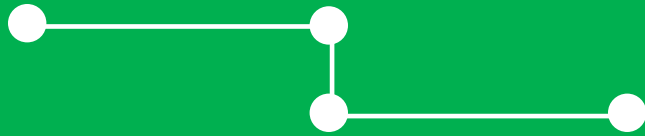


Top Pedestrian Priority Segments



An Analysis of the WILMAPCO Region

Prepared by the staff of the
Wilmington Area Planning Council

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January 2012



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RESOLUTION

BY THE WILMINGTON AREA PLANNING COUNCIL (WILMAPCO) APPROVING TOP PEDESTRIAN PRIORITY SEGMENTS: AN ANALYSIS OF THE WILMAPCO REGION

WHEREAS, the Wilmington Area Planning Council (WILMAPCO) has been designated the Metropolitan Planning Organization for Cecil County, Maryland and New Castle County, Delaware by the Governors of Maryland and Delaware, respectively; and

WHEREAS, prioritizing where limited transportation funding is expended has become increasingly important; and

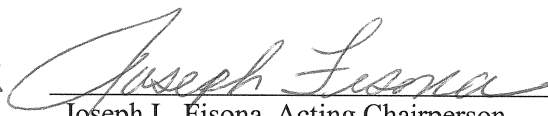
WHEREAS, funding for non-motorized transportation projects is especially scarce; and

WHEREAS, *Top Pedestrian Priority Segments: An Analysis of the WILMAPCO Region* delineates the top pedestrian corridors in the region; and

WHEREAS, *Top Pedestrian Priority Segments: An Analysis of the WILMAPCO Region* recommends cost-effective, and often easily implementable, walkability improvements within those corridors; and

WHEREAS, *Top Pedestrian Priority Segments: An Analysis of the WILMAPCO Region* has undergone appropriate technical review;

NOW, THEREFORE, BE IT RESOLVED that the Wilmington Area Planning Council does hereby approve *Top Pedestrian Priority Segments: An Analysis of the WILMAPCO Region*.

Date: January 12, 2012 
Joseph L. Fisona, Acting Chairperson
Wilmington Area Planning Council



Partners with you in transportation planning

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Who is WILMAPCO?

The Wilmington Area Planning Council (WILMAPCO) is the Metropolitan Planning Organization (MPO) for Cecil County, Maryland and New Castle County, Delaware. We are charged with planning and coordinating transportation investments for the Wilmington region.



The Wilmington region is home to nearly 640,000 residents, most of whom (84%) live in New Castle County. Wilmington, a financial hub supporting a population of more than 70,000, serves as the principal city. Urbanized development stretches outside of Wilmington along the I-95 corridor, from the Town of Elkton to the Pennsylvania border. Natural and rural landscapes, sprawling suburbs, and small towns blanket the rest of the region.

WILMAPCO's mission is to create the best transportation Plan for the region, one that meets all the requirements mandated by the Federal Clean Air Act and its Amendments (CAAA) and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

Chapter 1

Introduction

Purpose

This study develops a process to more wisely spend our limited non-motorized funding. It demarcates the twenty top pedestrian corridors regionally, and identifies the chief walkability concerns in those places.

Background

WILMAPCO has long advocated for the development of an effective, efficient and meaningful non-motorized transportation system¹ in the Wilmington, Delaware region. Trends which emerged during the second half of the 20th Century have made this a challenge.

Following the Second World War, the construction of major highways such as I-95, SR 1 and SR 2 encouraged a housing boom in Wilmington's suburbs, one that continues to this day. The population of Wilmington sank as former city residents (and new migrants) flooded suburban areas. Continuing highway investments, coupled with expanding private car ownership, enabled the sharp and wide separation of land uses visible today outside our cities and towns.

Figure 1: Contemporary Sprawl Development



Sprawling development in Middletown. (Source: Bing Maps)

The long miles of paved highways that crisscross the WILMAPCO region provide for an unprecedented freedom of movement for those with the means. This car-centric society, however, presents environmental and social concerns. These include heightened greenhouse

¹ Non-motorized transportation primarily includes walking and bicycling.

gas emissions (which speed global warming) more sedentary lifestyles (which contribute to health problems), and isolation for those without access to a car. Sprawl in Wilmington's suburbs also led to disinvestment in the city, an entrenchment of its urban poverty and unbalanced regional transportation investments.

Searching for a Path Forward

In our era of sprawl, transportation spending became—and remains—most influenced by land development and highway interests. The public transit system contracted, and few can today reasonably walk or bicycle to work, shops or play.

Roadway-only projects constitute the lion's share of capital transportation spending in our region. In the FY 2012 TIP², only \$10.5 million was set aside for bicycle and pedestrian-only projects, a paltry sum compared to the \$1.4 billion slated for roadway-only work in FY 2012. And while pedestrian and bicycle projects are often wrapped into roadway projects, funding for multimodal projects too has faced sharp declines, as a percentage of total spending, since 2003.

As illustrated in Figure 2, roadway-only project funding has increased significantly in recent TIPs. In response to sprawl, major highway expansion projects—like the construction of a new US 301 expressway and capacity increases to our interstate system—have been funded. In fact, more than 39% of the FY 2012 TIP was dedicated to system *expansion*, the highest of any funding category. With an increasing amount dedicated to expansion projects (see figure 2) many preservation projects have been shelved. Considering projected transportation funding shortfalls on the horizon, and that ride quality on existing highways is already suffering, our system is overstretched.

Figure 2: Percentage of Capital Funding to Roadway-only & Expansion Projects in the TIP



² The TIP is the Transportation Improvement Program, an annually-updated four-year listing of projects. See www.wilmapco.org/tip.

Despite this shortfall, progress has been made to realize an improved non-motorized transportation system in both Maryland and Delaware. WILMAPCO, DelDOT and MDOT have developed *complete street* policies to work towards incorporating all users, including pedestrians, bicyclists and people with disabilities, on existing and new roadways³. Where appropriate, reconstructed roadways may feature bicycle lanes painted next to car travel lanes, separated stretches of sidewalk next to the road and safer and more accessible pedestrian road crossings. Significant progress has also been made completing our region's proposed network of pedestrian and bicycle pathways. The most prominent of these, the East Coast Greenway, is over halfway finished in New Castle County. Innovative programs like Transportation Enhancements and Safe Routes to School also provide savvy communities, and schools, funding to rehabilitate and reshape their transportation infrastructure. While a good start, we have a very long way to go.



New Lindenhill Road in Pike Creek features travel paths for pedestrians, cyclists and cars.

Creating the conditions for higher and sustained increases in non-motorized spending requires major shifts in land use and financial policy. Residential and commercial sprawl should be checked, and then reversed, through meaningful and effective development incentive programs and/or restrictions. We should aim for increasing the densities of existing centers and the contraction of today's sprawl into small centers and open space. This more sustainable, livable and smarter growth pattern would foster a modal shift from today's heavy reliance on personal vehicles to a future where public transit, walking and bicycling begin to outpace car use.

Owing to this reliance on personal cars, current transportation revenues are supplied primarily via taxes on gasoline. Funding non-highway projects with gasoline revenues (especially in a time of scarce funding, when many highway projects exist only on diagrams) is counterintuitive. This strengthens today's link between transportation revenue and highway spending, and further perpetuates our typical transportation spending cycle. Coupled with changes in land use patterns, uncovering new transportation revenue streams will help break the cycle.

³ See the 2030 Regional Transportation Plan, www.wilmapco.org/rtp.

Prioritizing Pedestrian Segments

Providing more balanced transportation investments and curbing suburban sprawl has figured into WILMAPCO's planning objectives⁴. We pride ourselves on a multimodal approach to planning, to ensure that the non-motorized system is no less valued than the highway. A Non-motorized Transportation Working Group comprised of planners and pedestrian and bicycle advocates meets regularly at WILMAPCO, setting the course for non-motorized transportation planning work at the agency. We host Walkable Community Workshops⁵, identifying troublesome spots for pedestrians alongside community members, and provide guidance on implementing improvements. We have also taken the planning lead on several Safe Routes to School programs in New Castle County, bringing about pedestrian improvements and educational activities to encourage more of our youth to walk to school safely. Walkability was also an important component of our Transportation and Environmental Justice studies⁶. This report helps us make more informed infrastructure investment decisions.

The prioritization of projects was a cornerstone of our 2030 Regional Transportation Plan (RTP). With transportation funding allocations projected to fall during the decade ahead, wisely investing available capital is critical. The Plan developed a transparent, data-driven project prioritization process, providing a technical score for planned projects. Also featured in the Plan was a map of our Pedestrian Priority Areas and prioritization of individual roadway segments within them.

Pedestrian Priority Areas (see Map 1 below) are defined as those areas within a municipality, one-mile of a school⁷ and one-quarter mile of a bus stop. While we believe the entirety of our region may be appropriate for pedestrian facilities, Pedestrian Priority Areas help us focus pedestrian facility studies and investments. Given their own wide coverage, however, it was recognized in developing the 2030 RTP a more finely-tuned pedestrian prioritization process was warranted.

To do this we scored our region's 33,000 individual roadway segments on an index. Aimed at ascertaining the segment's ability to generate pedestrian activity and its need for pedestrian safety enhancements, the index considered measures such as surrounding population and employment density, the pedestrian crash rate, and proximity to shops, libraries and community centers. The resulting Prioritized Pedestrian Network (PPN) has been used as a tool by WILMAPCO planners in the years since. Notably, it helped prioritize pedestrian improvements in the Southbridge section of Wilmington⁸.

⁴ See our 2030 Regional Transportation Plan, www.wilmapco.org/rtp.

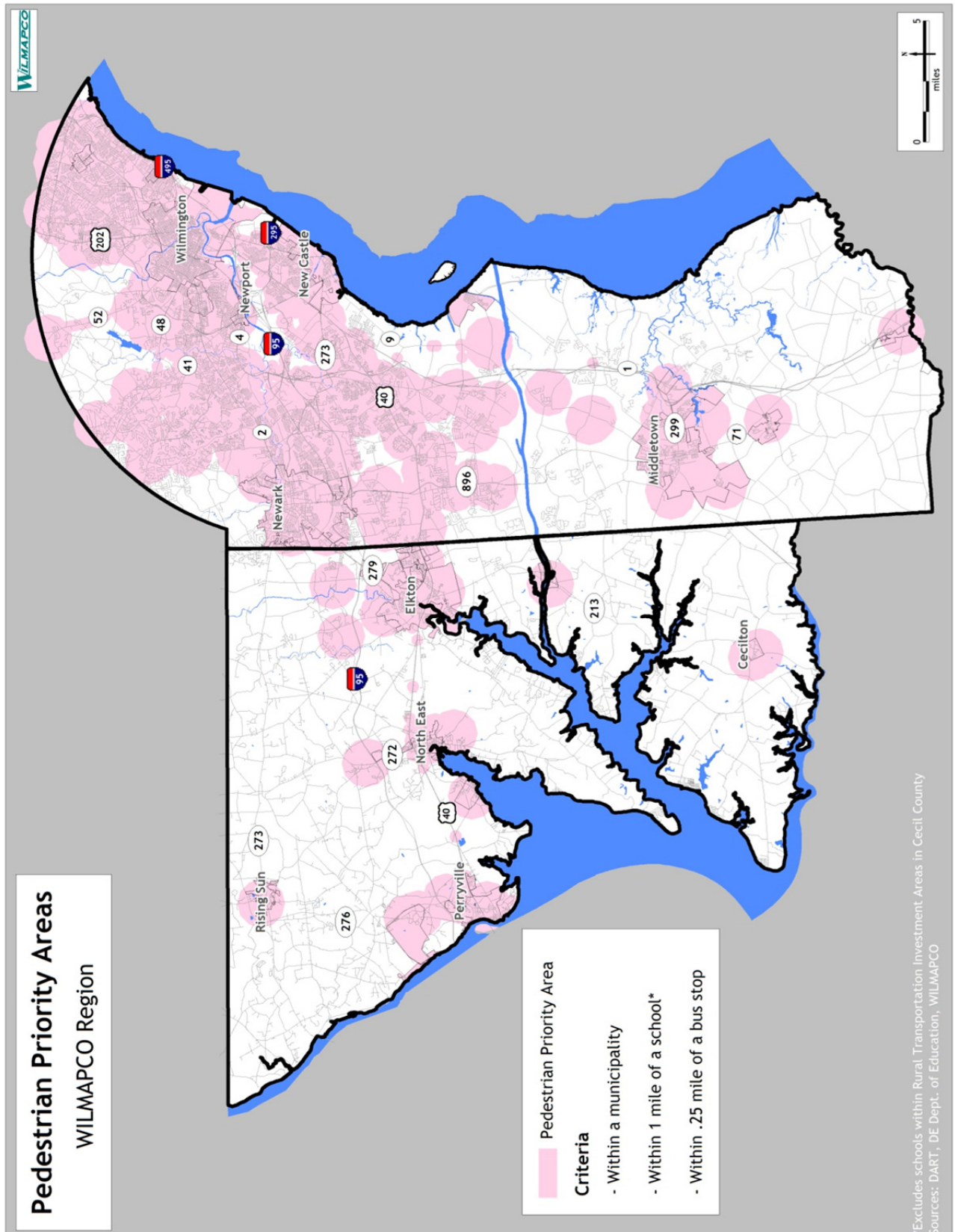
⁵ See our Walkable Community Workshops, www.wilmapco.org/walkable.

⁶ See our Transportation and Environmental Justice work, www.wilmapco.org/ej

⁷ This excludes schools in Rural Transportation Investment Areas in Cecil County.

⁸ See our Southbridge work, www.wilmapco.org/southbridge

Map 1: Pedestrian Priority Areas





The Prioritized Pedestrian Network helped residents prioritize pedestrian upgrades in Southbridge.

The present study takes our PPN to the next level. Beyond updating the network with new data, it takes a closer look at our region's 20 highest-scoring corridors. Walkability assessments were conducted in each of these top pedestrian priority segments, to identify poor infrastructure and broken pedestrian connections. In a final chapter, appropriate funding streams are discussed to address these issues.

This study is a small but important step towards achieving a more robust non-motorized transportation system in the WILMAPCO region. We will continue to press for the necessary long-term overhaul of land use and transportation policy described above. In the short-term, this study delineates the corridors where limited non-motorized funding would best be spent, along with which projects in those corridors most need attention.

Chapter 2

Prioritized Pedestrian Network

As noted in the previous chapter, our Prioritized Pedestrian Network (PPN) was developed with our 2030 RTP to offer a transparent scheme to prioritize pedestrian improvements. High-scoring network segments are concurrently where heavy pedestrian activity may be generated and where solid pedestrian infrastructure is most needed. This chapter outlines the criteria and method of our PPN.

Index Criteria

Our PPN uses Geographic Information Systems (GIS) to prioritize and map roadway segments for pedestrian improvements. Centerline roadway data for New Castle and Cecil Counties serve as the base networks. Together, these files comprise 33,202 individual links of varying length. Each of these links was scored using an index developed by the Non-motorized Transportation Working Group, illustrated in Table 1. The scores for each measure were summed, giving each segment a final score. Links on interstates and expressways, where walking is prohibited, always received a score of zero. Each of the 13 measures featured in the index will be discussed in detail below.

Table 1: Prioritized Pedestrian Network Criteria and Measures

No.	Criteria	Measure	Notes	Points
1.	Bus Stop	within .25 mile	Point Buffer	1
2.	Commercial Property	within .25 mile	Parcel/point Buffer	1
3.	Community Center	within .25 mile	Point Buffer	1
4.	Greenway	within .5 mile	Line Buffer	1
5.	Hometown Overlay Zone	within	Polygon (only NCC)	1
6.	Library	within .25 mile	Point Buffer	1
7.	Municipality	within	Polygon	1
8.	Park	within .25 mile	Polygon Buffer	1
9.	Safety Improvement Target	within	Crash index in NCC/Pedestrian Facility Needs in Cecil	1 to 4
10.	School	within 1 mile	Point Buffer	1
11.	Significant EJ Neighborhood	within	Polygon Buffer	1
12.	Significant TJ Neighborhood	within	Polygon Buffer	1
13.	Traffic Analysis Zone Density	within	Polygon	1

(1.) Bus Stop

Bus stops are focal points for pedestrian activity, and should be surrounded by adequate walking infrastructure. In our index, bus stop locations were gathered from the Delaware Transit Corporation in New Castle County and WILMAPCO field surveys in Cecil County. Using GIS, a $\frac{1}{4}$ mile buffer was applied to the bus stops, representing a rough gauge of acceptable walking distance. Segments in our base network which fell within this buffer were awarded one point.

(2.) Commercial Property

Shops should be accessible to pedestrians. Commercial property data were collected from both county land use departments. As with the bus stops, a $\frac{1}{4}$ buffer was applied to these features to represent walking distance. Base network links within these buffers were given one point.



Pedestrians and restaurants mix one afternoon in downtown Wilmington.

(3.) Community Center

Like shops, community centers should be easily reached by pedestrians. Gathered from a variety of sources, a $\frac{1}{4}$ mile buffer was applied to community center locations. Network segments within that buffer were awarded one point.

(4.) Greenway

Segments of existing and proposed bicycle and pedestrian pathways should link into local parks and pedestrian infrastructure. A $\frac{1}{2}$ mile buffer was applied to New Castle County's Greenway Plan and pathway data from WILMAPCO's base network in Cecil County. Base network links within these buffers were given a point.

(5.) Hometown Overlay Zone

Areas in New Castle County identified as “hometown overlay zones” were also considered in our analysis. These non-incorporated regions, such as Claymont, offer limited local regulation regarding design standards. Segments within hometown overlays were awarded a point.

(6.) Library

Libraries are focal points for community activity, and should boast good pedestrian connectivity. Segments within a ¼ mile buffer of a library received one point.

(7.) Municipality

The 22 municipalities in our region often boast existing density and a commitment to smart growth. Our transportation planning process works to support these communities. Like hometown overlay zones, network links within municipalities were given one point.



Pedestrians and a cyclist cross the busy Main Street in Newark.

(8.) Park

Parks should be easily accessible by pedestrians from surrounding neighborhoods. Network segments within ¼ mile of parks obtained a point.

(9.) Safety Improvement Target

Safety is both the most important and most complex measurement in our index. In New Castle County, we measured safety with pedestrian crash data (from 2006-8). Roadway segments with many pedestrian crashes tell us that the road is frequented by pedestrians and that safety issues are present. We developed a simple crash index, based on the raw number of crashes and the crash rate against the segment's vehicle miles traveled, to distribute one to four points for safety on network links. Segments with a moderate crash total received one point, as well as segments with a moderate crash rate. Links with a significant crash total received two points, along with segments showing a significant crash rate.

Due to the unavailability of good crash data in Cecil County a different approach was taken for network segments there. Links falling upon a safety improvement target road, based on MDOT's Bicycle and Pedestrian Inventory, received four points.

(10.) School

Our schools should have solid pedestrian connections to surrounding communities. Network segments within 1 mile of schools, acceptable walking distance for most children, received one point.



Children arrive at Claymont Elementary School one chilly April morning.

(11.) Significant EJ Neighborhood

Low-income and minority communities do not receive their fair share of transportation spending, and carry more than their fair share of the transportation system's burden. They also boast higher-than average walking rates, and are more likely to suffer pedestrian crashes. Network segments within heavily-concentrated low-income and minority areas, known as Significant Environmental Justice (EJ) Neighborhoods⁹, received a point on our index.



The Hilltop section of Wilmington is one of our identified EJ neighborhoods.

(12.) Significant TJ Neighborhood

Senior, disabled and zero-car household communities risk isolation from society without transportation alternatives. Solid pedestrian connections within these communities, known as Transportation Justice (TJ) Neighborhoods¹⁰, provide residents with an alternative to the private car. Links within Significant TJ Neighborhoods received one point.

(13.) Traffic Analysis Zone Density

Traffic Analysis Zones (TAZs) home to heavy concentrations of population and employment should also be home to good pedestrian infrastructure. Network segments within such TAZs were awarded one point in our index.

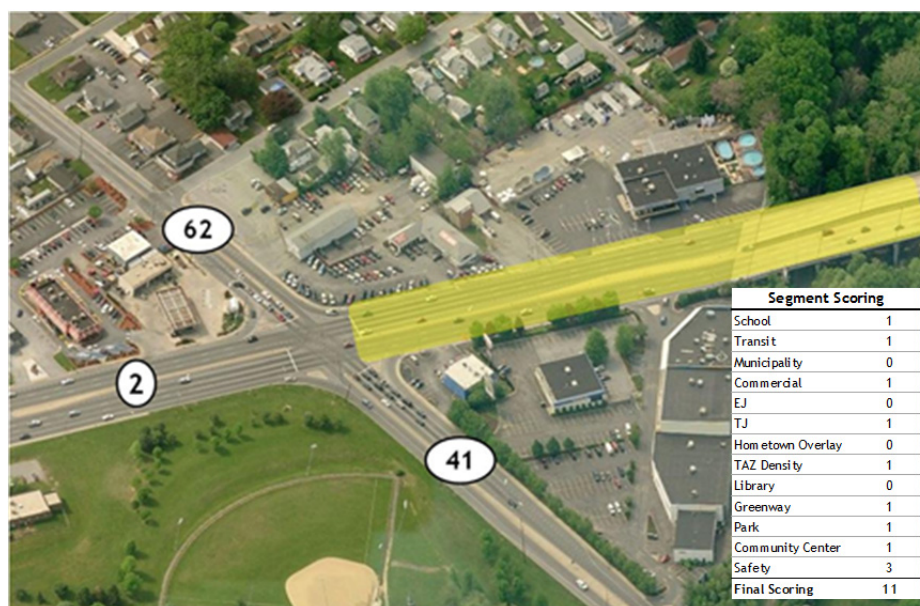
⁹ Significant EJ neighborhoods are as defined in the 2009 Transportation Equity Report (www.wilmapco.org/ej).

¹⁰ Significant TJ neighborhoods are as defined in the 2007 Accessibility and Mobility Report (www.wilmapco.org/ej).

Example

Below is a brief illustration of one network segment, and the scores it generated using the criteria described above. Considered is a high-scoring link along SR 2 (west of SR 41/62) shown in yellow below. The link is part of Segment 10, one of our top pedestrian priority segments, profiled in the following chapter.

Figure 3: PPN Scoring Example



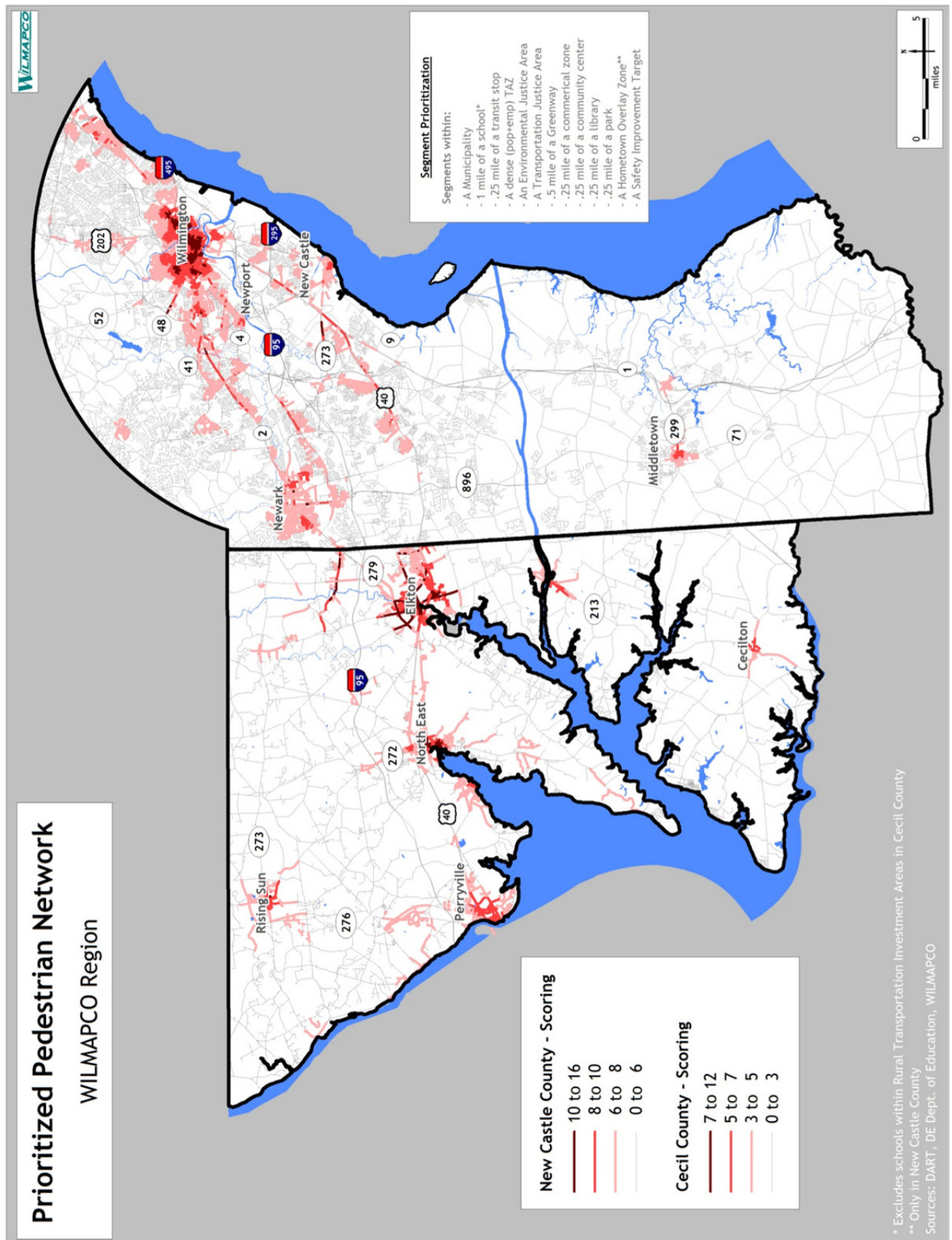
This segment of Kirkwood Highway received high points in our index. (Source: Bing Maps)

This busy roadway segment near Prices Corner received a total of eleven points in nine of our 13 possible criteria. It received two points for bus stops and commercial properties, which line the highway. Within walking distance of a community center, pathway, park, and school the segment picked up four additional points. This section of SR 2 also scored high on our pedestrian crash index: it received three of a possible four points there. Nestled inside a TJ area and densely-settled TAZ, the segment netted two additional points.

Mapping the Network

After tallying scores for the more than 33,000 roadway segments (and zeroing-out scores for segments along expressways) we mapped the prioritized network. Because it is more urbanized and has an additional index measure (hometown overlay zones), segments in New Castle County scored higher (mean of 4.7) than segments in Cecil County (mean of 2.1). Map 2 normalizes this discrepancy by assigning roughly the same percentage breaks to each color category. For example, about 4% of segments in New Castle County scored between 10 and 16 (its highest score), earning them the deep red distinction. In Cecil County 4% of segments scored between 7 and 12 (its highest score), earning them the same coloring.

Map 2: Prioritized Pedestrian Network



The highest-scoring segments are generally found in communities along the I-95/US 40 belt in the north of our region. Wilmington (mean of 8.2) is home to the heaviest concentration of high-scoring segments, especially the Central Business District and adjoining neighborhoods. Stretches of highway (namely SR 2, SR 4, US 40 and US 13) and nearby communities and towns (Elsmere and Newport) also do well on our index in New Castle County, as do downtown Newark, New Castle and Middletown.

High scoring segments in the more rural Cecil County are mostly concentrated within municipalities. Elkton (mean of 5.6) leads the way, with other towns (Rising Sun, Perryville, North East, Chesapeake City, and Cecilton) also boasting high scoring segments. Flechwood Road, north of Elkton, also scores well on our index.



Road segments within Elkton scored highest on our PPN in Cecil County.

Chapter 3

Top Priority Segments & Field Surveys

This chapter identifies and explores the 20 highest-scoring segments. Field visits were made to each of these top segments to assess their walkability, and identify potential improvements.

Common threads woven across the top priority segments are: the conflicts and safety concerns vehicles present within these popular pedestrian corridors, infrastructure decay, and gaps in safe non-motorized connections. More than 360 practical, cost-efficient and often easily-implementable pedestrian upgrades are identified in this chapter, totaling about \$6.1 million.

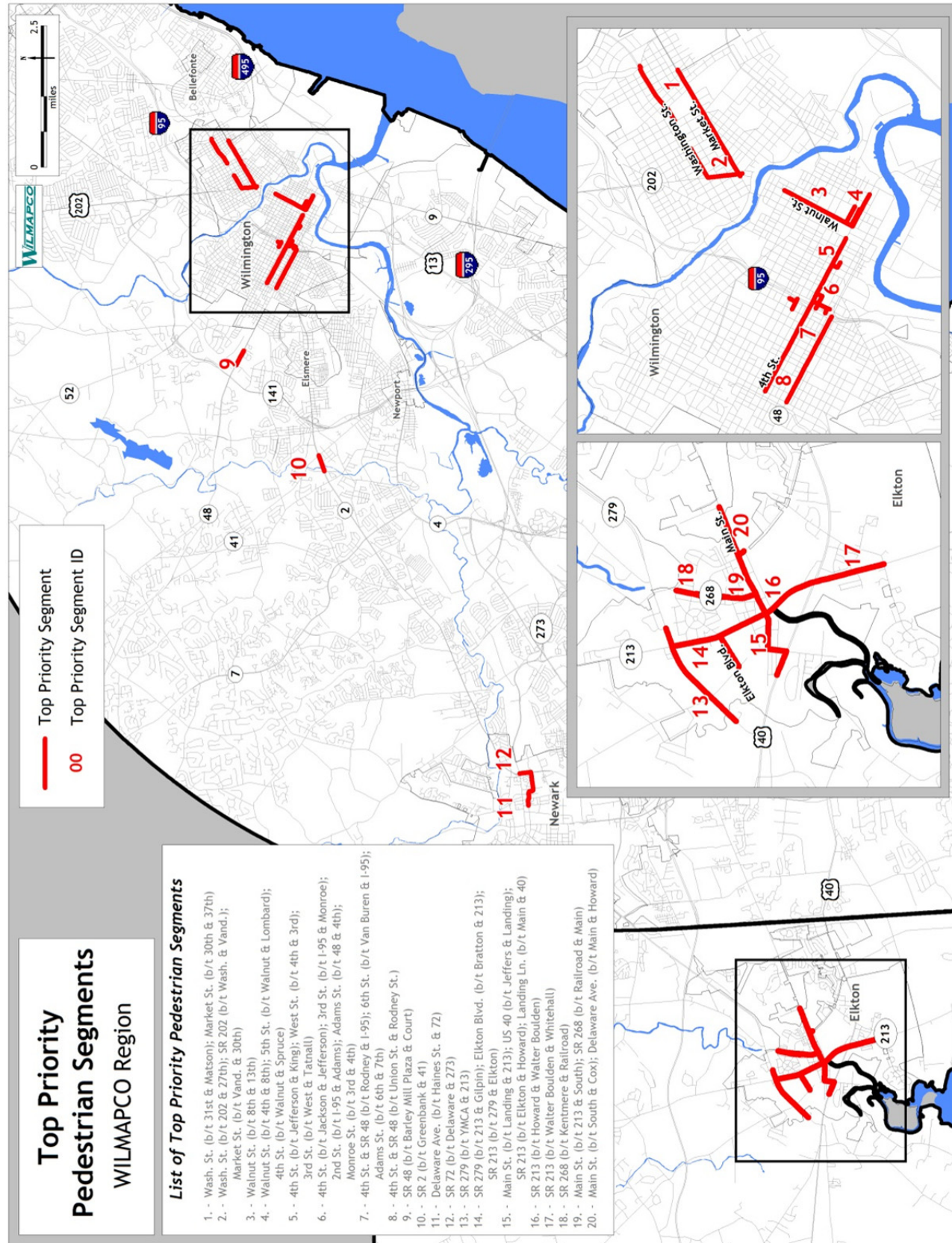
Top Priority Pedestrian Segments

Map 3 shows our region's top 20 priority pedestrian segments. Sixteen are found in either Wilmington or Elkton (eight each). These include stretches of Washington, Walnut and 4th Street in Wilmington (# 1-8) and SR 213, 268, 279 and Main Street in Elkton (#'s 13-20). Of the remaining four segments, two (# 11 and 12) are in Newark (the eastern leg of Delaware Avenue and a portion of SR 72). Another top segment (# 9) lies on SR 48 just outside Wilmington's western boundary and another (#10) in Marshallton along SR 2.



Pedestrian conditions were assessed along our 20 highest-scoring segments.

Map 3: Top Priority Pedestrian Segments



Field Surveys

Walkability recommendations for these twenty segments are found in the maps below. Each segment has its own separate map of pedestrian recommendations¹¹, along with a pair of photographs to illustrate conditions. The surveys were completed from May through July 2011.

Cost estimates were developed for the vast majority of identified improvements. These are based on estimates found in the City of Albermarle's (North Carolina) Comprehensive Pedestrian Plan and from USDOT (both in 2007), and the website WalkingInfo.org (2011). Costs from 2007 were adjusted for a few years of inflation. **The cost figures are based on rough averages and should be consider for planning purposes only. Detailed cost estimates will be developed as individual projects move forward into design.** A handful of field ideas (identified as "other improvements" and colored purple on the maps) are not included in the cost estimates.

Table 2 below is a summary of the number of potential projects identified in each segment, its average pedestrian priority score, pedestrian crashes¹² and a cost estimate.

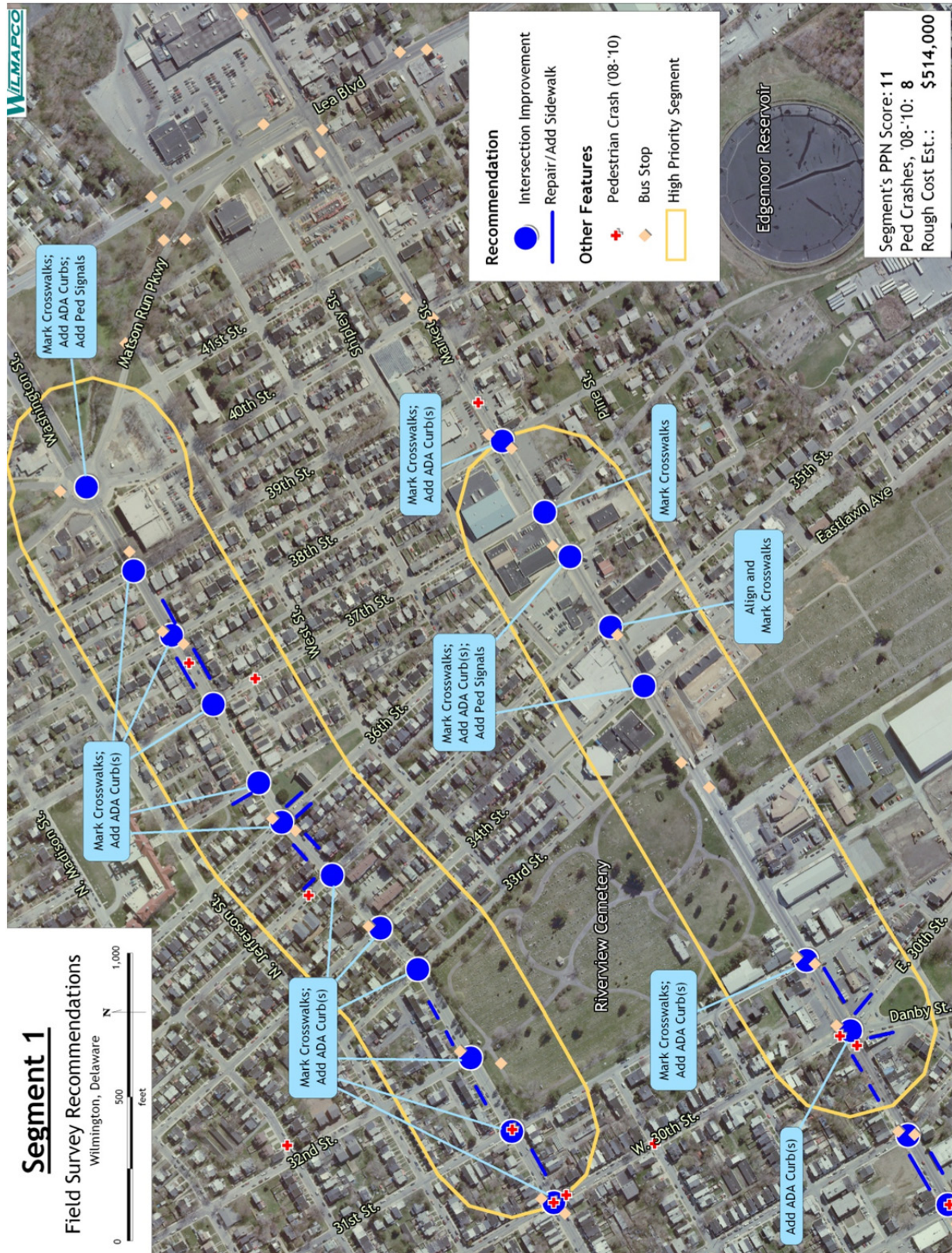
Table 2: Summary of Segment Statistics

Segment	Area	# of Ped Crashes	# of Projects	Cost Est.	Median PPN Score
1	Wilmington (Brandywine Village)	8	32	\$514,000	11
2	Wilmington (Harlan)	22	60	\$427,000	12
3	Wilmington (Upper East Side)	5	9	\$200,000	12
4	Wilmington (East Side)	12	20	\$324,000	12
5	Wilmington (Quaker Hill)	11	18	\$261,000	13
6	Wilmington (West Center City)	15	24	\$578,000	12
7	Wilmington (East Hilltop)	29	50	\$1,060,000	12
8	Wilmington (West Hilltop)	15	31	\$875,000	12
9	Chestnut Run	1	13	\$126,000	11
10	Marshallton	1	8	\$205,000	11
11	Newark (Delaware Ave)	6	18	\$59,000	11
12	Newark (Library Ave.)	6	7	\$60,000	12
13	West Elkton (SR 279)	N/A	3	\$243,000	10
14	Elkton (SR 213 North)	N/A	11	\$251,000	10
15	Elkton (SR 213 North-Central)	N/A	12	\$166,000	11
16	Elkton (SR 213 Central)	N/A	11	\$436,000	10
17	Elkton (SR 213 South)	N/A	8	\$258,000	10
18	Downtown Elkton (North St.)	N/A	10	\$30,000	11
19	Downtown Elkton (Main St.)	N/A	8	\$26,000	12
20	Downtown Elkton (East Main St.)	N/A	7	\$36,000	11

¹¹ The same recommendation sometimes appears on more than one map, as identified segments are often next to one another. In our database, however, each recommendation is assigned to only one segment, along with its cost estimate. The summary table above and the summary tables on each map reflect the database, and not what may be shown on the maps.

¹² Note that the pedestrian crashes cited in this table, and on all maps in this section are from 2008-2010. These data were unavailable when the Prioritized Pedestrian Network was updated for this analysis. Figures from 2006-2008 were used for that update. Clean crash data for the Elkton segments are unavailable, and are not shown.

Map 4: Segment 1, Wilmington (Brandywine Village)



Segment 1, Wilmington (Brandywine Village)



While Market Street's sidewalks are in good repair along this stretch, its crossings could be enhanced.



Pedestrians may have difficulty reaching this bus stop on Washington Street at 40th Street. Marking crosswalks, adding Americans with Disability Act (ADA) compliant curb-cuts, and introducing pedestrian signals would be a start.

Segment 2
Field Survey Recommendations
Wilmington, Delaware

Scale: 0 to 500 feet

Recommendation

- Intersection Improvement (Blue Circle)
- Repair/Add Sidewalk (Blue Line)

Other Features

- Pedestrian Crash ('08-'10) (Red Cross)
- Bus Stop (Orange Diamond)
- High Priority Segment (Yellow Outline)

Callouts:

- Mark Crosswalks; Add ADA Curb(s)
- Add ADA Curb(s)
- Mark Crosswalks; Add ADA Curb(s); Add Ped Signage
- Mark Crosswalks; Add Ped Signage
- Mark Crosswalks; Add ADA Curb(s)
- Mark Crosswalks; Add ADA Curb(s); Add Ped Signals
- Mark Crosswalks; Add ADA Curb(s)
- Improve Crosswalks; Add Ped Signage
- Add Signalized Crosswalk
- Repaint Crosswalks
- Align and Mark Crosswalks; Add ADA Curb(s)

Segment Statistics:

- Segment's PPN Score: 12
- Ped Crashes, '08-'10: 22
- Rough Cost Est.: \$427,000

Segment 2, Wilmington (Harlan)



The busy intersection of Market Street at 30th Street was the site of two recent pedestrian crashes.



A tree near Market Street at 26th Street has destroyed this piece of sidewalk. Poor sidewalk conditions abound along Washington Street and Market Street in Segment 2.

Map 6: Segment 3, Wilmington (Upper East Side)



Segment 3, Wilmington (Upper East Side)

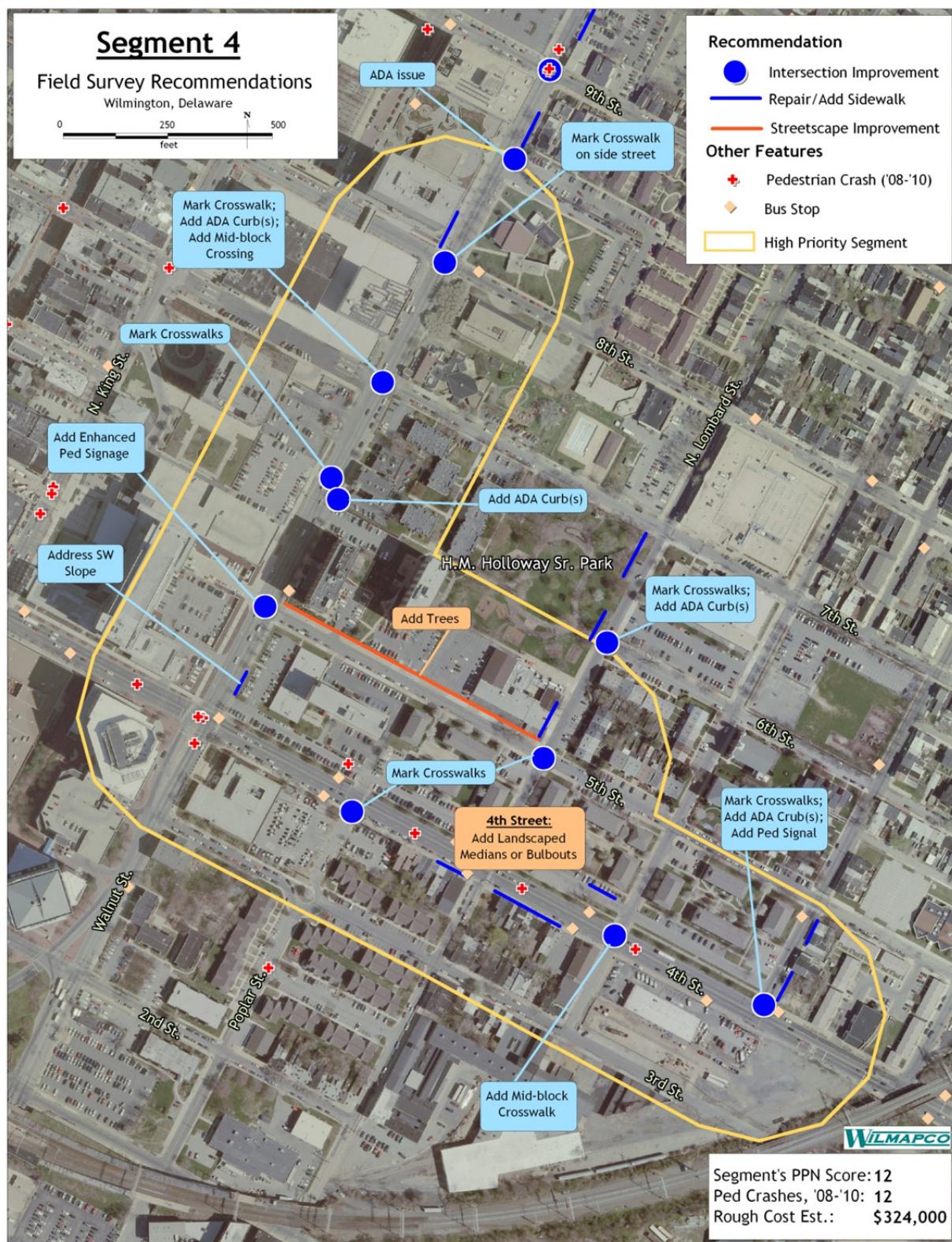


Walkability along this stretch of Walnut Street is good. An intersection treatment at 13th Street is shown above.



Some Walnut Street crossings could be improved with additional markings, like this one at 10th Street.

Map 7: Segment 4, Wilmington (East Side)



Segment 4, Wilmington (East Side)

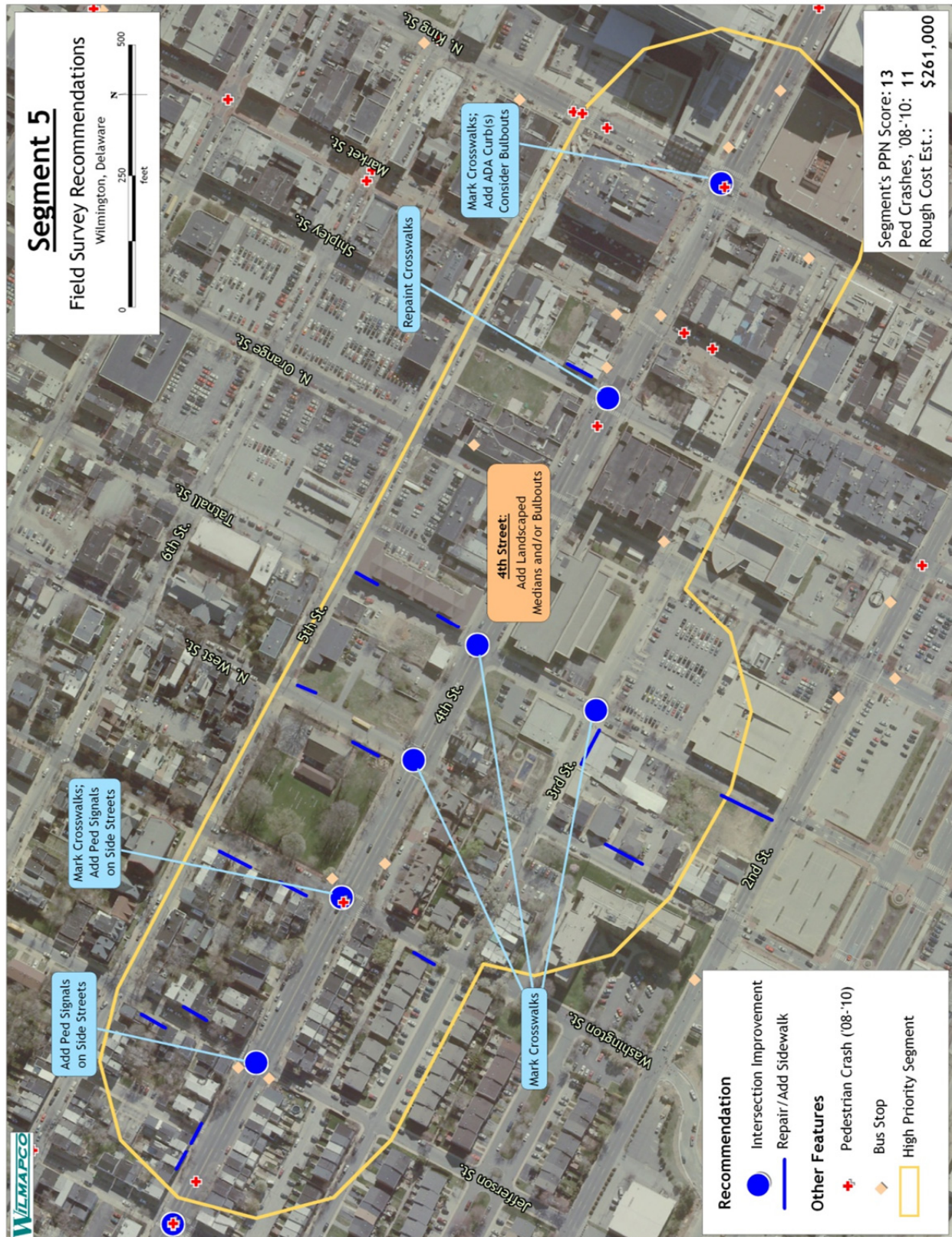


Safe crossings along Walnut Street are sometimes far apart. These curb-cuts seem to indicate a mid-block crossing, but no crosswalk markings or signage exists.



A line of street trees along 5th Street's approach to the Downtown would make conditions more comfortable for pedestrians, and may encourage more to walk.

Map 8: Segment 5, Wilmington (Quaker Hill)



Segment 5, Wilmington (Quaker Hill)

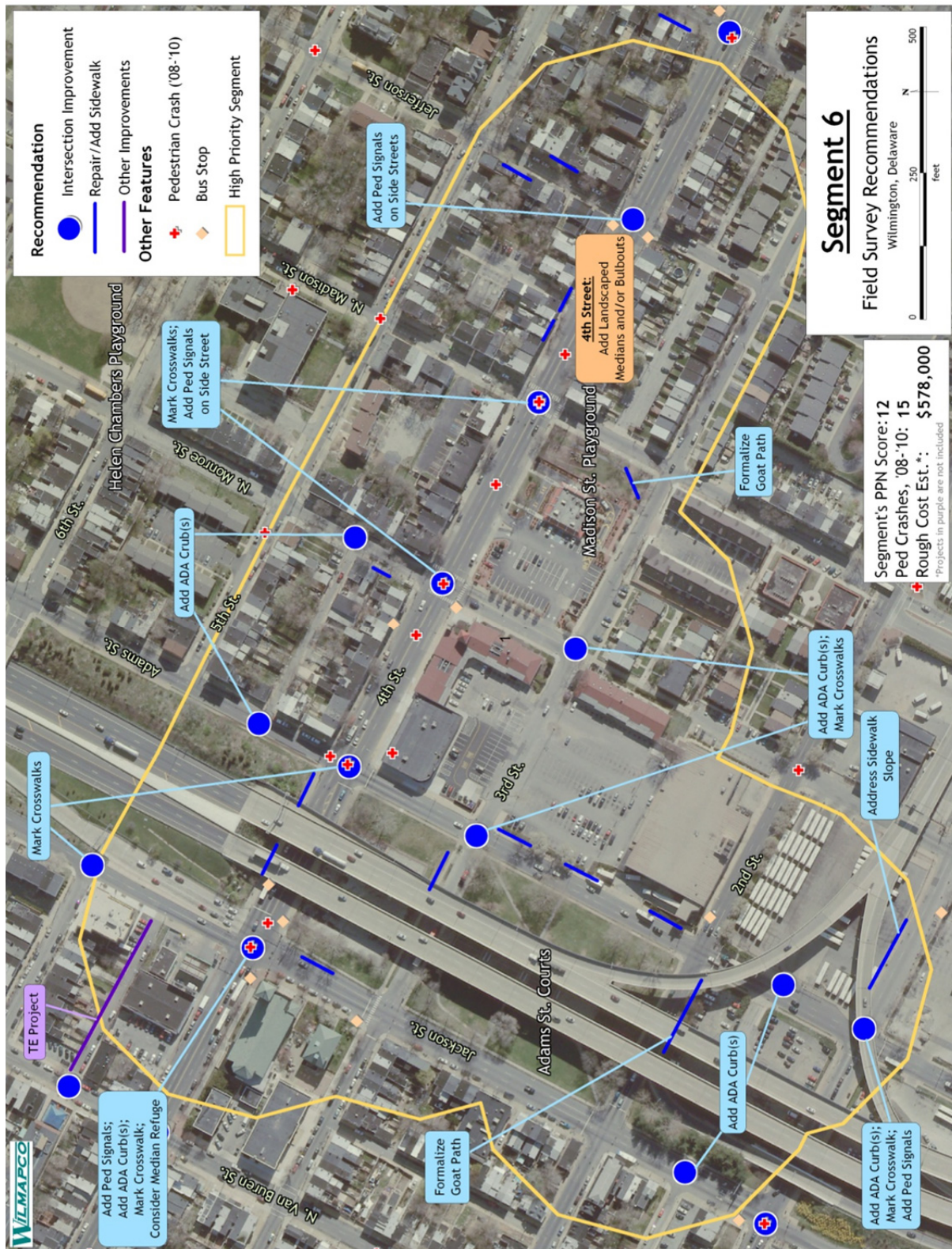


The Lower Market Street section of Wilmington boasts a mix of uses and transportation choices.



Bulbouts on Market Street at 4th Street reduce the crossing distance for these pedestrians.

Map 9: Segment 6, Wilmington (West Center City)



Segment 6, Wilmington (West Center City)



With its intense mixture of homes, shops and pedestrian and vehicular traffic, 4th Street is the most dangerous roadway for pedestrians in our region. Introducing a landscaped median to serve as a refuge for pedestrians, and bulbouts to lessen crossing distances at key intersections, should reduce pedestrian crashes.



This goat path underneath I-95 on 2nd Street should be formalized to improve connectivity.

[illegible]

Segment 7, Wilmington (East Hilltop)

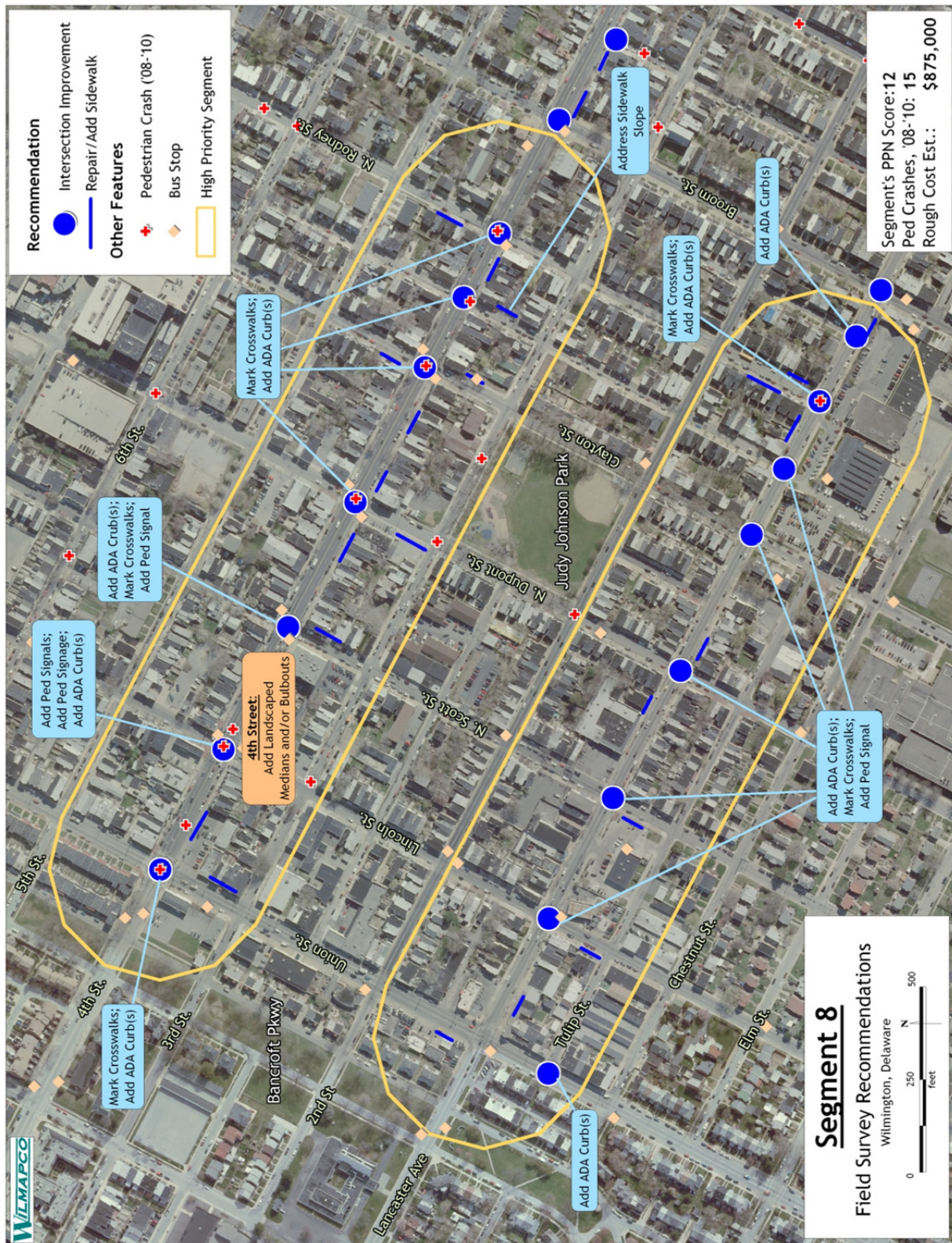


Major pedestrian upgrades are warranted for the busy intersection of 4th Street at Jackson Street.



Like 4th Street, Lancaster Avenue's heavy car traffic and parking conflict with pedestrian movements.

Map 11: Segment 8, Wilmington (West Hilltop)



Segment 8, Wilmington (West Hilltop)



Marked crosswalks, compliant curb-cuts and a pedestrian signal should be considered at the intersection of Lancaster Avenue and Clayton Street.



Additional pedestrian treatments and high-visibility signage would help address pedestrian safety on 4th Street at Lincoln Street.

Segment 9
Field Survey Recommendations
Wilmington, Delaware

0 250 500 feet

Pathmark Supermarket

Add Mid-block Crossing Signage

Add Sidewalk; Formalize Goat Path

Improve Ped Access to Signalized Crossing

SR 48/Lancaster Pike

Barley Mill Plaza

Chestnut Run Ln

Imperial Dr

Sussex Rd

Court Dr

Lancaster Court Apartments

Recommendation

- Intersection Improvement
- Repair/Add Sidewalk
- Other Improvements

Other Features

- Pedestrian Crash ('08-'10)
- Bus Stop
- High Priority Segment

Segment's PPN Score: 11
Ped Crashes, '08-'10: 1
Rough Cost Est.: \$126,000
*Pro in purple are not included

Segment 9, Chestnut Run



Crossing SR 48 to reach a local supermarket or westbound bus stops is risky for residents of the Lancaster Court Apartments. The wall shown above prohibits access to a signalized crossing.



Most pedestrians chose to cross mid-block across the busy highway, and use an informal pathway to access the market.

Segment 10
Field Survey Recommendations
Marshallton, Delaware

Scale: 0 to 500 feet
North Arrow

Recommendation

- Intersection Improvement (Blue Dot)
- Repair/Add Sidewalk (Blue Line)

Other Features

- Pedestrian Crash '08-'10 (Red Cross)
- Bus Stop (Orange Diamond)
- High Priority Segment (Yellow Outline)

Callouts:

- Add ADA Curb(s); Add Ped Signals; Mark Crosswalks
- SR2: Add Landscaped Ped Refuge
- Address Sidewalk Slope
- Mark Crosswalks; Add ADA Curb(s); Add Ped Signage
- Add ADA Curb(s); Mark Crosswalks
- Add Sidewalk Buffers

Segment Statistics:

- Segment's PPN Score: 11
- Ped Crashes, '08-'10: 1
- Rough Cost Est.: \$205,000

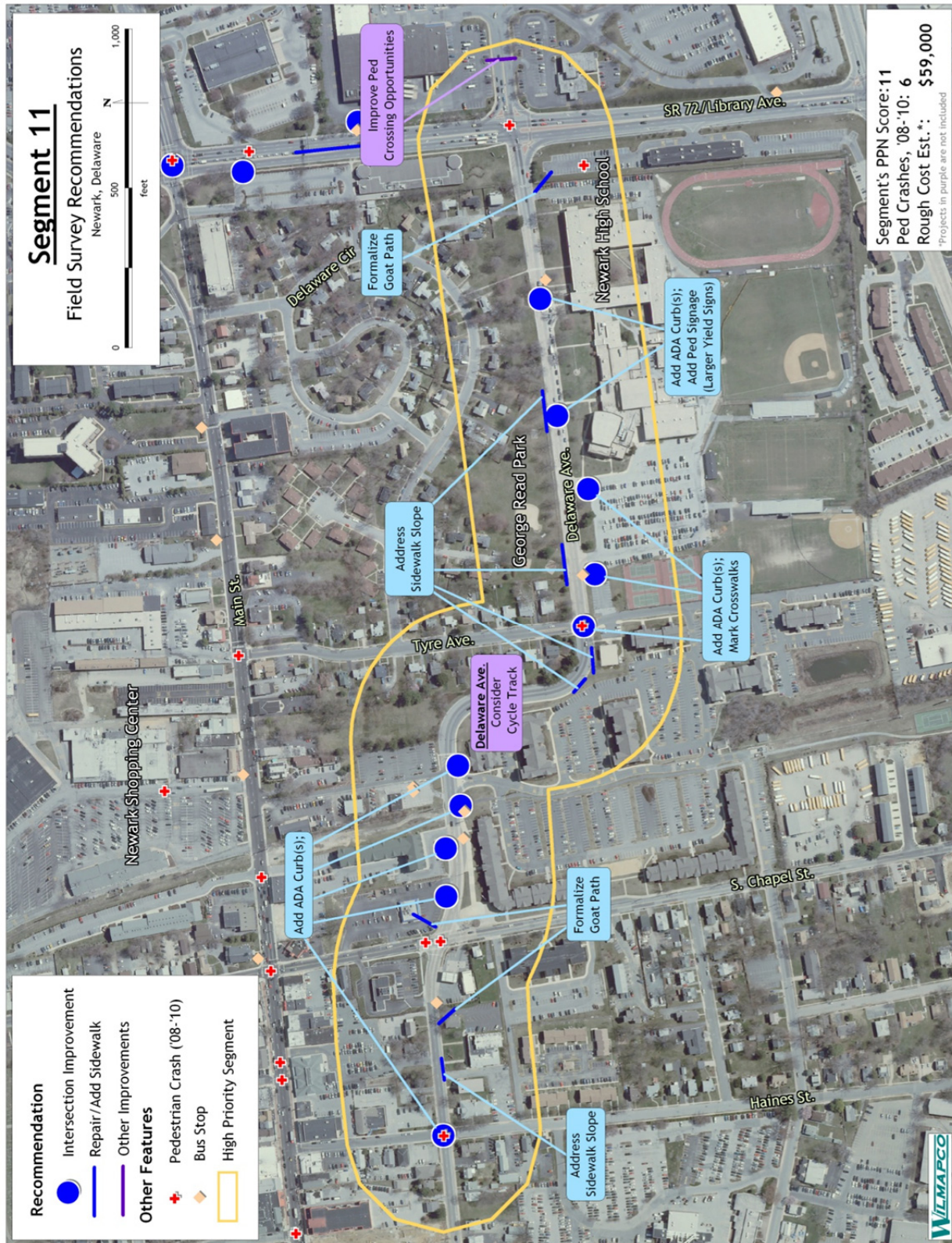
Segment 10, Marshallton

This six lane stretch of SR 2 is among our most unwelcoming segments for pedestrians. Adding a landscaped median, and sidewalk buffers, would help calm traffic and provide a refuge for walkers.



Poor crossing opportunities at SR 2 and SR 41 discourage people from reaching bus stops, Greenbank Park and the Prices Corner Shopping Center on foot.

Map 14: Segment 11, Newark (Delaware Avenue)



Segment 11, Newark (Delaware Avenue)

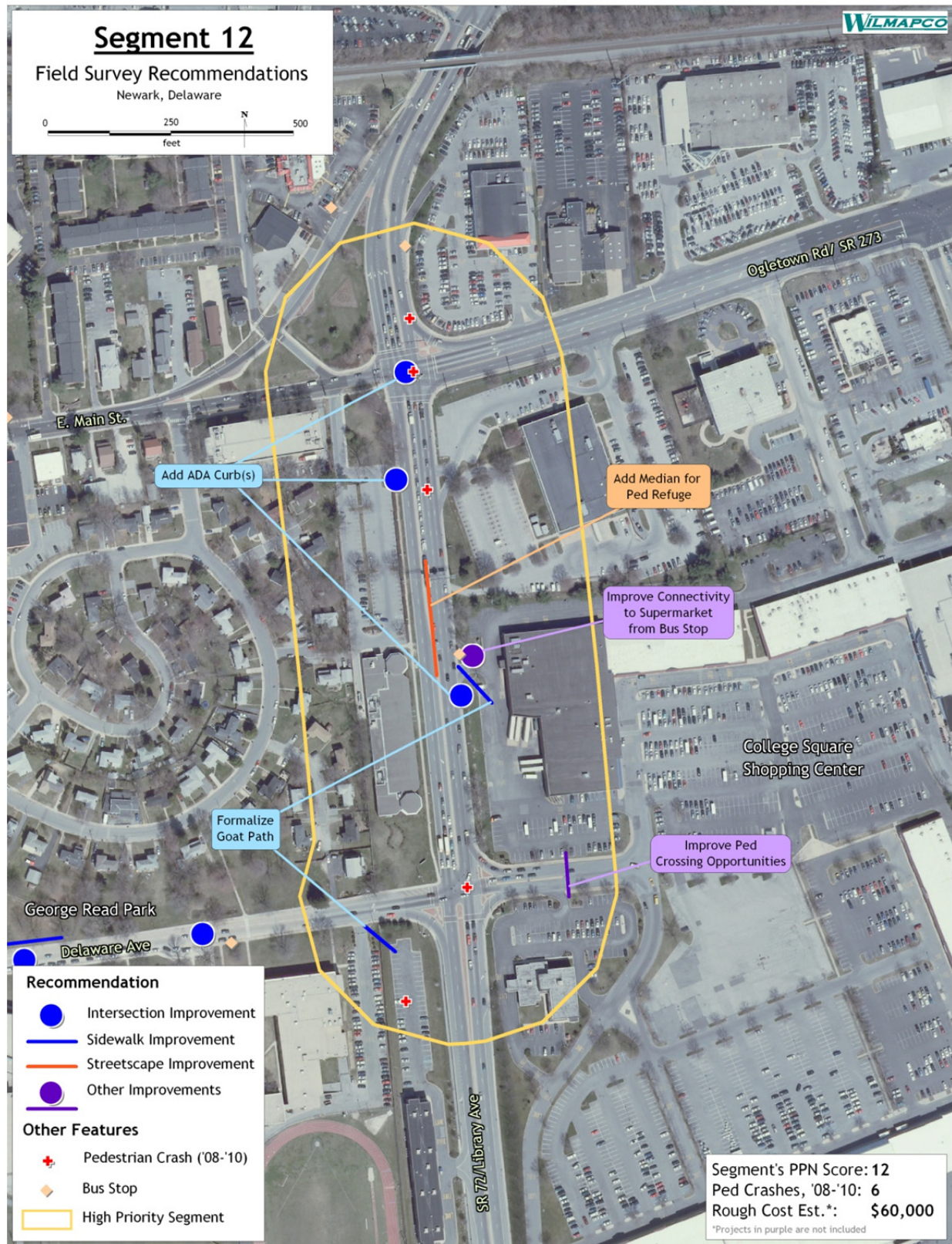


An unused travel lane along Delaware Avenue presents an opportunity to add a separated bicycle lane (cycle track), a sidewalk buffer, or both.



Solid pedestrian infrastructure and crossings are in largely in place for walkers and skateboarders alike on Segment 11.

Map 15: Segment 12, Newark (Library Avenue)



Segment 12, Newark (Library Avenue)

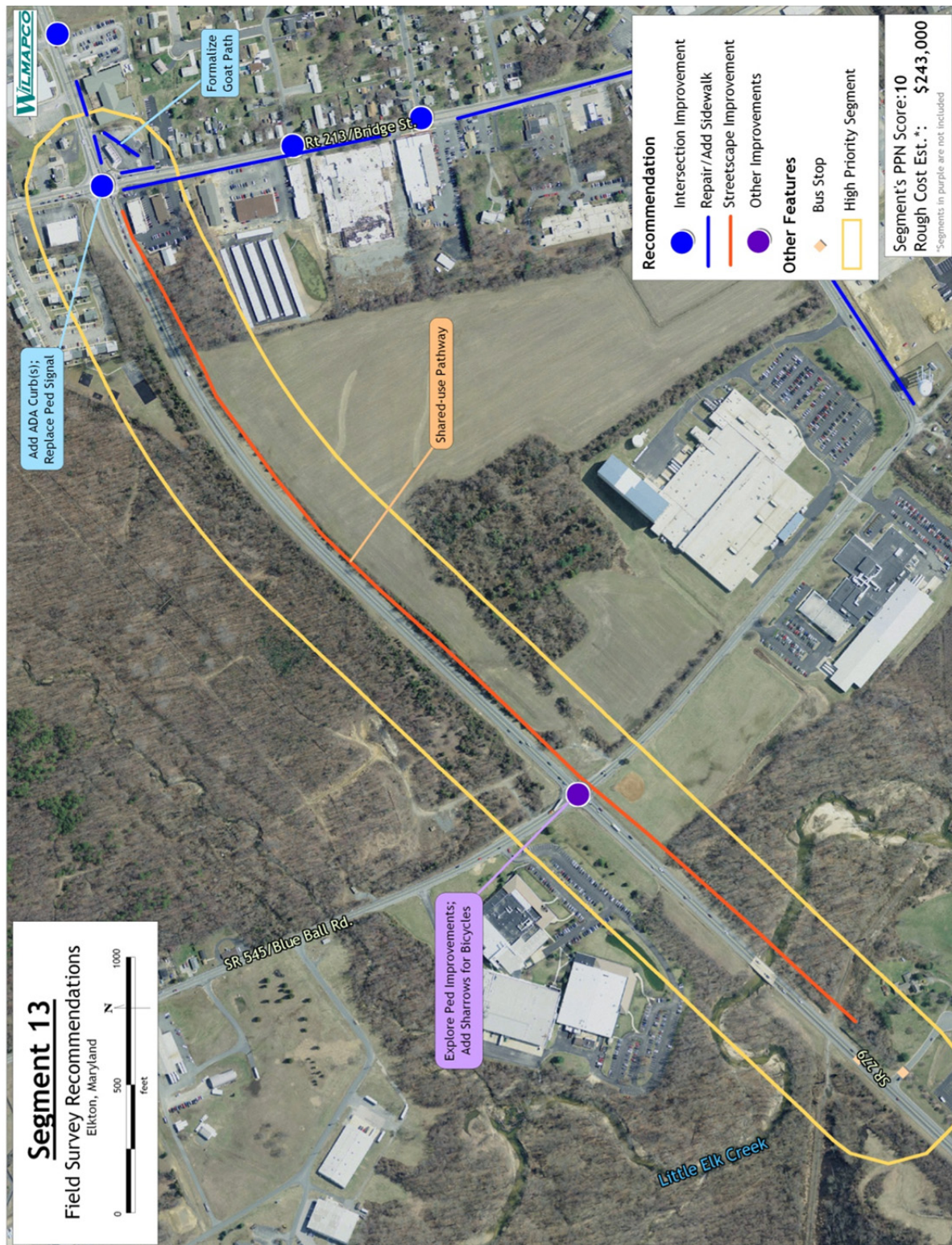


Jaywalking is common along this stretch of SR 72. Widening the median would improve safety for those keen on shortening their trip to/from the bus stop or market.

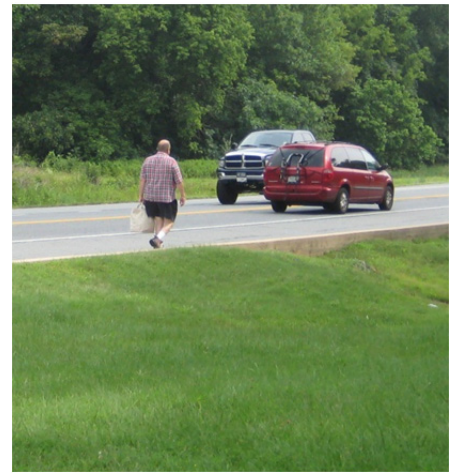


Efficient pedestrian connectivity between the bus stop (shown in the top photo) to the market (brick building) is absent, so many transit patrons opt to travel through a parking lot.

Map 16: Segment 13, West Elkton (SR 279)



Segment 13, West Elkton (SR 279)

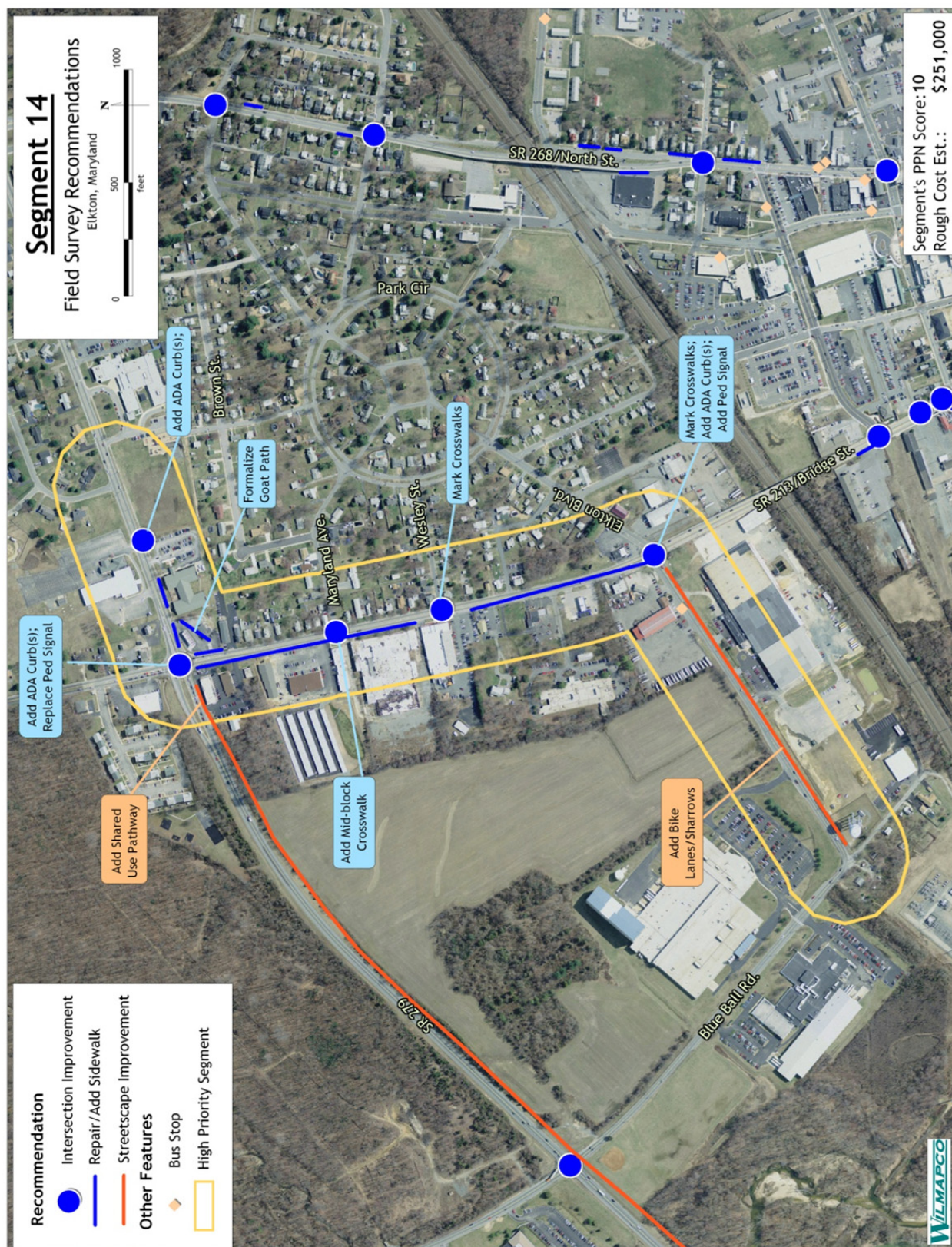


A shared-use pathway would be appropriate for this stretch of SR 279.



The western leg of the SR 213 at SR 279 intersection has a marked, signalized crossing with a pedestrian refuge. No sidewalk is in place, however, isolating residents to the north.

Map 17: Segment 14, Elkton (SR 213 North)



Segment 14, Elkton (SR 213 North)

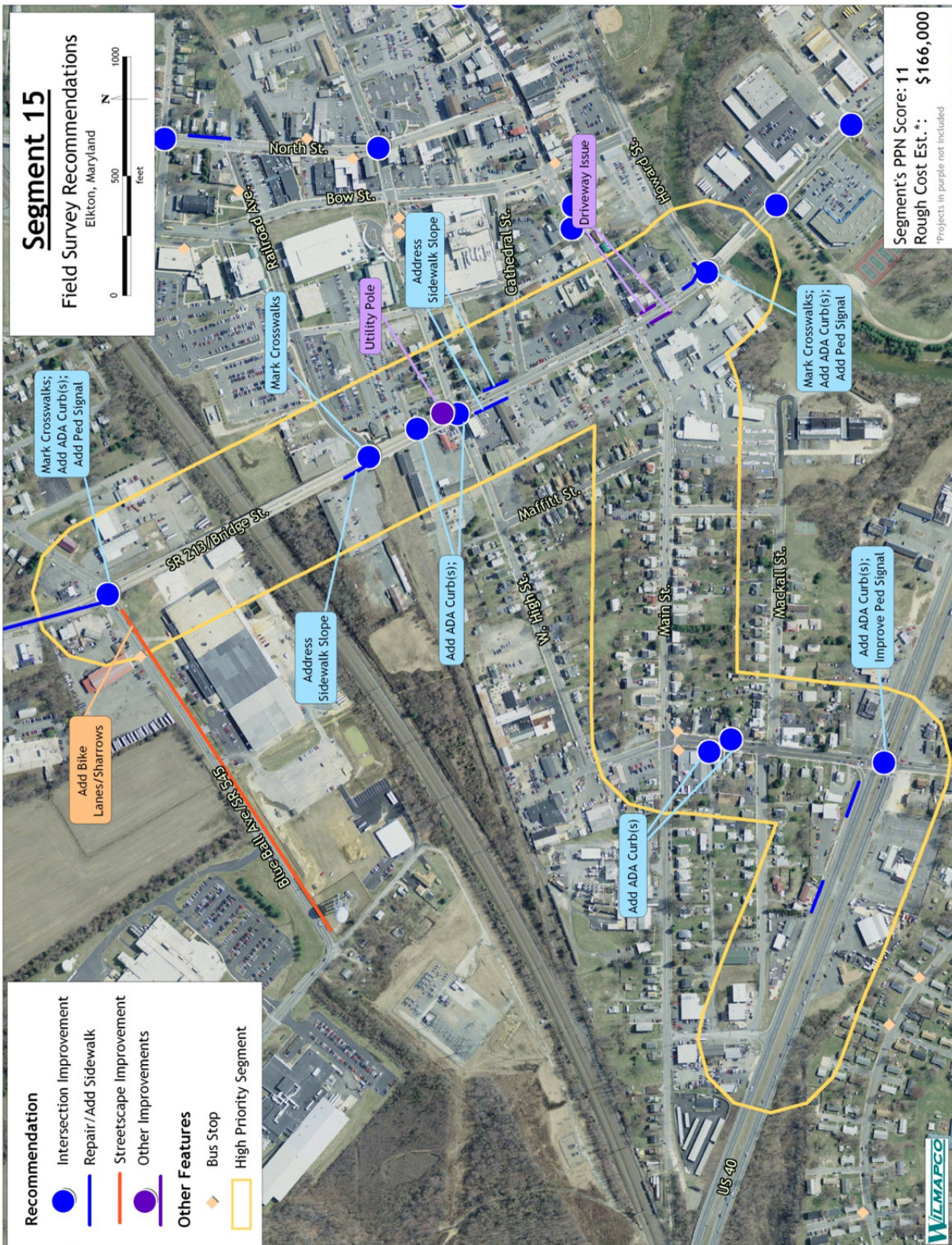


Sidewalk is absent along this segment of SR 213, while a goat path here indicates non-motorized use.



Portions of sidewalk along SR 279 are crumbling.

Map 18: Segment 15, Elkton (SR 213 North-Central)



Segment 15, Elkton (SR 213 North-Central)

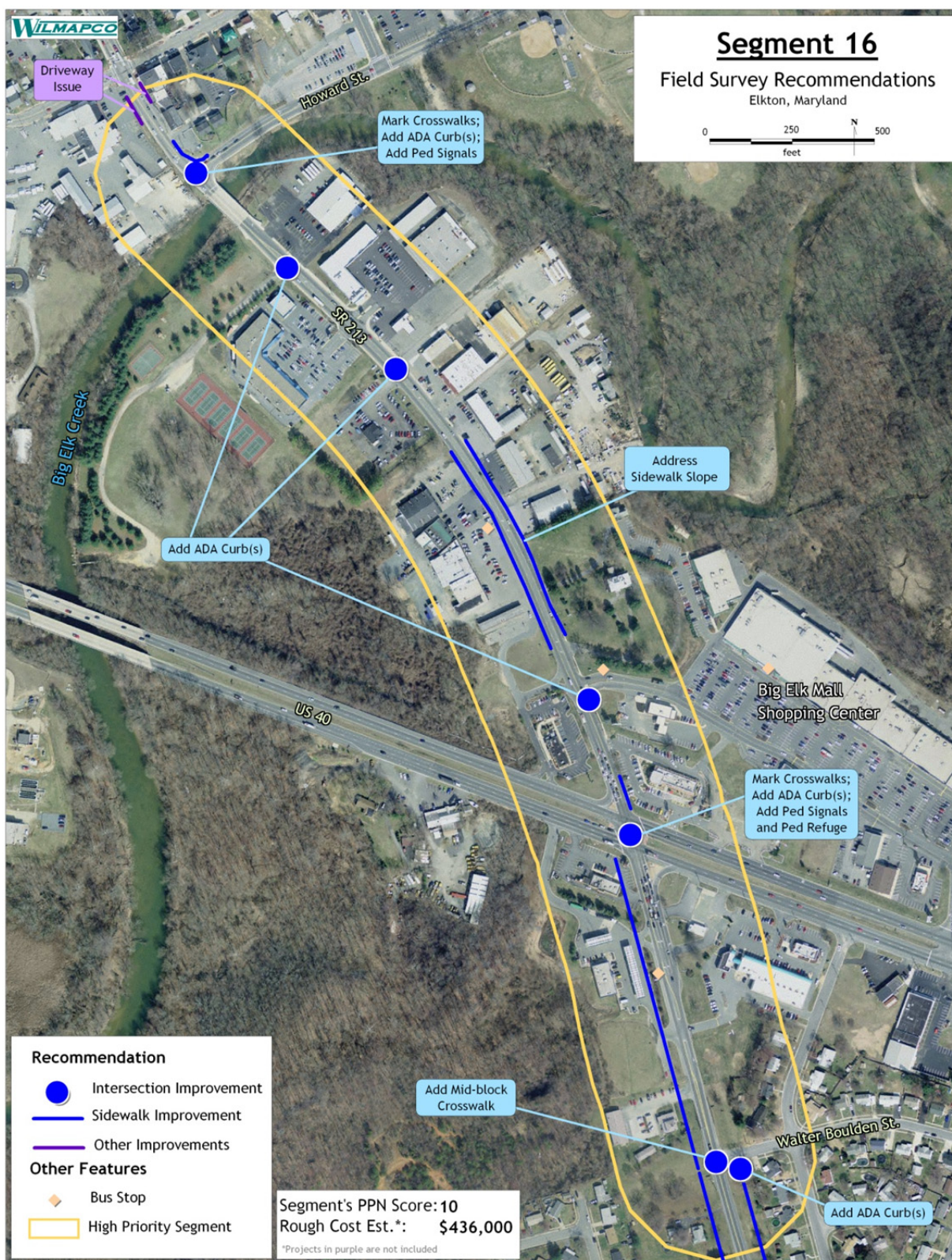


Sloping sidewalk is pictured here along SR 213 at Railroad Avenue.



US 40 can be a challenging highway to negotiate as a pedestrian. Clustering shops, adding sidewalk, and enhancing pedestrian amenities at intersections would improve safety.

Map 19: Segment 16, Elkton (SR 213 Central)



Segment 16, Elkton (SR 213 Central)

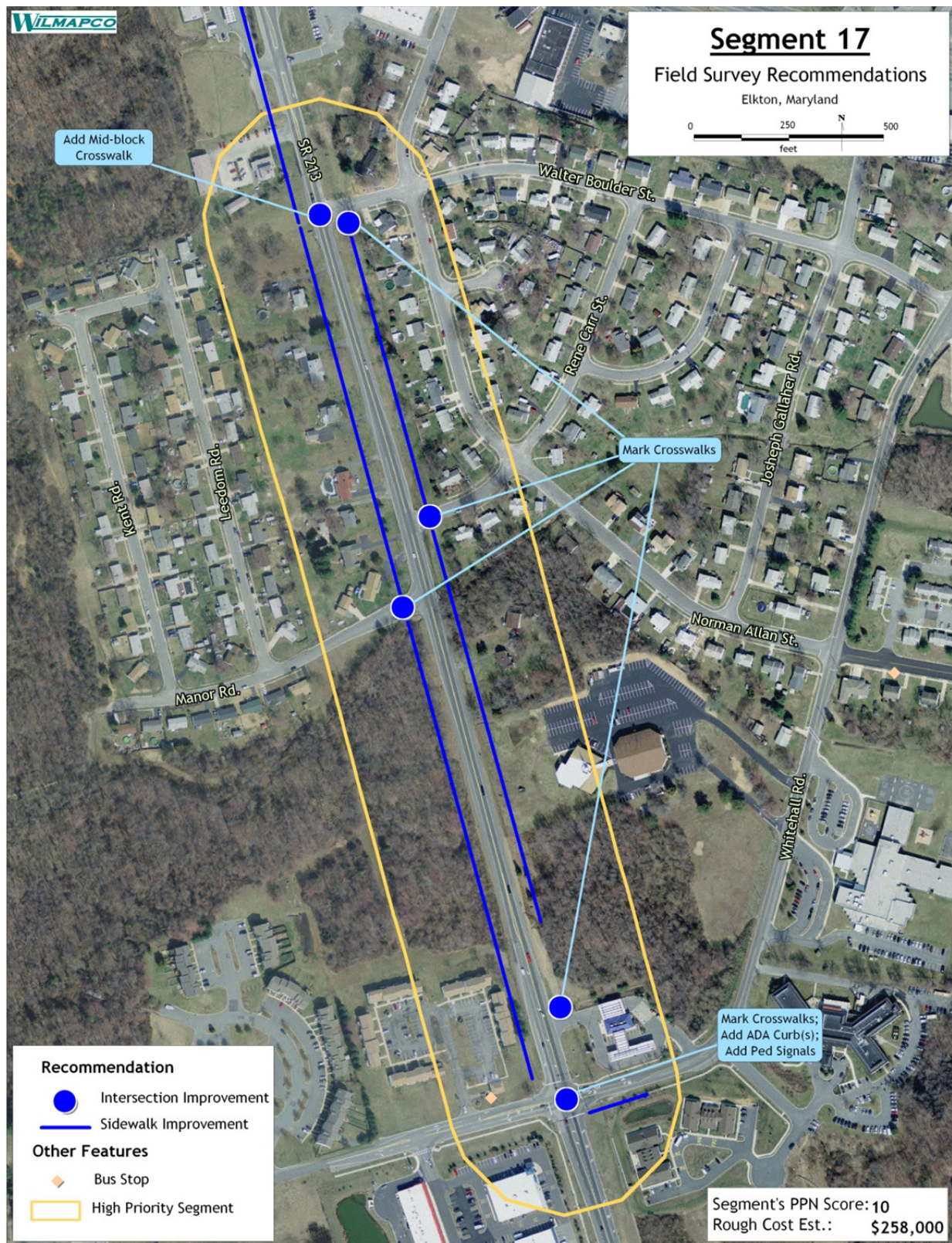


Segment 16 is the least pedestrian-friendly corridor we identified in Elkton. Broken chunks of sidewalk are pictured here along SR 213, which function mainly to control vehicle flow to/from parking lots.



Crossing US 40 at the SR 213 intersection is a harrowing experience for a pedestrian.

Map 20: Segment 17, Elkton (SR 213 South)



Segment 17, Elkton (SR 213 South)

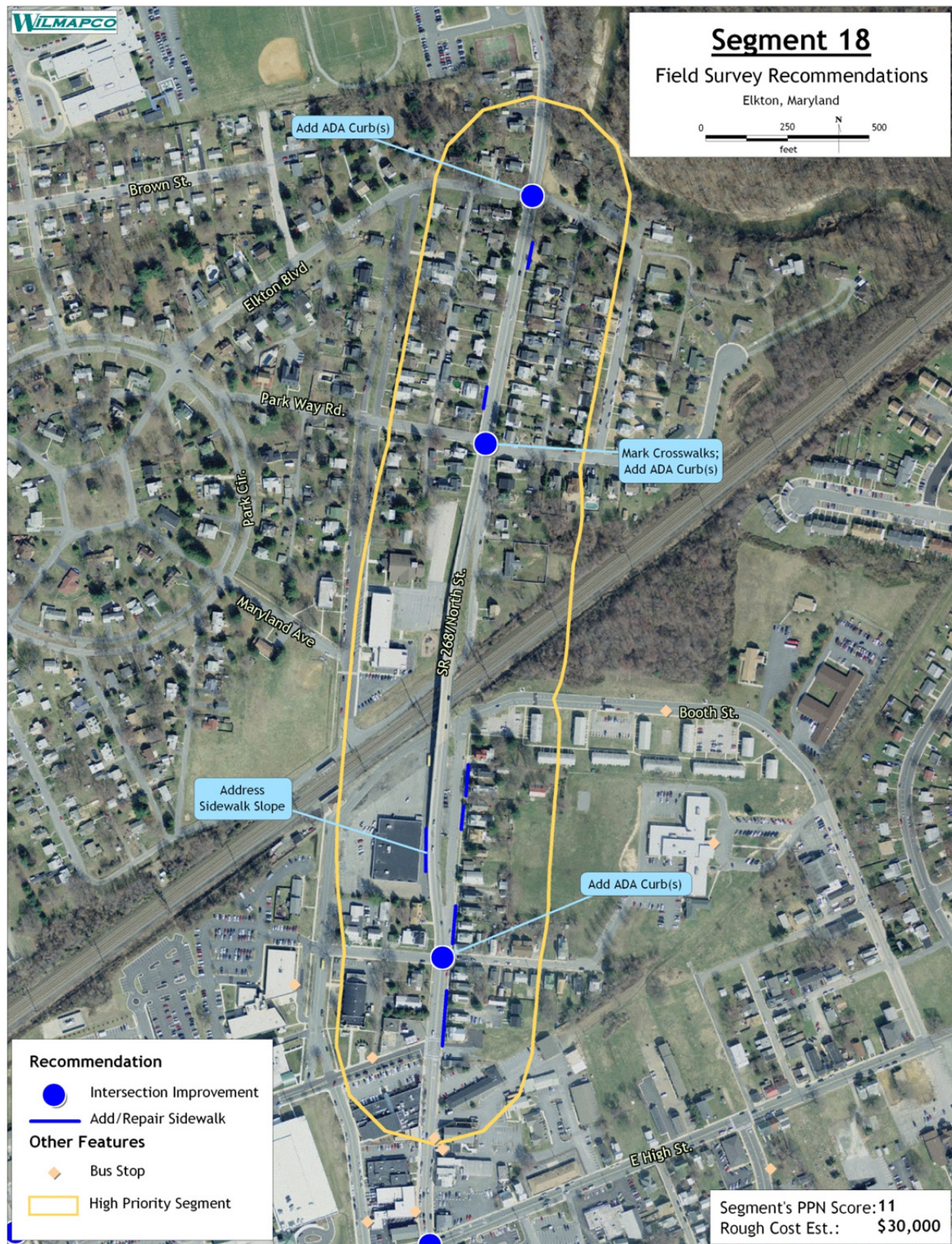


Missing sidewalk along the SR 213 corridor and pedestrian unfriendly intersections like here at Whitehall Road isolate those without access to a car.



Due to a gap in Whitehall Road's sidewalk network, this disabled pedestrian travels in the shoulder.

Map 21: Segment 18, Downtown Elkton (North Street)



Segment 18, Downtown Elkton (North Street)



A sloping portion of sidewalk along SR 268 is shown here.



The winding railroad bridge on SR 268 provides solid pedestrian access into Downtown from the north.

Segment 19, Downtown Elkton (Main Street)



A view of Elkton's downtown is shown above, at the intersection of SR 268 and Main Street.



Slow vehicle speeds, street trees, pedestrian-scaled lighting, decorative sidewalk buffers and bulbouts combine to make Downtown Elkton one of the most walkable places in our region.

Segment 20
Field Survey Recommendations
Elkton, Maryland

0 500 1,000
feet

SR 281: Consider Extending Sidewalk East

Cow Pond

Mark Crosswalks; Add ADA Curb(s)

Add ADA Curb(s)

SR 281/Maryland Ave

SR 281/Howard St

SR 281/South St

SR 281/High St

SR 281/Booth St

SR 281/Locust Ln

SR 281/Michael St

SR 281/Friendship Rd

Big Elk Creek

Hatchery Park

Segment's PPN Score: 11
Rough Cost Est. *: \$36,000
*Price in purple are not included

WILMAPCO

Segment 20, Downtown Elkton (East Main Street)

The intersection of Delaware Avenue at Howard Street could use pedestrian upgrades. Further, access to Hatchery Park is difficult for walkers due to lack of sidewalk, especially at the bridge over Big Elk Creek.



Main Street's sidewalk ends just east of Hermitage Drive. Adding sidewalk to connect this segment to Elkton's sprawling eastern subdivisions could be a long-term consideration.

Chapter 4

Path Forward

Funding Options

Projected transportation funding shortfalls in Delaware and Maryland, and legal wrangling in the City of Wilmington over responsibility of sidewalk maintenance, beg for the exploration of alternative methods to fund the recommendations from the previous chapter.

The identification of a dedicated and well-funded pool(s) for non-motorized projects is a key in the long-term. Until this is realized a few options exist. One is private and local government support to complete projects. Two federally-funded programs also offer promise for non-motorized projects: The Transportation Enhancements (TE) Program and the Safe Routes to School (SRTS) Program.

The TE Program provides funding to support projects within the cultural, aesthetic, and environmental realm of the transportation network. All federal TE projects must relate to surface transportation and be dedicated to public use. Further, TE projects must fit into one of the twelve activities listed in Table 3.



A worker repaves a curb in Wilmington.

Table 3: Activities Eligible for TE Funding

Activity	Examples
Provision of facilities for pedestrians and bicycles.	New or reconstructed sidewalks, walkways, or curb ramps; wide paved shoulders for nonmotorized use, bike lane striping, bike parking, and bus racks; construction or major rehabilitation of off-road shared use paths (nonmotorized transportation trails); trailside and trailhead facilities for shared use paths; bridges and underpasses for pedestrians and bicyclists and for trails.
Provision of safety and educational activities for pedestrians and bicyclists.	Educational activities to encourage safe walking and bicycling.
Acquisition of scenic easements and scenic or historic sites (including historic battlefields).	Acquisition of scenic land easements, vistas, and landscapes; acquisition of buildings in historic districts or historic properties, including historic battlefields.
Scenic or historic highway programs (including the provision of tourist and welcome center facilities).	For projects related to scenic or historic highway programs: Construction of turnouts, overlooks, and viewing areas; construction of visitor and welcome centers; designation signs and markers.
Landscaping and other scenic beautification.	Landscaping, street furniture, lighting, public art, and gateways along highways, streets, historic highways, trails, and waterfronts. Landscaping recommendation: see FHWA's Roadside Vegetation Management website.
Historic preservation.	Preservation of buildings in historic districts; restoration and reuse of historic buildings for transportation-related purposes.
Rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals).	Restoration of historic railroad depots, bus stations, ferry terminals and piers, and lighthouses; rehabilitation of rail trestles, tunnels, and bridges; restoration of historic canals, canal towpaths, and historic canal bridges.
Preservation of abandoned railway corridors (including the conversion and use of the corridors for pedestrian or bicycle trails).	Acquiring railroad rights-of-way; planning, designing, and constructing multiuse trails; developing rail-with-trail projects.
Inventory, control, and removal of outdoor advertising.	Billboard inventories and removal of illegal and nonconforming billboards. Inventory control may include, but not be limited to, data collection, acquisition and maintenance of digital aerial photography, video logging, scanning and imaging of data, developing and maintaining an inventory and control database, and hiring of outside legal counsel.
Archaeological planning and research.	Research, preservation planning, and interpretation of archaeological artifacts; curation for artifacts related to surface transportation and artifacts recovered from locations within or along surface transportation corridors.
Environmental mitigation-- (i) to address water pollution due to highway runoff; or (ii) reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.	For existing highway runoff: soil erosion controls, detention and sediment basins, and river clean-ups. Wildlife underpasses or other measures to reduce vehicle caused wildlife mortality and/or to maintain wildlife habitat connectivity.
Establishment of transportation museums.	Construction of new transportation museums; additions to existing museums for a transportation section; conversion of railroad stations or historic properties to museums with transportation themes.

Source: FHWA

TE project candidates are reviewed for consistency by Delaware and Maryland DOTs, who administer project development. Individual TE projects can reach a maximum of \$1 million per phase, with a maximum of a 20% local match required. Local matches are often derived from elected officials, businesses and interest groups.

WILMAPCO has helped plan many TE projects, and several are currently underway in the City of Wilmington. The vast majority of these projects are outside our high-scoring pedestrian priority corridors, however, and outside the city's core neighborhoods. We should work with elected officials, DelDOT/DTC, the City of Wilmington, and others within *Wilmington Initiatives*, to select projects within our top priority segments.

Another federal initiative, the SRTS Program, makes funds available to projects that encourage and/or enable children to walk or bike to school. More than half of U.S. children arrive at school each day in private automobiles. This has contributed to greater roadway congestion, diminished local air quality, less safe pedestrian conditions around schools, and adverse health effects, including obesity.

Through the SRTS Program, a wide variety of projects are eligible for funding. These include the addition of better-marked crosswalks at intersections and the replacement of crumbling sidewalks at nearby schools. While not comprehensive, the table below from the Federal Highway Administration lists potential infrastructure projects that support the goals and objectives of the SRTS Program.



Thomas Edison's Safe Routes to School planning team discuss potential projects.

Table 4: Activities Eligible for SRTS Funding

Activity	Examples
Sidewalk improvements	New sidewalks, sidewalk widening, sidewalk gap closures, sidewalk repairs, curbs, gutters, and curb ramps
Traffic calming and speed reduction improvements	Roundabouts, bulb-outs, speed humps, raised crossings, raised intersections, median refuges, narrowed traffic lanes, lane reductions, full- or half-street closures, automated speed enforcement, and variable speed limits
Pedestrian and bicycle crossing improvements	Crossings, median refuges, raised crossings, raised intersections, traffic control devices (including new or upgraded traffic signals, pavement markings, traffic stripes, in-roadway crossing lights, flashing beacons, bicycle-sensitive signal actuation devices, pedestrian countdown signals, vehicle speed feedback signs, and pedestrian activated signal upgrades), and sight distance improvements
On-street bicycle facilities	New or upgraded bicycle lanes, widened outside lanes or roadway shoulders, geometric improvements, turning lanes, channelization and roadway realignment, traffic signs, and pavement markings
Off-street bicycle and pedestrian facilities	Exclusive multi-use bicycle and pedestrian trails and pathways that are separated from a roadway
Secure bicycle parking facilities	Bicycle parking racks, bicycle lockers, designated areas with safety lighting, and covered bicycle shelters
Traffic diversion improvements	Separation of pedestrians and bicycles from vehicular traffic adjacent to school facilities, and traffic diversion away from school zones or designated routes to a school

Source: FHWA

Planning, design, and engineering expenses associated with projects are also eligible to receive infrastructure funds. Like the TE Program, the SRTS programs are channeled through the Delaware and Maryland DOTs in the WILMAPCO region. And, also like the TE program, WILMAPCO has helped plan a number of SRTS projects.

Many elementary and middle schools, all eligible for SRTS funding, lie within close proximity to our top priority segments. Table 5 lists these schools.

Table 5: SRTS-eligible Schools nearby Top Priority Segments

Segment	Schools within Walking Distance
1	PS Dupont, Harlan, Delaware Preparatory, DE Education Reclamation
2	Shortlidge, Delaware Preparatory, Sharon Temple Junior Academy, Wilmington Forward Christian
3	Stubbs, Bancroft, Charles Drew, Kuumba Academy
4	Bancroft, Charles Drew, Kuumba Academy
5	Kuumba Academy, St. Peter's Cathedral
6	Kuumba Academy, St. Hedwig's, St. Paul's, St. Peter's Cathedral
7	Lewis, Bayard, St. Hedwig's, St. Paul's, Nativity Preparatory
8	Bayard, Odyssey Charter, St. Hedwig's, St. Thomas the Apostle, Nativity Preparatory
9	Odyssey Charter
10	Mote Elementary
11	n/a
12	n/a
13	Gilpin Manor Elementary, Elkton Middle, Immaculate Conception
14	Gilpin Manor Elementary, Elkton Middle School
15	n/a
16	n/a
17	Holly Hall Elementary
18	Gilpin Manor Elementary, Elkton Middle, Immaculate Conception
19	Immaculate Conception
20	n/a

Study Recommendations

1. Promote dense, livable, sustainable mixed-income and use communities which support walking as a mode of transportation.
2. Encourage efforts to identify a sustained funding pool for non-motorized transportation projects.
3. Ensure our “maintenance first” policy is followed with available capital. The existing non-motorized system should receive any necessary maintenance and upgrades prior to any expansion.
4. Update the present study every two to three years with fresh data and walkability surveys.
5. Make field survey recommendations available as an interactive map on this study’s webpage: www.wilmapco.org/ped-priority.

6. Share the study's webpage with decision-makers, implementing agencies and the general public.
7. Work with elected officials and our *Wilmington Initiatives* partners to support projects within identified top priority pedestrian segments.
8. Engage schools and civic groups within close proximity to our top priority segments. These schools are listed in Table 5.

Appendix

Listing of Field Survey Recommendations

ID	Geo ID	Segment	Recommendations	Distance Ft.	Location	Notes	Ped Score
1	1	1	MCW; ADA	0	30th at Washington		11
2	2	1	Repair/Add Sidewalk	98	Washington (b/t 30 and 31)		11
3	3	1	MCW; ADA	0	Washington at 31st		11
4	4	1	Repair/Add Sidewalk	69	Washington btwn 31 and 32		11
5	5	1	MCW; ADA	0	Washington at 32nd		11
6	6	1	MCW; ADA	0	Washington at 33rd		11
7	7	1	MCW; ADA	0	Washington at 34th		11
8	8	1	MCW; ADA	0	Washington at 35th		11
9	9	1	MCW; ADA	0	Washington at 36th		11
10	10	1	MCW; ADA	0	Washington at Barrett		11
11	11	1	Repair/Add Sidewalk	50	Washington btwn 32 and 33		11
12	12	1	Repair/Add Sidewalk	64	Washington btwn 32 and 33		11
13	13	1	Repair/Add Sidewalk	51	35th just N. of Washington		11
14	14	1	Repair/Add Sidewalk	68	Washington btwn 35 and 36		11
15	15	1	Repair/Add Sidewalk	67	Washington btwn 35 and 36		11
16	16	1	Repair/Add Sidewalk	75	36th just S. of Washington		11
17	17	1	Repair/Add Sidewalk	72	36th just S. of Washington		11
18	18	1	Repair/Add Sidewalk	74	Barrett just N. of Washington		11
19	19	1	MCW; ADA	0	Washington at 37th		11
20	20	1	MCW; ADA	0	Washington at 38th		11
21	21	1	MCW; ADA	0	Washington at 39th		11
22	22	1	MCW; ADA; Signals	0	Washington at 40th Circle		11
23	23	1	Add/Repair Sidewalk	116	Washington btwn 37 and 38		11
24	24	1	Add/Repair Sidewalk	115	Washington btwn 37 and 38		11
25	25	1	Add/Repair Sidewalk	89	Washington E. of 38th		11
26	31	1	MCW; ADA	0	Market at 37th		13
27	32	1	Repair/Add Sidewalk	0	Market at 38th		13
28	26	1	MCW; ADA; Signals	0	Market at Pine		14
29	27	1	Align and Mark Crosswalks	136	Market btwn Danby and Pine		14
30	28	1	MCW; ADA; Signals	0	Market at Eastlawn		14
31	29	1	MCW	0	Market at 35th		14
32	30	1	MCW; ADA	0	Market at 36th		14
33	62	2	ADA	0	Concord at Market		11
34	64	2	Repair/Add Sidewalk	154	Vandever S. of Market		11
35	65	2	Repair/Add Sidewalk	97	Vandever S. of Market		11
36	67	2	Repair/Add Sidewalk	82	Hudson S. of Market		11
37	75	2	Repair/Add Sidewalk	0	Concord at Tatnall		11
38	76	2	MCW; ADA	0	22nd at Tatnall		11
39	77	2	MCW; ADA; Ped Signage	0	Concord at 22nd/Triangle		11

ID	Geo ID	Segment	Recommendations	Distance Ft.	Location	Notes	Ped Score
40	78	2	MCW; Ped Signage	0	Concord at West St.		11
41	84	2	MCW; ADA	0	Washington at 26th		11
42	85	2	Repair/Add Sidewalk	0	Washington at 27th		11
43	90	2	Repair/Add Sidewalk	80	Washington btwn 26 and 27		11
44	91	2	Repair/Add Sidewalk	82	Washington btwn 27 and 28		11
45	92	2	Repair/Add Sidewalk	67	Washington btwn 27 and 28		11
46	60	2	Repair/Add Sidewalk	0	Market at 22nd		12
47	61	2	Repair/Add Sidewalk	0	Market at Vandever		12
48	63	2	Repair/Add Sidewalk	0	Hudson at Market		12
49	66	2	Repair/Add Sidewalk	114	Hudson S. of Market		12
50	68	2	MCW; ADA	43	Market btwn 22nd and Gordon		12
51	69	2	MCW; ADA	49	Market btwn 22nd and Gordon		12
52	70	2	MCW; ADA	63	Market btwn 22nd and Gordon		12
53	71	2	Repair/Add Sidewalk	66	Market btwn Gordon and 23rd		12
54	72	2	Repair/Add Sidewalk	66	Market btwn Gordon and 23rd		12
55	73	2	Repair/Add Sidewalk	66	22nd N. of Market		12
56	74	2	Repair/Add Sidewalk	66	22nd N. of Market		12
57	79	2	Repair/Add Sidewalk	0	Concord at Washington		12
58	80	2	Repair/Add Sidewalk	0	Washington at 23rd		12
59	81	2	Repair/Add Sidewalk	0	Washington at 24th		12
60	82	2	Improve CW/Add Ped Signage	0	Washington at 25th		12
61	83	2	Add signalized CW	84	24th N. of Washington		12
62	86	2	Repaint CW	77	25th S. of Washington		12
63	87	2	MCW	52	Washington btwn 25 and 26		12
64	88	2	Repair/Add Sidewalk	55	Washington btwn 25 and 26		12
65	89	2	Repair/Add Sidewalk	66	Washington btwn 25 and 26		12
66	36	2	Repair/Add Sidewalk	60	Market btwn 29 and 30		13
67	37	2	Repair/Add Sidewalk	59	Market btwn 29 and 30		13
68	38	2	Repair/Add Sidewalk	0	Market at 29th		13
69	39	2	Repair/Add Sidewalk	0	Market at 28th		13
70	40	2	Repair/Add Sidewalk	0	Market at 27th		13
71	41	2	Repair/Add Sidewalk	0	Market at 26th		13
72	42	2	Repair/Add Sidewalk	137	Market btwn 28 and 29		13
73	43	2	Repair/Add Sidewalk	82	Market btwn 28 and 29		13
74	44	2	Repair/Add Sidewalk	36	Market btwn 27 and 28		13
75	45	2	MCW; ADA	46	Market btwn 27 and 28		13
76	46	2	MCW; ADA	90	Market btwn 26 and 27		13
77	47	2	MCW; ADA	48	Market btwn 26 and 27		13
78	48	2	MCW; ADA; Ped Signage	57	Market btwn 26 and 27		13

ID	Geo ID	Segment	Recommendations	Distance Ft.	Location	Notes	Ped Score
79	49	2	MCW; ADA; Align	52	Market btwn 26 and 27		13
80	50	2	MCW; ADA	0	Market at 25th		13
81	51	2	MCW; ADA	0	Market at 24th		13
82	52	2	MCW	0	Market at 23rd		13
83	53	2	Repair/Add Sidewalk	142	Market btwn 25 and 26		13
84	54	2	MCW; ADA	63	Market btwn 25 and 26		13
85	55	2	MCW; ADA	71	Market btwn 24 and 25		13
86	56	2	Repair/Add Sidewalk	75	Market btwn 24 and 25		13
87	57	2	Repair/Add Sidewalk	91	Market btwn 24 and 25		13
88	58	2	Repair/Add Sidewalk	63	Market btwn 23 and 24		13
89	59	2	Repair/Add Sidewalk	63	Market btwn 23 and 24		13
90	33	2	Repair/Add Sidewalk	0	Market at 30th		14
91	34	2	Repair/Add Sidewalk	81	Danby S. of Market		14
92	35	2	Repair/Add Sidewalk	88	30th S. of Market		14
93	93	3	MCW	0	Walnut at 12th		12
94	94	3	MCW	0	Walnut at 10th		12
95	95	3	MCW; Ped Signal; Consider Bulbouts	0	Walnut at 9th		12
96	96	3	ADA issue	0	Walnut btwn 8th and 9th		12
97	97	3	MCW on side street	0	Walnut at 8th		12
98	98	3	Repair/Add Sidewalk	55	Walnut S. of 11th		12
99	99	3	Repair/Add Sidewalk	87	Walnut btwn 9th and 10th		12
100	100	3	Repair/Add Sidewalk	89	Walnut btwn 8th and 9th		12
101	101	3	Repair/Add Sidewalk	92	Walnut N. of 8th		12
102	114	4	Add mid-block crossing; MCW; ADA	91	Lombard btwn 5th and 6th		11
103	115	4	MCW	75	Lombard at 6th		11
104	116	4	ADA	116	Lombard btwn 6th and 7th		11
105	117	4	Add enhanced ped signage	0	Lombard at 5th		11
106	118	4	MCW	0	Lombard at 6th		11
107	120	4	Add mid-block CW	683	5th btwn Lombard and Walnut		11
108	102	4	MCW; ADA; Ped Signal	0	Walnut at 7th		12
109	103	4	Repair/Add Sidewalk	0	Walnut at 6th	mid-block location	12
110	104	4	Repair/Add Sidewalk	0	Walnut at 6th	mid-block location	12
111	105	4	Repair/Add Sidewalk	0	Walnut at 5th		12
112	119	4	Repair/Add Sidewalk	60	4th at Walnut		12
113	106	4	Repair/Add Sidewalk	0	4th at Poplar		13
114	107	4	Repair Sidewalk	0	4th at Pine		13
115	108	4	Repair Sidewalk	0	4th at Spruce		13
116	109	4	Add Sidewalk	74	Spruce btwn 4th and 5th		13
117	110	4	MCW	60	Spruce btwn 4th and 5th		13

ID	Geo ID	Segment	Recommendations	Distance Ft.	Location	Notes	Ped Score
118	111	4	MCW; ADA	176	4th btwn Pine and Lombard		13
119	112	4	Address SW Slope	69	4th btwn Pine and Lombard		13
120	113	4	Add Trees	77	4th W. of Lombard		13
121	121	4	Add landscaped median or bulbouts	0	4th St. to the east of Walnut		13
122	126	5	MCW; ADA; Consider Bulbouts	0	Tatnall at 3rd		11
123	132	5	Repaint CW	108	Tatnall N. of 2nd		11
124	133	5	MCW	74	3rd W. of Tatnall		11
125	134	5	MCW	80	West S. of 3rd		11
126	137	5	MCW	46	Washington S. of 4th		13
127	122	5	MCW; Ped Signals on sidestreets	0	4th at King		14
128	123	5	Add landscaped median and/or bulbouts	0	4th at Shipley		14
129	124	5	Repair/Add Sidewalk	0	4th at Tatnall		14
130	125	5	Repair/Add Sidewalk	0	4th at West		14
131	127	5	Repair/Add Sidewalk	0	4th at Washington		14
132	128	5	Repair/Add Sidewalk	0	Along 4th St.		14
133	129	5	Repair/Add Sidewalk	52	Shipley N. of 4th		14
134	130	5	Repair/Add Sidewalk	46	Tatnall N. of 4th		14
135	131	5	Repair/Add Sidewalk	47	Tatnall N. of 4th		14
136	135	5	Repair/Add Sidewalk	56	West N. of 4th		14
137	136	5	Repair/Add Sidewalk	38	West N. of 4th		14
138	138	5	Repair/Add Sidewalk	58	Washington N. of 4th		14
139	139	5	Repair/Add Sidewalk	67	Washington N. of 4th		14
140	146	6	Ped Signals on sides treets	0	Adams at 3rd		11
141	147	6	MCW; Ped Signals on sides treets	0	Monroe at 3rd		11
142	148	6	MCW; Ped Signals on sides treets	0	Adams near Lancaster		11
143	149	6	MCW	0	Adams at Lancaster		11
144	150	6	ADA	131	Lancaster btwn Adams and Monroe		11
145	151	6	ADA	138	2nd btwn Jackson and Adams		11
146	152	6	MCW; ADA	61	Adams btwn 2nd and 3rd		11
147	153	6	MCW; ADA	61	Adams btwn 2nd and 3rd		11
148	154	6	ADA	61	Adams btwn 2nd and 3rd		11
149	155	6	MCW; ADA; Ped Signals	70	3rd btwn Adams and Jackson		11
150	140	6	Address Sidewalk Slope	0	4th at Jefferson		13
151	141	6	Formalize Goat Path	0	4th at Madison		13
152	159	6	Repair/Add Sidewalk	38	4th btwn Madison and Jefferson		13
153	160	6	Repair/Add Sidewalk	43	4th btwn Madison and Jefferson		13
154	161	6	Repair/Add Sidewalk	53	Jefferson btwn 4th and 5th		13
155	162	6	Repair/Add Sidewalk	52	Jefferson btwn 4th and 5th		13
156	163	6	Repair/Add Sidewalk	54	3rd at Madison		13

ID	Geo ID	Segment	Recommendations	Distance Ft.	Location	Notes	Ped Score
157	142	6	Repair/Add Sidewalk	0	4th at Monroe		14
158	143	6	Repair/Add Sidewalk	0	4th at Adams		14
159	144	6	Repair/Add Sidewalk	0	Adams at Carpenter		14
160	145	6	Repair/Add Sidewalk	0	Monroe at Carpenter		14
161	156	6	Repair/Add Sidewalk	60	4th btwn Adams and Jackson		14
162	157	6	Repair/Add Sidewalk	55	4th btwn Adams and Jackson		14
163	158	6	Formalize Goat Path	32	Monroe btwn 4th and 5th		14
164	165	7	Add landscaped median and/or bulbouts	0	Along Lancaster Ave.		11
165	174	7	Add landscaped median and/or bulbouts	0	Van Buren at 6th		11
166	175	7	MCW; ADA; Ped Signal; Consider median refuge	0	Jackson at 6th		11
167	176	7	Repaint CW	0	Jackson at 7th		11
168	177	7	Repaint CW	58	Jackson btwn 6th and 7th		11
169	178	7	MCW; Ped Signal	74	Van Buren btwn 5th and 6th		11
170	192	7	MCW; Ped Signal	0	Lancaster at Franklin		11
171	193	7	MCW; ADA	0	Lancaster at Connell		11
172	194	7	MCW	0	Lancaster at Broom		11
173	195	7	MCW	0	Lancaster at Fulton		11
174	196	7	MCW	0	Lancaster at Rodney		11
175	198	7	MCW	75	Lancaster btwn Delamore and Rodney		11
176	199	7	MCW; Ped Signal	58	Rodney btwn Lancaster and 2nd		11
177	200	7	Repair/Add Sidewalk	95	Rodney btwn Lancaster and 2nd		11
178	201	7	Repair/Add Sidewalk	79	Lancaster btwn Broom and Rodney		11
179	202	7	TE Project	77	Lancaster btwn Broom and Connell		11
180	203	7	Traffic Calming; Ped Crossing	45	Connell btwn Lancaster and 2nd		11
181	204	7	Repair/Add Sidewalk	61	Connell btwn Lancaster and 2nd		11
182	205	7	Repair/Add Sidewalk	90	Lancaster btwn Franklin and Harrison		11
183	206	7	Repair/Add Sidewalk	90	Lancaster btwn Franklin and Harrison		11
184	207	7	Repair/Add Sidewalk	62	Lancaster btwn Franklin and Harrison		11
185	208	7	Repair/Add Sidewalk	90	Lancaster btwn Franklin and Harrison		11
186	188	7	Repair/Add Sidewalk	0	Lancaster at Jackson		12
187	189	7	Repair/Add Sidewalk	0	Jackson at Pleasant		12
188	190	7	MCW; ADA; Consider Bulbouts	0	Lancaster at Van Buren		12
189	191	7	ADA	0	Lancaster at Harrison		12
190	209	7	MCW; ADA	62	Harrison btwn Lancaster and 2nd		12
191	210	7	MCW; ADA	46	Harrison btwn Lancaster and 2nd		12
192	211	7	MCW; ADA; Consider Bulbouts	63	Harrison btwn Lancaster and Read		12
193	212	7	MCW	34	Van Buren S. of Lancaster		12
194	213	7	MCW; ADA; Consider Bulbouts	58	Lancaster btwn Van Buren and Jackson		12
195	214	7	ADA	72	Lancaster btwn Van Buren and Jackson		12

ID	Geo ID	Segment	Recommendations	Distance Ft.	Location	Notes	Ped Score
196	170	7	MCW; ADA	0	4th at Broom		13
197	171	7	MCW; ADA; Ped Signal	0	4th btwn Franklin and Broom		13
198	185	7	Repair/Add Sidewalk	52	4th btwn Franklin and Broom		13
199	186	7	Repair/Add Sidewalk	51	4th btwn Franklin and Broom		13
200	187	7	Repair/Add Sidewalk	76	4th btwn Franklin and Broom		13
201	164	7	Repair/Add Sidewalk	0	Along 4th St.		14
202	166	7	Repair/Add Sidewalk	0	4th at Jackson		14
203	167	7	Repair/Add Sidewalk	0	4th at Van Buren		14
204	168	7	Repair/Add Sidewalk	0	4th at Harrison		14
205	169	7	Repair/Add Sidewalk	0	4th at Franklin		14
206	172	7	Repair/Add Sidewalk	0	Jackson at 5th		14
207	173	7	Repair/Add Sidewalk	0	Van Buren at 5th		14
208	179	7	Repair/Add Sidewalk	286	Carpenter btwn Jackson and Van Buren		14
209	180	7	Repair/Add Sidewalk	0	Carpenter at Van Buren	part of TE project (?)	14
210	181	7	Repair/Add Sidewalk	60	Jackson btwn 3rd and 4th		14
211	182	7	Repair/Add Sidewalk	82	Harrison S. of 4th		14
212	183	7	Add/Repair Sidewalk	68	4th btwn Harrison and Franklin		14
213	184	7	Add/Repair Sidewalk	51	Franklin N. of 4th		14
214	197	8	Add/Repair Sidewalk	0	Lancaster at Delamore	Mid-Block Crossing	11
215	234	8	MCW; ADA	0	Union at Tulip		11
216	235	8	MCW; ADA	0	Lancaster at Lincoln		11
217	236	8	MCW; ADA	0	Lancaster at Scott		11
218	237	8	MCW; ADA	0	Lancaster at Dupont		11
219	238	8	Repair/Add Sidewalk	0	Lancaster at Clayton		11
220	239	8	Address Sidewalk Slope	63	Lancaster btwn Clayton and Dupont		11
221	240	8	Repair/Add Sidewalk	50	Lancaster btwn Dupont and Scott		11
222	241	8	Repair/Add Sidewalk	57	Scott S. of Lancaster		11
223	242	8	Repair/Add Sidewalk	57	Lincoln btwn Lancaster and Tulip		11
224	243	8	Repair/Add Sidewalk	57	Lancaster btwn Lincoln and Union		11
225	244	8	Repair/Add Sidewalk	49	Lincoln btwn Lancaster and 2nd		11
226	215	8	Repair/Add Sidewalk	0	4th at Rodney		13
227	216	8	MCW; ADA; Ped Signal	0	4th at Delamore		13
228	217	8	ADA; Ped Signal; Ped Signage	0	4th at Clayton		13
229	218	8	MCW; ADA	0	4th at Dupont		13
230	219	8	Repair/Add Sidewalk	65	4th btwn Rodney and Delamore		13
231	220	8	Repair/Add Sidewalk	57	Delamore S. of 4th		13
232	221	8	Repair/Add Sidewalk	73	Rodney btwn 4th and 5th		13
233	222	8	Repair/Add Sidewalk	49	Clayton btwn 4th and 3rd		13
234	223	8	ADA	57	Clayton btwn 4th and 5th		13

ID	Geo ID	Segment	Recommendations	Distance Ft.	Location	Notes	Ped Score
235	224	8	MCW; ADA; Ped Signal	60	4th btwn Clayton and Dupont		13
236	225	8	MCW; ADA; Ped Signal	63	4th btwn Clayton and Dupont		13
237	226	8	MCW; ADA; Ped Signal	89	Dupont btwn 4th and 3rd		13
238	227	8	MCW; ADA; Ped Signal	0	4th at Scott		13
239	228	8	Repair/Add Sidewalk	0	4th at Lincoln		13
240	229	8	Add/Repair Sidewalk	0	4th at Union		13
241	230	8	Repair/Add Sidewalk	82	4th btwn Dupont and Scott		13
242	231	8	Repair/Add Sidewalk	75	Scott btwn 4th and 3rd		13
243	232	8	Repair/Add Sidewalk	86	4th btwn Lincoln and Union		13
244	233	8	Repair/Add Sidewalk	80	Union btwn 4th and 3rd		13
245	245	9	MCW	0	Lancaster at Court Dr.		11
246	246	9	Improve ped access to signalized crossing	0	Lancaster Ave. at Pathmark		11
247	247	9	Add mid-block crossing signage	0	Lancaster Ave. at apartment complex		11
248	248	9	MCW	0	Lancaster ave. at apartment complex		11
249	249	9	Add/Repair Sidewalk	292	Lancaster Ave. E. of apartments		11
250	250	9	Add/Repair Sidewalk	547	Lancaster Ave. in front of Pathmark	Awkward frontage road/raised sidewalk	11
251	251	9	Add/Repair Sidewalk	40	Lancaster Ave. at apartments		11
252	252	9	Add/Repair Sidewalk	38	Lancaster Ave. at apartments		11
253	253	9	Add/Repair Sidewalk	53	Lancaster ave. at apartments		11
254	254	9	Add/Repair Sidewalk	297	Lancaster Ave. at Pathmark		11
255	255	9	Add Sidewalk; Formalize Goat Path	71	Lancaster Ave. access to Pathmark		11
256	256	9	Add Sidewalk	910	Lancaster Ave. W. of Pathmark		11
257	257	9	Add Sidewalks	865	Lancaster Ave. W. of Pathmark		11
258	258	10	Add landscaped median	0	SR2		11
259	259	10	ADA; Ped Signal	0	SR2 at Newport Gap Pike		11
260	260	10	MCW; ADA; Ped Signage	0	SR2 at Greenbank	Mid-block crossing	11
261	261	10	MCW; ADA	0	SR2 at Greenbank	sidestreet	11
262	262	10	MCW; ADA	0	SR2 at Greenbank	sidestreet	11
263	358	10	Add ADA ramps	105	Rt. 2		11
264	359	10	ADA	76	Rt. 2		11
265	360	10	ADA	153	Rt. 2		11
266	362	10	ADA	0	SR2 E. of Greenbank Rd.		11
267	263	11	ADA	0	Delaware Ave at Haines		11
268	264	11	Address Sidewalk Slope	0	Delaware E. of Chapel		11
269	265	11	Formalize Goat Path	0	Delaware E. of Chapel		11
270	266	11	Formalize Goat Path	0	Delaware E. of Chapel		11
271	267	11	Address Sidewalk Slope	0	Delaware E. of Chapel		11
272	268	11	Address Sidewalk Slope	68	Delaware E. of Haines		11
273	269	11	MCW; ADA	69	Delaware btwn Haines and Chapel		11

ID	Geo ID	Segment	Recommendations	Distance Ft.	Location	Notes	Ped Score
274	270	11	MCW; ADA	80	Delaware at Chapel		11
275	271	11	MCW; ADA	55	Delaware W. of Tyre		11
276	272	11	ADA; Ped Signage	78	Delaware W. of Tyre		11
277	363	11	ADA; Ped Signage	0	Delaware Ave		11
278	273	11	Address Sidewalk Slope	0	Delaware at Tyre		12
279	274	11	Address Sidewalk Slope	0	Delaware E. of Tyre		12
280	275	11	Formalize Goat Path	0	Delaware E. of Tyre		12
281	276	11	Improve ped crossing opportunities	0	Delaware E. of Tyre	Larger yield signs	12
282	277	11	Formalize Goat Path	0	Delaware E. of Tyre	Larger yield signs	12
283	278	11	Improve connectivity to supermarket from bus stop	124	Delaware E. of Tyre		12
284	279	11	ADA	126	Delaware E. of Tyre		12
285	280	11	ADA	82	Delaware approaching Library Ave.		12
286	281	12	ADA	89	Entrance to College Sq.		12
287	282	12	Add median refuge	101	Library Ave. into College Sq.		12
288	283	12	ADA; Replace Ped Signal	0	Library Ave. at DART stop		12
289	284	12	Explore Ped Improvements; Add Sharrows for Bicycles	0	Library Ave. at supermarket		12
290	285	12	MCW; ADA; Ped Signal	0	Library Ave. S. of 273		12
291	286	12	Shared-use pathway	0	Library Ave. at 273		12
292	287	12	ADA	234	Library Ave. btwn 273 and Delaware		12
293	288	13	Add mid-block CW	0	Rt. 279 at Rt. 213		10
294	289	13	MCW	0	Rt. 279 at Rt. 545		10
295	290	13	MCW; ADA; Ped Signal	0	Rt. 279 at Rt. 40		10
296	291	13	Repair/Add Sidewalk	4340	Rt. 279		10
297	292	14	Repair/Add Sidewalk	0	Rt. 279 E. of Rt. 213		10
298	293	14	Repair/Add Sidewalk	0	213 at Maryland		10
299	294	14	Add Sidewalk	0	213 at Wesley		10
300	295	14	Add Sidewalk	0	213 at Elkton Blvd.		10
301	296	14	Bike Lane/Sharrows	127	213 at 279		10
302	297	14	Formalize Goat Path	108	279 at 213		10
303	298	14	MCW	137	279 E. of 213		10
304	299	14	ADA	1068	213 S. of 279		10
305	300	14	ADA	877	213 N. of Elkton Blvd.		10
306	301	14	Address sidewalk slop	1570	Elkton Blvd		10
307	302	14	Address sidewalk slope	161	Corner of 279 and 213		10
308	303	15	Address sidewalk slope	0	213 at Railroad Ave.		10
309	306	15	Utility Pole	124	213 approaching RR Ave.		10
310	310	15	ADA	0	Landing at Curtis		10
311	311	15	ADA	0	Landing S. of Curtis		10
312	312	15	ADA; Improve ped signal	0	Landing at Rt. 40		10

ID	Geo ID	Segment	Recommendations	Distance Ft.	Location	Notes	Ped Score
313	313	15	Repair/Add Sidewalk	149	Rt. 40 W. of Landing		10
314	314	15	Repair/Add Sidewalk	133	Rt. 40 W. of Landing		10
315	304	15	MCW; ADA; Ped Signals	0	213 at McQuilken		12
316	305	15	ADA	0	213 at High St.		12
317	307	15	ADA	142	213 N. of Cathedral		12
318	308	15	Repair/Add Sidewalk	104	213 N. of Cathedral		12
319	309	15	Address sidewalk slope	0	213 N. of High		12
320	315	16	Add sidewalk	0	213 at Howard		10
321	316	16	ADA	0	213 S. of Howard		10
322	317	16	Repair/Add Sidewalk	0	213 S. of Howard		10
323	318	16	Repair/Add Sidewalk	139	213 at Howard		10
324	319	16	MCW; ADA; Ped Signals; Ped Refuge	663	213 N. of 40		10
325	320	16	Mid-block CW	671	213 N. of 40		10
326	321	16	Add Sidewalk	0	213 N. of 40		10
327	322	16	Add Sidewalk	104	213 at 40		10
328	323	16	ADA	972	213 S. of 40		11
329	324	16	ADA	0	213 at 40		11
330	325	16	ADA	0	213 at Walter Boulden		11
331	326	17	MCW; ADA; Ped Signal	2292	213 S. of Walter Boulden		10
332	327	17	ADA	1881	213 S. of Walter Boulden		10
333	329	17	ADA	0	213 at Renee Carr		10
334	330	17	MCW; ADA	0	213 N. of Whitehall		10
335	331	17	Repair/Add Sidewalk	0	213 at Whitehall		10
336	332	17	Repair/Add Sidewalk	0	213 at Manor		10
337	361	17	ADA	164	Whitehall Rd at 213		10
338	328	17	Repair/Add Sidewalk	0	213 at Walter Bouldin		11
339	333	18	Repair/Add Sidewalk	0	268 at Elkton Blvd.		10
340	334	18	Address sidewalk slope	0	268 at Parkway		10
341	335	18	Repair/Add Sidewalk	80	268 S. of Elkton		10
342	336	18	Repair/Add Sidewalk	67	268 N. of Parkway		10
343	337	18	ADA; Ped Signal	0	268 at Stockton		11
344	338	18	ADA	95	268 N. of Stockton		11
345	339	18	ADA	71	268 N. of Stockton		11
346	340	18	Driveway issue	132	268 N. of Stockton		11
347	341	18	Driveway issue	116	268 N. of Stockton		11
348	342	18	MCW; ADA	170	268 S. of Stockton		11
349	346	19	ADA	66	213 S. of Main		11
350	347	19	ADA	94	213 S. of Main		11
351	343	19	ADA	0	268 at High St.		12

ID	Geo ID	Segment	Recommendations	Distance Ft.	Location	Notes	Ped Score
352	344	19	MCW; ADA	0	Main E. of 213		12
353	345	19	MCW; ADA	0	Main E. of 213		12
354	348	19	ADA	0	Main at Courthouse Plaza		12
355	349	19	Repair/Add Sidewalk	0	Main at Church		12
356	350	19	Repair/Add Sidewalk	0	Main at South		12
357	351	20	Repair/Add Sidewalk	0	Main at Locust		11
358	352	20	Add/Repair Sidewalk	0	Main at Delaware		11
359	353	20	Add/Repair Sidewalk	0	Delaware at Howard		11
360	354	20	Address sidewalk slope	0	Main at Hermitage		11
361	355	20	Add/Repair Sidewalk	265	Delaware S. of Main		11
362	364	20	Add Sidewalk Buffers	0	SR281		11
363	356	20	Consider Cycle Track	186	Main W. of Locust		12
364	357	20	Consider Extending Sidewalk East	291	Main E. of South		12

For more information regarding the *Top Pedestrian
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