

BUILDING A BETTER GREENBELT

SIGNS, SAFETY, AND A RIVERFRONT LINK TO FORT HUNTER



**Prepared for:
Capital Area Greenbelt Association
and the
Dauphin County Commissioners**

**Prepared by:
Wilson Consulting Group, PC**

EXECUTIVE SUMMARY

January 2014

EXECUTIVE SUMMARY

BUILDING A BETTER GREENBELT is an engineering study that analyzes and develops recommendations to address the safety concerns and recommendations presented by Greenbelt users during development of the Association's 2010 strategic plan, **PRESERVING THE GREENBELT FOR FUTURE GENERATIONS**.

This summary outlines the engineering findings, recommendations, preliminary designs, cost estimates, and funding strategy to improve signage; construct safety improvements at key intersections and on-road segments of the Greenbelt; and to develop a riverfront trail to link Dauphin County's Fort Hunter and Wildwood Parks. The proposed improvements are intended to upgrade select portions of the Greenbelt Trail to meet or exceed the standards and guide specifications outlined by the American Association of State Highway and Transportation Officials (AASHTO) and the Manual of Uniform Traffic Control Devices (MUTCD). In addition, those portions of the trail within state road right of way shall satisfy the needs and requirements of PENNDOT.

This plan is supported by funding from the PA Department of Conservation and Natural Resources and the Dauphin County Commissioners. During the development of this study the Association received significant support and input from PENNDOT District 8-0, host municipalities (including Susquehanna and Swatara Townships, Paxtang and Penbrook Boroughs, and the City of Harrisburg), Dauphin County Department of Parks and Recreation, Harrisburg Bicycle Club, and several Harrisburg Neighborhood Associations.

1. New Greenbelt Directional and Warning Sign System

The plan calls for a new system to replace the current mix of 140 Greenbelt signs. Some of them conflicting and confusing while others which have reached their life expectancy are faded and nearly illegible.



The new system will be based on the current Association logo. It will provide direction and warnings to users and motorists and it will direct potential users to trailheads from nearby roadways. The first phase of installation will focus on directional signage. The Greenbelt Association has raised \$47,500 of the estimated cost.

Contributors include: ArcelorMittal, Stabler Foundation, Rails to Trails Conservancy, McCormick Family Foundation, QBP (Quality Bicycle Products), The McClure Company and the Association members.

Harrisburg Area Community College, Wildwood Park, and several of the host municipalities are expected to help with installation. The project is expected to be bid in early 2014 and Phase 1 is to be complete by late spring 2014. Phase 2 of the program will focus on improving traffic signage in conjunction with the safety upgrades discussed below.

2. Permanent Upgrades to Trail Intersections and On-Road Sections

The plan proposes capital improvements to address safety concerns at seven locations along the Greenbelt. The total cost of these improvements (design, construction, and inspection) is estimated at \$1.80 million.



The improvements include, where appropriate: pedestrian controlled flashing signals at intersections, high visibility cross walks, refuge islands at wide roadways, improved trail alignments near crossings, sidewalks where needed for pedestrians, new shared use path to remove trail traffic from roadways, improved trail warning signage for motorists, and full curbs at crossings.

3. Details of Proposed Safety Improvements

Greenbelt crossing at North Front Street. This is one of the busiest crossings with Average Daily Traffic (ADT) of about 20,000 and posted speed of 35 mph. It currently has no traffic control measures for a four lane crossing. The current Greenbelt crossing is at Graham Street two blocks south of the proposed crossing at Vaughn Street. The proposed crossing has better sight distance, is closer to the terminus of Riverfront Park, and is also the current PA Bike Rte. J and the old Harrisburg Bike Route. Our proposal is to create one safe crossing at the northern end of the Riverfront Park Trail at Vaughn Street. Improvements would include: new crosswalks, a pedestrian/bike activated overhead flashing beacon, sidewalk and curb upgrades, and repaving the intersection.



Greenbelt crossing at Herr Street and Greenbelt on-road section on Parkview Drive. The current Parkview Drive has no sidewalks and presents a real safety concern for anyone using the Greenbelt in this area and for local residents. Parkview Drive has a 40' right of way and all proposed improvements are within the Township right-of-way. The proposed improvements include an improved cross walk, refuge island, and pedestrian crossing button at Herr St; traffic calming by narrowing the traffic lanes and installation of curbing and a five foot sidewalk on the west side of the road but within the right-of way. We expect that the sidewalk will be financed through grants but like all sidewalks would be the responsibility of residents to maintain. The proposal also includes milling and overlay (paving) of Parkview Drive from Herr to Walnut Street, installation of standard signage, and pavement markings for bicyclists who would share the road with motorists.

Greenbelts crossings at 28th Street and Market Street Road. This area currently has no traffic controls, signage, crosswalks, or pedestrian landing areas. Market Street Road has a posted speed limit of 25 mph with an ADT of 8,500 and 28th Street has a posted speed limit of 35 mph with an ADT of 5,600. Both crossings have sight distance limitations which warrant additional warning signs and beacons. The proposal is to provide well located visible crosswalks and trail signage; provisions for curbing and buffers to separate trail users from vehicles; relocation of Parkway Boulevard south several feet to allow a shared use path parallel to and outside of the road section between Market and 28th Streets; pedestrian activated flashing beacons for each cross walk; continuation of the existing sidewalk along Parkview Blvd to a point where the traffic volume is significantly reduced as you approach Reservoir Park. The intersection would also be milled and re-paved. The 28th Street crossing would include a refuge island.

Greenbelt crossing at Paxton Street and on-road section on Parkview Lane. The current condition does not include adequate pedestrian consideration in the signal, is a relatively wide crossing, and has an angled crosswalk which adds to the crossing length. Proposed improvements include: re-constructing the trail approach on the south side of the intersection and moving the actual crossing point closer to the signal pole and pedestrian signal control to create a more direct right angle crossing (this will involve construction of a retaining wall near the car dealership and installation of a mountable curb, to direct trail users to the crosswalk); installation of a wider ten foot crosswalk; upgrade of the landing and approach of the trail on the north side of Paxton Street; installation or upgrade of some curbing as protection for trail users at the approach; modification of the signal and push button location; improved signage and pavement markings; and repaving of the affected area of the intersection.

The signal upgrade would include relocated push buttons, new pedestrian signal heads and a lead pedestrian interval. The lead pedestrian interval would be concurrent with the 32nd Street green (left turn) and would allow pedestrians to get into the crosswalk before the left turn light turns green. The length of this delay will vary and would be part of a final design phase. The signal configuration for the proposed McDonald's did not include an exclusive pedestrian phase. Such an exclusive pedestrian phase would only be used where there is an extreme amount of pedestrian traffic.

Greenbelt crossing at SR 441 (28th Street). This crossing has a posted speed limit of 40 mph. The suggested improvements include: re-constructing the trail alignment on either side of the intersection to provide a safe approach and landing area for bicyclists and pedestrians using the

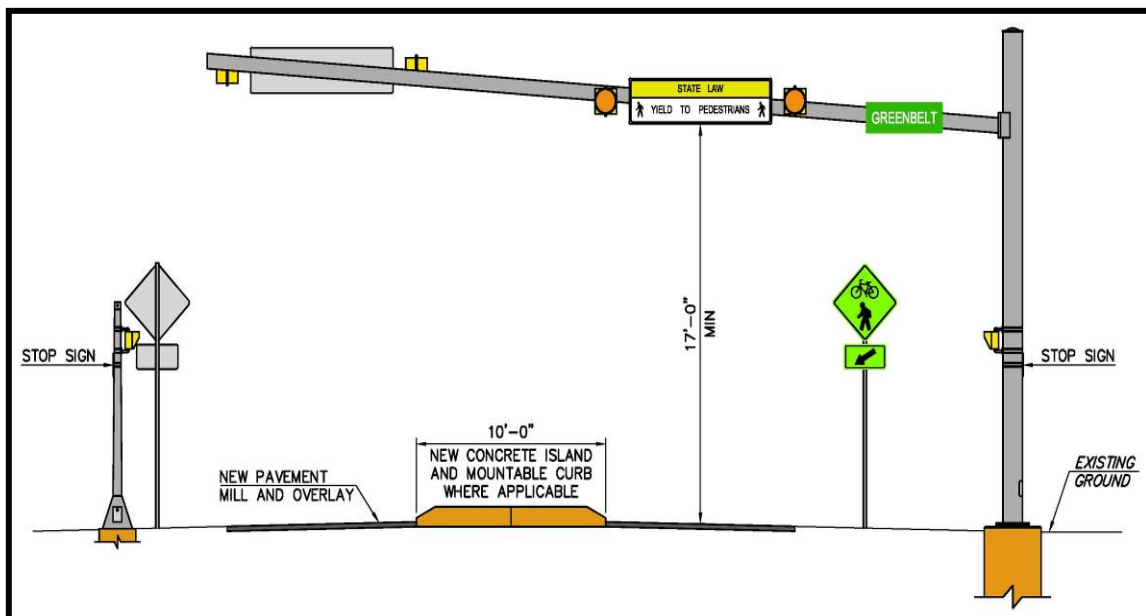
intersection; a refuge island to shorten the crossing distance; a pedestrian activated overhead flashing beacon and yield to pedestrian sign on an overhead mast and on the island; a wider, more visible crosswalk; installation of new pavement markings and warning signs; removal of bollards which are too close to the intersection; and repaving of the intersection area.

Greenbelt crossing at south Cameron Street. This location involves a wide crossing of 3 lanes and is complicated by the entrance to the Harrisburg Resource Recovery Facility which is just to the south. Cameron Street has a posted speed limit of 35 mph (observed speeds are higher) with ADT of 14,000. Our proposed improvements include a refuge island to shorten the pedestrian crossing and calm traffic; a pedestrian activated overhead beacon warning motorists to yield; a wider more visible crosswalk which is moved north from its current location a short distance to improve turning for delivery trucks; a better trail alignment on either side of the intersection; repaving the intersection; and full reveal curbing.

Other recommendations. The study recommends all crossings include an overhead yellow flashing warning beacon to supplement the proposed warning signs. The beacons shall be activated by the presence of a user through video, infrared, and/or loop detection.

At traffic signals all pedestrian push buttons shall be accessible and loop detection for bicycles shall be considered. Pedestrian and bicycle traffic counters are recommended at all signal and warning beacon locations. Pedestrian counts will be critical to future upgrades (i.e. warrants a full signal) and can be used to justify future grant and funding needs.

All warning signs for the trail crossings shall be fluorescent green. Crosswalk markings shall be “piano key” style to increase visibility. Municipalities should enforce traffic speeds at the crossings as a measure of traffic calming.



Overhead mast with warning beacons, signs and Greenbelt identification

4. A Riverfront Link Trail – Wildwood Park to Fort Hunter Park

The plan concluded that linking Dauphin County’s two premier parks, as proposed during the development of the Greenbelt Strategic Plan in 2010, is feasible and that the trail will provide a significant recreational opportunity along the riverfront. The approximately 1.5 mile off-road trail would create a five-mile loop for bicyclists including a beautiful 1 mile riverfront section along North Front Street. The total estimated cost of this project for final engineering, design, permitting, utilities, right-of-way negotiations and construction is \$2.00 million (\$1.70 million for construction and \$300,000 for design).

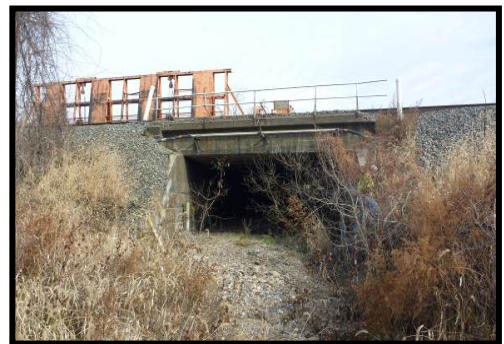


This trail would be a beautiful compliment to the riverfront and we expect it to be heavily used by office personnel in this area as well as compliment the restaurant businesses in the area. This option has been reviewed by PENNDOT District 8-0 and they have given conceptual approval to move forward with the plan. It is also the preferred option of Dauphin County Parks and Recreation - especially after review of the other potential alignments.

Completion of the Fort Hunter trail is predicated on addressing the current situation at the on-road section of the Greenbelt trail at Linglestown and Industrial Roads which poses perhaps the most difficult safety issue for users. The study has identified two options to address this problem area:

Linglestown Road Option 1 - Under the Railroad

This option would cross Industrial Road at the northern entrance to Wildwood Lake and create a shared-use path heading north along the base of Industrial Road embankment, turning west through an abandoned underpass (former Linglestown Road) then connect to Sixth Street (beginning of the Fort Hunter Connector) on the north side of Linglestown Road. The main Greenbelt Trail would then proceed south under the Linglestown Road bridge to rejoin the main trail at Kaby Street. All portions of the trail would be off-road or built as a shared-use path.



Linglestown Road Option 2 - Over the Railroad

This option was proposed by PENNDOT District 8-0 as an alternative if Option 1 could not gain approval of Norfolk Southern Railroad Company to use the abandoned underpass. This option would create a separate 10 foot path along the western side of Industrial Road and on the south side of the Linglestown Road Bridge (see photo at right) protected by a crashworthy barrier. It would link to the main Greenbelt at Kaby Street and include a section



that proceeded under the Linglestown Road bridge to link to the Fort Hunter Trail on the north side of Linglestown Road at Sixth Street. While some portions of the trail would be on an existing road section the trail would be physically separated from vehicular traffic and would function as a shared-use path.

A breakdown of construction costs is as follows.

- Fort Hunter Connector (Sixth Street to Fort Hunter) \$1,425,000
- Linglestown Road spur to Sixth Street; start of the Connector (Option 2) \$275,000
- Linglestown Road safety improvements (Option 2) \$500,000

Only Option 2 is considered, since Option 1 does not appear feasible with the railroad concerns. The safety improvements along Linglestown Road (\$500,000) will be constructed with funds already established under intersection and on-road safety improvements.

Design of the Linglestown Road safety improvements and the Fort Hunter Connector is estimated to be \$300,000.

4. Funding Summary

Directional Signage – Greenbelt signage is fully funded with local funds. The sign plan is complete and the project is to be bid for construction in early 2014.

Safety Improvements – Funding is in place to complete the proposed safety improvements at intersections and on-road portions of the Greenbelt. The funding is summarized below:

- PENNDOT administered Federal Highway Transportation Funding – In September 2013, PENNDOT District 8-0 proposed, and the Harrisburg Area Transportation Study amended, their Transportation Improvement Plan to include construction of eligible aspects of the safety improvements (those on the federal aid system). **Subsequently PENNDOT informed Dauphin County of an award of \$785,000 for construction activities in 2015.**
- PA DCNR Community Conservation Partnership – In April, 2013, Dauphin County applied for \$500,000 to fund final design of the safety improvements and construction of those improvements that do not qualify for federal funding. **The \$500,000 grant was awarded in November 2013.**

Fort Hunter Connector – Partial funding is in place to complete the proposed Fort Hunter Connector. The following funding has been secured to date:

- PA DCED Greenways Trails and Recreation – In August 2013, Dauphin County applied for a grant in the amount of \$250,000 to fund construction at Linglestown Road for connection to Fort Hunter. **The County was awarded \$230,000 in November 2013.**

The following funds have been (or will be) requested to complete the Fort Hunter project.

- Dauphin County Gaming Grant in the amount of \$250,000 to fund the design of the Fort Hunter Connector. The grant application has been submitted and the award is pending.
- Federal and/or State Funds in the amount of \$1,500,000 to construct the Fort Hunter Connector. The \$230,000 DCED grant has funded the initial 15% of the \$1,700,000 construction project.