LOWER PAXTON TOWNSHIP

BOARD OF SUPERVISORS

TUESDAY, FEBRUARY 11, 2020 - 7:00 PM,
425 PRINCE STREET, LOWER PAXTON, PA

CALL TO ORDER - CHAIRMAN HENRY

PLEDGE OF ALLEGIANCE

PUBLIC COMMENT

SWAP AMENDMENT AND GENERAL MARKET UPDATE - ***Mr. Wenger***

PRESENTATION OF PEDESTRIAN SAFETY MEMORANDA - ***Mr. Stump***

FIRST PRESENTATION OF RESOLUTION 20-07; ESTABLISHING THE PROCEDURE AND AUTHORIZATION OF THE DISPOSITION OF UNNECESSARY PERSONAL PROPERTY - ***Mr. Gotshall***

FIRST PRESENTATION OF RESOLUTION 20-09 AND A STREET LIGHT SERVICES AGREEMENT; PROVIDING FOR THE FURNISHING OF ELECTRIC STREET LIGHTING SERVICE TO THE TOWNSHIP OF LOWER PAXTON - ***Mr. Gotshall***

SUBDIVISION AND LAND DEVELOPMENT

ADJOURN

NEXT BOARD MEETING (Business Meeting) TUESDAY, FEBRUARY 18, 2020; 7:00 P.M.

Memorandum

To: Brad Gotshall and Stephen Cover, Lower Paxton Township

From: Marvin Ta and Patrick Wright, LTAP

Date: September 22, 2019

Subject: Union Deposit Road and Collingswood Drive/Michigan Drive Pedestrian Crosswalk, Lower Paxton Township, Dauphin County

Safety Concern and Background Data

In response to a technical assistance request from Lower Paxton Township, LTAP met with the Township to examine a pedestrian crossing at Union Deposit Road (S.R. 3020, Seg. 0080, Off. 675 feet) and Collingswood Drive/Michigan Drive on August 1, 2019. The Township is concerned about the safety of people crossing Union Deposit Road due to the speed and volume of traffic.

Figure 1 shows an aerial image of the study intersection. The area around the intersection was assessed through walking, driving, reviewing site conditions, and observing traffic flow.

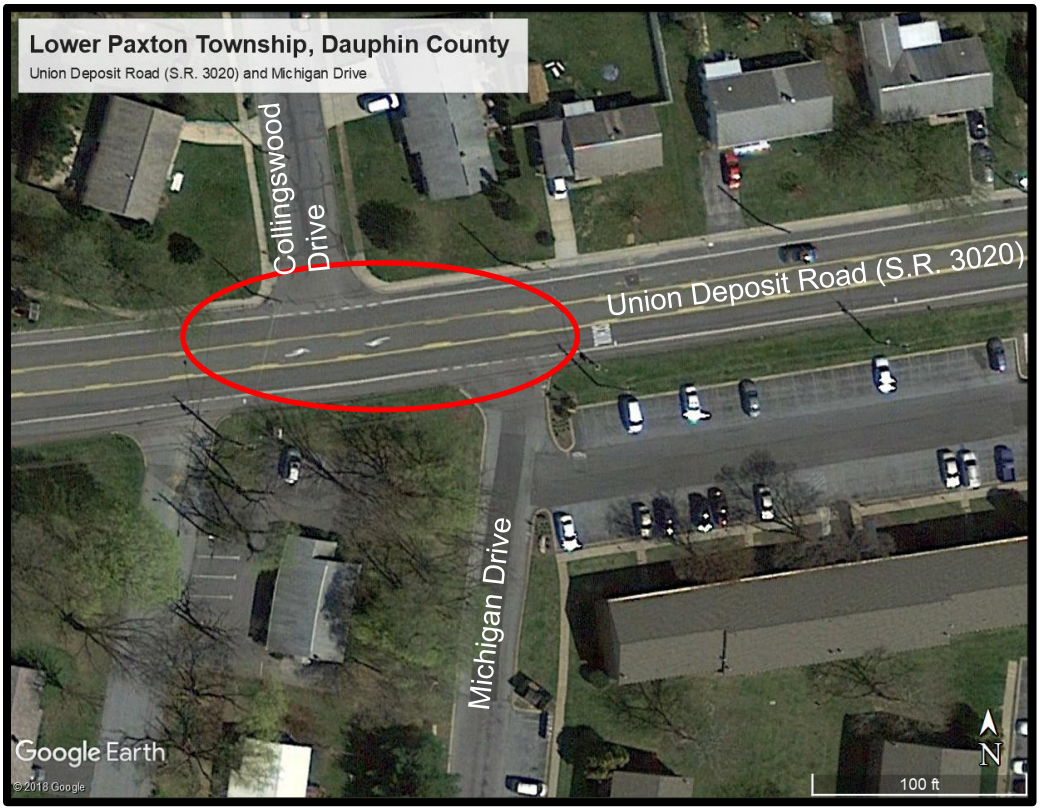


Figure 1: Aerial View of the Study Intersection

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study

This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

Union Deposit Road is a three-lane, two-way undivided state urban collector road with two-way left turn lane marked by a combination of solid and broken yellow center lines. There are also approximately 5-foot shoulders on both sides of the road marked by white edge line pavement markings. The total roadway width for Union Deposit Road from shoulder to shoulder is approximately 45 feet. Sidewalks exist on the northern side of the Collingswood Drive intersection. The posted speed limit is 35 MPH with parking permitted on both sides of the road.

Collingswood Drive is a two-lane, two-way residential township owned roadway. There are sidewalks on both sides, and parking is permitted on the roadway. Collingswood Drive is stop controlled at Union Deposit Road. Along with Michigan Drive, Collingswood Drive forms an offset intersection with Union Deposit Road.

Michigan Drive is a two-lane, two-way private road owned by Twin Lakes Manor Apartments. There are no pavement markings or posted speed limit. Sidewalks exist in sections on the eastern side of the road. There is mountable curbing on both sides of the road. Michigan Drive is stop controlled at the intersection. Figure 2 shows a street view of the study intersection.

Figure 2: Street View of the Study Intersection

The area east of the study intersection is primarily residential with houses and apartment complexes. Located east of the intersection is South Side Elementary School. There are two parks located southeast of the intersection: Lingle Park and Kohl Memorial Park. The area west of the intersection is a mix of residential and commercial with houses and apartment complexes as well as hotels, restaurants, and shops. Access to I-83 is approximately 2,200 feet to the west of the study intersection.

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study

This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

A mix of traffic was witnessed including trucks and pedestrians. From PennDOT's Traffic Information Repository (TIRe), the average daily traffic in both directions is 15,453 vehicles per day with an average daily truck traffic of 618 vehicles per day (4%). The Township provided speed data showing an 85th percentile speed of 39 MPH eastbound and 43 MPH westbound. Pedestrians were observed on both sides of Union Deposit Road during several observations of the study area. Figure 3 shows a pedestrian using the sidewalk along Union Deposit Road traveling eastbound as well as a truck traveling westbound. Figure 4 shows a pedestrian using the shoulder along Union Deposit Road as well as a truck with a trailer traveling eastbound.

Figure 3: Pedestrian on Sidewalk Traveling Eastbound and Truck Traveling Westbound

Figure 4: Pedestrian on Shoulder Traveling Eastbound and Truck Traveling Eastbound

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study

This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

Crash Analysis

Crash data was obtained from the Pennsylvania Crash Information Tool (PCIT). PCIT reported crash data was reviewed for the most recent five years (January 2014 – December 2018). From PCIT, there was one rear-end crash and one angle crash that did not result in any injuries. Both occurred during the day in dry road conditions.

Approximately 30 feet west of the intersection, a pedestrian was hit back in December 2016 that resulted in an injury. The crash occurred when conditions were dry and dark with streetlights. In addition to PCIT, the Township mentioned that a pedestrian was hit and killed crossing Union Deposit Road earlier in 2019.

References

Field observations, discussions with municipal personnel, application of state/federal traffic control device guidelines, highway safety research, and traffic engineering experience are largely responsible for the content and findings of this memo. In addition, specific references that were consulted include:

- 2009 Current Edition of the Manual on Uniform Traffic Control Devices (MUTCD)
- PennDOT Publications 13M, 46, 111, 212, 236, and 383
- PA Vehicle Code (Title 75)
- Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, FHWA-SA-17-072, July 2018
- Pedestrian Road Safety Audit Guidelines and Prompt Lists, FHWA-SA-07-007, July 2007
- Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations, FHWA-SA-18-018
- Improving Pedestrian Safety at Unsignalized Crossings, NCHRP Report 562, 2006
- Traffic Engineering Division Memorandum, Unsignalized Marked Crosswalk Standards VDOT IIM-TE-384, July 2016
- An Overview and Recommendations of High-Visibility Crosswalk Marking Styles, Pedestrian and Bicycle Information Center, August 2013
- Pedestrian Safety Guide and Countermeasure Selection System: http://www.pedbikesafe.org/pedsafe/
- FHWA Safe Transportation for Every Pedestrian (STEP): https://www.fhwa.dot.gov/innovation/everydaycounts/edc_5/step2.cfm

Pennsylvania LTAP is willing to clarify and provide additional information relating to any of the potential solutions listed.

Information on Crosswalks

According to the PA Vehicle Code (Title 75), Subchapter B, § 6122, local municipalities can install traffic control devices (signs, signals, markings, etc.) that follow state and national standards. More specifically, PennDOT Pub. 212, § 212.5 authorizes local municipalities to install crosswalk markings at intersections with state roads without PennDOT approval. However, markings for mid-block crossings will require PennDOT approval per Pub. 212, § 212.5.

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study
This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

The decision to mark a crosswalk at an uncontrolled (i.e., traffic normally does not stop) location should be based on the results of a study (MUTCD 3B.18 08). Studies show that just marking a crosswalk by itself may not improve pedestrian safety and in some cases, could have a negative impact on pedestrian safety (see PennDOT Publication 46, Page 3-10). Thus, a municipality should carefully consider where crosswalks are marked and base the decision to mark a crosswalk on a study.

The study should consider many factors, including:

- The number of pedestrians using the crosswalk
- The type of pedestrians using the crosswalk (kids, elderly, and others)
- The length of the crossing
- Sight distance for pedestrians to see approaching vehicles (and vehicles to see pedestrians)
- The speed of traffic
- The volume and mix (cars, trucks, buses, etc.) of traffic
- Accessibility (ADA features including curb ramps)

Studies also show that properly marked crosswalks with appropriate safety features can improve pedestrian safety and facilitate community walkability. Crosswalk markings help to alert road users of a designated pedestrian crossing point across roadways at locations that are not controlled by traffic control signals or STOP or YIELD signs. (MUTCD 3B.18 p2).

Pedestrians crossing a road is inherently dangerous. While traffic control devices can mark crossings and increase the visibility of the crossing location for motorists, these features still do not remove the conflict between pedestrians and vehicles. Maximizing safety for pedestrians requires both motorists and pedestrians to act in a defensive manner regarding potential conflicts.

The placement of crosswalk markings should follow a methodology that utilizes good engineering judgement and does not vary from location to location. Overuse of crosswalk markings should be avoided to prevent a lack of sensitivity and should be limited to truly necessary areas. By maintaining consistency in marking placement, the markings will benefit from increased recognition. Crosswalk markings are meant to indicate to pedestrians the appropriate place to cross a street as well as to alert motorists of the likelihood of a crossing to take place.

To place a crosswalk, there should be enough pedestrian flows and limited vehicular traffic to provide gaps in the traffic flow for pedestrians to safely cross. The presence of a pedestrian generator, such as a business, school, church, or public park is an indicator of likely pedestrian activity. If one of these generators exists near an intersection that has a significant amount of vehicular traffic, there may be enough potential conflicts to necessitate marking a crosswalk.

The area around the intersection is residential, with a mix of apartments and single-family homes. There is also a school and parks to the east, and commercial development to the west including a shopping center with a grocery store, pharmacy, and other stores/services. The roadway and development patterns are suburban, spaced out with limited pedestrian facilities available. There are some sidewalks, but there are gaps, and the intersections in the area (unsignalized and signalized) do not have modern pedestrian facilities or treatments.

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study

This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

While there are not high volumes of pedestrians (as in a downtown) in the area, field observations showed that there is a constant flow of pedestrians from the residential areas to the shopping center throughout the day.

Pennsylvania Pedestrian Laws

In Title 75, there are laws that regulate pedestrians crossing a road. At an intersection in a crosswalk or a marked mid-block crosswalk, vehicles must yield to the pedestrians in a crosswalk. Pedestrians must wait for an appropriate gap in traffic before stepping out into the crosswalk.

> **§ 3542. Right-of-way of pedestrians in crosswalks.**
> **(a) General rule.--**When traffic-control signals are not in place or not in operation, the driver of a vehicle shall yield the right-of-way to a pedestrian crossing the roadway within any marked crosswalk or within any unmarked crosswalk at an intersection.
> **(b) Exercise of care by pedestrian.--**No pedestrian shall suddenly leave a curb or other place of safety and walk or run into the path of a vehicle which is so close as to constitute a hazard.

At locations other than crosswalks, pedestrians must yield the right-of-way to vehicles. Lastly, crosswalks are defined in Title 75 as the extension of sidewalks across an intersection, or where marked.

> **"Crosswalk."**
> (1) That part of a roadway at an intersection included within the connections of the lateral lines of the sidewalks on opposite sides of the highway, measured from the curbs or, in the absence of curbs, from the edges of the traversable roadway; and, in the absence of a sidewalk on one side of the roadway, that part of a roadway included within the extension of the lateral lines of the existing sidewalk.
> (2) Any portion of a roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by lines or other markings on the surface.

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study
This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

Crosswalk Marking Assessment

The FHWA has resources to assess the viability of marking a crosswalk across a roadway at an uncontrolled location. The Virginia Department of Transportation (VDOT) developed a more detailed and updated table for marking crosswalks based on the FHWA table as seen in Table 1.

Table 1: VDOT Recommendations for Marking Crosswalks at Uncontrolled Approaches

Roadway Configuration	Roadway ADT and Speed Limit															
	1,500 to 9,000 VPD				9,000 to 12,000 VPD				12,000 to 15,000 VPD				More than 15,000 VPD			
	≤ 30 MPH	35 MPH	40 MPH	≥ 45 MPH	≤ 30 MPH	35 MPH	40 MPH	≥ 45 MPH	≤ 30 MPH	35 MPH	40 MPH	≥ 45 MPH	≤ 30 MPH	35 MPH	40 MPH	≥ 45 MPH
2 Lanes (undivided two-way street or two-lane one-way street)	A	A	B	B	A	A	B	B	A	A	B	B	B	B	B	C
3 Lanes with refuge island OR 2 Lanes with raised median*	A	A	B	B	A	B	B	B	A	A	B	B	B	B	B	C
3 Lanes (center turn lane)	A	A	B	B	A	B	B	B	A	B	B	C	B	C	C	C
4 Lanes (two-way street with no median)	A	B	C	C	B	B	C	C	B	C	C	D	C	C	C	D
5 Lanes with refuge island OR 4 lanes with raised median*	A	A	B	B	A	B	B	C	B	B	C	C	B	B	C	D
5 Lanes (center turn lane)	A	B	C	C	B	B	C	C	C	C	C	D	C	C	C	D
6 Lanes (two-way street with* or without median)	A	B	D	D	B	B	D	D	D	D	D	D	D	D	D	D

From VDOT IIM-TE-384:

Condition A – Candidate site for marked crosswalk alone.

Condition B – Potential candidate site for marked crosswalk.

Condition C – Marked crosswalks alone are insufficient.

Condition D – Marked crosswalks <u>shall not</u> be installed.

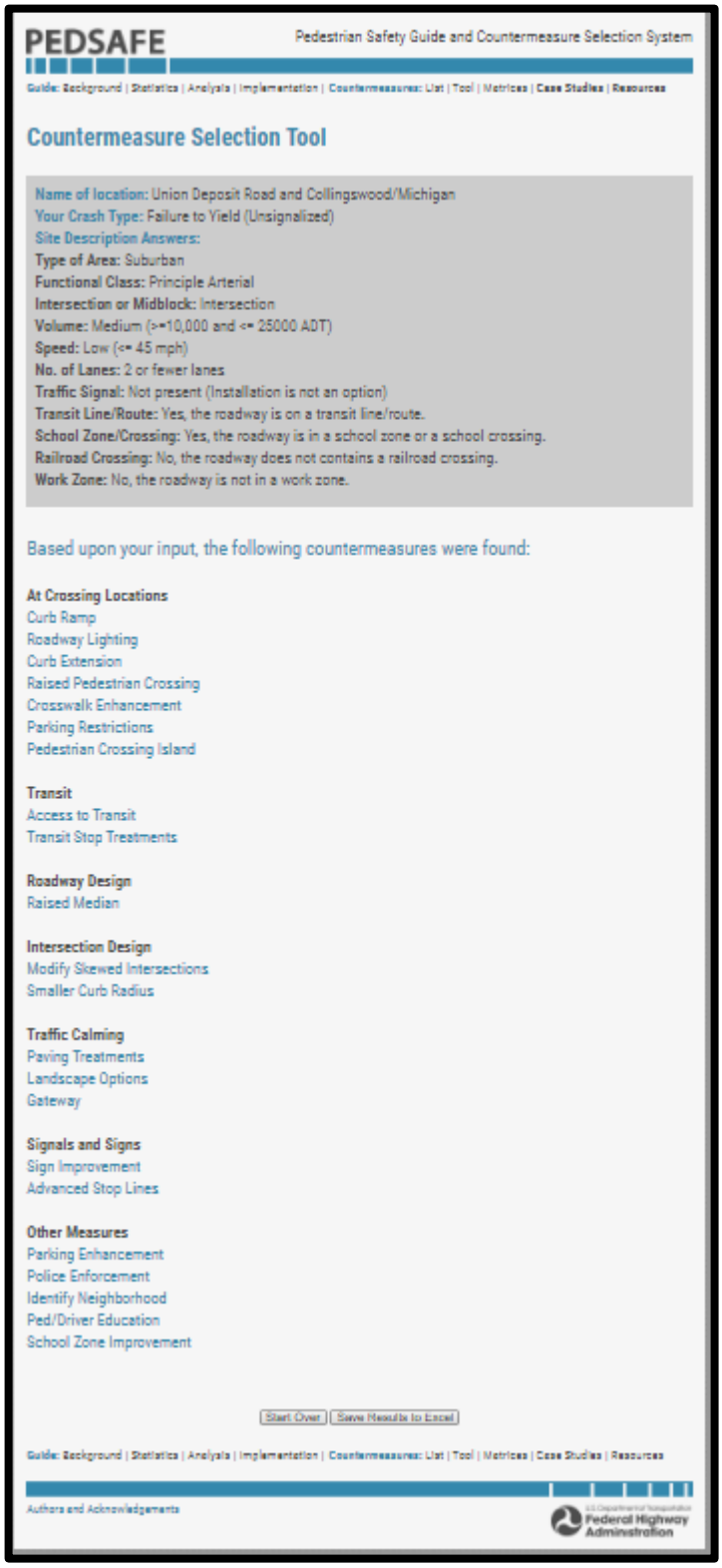
Using the average 85th percentile speed of 41 MPH, an average daily traffic of 15,453 vehicles per day, and three lanes with a center turn lane, the crossing at this location is rated as a Condition C – marked crosswalks alone at the intersection of Union Deposit Road and Collingswood Drive/Michigan Drive are insufficient.

The crossing was also assessed using the PEDSAFE countermeasure selection tool. The results based on the existing conditions can be seen in Figure 5.

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study

This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.



PEDSAFE Pedestrian Safety Guide and Countermeasure Selection System

Guide: Background | Statistics | Analysis | Implementation | Countermeasures: List | Tool | Matrices | Case Studies | Resources

Countermeasure Selection Tool

Name of location: Union Deposit Road and Collingswood/Michigan
Your Crash Type: Failure to Yield (Unsignalized)
Site Description Answers:
Type of Area: Suburban
Functional Class: Principle Arterial
Intersection or Midblock: Intersection
Volume: Medium (>=10,000 and <= 25000 ADT)
Speed: Low (<= 45 mph)
No. of Lanes: 2 or fewer lanes
Traffic Signal: Not present (Installation is not an option)
Transit Line/Route: Yes, the roadway is on a transit line/route.
School Zone/Crossing: Yes, the roadway is in a school zone or a school crossing.
Railroad Crossing: No, the roadway does not contains a railroad crossing.
Work Zone: No, the roadway is not in a work zone.

Based upon your input, the following countermeasures were found:

At Crossing Locations
Curb Ramp
Roadway Lighting
Curb Extension
Raised Pedestrian Crossing
Crosswalk Enhancement
Parking Restrictions
Pedestrian Crossing Island

Transit
Access to Transit
Transit Stop Treatments

Roadway Design
Raised Median

Intersection Design
Modify Skewed Intersections
Smaller Curb Radius

Traffic Calming
Paving Treatments
Landscape Options
Gateway

Signals and Signs
Sign Improvement
Advanced Stop Lines

Other Measures
Parking Enhancement
Police Enforcement
Identify Neighborhood
Ped/Driver Education
School Zone Improvement

Start Over | Save Results to Excel

Guide: Background | Statistics | Analysis | Implementation | Countermeasures: List | Tool | Matrices | Case Studies | Resources

Authors and Acknowledgements

Federal Highway Administration

Figure 5: PEDSAFE Countermeasure Selection Tool

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study
This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

Further, the FHWA Safe Transportation for Every Pedestrian (STEP) guides and the Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations were consulted. Using the average 85th percentile speed of 41 MPH, an average daily traffic of 15,453, and three lanes with a two-way left turn lane, the recommendations from the Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations can be seen in Table 2.

Table 2: Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations

Roadway Configuration	Speed Limit								
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
2 lanes*	❶ 2 3 4 5 6	❶ ❸ 5 6 7	❶ ❸ 5 6 ❼	❶ 3 4 5 6	❶ ❸ 5 6 7	❶ ❸ 5 6 ❼	❶ 3 4 5 6 7	❶ ❸ 5 6 7	❶ ❸ 5 6 ❼
3 lanes with raised median*	❶ 2 3 4 5	❶ ❸ 5 7	❶ ❸ 5 ❼	❶ 3 4 5 7	❶ ❸ 5 ❼	❶ ❸ 5 ❼	❶ ❸ 4 5 7	❶ ❸ 5 ❼	❶ ❸ 5 ❼
3 lanes w/o raised median†	❶ 2 3 4 5 6 7	❶ ❸ 5 6 7	❶ ❸ 5 6 ❼	❶ 3 4 5 6 7	❶ ❸ 5 6 ❼	❶ ❸ 5 6 ❼	❶ ❸ 4 5 6 7	❶ ❸ 5 6 ❼	❶ ❸ 5 6 ❼
4+ lanes with raised median‡	❶ ❸ 5	❶ ❸ 5 7	❶ ❸ 5 ❼	❶ ❸ 5 7	❶ ❸ 5 ❼	❶ ❸ 5 ❼	❶ ❸ 5 ❼	❶ ❸ 5 ❼	❶ ❸ 5 ❼
4+ lanes w/o raised median‡	❶ ❸ 5 6 7 8	❶ ❸ 5 ❻ 7 8	❶ ❸ 5 ❻ ❼ 8	❶ ❸ 5 ❻ 7 8	❶ ❸ 5 ❻ ❼ 8	❶ ❸ 5 ❻ ❼ 8	❶ ❸ 5 ❻ ❼ 8	❶ ❸ 5 ❻ ❼ 8	❶ ❸ 5 ❻ ❼ 8

*One lane in each direction †One lane in each direction with two-way left-turn lane ‡Two or more lanes in each direction

Given the set of conditions in a cell,

❶ Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.

\# Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1 High-visibility crosswalk markings, parking restriction on crosswalk approach, adequate nighttime lighting levels
2 Raised crosswalk
3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4 In-Street Pedestrian Crossing sign
5 Curb extension
6 Pedestrian refuge island
7 Pedestrian Hybrid Beacon
8 Road Diet

This table was developed using information from: Zegeer, C. V., Stewart, J. R., Huang, H. H., Lagerwey, P. A., Feaganes, J., & Campbell, B. J. (2005), Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines (No. FHWA-HRT-04-100); Manual on Uniform Traffic Control Devices, 2009 Edition, Chapter 4F. Pedestrian Hybrid Beacons; the Crash Modification Factors (CMF) Clearinghouse website (http://www.cmfclearinghouse.org/); and the Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE) website (http://www.pedbikesafe.org/PEDSAFE/).

The recommendations are:

- High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels (should always be considered)
- Advance Yield Here To Pedestrians sign and yield line (should always be considered)
- Curb extension (candidate treatment)
- Pedestrian refuge island (candidate treatment)
- Pedestrian Hybrid Beacon (should always be considered)
    - However, per PennDOT Pub. 46, pedestrian hybrid beacons are not permitted in Pennsylvania.

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study
This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

The FHWA research is based on several important considerations, including:

- Higher speeds are dangerous to pedestrians—it is more difficult for pedestrians to judge higher speed traffic, and it takes much longer for vehicles to react and stop.
- Higher traffic volumes provide fewer gaps in traffic for pedestrians to have an opportunity to cross the road.
- Some safety features—such as just marking the crosswalk by itself—do not actually protect pedestrians from high speed traffic, nor provide adequate warning to motorists.
- Combinations of traffic control devices, including advanced warning signs, pavement markings, flashing beacons, and physical features can enhance motorists' awareness of the crosswalk.
- Isolated, low pedestrian volume crossings without the supporting infrastructure (e.g., sidewalks) may not be cost effective to enhance.

The graph developed by the FHWA showing the correlation between impact speed and injury severity can be seen in Figure 6.

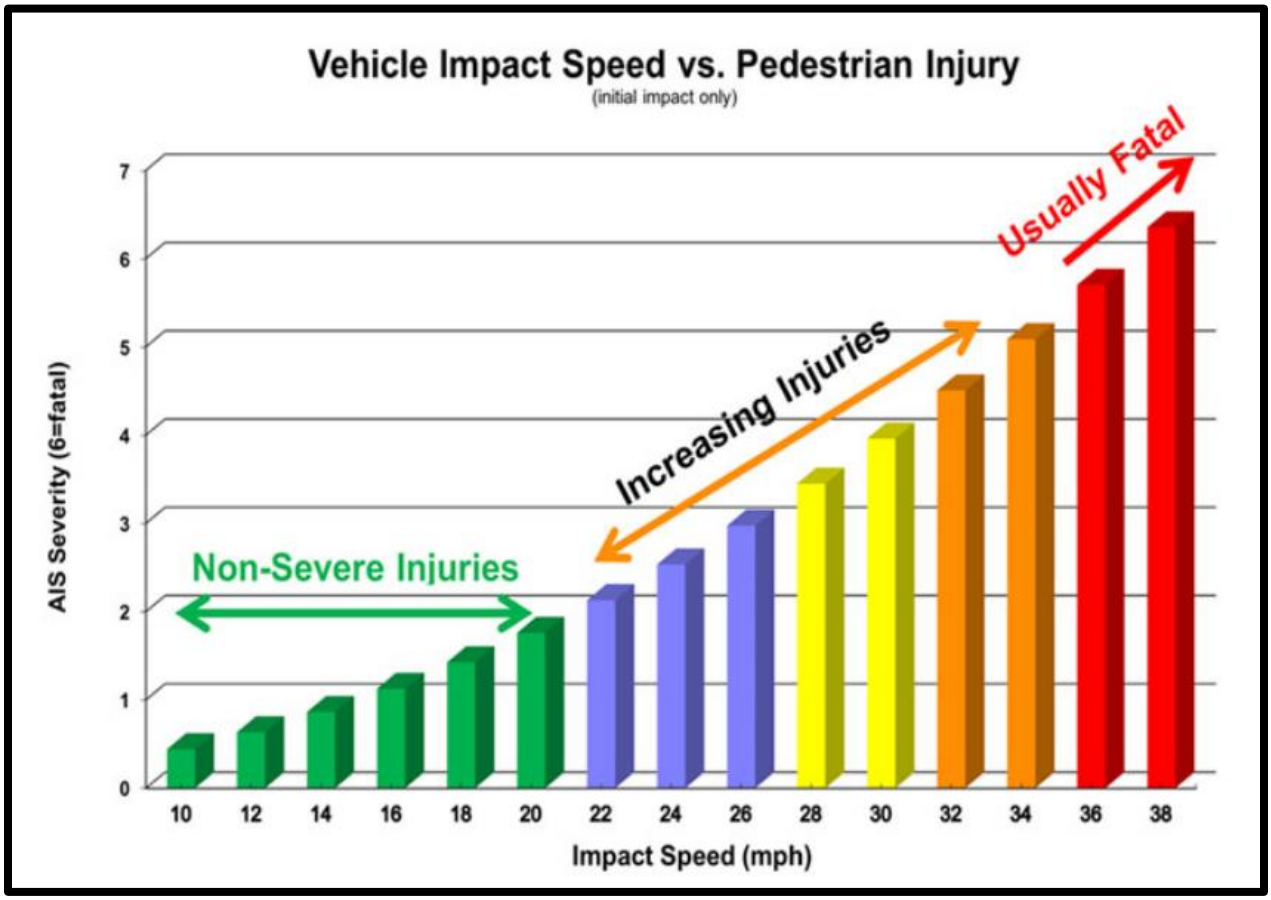


Figure 6: Vehicle Impact Speed vs. Pedestrian Injury Severity

The Township should continue to enforce the 35 MPH speed limit on Union Deposit Road. The Township may also want to discuss other roadway design speed control options with PennDOT. As you can see in the above chart, small reductions in speed may make a difference between having a crash or not, and also affect the severity of injuries.

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

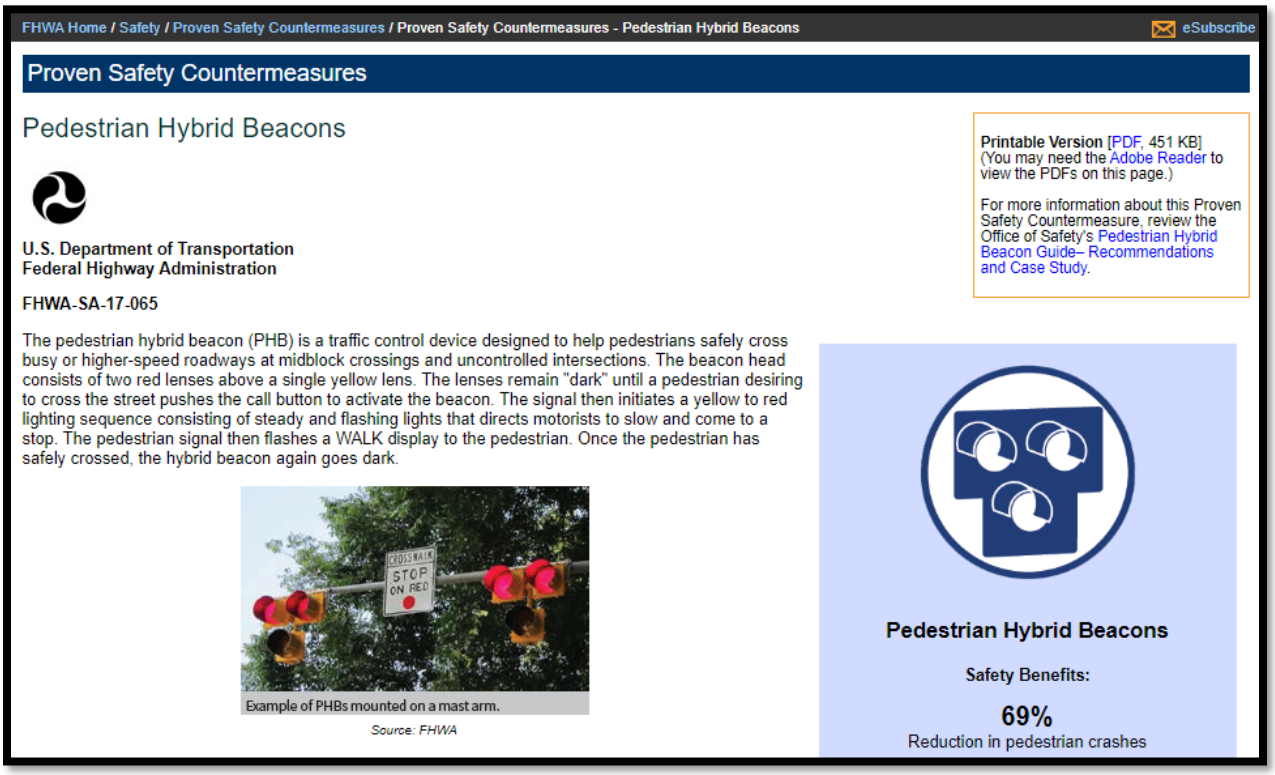
Confidential: Traffic Engineering and Safety Study
This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

Short-Term Options

Based on the existing conditions at the intersection as well as the research guides and tools cited above, this location should not be marked with a crosswalk by itself without other traffic control devices and features. If the Township chooses to mark the crossing, the FHWA guides suggest the following traffic control devices:

- Type C high visibility crosswalk marking
- Pedestrian warning crossing signs at and in advance of the crossing
- Advanced yield here to pedestrian markings and signs
- Pedestrian hybrid beacon (however, not permitted in PA)
- Physical features, such as curb extensions, sidewalks, median refuge areas

The pedestrian hybrid beacon is a regulatory stop control signal that requires vehicles to stop and allows pedestrians to cross a roadway. This is a positive form of control that is proven to improve safety on higher speed, higher volume crossings (see Figure 7). Since this device is recommended by the FHWA guides, but is not permitted in Pennsylvania, the Township will need to consider alternatives to the pedestrian hybrid beacon.


FHWA Home / Safety / Proven Safety Countermeasures / Proven Safety Countermeasures - Pedestrian Hybrid Beacons

eSubscribe

Proven Safety Countermeasures

Pedestrian Hybrid Beacons

U.S. Department of Transportation
Federal Highway Administration

FHWA-SA-17-065

Printable Version [PDF, 451 KB] (You may need the Adobe Reader to view the PDFs on this page.)

For more information about this Proven Safety Countermeasure, review the Office of Safety's Pedestrian Hybrid Beacon Guide– Recommendations and Case Study.

The pedestrian hybrid beacon (PHB) is a traffic control device designed to help pedestrians safely cross busy or higher-speed roadways at midblock crossings and uncontrolled intersections. The beacon head consists of two red lenses above a single yellow lens. The lenses remain "dark" until a pedestrian desiring to cross the street pushes the call button to activate the beacon. The signal then initiates a yellow to red lighting sequence consisting of steady and flashing lights that directs motorists to slow and come to a stop. The pedestrian signal then flashes a WALK display to the pedestrian. Once the pedestrian has safely crossed, the hybrid beacon again goes dark.

Example of PHBs mounted on a mast arm.

Source: FHWA

Pedestrian Hybrid Beacons

Safety Benefits:

69%

Reduction in pedestrian crashes

Figure 7: FHWA Pedestrian Hybrid Beacons Data Sheet

Flashing beacons, either on the side of the road or overhead, as well as rectangular rapid flashing beacons, are options. However, these devices only flash yellow and do not have the authority of the red light in the pedestrian hybrid beacon. The flashing yellow lights should be supplemented with physical features, as per the PedSafe recommendations. These could include a pedestrian median refuge island, curb extensions, and other traffic calming features.

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study

This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

Pedestrian refuge islands are an FHWA proven safety countermeasure (see Figure 8). The island provides a safe refuge for pedestrians to cross a roadway, effectively breaking up the crossing into two actions. This makes the decision to cross easier and effectively shortens the exposed crossing distance. The configuration of the Union Deposit Road with a two-way left turn lane affords the space to provide a pedestrian refuge island. The pedestrian refuge island can also help with speed control. The pedestrian refuge island may be part of an alternative treatment to the pedestrian hybrid beacon.

FHWA Home / Safety / Proven Safety Countermeasures / Proven Safety Countermeasures - Medians and Pedestrian Crossing Islands in Urban and Suburban Areas eSubscribe

Proven Safety Countermeasures

Medians and Pedestrian Crossing Islands in Urban and Suburban Areas

Printable Version [PDF, 451 KB] (You may need the Adobe Reader to view the PDFs on this page.)

For more information about this Proven Safety Countermeasure, visit the Office of Safety's State Best Practice Policy for Medians web page.

U.S. Department of Transportation
Federal Highway Administration

FHWA-SA-17-064

A ***median*** is the area between opposing lanes of traffic, excluding turn lanes. Medians in urban and suburban areas can be defined by pavement markings, raised medians, or islands to separate motorized and non-motorized road users.

Example of a road with a median and pedestrian crossing islands.

Source: City of Charlotte, North Carolina

A ***pedestrian crossing island*** (or refuge area) is a raised island, located between opposing traffic lanes at intersection or midblock locations, which separate crossing pedestrians from motor vehicles.

Example of a pedestrian crossing island.

Source: www.pedbikeimages.org / Dan Burden

Medians and Pedestrian Crossing Islands in Urban and Suburban Areas

Median and pedestrian crossing islands near a roundabout.

Source: www.pedbikeimages.org / Dan Burden

SAFETY BENEFITS:

Raised Median
46%
Reduction in pedestrian crashes

Pedestrian Crossing Island
56%
Reduction in pedestrian crashes

Figure 8: FHWA Pedestrian Refuge Island Data Sheet

There are several examples of pedestrian refuge islands, including on S.R. 322 in Hershey (see Figure 9), and on S.R. 230 in Harrisburg (see Figure 10).

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study
This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

Figure 9: Pedestrian Crossing on S.R. 322 in Hershey

Figure 10: Pedestrian Crossing on S.R. 230

In addition to a pedestrian refuge island, another common pedestrian safety treatment are curb extensions. A combination of the two should be assessed in the crosswalk design.

pennsylvania
DEPARTMENT OF TRANSPORTATION
LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study
This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

The crossing on S.R. 230 contains most of the recommended features from the FHWA guides. Further, the flashing beacons are mounted overhead, similar to where the signals for a pedestrian hybrid beacon would be located. The devices at this crossing on S.R. 230 is a good guide for the proposed crossing on Union Deposit Road. The specific elements included are:

- High visibility crosswalk markings (PennDOT Type C)
- Warning signs at and in advance of the crossing
- Advance yield here for pedestrians signs and markings
- Overhead flashing beacons that are motion activated by approaching pedestrian/bicyclists
- Pedestrian refuge island with markings/delineators
- Supplemental pavement markings
- Sidewalk installation, including ADA features

The offset between Collingswood Drive and Michigan Drive will complicate the location and design of a pedestrian refuge island (see Figure 11). A qualified engineer is required to determine the proper design and location, as well as PennDOT approval. The design of the pedestrian refuge island will dictate where the crossing is located. Since there are multiple entrance points to the Collingswood Drive neighborhood and for the Michigan Drive apartment complex, the engineer can also study the feasibility of left turn restrictions.

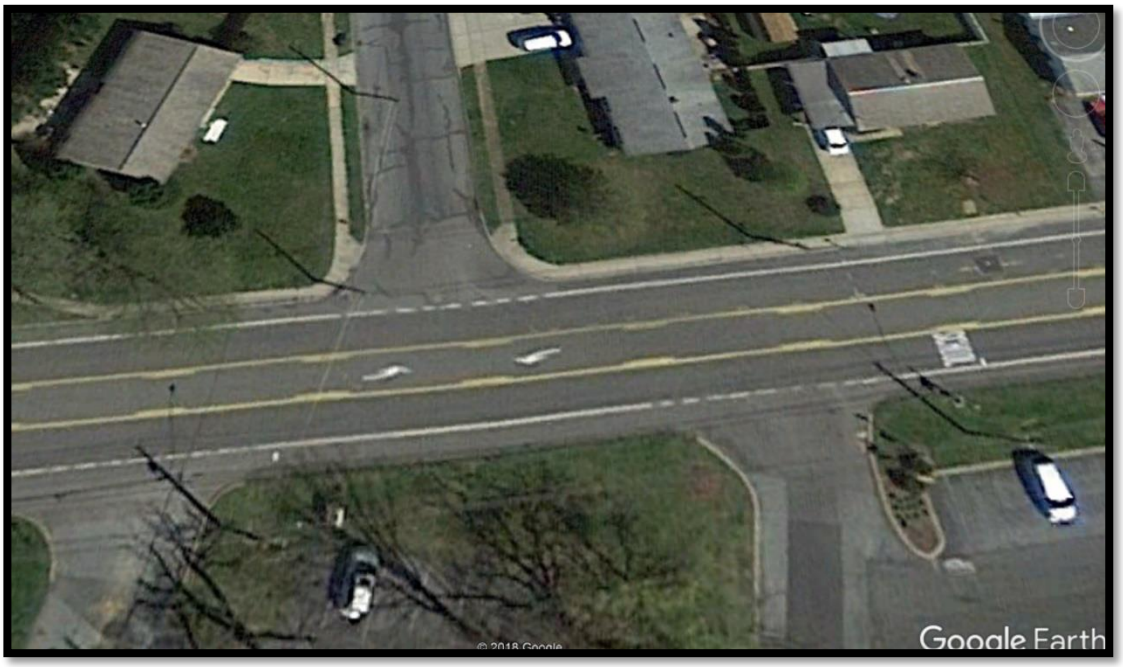


Figure 11: Union Deposit Road and Collingswood/Michigan Crossing Location

Lastly, adequate nighttime lighting should be provided at the crossing.

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study

This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

ADA Considerations

Per PennDOT Publication 13M, Design Manual Part 2, Chapter 6, marking a crosswalk across a roadway does trigger compliance with the ADA. Therefore, the Township will need to ensure that all the connecting facilities to the crosswalk comply with the ADA. This could include curb ramps, detectable warning surfaces, and other features.

Other Considerations

The location of the school speed zone is a few feet after the Michigan Drive intersection. The Township can discuss with PennDOT extending the school speed zone to include the proposed crossing location.

Sidewalks/curb ramps should be included as part of the crosswalk project. Field observations showed some pedestrians walking in the shoulder along Union Deposit Road. Providing sidewalks and/or side paths is also an FHWA proven safety countermeasure as seen in Figure 12.

While the develop pattern in the area is suburban, the density of development with the apartments/neighborhoods, plus the nearby school, parks, and shopping center, creates a demand for pedestrian travel. The Township should review the land use and transportation plan for the area and determine if addition walkability features should be added. These features could include sidewalks, curb ramps, side paths, bike lanes, and other items.

Also, if the Township is considering marking other crosswalks at intersections in the area, such as at Lakewood Drive/Huron Drive, similar treatments to those described above should be applied.

Longer term, the Township can work with Tri-County Regional Planning Commission and PennDOT to develop an integrated land use/transportation plan for the area that considers all modes of travel.

Figure 12: FHWA Walkways Data Sheet

pennsylvania DEPARTMENT OF TRANSPORTATION LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study
This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

Summary and Next Steps

Based on a field view of the intersection and a review of the state/national pedestrian safety research, the Township should work with PennDOT to consider marking the crosswalk across Union Deposit Road at Collingswood Drive/Michigan Drive with additional signing, warning beacons, and pedestrian refuge island as described in the Short-Term Options section above.

pennsylvania
DEPARTMENT OF TRANSPORTATION
LOCAL TECHNICAL ASSISTANCE PROGRAM

Confidential: Traffic Engineering and Safety Study
This document was prepared by the Department of Transportation as an in-depth safety study for the purpose of improving highway safety and is legally protected pursuant to 75 Pa. C.S. 3754 and 23 U.S.C. 409.

LOWER PAXTON TOWNSHIP
BOARD OF SUPERVISORS

RESOLUTION 20-07

A RESOLUTION ESTABLISHING THE PROCEDURE AND AUTHORIZATION OF THE DISPOSITION OF UNNECESSARY PERSONAL PROPERTY

WHEREAS, from time-to-time, the Township of Lower Paxton possesses surplus vehicles and equipment that it desires to dispose of in accordance with the Pennsylvania Second Class Township Code; and

WHEREAS, the Lower Paxton Township Board of Supervisors adopted Resolution 15-18, establishing the procedures by which personal property may be disposed of to the Township's three volunteer fire companies; and

WHEREAS, section 66504 (b) of the Second Class Township Code, authorizes the Board of Supervisors of the Township of Lower Paxton to establish a procedure for the sale of surplus personal property which has an estimated fair market value of less than $2,000; and

WHEREAS, Lower Paxton Township is incorporated as a Pennsylvania Township of the Second Class; and

WHEREAS, the Board of Supervisors has determined that is it necessary to provide a streamlined disposition process and reduce unnecessary staff and legislative burden; and

WHEREAS, the Board of Supervisors desires to authorize the sale of small value items without advertising in a newspaper of general circulation; and

WHEREAS, the Board of Supervisors desires to provide first priority of the personal property to be disposed of to the Township's three fire companies; and

WHEREAS, the Board of Supervisors desires to grant, without further approval from the Board of Supervisors, the authority to sell Township personal property with a fair market value less than $2,000 and deemed inoperable, outdated, or no longer cost-effective to operate, to the Township Manager.

NOW, THEREFORE, BE AND IT IS HEREBY RESOLVED by the Board of Supervisors of the Township of Lower Paxton, Dauphin County, Pennsylvania, as follows:

Section 1. the Board of Supervisors hereby authorizes the disposal of small value personal property items by the Township Manager at his discretion, pursuant to the procedure as outlined:

A. The Township Manager shall establish a fair market value of the surplus personal property by using one of the following procedures:

   1) Obtaining two estimates from two independent vendors who sell similar or comparable products, with the average of the two estimates being considered the fair market value.

   2) Use one similarly marketed item to determine the value.

   3) Obtaining a price estimate from a market standard recognized outlet (Kelley Blue Book, etc.).

B. Unnecessary or surplus personal property that has met a useful lifespan, or no longer holds competitive fair market value, such as certain electronic devices, or items that will be disposed of through a professional recycling or buy-back program may be sold directly, without following the procedure hereinbefore.

C. Once the fair market value has been established per Section 1 (A), herein, the Township Manager shall provide the Township's three fire companies with an opportunity to purchase the personal property in question at such value, as established.

D. Providing no response to the opportunity extended the fire companies, the Township Manager may dispose of the personal property through a private sale or another available channel.

Section 2. In the event any provision, section, sentence, clause, or part of this Resolution shall be held to be invalid, illegal, or unconstitutional by a court of competent jurisdiction, such invalidity, illegality, or unconstitutionally shall not affect or impair the remaining provisions, sections, sentences, clauses, or parts of this Resolution, it being the intent of the Board of Supervisors that the remainder of the Resolution shall be and shall remain in full force and effect.

Section 3. This Resolution shall be effective immediately.

ADOPTED this 18th day of February 2020.

ATTEST:

BOARD OF SUPERVISORS
LOWER PAXTON TOWNSHIP

_____
Chris Judd, Secretary

_____
Lowman S. Henry, Chairman

(SEAL)

LOWER PAXTON TOWNSHIP
BOARD OF SUPERVISORS

RESOLUTION 20-09

A RESOLUTION PROVIDING FOR THE FURNISHING OF ELECTRIC STREET LIGHTING SERVICE TO THE TOWNSHIP OF LOWER PAXTON, DAUPHIN COUNTY, PENNSYLVANIA

WHEREAS, the Township of Lower Paxton contains certain street lighting infrastructure that is owned and operated by PPL Electric Utilities Corp.; and

WHEREAS, the Township of Lower Paxton desires to have current lighting infrastructure upgraded to modern standards of efficiency and economic value; and

WHEREAS, the Township of Lower Paxton, through a Street Light Services Agreement, may request a conversion of PPL-owned street lights.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Supervisors of Lower Paxton Township, Dauphin County, Pennsylvania, that the Township of Lower Paxton enter into an agreement with PPL Electric Utilities Corp. for the furnishing of all electric street lighting delivery service required to light the streets of the Township for the period and in accordance with the terms contained in the form of agreement now on file with the Township Secretary for the furnishing of such service; and that the proper officers of the Township are hereby authorized and directed to execute and deliver said form of agreement on behalf of the Township.

ADOPTED this 18th day of February 2020.

ATTEST:

BOARD OF SUPERVISORS
LOWER PAXTON TOWNSHIP

_____
Chris Judd, Secretary

_____
Lowman S. Henry, Chairman

(SEAL)