Improving Safety and Stormwater along Cobbs Creek Parkway:

60th Street to 70th Street

MAY 2019

DELAWARE VALLEY dvrpc REGIONAL PLANNING COMMISSION

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Executive Summary

Cobbs Creek Parkway is a major north-south roadway in Lower Southwest Philadelphia along the border with Yeadon Borough in Delaware County. The road mostly parallels and occasionally crosses Cobbs Creek, a wooded tributary of Darby Creek. Cobbs Creek Trail, which is part of the East Coast Greenway, is a recreational path located just west of Cobbs Creek Parkway. This study focuses on the 1.2-mile stretch of Cobbs Creek Parkway between 60th Street and 70th Street. A major landmark in this area is Mount Moriah Cemetery, a 160-acre historic cemetery that was chartered by the Pennsylvania Legislature in 1855. During the Philadelphia City Planning Commission's (PCPC's) Lower Southwest District Plan process in 2015–2016, the lower part of Cobbs Creek Parkway was identified as problematic due to its speeding traffic, complex intersections, high crash rates, and high rates of pedestrian activity by nearby vulnerable populations.

The neighborhoods surrounding Cobbs Creek Parkway between 60th Street and 70th Street in Lower Southwest Philadelphia have suffered from decades of deferred maintenance and neglect. The last known board member of the Mount Moriah Cemetery Association died in 2004, and the cemetery gradually became overgrown and inaccessible. Vehicles have hit the rusty guiderail along Cobbs Creek Parkway, but it was never replaced or repaired. Although trucks are banned from Fairmount Park roads, which include Cobbs Creek Parkway, nearby residents complain of high levels of truck traffic. Flooding is also a common occurrence in the area.

This study strives to make the area around Cobbs Creek Parkway safer for people, regardless of whether they are traveling on foot, by bike, or in a vehicle. The majority of the recommendations involve traffic calming, such as narrowing the excessively wide intersections that come together at odd angles so that vehicles make slower turns and pedestrians have shorter distances to cross. Installing curb bumpouts and other safety measures will also give the Philadelphia Water Department (PWD) an opportunity to install green stormwater infrastructure (GSI), which will help reduce stormwater pollution and flooding while simultaneously helping Philadelphia meet the targets in its *Green City, Clean Waters* plan.

Chapter 1 provides an introduction to the study area between 60th Street and 70th Street. Chapter 2 outlines the challenges—such as speeding traffic, illegal truck traffic, mangled guiderail, and flooding—and opportunities in the study area. Chapter 3 describes the study's recommendations, beginning with corridor-wide recommendations and followed by trail maintenance and intersection-specific recommendations. Chapter 4 offers guidance on implementation and possible funding sources, while Chapter 5 focuses on how community members can get involved and begin to address some of the challenges identified in Chapter 2. There are also several appendices at the end of the document with additional demographic information, a copy of the neighborhood survey as well as the results, and details about a proposed roundabout.

The community deserves safe intersections along Cobbs Creek Parkway; easy access to Cobbs Creek Trail; and opportunities to safely walk, bike, and drive around their neighborhood. Walkers, bicyclists, people in wheelchairs, people pushing strollers, cars, trucks, and buses all need to be able to safely get where they want to go.

CHAPTER 1: Study Area

Introduction

During the Philadelphia City Planning Commission's Lower Southwest District Plan process in 2015–2016, Cobbs Creek Parkway was identified as problematic due to its speeding traffic, complex intersections, high crash rates, and high rates of pedestrian activity by nearby vulnerable populations. Traffic calming along Cobbs Creek Parkway is also a challenge, as the road is a state highway.

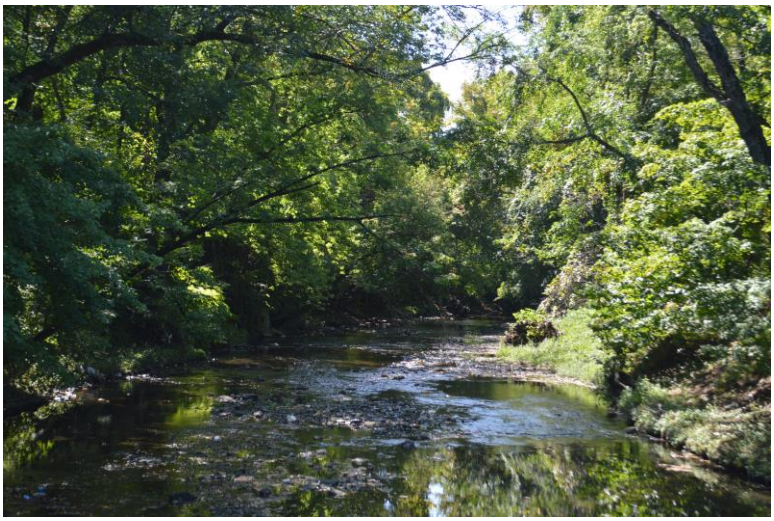
This study provides an opportunity to examine intersections that link the parkway with Lower Southwest neighborhoods, particularly with traffic calming and pedestrian safety measures, transit connections, and stormwater management potential. The Philadelphia Water Department has also identified the intersections at 67th Street/Cobbs Creek Parkway/Chester Avenue and 70th Street/Cobbs Creek Parkway/Larry Street as areas of opportunity for stormwater infrastructure upgrades. A more coordinated street configuration and transit improvements could greatly reduce conflicts.

Study Area

The 1.2-mile-long study area is located in Lower Southwest Philadelphia along the border with Yeadon Borough in Delaware County (see Figure 1: Study Extent). The northern end of the study area is at the intersection of 60th Street and Cobbs Creek Parkway near a DaVita Dialysis facility. The southern end of the study area is at the intersection of Cobbs Creek Parkway, 70th Street, and Church Lane, near a Dunkin' Donuts. The Paschall neighborhood south of Mount Moriah Cemetery is a predominantly single-family residential neighborhood. The nearest commercial corridor is east of the study area along Woodland Avenue. Major features of the study area include Cobbs Creek, Cobbs Creek Parkway, Cobbs Creek Trail, Cobbs Creek Park, and Mount Moriah Cemetery, which are described in additional detail below.

Cobbs Creek

Cobbs Creek is an 11.8-mile tributary of the Darby Creek, which forms the border between Philadelphia County and Delaware County. It flows through the study area and joins the Darby Creek approximately one and a half miles below the study area before flowing through the John Heinz National Wildlife Refuge and into the Delaware River just west of the Philadelphia International Airport.



Cobbs Creek serves as the boundary between Philadelphia County and Delaware County and flows through the study area.

Figure 1: Study Extent

Cobbs Creek Parkway

Cobbs Creek Parkway is a major north-south arterial in Lower Southwest Philadelphia. The road is maintained by the Pennsylvania Department of Transportation (PennDOT). Between 14,500 and 21,200 vehicles per day use Cobbs Creek Parkway between 60th Street and 70th Street (see Table 1: Cobbs Creek Parkway Average Annual Daily Traffic [AADT]).

Table 1: Cobbs Creek Parkway Average Annual Daily Traffic (AADT)

Location	AADT
Between Springfield Avenue and 65th Street Overpass	21,189
Between 65th Street Overpass and 67th Street	16,059
Between 68th Street and 70th Street	14,524
Between 70th Street and Upland Street	19,461

Source: DVRPC, 2017

Cobbs Creek Park

Cobbs Creek Park was created in 1911 to protect Cobbs Creek. The 851-acre park contains the city's oldest golf course, a track, sport fields, bocce court, a pool, and two waterfalls. The northern portion of the park outside of the study area contains several buildings, including the Cobbs Creek Recreation Center (with a gymnasium and multi-purpose rooms), the Laura Sims Skate House, and the Cobbs Creek Environmental Education Center, which is housed in the former Cobbs Creek Stable.[1]

Cobbs Creek Trail

Just west of Cobbs Creek Parkway is Cobbs Creek Trail, which starts at 63rd and Market and continues south, paralleling Cobbs Creek Parkway to 70th Street. The park features a 3.7-mile trail that connects several historic and educational sites. An off-road bike and pedestrian path provides access to the 58th Street Greenway, which leads to historic Bartram's Gardens and the Schuylkill River Trail. Philadelphia Parks and Recreation (PPR) has future plans to extend the trail south of 70th Street. The trail is part of the East Coast Greenway (see page 28).

Cobbs Creek Trail parallels Cobbs Creek Parkway.

[1] "Cobbs Creek," Philadelphia Parks and Recreation, beta.phila.gov/parks-rec-finder/#/location/cobbs-creek/56a8f8177a8cee5e3a25addb, accessed July 9, 2018.

Mount Moriah Cemetery

One of the largest landmarks in the northern half of the study area is Mount Moriah Cemetery, a 160-acre cemetery located on both side of Cobbs Creek Parkway that was chartered by the Pennsylvania Legislature in March 1855. The cemetery, which straddles the border of the City of Philadelphia and Yeadon Borough, has a historic gatehouse and is the burial site of numerous veterans, as well as noted business people, politicians, lawyers, athletes, and performers. The last known board member of the Mount Moriah Cemetery Association died in 2004, leaving no responsible party to assist with maintenance, burials, disinterments, or the placement of headstones. The cemetery has become overgrown and inaccessible. Since 2011, the Friends of Mount Moriah Cemetery—a non-profit organization—have worked to preserve Mount Moriah Cemetery and honor the memory of those interred there through community engagement, education, historic research, and restoration. The Friends of Mount Moriah are currently undertaking a strategic planning process. Yeadon Borough and the City of Philadelphia also established the Mount Moriah Cemetery Preservation Corporation in December 2012.[2]

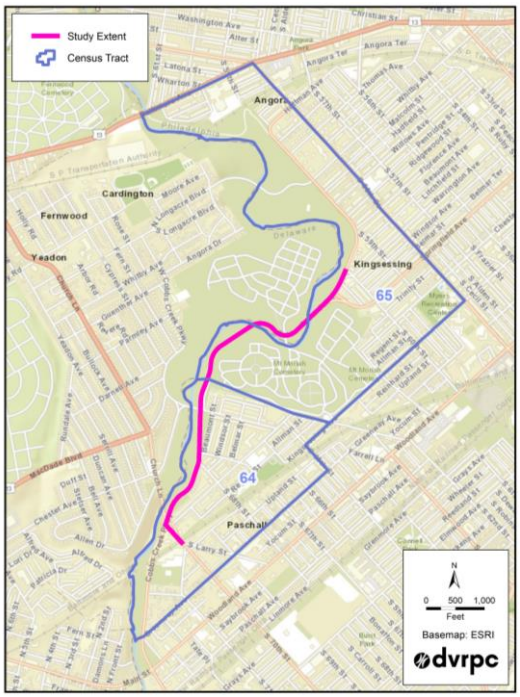
The Yeadon portion of Mount Moriah Cemetery, looking north from Cobbs Creek Parkway.

Study Area Demographics

The 2012–2016 American Community Survey estimates that 7,889 residents live within the two census tracts that overlap with the Cobbs Creek Parkway study area, Tracts 64 and 65 (see Figure 2). The percentage of population considered to be of vulnerable age (i.e., youth under 18 or seniors over 64) was 38.7 percent in Tract 64 and 39 percent in Tract 65, slightly more than Philadelphia's citywide share of 34.7 percent. The median age for each tract—31 years in Tract 64 and 35.1 years in Tract 65—fell on either side of the city's median (33.9 years).

[2] "Recent History," Friends of Mount Moriah Cemetery, friendsofmountmoriahcemetery.org/, accessed July 17, 2017.

Figure 2: Census Tracts near Study Area



The study area is primarily in Tracts 64 and 65 in Philadelphia.

Both census tracts had large African American populations, with 75 percent of those in Tract 64 and 97 percent in Tract 65 identifying as Black only, compared to 43 percent in the city overall. Asians represented another 14 percent of the population in Tract 64, double Philadelphia's share of seven percent. Hispanic or Latino residents of any race made up between one and three percent of the population within the two tracts; this was far less than Philadelphia's 14 percent. The White population was also relatively small: nine percent in Tract 64 and one percent in Tract 65, compared to 42 percent citywide.

Median household income in Philadelphia was $39,770. The median in Tracts 64 ($32,256) and 65 ($26,435) each fell well short of this figure. Both census tracts also had slightly higher rates of poverty (27.4 percent in Tract 64 and 26.6 percent in Tract 65) than the city's rate of 25.9 percent. The study area trended ahead of Philadelphia's 12.5 percent unemployment rate. Tract 64 had a 13.3 percent unemployment rate, while Tract 65's was 19.4 percent.

In both tracts, about 82 percent of residents age 25 and up held at least a high school diploma, matching the citywide rate. However, while just over a quarter of city residents had a bachelor's degree or higher, this figure was far lower in the study area. Only 13 percent of those in Tract 64 had attained a four-year degree, while just nine percent had done so in Tract 65. A concerning trend in this area is the high share of bachelor's recipients who are also in poverty—between 15 and 20 percent of Bachelor's recipients in both tracts fell into this category, compared to just nine percent citywide.

Most residents aged five or older spoke English only—this was the case for 95 percent of residents in Tract 65, but only 75.5 percent of those in Tract 64. About 15 percent of Tract 64 residents spoke English less than "very well."

Residents who are U.S. citizens were as common or more prevalent in the study area than in all of Philadelphia (83 percent). Notably, about 12 percent in Tract 64 were citizens by naturalization. Over half of foreign-born residents from both tracts hailed from Africa, compared to just 10 percent across Philadelphia. In Tract 64, almost a quarter of foreign-born residents hailed from Ethiopia. Another 36 percent were born in Vietnam. About a third of foreign-born residents in Tract 65 came from Liberia. In the same tract, roughly one quarter were born in Jamaica. The top 10 most common countries or regions of origin[3] for foreign-born residents are shown in Appendix A, Table A-2.

[3] U.S. Census Bureau, B05006, "Place of Birth for the Foreign-Born Population in the United States," 2012–16.

Homes along Beaumont Avenue just east of Cobbs Creek Parkway in Philadelphia's Paschall neighborhood.

Tracts 64 and 65 combine to have just over 3,000 households. Average household size was greater in Tract 64 (2.8 persons) than the citywide average of 2.59, while households were smaller in Tract 65 (2.35). Most family households in Tract 64 were headed by single parents, at 63 percent, contrasting with the 48 percent of family households in Philadelphia and 46 percent in Tract 65. (For additional demographic information, see Appendix A.)

Indicators of Potential Disadvantage

DVRPC's Environmental Justice (EJ) methodology uses Indicators of Potential Disadvantage (IPD) to compare the prevalence of disadvantaged population groups within specific census tracts against regional averages. The percentage of residents identifying as one or more racial minorities were well above average in the vicinity of Cobbs Creek Parkway, exceeding 90 percent in both census tracts. Over half of the population also lives in households with income below 200 percent of the national poverty level, significantly exceeding the regional average. Tract 64 had above-average representation of residents with limited English proficiency, foreign-born residents, and youth. In Tract 65, people with one or more physical or mental disabilities were over-represented.

Although it is not considered an IPD, the rate of households without vehicles is of particular concern in the study area. This is the case for 29 percent of households in Tract 64 and 48 percent of households in Tract 65. Citywide, the rate is 31 percent. Many of this report's recommendations focus on making the area around Cobbs Creek Parkway accessible for people on foot, bicycle, or in a wheelchair. The recommendations emphasize making crossings safer, which will also help children, older adults, and people with disabilities. Improving access to the trail will give low-income people more low-cost options for how to move around and access jobs, school, shopping, religious services, and other needs.

Study Timeline

This study took place between June 2017 and June 2018. The project team, which consisted of four Delaware Valley Regional Planning Commission (DVRPC) staff members, conducted background research in July and August 2017, followed by field work in September 2017.

Study Advisory Committee

DVRPC formed a Study Advisory Committee to provide feedback on this project. Representatives from several city, county, and state agencies participated, including:

- Delaware County Planning Department (DCPD)
- Pennsylvania Department of Transportation (PennDOT)
- Philadelphia City Planning Commission (PCPC)
- Philadelphia Managing Director's Office of Transportation and Infrastructure Systems (oTIS)
- Philadelphia Parks and Recreation (Parks and Rec)
- Philadelphia Streets Department (Streets)
- Philadelphia Water Department (PWD)

The Study Advisory Committee met on October 20, 2017, and February 28, 2018.

Public Outreach

DVRPC coordinated with PCPC to identify four local community organizations and sent out an invitation asking to present at one of their meetings. Southwest Community Development Corporation (Southwest CDC) invited the DVRPC project team to present at a community meeting at the Philadelphia Police Department's 12th District Headquarters at 65th Street and Woodland Avenue on December 13, 2017. Approximately 50 community members were in attendance. (See Appendix B for a copy of the survey community members filled out.)

Community members fill out a paper survey at the December 2017 community meeting at the Philadelphia Police Department's 12th District Headquarters.

Community members comment on the draft recommendations at a May 1, 2018 community meeting at the Philadelphia Police Department's 12th District Headquarters.

To supplement the in-person feedback that the team received at the December 2017 meeting, the DVRPC team also created an online survey that was available at bit.ly/cobbscreekparkway from mid-December 2017 through March 2018. The project team did door-to-door flyering to let people know about the online survey. DVRPC staff supplemented this in-person outreach with targeted Facebook ads in ZIP Codes 19142, 19023, and 19050 to increase survey participation.

Overall, 173 neighbors completed the survey, with 134 responses to the web version and 39 paper copies collected at the public meeting. The survey questions that collected demographic information were optional; however, respondents who did share this information were generally older and more predominantly female and White compared to the overall study area demographics. A majority of the respondents who shared their residential ZIP Code resided in the 19143 ZIP Code to the north of the study area (51 percent). Most respondents were both vehicle owners (87 percent) and bicycle owners (74 percent). Most respondents had full-time employment at the time of the survey (68 percent). (See Appendix C for additional information about the demographic characteristics of survey respondents.)

The survey aimed to uncover neighbor sentiments and behaviors, and solicit feedback on desired improvements and changes along Cobbs Creek Parkway, Cobbs Creek Trail, and intersecting streets. Questions ranged from simple word association, to safety ratings across different travel modes, to open-ended inquiries about what would make respondents more likely to walk or bike on the trail.

The first question asked respondents to identify three words to associate with the study area. Responses were mixed but seemed to have primarily negative connotations. Of the roughly 438 individual entries, 298 of them (68 percent) referenced a seemingly negative experience, incident, or recurring issue. Many referred to the parkway area as dangerous (42 entries), unsafe (19), dark (15), and dirty (13). Responses also recalled flooding (21), speeding (21), trash (17), and damaged guiderails (12). However, about 94 entries (21 percent) reflected seemingly positive attributes of the study area, such as its potential (16 entries), scenery (11), beauty (8), and natural features (6). The word cloud in Figure 3 displays these results. The size of each word corresponds to its frequency on the survey.

Figure 3: What three words come to mind when you think of Cobbs Creek Parkway between 60th and 70th streets?

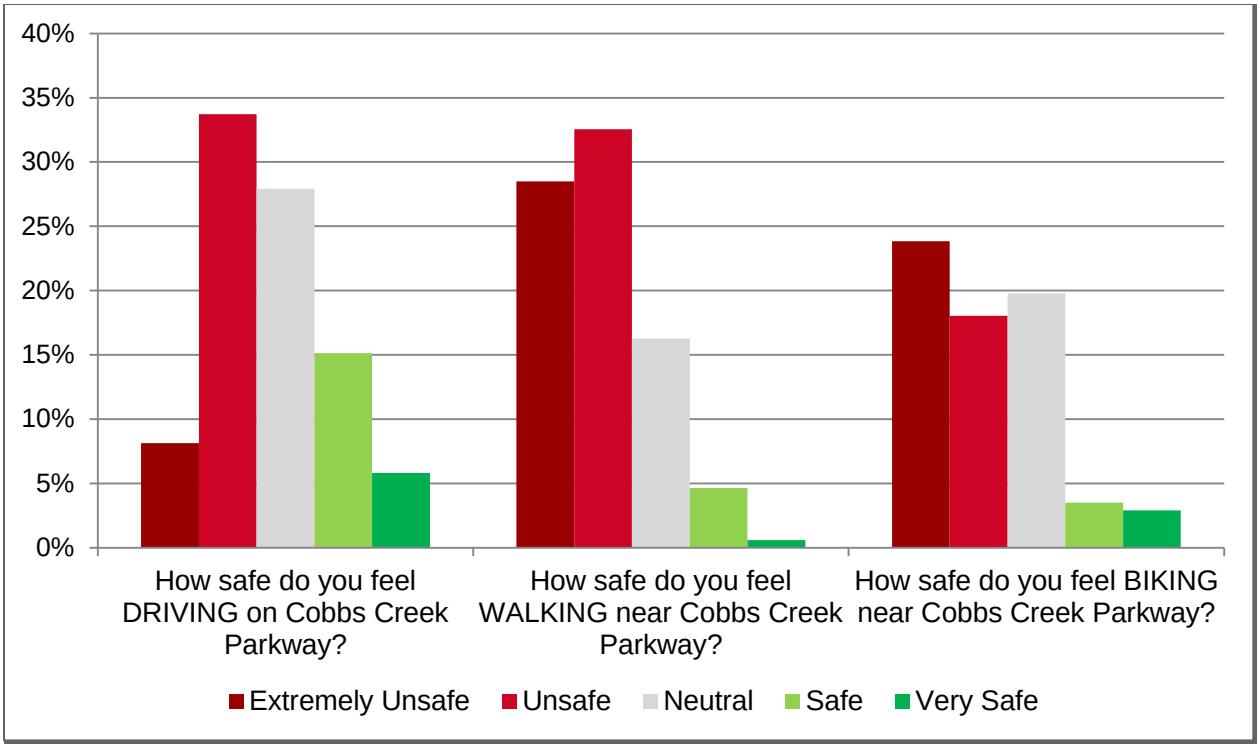
Word cloud generated from aggregated survey responses.

The survey also sought to capture how residents rate safety across different travel modes on and near Cobbs Creek Parkway. Figure 4 displays the results below. Respondents most commonly felt “unsafe” while driving and walking, and “extremely unsafe” while biking. Taken together, it is clear that many neighborhood residents do not feel safe on Cobbs Creek Parkway and Cobbs Creek Trail, no matter how they travel:

- While driving, 42 percent reported feeling unsafe or extremely unsafe, versus 21 percent feeling safe or very safe.
- While walking, 61 percent reported feeling unsafe or extremely unsafe, versus 5 percent feeling safe or very safe.
- While biking, 42 percent reported feeling unsafe or extremely unsafe, versus 6 percent feeling safe or very safe.

The chart below displays survey responses that describe safety across three travel modes—driving, walking, and biking.

Figure 4: How safe do you feel near Cobbs Creek Parkway?

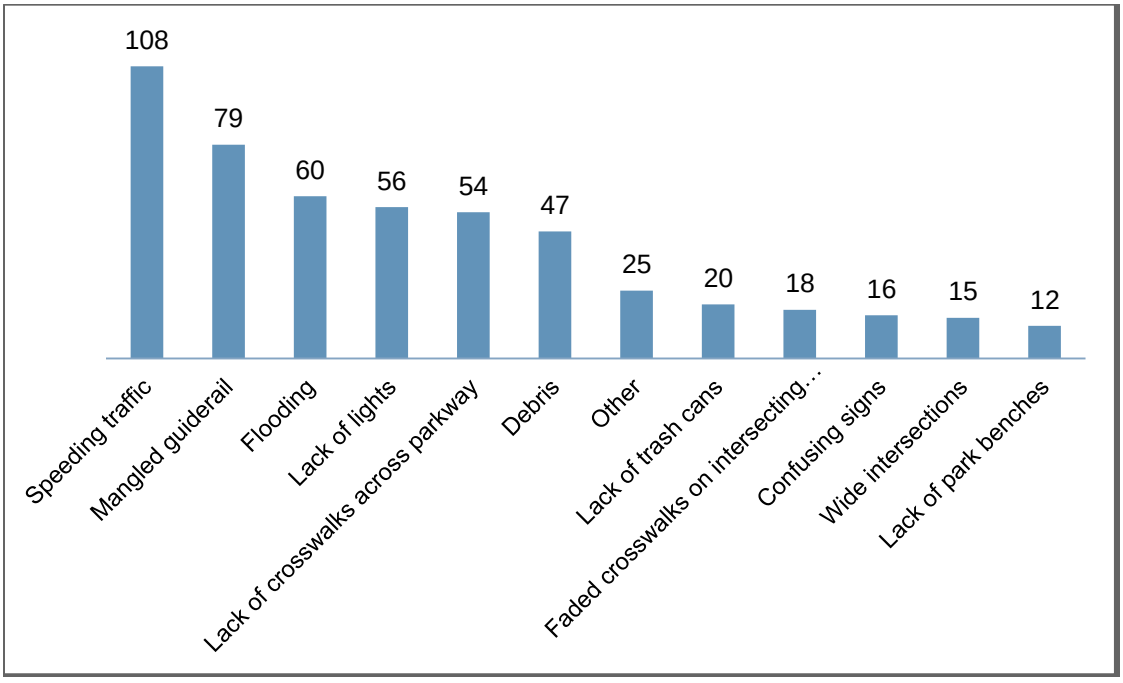


Source: DVRPC, 2018

Mangled guiderail seen west of the Mount Moriah Cemetery entrance in September 2017.

Another question asked residents to identify the biggest issues near Cobbs Creek Parkway from a list of 12 options. The options were based on observations of the study area made during the project team's first site visit. Survey takers could choose their top three options or use the "Other" field to write in an entry. As illustrated in Figure 5, the most agreed-upon issue was speeding traffic, with 108 votes. This represented the majority of respondents, at 62 percent. With 79 votes, just under half listed the mangled guiderail among their top three issues. Flooding (60), lack of lights (56), and lack of crosswalks (54) were ranked in close succession with about a third of respondents listing these concerns.

Figure 5: Ranked List of Biggest Issues Near Cobbs Creek Parkway

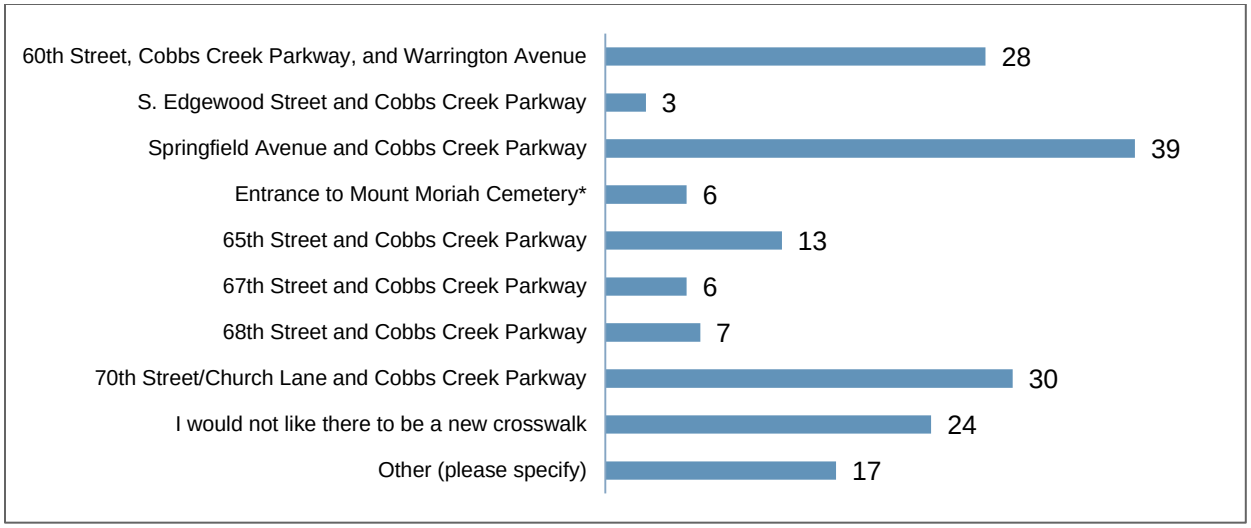


Survey respondents ranked the biggest issues in the study area.

Source: DVRPC, 2018

To further inform the recommendations of this study, the survey asked where residents would prefer a new, safe crosswalk across Cobbs Creek Parkway. Their choice was limited to a single intersection between 60th and 70th streets, or they could write in an "Other" option. Figure 6 shows all of the votes for the location of a new crosswalk. The two most common responses were Springfield Avenue (39 votes; 23 percent) and 70th Street (30 votes; 17 percent). Unlike 70th Street, Springfield Avenue does not have an existing crosswalk. Springfield Avenue is also a convenient transition point for cyclists and pedestrians traveling between the trail and nearby residential neighborhoods, since this intersection sits just north of Mount Moriah Cemetery. The cemetery forms an extensive buffer that limits access to Cobbs Creek Parkway immediately south of Springfield Avenue.

Figure 6: Desired Crosswalk Locations



The chart displays survey votes for desired crosswalk locations. Mount Moriah Cemetery was not provided as a selectable option but appeared multiple times in the write-in "Other" responses.

Source: DVRPC, 2018

The final two questions of the survey were open-response inquiries requesting ideas that would make the study area more pleasant and safe for all users. The prompts were:

- Complete this sentence: *"I would be more likely to walk and/or bike along Cobbs Creek Trail if…"*
- How do you think safety around Cobbs Creek Parkway could be improved?

All responses to both questions were reviewed and categorized. In addition to generating specific implementation ideas and strategies, these questions were designed to further identify which issues were of greatest concern to neighbors. Table 2 shows the topics referenced most often in the open-ended responses.

Table 2: Top 10 Resident Concerns

Topic	Number of independent survey references
Lighting	111
Crime, security, and law enforcement	89
Litter and dumping	72
Guiderails and other ways to protect and separate the trail and sidewalks from the parkway	65
Speeding	60
Vegetative debris and landscaping	49
Amenities and access to the facility	48
Road condition	32
Sidewalks	29
Crossing	29

Source: DVRPC, 2018

CHAPTER 2: Challenges and Opportunities

Challenges

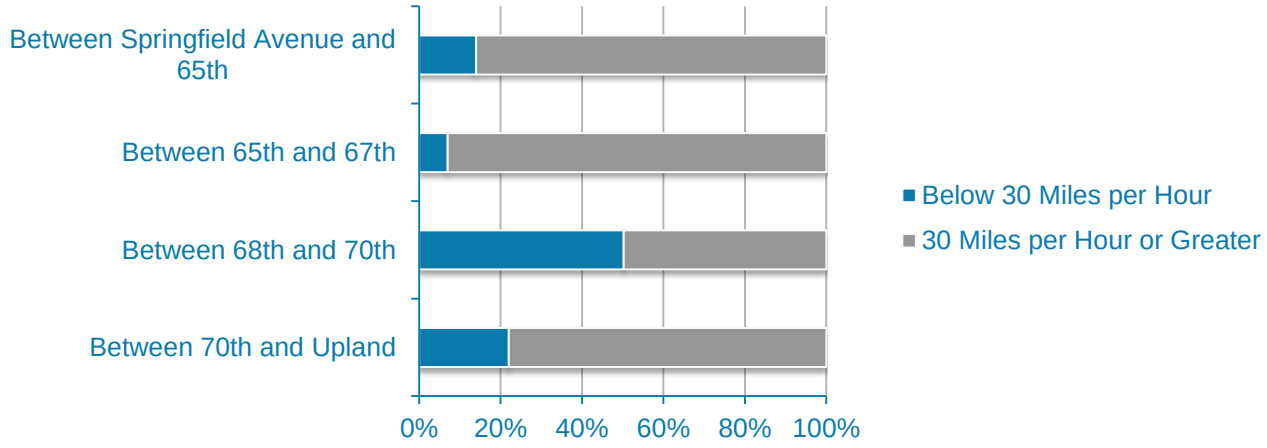
The study area has numerous challenges that make it difficult for people to safely walk or ride their bicycles near Cobbs Creek Parkway. Some of them are infrastructure related, such as complex intersections, whereas others are behavior related, such as drivers speeding or ignoring no truck signs. There are also a variety of natural challenges, like stormwater and flooding, which can exacerbate the other challenges. Challenges include:

- speeding traffic;
- illegal truck traffic;
- guiderail responsibility;
- complex intersections and excessive pavement;
- flooding;
- nearby vulnerable populations;
- unpleasant pedestrian environment;
- lack of safe ways to get across Cobbs Creek Parkway;
- confusing signage;
- aging infrastructure;
- low trail usage;
- multiple jurisdictions; and
- crash trends.

Speeding Traffic

Most vehicles that travel along Cobbs Creek Parkway go faster than the posted 30-miles-per-hour speed limit (Figure 7).

Figure 7: Vehicle Speeds on Cobbs Creek Parkway



Source: DVRPC, 2017

Illegal Truck Traffic

Despite “No Trucks or Buses” signs at several locations, such as a small sign at 70th Street and Cobbs Creek Parkway, Cobbs Creek Parkway is still frequently used by trucks and buses. According to DVRPC 2017 traffic counts, one in 10 vehicles on Cobbs Creek Parkway are trucks and buses.

Small “No Trucks or Buses” sign at the intersection of 70th Street and Cobbs Creek Parkway.

Guiderail Responsibility

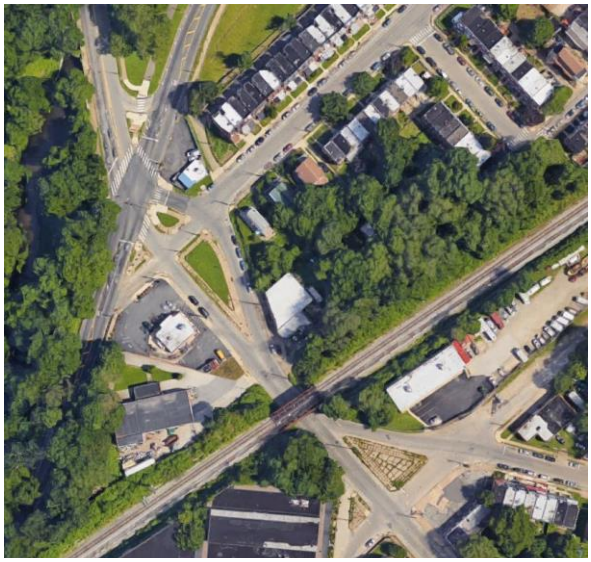
Among the community’s biggest concerns in the study area are several pieces of rusty, mangled guiderail, mostly located near the entrances of Mount Moriah Cemetery. The ownership of the guiderail is in question—neither PennDOT nor Streets feels it is their responsibility. It was installed in the 1980s when extra funding was available but has not been maintained.

Even the purpose of the guiderail is somewhat disputed. PennDOT refers to it as “guiderail,” which is “designed and installed for one primary reason: to reduce the severity of a crash by preventing a motorist from reaching a more hazardous fixed object or terrain feature.”[4] Meanwhile, PPR views the same piece of infrastructure as “guardrail” and views its primary purpose as protecting trail users, such as runners and cyclists, from motor vehicles.

Complex Intersections and Excessive Pavement

Many of the intersections in the study area have multiple legs, creating conflict points and confusing conditions for motorists, bicyclists, and pedestrians unfamiliar with the area.

The existing intersections are extremely wide. For example, the intersection of 67th and Cobbs Creek Parkway is currently a half-acre of pavement. This makes it harder for pedestrians to cross safely and can also cause conflicts between turning vehicles.



Two examples of complex intersections are Cobbs Creek Parkway/Church Lane/70th Street/Chester Avenue and Larry Street/71st Street/Kingsessing Avenue, which all intersect within 650 feet.

Source: Google Maps, 2018

Flooding

Heavy precipitation during major storms leads to flooding in the study area. Cobbs Creek Parkway and other intersecting roads at 70th Street, 65th Street, and near Mount Moriah Cemetery all overlap with Cobbs Creek’s regulatory floodway designated by the Federal Emergency Management Association (FEMA). Obstructions, including the road, bridges, and other forms of development, restrict the water channel and discharge, thereby increasing water surface elevation and quickening overflow conditions during and after storms. Urban development on either side of Cobbs Creek has also “disconnected it from its historic floodplain,” reduced nearby wetland coverage, and altered the equilibrium of sedimentation and erosion to sediment transport. The current hydrologic profile decreases the

[4] Pennsylvania Department of Transportation, *Roadside Safety Pocket Guide 2010 Edition*, PUB 652 (12-10), www.dot.state.pa.us/public/pubsforms/Publications/Pub%20652.pdf, accessed November 1, 2017.

time to peak flow and increases the concentration of peak flow.[5] Higher rates of impervious surface cover are linked to increased magnitude and frequency of severe floods and erosion, reduced groundwater recharge, and greater stream velocities during storm events.[6]

The 2004 Cobbs Creek Integrated Watershed Management Plan lists six flood-prone areas along this stretch of the parkway.[7] Most of the study area is within the 100-year floodplain, including the intersection at Church Lane and 70th Street, and all of Cobbs Creek Parkway from just south of the 65th Street bridge, through Mount Moriah Cemetery, and north to Springfield Avenue. The stretch from Springfield to 60th Street is within the 500-year floodplain. Only a small segment near where 68th and 67th Streets meet the parkway sits completely outside of the floodplain. As it collects rainwater and runoff in such an event, Cobbs Creek rises higher and may spill over onto the parkway and neighboring properties. Blocked outfall pipes and debris-clogged inlets can also leave a large volume of water on the trail, sidewalks, and streets. Therefore, most of the parkway can become impassable by vehicles, pedestrians, and cyclists due to severe rain and inadequate capacity and performance by stormwater infrastructure.

Some of these flooding problems result from undersized storm culverts or unstable outlets that traverse the road. The cost to replace pipes is typically borne by the owner of the road.[8]

Nearby Vulnerable Populations

As referenced in Chapter 1, many vulnerable populations live within the study area. Non-White residents make up over 90 percent of the population in both census tracts. Over half of the population also lives in households with income below 200 percent of the national poverty level, significantly exceeding the regional average. Tract 64 had above-average representation of residents with limited English proficiency (15 percent), foreign-born residents (17 percent), and youth (31 percent). In Tract 65, people with one or more physical or mental disabilities were over-represented (17 percent). Many households do not have access to a vehicle, including 29 percent in Tract 64 and 48 percent in Tract 65.

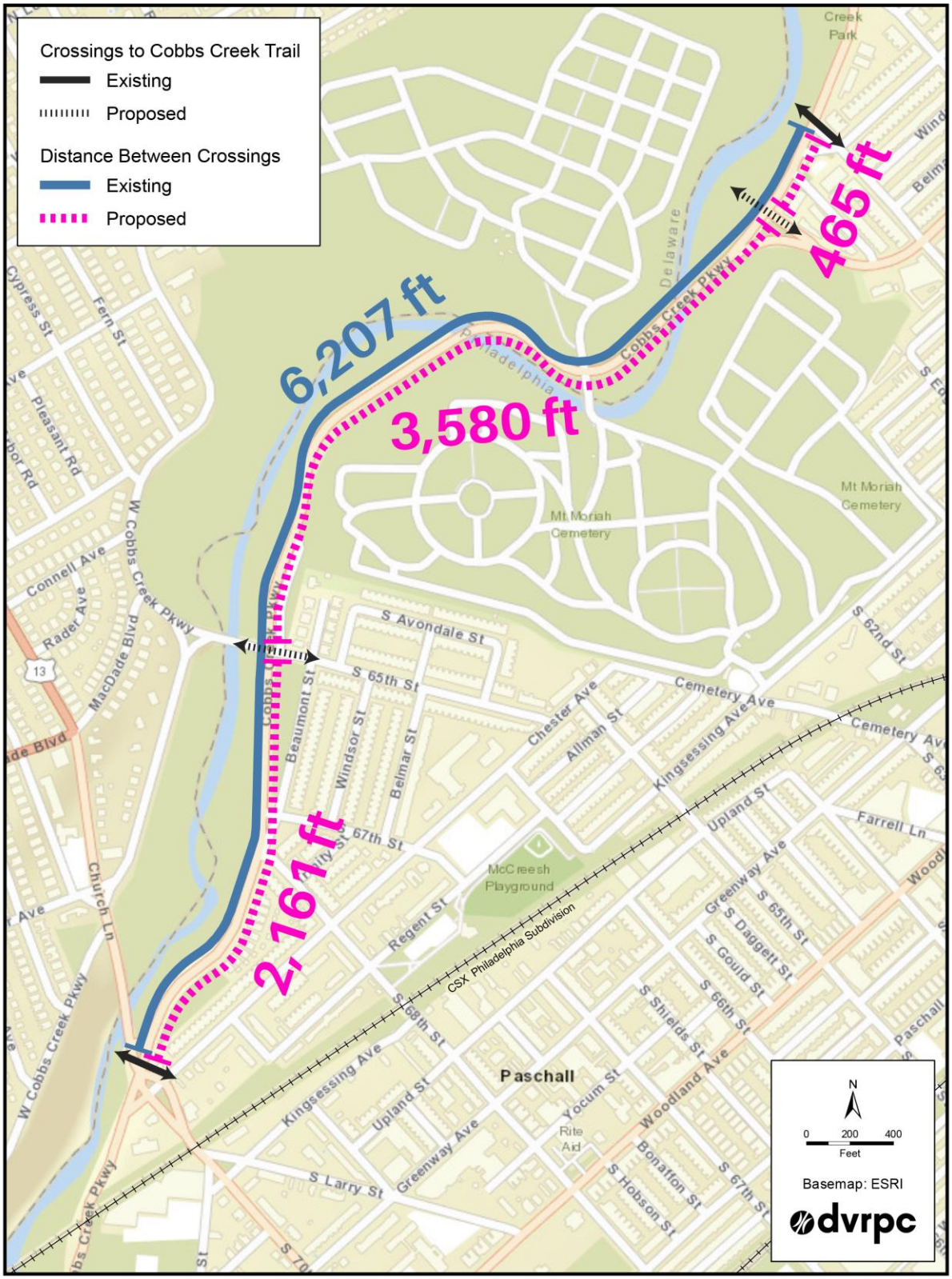
Unpleasant Pedestrian Environment

There are a variety of factors that contribute to an unpleasant walking environment near Cobbs Creek Parkway and Cobbs Creek Trail. A sampling of these include:

- lack of sidewalks in certain locations, particularly the north side of 70th Street between Chester Avenue and the CSX trestle;
- faded crosswalks, such as at 68th Street;
- trash/litter;[9]
- police caution tape that is not cleaned up after an incident is over;
- fallen trees blocking the trail or sidewalk;
- cars parked on sidewalks, which creates challenging conditions for pedestrians, people in wheelchairs, or people with strollers to get by;
- sidewalks that end abruptly on the 65th Street bridge; and
- no stairs or ramps to get to the Cobbs Creek Trail from the 65th Street bridge.

[5] www.phillywatersheds.org/doc/Darby_Cobbs_WMP.pdf, p. 6-4.
[6] www.phillywatersheds.org/doc/Darby_Cobbs_WMP.pdf, p. 4-14.
[7] www.phillywatersheds.org/doc/Darby_Cobbs_WMP.pdf, p. 4-57.
[8] www.phillywatersheds.org/doc/Darby_Cobbs_167.pdf.
[9] Roadside littering/dumping is enforceable with a $300 fine according to PA Vehicle Code, Title 75, Chapter 37.

Figure 8: Existing and Proposed Crossings to Cobbs Creek Trail



The entire 1.2-mile stretch of Cobbs Creek Parkway between 60th Street and 70th Street lacks crosswalks to safely get to the Cobbs Creek Trail on the west side of Cobbs Creek Parkway. There is an opening in the guiderail across from the DaVita Dialysis near 60th Street, but there is no crosswalk.

Lack of Safe Ways to Get across Cobbs Creek Parkway

Despite having a popular recreational amenity, the Cobbs Creek Trail, located on the west side of Cobbs Creek Parkway, there is not a single crosswalk along the 1.2-mile stretch between 60th Street and 70th Street for pedestrians to legally cross Cobbs Creek Parkway (see Figure 8). This means that people who want to jog, bike, or walk their dogs have to dash across two lanes of traffic—with vehicles sometimes traveling over 45 miles per hour—to get to the trail on the other side. The recommendations in Chapter 3 propose two additional crossings to safely get to Cobbs Creek Trail.

Confusing Signage

There are a multitude of signs along Cobbs Creek Parkway, including street name signs, speed limit signs, and warning signs. With Cobbs Creek Trail on one side and homes on the other side, Cobbs Creek Parkway has much in the way of trees and vegetation. This leads to many signs being covered by the foliage and rendered unreadable. There are also instances of signage placed incorrectly, such as the chevrons along the slip ramp to Springfield Avenue (which have since been corrected). There are also contradictory signs along the corridor. Cobbs Creek Parkway is signed as “No Trucks” yet has parking signs with time restrictions for trucks along the corridor. The confusing and sometimes hidden signage can lead motorists to miss or dismiss the signage.

Aging Infrastructure

The project team noticed aging infrastructure (see Figure 7), which is unsurprising given that many of seven bridges in the study area are nearly 100 years old. The 65th Street bridge was built in 1926 (see Figure 9) and is listed as functionally obsolete. Not only is the bridge itself in disrepair, but the physical roadway is not able to accommodate multi-modal traffic that uses it. Aside from the bridges, there are historic structures which are in disrepair. This includes the wall along Cobbs Creek Parkway along the slip ramp to 65th Street. The wall is in general need of repair, as well as having damage due to being struck near the intersection of the slip ramp and Cobbs Creek Parkway. Below are several examples of the aging infrastructure along with a table for the current condition of the existing bridges along the parkway (Figure 9, Figure 10, Table 3).

Figure 9: Underside of the Aging 65th Street Bridge

Rebar pokes out of the underside of the functionally obsolete 65th Street Bridge above the Cobbs Creek Trail, September 2017.

Figure 10: Historic Photo of 65th Street Bridge Shortly after Construction

This historic photograph from 1927 shows the 65th Street bridge over Cobbs Creek Parkway shortly after the bridge was built in 1926.

Source: PhillyHistory.org, Philadelphia Department of Records. www.phillyhistory.org, accessed June 18, 2018.

Table 3: Study Area Bridges

Bridge	Feature Below	Year Built	Year Reconstructed	Length	Deck Width	Design	Condition Rating	Bridge Owner	Maintenance Responsibility	Bridge Key
65th Street	Cobbs Creek	1906		46.0	38.0	Arch-Deck	Structurally Deficient	State Highway Agency	PennDOT	39000
65th Street	Cobbs Creek Parkway	1926		106.0	60.1	Stringer/Girder	Functionally Obsolete	State Highway Agency	PennDOT	39001
70th Street	Cobbs Creek	1948		96.0	62.3	Stringer/Girder	Not Deficient	City, Municipal, Highway Agency, or Borough	PHILA-DEL CITY JOINT	39249
Church Lane	Cobbs Creek	1949		84.0	62.3	Stringer/Girder	Structurally Deficient	County Highway Agency	Philadelphia Primary	15397
Cobbs Creek Parkway	Cobbs Creek	1924	2012	80.0	60.0	Arch-Deck	Structurally Deficient	State Highway Agency	Combination	38975
Cobbs Creek Parkway	Cobbs Creek	1924		86.0	60.0	Arch-Deck	Not Deficient	State Highway Agency	PennDOT	38976
Mount Moriah Cemetery	Cobbs Creek	1929		46.0	37.0	Arch-Deck	Not Deficient	City, Municipal, Highway Agency, or Borough	Philadelphia Streets Department	39259

Source: PennDOT, 2016

Low Trail Usage

Cobbs Creek Trail has low trail usage (see Tables 4 and 5). This makes investment a chicken-and-the-egg scenario: should the city make investments based on the number of users the trail currently has, or would additional investments generate more trail users?

Table 4: Cobbs Creek Trail at Edgewood Street

Time of Day	Northbound Pedestrian	Northbound Bike	Southbound Pedestrian	Southbound Bike	TOTAL
6:00 AM – 9:00 AM	9	3	5	4	21
11:00 AM – 1:00 PM	8	1	1	4	14
3:00 PM – 6:00 PM	2	0	3	0	5
TOTAL	19	4	9	8	40

Source: DVRPC, 2017

Table 5: Cobbs Creek Trail at 68th Street

Time of Day	Northbound Pedestrian	Northbound Bike	Southbound Pedestrian	Southbound Bike	TOTAL
6:00 AM – 9:00 AM	3	0	5	5	13
11:00 AM – 1:00 PM	1	2	1	4	8
3:00 PM – 6:00 PM	2	3	1	2	8
TOTAL	6	5	7	11	29

Source: DVRPC, 2017

Multiple Jurisdictions

Cobbs Creek Parkway is a PennDOT-owned roadway located in the City of Philadelphia with adjacent roadways and features in Delaware County. The location of Cobbs Creek Parkway creates a need for multiple jurisdictions to work together on projects along the parkway. To add to the complexity, multiple departments, agencies, and volunteer groups within the City of Philadelphia are involved with different pieces of the parkway. PPR, Streets, and PWD all own and maintain infrastructure nearby. Collaboration between jurisdictions, departments, and agencies is of great importance to any project along the corridor.

Crash Trends and Issues

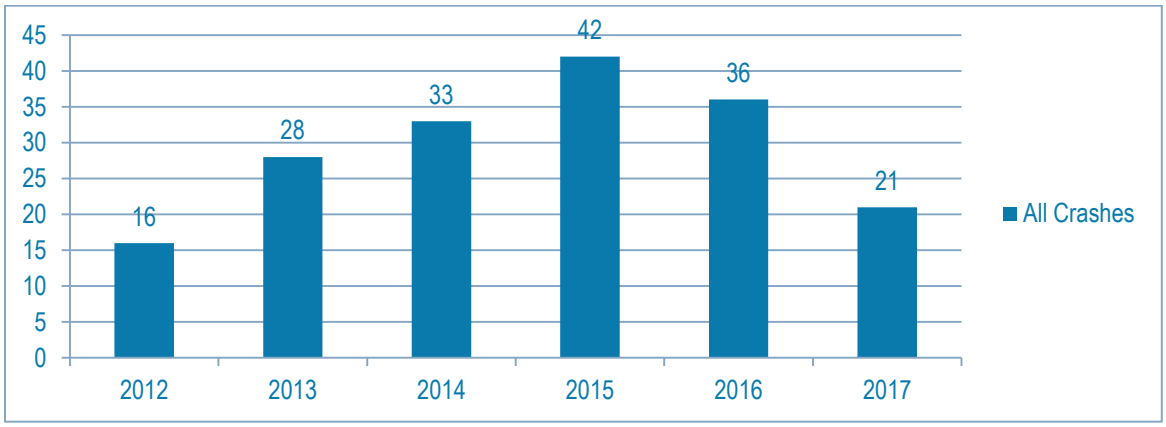
PennDOT crash data was used to analyze the crash experience within the study area. The crash data was primarily limited (except where otherwise noted) to reportable crashes covering the five-year span from 2012 to 2016, the most recent years for which crash data was available at the time of the analysis. During this period, 155 total crashes occurred within the study area. The 155 crashes include 133 crashes on Cobbs

Creek Parkway, as well as five crashes assigned to intersecting streets at intersections with Cobbs Creek Parkway. It also includes 17 crashes that occurred on the 65th Street bridge over Cobbs Creek Parkway.

The 155 crashes within the study area from 2012 to 2016 involved 413 people. Of these people, three sustained serious injuries, 27 experienced injuries of moderate severity, and 90 people had injuries of unknown severity. There were no fatalities. The three serious injuries were sustained across three separate crash events at the intersections of Cobbs Creek Parkway and 60th, 67th, and 68th streets. Cobbs Creek Parkway is not part of the City of Philadelphia's High Injury Network, which identifies the streets with the greatest number of severe injury and fatal crashes. It is important to note, however, that this metric does not account for conditions like those along this section of Cobbs Creek Parkway that are inhospitable to pedestrians and bicyclists and may discourage greater use of the parallel trail. As the trail becomes more accessible to these users, safety investments will become even more critical (see section on "Vulnerable User Crashes" below).

The number of reportable crashes that occurred within the study area rose year over year from 2012 to 2015 (see Figure 11). There were 16 crashes in 2012 and 42 crashes in 2015—a marked increase, although it appears that 2012 was an abnormally low year and 2015 was abnormally high, which might make it look like a stronger trend than it really is. In 2016, the number of crashes dipped slightly from the 2015 peak to 36. On average, 31 reportable crashes occurred annually in the study area over the five-year period.

Figure 11: Crash Trend, 2012–2017



Source: PennDOT, 2017

Collision Types

Collision types differ from the typical profile of crashes in the City of Philadelphia. The most common types of crashes in the study area were hit fixed object (23 percent), opposite direction sideswipe (18 percent), angle (18 percent), and rear-end (17 percent). Head-on crashes accounted for 12 percent of all crashes. As shown in Table 6, these collision profiles show substantial over-representations of hit fixed object, opposite direction sideswipe, and head-on collisions when compared to the incidence of these collision profiles across the City of Philadelphia. Despite accounting for nearly one-fifth of crashes in the study area, angle crashes were substantially lower here than in Philadelphia citywide.

Table 6: Environmental Conditions and Collision Types

	Study Area Crashes	All Crashes in Philadelphia
Dark Conditions	42%	36%
Wet Conditions	39%	17%
Hit Fixed Object	23%	12%
Angle	18%	34%
Sideswipe (Opp. Dir.)	18%	2%
Head-on	12%	2%
Hit Pedestrian	1%	14%

Source: PennDOT, 2012-2016

Hit fixed object crashes were the most common collision profile in the study area. Forty percent of these crashes occurred along the roadway curves where Cobbs Creek Parkway passes through Mount Moriah Cemetery. Of the 35 hit fixed object crashes in the study area, 13 were hit guiderail crashes. Even more than hit fixed object crashes, opposite direction sideswipe crashes were heavily concentrated along the curved stretch of Cobbs Creek Parkway through Mount Moriah Cemetery. Angle and rear-end crashes, however, were more common at intersections, especially at 70th Street, 68th Street, and 67th Street for rear-end crashes, and along the 65th Street bridge for angle crashes.

All three serious injury crashes occurred in intersections: at 68th Street, 67th Street, and 60th Street. The 60th Street crash occurred in 2012 and involved four vehicles, resulting in one major, one moderate, and one minor injury; it was primarily an angle crash under wet, rainy conditions. The 67th Street crash was an opposite direction sideswipe in 2014 involving two vehicles in dark conditions. It resulted in one major and one minor injury. The 68th Street crash was the most recent of the major injury crashes, in February 2016. It involved two vehicles in a head-on collision under dark conditions, resulting in one major injury and one injury of unknown severity.

Vulnerable User Crashes

A key focus of this study is to improve road conditions on Cobbs Creek Parkway for the most vulnerable road users, particularly pedestrians and bicyclists. The study area has a low incidence of pedestrian crashes when compared to Philadelphia citywide (1 percent of crashes versus 14 percent). Several factors may help to account for this. For one, the installation in 2005 of the Cobbs Creek Trail provided a fully separated bicycle and pedestrian facility parallel to the roadway. Access to the multiuse trail is limited to two crosswalks at 70th Street and 59th Street, which are 1.32 miles apart along the trail. This limited access and the dangerous conditions along the roadway may discourage many pedestrians and bicyclists from accessing the trail and parkway, which would result in fewer crashes involving these users along the roadway.

In the 10-year period from 2007 to 2016, there were four crashes involving pedestrians and two involving bicyclists, which led to one major, two moderate, one minor, and two injuries of unknown severity. Both bicycle crashes occurred in 2015. One was located at the intersection of Church Lane and 65th Street; a vehicle making a right turn sideswiped a bicyclist traveling straight. The other occurred on the west approach to the 65th Street bridge at 65th Street and Chester Avenue; a bicyclist was struck while traveling north by a vehicle traveling east.

Three of the four pedestrian crashes occurred at intersections: 60th Street, Springfield Avenue, and 70th Street. The pedestrian struck at 60th Street sustained a major injury. The pedestrians struck at Springfield Avenue and 70th Street sustained moderate injuries. One crash involved a pedestrian struck at a non-

intersection location between 67th Street and the 65th Street bridge. This pedestrian sustained an injury of unknown severity.

Fortunately, there were no fatalities in crashes involving vulnerable users within the study area in the last 10 years. One pedestrian sustained a major injury, though, which is a concern given the low number of total vulnerable user crashes. If interest in the Cobbs Creek Trail increases, which is likely to happen as the planned extension to the trail is completed, it is likely that there will be more opportunities for vulnerable user crashes. A rate of one major injury in six crashes could portend an alarming trend. The data of vulnerable user crashes over the last 10 years, while small, suggests that safety investments to protect vulnerable users should be focused at intersections, where the majority of vulnerable user crashes occur.

Additional Crash Characteristics

Between 2012 and 2016, there was a substantial over-representation of crashes occurring under dark conditions and wet and rainy conditions. Crashes under wet conditions occurred at over twice the rate of wet conditions crashes citywide. Wet conditions crashes were prevalent, including the curve at Mount Moriah Cemetery and major intersections. Crashes under dark conditions are similarly common.

The greatest spikes in crashes occurred in May (13 percent of crashes) and November (12 percent). Crashes were at their lowest in July (5 percent). Crashes were spread throughout the week; Thursday, Saturday, and Sunday had the highest proportion of crashes (17 percent each). Midday and nighttime were also relatively high compared to the incidence of crashes in the morning. Fewer crashes occurred in the morning peak compared to the afternoon peak.

PennDOT Road Safety Initiatives

PennDOT has identified the study area as a focus roadway under several different crash cluster types. In 2017, these included curve driver error, hit fixed object, curved road, illumination-dark, single vehicle run off road, hit guiderail, head-on/opposite direction sideswipe, and non-intersection crashes. The study area was also part of a 2015 wet pavement cluster.

In order to address this high crash trend, PennDOT used federal Highway Safety Improvement Program (HSIP) funds to install high-friction surface treatment (HFST) from 70th Street to Pentridge Street, a stretch that includes the study area. The HFST was installed in September 2016. The treatment included a base repair followed by the application of a high-friction epoxy aggregate overlay, which helps motorists maintain better control in response to wet conditions or curved roadway geometry.[10] Pavement markings were included to encourage drivers to slow down as they approach curves in the roadway. In some locations along Cobbs Creek Parkway, however, the HFST is showing signs of wear and tear and may require repair work.

Update on 2017 Crash Data

Prior to publication of this report, 2017 crash data became available. 21 crashes occurred in 2017: nine minor injury crashes, four non-injury crashes, and eight crashes of unknown injury severity. This marks a five-year low and suggests that the HFST is improving safety at the curves, which experience significantly fewer opposite direction sideswipes. Rear-ends were the most prevalent crash type in 2017.

[10] FHWA, “High Friction Surface Treatments (HFST),”. safety.fhwa.dot.gov/roadway_dept/pavement_friction/high_friction/, accessed February 27, 2019.

Opportunities

Despite the numerous challenges identified above, the study area also presents numerous opportunities for improvement. There are opportunities to:

- beautify a gateway to Philadelphia,
- enhance bicycle and pedestrian safety,
- improve trolley connections during Trolley Modernization,
- incorporate GSI, and
- take advantage of East Coast Greenway.

Beautify a Gateway to Philadelphia

Two intersections in the study area—65th Street and Church Lane—serve as gateways from Delaware County to the City of Philadelphia (see Figure 12).

Figure 12: Church Lane Looking East

Church Lane is a gateway to the City of Philadelphia.

Enhance Bicycle and Pedestrian Safety

Recent years have seen increased interest in promoting safety for pedestrian and bicyclist safety both locally and nationally. Vision Zero is an international movement with the goal of eliminating traffic fatalities, especially by slowing vehicles and protecting "vulnerable road users"–pedestrians, bicyclists, and people with disabilities. Philadelphia adopted Vision Zero in 2016, joining 26 other American cities with Vision Zero policies. This resulted in a three-year action plan that outlines ways to install traffic calming infrastructure and other strategies to increase safety for all in the city.

The adoption of Vision Zero comes on the heels of other efforts to improve bicycle and pedestrian safety in the city. PCPC adopted a pedestrian and bicycle plan in 2012. In 2013, in fulfillment of an executive order from 2009, the city adopted a *Complete Streets Handbook*. These efforts reflected recognition of growing interest in walking and biking in the city and across the country. "Active transportation," as these forms of transportation are sometimes called, has numerous benefits to both individuals and the city, including to improved public health, reduced carbon emissions, and reduced congestion. Improving safety for pedestrians and bicyclists is essential to encouraging more people to participate in "active transportation." Fortunately, safety and greater engagement are self-reinforcing; the old mantra of "safety in numbers" has been shown to apply strongly to pedestrian and bicyclist safety.

Improve Transit Connections during Trolley Modernization

The study area is served by five Southeastern Pennsylvania Transportation Authority (SEPTA) transit routes (see Table 7).

SEPTA's 108 bus traveling northbound on Chester Avenue.

- The **Route 13 trolley** travels from 13th and Market Streets in Center City to Yeadon and the Darby Transportation Center along Chester Avenue, Kingsessing Avenue, and 65th Street.
- The **Route 11 trolley** travels from Center City to Darby Transportation Center along Woodland Avenue.
- The **108 bus** travels from the Philadelphia International Airport and Airport Business Center to 69th Street Transportation Center in Upper Darby. Near the study area, it travels northbound along 65th Street, Woodland Avenue, 68th Street, Chester Avenue, and Church Lane into Yeadon.
- The **68 bus** travels from Broad-Oregon to 69th Street Transportation Center in Upper Darby (at certain times of day, this bus also expresses from Broad and Oregon to the UPS facility near the Philadelphia International Airport). The bus travels northbound along Island Avenue, along the Cobbs Creek Parkway through the intersection with 70th Street, and then along Church Lane into Yeadon.
- The **G bus** travels from Overbrook and Lankenau Medical Center in Montgomery County to Columbus Commons or Food Distribution Center in southeastern Philadelphia. Near the study area, it passed along 58th Street through Kingsessing.[11]

SEPTA's Route 13 trolley traveling west on 65th Street toward Yeadon.

Over the next decade, SEPTA plans to modernize the trolley system with new vehicles, improved stops and stations, and better streetscaping along corridors. Trolleys will become compliant with the Americans with Disabilities Act (ADA) allowing for more convenient use by people in wheelchairs or with other special accessibility needs. Station areas will be expanded and made safer for pedestrians, although stops will be consolidated to accommodate the larger boarding zones and improve system efficiency. GSI is recommended to be integrated into station design. The modernization effort will improve transit accessibility in the Cobbs Creek Parkway study area. Cobbs Creek Trail will become easier to reach by trolley for people with disabilities, putting further emphasis on the imminent need for a more safe and pleasant environment.

[11] SEPTA, "Schedules," septa.org/schedules/, accessed January 1, 2018.

Table 7: SEPTA Route Statistics

Route	Mode	Service Span	One-Way Route Miles (Avg)	Daily Average Ridership	Daily Ridership Rank	Peak Vehicles	Operating Ratio	On-Time Percentage
11	Trolley	4:30AM—2:00AM	6.7	14,822	8th (City Transit Division)	16	39%	80%
13	Trolley	24 Hours	7.0	14,512	9th(City Transit Division)	18	34%	83%
68	Bus	Weekdays: 3:00AM—4:00AM, Saturdays: 3:00AM—12:00AM, Sundays: 5:00AM—12:00AM	22.4	1,985	78th (City Transit Routes)	4	18%	79%
108	Bus	24 Hours	16.2	5,217	3rd (Suburban Transit Routes)	10	34%	78%
G	Bus	24 Hours	14.3	15,011	6th (City Transit Division)	30	32%	76%

Source: SEPTA. SEPTA Route Statistics 2017. Available online: septa.org/strategic-plan/reports/route-statistics.pdf (Accessed August 15, 2017).

Incorporate GSI

As an older city largely developed before it was common to separate sanitary sewers from storm sewers, Philadelphia struggles with combined sewer overflows, where sewage enters creeks and rivers after rain storms because the volume of water is too large for the wastewater treatment plant to handle. PWD's *Green City, Clean Waters* plan is designed to reduce this stormwater pollution through the use of green infrastructure. Plants like trees, shrubs, and grasses can soak up some of the rainwater and filter it before it winds up in Cobbs Creek.

PWD identified the Paschall neighborhood as an area of opportunity for implementing additional green infrastructure. If this is done in tandem with roadway improvements, there is the potential to access additional funding to implement improvements. PWD has installed GSI in neighborhoods north of the study area (see "A Virtual Walking Tour: Cobbs Creek Green Improvements," available online at: phl-water.maps.arcgis.com/) and has plans to install additional facilities northeast of the study area in Kingsessing and at the Francis Myers Rec Center, as well as southeast of the study area in Elmwood.

Take Advantage of East Coast Greenway

Cobbs Creek Trail is part of the East Coast Greenway, which is a trail that is being constructed from Maine to Georgia. As more and more segments of this trail are completed, there will be more people walking, biking, or jogging along this trail, which means more potential customers for local businesses. Trails are proven to increase economic activity in the immediate vicinity.[12]

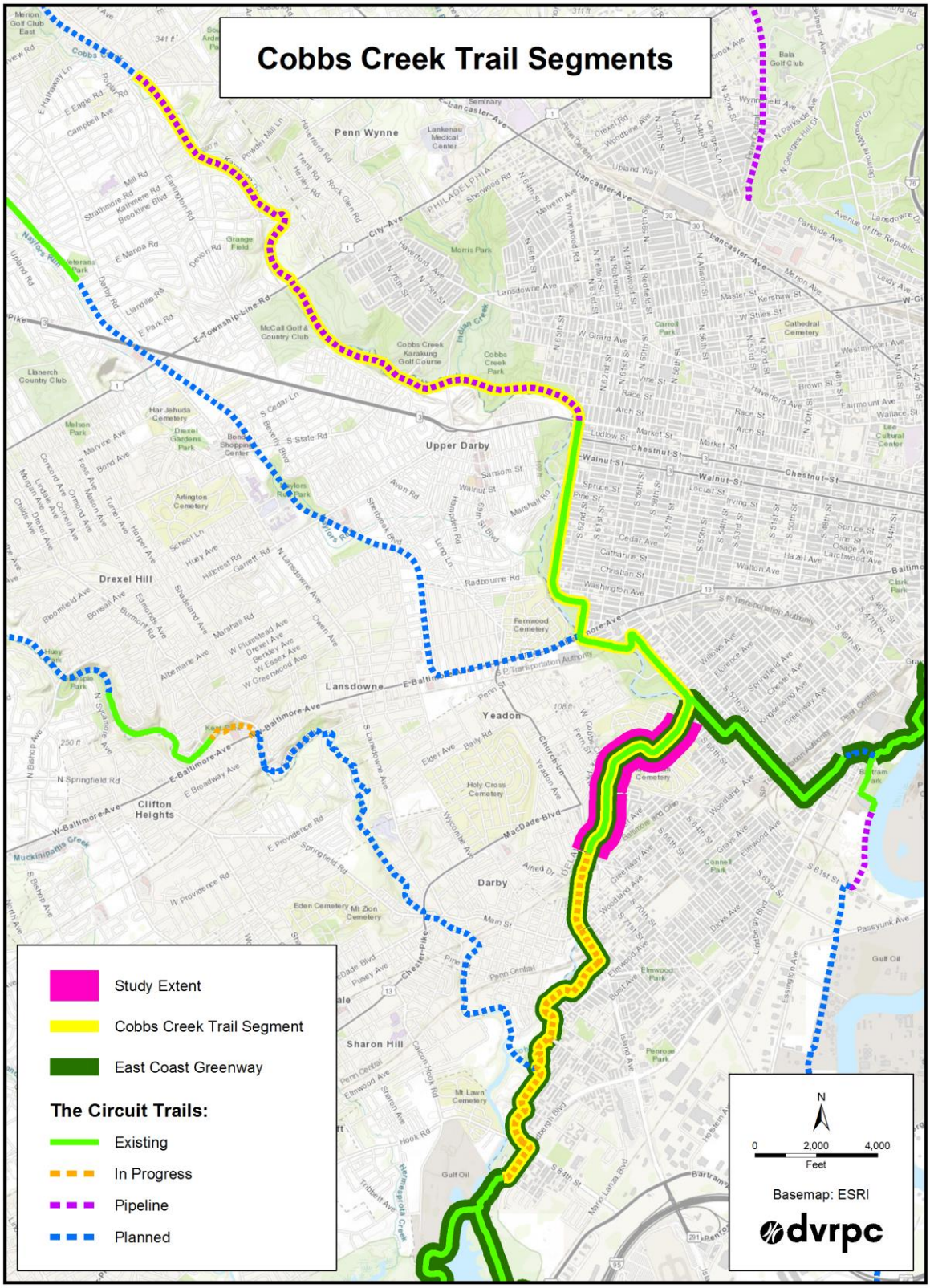
[12] DVRPC, *The Economic Value of Open Space*, www.dvrpc.org/openspace/value/, accessed August 30, 2018.

There is a gap in the trail between 70th Street and 77th Street (also known as Cobbs Creek Trail Connector A, Cobbs Creek Trail Connector B, and Cobbs Creek Trail Connector B Phase 2). There are off-road paths in Eastwick Park, and then there are two more gaps (Cobbs Creek Trail - C - Chelwynde to 8nd and Cobbs Creek Trail D) before the trail reaches the John Heinz National Wildlife Refuge.[13] According to the Philadelphia Trail Plan 2018 Update, "Design work by PPR for various Cobbs Creek Trail segments continued to move forward. Final design for Segment A is moving forward and Segment D has finished its preliminary design while B.1 received funding in late 2017 for both design and construction from the Department of Conservation and Natural Resources."[14] (Figure 13 highlights the Cobbs Creek Trail Segments.)

Sign indicating that the Cobbs Creek Trail is part of the East Coast Greenway at the intersection of 70th and Cobbs Creek Parkway.

[13] DVRPC, "The Circuit Trails," www.dvrpc.org/webmaps/thecircuit/, accessed July 17, 2017.
[14] Philadelphia City Planning Commission, *Philadelphia Trail Plan 2018 Update,* www.phila.gov/CityPlanning/plans/Pages/TrailsMasterPlan.aspx, accessed August 30, 2018.

Figure 13: Cobbs Creek Trail Segments



CHAPTER 3: Recommendations

This study includes three types of recommendations: Corridor-Wide, Trail, and Intersection-Specific. A table of these recommendations, which includes the implementing agency, can be found in Table 9.

Corridor-Wide Recommendations

1. **Enforce "no trucks or buses" rule on Cobbs Creek Parkway between Woodland Avenue and 58th Street *(see also Outside of Study Area Recommendations 1 and 2).***

Approximately 10 percent of the current traffic on Cobbs Creek Parkway in the study area is trucks, although there are signs prohibiting trucks from using the street. Residents claim that trucks are using the parkway as a north-south cut-through on their way to and from I-95 and the airport. Enforcing the "no trucks or buses" rule would decrease traffic and make pedestrians and bicyclists feel safer.

2. **Reduce truck traffic on Cobbs Creek Parkway by reporting truck restriction status to Global Position System (GPS) navigation providers.**

The City of Philadelphia should create a comprehensive truck route network and identify restrictions. This data can then be provided to navigation data providers for inclusion in their data sets. Removing Cobbs Creek Parkway from commercial GPS directions[15] would reduce truck traffic and make bicyclists and pedestrians feel safer. Since Cobbs Creek Parkway has posted restrictions on commercial truck traffic, neighbors may report violations to the Federal Motor Carrier Safety Administration National Consumer Complaint Hotline at 1-888-368-7238. Callers should be prepared to provide a license plate number and company name for each incident. The maximum federal penalty for failing to comply with a posted route restriction is $11,000 for a company, $2,750 for a driver.

3. **Install durable two-way raised retroreflective pavement markers (RRPMs) along Cobbs Creek Parkway centerline.**

Reflective markers improve visibility and safety for drivers at night and in bad weather, such as rain, fog and snow. (See *Manual of Uniform Traffic Control Devices* [MUTCD], Section 3B.12 - Section 3B.14.)

4. **Prune trees and vegetation regularly.**

Vegetation growth can block signage and lighting, which can reduce safety for drivers, bicyclists, and pedestrians. Pruning trees and other vegetation regularly will enable drivers to see safety signage, and will increase the amount of light that reaches Cobbs Creek Trail. (Sixty-six of the 173 survey responses mentioned a desire for improved lighting on the trail.) Pruning existing vegetation is a low-cost way to increase lighting.

Trees cover the left-turn sign onto 65th Street from southbound Cobbs Creek Parkway.

[15] National Coordination Office for Space-Based Positioning, Navigation, and Timing, "How to Report Residential Truck Traffic Due to Improper Route Suggestions," www.gps.gov/support/user/mapfix/truck-traffic/, accessed August 30, 2018).

5. Conduct regular GSI maintenance.

Several residents indicated that they do not like GSI because it becomes overgrown, sometimes to the point that it blocks sight distances at intersections in the northern portion of the study area, such as Springfield Avenue. Conducting regular GSI maintenance in line with PWD's *Green Stormwater Infrastructure Planning and Design Manual*[16] will ensure that these systems are functioning properly and will prevent neighbors from becoming upset.

Existing GSI at the corner of Springfield Avenue and Cobbs Creek Parkway.

6. Reduce flooding.

Philadelphia's sewer system was originally built in the late 1800s and early 1900s. Since then, the amount of pavement in our city has increased. Rain that used to soak into the ground can no longer do so. When a major storm hits, large volumes of water can fall in a relatively small area in a short period of time. This can overwhelm storm sewers and cause flooding and property damage. Flooding can be worsened by blocked or broken pipes, poor lot grading, poor maintenance on one's property, and blocked inlets or sewer openings, which cause the excess water to flow to the next lowest location.

a. Encourage residents to fill out PWD's Flooding Survey.

Understanding the nature of specific flooding problems in neighborhoods is an important first step for the city to develop solutions. The more residents that take PWD's Flooding Survey,[17] the easier it will be for the city to identify problems and potential solutions.

[16] Philadelphia Water Department, "Green Stormwater Infrastructure Planning and Design Manual," documents.philadelphiawater.org/gsi/GSI_Planning_and_Design_Manual.pdf, accessed August 30, 2018.
[17] Philadelphia Water Department, "Flooding." www.phillywatersheds.org/watershed_issues/flooding, accessed August 30, 2018.

b. Encourage non-residential property owners to reduce stormwater runoff by installing stormwater management controls[18] that can be funded with Stormwater Management Incentive Program (SMIP) and Greened Acres Retrofit Program (GARP) grants.[19]

Installing GSI can help slow the volume of water heading to Cobbs Creek during a storm.

c. Protect PWD's interceptor east of the Mount Moriah Cemetery entrance on the south side of Cobbs Creek Parkway.

PWD is initiating design of stream bank stabilization to protect an exposed interceptor sewer near Mount Moriah Cemetery. Currently, the stormwater cannot escape into the stream channel during rain because the stream is flooded and the discharge pipe is at the bottom of the stream channel. PWD is focused on protecting their pipe.

d. Engage with the Darby-Cobbs Watershed Partnership (DCWP) and the Citywide Flood Risk Management Task Force to identify strategies to reduce flooding.

The overflow of Cobbs Creek is not just due to pavement and the water table, but also a neighboring stream that gets overwhelmed. Working collaboratively on a larger scale will help. The DCWP is a network of public, private, and non-profit partners working to create and implement a watershed management plan that addresses water quality and quantity issues. They develop and conduct stormwater management projects, municipal ordinance revisions, and public education and outreach events. Partner organizations include PWD, Pennsylvania Environmental Council, Cobbs Creek Community Environmental Education Center, Darby Creek Valley Association (DCVA), Cobbs Creek West Community Association, Friends Central Middle School, Morris Park Restoration Association, Upper Darby Township, Lower Merion Conservancy, and Yeadon Borough.[20]

The City of Philadelphia created the Citywide Flood Risk Management Task Force in 2014 to encourage collaboration between departments and agencies to maximize the city's resources for addressing flooding issues. The task force's mission is to develop an improved strategy for flood management and to inform smart planning by addressing evolving flooding challenges. City agencies on the task force include Office of Emergency Management, PWD, Philadelphia Department of Public Health, Office of Sustainability, PCPC, Streets, PPR, and Licenses and Inspection.[21]

7. Maintain sidewalk on east side of Cobbs Creek Parkway.

Philadelphia residents live on the east side of Cobbs Creek Parkway with no safe access to Cobbs Creek Trail along the 1.2-mile stretch between 59th Street and 70th Street. Proper maintenance of the sidewalk on the east side of Cobbs Creek would allow residents to walk along the parkway without having to cross the parkway.

[18] Philadelphia Water Department, "Non-Residential Stormwater Billing," www.phila.gov/water/wu/stormwater/Pages/NonResidentialStormwaterBilling.aspx, accessed August 30, 2018.
[19] Philadelphia Water Department, "Stormwater Grants," www.phila.gov/water/wu/stormwater/Pages/Grants.aspx accessed August 30, 2018.
[20] Philadelphia Water Department, "Darby-Cobbs Partnerships," www.phillywatersheds.org/your_watershed/darby_cobbs/partnerships, accessed September 28, 2018.
[21] Philadelphia Water Department, "How you (and your phone) can improve Philly's flood response," water.phila.gov/blog/enhance-philly-flood-data, accessed September 28, 2018.

Poorly maintained sidewalk on the east side of Cobbs Creek Parkway.

8. Install speed cameras.

DVRPC's speed counts indicate that 86 percent of vehicles between Springfield and 65th Street, 93 percent of vehicles between 65th and 67th streets, 50 percent of vehicles between 68th and 70th streets, and 78 percent of vehicles between 70th Street and Upland Street are traveling at or above the 30-miles-per-hour speed limit. Speed cameras would penalize drivers who drive too fast, but would need to be approved by the Pennsylvania state legislature and Philadelphia city council.

9. Host an internal discussion to evaluate permanent dynamic speed display signs (DSDS).

DSDS are radar-controlled signs that compare a passing vehicle's speed to the road's speed limit and display the driver's speed as a reminder to the driver to slow down. Streets should evaluate installing DSDS along Cobbs Creek Parkway. DSDS already exist nearby on Route 1 in Upper Darby (see example on page 60).

10. Conduct a corridor-wide lighting study.

According to the Federal Highway Administration (FHWA), about half of traffic fatalities in the United States occur at night, although only about one-quarter of travel occurs after dark. Adequately maintained retroreflective signs and pavement markings and roadway lighting improve nighttime visibility and reduce the risk of crashes. On shared-use paths used for transportation purposes, FHWA recommends lighting at all times to increase their transportation utility, reduce risk of falls and crashes, and improve security.

A corridor-wide lighting study would evaluate existing lighting and make recommendations about installing pedestrian-scale lighting along Cobbs Creek Trail. One area of particular concern for pedestrians is under the 65th Street bridge. The lighting study could also identify vegetation that needs to be trimmed near existing lighting so that light better reaches the roadway and trail. The study could also consider replacing high-pressure sodium bulbs with longer-lasting light-emitting diode (LED) bulbs to save energy and maintenance costs.

Trail Recommendations

Cobbs Creek Trail is an important community asset, providing a transportation alternative to many communities and a recreational opportunity accessible to residents across the city and region. Regular maintenance and improvements can satisfy the needs of existing trail users and also attract new users.

The recommendations listed here consider and incorporate the goals identified in the city's 2013 Trail Master Plan by enhancing the utility and security of Cobbs Creek Trail. The 2017 Trail Master Plan update listed trail rehabilitation priorities with Cobbs Creek Trail landing in the second tier behind facilities such as the Benjamin Franklin Bridge walkway, Schuylkill Banks, and Kelly Drive.[22] While it is important to focus on these high-use facilities near Center City, it is also important to focus on facilities in lowe-income neighborhoods. Fortunately, Cobbs Creek Park was one of several dozen sites recently selected for Philadelphia's Rebuilding Community Infrastructure (Rebuild) initiative, which will invest significantly in neighborhood recreational facilities.[23] It remains to be seen, however, whether funding will reach the study area and cover the southernmost reaches of Cobbs Creek Trail.

1. Fix potholes.

Cold mix bituminous patch repairs are a good temporary measure. Because these eventually crumble or pull out and may not be flush with the original trail pavement, when possible, permanent pavement repair treatments should be used. Saw cutting, removing, and replacing damaged asphalt can have a lifespan of 15 years as opposed to less than one with a temporary patch.[24]

2. Prune trees and vegetation regularly.

According to the *Pennsylvania Trail Design & Development Principles* of the Department of Conservation and Natural Resources (DCNR), vertical clearance for tree cover should be 10 feet as an ideal or eight feet at a minimum. A minimum two-foot shoulder on either side of a shared-use trail is also recommended to "provide clearance from lateral obstructions such as shrubs." DCNR suggests inspecting trees in various states to ensure they are hazard free, including "in the spring before leaf-on, in mid-summer, and after leaf-off in the fall."[25] Areas of heavy public use like Cobbs Creek Trail may require more regular inspection, such as immediately after severe storms.

3. Plan regular trail cleanups.

Litter is a challenge in the study area. Cobbs Creek Trail combines features of a roadside and a public park, so motorists and non-motorists contribute to the buildup of litter. Cleanups may be done with staff, volunteers, those serving community service hours, or with prison/work furlough laborers. CleanPHL offers additional resources for cleanups.[26] Keep America Beautiful sponsors the annual "Great American Cleanup of PA" from March to May, through which registered events can get free cleanup supplies. Additionally, during the "Pick It Up PA Days" held each April, registered events have access to reduced or free disposal. The organization encourages participation from community and civic associations, schools and youth groups, families and friends, business employees, hunting and fishing clubs, conservation organizations, sports teams, and others.

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[22] City of Philadelphia, "Trail Master Plan," www.phila.gov/CityPlanning/plans/Pages/TrailsMasterPlan.aspx, accessed June 18, 2018.
[23] City of Philadelphia, "Rebuild," rebuild.phila.gov/rebuild-map, accessed March 1, 2019.
[24] "Maintenance of Recreational Trails," SRF Consulting Group, Inc. www.cts.umn.edu/sites/default/files/files/sessions/7-crosby.pdf.
[25] DCNR, "Pennsylvania Trail Design & Development Principles," p. 216 www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20028130.pdf.
[26] City of Philadelphia Zero Waste and Litter Cabinet, "Engagement Opportunities," cleanphl.org/engagement-opportunities/, accessed August 30, 2018.

Other semi-regular events that could cover the Cobbs Creek area include:

- cleanup series with PWD and the sustainability-oriented retailer United by Blue;
- MLK Day of Service (January);
- Philly Spring Cleanup (April; organized by the Streets Department);
- Earth Day (April 22); and
- Love Your Park Week (May and November; organized by PPR)

The Love Your Park website advertises opportunities for residents to get involved in park cleanups.

4. Bring more visibility to fold-down bollards in the middle of the trail.

Cyclists have trouble seeing the trail bollards because they are not reflective, the lighting is poor at night, and they are frequently covered by fallen leaves. Generally, the American Association of State Highway and Transportation Officials (AASHTO) discourages bollards unless unauthorized trail use by motor vehicles is common. Neighbors indicate that drivers are prone to entering the trail during flood events, so the bollards may be a necessary—albeit minimally effective—deterrent. Some of DCNR's suggestions for making bollards as safe as possible to cyclists, who are often injured by them, include:

- Mark bollards with a reflective material on both sides and appropriate object markers, per Section 9B of MUTCD.
- Stripe an envelope around the approach to the post to guide path users around the object.
- Use flexible delineators, which may reduce unauthorized vehicle access without causing injuries commonly caused by rigid bollards.[27]

[27] DCNR, "Pennsylvania Trail Design & Development Principles," pp. 62-63 www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20028130.pdf.

Fold-down bollards in the middle of Cobbs Creek Trail near Church Lane can be a hazard for cyclists.

5. Install help locator markers.

Over one-third of this study's survey respondents mentioned problems with crime or lack of security along Cobbs Creek Parkway and Trail. Numbered help locator signs similar to those found on the Wissahickon, Pennypack, and Schuylkill River trails would allow users to identify their location along the trail, so that in an emergency situation, response personnel can quickly respond. DCNR recommends that trail managers create maps of all access points that can be used in an emergency and show the corresponding locators installed on the trail.[28] The maps should be distributed to regional emergency medical services, fire, and police. Help locators like these are already in place in other parts of the PPR system, and these will be especially useful as Cobbs Creek Trail is lengthened and connected to the Heinz Wildlife Refuge.

An example of a Trail Help Locator along the Schuylkill River Trail.

Source: Schuylkill River Development Corporation

[28] DCNR, "Pennsylvania Trail Design & Development Principles," p. 187 www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20028130.pdf.

6. Evaluate installing site amenities, such as benches and trash cans.

New benches and trash receptacles can promote park safety, convenience, a healthier environment, and enjoyment for all people. In Baltimore, Maryland's Patterson Park, the addition of benches encouraged more users and lengthened visits, reducing the likelihood of crime, dumping, or hazardous driving under the watchful eyes of resting visitors and law enforcement.[29] DCNR recommends placing benches at trailheads, where opportunities for rest are "crucial to ensuring a positive trail experience."[30]

Almost a quarter of survey respondents listed litter or dumping as a concern, and trash receptacles are sparse on the trail. Litter along roadways and in public spaces contributes negatively to aesthetics and quality of life, and the presence of litter makes others more likely to litter and otherwise neglect or abuse property. Illegal dumping sites are unsightly, negatively impact property values, and are a public health hazard; they occur most frequently where there is a lack of disposal outlets. This can be mitigated with receptacles for cigarettes, trash, and recyclables. Keep America Beautiful finds that people are more likely to use receptacles when they are:

- conveniently located (>20 feet is associated with an increased rate of littering);
- emptied as needed;
- in clean, well-lit, highly visible areas; and
- brightly colored or themed as appropriate for the type of venue where they are located.[31]

As part of its interdepartmental CleanPHL initiative, the City of Philadelphia is collecting scientific evidence on the most strategic placement of public waste receptacles. Furthermore, the Zero Waste and Litter Cabinet's 2017 action plan calls for providing easy opportunities for outdoor recycling at parks and recreation sites. According to the city's preliminary data, providing recycling cans stops park users from littering plastic bottles, and a pilot program at PPR sites showed that recycling bin contamination has been very low. The city's Vision Zero program also explicitly references its interconnected relationship with the Zero Waste program. Together, these programs can promote safe pedestrian activity by providing cleaner streets, sidewalks, and trails.

7. Study building mulched hiking trails within the creek area or create other access points to the creek near the trail.

While Cobbs Creek Trail is asphalt, community members also expressed an interest in additional mulched trails through Cobbs Creek Park and near Cobbs Creek. Promoting more fair and equal access to parks within walking distance was a major goal of *Green2015,* the city's public space action plan. Although the proximity to Cobbs Creek Park and Trail suggests strong green space coverage in this section of Lower Southwest Philadelphia, a combination of other overlapping factors indicate ongoing need—including a high population of children and seniors, high population density, and low median household income. The plan calls Cobbs Creek's riparian waterfront "incomplete" in terms of its park potential, finding that it offers "important sites for future projects," such as "public-access trails and naturalized buffers."[32]

8. Establish a core management team with non-profit and neighborhood partners.

Although the Mantua Greenway has not yet been constructed, the 2017 Trail Master Plan annual update holds up the Mantua Greenway Management and Maintenance Plan as a model for best practices.

[29] Harnik, Peter and Alexandra Hiple, "If It Doesn't Have a Bench, Is It Still a Park?" *Parks & Recreation* ezine.nrpa.org/html5/reader/production/default.aspx?pubname=&edid=82c6a33e-1d8c-43e8-96d8-f476cc62d740, p. 56-60.
[30] www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20028130.pdf, p. 126.
[31] www.kab.org/sites/default/files/Litter_Curriculum_Final.pdf, p. 23.
[32] planphilly.com/sites/planphilly.com/files/G2015Layout_v13_FINAL_web_compressed.pdf, p. 117.

Establishing a core management team from within the Cobbs Creek, Kingsessing, and Paschall neighborhoods may prove beneficial, with volunteers supporting operations and maintenance, public relations, fundraising, and beautification. These activities can be prioritized at different levels of frequency, such as daily, weekly, seasonally, or annually. Existing grassroots organizations such as Friends of Cobbs Creek and Friends of Mount Moriah Cemetery currently work to beautify and care for the park and nearby areas. Leaders and members of these and other registered community organizations (RCOs) are good candidates for a core management team overseeing Cobbs Creek Trail.

9. Find funding for and install additional pedestrian-scale signage along Cobbs Creek Trail.
Cobbs Creek Trail could benefit from additional pedestrian-scale signage, such as:

- rules, regulations, anti-littering, and safety tip signage;
- wayfinding signage;
- historical interpretation signage (e.g., Mount Moriah Cemetery or Blue Bell Inn); and
- natural area interpretation signage.

Pennsylvania's DCNR *Trail Design & Development Principles* highlight the components of an effective sign plan. These include directional signs to nearby services; mileage markers or other locational signs; regulatory signs; and interpretive signs for historic, cultural, and environmental features. Since Cobbs Creek is a place of both great natural beauty and significant multi-user activity, a careful balance should be struck between providing information and avoiding sign clutter and confusion. Likewise, signs must be maintained to promote safety and good order in the park. Poorly maintained signs might diminish visitor experience or disorient trail users.

Wayfinding can enhance park users' experiences and help them navigate and understand their surroundings while showcasing the mission and recruiting advocates for PPR and any sponsoring groups, such as Friends of Cobbs Creek, The Circuit Trails, Friends of Mount Moriah Cemetery, or the East Coast Greenway. Kiosks, trailmarkers, and signs can display trail information (map and rules), a neighborhood directory with directions to local attractions and multi-modal travel routes, and an interpretive panel focusing on historic and environmental assets. All signs should prioritize relevant information, providing interpretation without overloading visitors or being so large as to detract from views. PPR has its own signage program.

Interpretive signage near the Christina River in Wilmington, Delaware.

10. Brand and build awareness about the trail within the city and the region.

DCNR's *Trail Design & Development Principles* state that the success of a trail depends on the awareness of its existence by potential users and supporters. Marketing, events, and social media can be used to raise public awareness. Educational programs can be developed by public agencies and interest groups that highlight the area's history, plant and wildlife biology, ecology, and recreational value. Local elementary and secondary schools; colleges and universities; and mentoring, scouting, volunteer, or other extracurricular organizations within the region may find educational purposes on the trail. Past programming in the northern sections of the trail and park included an annual 5K run and movie nights, coordinated by the Friends of Cobbs Creek group.

National Night Out could be used to promote safety along Cobbs Creek Trail and at PPR facilities and in southwestern Philadelphia overall. National Night Out is "an annual community-building campaign that promotes police-community partnerships and neighborhood camaraderie to make neighborhoods safer, more caring places to live," occurring at many locations citywide and nationwide on the first Tuesday in August.[33] In recent years, kickoff rallies have extended the event into a two-day affair for Philadelphians, complete with flashlight walks, music, food, and games. Cobbs Creek Trail could be a good candidate for a kickoff event as a way to reinforce the focus on safety in nearby neighborhoods.

[33] National Association of Town Watch, "About us: What is National Night Out?" natw.org/about, accessed December 26, 2018.

Intersection-Specific Recommendations

The next section outlines recommendations for specific intersections along the study corridor. Where two intersections are located in close proximity, they are described together. The intersections are described from north to south. The drawings are intended to be concept drawings and are not fully engineered plans. The intersections are as follows:

- Cobbs Creek Parkway, S. 60th Street, and S. Edgewood Street;
- Cobbs Creek Parkway and Springfield Avenue;
- Cobbs Creek Parkway and Mount Moriah Cemetery Entrances;
- Cobbs Creek Parkway and S. 65th Street;
- Cobbs Creek Parkway, S. 67th Street, and 68th Street;
- Cobbs Creek Parkway, Church Lane, S. 70th Street, and Chester Avenue; and
- S. 70th Street, S. 71st Street, S. Larry Street, and Kingsessing Avenue.

Figure 14: Cobbs Creek Parkway, S. 60th Street, and S. Edgewood Street

Cobbs Creek Parkway, S. 60th Street, and S. Edgewood Street (Figure 14)

1. Evaluate closing the northbound channelized right turn in front of DaVita Dialysis and have northbound drivers turn right at 60th Street; investigate GSI on existing concrete island and former channelized intersection.

The traffic island located at the intersection is made of concrete and in a state of ill repair. The GSI would eliminate the channelized right-turn lane and provide a large area of green space. Eliminating the channelized northbound lane enhances pedestrian safety by removing a conflict between vehicles and pedestrians. 60th Street meets Cobbs Creek Parkway at an acute angle, which will force vehicles to slow considerably to complete a right turn. The channelized right-turn lane would be necessary to accommodate large vehicles, which would struggle to complete the right turn at 60th Street, but these vehicles should not be on the parkway. Slowing turning traffic would create a much better pedestrian environment, as well as create GSI that could help to reduce flooding near Cobbs Creek.

2. Retain the current stop sign and repaint the continental crosswalk across 60th Street just west of Warrington Avenue. Repaint existing continental crosswalks and stop bar across Warrington Avenue (north side of 60th Street).

Retaining the three-way stop at Warrington Avenue is important to prevent angle crashes from occurring at the intersection.

3. Add continental crosswalk across 60th Street on east side of Cobbs Creek Parkway.

A properly marked and visible crosswalk directs pedestrians to safe and proper crossing locations.

4. Add curb extension on north side of 60th Street at Cobbs Creek Parkway to shorten crossing distance for pedestrians.

Curb extensions shorten the crossing distance and allow pedestrians to be more visible to approaching drivers.

5. Add a curb extension on north side of S. Edgewood Street.

Curb extensions shorten the crossing distance and allow pedestrians to be more visible to approaching drivers.

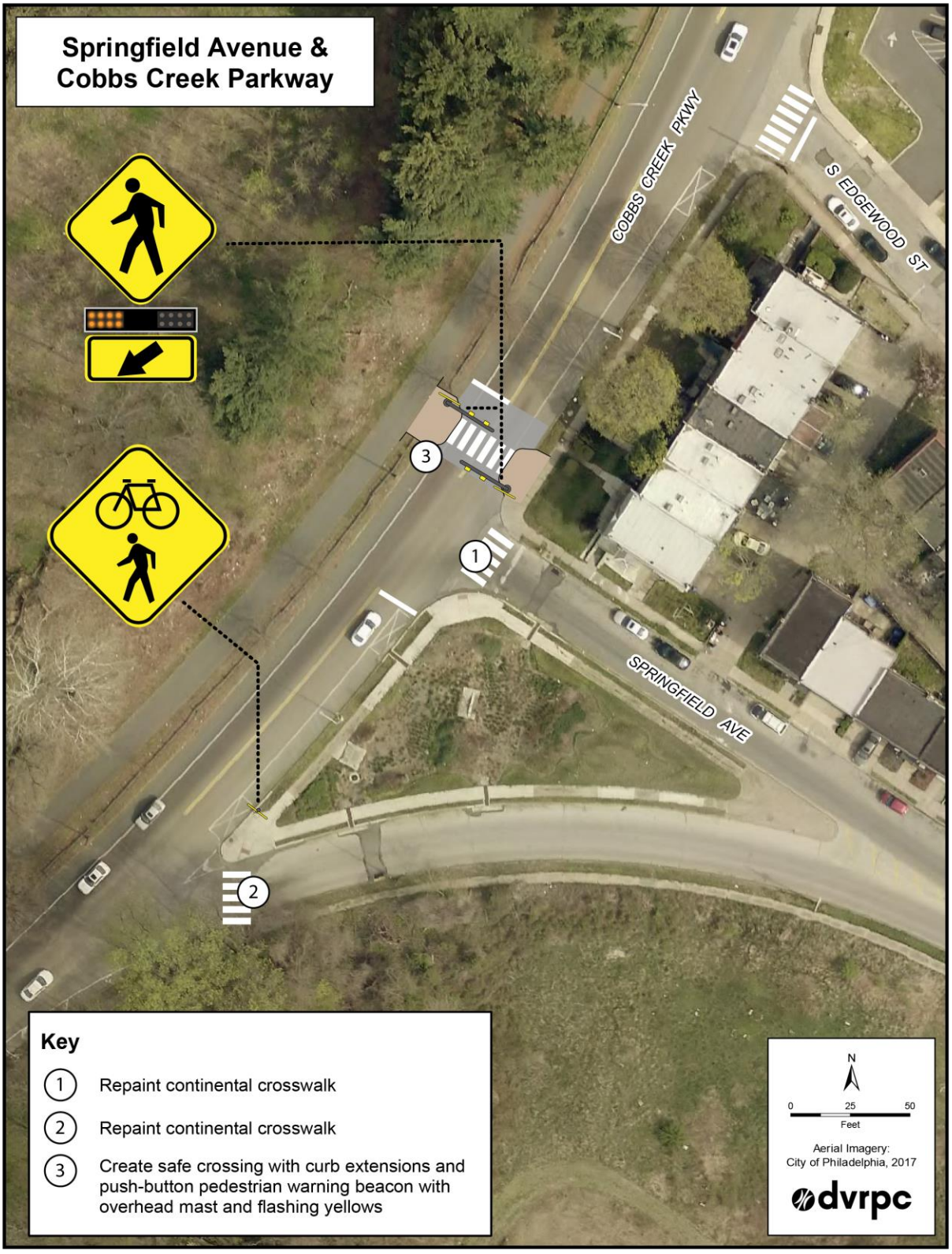
6. Repaint faded continental crosswalk and stop bar across S. Edgewood Street.

A properly marked and visible crosswalk directs pedestrians to safe and proper crossing locations.

Looking northeast toward 60th Street from the west side of Cobbs Creek Parkway. The channelized right turn is on the right side.

The faded crosswalk is apparent across S. Edgewood Street.

Figure 15: Cobbs Creek Parkway and Springfield Avenue



Cobbs Creek Parkway and Springfield Avenue (Figure 15)

1. Repaint continental crosswalk on western end of Springfield Avenue at Cobbs Creek Parkway.
A properly marked and visible crosswalk directs pedestrians to safe and proper crossing locations.

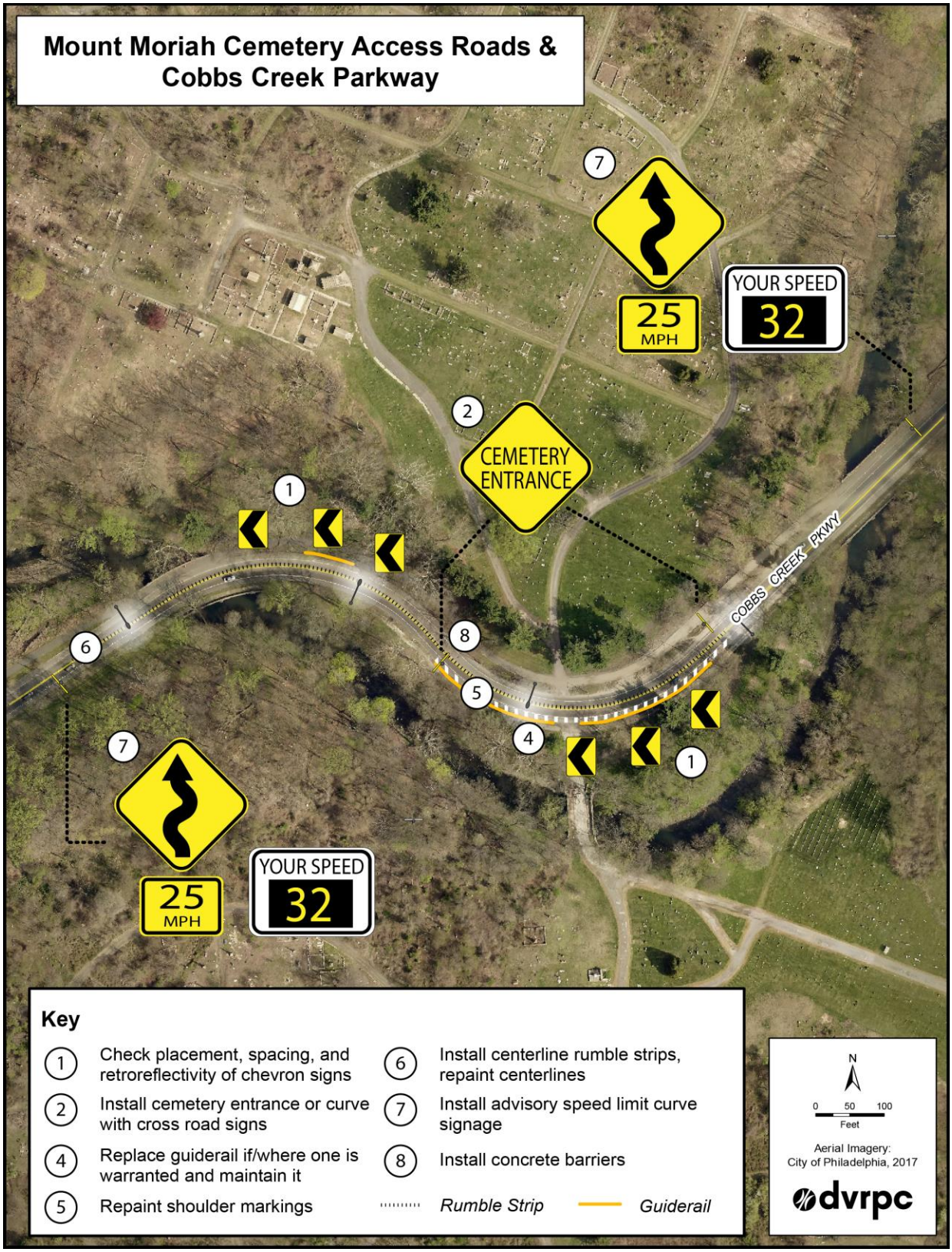
2. Repaint continental crosswalk from GSI across Springfield Avenue to Mount Moriah Cemetery (linked with Corridor-Wide Recommendation #7).
A properly marked and visible crosswalk directs pedestrians to safe and proper crossing locations.

3. Create a safe crossing across Cobbs Creek Parkway to Cobbs Creek Trail near Springfield Avenue. Add curb extensions. Add a push-button pedestrian warning beacon with an overhead mast arm and flashing yellows. Pursue education and enforcement campaign in conjunction with installation of pedestrian crossing.
Curb extensions shorten the crossing distance and allows the pedestrians to be more visible to oncoming traffic. Flashing pedestrian warning beacons are described in Chapter 15 of PennDOT Publication 194, *Traffic Signal Design Handbook*. Rectangular Rapid Flash Beacons (RRFB) can enhance safety by reducing crashes between vehicles and pedestrians at unsignalized intersections and mid-block pedestrian crossings by increasing driver awareness of potential pedestrian conflicts. An education and enforcement effort campaign will be necessary during the first weeks and potentially months of installation to ensure that motorists understand the new traffic control device and respect the rights of pedestrians to safely cross the parkway.

Looking towards Springfield Avenue from the west side of Cobbs Creek Parkway.

This photo shows an existing push-button pedestrian signal along Paoli Pike in East Goshen Township, Chester County. The light allows walkers and cyclists to cross the street between two parts of East Goshen Township Park. Paoli Pike has an AADT of 14,425, which is similar to parts of Cobbs Creek Parkway in the study area.

Figure 16: Cobbs Creek Parkway and Mount Moriah Cemetery Entrances



Cobbs Creek Parkway and Mount Moriah Cemetery Entrances (Figure 16)

In community meetings, several residents indicated that they use the cemetery as a recreational space to go for a run or walk their dogs. They would like to be able to safely cross from one side of the cemetery to the other across Cobbs Creek Parkway.

1. Check the placement, spacing, and retroreflectivity of Chevron Alignment Signs (W1-8) facing in both directions on the south side of Cobbs Creek Parkway east and west of the Mount Moriah Cemetery entrance.

Chevrons emphasize roadway curvature and guide drivers through the signed corridor.

2. Install Cemetery Entrance Signs (W11-28) or Curve with Cross Road Signs (W1-10A) near entrance to Mount Moriah Cemetery in both directions.

The Cemetery Entrance Sign provides advanced warning to motorists that pedestrians may be crossing at the location and/or vehicles may be entering or exiting at that location.

3. Repair HSTF.

HSTF is the application of a high-quality aggregate that increases road friction, which allows motorists to maintain better control of their vehicles in both dry and wet conditions.

4. Streets and PennDOT will continue on-going conversations about removing/replacing guiderail along Cobbs Creek Parkway.

The guiderail along Cobbs Creek Parkway is in various stages of disrepair. A corridor-wide analysis of the guiderail should be conducted to determine if and where it is warranted. Philadelphia Streets and PennDOT will continue ongoing conversations about removing/replacing guiderail along Cobbs Creek Parkway. These conversations should be done in coordination with PPR, which is concerned about the safety of trail users. Together the departments will undertake a study to determine who owns the guiderail, where it is warranted, whether to remove the guiderail and/or where to replace the guiderail, and who will maintain the replacement. See PennDOT Publication 652, *Roadside Safety Pocketguide*, for more information.[34]

5. Repaint shoulder markings on south side of Cobbs Creek Parkway west of Mount Moriah Cemetery entrance.

Shoulder markings add emphasis to roadway geometry and discourage motorists from traveling outside the designated travel lanes.

6. Install centerline rumble strips, repaint yellow centerlines, and install Center Rumble Strips Ahead (W8-102) signs, as needed (also see: Corridor-wide Recommendation #3).

Installation of milled centerline rumble strips alert motorists that their vehicle has left the travel lane and produce a 37-to-91 percent reduction in injury crashes in head-on and opposite direction sideswipe collisions.[35]

7. Research and install advisory speed limit curve signage, especially in the northbound direction.

The Curve Ahead sign gives motorists advance warning of the changing roadway geometry ahead. The combination of all countermeasures should serve to reduce speeds in this section of the corridor.[36]

8. Consider installing concrete barriers between Cobbs Creek Trail and Cobbs Creek Parkway.

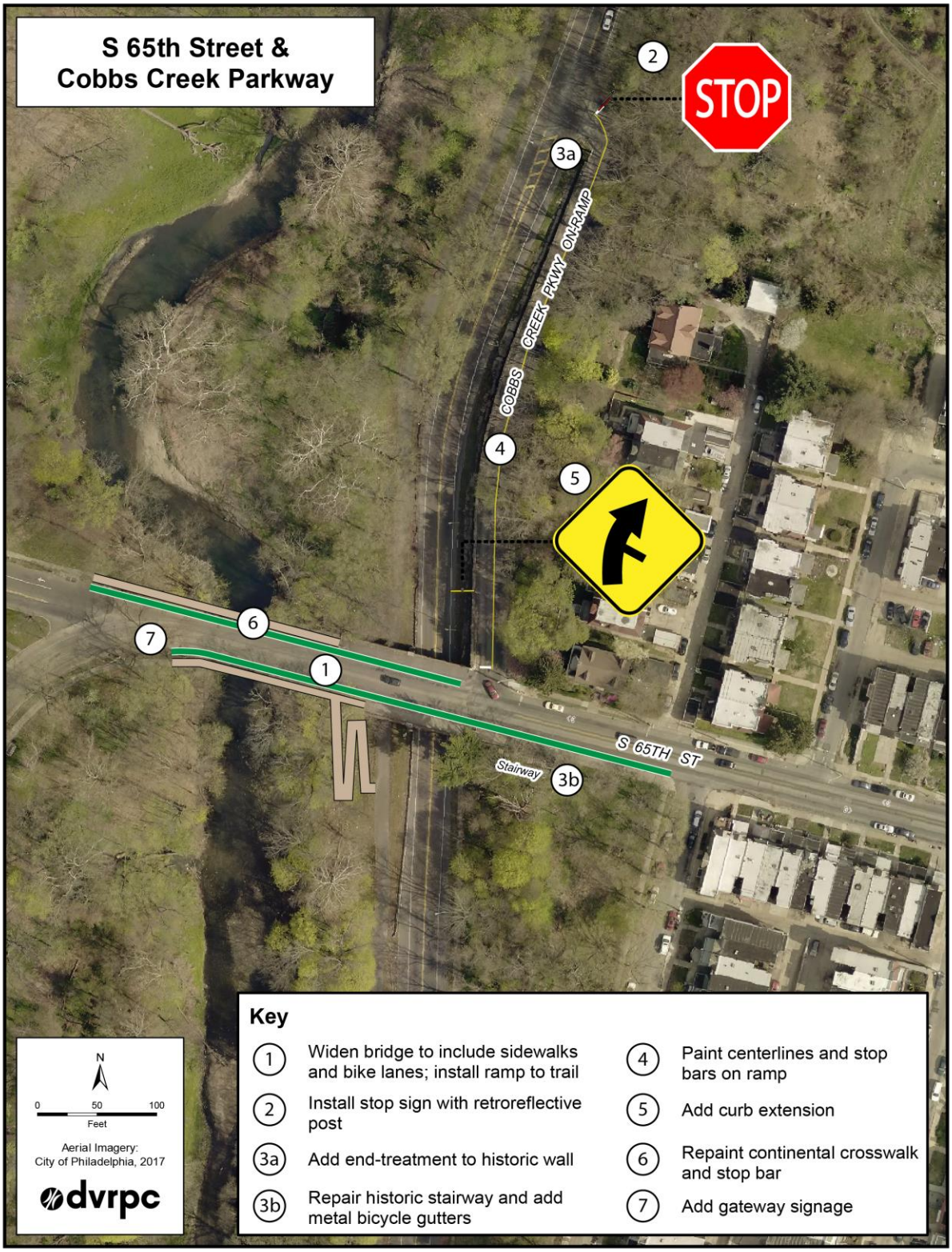
Some community members expressed an interest in having concrete barriers instead of guiderail adjacent to the Cobbs Creek Trail so that they would feel safer and more separated from the speeding cars. They also

[34] PennDOT, "Publication 652, Roadside Safety Pocketguide," www.dot.state.pa.us/public/pubsforms/Publications/Pub%20652.pdf, accessed September 28, 2018.
[35] Federal Highway Administration, "Rumble Strips and Rumble Stripes," safety.fhwa.dot.gov/roadway_dept/pavement/rumble_strips/t504040/, accessed September 28, 2018.
[36] Federal Highway Administration, "Chapter 2: Conveying Changes in Horizontal Alignment," safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa1122/ch2.cfm, accessed December 27, 2018.

indicated that this would prevent cars from driving onto the trail when the road is flooded. There is precedent for this in other parts of Philadelphia. For example, there are concrete barriers that separate the Schuylkill River Trail from Kelly Drive near the Columbia Bridge.

Cobbs Creek Parkway curves in opposite directions in quick succession near the entrances to Mount Moriah Cemetery.

Figure 17: Cobbs Creek Parkway and S. 65th Street



Cobbs Creek Parkway and S. 65th Street (Figure 17)

1. Widen functionally obsolete 65th Street bridge over Cobbs Creek Parkway[37] and structurally deficient 65th Street bridge over Cobbs Creek[38] when they are replaced to include sidewalks and bike lanes on both sides. Evaluate the construction of stairs and/or an ADA-accessible ramp to get from 65th Street bridge down to Cobbs Creek Trail.[39]

FHWA recommends that state and local government agencies implement configurations that accommodate bicycles and pedestrians when rehabilitating bridges, which would not only improve network connectivity and safety but also be more cost effective than providing the facilities through separate, standalone projects.[40] Finally, AASHTO's 2004 *Guide for the Planning, Design, and Operation of Pedestrian Facilities* urges the inclusion of walking facilities as a part of any vehicular bridge "intended to be part of a pedestrian access route."[41] Any redesign should allow for at least 1.5 feet of shy distance from the bridge wall, railing, or other vertical objects. The desirable sidewalk width is eight feet and minimum width for bicycle travel is four feet. The creek bridge's current width is 38 feet.

Adding a ramp from the reconstructed 65th Street bridge to the Cobbs Creek Trail on the west side of Cobbs Creek Parkway would further enhance safety for pedestrians and bicyclists of any ability status, but especially those using wheelchairs, scooters, or strollers. FHWA stresses that links to related features below a bridge crossing, such as the shared-use path on Cobbs Creek Trail, are a "key component of connected networks."[42] The design recommendations include following the desired route of foot and bike traffic, using grades that meet accessibility standards, and providing generous turning widths on switchbacks to better accommodate bicyclists. Community members expressed a desire for a ramp to be well lit and consistently maintained to promote safety. If only a staircase is feasible, FHWA recommends including a bike channel ramp. If the existing east side staircase at 65th Street remains open after the addition of a new, western stairway and/or ramp, appropriate wayfinding should be installed so that bridge users know how best to access Cobbs Creek Trail without coming into conflict with traffic on the parkway.

Multi-modal access will also be particularly important as SEPTA's trolley modernization effort moves forward, since Route 13 has stops on either side of the bridges. People on foot or on bike may wish to access the trolley from the trail, and sidewalks and bike lanes on the bridges will help them do so. Providing space to walk and bike would also reduce conflicts with the transit vehicles and maximize predictability for all users.

Historic bridges have been refurbished to include bicycle facilities in the past, with context-sensitive solutions that preserve historic character and enhance use. For example, the Francis Scott Key Bridge connecting Washington, DC to Arlington, Virginia, uses cantilevered bike/ped paths on the existing bridge. A recent local PennDOT project replaced a historic bridge carrying State Route 32 over Tohickon Creek, linking Plumstead and Tinicum townships at Point Pleasant in Bucks County. Despite widening the bridge from 27 feet to just 37 feet, the new span carries two-way traffic and an expanded single six-foot-wide sidewalk.

[37] Bridge ID: 67302300100123
[38] Bridge ID: 67302300100000
[39] A "functionally obsolete" rating means that a bridge has older features (for example, road widths and weight limits) compared to more recently built bridges. A "structurally deficient" rating means that a bridge has deterioration to one or more of its major components, but it remains safe.
[40] "Achieving Multimodal Networks," FHWA p. 53 www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_networks/fhwahep16055.pdf.
[41] AASHTO, "Guide for the Planning, Design, and Operation of Pedestrian Facilities," p. 63.
[42] "Achieving Multimodal Networks," FHWA p. 53 www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_networks/fhwahep16055.pdf.

This historic photo looks west over the 65th Street bridge shortly after it was completed in 1926.

Source: PhillyHistory.org. www.phillyhistory.org. Philadelphia Department of Records (accessed June 18, 2018).

The sidewalk along the 65th Street bridge abruptly comes to an end as the road crosses over Cobbs Creek (looking west, September 2017).

2. Upgrade the stop sign at bottom of ramp from 65th Street onto Cobbs Creek Parkway by installing a retroreflective post.

The stop sign is frequently knocked over by vehicles approaching the bottom of the access ramp. The stop sign was on the ground during the project team's site visit in September 2017, and it was also photographed in this same state by the Google Maps Street View camera around the same time (see Figure 18). At community meetings, neighbors anecdotally confirmed that this occurs regularly. Residents should notify the city if a stop sign is down by calling 311 (see additional information on page 95). Older images from Google Street View show a second stop sign on the left side of the intersection as well as a "Stop Ahead" sign on the approach, neither of which is currently in place (see Figures 19 and 20).

Increasing the sign's visibility will encourage motorists to slow down well before reaching the end of the ramp. Other actions to make the sign more conspicuous include trimming vegetation, returning a "Stop Ahead" sign to the ramp, and adding pavement markings (such as double-yellow centerline, "Stop Ahead" script, and stop bars) to help delineate and slow traffic at the intersection. A higher curb would also prevent cars from leaving the roadway.

Figure 18: Downed Stop Sign

The stop sign at the bottom of the 65th Street ramp knocked down in September 2017.

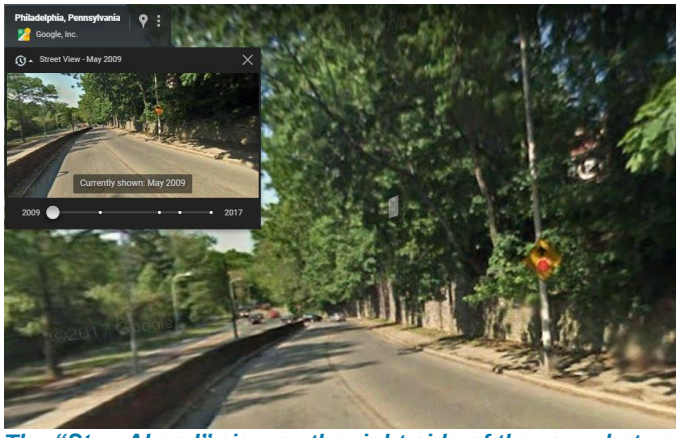
Source: Google Street View, September 2017

Figure 19: Two Stop Signs at Bottom of 65th Street Ramp

A second stop sign on the left side of the ramp between Cobbs Creek Parkway and 65th Street is not in place today.

Source: Google Street View, April 2012

Figure 20: Advanced Warning Sign for Stop Sign on 65th Street Ramp



The "Stop Ahead" sign on the right side of the ramp between Cobbs Creek Parkway and 65th Street, which is not in place today.

Source: Google Street View, May 2009

3. PPR will convene a discussion with PennDOT and Streets to address historic wall and stairway associated with 65th Street bridge, including:

a. Evaluating historic wall and making end-treatment more visible to cars.

PPR maintains over 200 historic structures, although these and other structures are not without threat of degradation and loss.[43] The 65th Street bridge over Cobbs Creek Parkway dates to 1926. Eight residences abut the historic retaining wall (6400–6414 Cobbs Creek Parkway) but are only accessible from an alley off of 65th Street. In the early 20th century, this land was owned by George Connell, former city council president and acting mayor of Philadelphia from 1939–40.[44] Connell is buried in Mount Moriah Cemetery.[45] The southwestern corner of the cemetery's property in Philadelphia is also adjacent to the wall, at the point where it meets the parkway.

The wall, bridge, and stairway may be good candidates for architectural conservation and preservation maintenance by the Fairmount Park Conservancy. The Conservancy offers services to address masonry deterioration and can also help develop a conservation strategy, implement treatments, manage bid work, and oversee contract and construction processes.[46]

The wall's proximity to the right-of-way and the tight turning radius of the access ramp can lead vehicles to crash into or sideswipe the historic structure. It would be prudent to make the wall more visible to passing motorists by using signage, delineation, or other treatment. However, the National Park Service (NPS) does not recommend "removing or radically changing masonry features which are important in defining the overall historic character," or "applying paint or other coatings... to masonry that has been historically unpainted or uncoated."[47]

The wall was shortened between 2012 and 2014 after sustaining damage.
Source: Google Street View, September 2012

[43] www.philaparks.org/parkpolicy/.
[44] www.philageohistory.org/tiles/viewer/.
[45] www.findagrave.com/memorial/61403650.
[46] myphillypark.org/what-we-do/architectural-conservation/.
[47] www.nps.gov/tps/standards/rehabilitation/rehab/masonry01.htm.

b. Repairing existing stairs on south side of 65th Street bridge and potentially adding metal bicycle gutters to make it easier to wheel bicycles up and down until stairs/ADA-ramp in recommendation #1 is constructed.

The existing stairway is not accessible to wheelchair users and makes parkway access difficult for cyclists, people with strollers, or other individuals with disabilities. The masonry is heavily chipped or broken, rebar is exposed on individual steps, and hand railings are not available. On the subject of historic masonry features, such as stairways, NPS recommends "replacing in kind an entire masonry feature that is too deteriorated to repair" or using "compatible substitute material."[48] If a new stairway and/or ramp on the west side of the parkway is not feasible or unlikely to be constructed in the near term, improving and making the existing stairway safer and restoring the sidewalks on the east side of the parkway are important steps to ensure ongoing access for non-motorized travelers. Streets' Bridge Section—currently in the process of rehabilitating the Krams Avenue Stairway in Manayunk—would be capable of completing the rehabilitation.[49]

4. Paint centerlines and a stop bar on ramp.

PennDOT's standard pavement marking guidelines call for yellow, four-inch-wide solid barrier lines for conventional two-lane, two-way roadways. Google Street View imagery indicates that centerlines were once present on the access ramp, but have not been freshly painted in about a decade or more. Currently, there is no visible centerline or stop bar. According to PennDOT, a solid barrier line shall precede all controlled intersections by the minimum distance of 300 feet.[50] On minor approaches, the centerlines can be extended by a distance of 150 feet from the stop bar, where conditions permit. During the project team's site visit, vehicles traveling down the access ramp were observed drifting to the left as they approached the parkway, putting them at risk of collision with vehicles turning off the parkway onto the access ramp (see Figure 21).

Figure 21: Ramp to 65th Street Lacks Centerlines and Stop Bar

Cars traveling down from 65th Street to Cobbs Creek Parkway often drift into the opposing lane as there are no clear lane markings on this two-way road.

[48] www.nps.gov/tps/standards/rehabilitation/rehab/masonry01.htm.
[49] www.philadelphiastreets.com/survey-and-design-bureau/bridges/.
[50] PennDOT, Publication 111 Traffic Control – Pavement Markings and Signing Standards, www.dot.state.pa.us/public/PubsForms/Publications/PUB%20111.pdf.

Painted centerlines and a stop bar would help to keep motorists in their designated lanes and remind them that the ramp is a two-way road. As was recommended for the rest of Cobbs Creek Parkway, the addition of RRPMs would further enhance visibility and ensure that cars using the access ramp steer clear of one another.

5. Add signs on northbound and southbound Cobbs Creek Parkway warning of traffic turning onto and off of the 65th Street ramp (e.g., Cross-Traffic Ahead or Curve with Crossroad).

For motorists traveling on Cobbs Creek Parkway, it is difficult to tell that an intersection with the 65th Street access ramp is ahead. This is especially true in the northbound travel lane, where the parkway's curvature and the historic retaining wall block the view. In the southbound lane, pavement markings and a left-turn lane help to signify the intersection, but it may not be clear that the ramp carries two-way traffic, and that cars may be making left turns in front of southbound vehicles to enter the parkway. Furthermore, the ramp is situated just south of the sharp curves through Mount Moriah Cemetery, making it likely that southbound drivers are accelerating along the straighter, downhill roadway after previously having to slow down to navigate the curves. These high speeds make turns onto and off of the ramp even more dangerous.

Some options that might alert parkway drivers to vehicles entering the roadway include a "Side Road Junction Curve" sign (W2-10), which illustrates the intersection and curve ahead, as well as signs with script that read: "Traffic Turning Ahead," "Turning Traffic Ahead," or "Watch Out for Turning Vehicles." A supplemental plaque with a street name or distance may be used as well.

6. Install delineator posts for pedestrians where no sidewalks exist on bridges over Cobbs Creek.

According to MUTCD, delineators are cited as particularly beneficial at locations where the alignment might be confusing or unexpected, such as lane reductions, as well as at night and during adverse weather.[51] Flexible posts are a popular way to separate bike lanes because they are inexpensive, highly visible, and easy to install.[52] The same would be true of a short "pedestrian lane" on the 65th Street-Cobbs Creek bridge.

7. Add gateway signage to eastbound 65th Street to alert drivers that they are entering the City of Philadelphia.

Traveling from the west along 65th Street, one leaves Delaware County and enters Philadelphia. This presents an opportunity to create a gateway to Philadelphia from the west. When people are coming from Yeadon, this is the first part of Philadelphia that they see. It is an opportunity to make a positive first impression. The signage should fit in with the existing brick red, cornflower blue, and white “Direction Philadelphia” signage system that was started in 1988 by the Foundation for Architecture, designed by Sussman/Prejza, and funded by the William Penn Foundation, which installed over 700 signs throughout entire city.

Example of a Direction Philadelphia sign.
Source: Howard Gorchov

[51] MUTCD 2009 Edition, “Chapter 3F. Delineators,” mutcd.fhwa.dot.gov/htm/2009r1r2/part3/part3f.htm
[52] FHWA Separated Bike Lane Planning and Design Guide, May 2015: nacto.org/wp-content/uploads/2016/05/2-4_FHWA-Separated-Bike-Lane-Guide-ch-5_2014.pdf

Figure 22: Cobbs Creek Parkway, S. 67th Street, and S. 68th Street

Cobbs Creek Parkway, S. 67th Street, and S. 68thStreet (Figure 22)

1. Implement PWD recommendations for stormwater bumpouts, including removing slip lane.

Both Streets and PWD have already explored preliminary redesigns for this large and dangerous intersection that would reduce underutilized paved areas, improve traffic flow, and collect stormwater to reduce flooding onto the parkway. Of the three major injury crashes that occurred in the study area, two were near 67th and 68th Streets, which meet Cobbs Creek Parkway in very close proximity. 67th Street also intersects with the parkway in roughly the same place as Beaumont Avenue. Rear-end, angle, and sideswipe crashes were also common in the vicinity, with many occurring in dark and/or wet conditions.

The intersection of Cobbs Creek Parkway and S. 67th Street is wide and dangerous for pedestrians.

a. Extend area where Cobbs Creek War Memorial currently stands farther south.

The green space at the corner of Beaumont Avenue and Cobbs Creek Parkway is city-owned open space with several mature trees, sloping toward the intersection. Extending this green space with a bumpout would capture significant drainage from both streets. The flagpole and monument could be relocated or temporarily removed and reinstalled, creating an opportunity to enhance the value and community awareness of this historic feature. This also serves to narrow the intersection, helping to channelize 67th Street to meet Cobbs Creek Parkway at a nearly right angle, reducing the likelihood of collisions and the dangerous, overlapping turning movements that are common in the existing paved area. Pedestrians will also have an easier way to travel north and south along Cobbs Creek Parkway and Beaumont Avenue, without having to take the unnecessary eastward path toward 67th Street that is required with the current configuration.

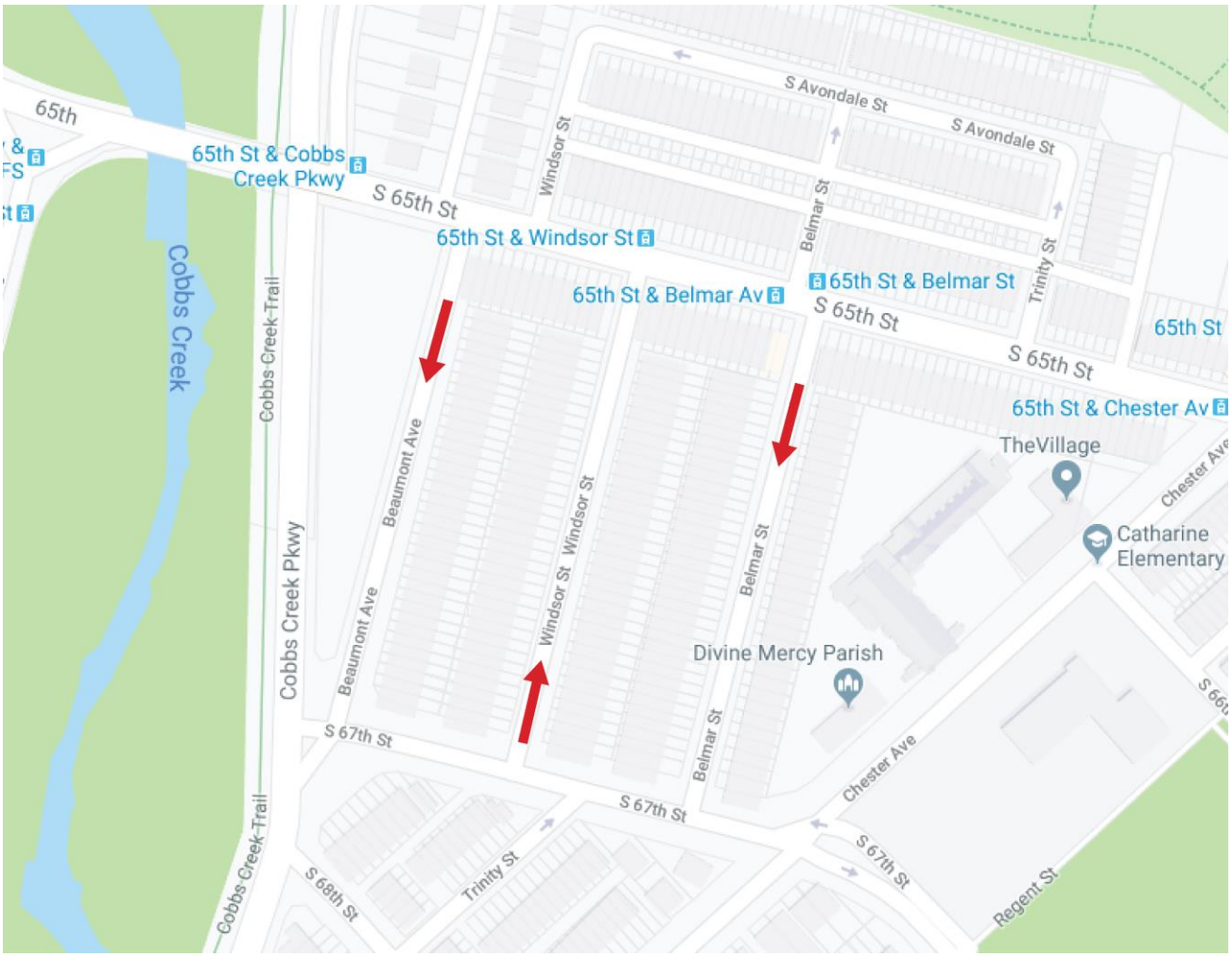
The Cobbs Creek War Memorial at the corner of Cobbs Creek Parkway and Beaumont Avenue remembers the lives of community members who served in World War II and the Korean War.

b. Create a new triangular bumpout for GSI, extending from the property line at the 6700 block of Cobbs Creek Parkway to meet 67th Street and create a perpendicular intersection.

A large impervious drainage area is removed from the right of way by installing a triangular rain garden, which would extend from the property line of the 6700 block of Cobbs Creek Parkway, forming a right-angle intersection with 67th Street. Currently, the angled residential lots and excess road space form a de facto slip lane that directs northbound parkway drivers onto 67th Street at high speeds and in patterns that potentially conflict with vehicles making other turns. By channelizing 67th Street farther west and reducing the size of the paved area adjacent to Cobbs Creek Parkway, the GSI will promote more predictable turning movements and reduced speeds on both streets. In addition, the GSI will give pedestrians a more direct north-south route with multiple, shorter crossings, as well as refuge space and greater visibility. Although the existing parking area directly in front of the bordering properties would be covered by the rain garden, it can be configured to allow for no net loss of parking spaces. Furthermore, residents of the 6700 block of Cobbs Creek Parkway would retain access to their homes via the front sidewalk and the back alley between 67th and 68th streets.

A potential concern surrounds the prospect of motorists entering Beaumont Avenue from Cobbs Creek Parkway. The new GSI would make it more difficult to access to this northbound one-way road and potentially cause vehicles to back up behind motorists making this turn. Possible solutions include constructing a median that prevents left-hand turns from the eastbound travel lane of 67th Street onto Beaumont Avenue, or reversing the direction of travel on Beaumont Avenue and making subsequent adjustments to other nearby parallel streets (see Figure 22). Streets may need to study the impacts of such actions.

Figure 23: Reconfiguration of One-Way Streets to Prevent Conflicts at Beaumont Avenue and 67th Street



Proposed reversal of travel direction for northbound and southbound one-way streets between 65th and 67th streets. This may prevent conflicts between motorists turning from Cobbs Creek Parkway onto Beaumont Avenue in its current northbound direction. In this conceptual reconfiguration, northbound turns would be rerouted to Windsor Street. Reversing the direction of Windsor, Belmar, Trinity, and Avondale streets north of 65th Street may also be advisable.

Source: Google Maps 2018

c. Add continental crosswalks.

Crosswalks traversing Beaumont Avenue and 67th Street, adjacent to Cobbs Creek Parkway, will reinforce the presence and priority of pedestrians in the residential area immediately east of the parkway.

2. Upgrade lighting at the intersection in conjunction with the PWD stormwater work.

The complexity of this intersection warrants special attention to lighting. Several crashes were reported in dark conditions near 67th and 68th Streets. Lighting would enhance visibility for all roadway users transitioning between the parkway, Beaumont Avenue, and 67th Street, and it makes pedestrians more visible. Enhanced lighting will also ensure that the GSI is visible to motorists and help direct their path of travel around the bumpouts and rain garden.

3. Add signage along southbound Cobbs Creek Parkway warning of limited visibility and entering traffic (e.g., Intersection Warning Sign [W2-2]).

Cobbs Creek Parkway slopes upward on its southbound approach to 67th Street, limiting the ability for drivers to see turning, slowing, or stopped vehicles, as well as other potential hazards or obstacles. Most of the crashes observed in this area were on Cobbs Creek Parkway just south of 67th Street, where the hill begins to slope downward and the parkway curves to the southwest. An intersection warning sign would advise motorists to reduce their speed since limited stopping sight distance is available. The sign could appear with an Advisory Speed sign indicating the speed limit.

4. Install permanent DSDS.

During the observation period, 93 percent of drivers were traveling above the posted 30-miles-per-hour speed limit between 65th and 67th streets. This is especially dangerous at the approach to the angled and wide intersections at 67th and 68th streets. Once GSI and pedestrian improvements are implemented here, vehicle speeds will likely decrease as parked cars, curbs, vegetation, and people on foot are brought closer to motorists passing on Cobbs Creek Parkway and making turns at 67th Street. Dynamic speed display signs would reinforce the need for drivers to slow down as they approach this high-activity and potentially congested area, reminding them of the safe speed and informing them of whether or not they are currently obeying it. Some signs can be configured to display only speeds that exceed the posted limit, minimizing visual distractions for motorists who are in compliance.

This is an example of a DSDS in New York State.

Source: Getty Images

5. Install a curb bumpout on south side of 68th Street to shorten crossing distance for pedestrians; investigate GSI.

The curb line's current configuration allows northbound motorists to turn sharply onto 68th Street, where crossing pedestrians may not be seen (see Figure 24). The dashed turning lane that begins at 68th Street may inadvertently encourage drivers to turn at high speeds. In the absence of cross-traffic, southbound motorists may also be tempted to turn onto 68th Street at high speeds given the wide angle of their approach. Protective bollards were installed on the southeast corner due to previous incidents where vehicles jumped the curb and damaged property. A bumpout to shorten crossing distance for pedestrians would increase their visibility to vehicles turning from all three directions. PWD has also suggested that a small GSI area might be feasible here to further improve drainage along the parkway.

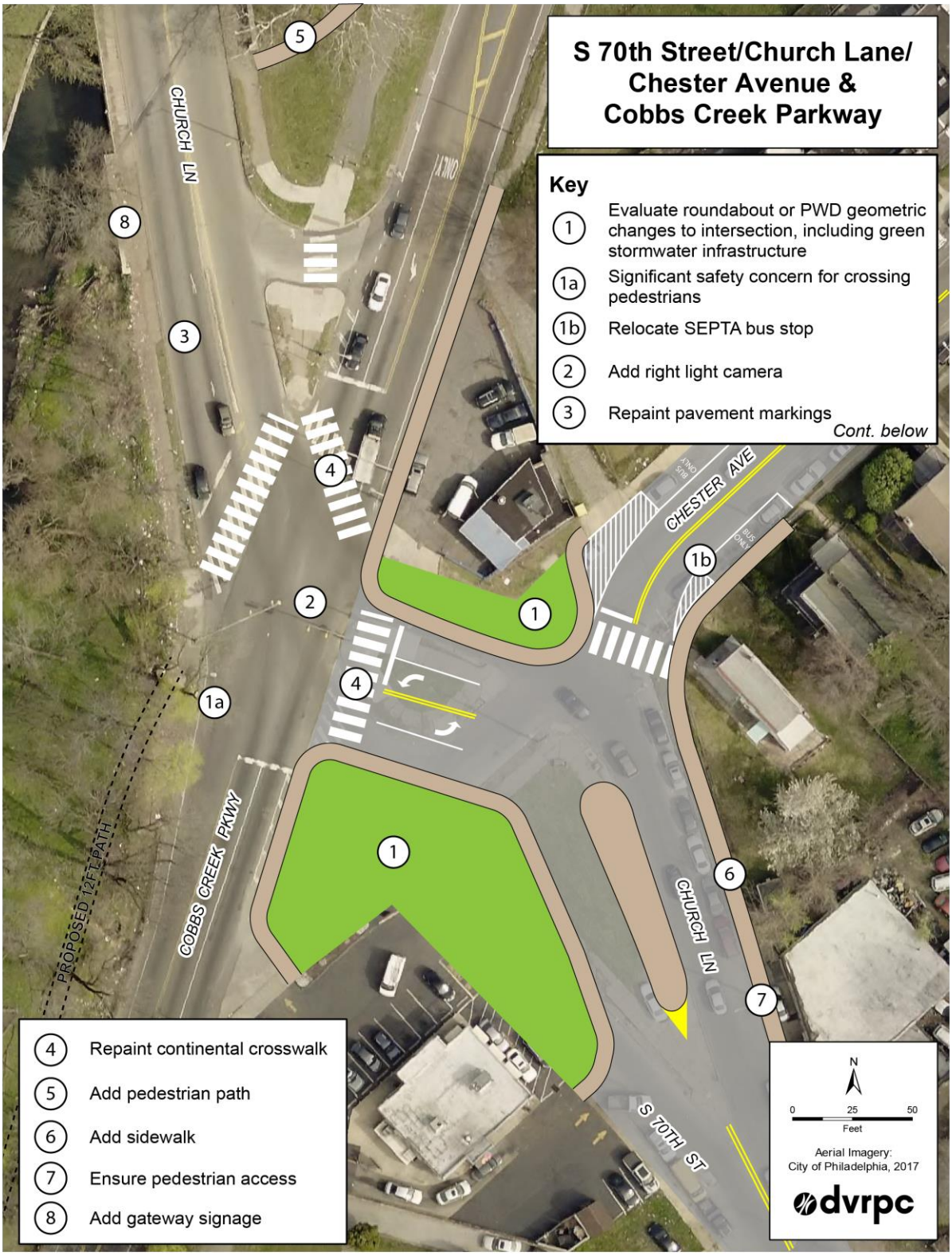
Figure 24: Faded Crosswalk at 68th Street

This image shows a car turning into 68th Street while a mail carrier is still crossing the street. The faded crosswalk and bollards on the south side of the intersection are also visible.

6. Repaint continental crosswalk.

As in other areas, the faded crosswalk across S. 68th Street sends a message that pedestrians are not a priority here, giving an indirect preference to vehicle traffic. Fresh paint will reinforce the presence of pedestrians for passing vehicles and promote a sense of safety and value for those on foot.

Figure 25: Cobbs Creek Parkway, Church Lane, S. 70th Street, and Chester Avenue: Option A



Cobbs Creek Parkway, Church Lane, S. 70th Street, and Chester Avenue (Figure 25)

This intersection is the most challenging of all of the intersections in the study area, given the number of roads that come together in a small area. During the field work for this study, the project team observed people on foot, bicyclists, parents pushing strollers, cars, trucks, and buses traveling through the intersection. There is also an elevated CSX rail line just east of the intersection. While many of the other intersections in this study are predominantly residential in character, there are several auto-oriented businesses near this intersection, including Dunkin' Donuts, Crabdaddy's, and Collision Squad/Shadyville Window Tinting (Table 8). The goals of the recommendations are to make the intersection more pedestrian friendly and reduce crash risk.

Table 8: Businesses Near Cobbs Creek Parkway, Church Lane, S 70th Street, and Chester Avenue

Business Name as it Appears on Sign	Address	Zoning*	License	License Number	Issue Date	OPA Account Number	Map Registry Number
Dunkin' Donuts	7000 Chester Avenue	CMX-2	Food Preparing and Serving	354274	01/31/2006	882057825	030S060028
Crabdaddy's	1800 Larry Street	CMX-2				882061350	030S050073
Shadyville Window Tinting	1923 S. 70th Street	RSA-3	Motor Vehicle Repair / Retail Mobile Dispensing	722226	12/6/2016	882967165	030S050098
[No Business Name Visible]	1920 S. 70th Street	ICMX				884791800	030S060026

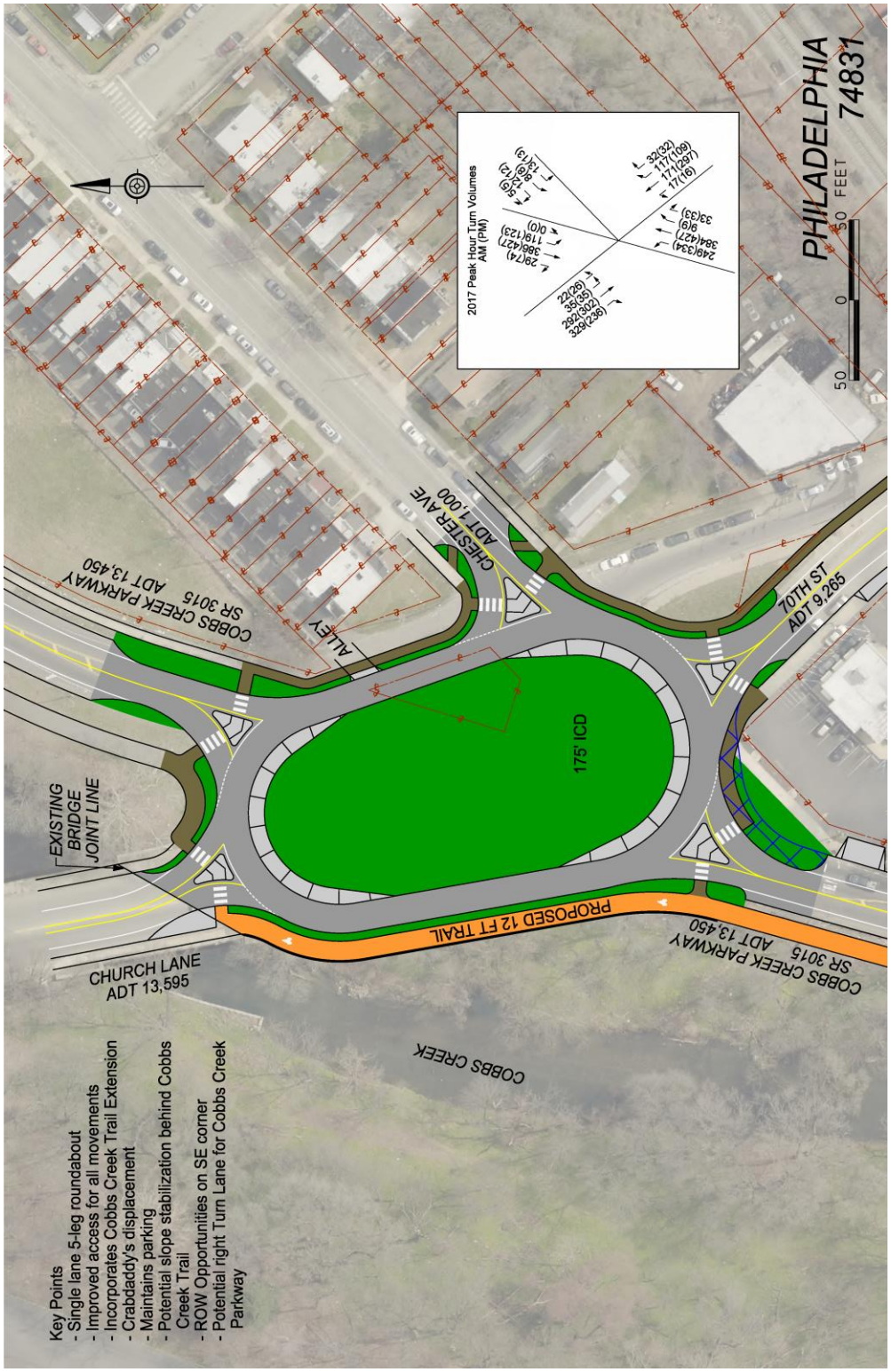
Source: City of Philadelphia. Atlas. Available online: atlas-dev.phila.gov (Accessed July 25, 2018).

** These properties are also within one or more overlays: Accessory Sign Controls - Special Controls for Cobbs Creek, Roosevelt Boulevard, and Department of Parks and Recreation Land (14-904(4)); AHC Airport Hazard Control Overlay District (14-511); and Open Space and Natural Resources - Flood Protection - Within the Special Flood Hazard Area (14-704(4)(c)(.2)).*

1. Evaluate a roundabout; if not possible, evaluate other geometrical changes to the intersection, such as PWD GSI and intersection reconfiguration recommendations.

PennDOT asked Urban Engineers to perform a preliminary evaluation of installing a modern roundabout at the intersection (Figure 26; see Appendix D for additional information), which would substantially improve safety for all users at the intersection. Some of the challenges to successfully installing a roundabout include the high vehicle volumes and tight geometry of the intersection. PennDOT should continue to evaluate this option as the best opportunity to improve safety. If it proves infeasible, further evaluation of geometrical changes to simplify movements and install PWD GSI should be pursued.

Figure 26: Cobbs Creek Parkway, Church Lane, S. 70th Street, and Chester Avenue: Option B



Source: Urban Engineers, 2018

a. Pay particular attention to safety at southside of intersection across Cobbs Creek Parkway.
Pedestrian safety on the south side of the intersection across Cobbs Creek Parkway is a particular concern. Currently, there is no marked crossing here, which forces pedestrians who want to cross the street legally to make three crossings to travel between the southeast and southwest corners of the intersection. Some pedestrians also choose to cross the shortest distance despite the lack of a crosswalk (see Figure 27), which is very dangerous. Streets would like to prevent pedestrians from crossing here while the intersection is in its current configuration. With the anticipated opening of Cobbs Creek Trail B segment in 2019 at the southwest corner of this intersection, the importance of this recommendation increases.

Figure 27: Looking North along Cobbs Creek Parkway (Church Avenue on left; 70th Street on right)

This image from February 2018 shows that pedestrians cross Cobbs Creek Parkway on the south side of the intersection of 70th Street and Church Lane although there is no crosswalk.

This can be addressed in a number of ways, each of which should be evaluated. The geometry of the intersection where Church Lane westbound meets Cobbs Creek Parkway southbound creates a near straight-away condition, such that right-turning vehicles do not need to slow down. This makes the crossing here very dangerous. One option is the installation of a modern roundabout, which would create the deflection required to slow vehicles (Option B). A second option would be to make alterations to the angle at which Church Lane and Cobbs Creek Parkway meet with a similar goal of substantially decreasing the turning radius and adding a continental crosswalk (Option A). Utilizing signal phasing strategies, like all-pedestrian phases or leading pedestrian intervals, would also help to increase pedestrian visibility in the intersection.

b. If changes to the intersection geometry are made, evaluate relocating SEPTA bus stops, especially on Chester Avenue.

The SEPTA 108 bus currently stops at the center of the intersection of 70th Street and Chester Avenue. If the intersection is reconfigured, the bus will no longer be able to stop there. Care must be given to ensure that the buses have adequate turning radii and that they have a location where they can stop parallel to a sidewalk so that they can lower the ramp for passengers who need an ADA-accessible stop.

2. Add a red light camera.

A 2011 report found that PennDOT's Automated Red Light Enforcement Program led to a 48 percent reduction of violations within the first year of a red light camera being installed. Furthermore, total crashes declined by 24 percent. Approximately 10.5 violations are needed daily per intersection in order for the installation to be self-sustaining.

3. Repaint pavement markings on west side of Church Lane.

The pavement markings west of Church Lane are faded. The markings will be repainted in accordance with the City of Philadelphia's plan to alter the approaches. The current left-turn-only lane will be repainted as a left turn and through lane and the current through and right turn lane will be painted as a right-turn-only lane. Streets has already updated the signage along Church Road to read "Right Lane Must Turn Right."

4. Repaint continental crosswalks.

A properly marked and visible crosswalk directs pedestrians to safe and proper crossing locations.

5. Evaluate adding a pedestrian path that follows line of desire for pedestrians between Church Lane and Cobbs Creek Trail.

Through field visits, it is evident that a desire line exists for pedestrians turning between the north side of Church Lane and the southernmost point of Cobbs Creek Trail. During construction of the Cobbs Creek Trail extension to the south, a change order may be used to add a small paving project to create a paved path for pedestrians along the current desire line.

6. Add sidewalk to north side of 70th Street between Chester Avenue and CSX trestle.

There is a clear "desire line" on the north side of 70th Street between Chester Avenue and the CSX trestle. It shows that people walk here, even though there is no sidewalk present (Figure 28). Installing a sidewalk would make it safer and more comfortable for pedestrians.

Figure 28: Lack of Sidewalk on North Side of 70th Street

There is a clear "desire line" on the north side of 70th Street between Chester Avenue and the CSX trestle.

There are cars parked on the sidewalk in front of 1923 S 70th Street, which makes it difficult for pedestrians, people in wheelchairs, and people with strollers to walk on the north side of 70th Street.

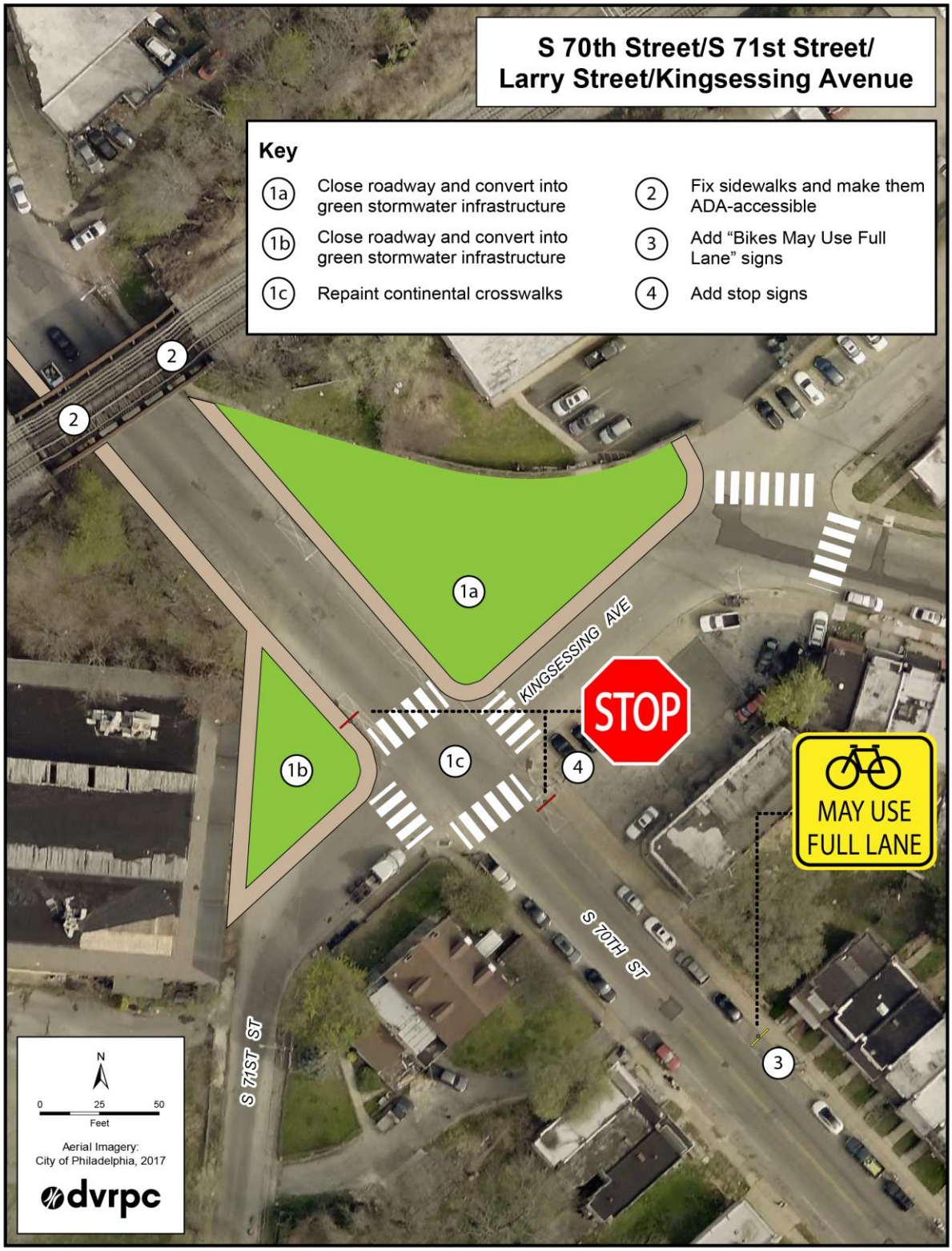
7. Work with the business owner of the autobody shop at 1923 S 70th Street to ensure pedestrian access in front of property.

On numerous site visits, there were cars parked on the sidewalk in front of the autobody shop at 1923 S 70th Street. The sidewalk is for people to walk—not extra space to store cars for a private business. If cars are parked on the sidewalk, pedestrians might walk into the street, subjecting themselves to injury or death.

8. Add gateway signage to eastbound Church Lane to alert drivers that they are entering the City of Philadelphia.

Traveling from the west along Church Lane, one leaves Delaware County and enters Philadelphia. This presents an opportunity to create a gateway to Philadelphia from the west. When people are coming from Yeadon, this is the first part of Philadelphia that they see. It is an opportunity to make a positive first impression.

Figure 29: S. 70th Street, S. 71st Street, S. Larry Street, and Kingsessing Avenue



S. 70th Street, S. 71st Street, S. Larry Street, and Kingsessing Avenue (Figure 29)

1. Implement PWD plans, including:

a. closing Larry Street between CSX trestle and Kingsessing Avenue to traffic and converting entire northwest part of intersection of S. 70th and Kingsessing Avenue into GSI.

b. closing S. 71st Street from Kingsessing Avenue to S. 70th Street (in front of 2000 S. 71st Street) to traffic and converting it to GSI.

c. repainting continental crosswalks at the newly created four-way intersection at S. 70th Street and Kingsessing Avenue.

The two islands located at the intersection are both made of concrete and in various stages of ill repair. The GSI would increase the size of the island on the east side, eliminating the intersection of Larry Street and 70th Street, and providing a large area of green space. The island on the west side would also include GSI, and the two new islands together would create a four-way intersection at 70th Street and Kingsessing Avenue. This would create a much better pedestrian crossing location and create GSI that could help to reduce flooding near Cobbs Creek. Furthermore, a properly marked and visible crosswalk directs pedestrians to safe and proper crossing locations.

The area between Larry Street, Kingsessing Street, and 70th Street could be converted to GSI.

The road on the right, 71st Street, could be closed from Kingsessing Avenue to S. 70th Street (in front of 2000 S. 71st Street) and converted to GSI.

2. Fix sidewalks under CSX trestle and make ADA accessible on both sides, paying particular attention to the drainage from the CSX embankment.

To create a walkable area for residents and allow access to and from Cobbs Creek Park, the sidewalks must be fixed and be made ADA accessible.

The sidewalk on the south side of 70th Street under the CSX trestle is overgrown with weeds, trash strewn, and not ADA accessible.

3. Replace "Share the Road" signs on 70th Street east of Kingsessing Avenue with "Bikes May Take Full Lane" signs.

Seventieth Street is part of the East Coast Greenway and leads cyclists to the Cobbs Creek Trail. Signage about bicycles should be added to alert motorists that cyclists share the road.

There could be additional signage about bicycles sharing the road on 70th Street east of Kingsessing Avenue, as it is part of the East Coast Greenway.

4. Evaluate stop signs on 70th Street at Kingsessing after construction of GSI (or consider "Opposing Traffic Does Not Stop" signage on Kingsessing Avenue and 71st Street).

The new intersection that would be constructed as part of the GSI would have stop signs on the cross streets, not 70th Street. A Stop Sign Warrants analysis would assist in determining the need for a stop sign at the location. The four-way stop would assist pedestrians in crossing safely in all directions. If a stop sign is found to be unwarranted along 70th Street, then an "Opposing Traffic Does Not Stop" sign should be put in place to notify motorists and pedestrians that vehicles will not stop at the intersection along 70th Street.

Looking at the northwest corner of the intersection of 70th Street and Kingsessing Avenue.

Outside of Study Area Recommendations

1. Install signage at the intersection of Cobbs Creek Parkway and Woodland Avenue indicating that Cobbs Creek Parkway is closed to trucks and buses through 58th & Hoffman.

2. Install more prominent signage at the intersection of 58th Street and Cobbs Creek Parkway indicating that Cobbs Creek Parkway is closed to trucks and buses through Woodland Avenue.

Approximately 10 percent of the current traffic on Cobbs Creek Parkway in the Study Area is trucks, although there are signs prohibiting trucks from using the street. Residents claim that trucks are using the Parkway as a north-south cutthrough on their way to and from I-95 and the airport. Currently, there are only two signs to let drivers know that trucks and buses are not allowed on Cobbs Creek Parkway: one on the northeast corner of Cobbs Creek Parkway and 70th Street and another on the west side of 58th Street where traffic turns right onto southbound Cobbs Creek Parkway. Additional signage earlier as well as larger signage would alert truck and bus drivers that they are not allowed to use Cobbs Creek Parkway.

The intersection of Cobbs Creek and Woodland Avenue needs additional signage about the truck ban on Cobbs Creek Parkway, as well as special attention when the Cobbs Creek Trail is constructed in this area.

During the course of this study, the Philadelphia Streets Department put up several new "No Trucks or Buses" signs along Cobbs Creek Parkway, such as this one near S. 60th Street.

3. Align efforts for Cobbs Creek Trail Segment B with the future ADA-accessible trolley stop at Cobbs Creek and Woodland Avenue

An ADA-accessible trolley stop will be constructed in the next 10 years at Cobbs Creek Parkway and Woodland Avenue as part of SEPTA's Trolley Modernization efforts. Special care should be given to ensuring that pedestrians and bicyclists from the trail do not come into conflict with SEPTA patrons who are boarding or alighting from the trolley. The Modern Trolley Station Design Guide[53] should be followed. Additionally, designing the connection between the trolley stop and the trail will ensure that people in wheelchairs will easily be able to access the recreational amenity.

[53] DVRPC, *Modern Trolley Station Design Guide: SEPTA City Transit Division - Routes 10, 11, 13, 15, 34, and 36.* www.dvrpc.org/Products/15014/, accessed August 30, 2018).

Southwest Leadership Academy Charter School is opening a new campus at the currently vacant site bounded by Cobbs Creek Parkway, 58th Street, Thomas Avenue, and Whitby Avenue. Although it is outside of the study area, future traffic and trail use between 60th and 70th streets may be impacted by the daily population of 1,000 kindergarten through eighth grade students, along with parents, teachers, visitors, and administrators. The school intends to bus a large number of its students and use part of the parkway for its circulation to drop off students, which would conflict with the rule prohibiting trucks and buses. The recommendations found in this report can help to ensure that members of the school community can travel safely on Cobbs Creek Parkway and trail, as well as other Lower Southwest district neighborhoods.

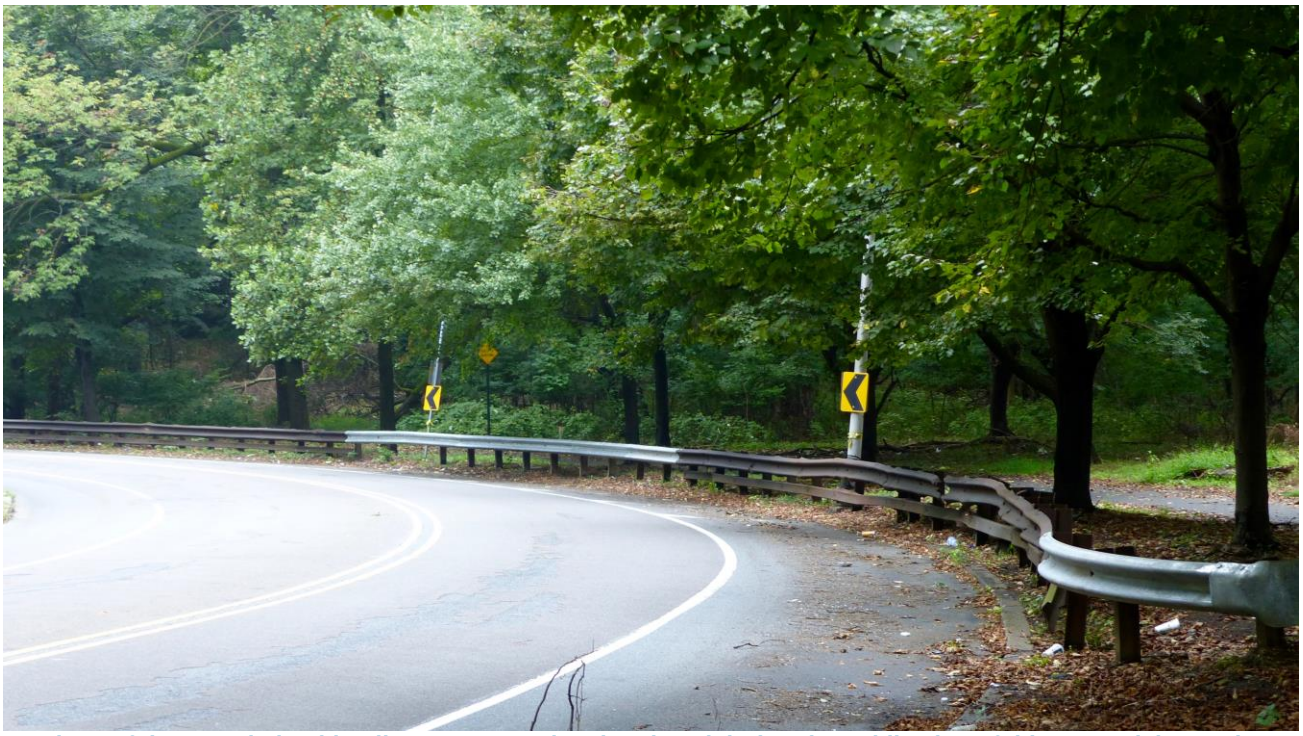
CHAPTER 4: Implementation

Implementing the safety and stormwater improvements recommended in the previous chapter will be a challenging task. It will require effort and coordination between city and state agencies, as well as local non-profits. It will also require funding. This chapter outlines the responsible agencies for each recommendation, discusses some implementation efforts that are already underway, and outlines possible funding sources for future implementation efforts.

Existing Implementation Efforts

Over the course of this project, representatives from multiple city and state agencies met on several occasions. Where possible, they began implementing some of the "low-hanging fruit" recommendations, such as tree trimming or repainting faded lane markings, which can be accomplished with existing personnel and budgets. Sections of the mangled guiderail were also removed and replaced (see Figure 30).

Figure 30: Replaced Guiderail



Sections of the mangled guiderail were removed and replaced during the publication of this report (photo taken September 2018).

Future Implementation Efforts

Table 9 summarizes the recommendations contained in Chapter 3 and includes information about the agency or organization responsible for implementation, timeframe (short/medium/long), estimated cost, and priority (high/medium/low). After Table 9, there is a list of possible funding sources for implementation.

Table 9: Implementation

Key For Agency/Organization Responsible:
Philadelphia Police Department:
PennDOT:
Streets:
PWD:
PPR:
Other:

Corridor-Wide Recommendations	Agency/ Organization Responsible	Timeframe (Short/Medium/Long)	Estimated Cost	Priority (High/Medium/Low)
1. Enforce "no trucks or buses" rule on Cobbs Creek Parkway between Woodland Avenue and 58th Street (see also Outside of Study Area Recommendations 1 and 2).	Philadelphia Police Department	Short	Cost of police time	High
2. Reduce truck traffic on Cobbs Creek Parkway by reporting truck restriction status to GPS navigation providers.	oTIS	Short		High
3. Install durable two-way raised retroreflective pavement markers along Cobbs Creek Parkway centerline.	PennDOT Streets	Medium		High
4. Prune trees and vegetation regularly.	PPR Stewardship Department	Short	Cost of PPR labor	High
5. Conduct regular GSI maintenance.	PWD	Short	Cost of PWD labor	High
6. Reduce flooding.	PWD	Long		High
a. Encourage residents to fill out PWD's Flooding Survey		Short	Cost of PWD labor	High
b. Encourage non-residential property owners to reduce stormwater runoff by installing stormwater management controls funded with Stormwater Management Incentive Program and Greened Acres Retrofit Program grants.		Medium		High
c. Protect PWD's interceptor and install GSI east of Mount Moriah Cemetery entrance on the south side of Cobbs Creek Parkway		Medium		High
d. Engage with the Darby Cobbs Watershed Partnership and Citywide Flood Risk ManagementTask Force to identify regional and/or citywide strategies to reduce flooding.		Medium		Medium
7. Maintain sidewalk on east side of Cobbs Creek Parkway.	PPR	Short	Asphalt sidewalk average cost $35/linear foot; median cost $16/linear foot Concrete sidewalk average cost $32/linear foot; median cost $27/linear foot	High
8. Install speed cameras.	State Legislature City Council	Long		Medium
9. Host an internal discussion to evaluate permanent dynamic speed display signs similar to ones on Route 1 in Upper Darby.	Streets	Short		Medium
10. Conduct a corridor-wide lighting study.	Streets PPR	Medium		High

Trail Recommendations	Agency/ Organization Responsible	Timeframe (Short/Medium/Long)	Estimated Cost	Priority (High/Medium/Low)
1. Fix potholes.	PPR	Short	$35–50 per pothole (sealmaster.net) $100–300 per pothole (HomeAdvisor) $23–129 per pothole (Governing)	High
2. Prune trees and vegetation regularly.	PPR	Short	30 Feet and Shorter: Trees that are up to 30 feet high, like Russian olive trees and dogwood trees, cost between $75 and $450. 30 Feet to 60 Feet: It costs between $150 and $875 to have trees in this height range, like crab apple trees, trimmed by the pros. 60 Feet and Taller: You can expect to pay between $200 and $1,000 or more to have an exceptionally tall tree, like a red oak or a pine tree, trimmed by a professional company.	High
3. Plan regular trail cleanups.	PPR	Medium	Could be coordinated with volunteers from Friends of Cobbs Creek	High
4. Bring more visibility to fold-down bollards in the middle of the trail.	PPR	Short	$0.50 per linear foot paint for 4-inch line PeopleForBikes estimates that flexible bollards for bicycle lanes cost about $3–5 per foot. $150.00 per bollard	High
5. Install help locator markers.	PPR Philadelphia Police Department	Short	A trail wayfinding/information sign may range from $500–$2,000.	High
6. Evaluate installing site amenities, such as benches and trash cans.	PPR	Medium	Benches: median cost $1,600; average cost $1,550; minimum cost $220; maximum cost $5,750 Trash cans: median cost $1,330; average cost $1,420; minimum cost $310; maximum cost $3,220	Low
7. Study building mulched hiking trails within the creek area or create other access points to the creek near the trail.	PPR	Long		Low
8. Establish a core management team with nonprofit and neighborhood partners.	PPR	Medium		Medium
9. Find funding for and install additional signage along Cobbs Creek Trail.	PPR	Medium	A trail wayfinding/information sign may range from $500–$2,000.	Medium
10. Brand and build awareness about the trail within the city and the region.	Friends of Cobbs Creek, Town Watch Integrated Services, Philadelphia Police Department, Southwest CDC	Medium	Varies	Low

Intersection-Specific Recommendations:

Cobbs Creek Parkway, S. 60th Street, and S. Edgewood Street	Agency/ Organization Responsible	Timeframe (Short/Medium/Long)	Estimated Cost	Priority (High/Medium/Low)
1. Evaluate closing the northbound channelized right turn in front of DaVita Dialysis and have northbound drivers turn right at 60th Street; investigate GSI on existing concrete island and former channelized intersection.	PWD PennDOT Streets	Long	Rutgers Water Resources Program estimates that roadway rain gardens/bioretention systems cost in the range of $42,500–$52,500.	Medium
2. Retain the current stop sign and repaint the continental crosswalk across 60th Street just west of Warrington Avenue. Repaint existing continental crosswalks and stop bar across Warrington Avenue (north side of 60th Street).	Streets	Short	$0.03–$2.65/linear foot	High
3. Add continental crosswalk across 60th Street on east side of Cobbs Creek Parkway.	Streets	Short	The cost of striped crosswalks range from approximately $100 to $2,100 each, or on average approximately $7 per square foot. A high-visibility crosswalk can range from $600 to $5,700 each, or around $2,500 on average. Striped crosswalk: median cost $340; average cost $770; minimum cost $110; maximum cost $2,090 ... $5–9/linear foot or $6–8/square foot	High
4. Add curb extension on north side of 60th Street at Cobbs Creek Parkway to shorten crossing distance for pedestrians.	PennDOT Streets	Medium	Average cost approximately $12,000	Medium
5. Add a curb extension on north side of S. Edgewood Street.	PennDOT Streets	Medium	Average cost approximately $12,000	Medium
6. Repaint faded continental crosswalk and stop bar across S. Edgewood Street.	Streets	Short	The cost of striped crosswalks range from approximately $100 to $2,100 each, or on average approximately $7 per square foot. A high visibility crosswalk can range from $600 to $5,700 each, or around $2,500 on average. Striped crosswalk median cost $340; average cost $770; minimum cost $110; maximum cost $2,090 ... $5–9/linear foot or $6–8/square foot	High

Cobbs Creek Parkway and Springfield Avenue	Agency/ Organization Responsible	Timeframe (Short/Medium/Long)	Estimated Cost	Priority (High/Medium/Low)
1. Repaint continental crosswalk on western end of Springfield Avenue at Cobbs Creek Parkway.	Streets	Short	$0.03–$2.65/LF	High
2. Repaint continental crosswalk from GSI across Springfield Avenue to Mount Moriah Cemetery (linked with Corridor-Wide Recommendation #7).	Streets	Short	$0.03–$2.65/LF	High
3. Create a safe crossing across Cobbs Creek Parkway to Cobbs Creek Trail near Springfield Avenue. Add curb extensions. Add a push-button pedestrian warning beacon with an overhead mast arm and flashing yellows. Pursue education and enforcement campaign in conjunction with installation of pedestrian crossing.	PennDOT Streets [in coordination with PPR]	Medium	Pedestrian Hybrid Beacon: $50,000–$100,000 RRFB: $10,000–$15,000	High
Cobbs Creek Parkway and Mount Moriah Cemetery Entrances	**Agency/ Organization Responsible**	**Timeframe (Short/Medium/Long)**	**Estimated Cost**	**Priority (High/Medium/Low)**
1. Check the placement, spacing, and retroreflectivity of Chevron Alignment Signs (W1-8) facing in both directions on the south side of Cobbs Creek Parkway east and west of the Mount Moriah Cemetery entrance.	Streets [coordinate with PPR to make sure vegetation is trimmed to make sure signs are visible.]	Short	Streets Labor	High
2. Install Cemetery Entrance Signs (W11-28) or Curve with Cross Road Signs (W1-10A) near entrance to Mount Moriah Cemetery in both directions.	Streets	Short	Assume an average cost of $150 to install or replace a 36" x 36" warning sign.	Low
3. Repair HFST.	PennDOT	Medium		High
4. Streets and PennDOT will continue ongoing conversations about removing/replacing guiderail along Cobbs Creek Parkway.	PennDOT Streets PPR	Short		High
5. Repaint shoulder markings on south side of Cobbs Creek Parkway west of Mount Moriah Cemetery entrance.	PennDOT Streets	Short		High
6. Install centerline rumble strips, repaint yellow centerlines, and install Center Rumble Strips Ahead (W8-102) signs, as needed *(see also Corridor-Wide Recommendation #3).*	PennDOT	Short		Medium
7. Research and install advisory speed limit curve signage, especially in the northbound direction.	Streets	Medium		Medium
8. Consider installing concrete barriers between Cobbs Creek Trail and Cobbs Creek Parkway.	Streets PPR	Medium		Medium

Cobbs Creek Parkway and S. 65th Street	Agency/ Organization Responsible	Timeframe (Short/Medium/Long)	Estimated Cost	Priority (High/Medium/Low)
1. When functionally obsolete 65th Street bridge over Cobbs Creek Parkway and structurally deficient 65th Street bridge over Cobbs Creek are replaced, widen them both to include sidewalks and bike lanes on both sides. Evaluate the construction of stairs and/or an ADA-accessible ramp to get from 65th Street bridge down to Cobbs Creek Trail.	PennDOT [in coordination with PPR]	Long	River Road Bridge over Tohickon Creek SR:0032; Plumstead/Tinicum, Bucks County; widened from 27 feet to 37 feet with one six-foot sidewalk; completed 2016 after 2.5 years of construction; $6 million.	High
2. Upgrade the stop sign at bottom of ramp from 65th Street onto Cobbs Creek Parkway by installing a retroreflective post.	Streets	Short	Virginia DOT estimates an installation cost per sign of roughly $60. FHWA lists an estimate of less than $1,000.	High
3. PPR will convene a discussion with PennDOT and Streets to address historic wall and stairway associated with 65th Street bridge, including:	PPR	Medium		Low
a. Evaluating historic wall and making end-treatment more visible to cars.	PennDOT	Medium		Low
b. Repairing existing stairs on south side of 65th Street bridge and potentially adding metal bicycle gutters to make it easier to wheel bicycles up and down until stairs/ADA-ramp in recommendation #1 is constructed.	Streets	Medium		Medium
4. Paint centerlines and a stop bar on ramp.	Streets	Short	Approximately $1,250 for the enhanced pavement markings (centerlines and stop bars).	Medium
5. Add signs on northbound and southbound Cobbs Creek Parkway warning of traffic turning onto and off of the 65th Street ramp (e.g., Cross-Traffic Ahead or Curve with Crossroad).	Streets	Short	Assume an average cost of $150 to install or replace a 36" x 36" warning sign.	Medium
6. Install delineator posts for pedestrians where no sidewalks exist on bridges over Cobbs Creek.	Streets	Medium	PeopleForBikes estimates that flexible bollards for bicycle lanes cost about $3–5 per foot. These are arranged similarly to the pedestrian-oriented recommendation for the Cobbs Creek 65th Street bridge. On the 46-foot span, the cost would be $138–230 for one side of protected walkway and $276–460 for both sides.	High
7. Add gateway signage to eastbound 65th Street to alert drivers that they are entering the City of Philadelphia.	Streets	Long	$3,500–4,500	Low

Cobbs Creek Parkway, S. 67th Street, and S. 68th Street	Agency/ Organization Responsible	Timeframe (Short/Medium/Long)	Estimated Cost	Priority (High/Medium/Low)
1. Implement PWD sketches for stormwater bumpouts, including removing slip lane.	PWD	Medium	Rutgers Water Resources Program estimates that roadway rain gardens/bioretention systems cost in the range of $42,500 – $52,500.	High
a. Extend area where Cobbs Creek War Memorial currently stands farther south.	PennDOT	Medium		High
b. Create a new triangular bumpout for GSI, extending from the property line at the 6700 block of Cobbs Creek Parkway to meet 67th Street and create a perpendicular intersection.	Streets	Medium		High
c. Add continental crosswalks.	Streets	Medium	The cost of striped crosswalks range from approximately $100 to $2,100 each, or on average approximately $7 per square foot. A high visibility crosswalk can range from $600 to $5,700 each, or around $2,500 on average. Striped crosswalk median cost $340; average cost $770; minimum cost $110; maximum cost $2,090 ... $5–9/linear foot or $6–8/square foot	High
2. Upgrade lighting at the intersection in conjunction with the PWD stormwater work.	Streets [in coordination with PWD]	Medium	$500–$1,500 per fixture	Medium
3. Add signage along southbound about limited visibility and entering traffic (e.g., Intersection Warning Sign [W2-2]).	Streets	Short	Assume an average cost of $150 to install or replace a 36" x 36" warning sign.	Medium
4. Install permanent DSDS.	Streets	Short	$8,000	Medium
5. Install curb bumpout on south side of 68th Street intersection to shorten crossing distance for pedestrians; investigate GSI.	PWD PennDOT Streets	Short	Average cost is approximately $12,000	High
6. Repaint continental crosswalk.	Streets	Short	The cost of striped crosswalks range from approximately $100 to $2,100 each, or on average approximately $7 per square foot. A high-visibility crosswalk can range from $600 to $5,700 each, or around $2,500 on average. Striped crosswalk median cost $340; average cost $770; minimum cost $110; maximum cost $2,090 ... $5–9/linear foot or $6–8/square foot	High

Cobbs Creek Parkway, Church Lane, S. 70th Street, and Chester Avenue	Agency/ Organization Responsible	Timeframe (Short/Medium/Long)	Estimated Cost	Priority (High/Medium/Low)
1. Evaluate a roundabout; if not possible, evaluate other geometrical changes to the intersection, such as PWD GSI and Intersection reconfiguration recommendations.	PWD	Short		High
a. Pay particular attention to safety at southside of intersection across Cobbs Creek Parkway.	PennDOT Streets	Short		High
b. If changes to the intersection geometry are made, evaluate relocating SEPTA bus stops, especially on Chester Avenue	SEPTA	Medium		Medium
2. Add a red light camera.	City Council Philadelphia Parking Authority	Medium		Medium
3. Repaint pavement markings on west side of Church Lane.	Streets	Short		High
4. Repaint continental crosswalks.	Streets	Short		High
5. Evaluate adding a pedestrian path that follows line of desire for pedestrians between Church Lane and Cobbs Creek Trail.	PPR	Medium	Could be added on as a change order when Cobbs Creek Trail B is constructed.	Low
6. Add sidewalk to north side of 70th Street between Chester and CSX trestle.	Homeowner of 6930 Chester Avenue	Long		High
7. Work with the business owner of the autobody shop at 1923 S. 70th Street to ensure pedestrian access in front of property.	Property Owner of 1923 S. 70th Street	Short	Licenses and Inspection labor	High
8. Add gateway signage to eastbound Church Lane to alert drivers that they are entering the City of Philadelphia.		Long	$3,500–4,500	Low

S. 70th Street, S. 71st Street, S. Larry Street, and Kingsessing Avenue	Agency/ Organization Responsible	Timeframe (Short/Medium/Long)	Estimated Cost	Priority (High/Medium/Low)
1. Implement PWD plans, including:	PWD	Medium	High	Medium
a. closing Larry Street between CSX trestle and Kingsessing Avenue to traffic and converting entire NW part of intersection of S. 70th and Kingsessing Avenue into GSI.	PennDOT	Medium	High	Medium
b. closing S. 71st Street from Kingsessing Avenue to S. 70th Street (in front of 2000 S. 71st Street) to traffic and converting it to GSI	Streets	Medium	High	Medium
c. repainting continental crosswalks at the newly created four-way intersection at S. 70th Street and Kingsessing Avenue.	Streets	Medium	$0.03–$2.65/linear foot	Medium
2. Fix sidewalks under CSX trestle and make ADA accessible on both sides.	CSX	Short		Medium
3. Replace “Share the Road” signs on 70th Street east of Kingsessing Avenue with “Bikes May Take Full Lane” signs.	Streets	Short	Assume an average cost of $150 to install or replace a 36" x 36" warning sign.	Low
4. Evaluate stop signs on 70th Street at Kingsessing after construction of GSI (or consider "Opposing Traffic Does Not Stop" signage on Kingsessing Avenue and 71st Street).	Streets	Short	Medium	Medium
Outside of Study Area Recommendations:	**Agency/ Organization Responsible**	**Timeframe (Short/Medium/Long)**	**Estimated Cost**	**Priority (High/Medium/Low)**
1. Install signage at the intersection of Cobbs Creek Parkway and Woodland Avenue indicating that Cobbs Creek Parkway is closed to trucks and buses through 58th and Hoffman.	Streets	Short	Assume an average cost of $150 to install or replace a 36" x 36" warning sign.	Medium
2. Install more prominent signage at the intersection of 58th Street and Cobbs Creek Parkway indicating that Cobbs Creek Parkway is closed to trucks and buses through Woodland Avenue.	Streets	Short	Assume an average cost of $150 to install or replace a 36" x 36" warning sign.	Medium
3. Align efforts for Cobbs Creek Trail Segment B with the new ADA-accessible trolley stop at Cobbs Creek and Woodland Avenue.	PPR SEPTA	Medium		Low

Potential Funding Sources

Several of the recommendations in this plan are larger and will require outside funding. This section lists a variety of grants that city, state, and local partners could apply for to fund the recommendations. Several can be used for transportation and safety improvements, while others can be used for trails and recreational facilities, green infrastructure, promoting walking, trash clean up, or other purposes.

Transportation

PennDOT Multimodal Fund

PennDOT's Multimodal Transportation Fund provides grants to ensure safe and reliable transportation to Pennsylvania residents. Municipal governments may apply for financial assistance to enhance communities, pedestrian safety, and transit revitalization. Eligible projects include bus stops, sidewalk and crosswalk improvements, and bike lanes and route designations. Projects that relate to streetscape, lighting, pedestrian and traffic signals, and signs may also be funded. Some of the activities for which funds can be used are:

- Acquisition of land and buildings, rights of way and easements
- Construction
- Capital equipment
- The clearing and preparation of land
- Demolition of structures
- Environmental site assessment and environmental studies
- Related engineering, design and inspection costs
- Settlement costs of land acquisition activities

Grants are awarded to projects with a total cost of $100,000 or more. Grants normally do not exceed to $3 million but PennDOT will consider projects with a total cost of over $3 million should they significantly impact the agency's goal of creating jobs and leveraging private investment. Other eligible entities include businesses, nonprofits, economic development agencies, and public transportation agencies.

A local match of 30 percent is required. Applications were most recently accepted between late February and late March of 2018. Projects must be owned and maintained by the applicant or the applicant must have an agreement with the owner for ongoing maintenance of the resulting project asset. PennDOT encourages applicants to simultaneously submit projects to the Department of Community and Economic Development (DCED)/CFA Multimodal Transportation Fund (see below).

DCED Multimodal Fund

The Department of Community and Economic Development's Multimodal Transportation Fund provides grants to ensure safe and reliable transportation to Pennsylvania residents, with the additional purpose of encouraging economic development. Eligible projects and activities are the same as those listed for PennDOT's Multimodal Transportation Fund.

Grants are awarded to projects with a total cost of $100,000 or more. Grants normally do not exceed to $3 million but the Commonwealth Financing Authority (CFA) will consider projects with a total cost of over $3 million should they significantly impact DCED's goal of creating jobs and leveraging private investment.

A local match of 30 percent is required. Applications are received between March 1st and July 31st of each year. Applicants are encouraged to simultaneously submit projects to PennDOT's Multimodal Transportation Fund (see above).

Some of the recommended projects for which both sources of Multimodal Transportation funding could be utilized are:

- reconstruction of sidewalks on the northbound side of Cobbs Creek Parkway;
- rehabilitation of Cobbs Creek Trail by filling potholes and adding amenities;
- addition of signage and lighting to the roadway and trail;
- installing and repainting crosswalks, lane markings, and stop bars;
- curb extensions;
- installation of a new safe, signalized pedestrian crossing; widening and adding sidewalks and bike lanes to the 65th Street bridges;
- construction of an ADA ramp from 65th Street to Cobbs Creek Trail; and
- acquisition of right-of-way for and construction of new sidewalk at 6930 Chester Avenue.

Highway Safety Improvement Program (HSIP)

HSIP is a federal funding source available to state departments of transportation under the Fixing America's Surface Transportation Act (FAST Act). The purpose of the program is to significantly reduce fatalities and serious injuries on public roads. The state departments of transportation administer the funds to projects that meet eligibility requirements, including (1) consistency with the state's Strategic Highway Safety Plan, (2) that the project addresses a highway safety problem, (3) that the problem is identified on the basis of a data-driven analysis of crash experience or potential, and (4) that it complies with other requirements under Title 23.[54] HSIP funds may *not* be used for automated enforcement programs.

In southeastern Pennsylvania, projects are identified for HSIP funding by PennDOT District 6-0 and then submitted to PennDOT's central Highway Safety Section for review. Projects should address locations listed on the Statewide High Crash Locations priority ranking, and feature systematic implementation of low-cost safety countermeasures where possible. HSIP funds may be used for any aspect of a safety project from the initial study and preliminary engineering to final construction and evaluation. According to FHWA, "in most cases, the HSIP covers 90 percent of the project cost except for certain safety improvements listed in 23 U.S.C. 120(c) including roundabouts, which are funded at 100 percent."[55]

To ensure safety improvement projects are data-driven and will yield a positive benefit cost ratio, PennDOT's Highway Safety Section requires a *Highway Safety Manual* analysis. District 6-0 typically performs this analysis and includes the results with each project application. For lower cost improvements like upgrading signs or striping, PennDOT sometimes uses maintenance funds to expedite the process.

Some of the recommended projects for which HSIP funding could be utilized are:

- installation of durable two-way raised retroreflective pavement markers (RRPMs) along Cobbs Creek Parkway centerline;

[54] FHWA, "Highway Safety Improvement Program (HSIP) Eligibility Guidance" safety.fhwa.dot.gov/legislationandpolicy/fast/guidance.cfm
[55] safety.fhwa.dot.gov/hsip/resources/fhwasa09029/sec5.cfm

- evaluation of closing channelized right turns along Cobbs Creek Parkway;
- repainting faded pavement markings, especially crosswalks;
- curb extensions along Cobbs Creek Parkway;
- creation of a safe pedestrian crossing across Cobbs Creek Parkway at Springfield Avenue;
- upgrading the retroreflectivity of signage along Cobbs Creek Parkway;
- repairs to high friction surface treatment;
- installation of centerline rumble strips and appropriate warnings and signage; and
- evaluation of roundabout feasibility for Cobbs Creek Parkway, Church Lane, 70th Street and Chester Avenue.

Transportation Alternatives Set-Aside

The FAST Act of 2015 combined various funding sources, including Transportation Enhancements, Scenic Byways, and Safe Routes to School, under the Set-Aside of the Surface Transportation Block Grant Program. In Pennsylvania, examples of eligible Set-Aside projects include: bicycle and pedestrian facilities, historic preservation and rehab of historic transportation facilities, vegetation management, archaeological activities, stormwater management, and safety projects. Recommendations such as sidewalk repair and construction, crossings and curb extensions, signs and signals, tree trimming, GSI, and historic bridge and wall repair may be strong candidates for Transportation Alternative Program awards. The program has been awarded on a biennial basis and currently has funding through 2020. It is a cost reimbursement program and provides 100 percent construction funding in amounts between $50,000 and $1 million, with no local match required. There are two pots of money: statewide funding and a specific set-aside for large Metropolitan Planning Organizations (MPOs), which includes DVRPC.

Stormwater Management, Flood Control, and Water Quality

Pennsylvania Department of Community and Economic Development (DCED) Flood Mitigation Program

The Commonwealth offers funding to municipalities and other authorized organizations to assist with flood mitigation projects. Grants are available for projects with a total cost of $50,000 or more and shall not exceed $500,000 for any project. A 15 percent local match is required. Applications will be accepted between February 1st and May 31st of each year. Eligible project uses include:

- acquisition of land, rights-of-way, and easements;
- engineering or system (HEC-RAS) studies;
- construction, improvement, expansion, repair, or rehabilitation of flood control projects;
- debris removal;
- installation of security measures;
- construction engineering costs/inspections costs;
- permit fees;
- costs to secure appropriate bonds and insurance; and
- administrative costs.

Funding for GSI and other flood mitigation projects recommended above may be competitive for this program.[56]

DCED H2O PA Program

DCED offers grants ranging from $500,000 to $20 million for projects related to stormwater and flood control systems. Stormwater management efforts along Cobbs Creek Parkway may be eligible. Funds may be used for construction, improvement, expansion, repair, or rehabilitation of stormwater or flood control systems, as well as engineering costs, inspection costs, permit fees, costs to secure bonds and insurance, and administrative costs. Matching funds are required to be no less than 50 percent of the amount awarded. The cash match may come from any other source, including the Pennsylvania Infrastructure Investment Authority (PENNVEST). GSI and other flood control efforts along Cobbs Creek Parkway may qualify as a standalone project or as part of a larger application by the city.[57,58]

DCED Watershed Restoration and Protection Program

DCED provides funding to restore and maintain streams impaired by non-point source pollution, including urban stormwater runoff. Eligible projects should control or reduce runoff through best management practices (BMPs) as listed in the *Pennsylvania Stormwater BMP Manual*. Funds may be used for:

- construction, improvement, expansion, repair, maintenance or rehabilitation of new or existing watershed protection BMPs;
- engineering and construction oversight, inspection and performance monitoring costs, and technical assistance;
- trust funds for operations and maintenance costs associated with implemented urban and stream restoration BMPs; and
- administrative costs.

Applications are accepted between February 1st and May 31st each year. A 15 percent match of the total project cost is required. Funding for GSI and other flood mitigation projects recommended above may be competitive for this program.[59]

Department of Environmental Protection (DEP) Growing Greener Watershed Protection Grants

DEP allocates grants for watershed conservation projects through its Growing Greener program. Projects may address non-point source pollution from urban stormwater runoff. Furthermore, DEP prioritizes efforts that are in designated environmental justice communities. Grants are awarded annually. A 15 percent match is required. This study's recommended GSI and other flood mitigation projects are good options for which to pursue these grants.[60]

FEMA Flood Mitigation Assistance (FMA) Program

FEMA's FMA Program supports projects that reduce or eliminate the long-term risk of flood damage to buildings insurable under the National Flood Insurance Program (NFIP). A prerequisite for this funding is the development and adoption of a hazard mitigation plan. Philadelphia's Office of Emergency Management updated the city's hazard mitigation plan in 2017. Grant funding is available for three types of grants: Planning, Project, and Technical Assistance. Project grants, which use the majority of the program's total funding, are awarded to local entities to apply mitigation measures to reduce flood losses to properties

[56] dced.pa.gov/programs/flood-mitigation-program-fmp/
[57] dced.pa.gov/programs/h2o-pa-flood-control-projects/
[58] dced.pa.gov/programs/h2o-pa-water-supply-sanitary-sewer-storm-water-projects/
[59] dced.pa.gov/programs/watershed-restoration-protection-program-wrpp/
[60] www.dep.pa.gov/Citizens/GrantsLoansRebates/Growing-Greener/Pages/default.aspx

insured under the NFIP. A 25 percent match of nonfederal funds is required. Properties located in the floodplain at 70th Street, Chester Avenue, and Church Lane, and along the southern edge of the study area, are shown to be most at risk. Stormwater management projects recommended in this vicinity may be eligible for funding under the FMA Program.[61]

National Fish and Wildlife Foundation (NFWF) Delaware River Restoration Fund

As a program of the NFWF, the Delaware River Restoration Fund (DRRF) awards grants of $50,000 to $500,000 to non-profits and local governments with the goal of restoring water quality and habitats in the Delaware River Watershed. The Cobbs Creek Parkway area falls within the DRRF's "Suburban Philadelphia Cluster." Projects dealing with GSI in this cluster are eligible for Targeted Watershed Improvement Grants. These grants require a minimum matching contribution of 25 percent of total project costs. Projects must be ready to begin implementation within six months of award and completed within two years of award. In 2018, proposals were accepted between February and April with award announcements in August.[62]

NFWF Resilient Communities Program

NFWF also offers funding through its Resilient Communities Program, which supports efforts to sustain water quantity and quality through healthy upstream watersheds. Resilient Communities is a four-year initiative that began in 2017, and grants are offered once a year. Given the program's special emphasis on traditionally underserved, low- and moderate-income communities, proposals for green infrastructure in the Cobbs Creek Parkway area may be a good candidate for "Category 2: Community Capacity Building and Demonstration Projects," which covers stormwater retention projects benefiting affordable housing communities. Since the projects should range from $100,000 to $250,000 and address multiple cities and communities, the city may wish to work on a proposal with adjacent Delaware County communities or other municipalities further upstream. Projects should be completed within two years, and any that meet or exceed a 1:1 match ratio will be more competitive.[63]

PENNVEST Drinking Water, Wastewater, and Stormwater Loans and NPS Financing

PENNVEST provides financing for stormwater conveyance facilities. Funding is primarily in the form of low-interest loans, although some grants are available. The purpose is to pay for costs associated with design, engineering, and construction of publicly or privately owned drinking water or wastewater systems, non-point source pollution mitigation, and stormwater projects. This study's recommended GSI projects may qualify for PENNVEST funding.[64]

Partners for Places General Grants

The Funders' Network for Smart Growth and Livable Communities is membership organization based in Florida whose Partners for Places General Grants Program has funded sustainability efforts by local governments across the country since 2012. The focus areas of this grant program include healthy environments, strong economies, and community well-being, covering many of the topics addressed by recommendations in this study. Round 13 of the program in 2018 dealt specifically with green stormwater infrastructure. Grant awards range from $25,000 to $75,000 for one-year projects and $50,000 to $150,000 for two-year projects, with a required 1:1 match from local foundations.[65]

[61] www.fema.gov/flood-mitigation-assistance-grant-program
[62] www.nfwf.org/delaware/Pages/2018-rfp.aspx
[63] www.nfwf.org/resilientcommunities/Pages/2018rfp.aspx
[64] www.pennvest.pa.gov/Information/Funding-Programs/Pages/default.aspx
[65] www.fundersnetwork.org/partners-for-places/

Parks, Recreation, and Open Space

DCED Greenways, Trails and Recreation Program

Projects eligible under DCNR's Greenways, Trails and Recreation Program include rehabilitation and renovation of linear public facilities, such as Cobbs Creek Trail. Related support facilities are also eligible, including: access roads, parking areas, walks, comfort station, lighting, landscaping, and signage. Funds may be used for construction, fixed equipment, and other land preparation and professional activities. Grants of up to $250,000 are available, and a local match of 15 percent is required. Applications can be submitted between February 1st and May 31st of each year.[66]

DCNR Community Conservation Partnerships Program

DCNR assists local governments with funding for parks and recreation projects, including the rehabilitation and development of trails and waterways. Applications are accepted once per year, typically during the spring. Most sources require a 50 percent match. Improvements to Cobbs Creek Trail and improved access to Cobbs Creek would be good candidate projects for DCNR funding.[67]

NPS Outdoor Recreation Legacy Partnership Program (ORLP)

ORLP is administered by the NPS through the federally appropriated Land and Water Conservation Fund. ORLP projects should address recreation deficits by expanding and improving park facilities and "forming connections between people and the outdoors." Grant requests may range from $250,000 to $750,000. Project must cost share at a minimum 1:1 ratio. Annual applications were most recently due in September. Funding is reserved for larger urban jurisdictions with priority given to projects in economically disadvantaged areas. Since the study area meets these criteria, projects aimed at improving and extending Cobbs Creek Trail may be competitive for ORLP grants.[68]

National Recreation and Parks Association (NRPA) Great Urban Parks Campaign

The Great Urban Parks Campaign was launched by the National Recreation and Park Association in 2015 to fund GSI projects within urban parks in underserved communities. Two-year grants are awarded to 10–12 communities in amounts ranging from $150,000 to $300,000, and matching funds are not required. Applicants were last accepted in August 2018. GSI projects in and around Cobbs Creek Park and Trail may be good candidates for this program.[69]

PECO Green Region Open Space Program

The non-profit Natural Lands, based in nearby Media, operates this grant program aimed at improving open spaces. The city government is eligible, as are incorporated non-profit neighborhood organizations in Philadelphia, such as "Friends of" groups. Eligible activities include planning costs, habitat improvements, capital improvements for passive recreation, consultant fees, land acquisition, and conservation easement acquisition. Grants can be up to $10,000 and be used for 50 percent of the cost of eligible activities. They are awarded once per year, with applications most recently accepted until the end of October. PPR may wish to pursue PECO Green Region funding for improvements to and the extension of Cobbs Creek Trail. Nonprofits within Lower Southwest Philadelphia, such as Southwest CDC or Friends of Mount Moriah Cemetery, may seek these grants to fund cleanups or other activities within the study area.[70]

[66] dced.pa.gov/download/greenways-trails-recreation-program-gtrp-guidelines/?wpdmdl=81379
[67] www.dcnr.pa.gov/Communities/Grants/Pages/default.aspx
[68] www.lwcfcoalition.com/lwcf-programs/
[69] www.nrpa.org/our-work/partnerships/initiatives/water-conservation/great-urban-parks-campaign-pilot-projects/
[70] natlands.org/what-we-do/growing-greener-communities/peco-green-region/

The Conservation Fund

The Conservation Fund makes loans and grants available for protecting and enhancing natural areas, including trails and greenways. The improvements to Cobbs Creek Trail recommended here may qualify for funding and be packaged with a larger request by PPR to finance the trail extension or improvements to other park facilities.[71]

TreeVitalize Community Forestry Management Grants

TreePennsylvania, an independent non-profit agency, manages this statewide grant program funded by DCNR. The community forestry management grants specifically address tree care management, pruning, and short-term employment, all of which were recommended to improve visibility and safety along overgrown stretches of Cobbs Creek Parkway and trail. Applications are due annually in the summer and are accepted from municipal government entities, as well as from non-profit organizations. Funding preference is given to projects in Environmental Justice areas. Grants range from $5,000 to $50,000 with a required 1:1 match. Allowable expenses include professional fees and rental equipment.[72]

PeopleForBikes Community Grants

This Colorado-based non-profit funds bicycle projects across the country, including paths and trails, as well as advocacy initiatives. Some of the past grants issued in the City of Philadelphia have funded efforts to build support for bike lanes within city council, install a pumptrack in Fairmount Park, and resolve disconnectivity on the Schuylkill River Trail. Requests can be submitted for up to $10,000 and must include a match of at least 50 percent. PeopleForBikes holds one or two open grant cycles per year. This resource could be applied creatively to projects that promote biking along Cobbs Creek Trail, such as safety improvements and extension to the wildlife refuge.[73]

Beautification, Litter Control, and Dumping Enforcement

Keep Pennsylvania Beautiful 25 in 25 Mini-Grant Program

Keep America Beautiful is the largest community improvement organization in the United States, with affiliate chapters at the state level (Keep Pennsylvania Beautiful) and city level (Keep Philadelphia Beautiful). Keep America Beautiful works to end littering, improve recycling, and beautify communities. The state chapter operates a mini-grant program, awarding 25 grants in 25 days to local affiliates and nonprofit groups for community improvement projects, such as restoring parks, building rain gardens, purchasing trash receptacles and surveillance cameras, and cleaning up rivers and vacant lots. Grants are up to $1,000 and could fund a small demonstration project or a portion of the recommended strategies for litter control and reduction of dumping. A 50 percent match of cash, donated, or in-kind services is required. The mini-grants were last awarded in 2016.[74]

Keep Pennsylvania Beautiful Illegal Dump Free PA Program

Keep Pennsylvania Beautiful also administers a program to help local government and law enforcement curb illegal dumping, with support from DEP. Grantees receive surveillance kits with cameras that capture footage of license plates and illegal dumpers to expose, penalize, and ultimately reduce dumping at a given location. Municipalities may purchase the equipment at the end of the grant period, which lasts approximately three months. Non-profits are also eligible. Grantees must agree to maintain the surveillance cameras. Applications are accepted on a rolling basis.[75]

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[71] www.conservationfund.org/news-resources/resources
[72] treepennsylvania.org/treevitalize-grants-program/
[73] peopleforbikes.org/our-work/community-grants/
[74] www.keeppabeautiful.org/grants-awards/25-in-25/
[75] illegaldumpfreepa.org/

Keep Philadelphia Beautiful Microgrant Program

The local Keep America Beautiful chapter has a capacity-building microgrant fund for neighborhood organizations. In the past, two $1,000 micogrants and one $500 microgrant were awarded to support litter abatement programs in a given service area. A community development corporation or neighborhood group looking to launch or expand a litter control or anti-dumping program in the vicinity of Cobbs Creek Parkway may be a strong candidate for this small pot of funding.[76]

Tread Lightly! Inc. Restoration for Recreation Program

Tread Lightly! is a Utah-based organization that works to promote outdoor ethics and good stewardship of recreational opportunities. Their signature initiative is the Restoration for Recreation Program, which provides small grants ($500 or less) to individuals and groups organizing cleanups, trail maintenance, and other stewardship programs. Eligible expenses are very broad and can include tools, trash bags, dumpster rental, water and food for volunteers, fuel, signage, and other trail restoration materials. Quarterly deadlines occur on March 30, June 30, September 30, and December 31 each year. This program could help fund the recommended community-organized trail cleanups by neighborhoods groups.[77]

Health, Livability, and Physical Activity

AARP Community Challenge Grants

Through its Community Challenge program, AARP funds livability projects conducted by non-profits and local governments, including those that address transportation and mobility options, connectivity, walkability, bikeability, transit access, parks, and open spaces. Although highly competitive, grant award amounts vary from several hundred to several thousand dollars. Applications are accepted on an annual basis, and were last due in May 2018. Past recipients utilized strategies similar to those recommended in this report, including signal and crossing adjustments, signage, and public seating areas.[78]

America Walks Community Change Grants

Based in Portland, Oregon, America Walks empowers communities to improve walking conditions for all people through microgrant funding for small-scale, low-cost projects and programs. The awards are up to $1,500 and could be used in the Cobbs Creek area to defray the costs of crosswalk paint, lighting, landscape maintenance, curb extensions, signage, sidewalk or trail repairs, and a new pedestrian signal. Recent local grant recipients include Feet First Philly and the Salvation Army in Camden, New Jersey.[79]

America Walks/National Center on Health, Physical Activity and Disability (NCHPAD) Designing for Inclusive Health Micro Grant Program

America Walks and the National Center on Health, Physical Activity and Disability have recently awarded microgrants for projects related to disability inclusion strategies that make healthy choices easier for all people. Up to $1,500, the grants could help pay for accessibility improvements to Cobbs Creek Trail and the surrounding area, from curb extensions to delineator posts.[80]

Historic Preservation

National Trust for Historic Preservation

The National Trust for Historic Preservation manages several grant programs dedicated to saving cultural resources and historic environments. Any work done to protect historic structures along Cobbs Creek

[76] keepphiladelphiabeautiful.org/education/
[77] www.treadlightly.org/programs/restoration-for-recreation/#toggle-id-1
[78] aarp.com/communitychallenge
[79] americawalks.org/america-walks-announces-community-change-grantees/
[80] www.nchpad.org/1581/6595/Designing~for~Inclusive~Health~Grants

Parkway, including the bridge, stairway, and wall at 65th Street, may be eligible. The Henry A. Jordan, M.D., Preservation Excellence Fund is dedicated specifically to preservation planning efforts in the Mid-Atlantic region and offers grants of up to $5,000, with no required match. The Johanna Favrot Fund for Historic Preservation provides grants of between $2,500 and $10,000, with a dollar-for-dollar cash match requirement, for projects addressing revitalization and livability, including consulting services and construction activities. The National Trust Preservation Fund has three deadlines per year (February, June, and October) and offers grants of $2,500 to $5,000, also requiring a dollar-for-dollar cash match.[81]

Pennsylvania Historic and Museum Commission (PHMC) Keystone Historic Preservation Grants

The Pennsylvania Historic and Museum Commission offers annual grant awards between $5,000 and $100,000 to support planning and construction projects that preserve and protect historic resources and revitalize communities. The historic resource must be documented as being listed in or eligible for the National Register of Historic Places. Funding requests require a 50 percent cash match. As noted above, preservation work on historic bridges and structures near Cobbs Creek Parkway may qualify.[82]

Foundations

Many foundations and corporations provide grants that are open to non-profit applicants but not government agencies. Efforts to beautify and improve Cobbs Creek Parkway and Cobbs Creek Trail led by community development corporations and neighborhood groups may qualify. These could include cleanups and anti-dumping initiatives or events that promote walking, biking, and safety in general. Some of the potential funding sources are:

- Claneil Foundation, which has grant programs dedicated to health and the environment;
- GSK U.S. Community Partnerships charitable grants, which focus on helping children to be healthy and physically active;
- Pincus Family Foundation, which funds non-profits that promote children's health, safety, and recreation; and
- William Penn Foundation, which includes protecting and restoring the Delaware River watershed among its primary funding areas.

Thinking Creatively About Funding Sources

In order to fund the recommendations described in Chapter 3, funding from several different sources will have to be pulled together. One way to expand the pool of available funds is to think creatively about funding. For example, improving intersections to reduce crashes and increase pedestrian safety will encourage more people to walk, which leads to better health outcomes, so portions of these projects might be eligible for health-related grants or funding. Installing green infrastructure could help reduce flooding and the consequences of severe weather, so portions of these projects might be eligible for emergency management or climate change adaptation funding.

In addition to finding additional funds, there might be additional ways to reduce the cost of some projects. For example, asking for volunteers from scouting troops, houses of worship, or colleges could reduce labor costs for trash cleanup, trail installation, or playground equipment installation. Agencies and community groups could coordinate with the Philadelphia Office of Civic Engagement and Volunteer Service (www.serve.phila.gov/) or post opportunities on websites like www.volunteermatch.org/.

[81] forum.savingplaces.org/build/funding/grant-seekers/specialprograms?_ga=2.29923391.1639099604.1531340830-1145044792.1531251634#jordan
[82] www.phmc.pa.gov/Preservation/Grants-Funding/Pages/default.aspx

CHAPTER 5: What Community Members Can Do

One of the best ways for the recommendations in this plan to move forward is for community members to get involved in their community and hold city and state agencies accountable. Below is a list of local organizations and programs that residents can participate in to help make their neighborhood safer, cleaner, and greener.

Attend PCPC's Citizens Planning Institute (CPI)

citizensplanninginstitute.org/

CPI is the education and outreach arm of PCPC. CPI's main programming is a seven-week course that empowers citizens to take a more effective and active role in shaping the future of their neighborhoods and of Philadelphia through a greater understanding of city planning and the steps involved in development projects. The course includes six evening classes: three introductory classes on planning issues and principles, land use and zoning, and the development process; and three electives, the topics for which change every session. The course runs every spring and fall. Each participant is also required to complete a final project in order to earn their Certificate of Completion as a Philadelphia Citizen Planner, which they receive at a public ceremony. To date, 450 participants representing over 150 different neighborhoods have completed CPI.

Visit CleanPHL

cleanphl.org/

Philadelphia is working hard to make a cleaner, safer city for all. The site provides a dynamic litter index and brings together the resources and next steps to help residents make a difference and help the city achieve its zero waste and litter vision. So whether you're a resident, small business, or neighborhood school—do your part. Be the one to make zero happen.

Support Philadelphia's Zero Waste and Litter Cabinet

www.philadelphiastreets.com/zero-starts-with-one/

The Zero Waste and Litter Cabinet is an interdepartmental effort to continually reduce the waste entering landfills or conventional incinerators, combat litter, and enhance the cleanliness of streets and public spaces. Composed of major city departments and agencies, city council representatives, community stakeholders, and chaired by the Managing Director's Office, the cabinet will create subcommittees focusing on five target areas to make Philadelphia a less littered, zero waste city.

Organize a Park Cleanup

Keep Philadelphia Beautiful has a guide for organizing a community cleanup. The Community Resource Cleanup Guide covers having a plan, picking the right date, procuring supplies, checklists, resources from city departments, event budget templates, and social media contact information. issuu.com/keepphiladelphiabeautiful/docs/cleanup_guide_2016__2_

Become a Pennsylvania Horticultural Society Tree Tender

phsonline.org/programs/tree-tenders/

PHS Tree Tenders® is at the forefront of the urban tree movement across the country, and is one of the oldest, most respected volunteer urban tree planting and stewardship programs in the world. The program offers hands-on tree care training, covering biology, identification, planting and proper care. Since 1993, the training program has graduated more than 4,000 PHS Tree Tenders® in the Greater Philadelphia area. Working in neighborhood groups, the program's volunteers are responsible for planting more than 2,000 trees annually. The strong growth in participating groups has proved to be an indication not only of the expanding reach of the PHS Tree Tenders®, but also the pride and sense of purpose volunteers feel as a result of improving their neighborhoods.

Serve on a Registered Community Organization (RCO)

www.phila.gov/CityPlanning/projectreviews/Pages/RegisteredCommunityOrganizations.aspx

The Philadelphia Zoning Code includes provisions for ensuring that neighbors of proposed developments are notified and have an opportunity to provide input regarding zoning decisions that may impact them. This is accomplished through a standardized system of direct notification and through public meetings that are held in communities and convened by RCOs.

RCOs are provided notice by PCPC whenever a zoning variance or special exception is requested, or when a development requiring Civic Design Review is formally proposed, within their geographic boundaries. Where there is one affected RCO for a property, this organization convenes the public meeting that applicants are required to attend prior to being heard by the Zoning Board of Adjustment (ZBA); where there is more than one RCO in an area, the district councilperson has the option to select one or more RCO as the responsible party for convening the meeting, in cooperation with all other affected RCOs; and where there are no RCOs the district councilperson can either choose to host the public meeting or assign an entity on his/her behalf to do so.

It is important to note that RCOs are recipients of early notification of zoning appeals and are not given any special privileges before the ZBA. Individual community members and/or organizations are entitled to testify at ZBA hearings or to send letters to the ZBA regardless of RCO status. PCPC keeps an updated list and map of RCOs on their website. Registration for RCO status occurs in June of each year. Each RCO must renew their registration with PCPC every two years.

Use Tools from Philadelphia Community Life Improvement Program (CLIP) for Neighborhood Cleanups

www.phila.gov/clip/Pages/default.aspx

CLIP loans out tools and supplies to volunteers in community groups, schools, businesses, and residents engaged in cleaning and maintaining their neighborhoods. Additionally, CLIP's Graffiti Abatement Team is the lead agency responsible for eradicating and containing the spread of graffiti. The program has developed into a rapid response unit. CLIP's Vacant Lot Program was created in 2001 to address the problem of nuisance vacant lots. Since then, tens of millions of pounds of trash and debris have been collected and removed from these lots.

Become a Block Captain

www.philadelphiastreets.com/pmbc/become-a-block-captain/

As a block captain, you are the one who unites your neighborhood. Together, you can build a vision for a clean and beautiful block. Here are some tips for getting started:

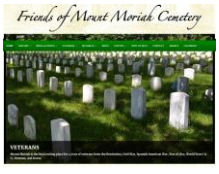
- Sweep walks and gutters.
- Plant flowers on the block, in yards, in window boxes, in sidewalk urns, and around street trees.
- Maintain and paint abandoned houses.
- Plant new street trees.
- Install decorative security lights.
- Hang flags or pennants.
- Paint curbs.
- Help neighbors paint and renovate.
- Scrub steps.
- Organize block parties.
- Coordinate activities for children.
- Install and maintain block litter baskets.
- Remind neighbors of trash and recycling collection days and material guidelines.

Call 311 to Report Issues

www.phila.gov/311/Pages/default.aspx

Dial 311 or for those with VOiP (Voice over Internet Protocol) and for calls from outside of Philadelphia, dial 215-686-8686. The city's customer service team is available from 8:00 AM to 8:00 PM, Monday through Friday. The city also has a free mobile app to:

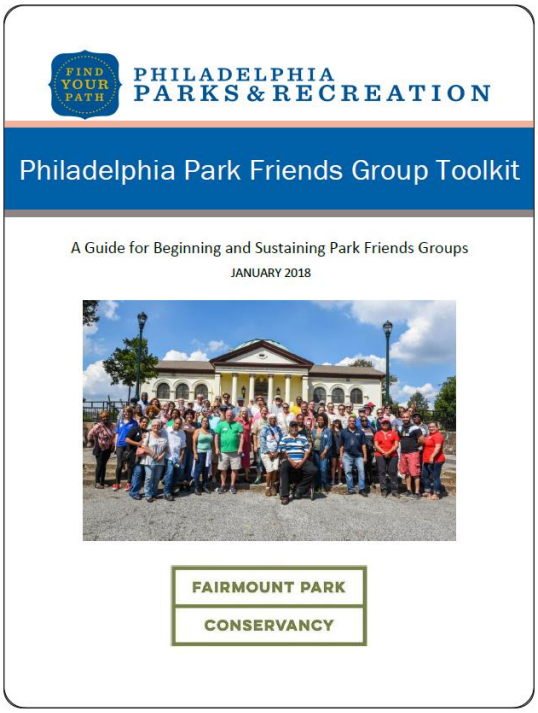
- Report an issue or a submit a service request.
- Track status updates for requests submitted.
- Look at nearby community requests.
- Look up frequently asked information.
- Find property history information.
- Use language translation to submit requests in six frequently spoken languages in Philadelphia.



Volunteer with Friends of Mount Moriah Cemetery

friendsofmountmoriahcemetery.org/

The Friends of Mount Moriah Cemetery is a 501(c)3 non-profit organization dedicated to the preservation and promotion of Mount Moriah Cemetery by honoring the memory of those interred here through community engagement, education, historic research, and restoration.



Start a Friends of Cobbs Creek Park Group

beta.phila.gov/departments/philadelphia-parks-recreation/get-involved/park-friends-groups/

PPR offers a 44-page Park Friends Group Toolkit. Friends groups are community-based volunteer groups made up of at least three people that are officially affiliated with PPR. These recognized city volunteer groups are established to support and advocate for a specific park area in the PPR system. They are public community groups, where membership is open and accessible to all park users. Friends groups work in close partnership with staff at PPR and the Fairmount Park Conservancy (FPC) to create welcoming community green spaces and positive experiences with nature at the neighborhood level and in the watershed parks. Successful Friends groups also engage with residents, community organizations, and external partners to achieve these goals and serve as the "community voice" for the park.

Typical Friends group activities include:

- park cleanup and beautification days;
- fundraising events;
- organizing recreational and educational programming;
- advocating for park improvements; and
- publicizing important park issues.

PPR has a rich tradition of engaged citizens and active park groups. Currently there are more than 100 active Friends groups of varying capacity, ranging from large 501(c)(3) organizations with several hundred members, to grassroots community entities consisting of a smaller number of committed neighbors. PPR promotes all civic engagement and actively works with FPC to provide service, resources and training. PPR is committed to preserving and enhancing public green space throughout Philadelphia, which we believe can only be achieved through sustained civic engagement and park stewardship. PPR offers a guide for beginning and sustaining park Friends groups.

Volunteer with Darby Creek Valley Association (DCVA)

dcva.org/

Founded in 1984 by residents in the Darby Creek Watershed, DCVA is a non-profit watershed organization dedicated to the protection and enhancement of the watershed and its resources, including water, wildlife, historical sites, floodplains, wetlands, and riparian zones. A major goal of DCVA is the immediate prevention of all forms of pollution in the Darby Creek and its tributaries, including Cobbs Creek. Major strategies include cleanups and an expanded public education program.

DCVA has worked energetically to support the protection of historic properties, such as the Swedish Cabin and Blue Bell Inn, and has as its ultimate goal the development of a 30-mile greenway system to serve this watershed's many highly urbanized communities. DCVA, with assistance from the U.S. Environmental Protection Agency, also supports a volunteer water quality monitoring program. DCVA continues to work energetically with public and private schools, the Delaware County library system, the Delaware County Environmental Network, PWD, the Darby-Cobbs Watershed Partnership (DCWP), the Partnership for the Delaware Estuary (formerly Delaware Estuary Program), the Delaware County Historical Society, the Stroud Water Research Center, PWD, and Aqua Pennsylvania (formerly known as Philadelphia Suburban Water Company).

Volunteer with Darby-Cobbs Watershed Partnership (DCWP)

www.phillywatersheds.org/your_watershed/darby_cobbs/partnerships

DCWP is a network of public, private, and nonprofit partners working to create and implement a watershed management plan that addresses water quality and quantity issues. They develop and conduct stormwater management projects, municipal ordinance revisions, and public education and outreach events. The PWD is a major organizer and supporter of DCWP, since DCWP's resources and data collection helped in the preparation of the Darby Creek's Act 167 Stormwater Management Plan, as well as the Darby Creek Rivers Conservation Plan. The DCWP also has a Public Education and Outreach Committee, which is always open to new membership.

Encourage Young Adults and Returning Citizens to Join PowerCorpsPHL

powercorpsphl.org/

In September 2013, the City of Philadelphia launched PowerCorpsPHL, an AmeriCorps Governor and Mayor Initiative, in partnership with EducationWorks and the Philadelphia Youth Network. PowerCorpsPHL is a cross-sector collaborative model that engages disconnected young adults and returning citizens to enter and succeed in career pathways by using service as the strategy to provide career-connected education and paid, work experiences.

Working closely with PPR, PWD, and partners in the public and private sector, PowerCorpsPHL builds opportunities for young people to create promising futures by tackling pressing environmental challenges and developing the skills required to secure meaningful work.

PowerCorpsPHL not only enriches the lives of its corps members, but also presents a great opportunity for Philadelphia to grow a diverse, talented workforce and enhance its vast green space. Through their AmeriCorps service, PowerCorpsPHL members are helping to build a sustainable city, making every Philadelphia neighborhood healthier, safer, and stronger.

Participate on DVRPC's Public Participation Task Force (PPTF)

www.dvrpc.org/Committees/PPTF/

As the region's metropolitan planning organization, DVRPC conducts long range planning and funds transportation projects. The mission of the PPTF is to provide residents with ongoing access to the regional planning and decision-making process, to review timely issues, to serve as a conduit for DVRPC information to organizations and communities across the region, and to assist the Commission in implementing public outreach strategies.

Best Practice for Community Groups: Translate materials into different languages

Regardless of what community organization you join, it is important to remember that Lower Southwest Philadelphia has lots of immigrants from other countries, such as:

- Liberia;
- Jamaica;
- Vietnam;
- Haiti;
- Nigeria;
- Sierra Leone;
- Eritrea;
- Cameroon; and
- Ethiopia.

One way to encourage participation from all community members is to create materials in different languages so that all community members feel welcome and informed.

CHAPTER 6: Conclusion

The neighborhoods surrounding Cobbs Creek Parkway between 60th Street and 70th Street have suffered from decades of deferred maintenance and neglect. The community deserves safe intersections; easy access to the nearby Cobbs Creek Trail; and opportunities to safely walk, bike, and drive around their neighborhood. Walkers, bicyclists, people in wheelchairs, people pushing strollers, cars, trucks, and buses all need to be able to safely get where they want to go.

The combination of corridor-wide and intersection-specific recommendations presented in this plan were developed with community input. With cooperation among city, regional, and state agencies, there is the opportunity to implement these recommendations and make a safer Cobbs Creek Parkway and Cobbs Creek Trail for all.

Appendix A

Appendix A: Study Area Demographics

The tables below contain demographic information for the Cobbs Creek Parkway study area, which is predominantly located in census Tracts 64 and 65 in Lower Southwest Philadelphia.

Table A-1: Study Area Demographics

	City of Philadelphia	Tract 64	Tract 65
Total Population	1,559,938	3,682	4,207
Total Households	582,594	1,315	1,732
Average Household Size	2.59	2.80	2.43
Sex	47.3% Male 52.7% Female	48.2% Male 51.8% Female	47.8% Male 52.2% Female
Median Age	33.9	31	35.1
Vulnerable Population	22.2% under 18 12.5% over 64	30.6% under 18 8.1% over 64	24.1% under 18 14.9% over 64
Race	41% White alone 43% Black alone 7% Asian alone 6% Some other race 14% Hispanic or Latino	8% White alone 75% Black alone 14% Asian alone 2% Some other race 3% Hispanic or Latino	1% White alone 97% Black alone 1% Asian alone 0% Some other race 1% Hispanic or Latino
Foreign-Born	13.1%	16.9%	9.6%
Median Household Income	$39,770	$32,256	$26,435
Poverty (all people)	25.9%	27.4%	26.6%
Unemployment	12.5%	13.3%	19.4%
Received High School Diploma	82.6%	81.5%	82.0%
Received Bachelor's Degree	26.3%	13.0%	8.8%
Housing Tenure	52.4% Owner-occupied 47.6% Renter-occupied	64.3% Owner-occupied 35.7% Renter-occupied	52.1% Owner-occupied 47.9% Renter-occupied
Vehicles Available	31% No vehicle 44% one vehicle 25% two or more vehicles	29% No vehicle 50% one vehicle 22% two or more vehicles	48% No vehicle 45% one vehicle 8% two or more vehicles

Table A-2: Most Common Places of Birth for Foreign-Born Residents, Philadelphia Census Tracts 64 and 65

Country/Region	Tract 64	Tract 65	Total
Vietnam	226	0	226
Liberia	59	126	185
Ethiopia	142	0	142
Jamaica	32	95	127
Eritrea	55	19	74
Trinidad and Tobago	3	41	44
Sierra Leone	15	24	39
Africa, not elsewhere classified	23	15	38
India	0	25	25
Nigeria	0	22	22
England	22	0	22

Table A-3: Indicators of Potential Disadvantage (IPD)

IPD Indicator	Philadelphia Census Tract 64	Philadelphia Census Tract 65
Youth (under 18)	30.6% – above average	24.1% – average
Older Adults (65 or older)	8.1% – below average	14.9% – average
Female	51.8% – average	52.2% – average
Racial Minority	92.1% – well above average	98.6% – well above average
Ethnic Minority	2.8% – average	0.9% – below average
Foreign Born	16.9% – above average	9.6% – average
Limited English Proficiency	14.7% – above average	0.8% – below average
Disabled	12.7% – average	17.0% – above average
Low-Income	62.3% – well above average	55.1% – above average

Title VI of the Civil Rights Act states that "no person in the United States, shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.” Environmental Justice is defined by the federal government as, "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States."

Under Title VI of the Civil Rights Act and the Executive Order on Environmental Justice (#12898), MPOs are directed to create a method for ensuring that equity issues are investigated and evaluated in transportation decision making. The IPD analysis is used throughout DVRPC to demonstrate compliance with Title VI of the Civil Rights Act and support the fair treatment of population groups identified through Environmental Justice.

Appendix B

Appendix B: Cobbs Creek Parkway Neighborhood Survey

Cobbs Creek Parkway: 60th to 70th Street
Neighborhood Survey

1. What three words come to mind when you think of Cobbs Creek Parkway between 60th and 70th Streets?

2. How often do you use Cobbs Creek Parkway and/or the Cobbs Creek Trail? Circle your response.

	How often do you DRIVE on Cobbs Creek Parkway?	Daily	Every few days	Once a week	Once a month	Never
	How often do you WALK along Cobbs Creek Parkway or the Cobbs Creek Trail?	Daily	Every few days	Once a week	Once a month	Never
	How often do you BIKE along Cobbs Creek Parkway or the Cobbs Creek Trail?	Daily	Every few days	Once a week	Once a month	Never

3. How safe do you feel near Cobbs Creek Parkway? Circle your response.

	How safe do you feel driving on Cobbs Creek Parkway?	Extremely Unsafe	Unsafe	Neutral	Safe	Very Safe
	How safe do you feel walking near Cobbs Creek Parkway?	Extremely Unsafe	Unsafe	Neutral	Safe	Very Safe
	How safe do you feel biking near Cobbs Creek Parkway?	Extremely Unsafe	Unsafe	Neutral	Safe	Very Safe

4. What are the three biggest issues for you near Cobbs Creek Parkway? Pick three.

- ☐ Speeding traffic
- ☐ Wide intersections
- ☐ Lack of crosswalks across Cobbs Creek Parkway
- ☐ Faded crosswalks along streets that intersect with Cobbs Creek Parkway
- ☐ Confusing signs
- ☐ Mangled guiderail
- ☐ Lack of lights
- ☐ Lack of trash cans
- ☐ Lack of park benches
- ☐ Flooding
- ☐ Debris
- ☐ Other: _____

Please turn over

Icon Credits: Car by Gulbern from the Noun Project, Walk by Yeoul Kwon from the Noun Project, Bike by Adrien Coquet from the Noun Project

5. When you use Cobbs Creek Trail, what do you use it for? Check all that apply.

- ☐ To go to work
- ☐ To go to school
- ☐ To go shopping
- ☐ To go to religious services
- ☐ For recreation
- ☐ I do not currently use Cobbs Creek Trail
- ☐ Other (please explain: _____)

6. Are there any intersections along Cobbs Creek Parkway where you feel particularly unsafe?
   Circle one: YES or NO
   If yes, check all that apply:
   - ☐ 60th and Cobbs Creek Parkway and Warrington
   - ☐ S Edgewood and Cobbs Creek Parkway
   - ☐ Springfield Avenue and Cobbs Creek Parkway
   - ☐ 65th and Cobbs Creek Parkway
   - ☐ 67th and Cobbs Creek Parkway
   - ☐ 68th and Cobbs Creek Parkway
   - ☐ Church Ln/70th and Cobbs Creek Parkway
   - ☐ Other: _____

7. If a new, safe crosswalk were installed to help you get to Cobbs Creek Trail, where would you like it to be? Pick one.
   - ☐ 60th and Cobbs Creek Parkway and Warrington
   - ☐ S Edgewood and Cobbs Creek Parkway
   - ☐ Springfield Avenue and Cobbs Creek Parkway
   - ☐ 65th and Cobbs Creek Parkway
   - ☐ 67th and Cobbs Creek Parkway
   - ☐ 68th and Cobbs Creek Parkway
   - ☐ 70th Street / Cobbs Creek Parkway / Church Lane
   - ☐ Other: _____

8. Complete this sentence: I would be more likely to <u>walk and/or bike</u> along Cobbs Creek Trail if…

9. How do you think safety around Cobbs Creek Parkway could be improved?

10. OPTIONAL Please tell us about yourself.

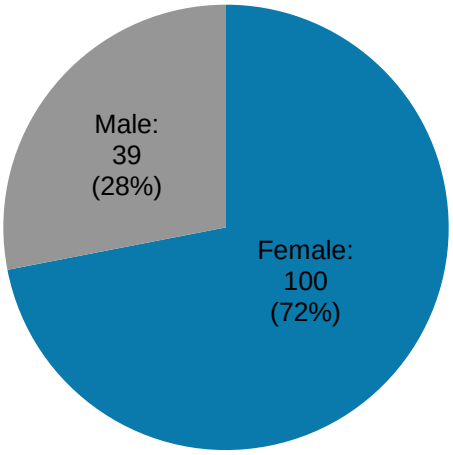
Do you want to stay informed about this project? If so, please provide your email address.			
Age:			
Gender:			
Race/Ethnicity:			
ZIP Code:			
Do you own a bike?	Yes	No	
Do you own a car?	Yes	No	
Do you have children under the age of 18 living in the same house as you?	Yes	No	
Are you currently employed?	Full-time	Part-time	I am not currently employed
Are you currently in school?	Full-time	Part-time	I am not currently in school

Appendix C

Appendix C: Neighborhood Survey Results

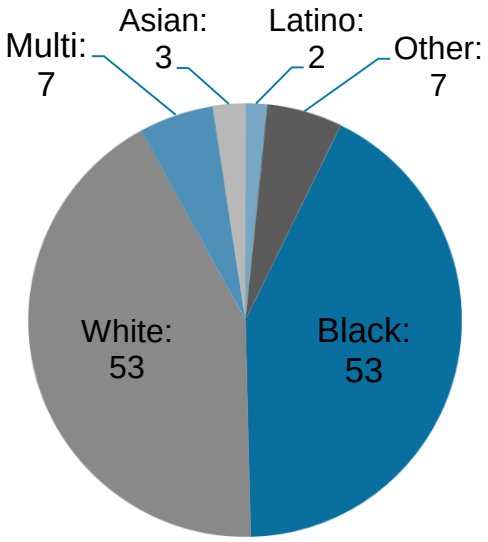
Total Survey Responses: 173

Figure C-1: Reported Sex



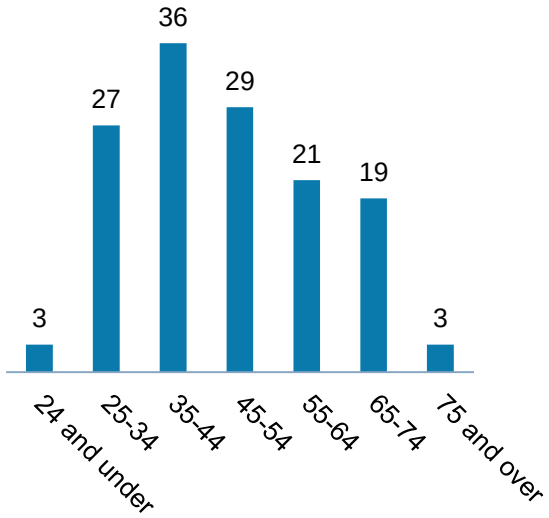
Source: DVRPC, 2018

Figure C-2: Reported Race



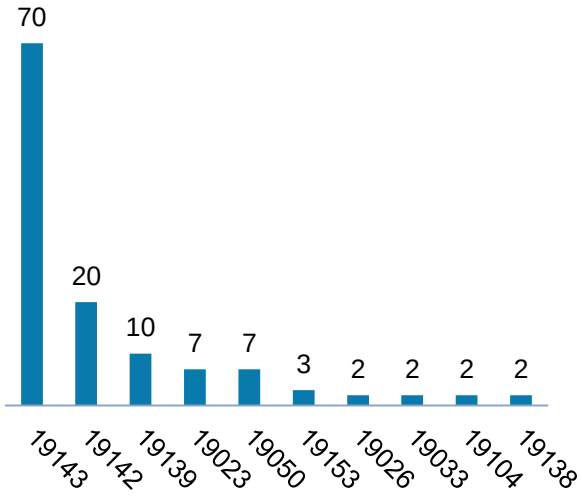
Source: DVRPC, 2018

Figure C-3: Reported Age



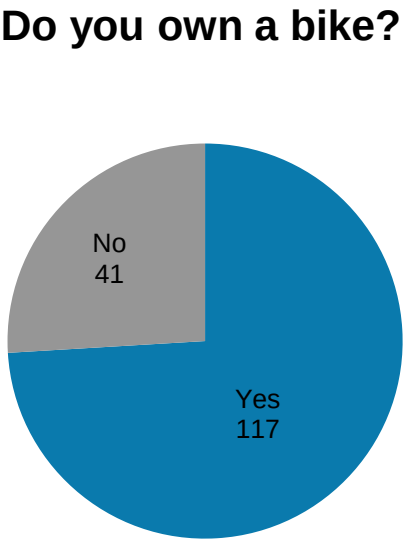
Source: DVRPC, 2018

Figure C-4: Reported ZIP Code



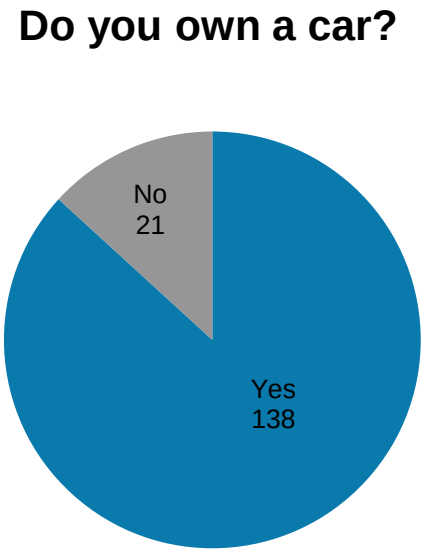
Source: DVRPC, 2018

Figure C-5: Reported Bike Ownership



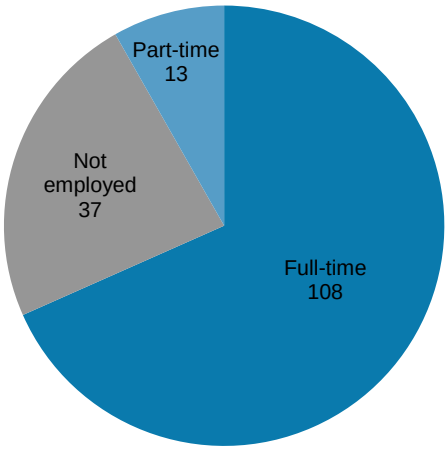
Source: DVRPC, 2018

Figure C-6: Reported Car Ownership



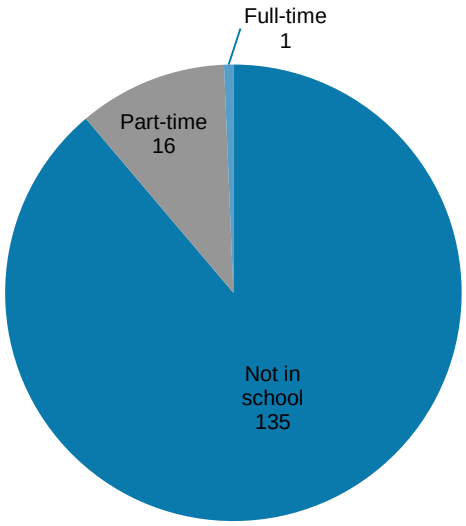
Source: DVRPC, 2018

Figure C-7: Reported Employment



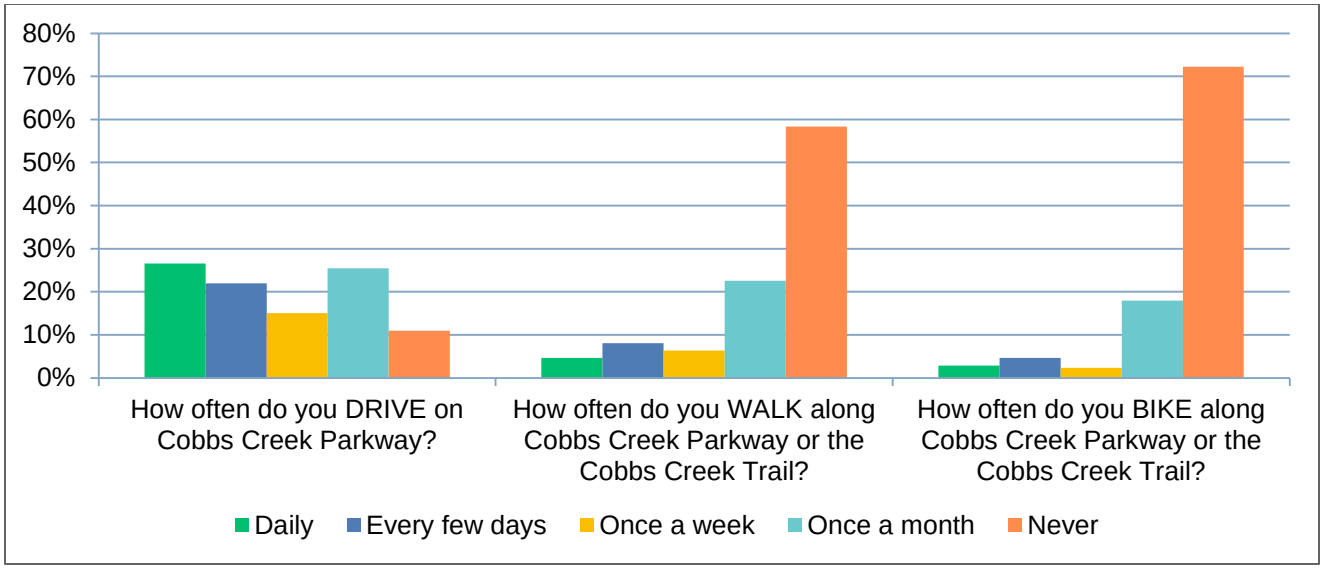
Source: DVRPC, 2018

Figure C-8: Reported School Enrollment



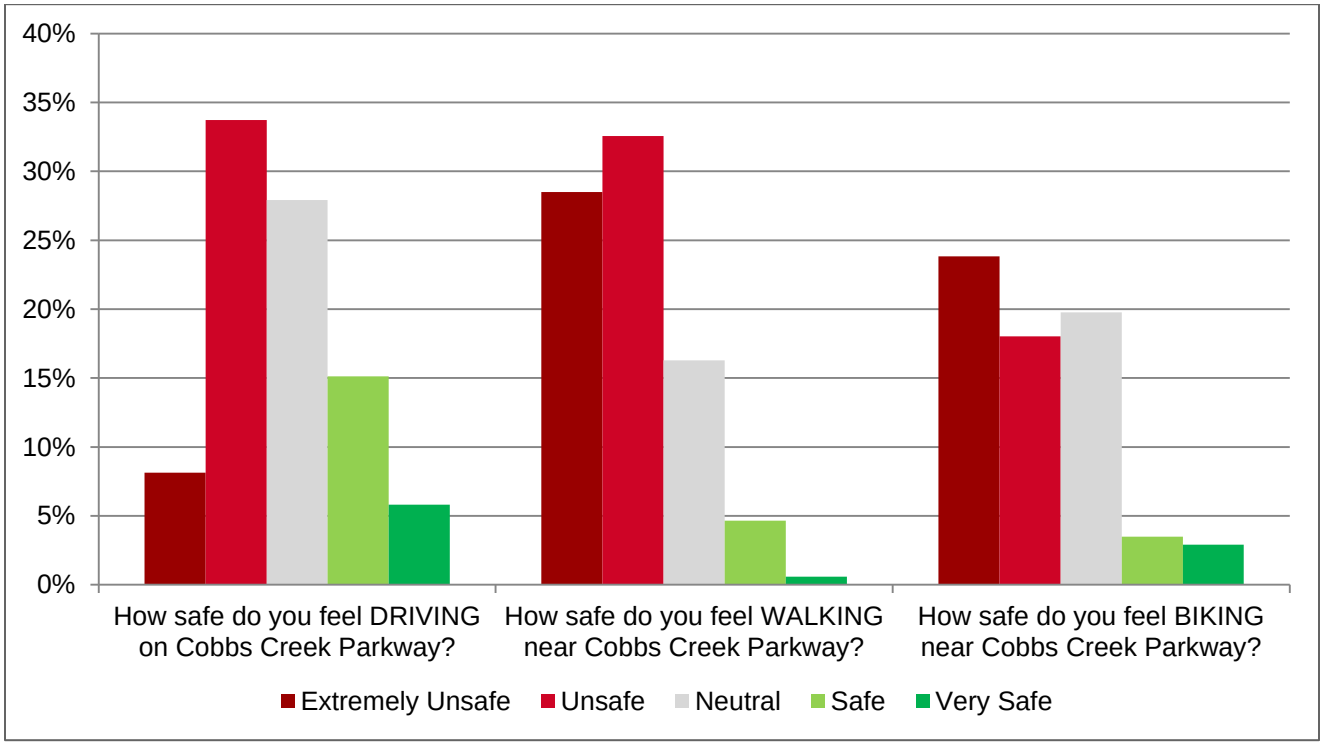
Source: DVRPC, 2018

Figure C-9: How often do you use Cobbs Creek Parkway and/or the Cobbs Creek Trail?



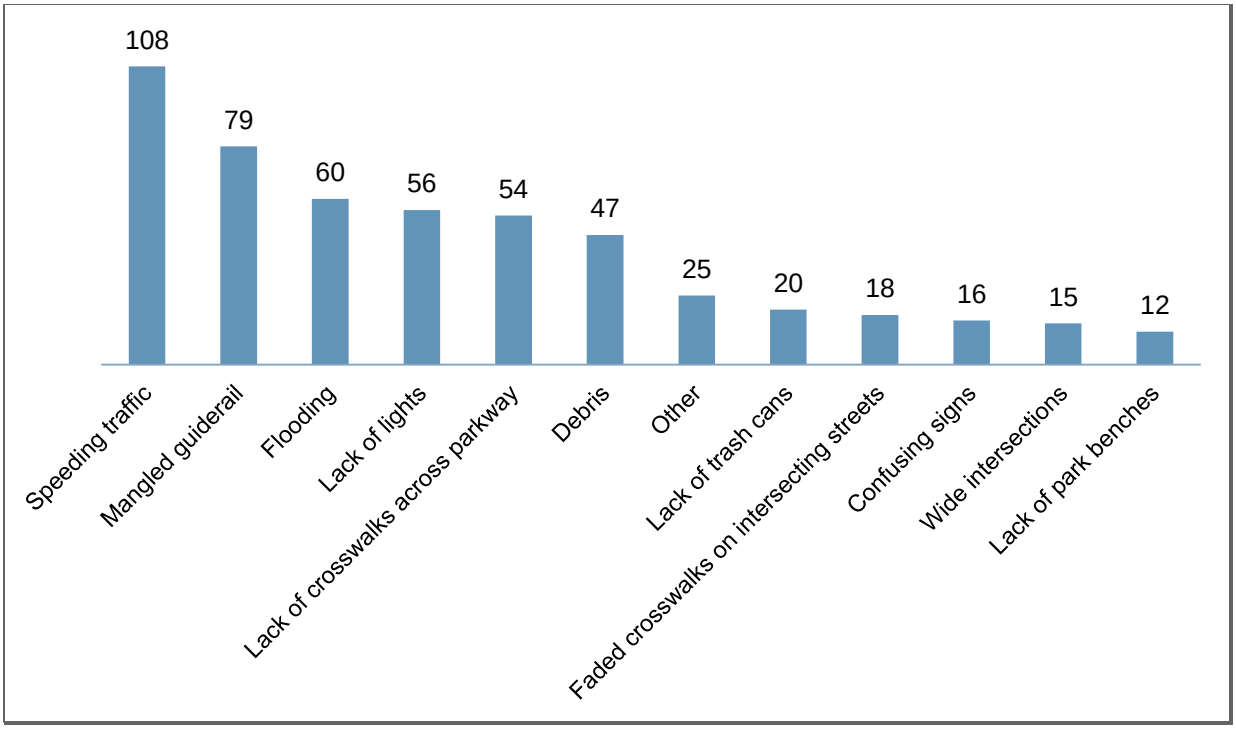
Source: DVRPC, 2018

Figure C-10: How safe do you feel near Cobbs Creek Parkway?



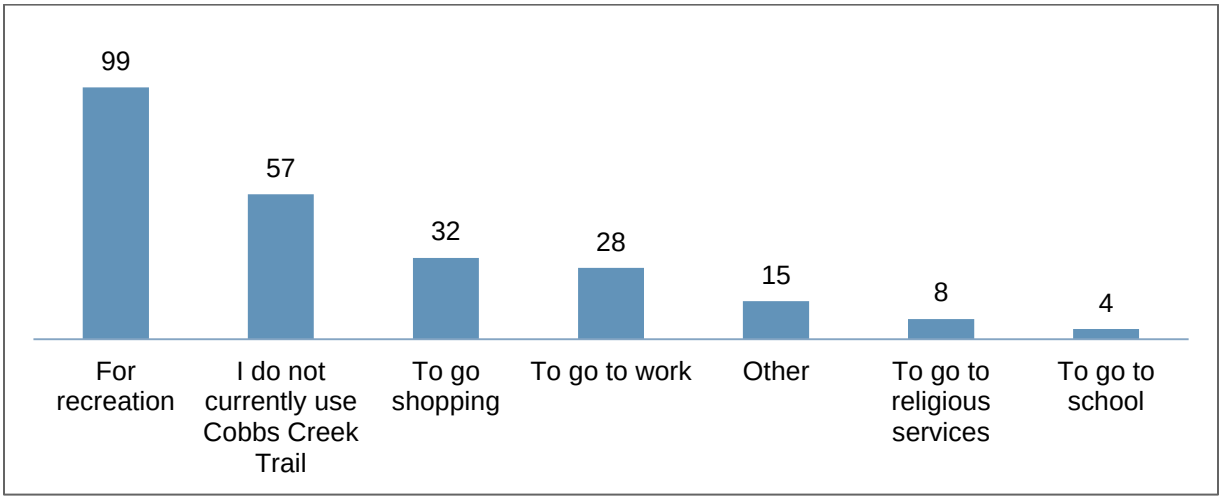
Source: DVRPC, 2018

Figure C-11: What are the biggest issues near Cobbs Creek Parkway?



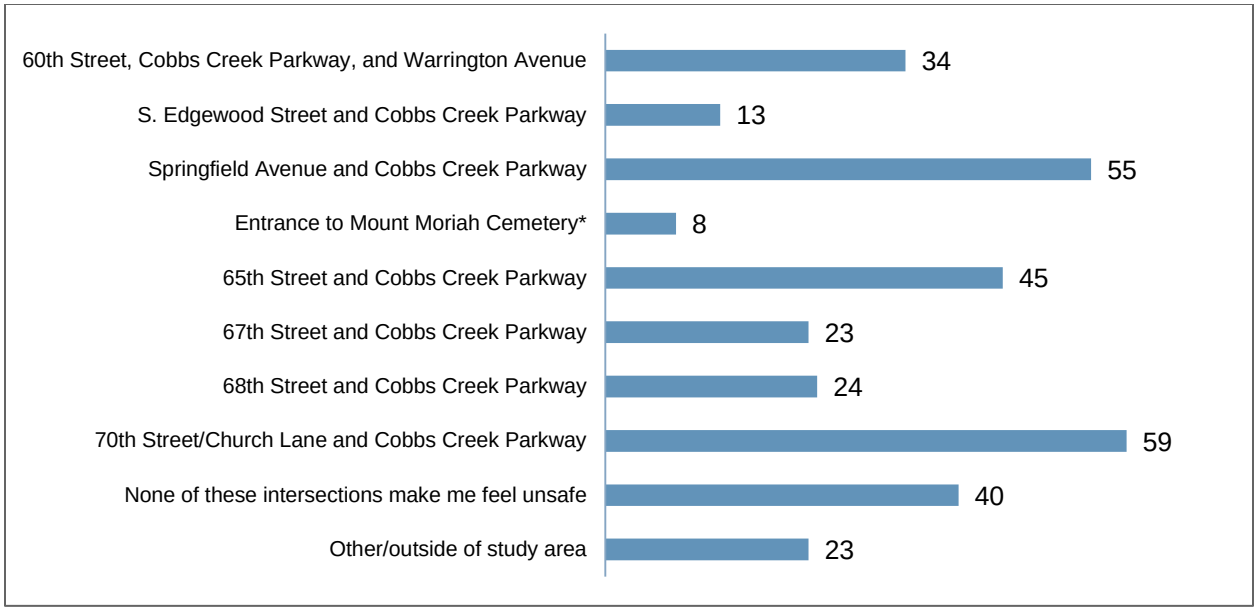
Source: DVRPC, 2018

Figure C-12: When you use Cobbs Creek Trail, what do you use it for? (Check all that apply.)



Source: DVRPC, 2018

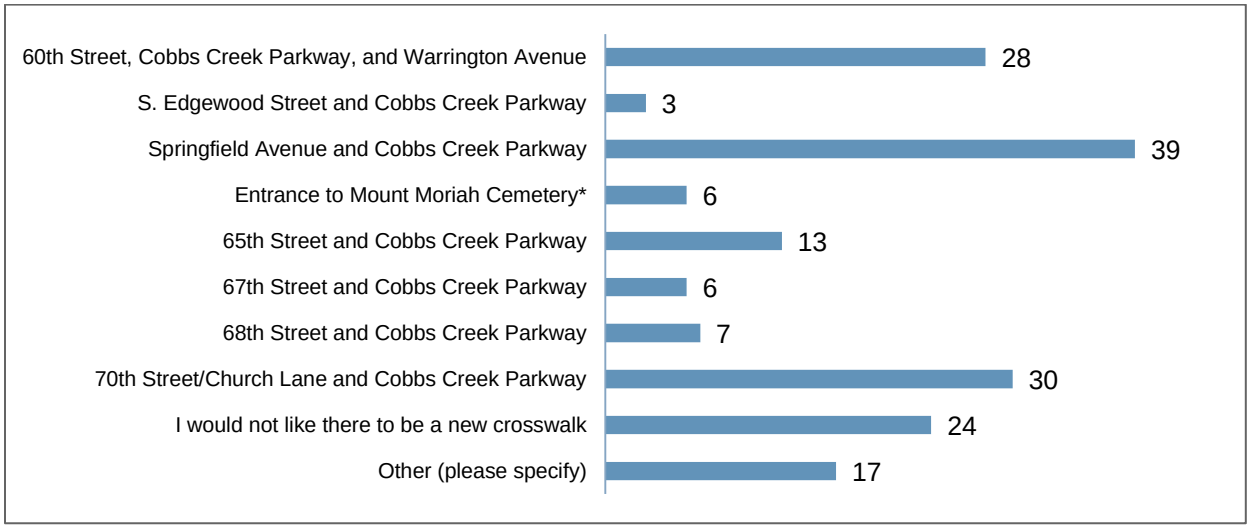
Figure C-13: Are there any intersections along Cobbs Creek Parkway where you feel particularly unsafe? (Choose all that apply.)



Source: DVRPC, 2018

*Mount Moriah Cemetery was not a selectable option, but was written into the "Other" category eight times. These entries were removed from the "Other" tally.

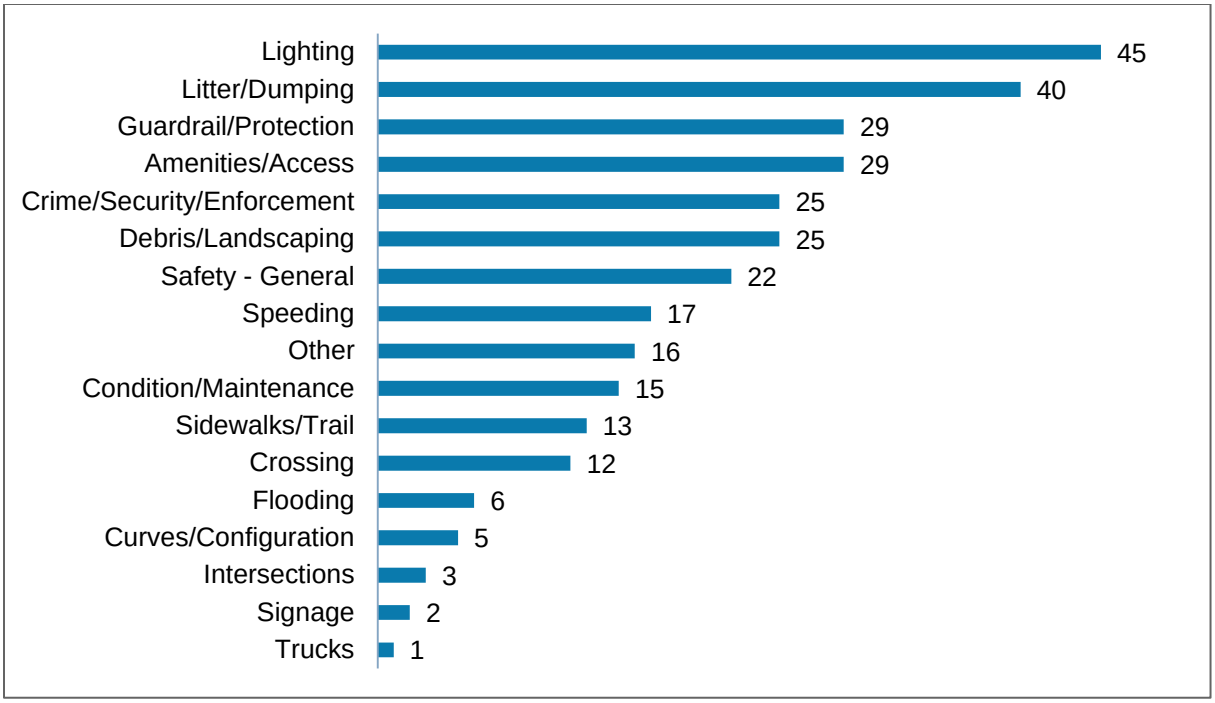
Figure C-14: If a new, safe crosswalk were installed to help you get to Cobbs Creek Trail, where would you like it to be? (Choose one.)



Source: DVRPC, 2018

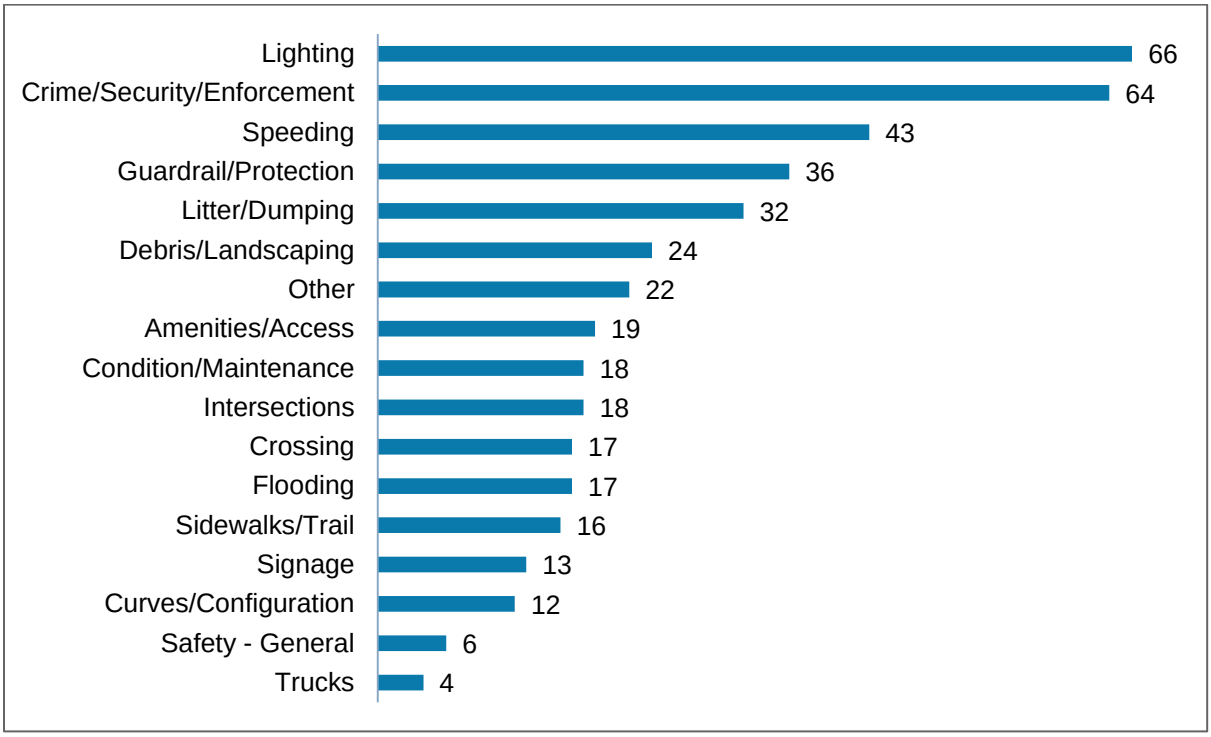
*Mount Moriah Cemetery was not a selectable option, but was written into the "Other" category six times. These entries were removed from the "Other" tally.

Figure C-15: I would be more likely to walk and/or bike along Cobbs Creek Trail if… (open-response topics mentioned)



Source: DVRPC, 2018

Figure C-16: How do you think safety around Cobbs Creek Parkway could be improved?



Source: DVRPC, 2018

Appendix D

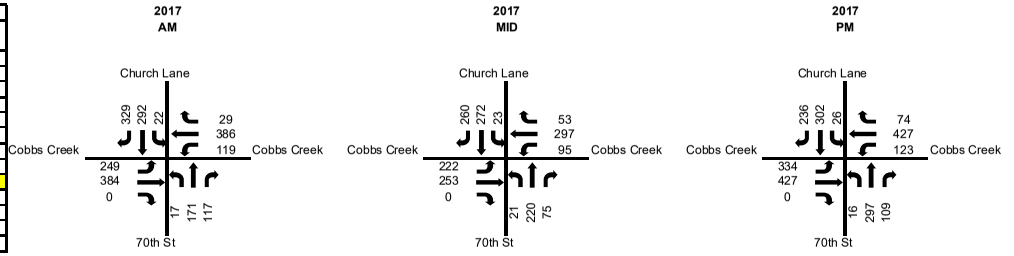
Appendix D: Roundabout

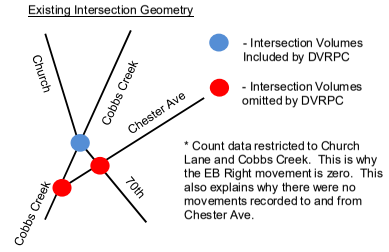
PennDOT asked Urban Engineers to investigate the possibility of building a roundabout at the intersection of Cobbs Creek Parkway, 70th Street, Church Lane, and Chester Avenue. Urban Engineers evaluated three potential roundabout options: a dual roundabout, a peanut roundabout, and a single lane 5-leg roundabout (SLR). The consultants provided Sidra[83] results and the volume figures. The consultants believe that a single lane roundabout will work. Under a single lane roundabout scenario, the intersection would operate at Level of Service (LOS) C. The capacity of the roundabout could potentially be increased by adding (1) a Westbound Right Turn Lane, (2) Westbound and Northbound Right Turn Lanes, or (3) Westbound and Northbound Right Turn Lanes and closing off the entrance to Chester Avenue. Adding turning lanes would decrease pedestrian safety, and closing off Chester Avenue would require rerouting SEPTA buses, so these options are less desirable from the planning team's perspective.

[83] Sidra Intersection is a software package used by transportation professionals to study intersection and network capacity, level of service and performance analysis, and signalized intersection and network timing calculations.

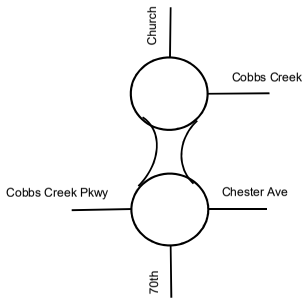
Cobbs Creek Pkwy, 70th St, and Church Lane - Volume Summary

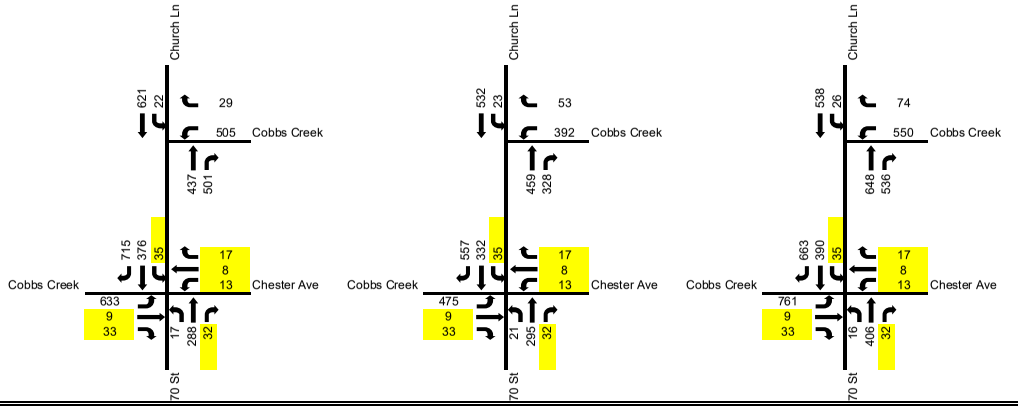
2017 Peak Hour Turn Volumes - Collected by DVRPC				
		2017 AM	2017 MID	2017 PM
70th St	NB Left	17	21	16
	NB Thru	171	220	297
	NB Right	117	75	109
Church Ln	SB Left	22	23	26
	SB Thru	292	272	302
	SB Right	329	260	236
Cobbs Creek	EB Left	249	222	334
	EB Thru	384	253	427
	EB Right*	0	0	0
Cobbs Creek	WB Left	119	95	123
	WB Thru	386	297	427
	WB Right	29	53	74
	Total	2115	1791	2371





Dual Roundabout Volumes

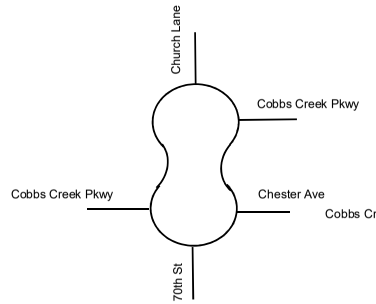


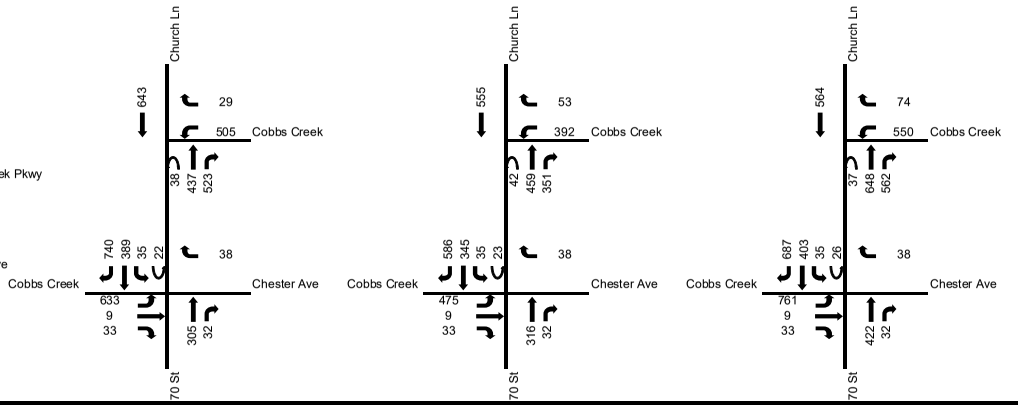


Count data to and from Chester Ave is from previous Cobbs Creek Trail Extension study performed by Urban Engineers in September 2012.

Movement from the previous study

Peanut Volumes





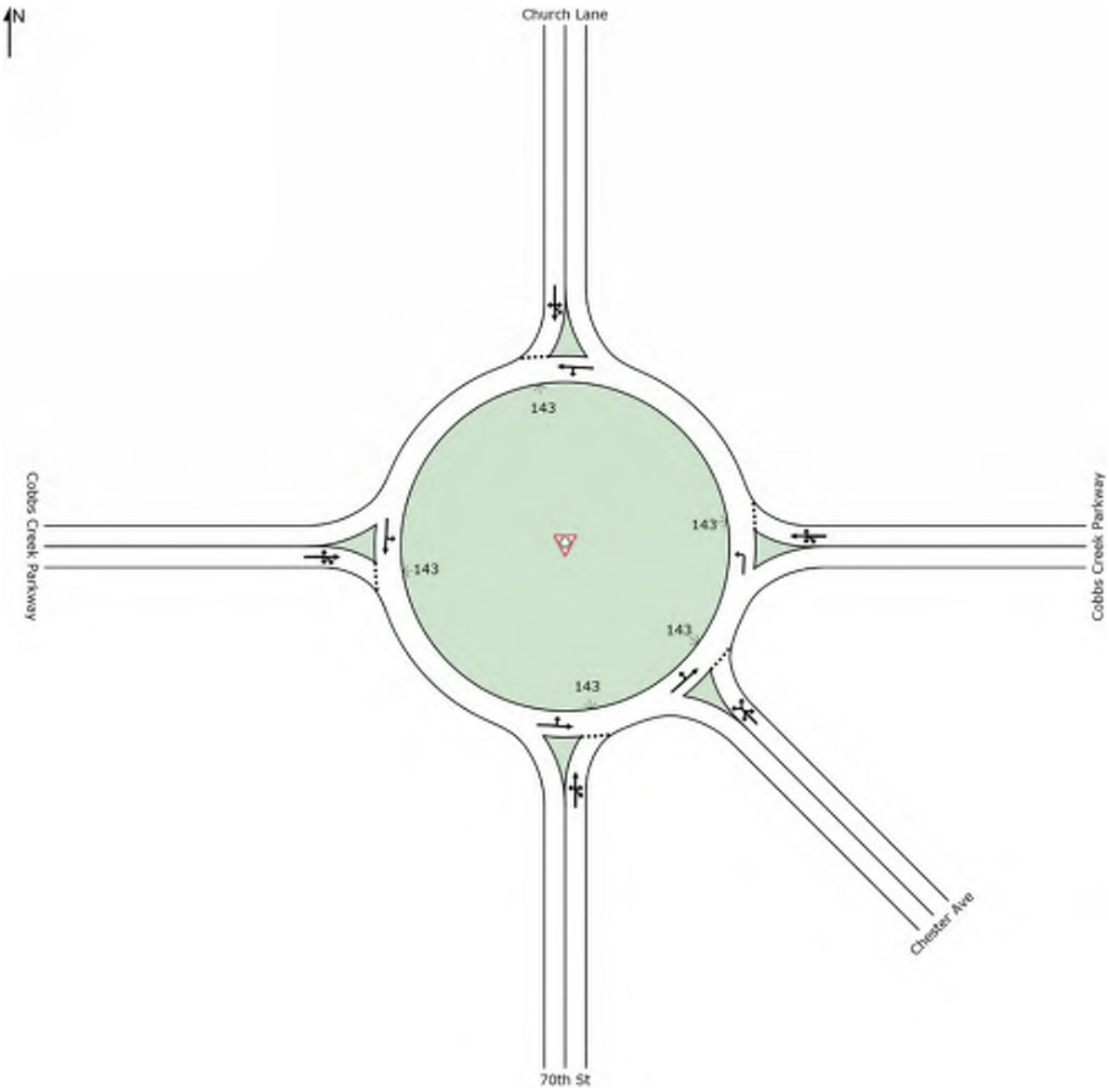
Source: Urban Engineers, 2018

Source: Urban Engineers, 2018

SITE LAYOUT

Site: [HCS6 - 2040 - PM - 175']

Roundabout



Organisation: URBAN ENGINEERS INC | Created: Thursday, March 22, 2018 4:36:05 PM
Project: T:\0058-003 D6 DES OE (E02650)\04_Design\Concepts\City of Philadelphia\74831 - Cobbs Creek & 70th\Sidra\Outputs\PM - 175' SLR.sip7

Source: Urban Engineers, 2018

MOVEMENT SUMMARY

Site: [SS105 - 2040 - PM - 175']

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: 70th St											
3	L2	17	0.0	0.921	47.1	LOS D	18.3	457.3	1.00	1.51	24.3
8	T1	323	0.0	0.921	39.6	LOS D	18.3	457.3	1.00	1.51	24.1
18	R2	118	0.0	0.921	40.3	LOS D	18.3	457.3	1.00	1.51	23.5
18b	R3	35	0.0	0.921	40.4	LOS D	18.3	457.3	1.00	1.51	23.2
Approach		493	0.0	0.921	40.1	LOS D	18.3	457.3	1.00	1.51	23.9
SouthEast: Chester Ave											
3bx	L3	14	0.0	0.130	27.0	LOS C	1.0	25.6	1.00	0.89	30.5
3ax	L1	9	0.0	0.130	24.3	LOS C	1.0	25.6	1.00	0.89	29.7
18ax	R1	18	0.0	0.130	17.9	LOS B	1.0	25.6	1.00	0.89	29.6
18bx	R3	1	0.0	0.130	19.0	LOS B	1.0	25.6	1.00	0.89	28.6
Approach		42	0.0	0.130	22.2	LOS C	1.0	25.6	1.00	0.89	29.9
East: Cobbs Creek Parkway											
1b	L3	1	0.0	0.878	33.8	LOS C	17.3	433.5	1.00	1.42	28.8
1	L2	134	0.0	0.878	32.5	LOS C	17.3	433.5	1.00	1.42	28.4
6	T1	464	0.0	0.878	25.0	LOS C	17.3	433.5	1.00	1.42	28.2
16	R2	80	0.0	0.878	25.7	LOS C	17.3	433.5	1.00	1.42	27.4
Approach		679	0.0	0.878	26.5	LOS C	17.3	433.5	1.00	1.42	28.1
North: Church Lane											
7	L2	28	0.0	0.840	25.7	LOS C	14.4	358.9	1.00	1.24	31.2
7a	L1	38	0.0	0.840	24.4	LOS C	14.4	358.9	1.00	1.24	30.7
4	T1	328	0.0	0.840	18.2	LOS B	14.4	358.9	1.00	1.24	30.9
14	R2	257	0.0	0.840	18.9	LOS B	14.4	358.9	1.00	1.24	29.9
Approach		651	0.0	0.840	19.2	LOS B	14.4	358.9	1.00	1.24	30.5
West: Cobbs Creek Parkway											
5	L2	363	0.0	0.971	38.0	LOS D	28.3	707.2	1.00	1.55	26.2
2	T1	464	0.0	0.971	30.5	LOS C	28.3	707.2	1.00	1.55	26.0
12a	R1	10	0.0	0.971	30.3	LOS C	28.3	707.2	1.00	1.55	25.8
12	R2	36	0.0	0.971	31.2	LOS C	28.3	707.2	1.00	1.55	25.3
Approach		873	0.0	0.971	33.7	LOS C	28.3	707.2	1.00	1.55	26.1
All Vehicles		2739	0.0	0.971	29.4	LOS C	28.3	707.2	1.00	1.43	27.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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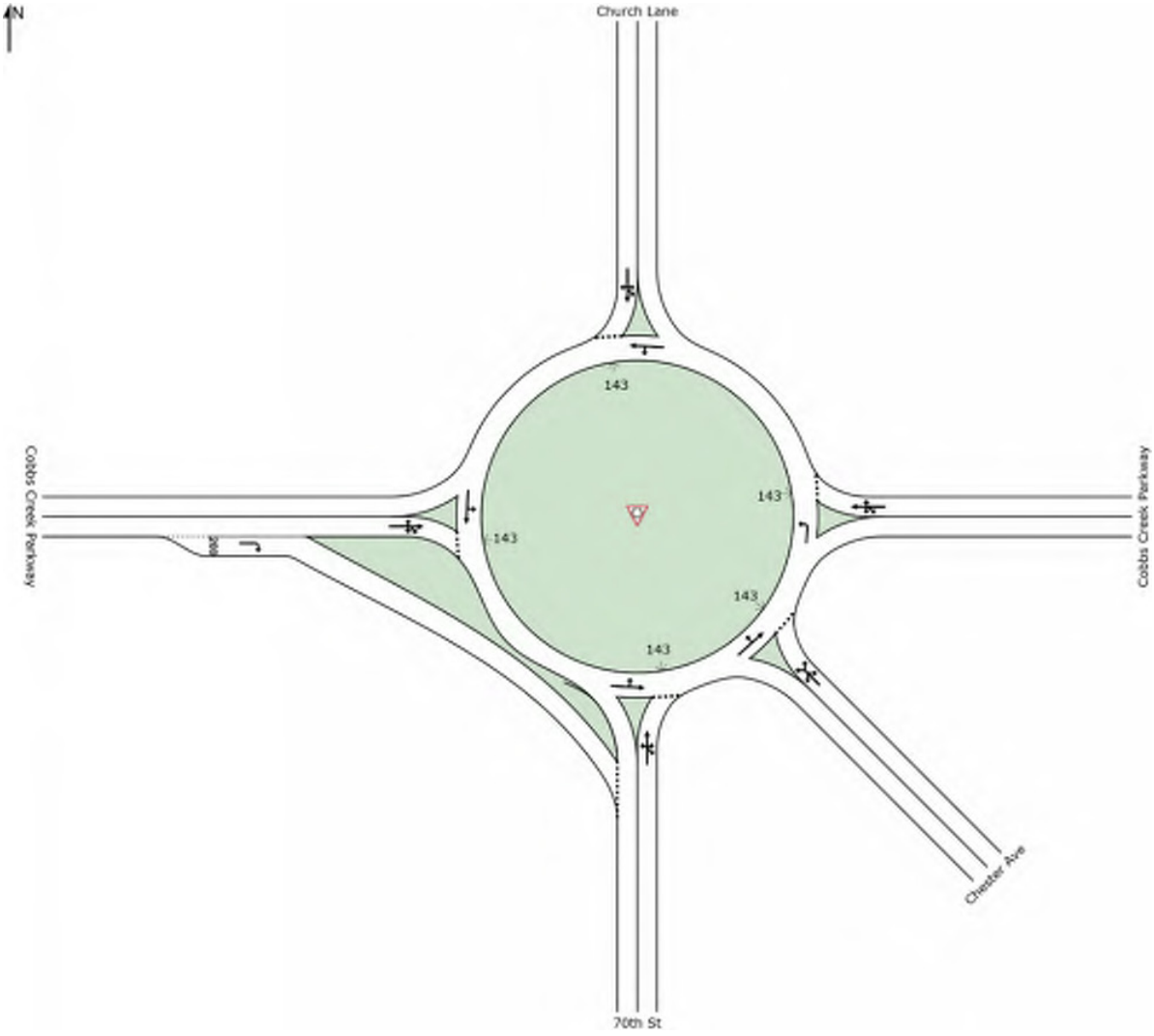
Source: Urban Engineers, 2018

SITE LAYOUT

Site: [SS105 - 2040 - PM - 175' - Bypass EB]

Roundabout



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Source: Urban Engineers, 2018

MOVEMENT SUMMARY

Site: [SS105 - 2040 - PM - 175' - Bypass EB]

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: 70th St											
3	L2	17	0.0	0.905	44.4	LOS D	17.3	431.8	1.00	1.47	25.0
8	T1	323	0.0	0.905	36.9	LOS D	17.3	431.8	1.00	1.47	24.8
18	R2	118	0.0	0.905	37.6	LOS D	17.3	431.8	1.00	1.47	24.1
18b	R3	35	0.0	0.905	37.7	LOS D	17.3	431.8	1.00	1.47	23.9
Approach		493	0.0	0.905	37.4	LOS D	17.3	431.8	1.00	1.47	24.6
SouthEast: Chester Ave											
3bx	L3	14	0.0	0.128	27.0	LOS C	1.0	25.1	1.00	0.89	30.5
3ax	L1	9	0.0	0.128	24.3	LOS C	1.0	25.1	1.00	0.89	29.7
18ax	R1	18	0.0	0.128	17.9	LOS B	1.0	25.1	1.00	0.89	29.6
18bx	R3	1	0.0	0.128	19.0	LOS B	1.0	25.1	1.00	0.89	28.6
Approach		42	0.0	0.128	22.2	LOS C	1.0	25.1	1.00	0.89	29.9
East: Cobbs Creek Parkway											
1b	L3	1	0.0	0.873	33.3	LOS C	17.0	425.3	1.00	1.41	29.0
1	L2	134	0.0	0.873	31.9	LOS C	17.0	425.3	1.00	1.41	28.6
6	T1	464	0.0	0.873	24.5	LOS C	17.0	425.3	1.00	1.41	28.4
16	R2	80	0.0	0.873	25.1	LOS C	17.0	425.3	1.00	1.41	27.5
Approach		679	0.0	0.873	26.0	LOS C	17.0	425.3	1.00	1.41	28.3
North: Church Lane											
7	L2	28	0.0	0.840	25.7	LOS C	14.4	358.9	1.00	1.24	31.2
7a	L1	38	0.0	0.840	24.4	LOS C	14.4	358.9	1.00	1.24	30.7
4	T1	328	0.0	0.840	18.2	LOS B	14.4	358.9	1.00	1.24	30.9
14	R2	257	0.0	0.840	18.9	LOS B	14.4	358.9	1.00	1.24	29.9
Approach		651	0.0	0.840	19.2	LOS B	14.4	358.9	1.00	1.24	30.5
West: Cobbs Creek Parkway											
5	L2	363	0.0	0.728	16.6	LOS B	10.3	257.9	0.96	0.96	34.5
2	T1	464	0.0	0.728	9.1	LOS A	10.3	257.9	0.96	0.96	34.2
12a	R1	10	0.0	0.728	8.8	LOS A	10.3	257.9	0.96	0.96	33.8
12	R2	36	0.0	0.029	4.9	LOS A	0.2	4.7	0.58	0.52	36.0
Approach		873	0.0	0.728	12.0	LOS B	10.3	257.9	0.94	0.94	34.4
All Vehicles		2739	0.0	0.905	21.9	LOS C	17.3	431.8	0.98	1.22	29.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Organisation: URBAN ENGINEERS INC | Processed: Sunday, April 15, 2018 9:42:46 PM
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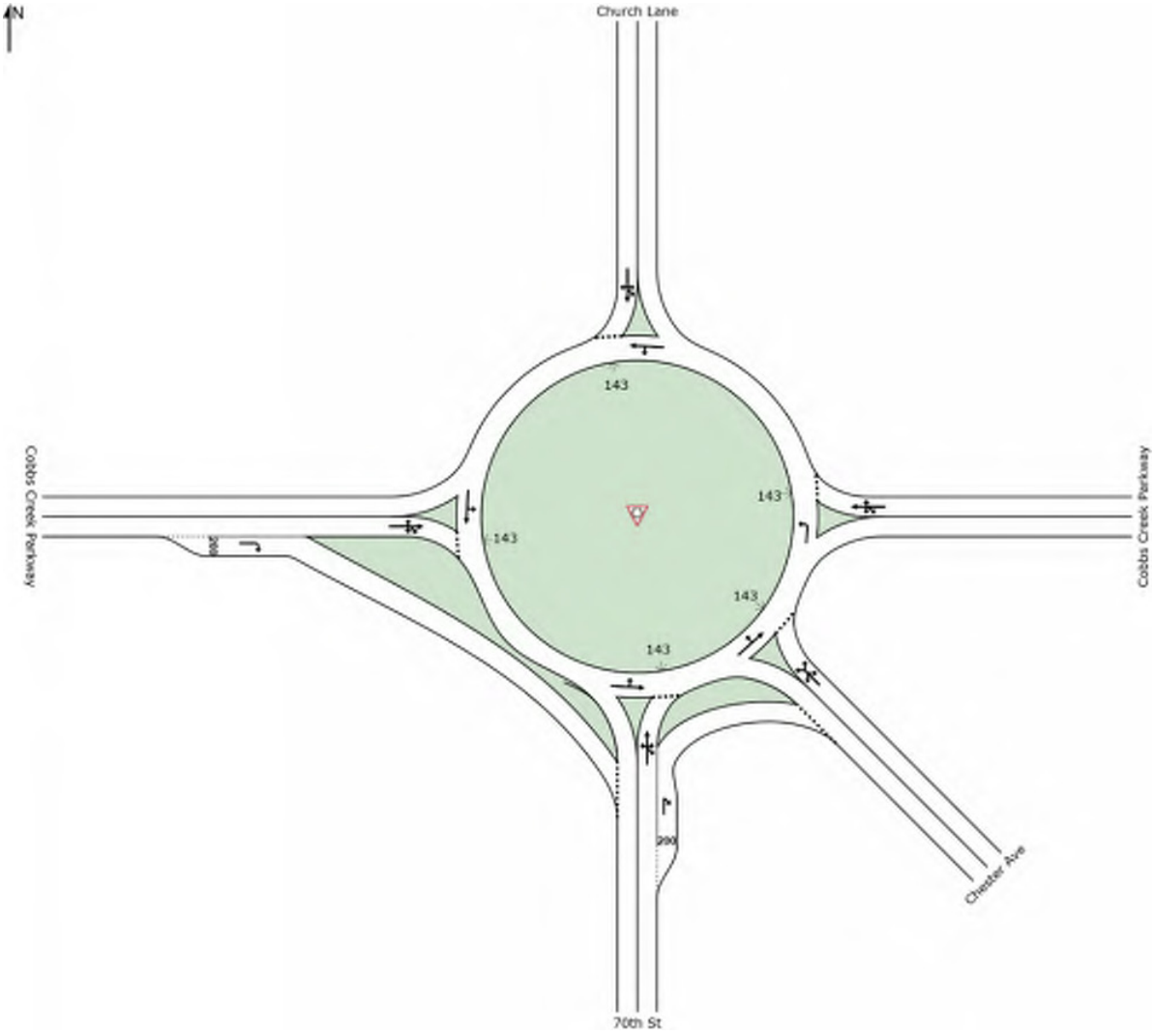
Source: Urban Engineers, 2018

SITE LAYOUT

Site: [SS105 - 2040 - PM - 175' - Bypass EB NB]

Roundabout



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Source: Urban Engineers, 2018

MOVEMENT SUMMARY

Site: [SS105 - 2040 - PM - 175' - Bypass EB NB]

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: 70th St											
3	L2	17	0.0	0.637	21.0	LOS C	8.1	202.2	1.00	1.06	33.6
8	T1	323	0.0	0.637	13.5	LOS B	8.1	202.2	1.00	1.06	33.3
18	R2	118	0.0	0.637	14.1	LOS B	8.1	202.2	1.00	1.06	32.1
18b	R3	35	0.0	0.021	3.6	LOS A	0.1	3.1	0.18	0.44	36.6
Approach		493	0.0	0.637	13.2	LOS B	8.1	202.2	0.94	1.01	33.2
SouthEast: Chester Ave											
3bx	L3	14	0.0	0.128	27.0	LOS C	1.0	25.1	1.00	0.89	30.5
3ax	L1	9	0.0	0.128	24.3	LOS C	1.0	25.1	1.00	0.89	29.7
18ax	R1	18	0.0	0.128	17.9	LOS B	1.0	25.1	1.00	0.89	29.6
18bx	R3	1	0.0	0.128	19.0	LOS B	1.0	25.1	1.00	0.89	28.6
Approach		42	0.0	0.128	22.2	LOS C	1.0	25.1	1.00	0.89	29.9
East: Cobbs Creek Parkway											
1b	L3	1	0.0	0.873	33.3	LOS C	17.0	425.3	1.00	1.41	29.0
1	L2	134	0.0	0.873	31.9	LOS C	17.0	425.3	1.00	1.41	28.6
6	T1	464	0.0	0.873	24.5	LOS C	17.0	425.3	1.00	1.41	28.4
16	R2	80	0.0	0.873	25.1	LOS C	17.0	425.3	1.00	1.41	27.5
Approach		679	0.0	0.873	26.0	LOS C	17.0	425.3	1.00	1.41	28.3
North: Church Lane											
7	L2	28	0.0	0.840	25.7	LOS C	14.4	358.9	1.00	1.24	31.2
7a	L1	38	0.0	0.840	24.4	LOS C	14.4	358.9	1.00	1.24	30.7
4	T1	328	0.0	0.840	18.2	LOS B	14.4	358.9	1.00	1.24	30.9
14	R2	257	0.0	0.840	18.9	LOS B	14.4	358.9	1.00	1.24	29.9
Approach		651	0.0	0.840	19.2	LOS B	14.4	358.9	1.00	1.24	30.5
West: Cobbs Creek Parkway											
5	L2	363	0.0	0.728	16.6	LOS B	10.3	257.9	0.96	0.96	34.5
2	T1	464	0.0	0.728	9.1	LOS A	10.3	257.9	0.96	0.96	34.2
12a	R1	10	0.0	0.728	8.8	LOS A	10.3	257.9	0.96	0.96	33.8
12	R2	36	0.0	0.029	4.9	LOS A	0.2	4.7	0.58	0.52	36.0
Approach		873	0.0	0.728	12.0	LOS B	10.3	257.9	0.94	0.94	34.4
All Vehicles		2739	0.0	0.873	17.6	LOS B	17.0	425.3	0.97	1.14	31.5

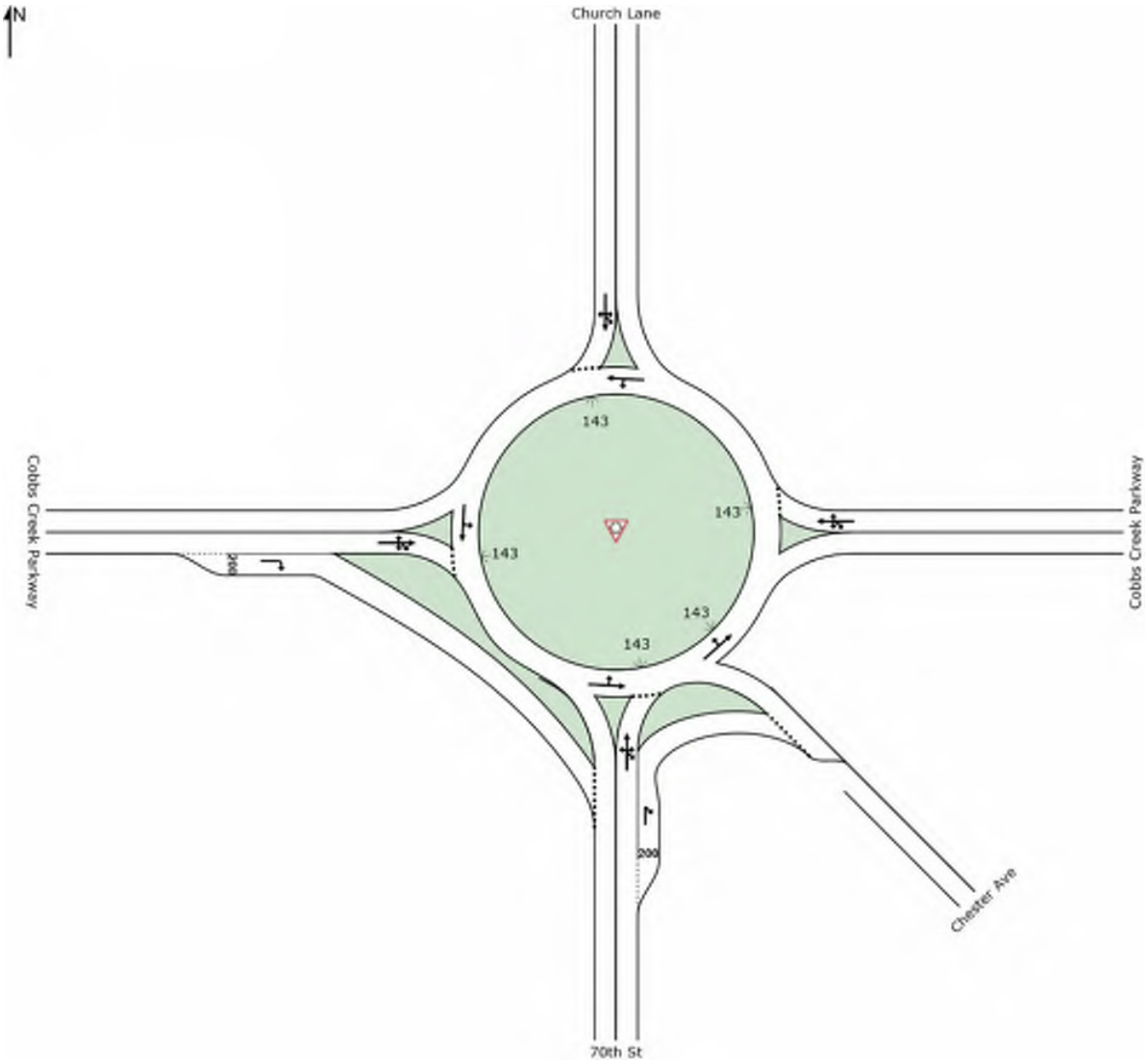
Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Source: Urban Engineers, 2018

SITE LAYOUT

Site: [SS105 - 2040 - PM - 175' - Remove Chester Entrance - Bypass]

Roundabout



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Project: T:\0058-003 D6 DES OE (E02650)\04_Design\Concepts\City of Philadelphia\74831 - Cobbs Creek & 70th\Sidra\Outputs\PM - 175' SLR.sip7

Source: Urban Engineers, 2018

MOVEMENT SUMMARY

Site: [SS105 - 2040 - PM - 175' - Remove Chester Entrance - Bypass]

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
South: 70th St											
3	L2	17	0.0	0.634	20.9	LOS C	8.0	200.6	1.00	1.05	33.7
8	T1	323	0.0	0.634	13.4	LOS B	8.0	200.6	1.00	1.05	33.3
18	R2	118	0.0	0.634	14.0	LOS B	8.0	200.6	1.00	1.05	32.2
18b	R3	35	0.0	0.021	3.6	LOS A	0.1	3.1	0.18	0.44	36.6
Approach		493	0.0	0.634	13.1	LOS B	8.0	200.6	0.94	1.01	33.3
East: Cobbs Creek Parkway											
1b	L3	1	0.0	0.843	29.2	LOS C	14.9	372.8	1.00	1.32	30.6
1	L2	134	0.0	0.843	27.8	LOS C	14.9	372.8	1.00	1.32	30.2
6	T1	464	0.0	0.843	20.3	LOS C	14.9	372.8	1.00	1.32	29.9
16	R2	80	0.0	0.843	21.0	LOS C	14.9	372.8	1.00	1.32	29.0
Approach		679	0.0	0.843	21.9	LOS C	14.9	372.8	1.00	1.32	29.8
North: Church Lane											
7	L2	28	0.0	0.824	24.0	LOS C	13.5	337.1	1.00	1.20	31.9
7a	L1	38	0.0	0.824	22.7	LOS C	13.5	337.1	1.00	1.20	31.5
4	T1	328	0.0	0.824	16.5	LOS B	13.5	337.1	1.00	1.20	31.6
14	R2	257	0.0	0.824	17.2	LOS B	13.5	337.1	1.00	1.20	30.6
Approach		651	0.0	0.824	17.5	LOS B	13.5	337.1	1.00	1.20	31.2
West: Cobbs Creek Parkway											
5	L2	363	0.0	0.721	16.2	LOS B	10.0	251.0	0.95	0.94	34.7
2	T1	464	0.0	0.721	8.7	LOS A	10.0	251.0	0.95	0.94	34.3
12a	R1	10	0.0	0.721	8.5	LOS A	10.0	251.0	0.95	0.94	33.9
12	R2	36	0.0	0.029	4.8	LOS A	0.2	4.6	0.57	0.52	36.1
Approach		873	0.0	0.721	11.7	LOS B	10.0	251.0	0.94	0.92	34.5
All Vehicles		2697	0.0	0.843	15.9	LOS B	14.9	372.8	0.97	1.10	32.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
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LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Source: Urban Engineers, 2018

Improving Safety and Stormwater along Cobbs Creek Parkway

60th Street to 70th Street

Publication Number: 17071

Date Published: May 2019

Geographic Area Covered:
Philadelphia, PA; Yeadon Borough, Delaware County, PA

Key Words:
Cobbs Creek Parkway, Cobbs Creek Park, Cobbs Creek Trail, 60th Street, Edgewood Street, Springfield Avenue, 65th Street, 67th Street, 68th Street, 70th Street, Chester Avenue, 71st Street, Church Lane, Larry Street, Kingsessing Avenue, Pedestrian, Bicycle, Safety, Stormwater, Green Stormwater Infrastructure (GSI), Speeding, Crashes, Guardrail, Guiderail, Traffic Calming, Lower Southwest Philadelphia, West Philadelphia, Mount Moriah Cemetery, Cobbs Creek Neighborhood, Paschall Neighborhood, Philadelphia, Yeadon Borough, Delaware County, PennDOT, Philadelphia Water Department (PWD), Philadelphia Parks and Recreation (PPR), Philadelphia Streets Department, Office of Transportation and Infrastructure Systems (oTIS), Philadelphia City Planning Commission (PCPC)

Abstract:
During the Philadelphia City Planning Commission's Lower Southwest District Plan process, Cobbs Creek Parkway was identified as problematic due to its speeding traffic, complex intersections, high crash rates, and nearby vulnerable populations. As a Pennsylvania Department of Transportation state highway, Cobbs Creek Parkway is also a challenge for traffic calming. This study examines intersections that link Cobbs Creek Parkway with Lower Southwest neighborhoods, with a particular emphasis on traffic calming and pedestrian safety measures, transit connections, and green stormwater infrastructure. A more coordinated street configuration and transit improvements could greatly reduce conflicts.

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