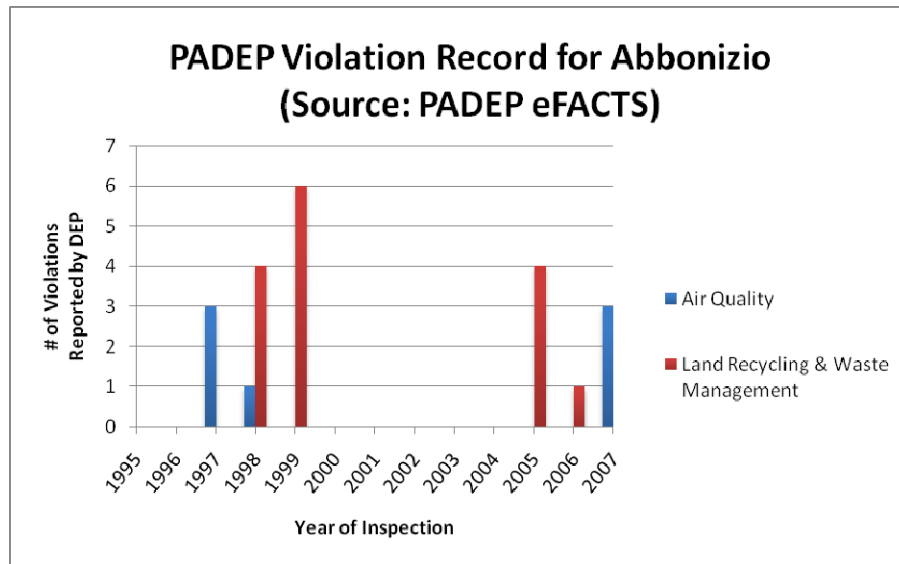
This section summarizes recent records of violations obtained from PA DEP's eFACTS website. As we have discussed air pollution in Chester and the Philadelphia region, this section shows the three main facilities under consideration and their violations relating to air, land, waste, and water permits that each facility holds. Out of the three facilities, COVANTA has received the most air quality violations in recent years; however, all three companies have shown improvement in their compliance records with only a minor amount of violations issued annually.

Abbonizio Recycling

Abbonizio Recycling is a facility that processes concrete for reuse. The facility opened in the late 1980's. All of the activities occur outdoors and water spray devices are constantly used to control dust from the crushing of concrete materials. The facility has a Minor Source Operating Permit issued by PA DEP to operate a portable crusher and a water spray air pollution control device. Records are available through eFACTS online dating back to 1995 for this facility. The following graph shows the number of air quality violations received since 1995.

³ www.dep.state.pa.us/dep/deputate/airwaste/aq/aqm/aqreport.htm

When PA DEP conducts an inspection and a Notice of Violation (NOV) is administered, often the problem is corrected or abated the same day. In some cases, penalty fines have been assessed and paid by the operator.



COVANTA Delaware Valley Resource Recovery Facility

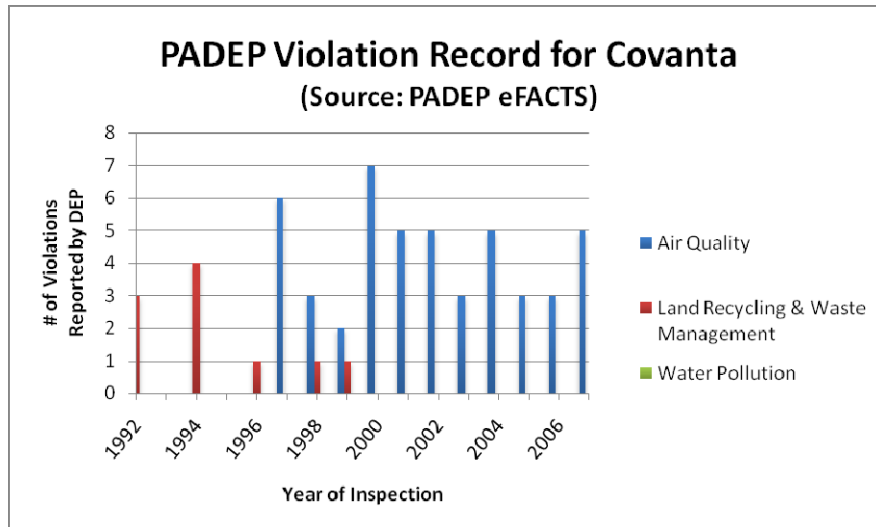
The COVANTA Delaware Valley Resource Recovery Facility has been in operation since 1992; however, COVANTA acquired the facility in June 2005. It was formerly known as American Ref-Fuel. The facility collects solid waste from all of Delaware County and beyond, and incinerates the municipal waste to produce energy. Prior to incineration, municipal solid waste is sorted to divert metals and other recyclable materials. The facility has the capacity to handle 2,688 tons per day of waste. At maximum output, the facility generates approximately 75 megawatts (MW) of electricity per day. The ash that is remaining from the incineration process is hauled to the Rolling Hills landfill in Bucks County (Swarthmore College, 2006). Solid waste management in the form of waste-to-energy conversion produces less greenhouse gas emissions compared to hauling and burying solid waste in a landfill, which is the single largest source of methane gas in the United States⁴.

COVANTA has a Major Operating Facility air quality permit from PA DEP. For air quality controls, the facility has stacks that are 245 feet high, 6 dry scrubbers, and 6 fabric filter systems⁵. COVANTA Delaware Valley Resource Recovery Facility in Chester has had no violations under the water pollution control or land recycling and waste management programs of PADEP. So far in 2007, COVANTA had received 5 air quality NOV's. In 2005 and 2006, the facility received 3 violations each of these years⁶. These violations have resulted in corrective action on COVANTA's part for each incident.

⁴ US EPA Greenhouse Gas Emission Inventory - www.epa.gov/climatechange/emissions/index.html

⁵ www.covantaholding.com/site/locations/covanta-delaware.html

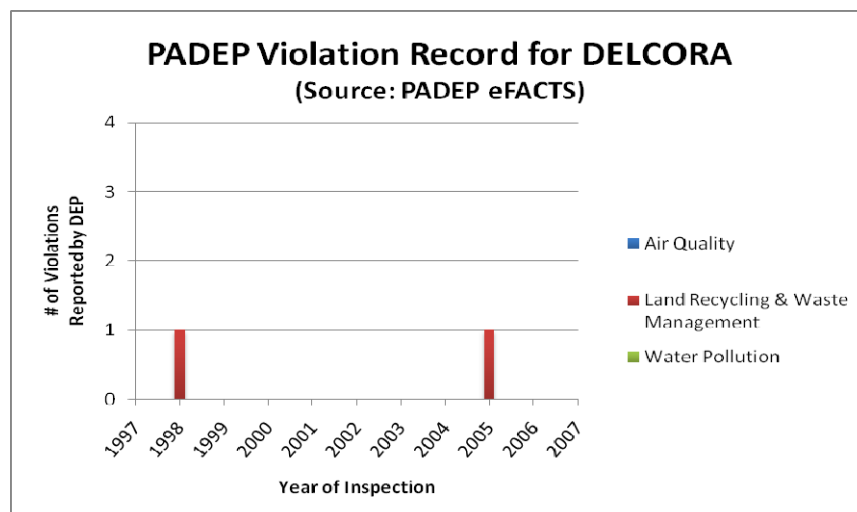
⁶ www.dep.state.pa.us/efacts/searchresults.asp?varSiteID=456217&varSearchType=inspr



Delaware County Regional Water Quality Control Authority (DELCORA)

DELCORA is operating the Western Regional Treatment Plant, a wastewater treatment plant (WWTP) and an incinerator in Chester. The facility has the capacity to treat 44 million gallons per day (MGD) but on average, dry weather flow into the facility is approximately 30 MGD. The facility has received approval from PA DEP to re-rate the facility up to a capacity of 50 MGD (as of April 2007).

The incinerator is used to burn dewatered sludge once the wastewater has been processed. The ash from the incinerator is disposed at a landfill⁷. In 1998, DELCORA agreed to make extensive improvements to its sludge processing facilities to prevent smoke and odor from emitting from the facility⁸. Today, the facility receives few violations, as indicated by the chart below. Only two violations are listed in DEP's eFACTS system under the Land Recycling and Waste Management program – one received in 2005 was for not preventing soil contamination and reason for the second violation notice received in 1998 was unspecified.



⁷ www.delcora.org

⁸ www.ejnet.org

Environmental conditions in Chester have improved in recent decades from the standpoint of regulatory compliance and corrective actions taken by industrial facilities. Chester's residents located in close proximity to heavy industrial facilities may still experience some level of exposure to air pollutants, particularly being in a region that is not meeting national air quality standards, but the heightened awareness of environmental justice issues in Chester has improved human health and safety conditions for City residents. Improvements are still needed in terms of environmental monitoring and regulatory enforcement under existing state and federal regulations, which is an issue that goes beyond local government control.

4. COMMUNITY PROFILE

Between Route 291 and the railroad lines, nine residential units are in the immediate area of concern affected by truck traffic, noise, and dust emissions from neighboring industrial activities. Booth Street is used by DELCORA as a vehicle entrance; however, it appears that Harwick Street is more heavily used as both Abbonizio and COVANTA use this route as a main access point.



Booth Street looking South (Abbonizio Recycling in background).

This neighborhood is currently zoned M2 (industrial) (Figure 3), which was established when the zoning regulations were adopted in 1965. The nine housing units in the study area were constructed between 1920 and 1940 and were therefore constructed prior to the adoption of the zoning code. By comparing existing land uses shown in Figure 4 with the existing zoning classifications shown in Figure 3, it is evident that existing land uses along Booth Street are inconsistent with the existing M1 zoning classification. The zoning along Route 291 is also outdated as the City of Chester does not envision future land uses along this corridor to be exclusively industrial uses. In 2005, the City of Chester adopted a Waterfront District (W-1) that begins at Highland Ave and extends east to the Commodore Barry Bridge. Residential uses are a permitted use within the Waterfront District and should be a future land use along the waterfront; however, there needs to be stricter siting and operational regulations for industrial uses in Chester overall.

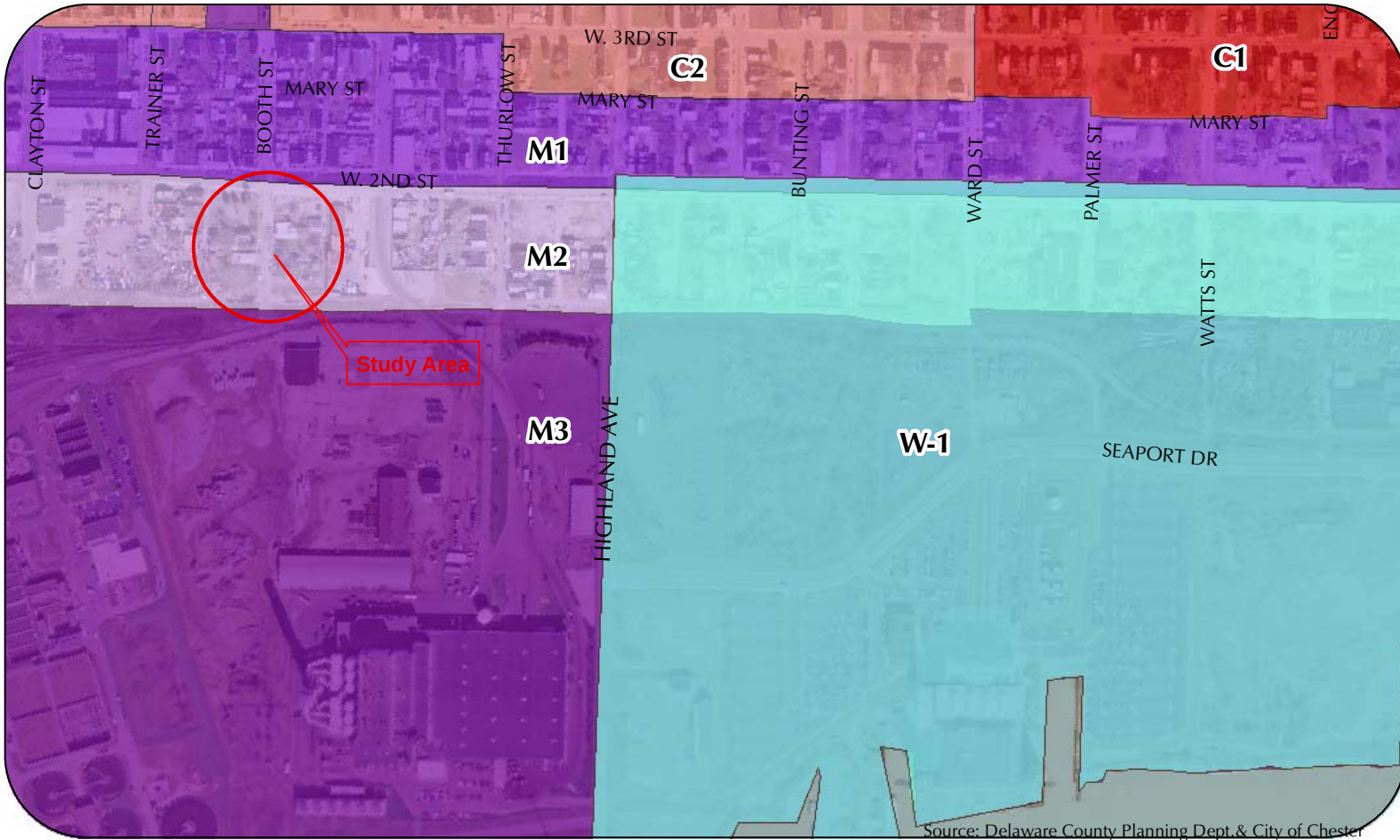
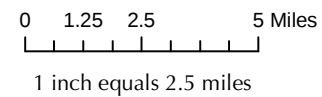


FIGURE 3: ZONING

Legend

Commercial	Manufacturing	Waterfront
■ C1	■ M1	■ W-1
■ C2	■ M2	
	■ M3	



Area of Interest



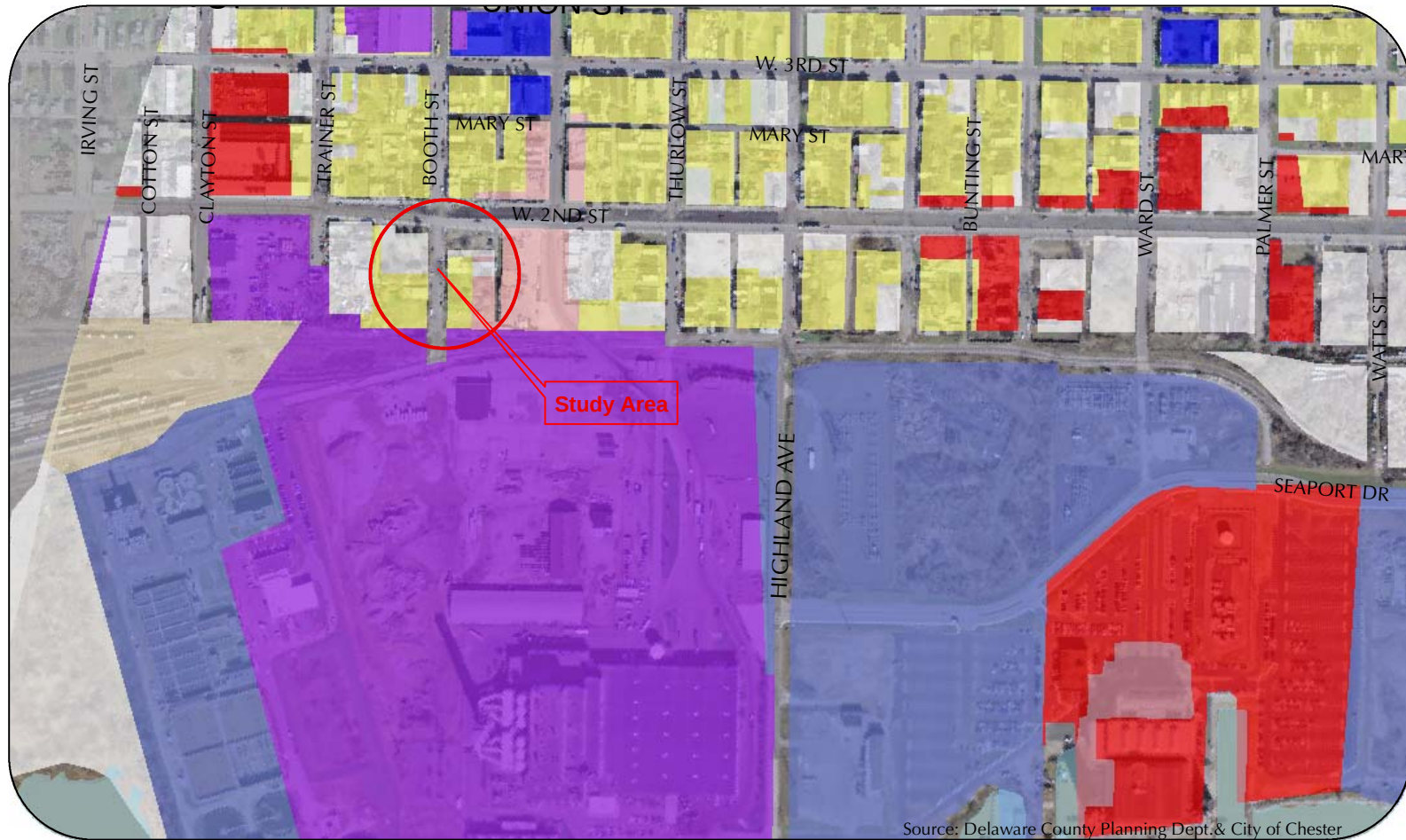


FIGURE 4: EXISTING LAND USES

Legend

Land Use

■ commercial /services	■ manufacturing-heavy	■ residential
■ community service	■ manufacturing-light	■ utility
■ parking	■ vacant	



0 1.25 2.5 5 Miles
1 inch equals 2.5 miles



Area of Interest



The median household income in 1999 for Block Group 2, Census Tract 4056 Data (Summary File 3) was \$26,667. Chester's median household income in 1999 was \$25,703. The following table displays basic housing and population data for the census blocks bordering Booth Street.

2000 Population and Housing Data for Booth Street Census Blocks

	Census Block 2028 (East of Booth St)	Census Block 2029 (West of Booth St)
Total Population	47 [32% white only, 64% black only, 4% Hispanic]	16 [44% white only, 38% black only, 19% two or more races]
Total Housing Units	17	7
Vacant Units	5	2
Owner Occupied Units	7	2
Renter Occupied Units	5	3

	Study Area (CT 4056, BG 2)	City of Chester	Delaware County
Median Household Income (1999)	\$26,667	\$25,703	\$50,092
% Families Below Poverty Level	9.5%	27.2%	9.9%

According to the Census Bureau data shown above, the block group wherein Booth Street housing units are located have comparable income levels to the rest of the City of Chester; however, the percentage of families living below poverty level are comparable to Delaware County poverty levels and are much lower than the percentage of families living below the Census-defined poverty level for the City as a whole.

To further assess the conditions of existing housing and residents along Booth Street, the following table is presented that lists the properties with frontage along Booth Street between Front St and Route 291, with the exception of land along the rail line owned by Conrail. The information displayed is parcel data taken from Delaware County's Real Estate System available online at <http://w01.co.delaware.pa.us/pa/publicaccess.asp?real.x=105&real.y=137>. Out of the nine residential properties along Booth Street, most are occupied by renters. One property owner is listed for two parcels along Booth Street and another owner possesses three parcels along Booth Street. Together, these two property owners make up the majority of land owners. There are three parcels (shaded below in gray) that have no structures on them. One is a vacant lot at the corner of Route 291 and Booth Street and the other two parcels are owned by PECO and are used for utility towers.

Map Number	Folio Number	Site Address	Description	Size (ft)	Year Built	Delaware County Assessed Value	Year of Assessment	Market Value ¹	Owner Occupied (based on owner address)	Latest Date Purchased	Latest Purchase Price	Tax Delinquencies?	Completed CEP Survey?	Survey Response Renter or Owner
49-24-386:000	49-11-01109-00	102 BOOTH	2 STY BRK HSE	40 X 100	1920	\$29,020.00	1/1/2000	\$47,495.91	No	1998	\$4,000.00	None	Yes	Rent
49-24-389:000	49-11-01082-00	103 BOOTH	2 STY BR HSE	29.2 X 140.2	1920	\$24,480.00	1/1/2000	\$40,065.47	Yes	1986	\$1.00	None	Yes	Own
49-24-385:000	49-11-01109-01	104 BOOTH	2 STY BR HSE	20 X 140	1920	\$26,380.00	1/1/2000	\$43,175.12	Yes	1994	\$7,000.00	None	No	No survey
49-24-390:000	49-11-01083-00	105 BOOTH	2 STY BR HSE	37 X 140	1920	\$26,530.00	1/1/2000	\$43,420.62	Yes	1994	\$1.00	None	Yes	Own
49-24-384:000	49-11-01110-00	106 BOOTH	1 STY BR HSE GAR	20 X 140	1940	\$20,140.00	1/1/2000	\$32,962.36	No	2002	\$1.00	None	No	No survey
49-24-383:000	49-11-01111-00	108 BOOTH	2 STY HSE	40 X 140	1930	\$ 12,040.00	1/1/2000	\$19,705.40	No (Owner address is PO Box in Chester)	1983	\$500.00	None	Yes	Own
49-24-391:000	49-11-01084-00	111 BOOTH	2 STY BR HSE REAR BR BLDG	45 X 67.9	1940	\$37,330.00	1/1/2000	\$61,096.56	No	2000	\$8,800.00	None	Yes	Rent
49-24-392:000	49-11-01085-00	113 BOOTH	2 STY BR HSE 1 STY APT	16 X 140.2	1920	\$22,460.00	1/1/2000	\$36,759.41	No	1982	\$11,000.00	None	Yes	Rent
49-24-393:000	49-11-01086-00	115 BOOTH	2 STY BR HSE REAR BR BLDG	22.59 X 140	1920	\$22,190.00	1/1/2000	\$36,317.51	No	2002	\$1.00	None	Yes	Rent
49-24-382:000	49-11-01112-00	BOOTH ST	Vacant Lot	4,000SF	NA	\$2,756.00	1/1/2006	\$4,510.64	No	1995	\$1.00	None - tax exempt	NA - Not residential	NA
49-24-387:000	49-11-01107-01	W FRONT ST	Ground - PECO utilities	20 X 140	NA	\$11,200.00	1/1/2000	\$18,330.61	NA	NA	\$0.00	None - tax exempt	NA - Not residential	NA
49-24-388:000	49-11-01081-00	101 BOOTH	Ground - PECO utilities	66 x 140	NA	\$11,100.00	1/1/2000	\$18,166.94	NA	NA	\$0.00	None - tax exempt	NA - Not residential	NA
TOTAL:						\$245,626.00	TOTAL:	\$402,006.55						

¹ Market value was calculated by dividing the Delaware County assessed value by Common Level Ratio for Delaware County (61.1).

Chester Environmental Partnership (CEP) Survey Results

Approximately 50 residents were surveyed in February 2006 by Chester Environmental Partnership who are living near industrial facilities in Chester along the Route 291 corridor. The purpose of the survey was to identify existing health and safety issues of the community as it relates to living in close proximity to waste processing industries. Responses from seven out of the nine residential units along Booth Street were collected and their answers are summarized below.

Question	Answer	
1. What are the main problems you are experiencing living near waste processing facilities?	Health issues Safety issues Unusual odors Rodents Dust and debris Truck traffic interference Noise affecting sleep Other	2 6 2 6 3 3
2. Do you fear future negative health consequences from living near waste processing facilities?	Very much so Somewhat Not at all	2 3 2
3. Do you or have you discussed your issues and concerns with your neighbors, church, or others?	Yes No No answer	5 1 1
4. How long have you lived in this neighborhood?	< 1 year 1 to 5 years >5 years >10 years No answer	2 4 4 2
5. Are you a renter or a homeowner?	Renter Homeowner	4 3
6. If you are a renter, would you relocate to another area if you were offered a reasonable rent payment?	Yes No Not sure No answer	3 1 3
7. If you are a homeowner, and you had the opportunity to sell your property for a reasonable amount of money in order to relocate, would you sell and relocate?	Yes No Not sure No answer	2 1 4
8. Do you feel isolated from the general population living in your community because of the location and conditions associated with waste processing facilities being near your home?	Yes No Not sure No answer	1 6 1
9. Have you ever made any complaints to any government officials about the conditions in your neighborhood?	Yes No No answer	2 5
10. If you have complained, to whom did you complain?	Councilperson Mayor State Legislator Other None No answer	1 4 1
11. Are you hopeful that your neighborhood's environmental issues and concerns will be resolved?	Yes No Not sure No answer	6 1

The surveyed residents listed dust, rodents, and traffic from DELCORA as problems along Booth Street, as well as pedestrian safety being an issue crossing 2nd Street in the area of Booth Street. Residents were glad for the recent repaving of Booth Street. Generally, those surveyed have concerns about the environmental safety due to their location and would at least be open to some form of relocation if payment was offered as there were no negative responses to that suggestion.

Transportation and Circulation Analysis

The sources of data available for this study area included residents' comments and concerns, published reports and studies, and news articles on the subject matter. Staff at the industrial facilities were consulted with to assess current operational and circulation procedures, determine if additional data sources were available, and what role, if any, industrial property owners may have in short-term and long-term mitigation.

DELCORA's facility generates traffic related to hauling incinerated ash offsite to a landfill. The ash is the end product after the waste activated sludge (byproduct of wastewater treatment process) has been incinerated. Trucked waste is regulated by DELCORA's DEP Solid Waste Permit. DELCORA is the only facility currently using the Booth Street access road. Another entrance exists for DELCORA at the southern end of Highland Avenue close to the Delaware River; however, this entrance is seldom used for trucks.

COVANTA applied for a permit in 2006 to change daily operation hours and to increase the maximum waste quantities that could be received daily; however, the total weekly allowable waste acceptance will remain at 26,100 tons. This permit application was recently approved by PADEP in 2008. As part of the permit application process, a public meeting was held in April 2006 and a study was completed on the traffic impacts that may occur from changing operating hours and maximum daily waste acceptance quantities. COVANTA has proposed changes to hours of operation to opening an hour earlier at 5:00 am during weekdays, and from 5:00 am to 2:00 pm on Saturdays (changed from 6:00 am-12:00 pm). According to the study, approximately 260 trucks per day enter the facility on weekdays. The study states that there will be a slight increase in trucks on a daily basis (18 more trips per weekday and 42 more trips on Saturday); however, the total weekly intake was not proposed to change so the study concluded that "total site related truck traffic will not increase as a result of the minor change in operations."

Trucks hauling solid waste to COVANTA and concrete to Abbonizio use Harwick Street, which is a designated access road that crosses the freight rail lines and enters COVANTA's property at a large queuing yard where trucks can park. The location of the queuing yard and the configuration of the site are regulated by environmental permits. The queuing yard was put into place as part of a solution to stop trucks from idling and queuing along Route 291 prior to entering the facilities. The main access route to COVANTA and Abbonizio was originally Thurlow Street; however, complaints from residents along Thurlow Street resulted in COVANTA creating an access road from Harwick Street and closing the Thurlow Street gate. COVANTA also constructed a berm with trees near Harwick Street to partially block the view of the facility for residents. Similar to DELCORA, COVANTA has a second access point from Highland Avenue that is not used regularly for trucks.

Abbonizio Recycling uses one entrance to the facility for trucks. The facility shares the same access point as COVANTA on Harwick Street, then trucks turn right on the other side of the fence

and head toward the recycling facility. Abbonizio is a fenced property with an old gated entrance at the corner of Front Street and Booth Street. This entrance has been closed and out of service for more than 15 years. To reinstate this entrance would require major roadway improvements to accommodate large tri-axle trucks that Abbonizio is using. It is estimated that approximately 30 trucks per week enter and exit Abbonizio at the Harwick Street entrance. Truck traffic is not consistent as the supply of concrete to recycle is not consistent. COVANTA is the larger generator of truck traffic. Staff from Abbonizio Recycling visited residential units near the facility relating another issue and most of the residents commented on issues that did not pertain to Abbonizio's operations (i.e. trash escaping from trucks and littering streets/sidewalks, noise on weekends, etc.). Abbonizio Recycling does not haul trash and does not operate on weekends. Operating hours for Abbonizio are 7:00 am to 3:30 pm Monday to Friday.



Source: Google Earth, 2007

5. RECOMMENDATIONS

After assessing physical, environmental, land use, zoning, and socioeconomic conditions in Chester, and more specifically, along Booth Street, the City of Chester has developed a set of recommendations to address issues relating to industrial land uses. To assist in alleviating potential impacts that may be occurring to residents of Chester, the following recommendations matrix has been developed for consideration by City staff and elected officials during future planning and zoning decision-making processes. The recommendations address issues prominent along Booth Street; however, long-term and ongoing recommendations have also been suggested that would not directly affect existing land uses but would deal with environmental, land use, zoning, and infrastructure conditions at a broader scale through local regulatory changes.

In addition to the recommendations below, Chester City has made recent progress by designating City staff to be host community inspectors and by providing necessary training in order to have a local presence monitoring industrial sites. Pertaining to zoning improvements needed, a grant application was submitted in October 2008 to the PA Coastal Zone Management Program for funding to look into rezoning the waterfront and the western end of Chester, including the Booth Street study area.

BOOTH STREET STUDY RECOMMENDATIONS

Implementation Measures	TIMETABLE			Responsibility For Implementation	Potential Source(s) of Funding
	Short-Term	Long-Term	Ongoing		
Continue to designate truck routes along suitable transportation corridors throughout the City and prohibit trucks from using smaller residential streets.	●			City Department of Streets, Police	PennDOT, DVRPC
Designate Booth Street as a main truck access route for all three industrial facilities. Road widening and access improvements are needed (requiring expansion of right-of-way would result in relocation of existing residents). Seek state funding assistance.		●		City Department of Streets, City Planning	DVRPC TCDI, CDBG, PA DCED Housing & Redevelopment Assistance Program, PennDOT CMAQ funds (through DVRPC)
Provide street sweeping on regular basis (to control dust) and road maintenance as needed.			●	City Department of Streets	CMAQ (provided thru DVRPC)
Plant trees and other vegetation to reduce particulate matter and to enhance appearance of Booth Street and other corridors.		●		City (Streets/Parks/Public Safety Departments), Shade Tree Commission	TreeVitalize, DCNR, DEP, PECO
Consistently work with PA DEP to enforce permitting and monitoring and to improve response time to notifications from the public of incidents involving industrial/manufacturing activities.			●	City, PA DEP	PA DEP

Implementation Measures	TIMETABLE			Responsibility For Implementation	Potential Source(s) of Funding
	Short-Term	Long-Term	Ongoing		
Implement a voluntary air emissions reduction program for industrial facilities in Chester. Develop education/outreach component to program.			●	PA DEP Bureau of Air Quality	EPA, PA DEP
Improve enforcement of existing zoning regulations relating to siting of industrial facilities, land use compatibility and separation requirements, and performance standards (see Article 1380 of City Zoning Ordinance where noise, hours of operation limits, truck route restrictions, etc. are outlined). Use existing City Police staff and/or Code officers to execute enforcement policies.	●			City Planning, Code Officers, City Police	

General Funding Resources:

EPA Environmental Justice Small Grants Program: www.epa.gov/compliance/environmentaljustice/index.html

PA DCED grants: <http://www.co.delaware.pa.us/planning/countyregionalplanning/Section%208%20Transportation.pdf>

DVRPC TCDI <http://www.dvrpc.org/planning/tcdi.htm>

PA DCNR <http://www.dcnr.state.pa.us/brc/grants/>

