Southwestern Pennsylvania Commission
State Route 40/State Route 19
Road Safety Audit

U.S. Route 40 Corridor, State Route 40/State Route 19,
from Franklin Farms Road to Dunn Avenue
Canton Township / Franklin Township / City of Washington

Road Safety Audit Conducted May 2018

Southwestern Pennsylvania Commission

2018

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State Route 40/ State Route 19 Road Safety Audit

U.S. Route 40 corridor, State Route 40/State Route 19, from Franklin Farms Road to Dunn Avenue

Canton Township / Franklin Township / City of Washington

Washington County, Pennsylvania

May 2018

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In accordance with PA Consolidated Statutes Title 75-Vehicles (Vehicle Code) Section 3754 and 23U.S.C. Section 409, this safety study is confidential and is only provided to official agencies with official duties/responsibilities in the project development.

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1. BACKGROUND

A Road Safety Audit (RSA) is a formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users. The aim of an RSA is to answer the following questions:

- What elements of the road may present a safety concern: to what extent, to which road users, and under what circumstances?
- What opportunities exist to eliminate or mitigate identified safety concerns?

Mapping the Future: The Southwestern PA Plan includes the policy goal: "Transportation and development choices will reflect a priority on safe and secure multimodal and intermodal networks for both people and goods." SPC's Road Safety Audit program advances this policy goal as a proactive process that provides prioritized suggestions that can be implemented in stages as time and resources permit. As a service to its Planning Partners, the Southwestern Pennsylvania Commission (SPC) has developed an RSA program as part of its Transportation Operations & Safety planning efforts. The methodology for this program is summarized below and is based on the 8-step RSA process developed by the Federal Highway Administration.

This document represents the final report for the Road Safety Audit conducted along the U.S. Route 40 corridor, State Route 40, and State Route 19, from Franklin Farms Road to Dunn Avenue in City of Washington, Canton Township and Franklin Township, in Washington County, on May 9-11, 2018.

2. AUDIT PROCESS

The standard steps involved in a Road Safety Audit are:

1) Identify the Project

Candidates for Road Safety Audits are submitted to SPC by local municipalities, counties, and PennDOT Districts. Candidates may include projects that are already in the design stage or may be in-service roads where safety is a concern. SPC reviews RSA candidate proposals and proceeds with setting up RSAs as resources allow. Roadway owners must commit to documenting a formal response (see Step 7) prior to initiation of an RSA.

2) Select the RSA Team

SPC works with the roadway owner(s) to identify potential members for the independent, multi-disciplinary team. RSA teams typically consist of 5-7 members, with outside specialists consulted as needed. Team make-up typically includes 1-2 consultant

members, 2-3 SPC staff, and 1-2 PennDOT staff (usually from outside the District where the project is located).

3) Conduct a Start-up Meeting

The RSA team conducts a start-up meeting with the roadway owner(s) in order to identify the steps to be taken, review the schedule, and discuss any opportunities and/or constraints identified by the project owner(s). This is also the time for the project owner(s) to share any background information with the RSA team. Desirable information to be provided to the RSA team includes anecdotal crash history such as first responder experiences, potential changes in land use or travel patterns in the project area, public sentiment regarding the study location, and any known constraints.

4) Perform Field Reviews

The RSA team reviews the information provided by the roadway owner(s) and conducts multiple field views of the site (typically during AM and PM peak hours, an off-peak hour, and at night in order to see the site under different conditions). The RSA team drives and walks the site in order to identify geometric, operational, roadway user/human factors, and environmental issues.

5) Conduct RSA Analysis

Based on its field views, the information provided, consultation with specialists (if needed), and research into applicable design guidelines, the RSA team identifies and prioritizes safety issues within the project area and develops suggestions for enhancing safety.

6) Present RSA Findings to Roadway Owner

Once the RSA team has completed its analysis, it presents the findings to the roadway owner(s) in two phases:

- Preliminary Presentation – The RSA team conducts a meeting with the roadway owner(s) and presents its findings. This meeting is an opportunity to constructively discuss the issues and suggestions identified, and for the roadway owner(s) to provide feedback.
- Written Report – Following the preliminary presentation, the RSA team prepares a written report, incorporating roadway owner feedback as appropriate.

7) Prepare Formal Response

Upon receipt and review of the written report, the roadway owner(s) prepare a formal response (to the project file) documenting plans to address identified issues and reasons for not addressing other issues.

8) Incorporate Findings

The roadway owner(s) implements improvements as outlined in the formal response.

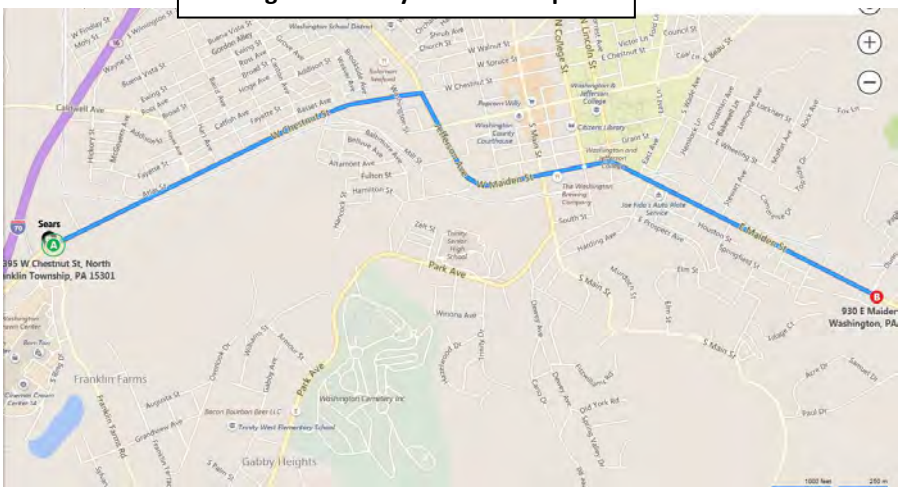
3. AUDIT PROGRAM

Roadway Owner Agency	Roadway Owner Representatives	
PennDOT District 12-0	Bryan Walker	District Traffic Engineer
	Corey Craft	District Safety Engineer

RSA Team Members	Agency	Role
Kensey Craig	French Engineering	Engineer-in-Training
Domenic D'Andrea, PE, PTOE	Southwestern PA Commission	Manager Operations and Safety
Millie French, PE	French Engineering	Transportation Engineer
Joshua Grimm	PennDOT District 11-0	Engineer
Bill Lesterick	PennDOT District 11-0	District Safety Engineer
Steven Palmer, PE	Gannett Fleming	Senior Engineer
Joshua Spano	Southwestern PA Commission	Transportation Planner

Location	State Route 40/State Route 19 from Franklin Farms Road to Dunn Avenue in City of Washington and Franklin Township

Figure 1: Study Corridor Map



Schedule	Date and Time	Location
Start-up Meeting	Wednesday, May 9, 2018, 9:00 a.m.	
Key Person Interviews	Thursday, May 10, 2018 10:00 a.m. -12 p.m.	City of Washington City Hall
Field Views	Wed, 5/09/2018, 8:00 a.m. – 9:00 p.m.; 10:00 a.m. – 12:00 p.m.; 1:00 p.m. – 5:30 p.m. Thur, 5/10/2018, 4:00 a.m. -- 5:00 a.m.; 7:00 a.m. – 8:30 a.m. Fri, 5/11/2018, 7:00 a.m. – 8:30 a.m.	State Route 40/State Route 19
Preliminary Presentation	Friday, May 11, 2018, 2:30 p.m.	City of Washington City Hall

Key Person Interviews	Agency/Affiliation
Cory Craft	PennDOT District 12-0
Jason Theakston	Washington County Planning
Jeffrey Leithauser	Washington County Planning
Steve Robertson	City of Washington Police
Robert Wilson	City of Washington Police
Robert Cocco	Washington & Jefferson
Lynn Galluze	City of Washington
James Webb	Washington School District
Joe Thomas	Freedom Transit

4. OVERVIEW OF THE STUDY AREA

As shown in Figure 1, the study area for this RSA was the U.S. Route 40 corridor, State Route 40/State Route 19, from Franklin Farms Road in Franklin Township to Dunn Avenue in City of Washington. This corridor is approximately 3 miles in length and travels east-west in Washington County, Pennsylvania. This corridor has two State Route designations as described below:

- State Route 40 from Franklin Farms Road to North College Street. This section of roadway has an Average Daily Traffic (ADT) ranging between 12,000 and 10,700 vehicles per day, depending on specific location.
- State Route 19 from North College Street to Dunn Avenue. This section has an ADT of 10,300 vehicles per day.

The State Route 40/State Route 19 corridor carries the U.S. 40 highway, as well as the U.S. 19 highway east of North College Street. The cross section varies between two and five lanes depending on location. Interstate 70 runs approximately parallel to U.S. Route 40, and Interstate 79 runs approximately parallel to State Route 19. With these Interstates in close proximity to these U.S. highways, the Interstates are more inviting to most through traffic. This corridor serves access to local areas, businesses and roadways, but is also available to be used as a detour route when incidents occur along either of these Interstates.

The properties fronting this roadway are a mix of smaller to medium sized businesses, and residential. Washington City Hall is also along the corridor.

The speed limit varies between 25 mph and 35 mph through the corridor. The specific speed limits are (west to east):

- 35 mph From Franklin Farms Road eastward to the Washington City line
- 30 mph between Washington City line and Washington Street
- 25 mph between Washington Street and Jefferson Street
- 35 mph between Chestnut Street and S. Franklin Street
- 25 mph between S. Franklin Street and Wade Ave
- 35 mph east of Wade Ave through Dunn Avenue

5. SAFETY HISTORY

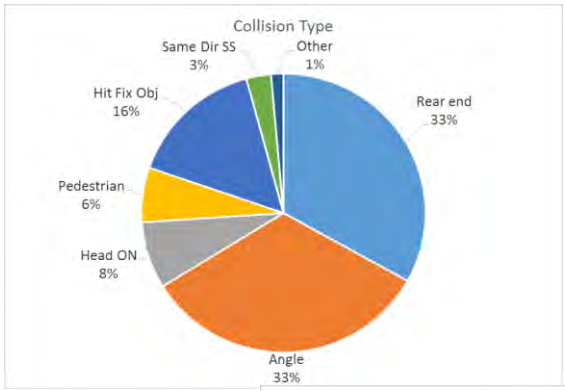
For this study, reportable crash data was compiled using PennDOT's Crash Data Analysis & Retrieval Tool (CDART). (Reportable crashes are those that result in an injury or fatality, or where a vehicle is required to be towed from the scene.) There were 142 reportable crashes that occurred during the 5-year period from August 1, 2012 through July 31, 2017. This information was compiled by SPC staff.

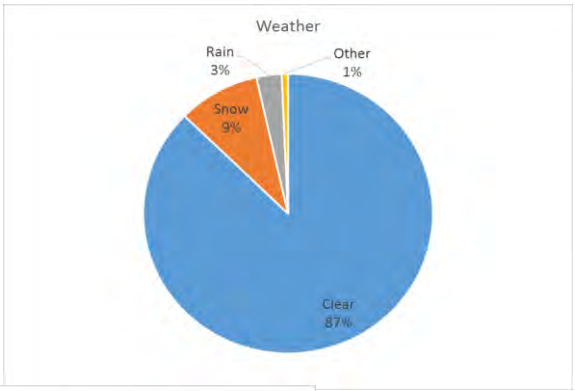
Based on this information, the major intersections within the corridor experienced crashes as follows:

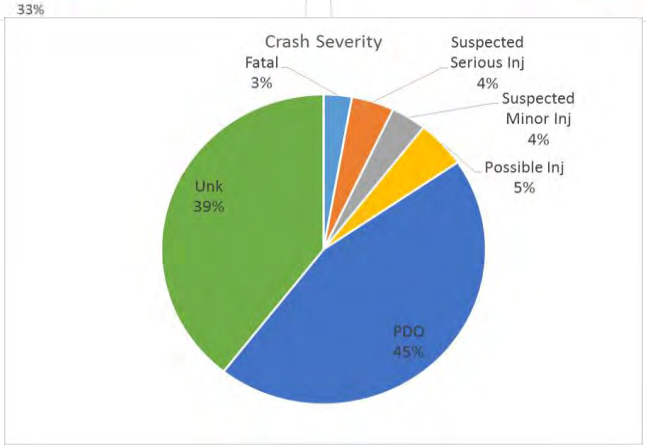
- Twenty crashes at the intersection of West Chestnut Street and Jefferson Avenue
- Ten crashes at the intersection of College Street and East Maiden Street
- Eight crashes at the intersection of Beau Street and Jefferson Avenue
- Eight crashes at the intersection of Main Street and East Maiden Street
- Eight crashes at the intersection of Wade Avenue and East Maiden Street
- Eight crashes at the intersection of Hanna Street and East Maiden Street
- Six crashes at the intersection of Stewart Avenue and East Maiden Street
- Six crashes at the intersection of Hayes Avenue and West Chestnut Street
- Six crashes at the intersection of Cumberland Avenue and West Chestnut Street

For the 142 crashes reported, 47 were rear-end crashes; 47 were angle crashes; 22 were hit fixed object; 11 were head-on; and, 9 were pedestrian. The majority of the crashes, 124, occurred when the weather was clear. The weather was rainy when 13 of the crashes occurred. Another 4 occurred when the weather was snowy.

The most common crash severity resulted in property damage only; there were 64 crashes in this category. A total of 12 crashes resulted in serious injury or minor injury. Another 8 crashes were considered to be possible injury. There were 4 fatal crashes. The severity level is not known in 56 of the crashes.







6. AUDIT FINDINGS

The following pages summarize the findings of the RSA team.

Safety Successes

- Sidewalks – on both sides of corridor
- Signals upgraded at Dunn Avenue and at Main Street
- Bicycle safe storm grates
- Most signing is in good shape
- Striped on-street parking
- Battery Backup for some signals

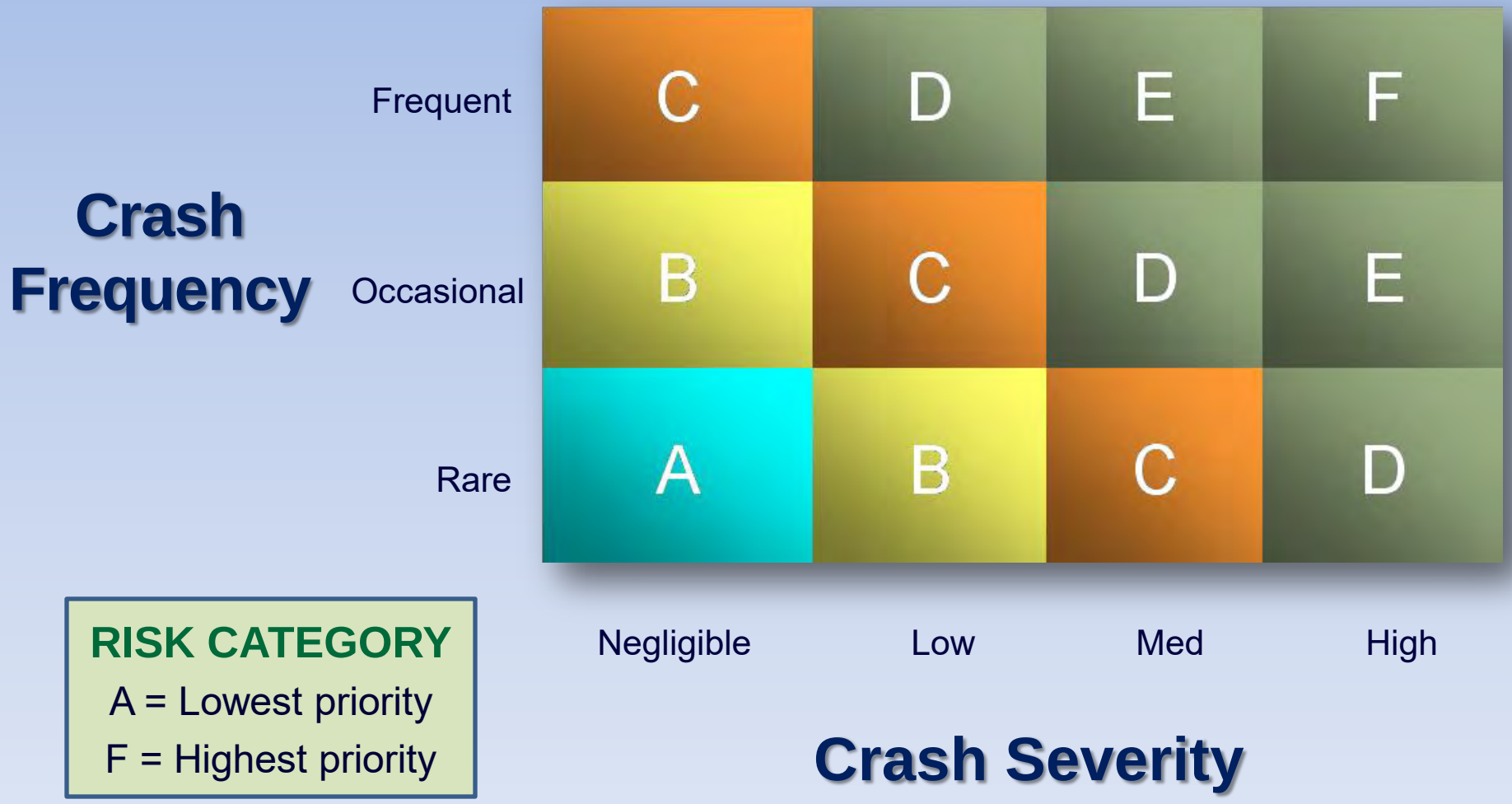
Figure 2: Safety Successes

Safety Successes

- Most of the corridor has sufficient lighting
- Speed reduction sign 25 MPH ahead
- Two-Way Left-Turn Lane (TWLTL) at Franklin Farms to Ramada driveway and Atlas to Jefferson
- Emergency Vehicle Preemption at some intersections
- Advance warning for vertical clearance at RR trestles
- Train preemption blank out signs at Wade Avenue

Figure 3: Safety Successes (Continued)

Evaluating Risk to Prioritize Safety Issues



RISK CATEGORY

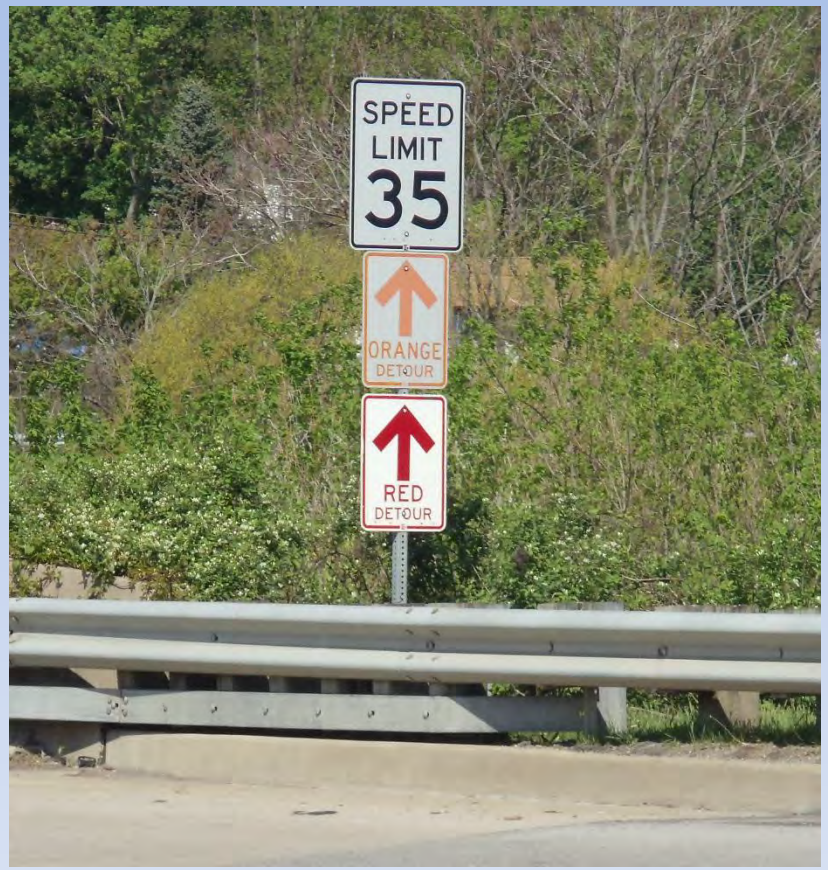
A = Lowest priority

F = Highest priority

Figure 4: Safety Matrix

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Low	Moderate	C

OBSERVATION: Maiden Street, Jefferson Avenue and Chestnut Street are part of the detour route for when incidents occur on I-70.



SUGGESTION:

- PennDOT and municipalities should coordinate incident management on I-70 to minimize local impacts.

Figure 5: Corridorwide: Detour Route Signing

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Ocasional	Low	Moderate	C

OBSERVATIONS: Several different speed limits are posted throughout the corridor. Speed limits range from 35, 30, 35, 25, to 35 mph at different locations in the corridor. Many areas lack adequate speed limit signing. Some speed limit signs are faded. As a result, there are concerns related to speed limit compliance.

SUGGESTIONS:

- Replace damaged, defaced and faded speed limit signs with new retroreflective signs.
- Mount speed limit signs after every major intersection, and at a minimum of every half mile.
- Mount signs separately on a post for prominence.
- Reevaluate speed limits with the goal of providing consistent speed limits through the corridor.

Figure 6: Corridorwide: Speed Limits

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Low	Moderate	C

OBSERVATIONS: There are some faded and damaged signs on the corridor. There are also some SCHOOL CROSSING AHEAD signs that are not appropriate. Lane designation signage, especially overhead, are lacking in some areas of the corridor.

Existing

Better

Existing

Better

Or

SUGGESTIONS:

- Replace damaged and faded signs with new retroreflective signs.
- Replace non-standard signs with MUTCD (Manual on Uniform Traffic Control Devices) standard signs.
- Place overhead lane designation signs where appropriate.

Figure 7: Corridorwide: Signing

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Medium	Moderate	C

OBSERVATIONS: Many signals have backplates but don't have retroreflective tape. Emergency Vehicle Pre-emption along the corridor is not continuous. Red light running is evident in parts of the corridor. The existence of lead pedestrian intervals along the corridor is sporadic. Some vehicular detection is not operational on side streets making signal operation inefficient (example: Hayes Avenue signal).

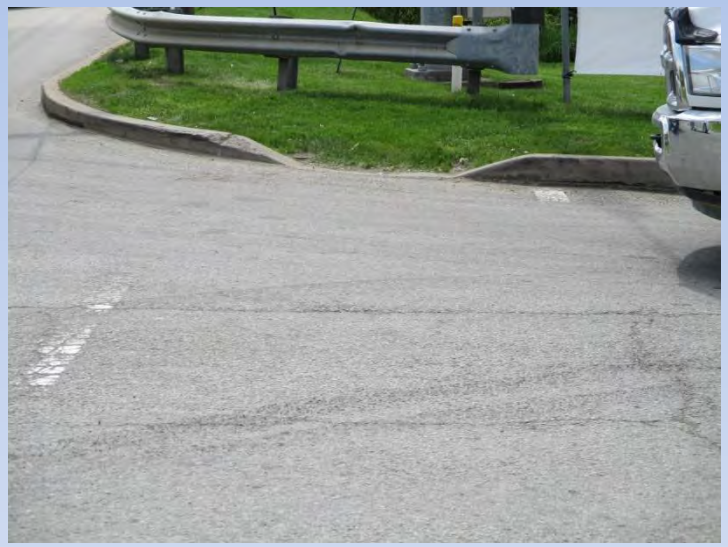
SUGGESTIONS:

- Install backplates and retroreflective tape at all intersections.
- Work with emergency responders to determine where additional EVP would be effective.
- Evaluate vehicular clearance intervals (yellow and all red timings) to facilitate reduction of red light running.
- Evaluate the need for lead pedestrian intervals and establish consistency in higher pedestrian volume areas (Jefferson to Dunn).
- Install new detection to replace broken detection.

Figure 8: Corridorwide: Traffic Signals

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATIONS: Accessibility for the disabled could be improved in some areas of the corridor. Many crosswalk and stop bar pavement markings are faded.



Non-compliant wheelchair ramp and faded crosswalk markings

Compliant wheelchair ramps and high visibility pavement markings

Accessible audible push buttons

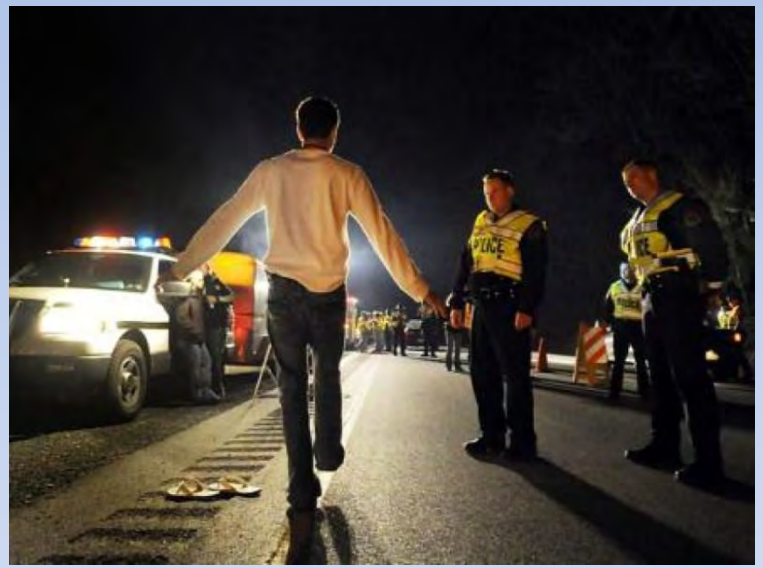
SUGGESTION:

- Install ADA compliant wheelchair ramps, accessible audible pedestrian signals, high visibility crosswalks (Piano key), and new stop bars.

Figure 9: Corridorwide: Pedestrian Accommodations

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	High	High	E

OBSERVATION: Accident history reveals a significant amount of DUI suspected and distracted driving crashes included within a five-year period 2012-2017.



SUGGESTIONS:

- Work with local task forces to increase enforcement.
- Increase enforcement awareness and education.
- Add educational signage.

CONSIDERATIONS:

- Resources.

Figure 10: Corridorwide: DUI Enforcement

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Medium	Moderate	C

OBSERVATION: It appears that clogged inlets and inadequate stormwater facilities in some areas are contributing to local flooding issues.

"Washington City Continues Plans for Flood Summit"

Observer Reporter - February 27, 2018 Chestnut Street at Franklin Farms Road

SUGGESTIONS:

- Improve maintenance of existing stormwater facilities with routine cleaning of inlets.
- Conduct a stormwater management study to determine need for additional facilities.

Figure 11: Corridorwide: Drainage

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Medium	Moderate	D
OBSERVATION: Vehicles were observed traveling at inappropriate speeds for the corridor.			

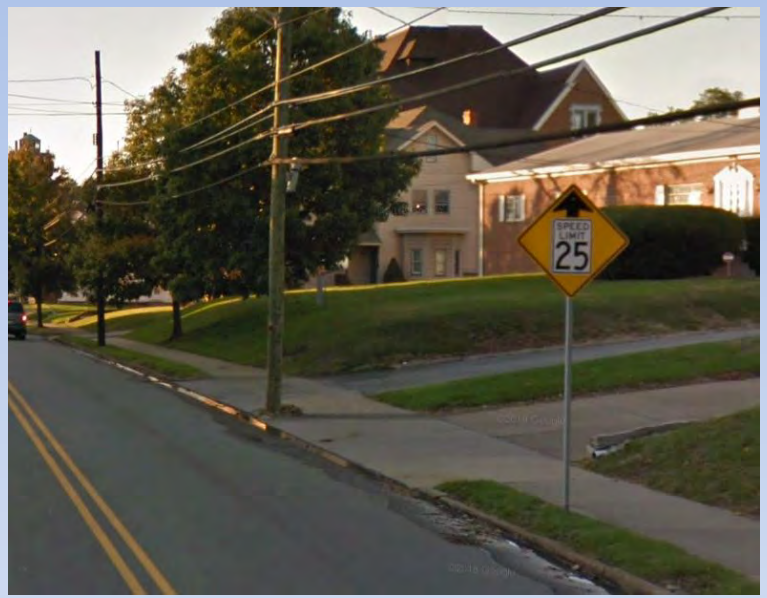
SUGGESTIONS:

- Consider using speed feedback signing for voluntary compliance. Especially consider specific locations, east of Wade Avenue in both directions, and in the four lane section between the intersection of Canton Avenue and South Franklin Street.
- Increase speed enforcement through the corridor.

Figure 12: Corridorwide: Speed Enforcement

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Negligible	Low	A

OBSERVATION: A REDUCED SPEED AHEAD sign is used improperly for a speed increase from 25 mph to 35 mph.



Westbound speed reduction signed correctly

Eastbound speed increase signed incorrectly

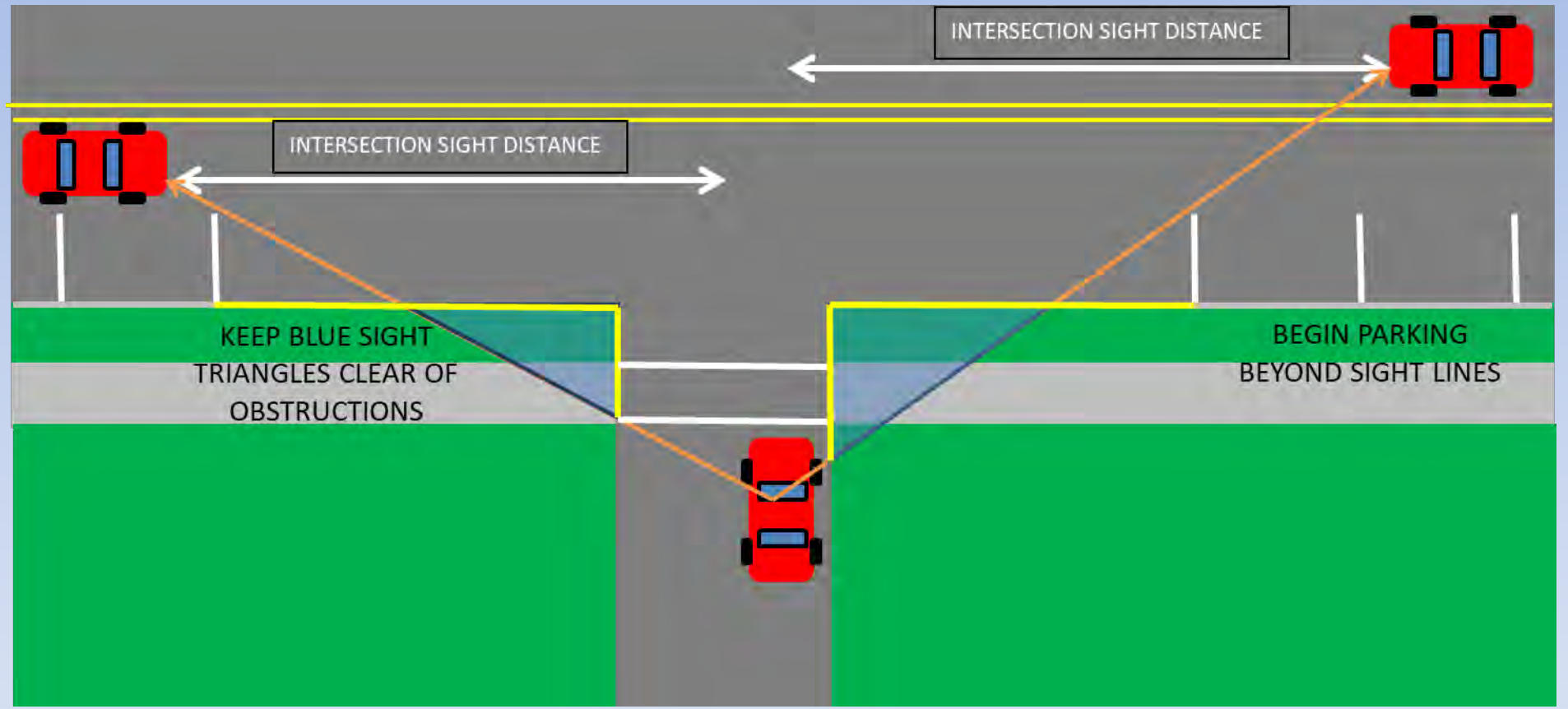
SUGGESTION:

- Since warning is needed to slow traffic, not to speed up, remove the sign.

Figure 13: Corridorwide: Speed Change Signing

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Medium	Moderate	D

OBSERVATION: Sight distances at many unsignalized intersections are restricted due to on-street parking, in particular Cumberland Street, Grove Avenue, and Linden Street.



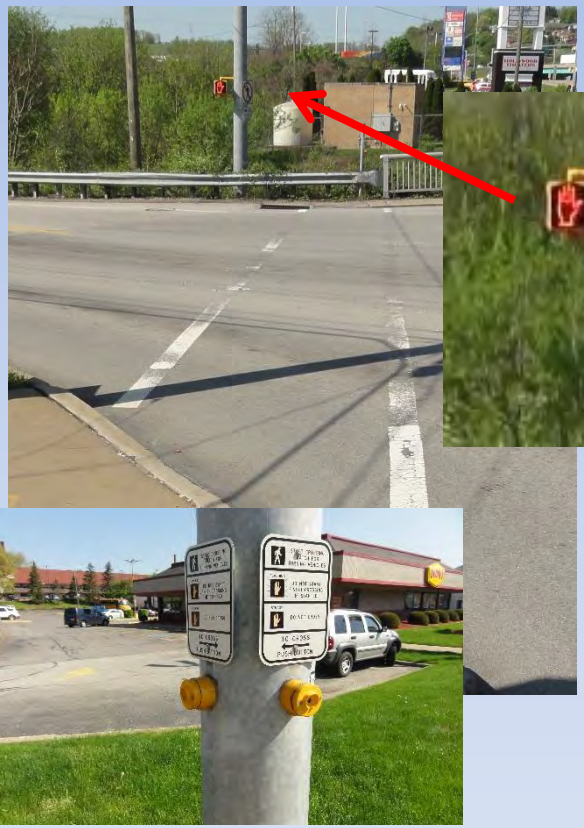
SUGGESTIONS:

- Apply the sight triangle for non-signalized side streets per PennDOT guidelines.
- Remove parking and sight obstructions as necessary.

Figure 14: Corridorwide: Sight Triangles

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATIONS: The pedestrian pushbuttons do not work. Pedestrian signals are the older Hand/Man style without countdown indications. The crosswalk across east leg is pulled away from the intersection.



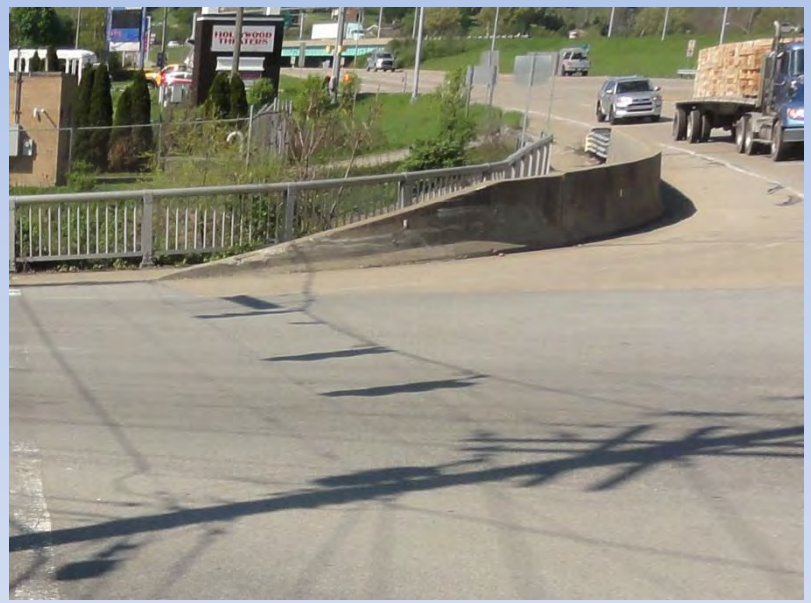
SUGGESTIONS:

- Upgrade pushbuttons and provide countdown signals.
- Relocate crosswalk closer to the intersection to maximize visibility from Franklin Farms Road.
- Add a R10-15 sign to the eastbound approach.

Figure 15: Location Specific: Franklin Farms Rd and West Chestnut St

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATIONS: The guiderail and concrete barrier west of the intersection lacks delineation. There is evidence that each have been struck.



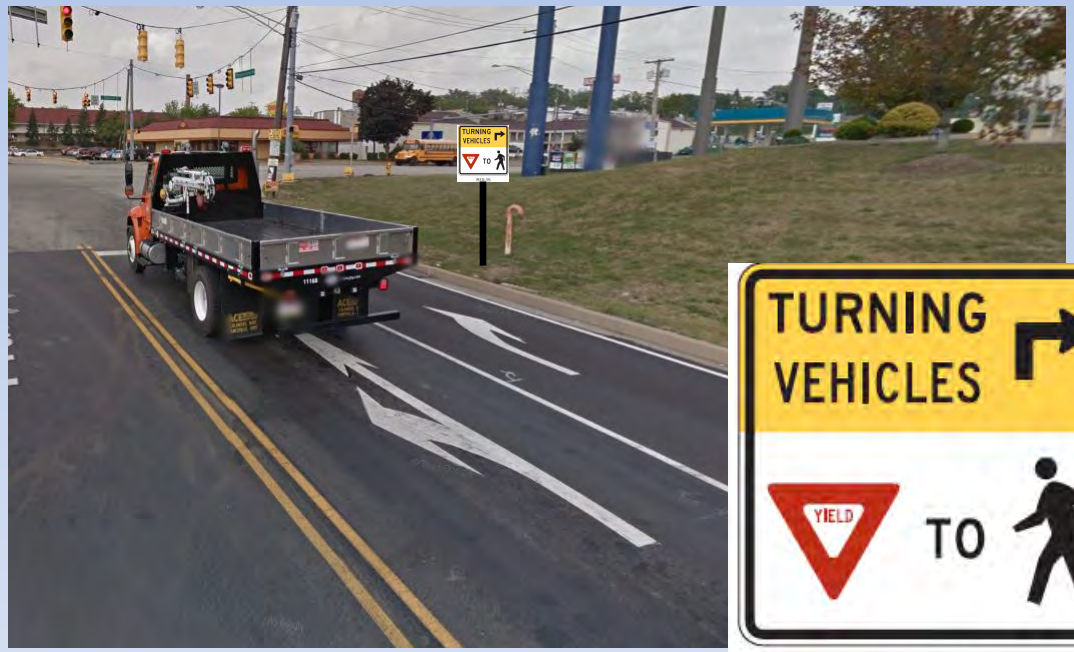
SUGGESTION:

- Add delineation to the barrier and guiderail.

Figure 16: Location Specific: Franklin Farms Rd and West Chestnut St (Continued)

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATIONS: There is no pedestrian connectivity to the mall. The right-turn overlap phase keeps traffic traveling approaching the intersection, which could create pedestrian conflicts.



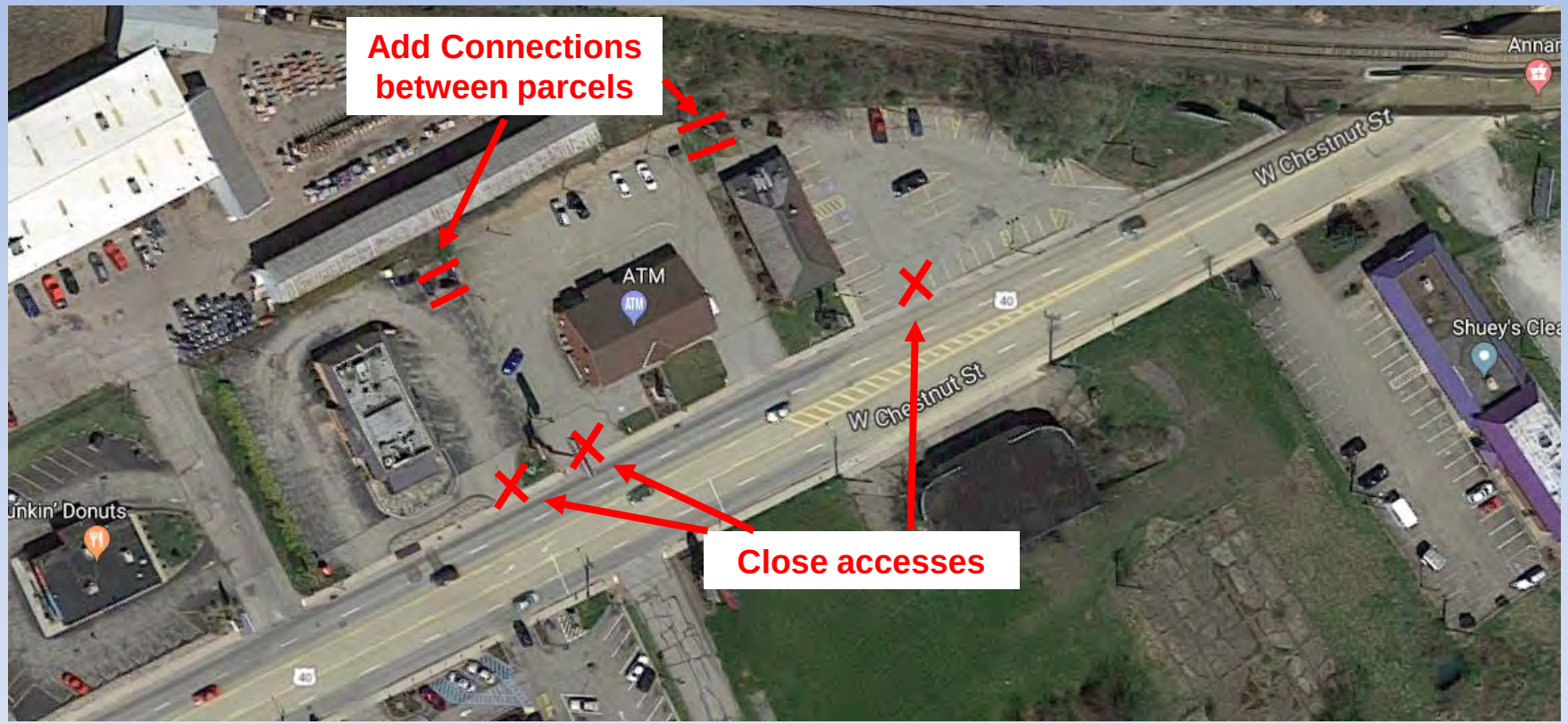
SUGGESTIONS:

- Evaluate the possibility of providing a pedestrian connection to the mall.
- Add a R10-15 sign to the northbound approach.

Figure 17: Location Specific: Franklin Farms Rd and West Chestnut St (Continued)

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATION: The closed businesses (James Grill area) along West Chestnut Street have multiple driveways per parcel.



SUGGESTION:

- As these parcels get new businesses, work to close off multiple accesses and provide access between parcels to minimize conflicts.

Figure 18: Location Specific: West Chestnut St

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATIONS: A slope failure is present on the south side of Chestnut Street near the train trestle. Temporary silt fence is failing and dirt is washing out onto the sidewalk and under the trestle.

SUGGESTION:

- Work with property owner to remediate slope and erosion issue.

Figure 19: Location Specific: West Chestnut St (Continued)

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATIONS: The DO NOT PASS sign obscures the visibility of the LOW CLEARANCE sign at the railroad trestle on westbound Chestnut St. The concrete barriers lack delineation.

SUGGESTIONS:

- Provide W12-2a LOW CLEARANCE signs on both faces of each railroad trestle for better visibility.
- Add delineation to the barriers.

Figure 20: Location Specific: West Chestnut St and Maiden St Railroad Trestles

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Medium	Moderate	C

OBSERVATION: Trucks and vehicles turning from Atlas Street to Chestnut Street have a difficult time making this maneuver without encroaching on other travel lanes.

SUGGESTIONS:

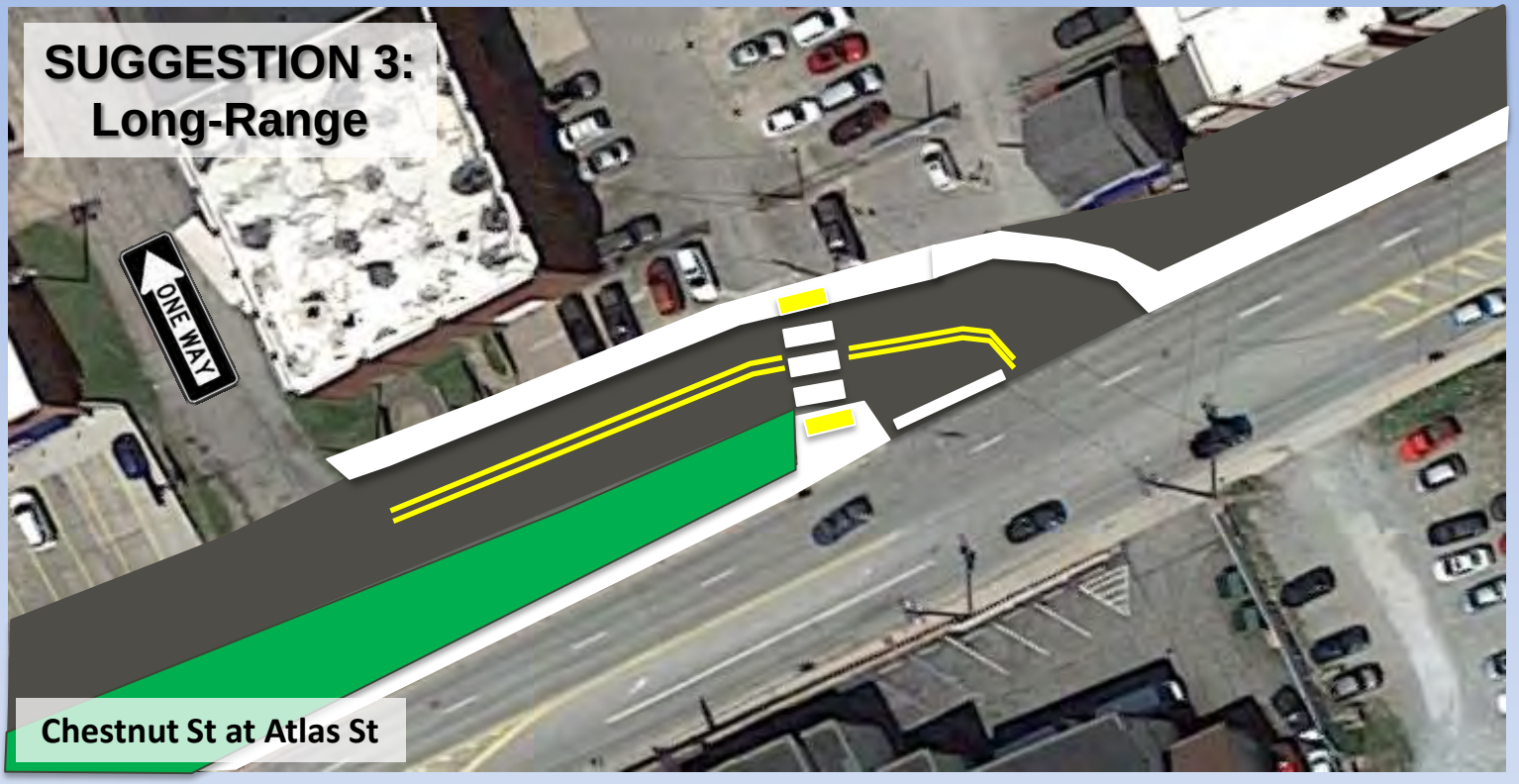
- Realign crosswalk across Atlas Street to eliminate the existing (150’ +) crossing.
- Evaluate the need for guiderail and delineation on Atlas Street approaching Chestnut Street.

Figure 21: Location Specific: Atlas St and West Chestnut St

SUGGESTIONS:

- Extend Northeast curb-line and shorten the radius of this corner.
- Re-align the curb to lower turning speeds onto Atlas Street.
- Evaluate the need for guiderail and delineation on Atlas Street approaching Chestnut Street.

Figure 22: Location Specific: Atlas St and West Chestnut St (Continued)



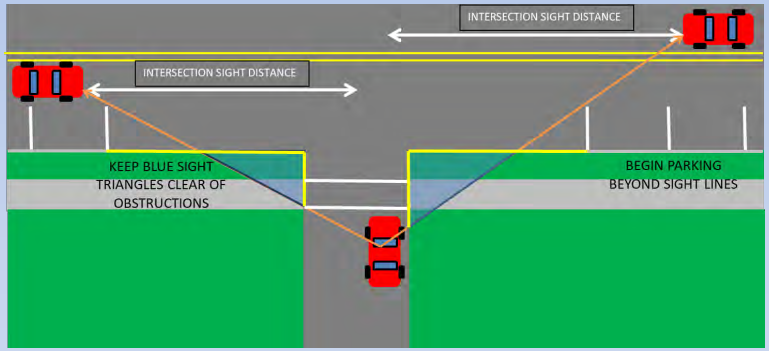
SUGGESTIONS:

- Completely realign Atlas Street with Chestnut Street to allow vehicles to make turning movements appropriately and safely.
- Convert Isabella Street to One-Way northbound.
- Evaluate the need for guiderail and delineation on Atlas Street approaching Chestnut Street.

Figure 23: Location Specific: Atlas St and West Chestnut St (Continued)

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Low	Moderate	C

OBSERVATIONS: Intersection geometry and on-street parking on Chestnut Street restricts sight distance for turning vehicles. The crosswalk distance is quite long due to the intersection geometry. Additionally, the intersection is dark.



SUGGESTIONS:

- Reconfigure the intersection to create a perpendicular “T” intersection and shorten the crosswalk distance.
- Remove several parking spaces to increase sight lines.
- Add additional lighting.

Figure 24: Location Specific: Cumberland St and West Chestnut St

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Medium	Moderate	C

OBSERVATION: Left turning vehicles from Grove Avenue southbound have limited sight distance due to geometry of the intersection and property owner's retaining wall.

SUGGESTION:

- Evaluate restricting left turns out of Grove Avenue onto Chestnut Street.

Figure 25: Location Specific: Grove Ave and West Chestnut St

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Frequent	Low	Moderate-High	D
OBSERVATION: Some businesses along the corridor have head-in parking from W. Chestnut Street, which encourages vehicles to back out onto the roadway.			

SUGGESTIONS:

- Work with business owners to try to reconfigure parking or use parking areas in the rear of the building.
- Upgrade lighting in this area.

Figure 26: Location Specific: West Chestnut St Parking

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Low	Moderate	C

OBSERVATION: Motorists are frequently making illegal left turns out of the Walgreens parking lot crossing the eastbound through lane and left-turn lane on Chestnut Street.

SUGGESTIONS:

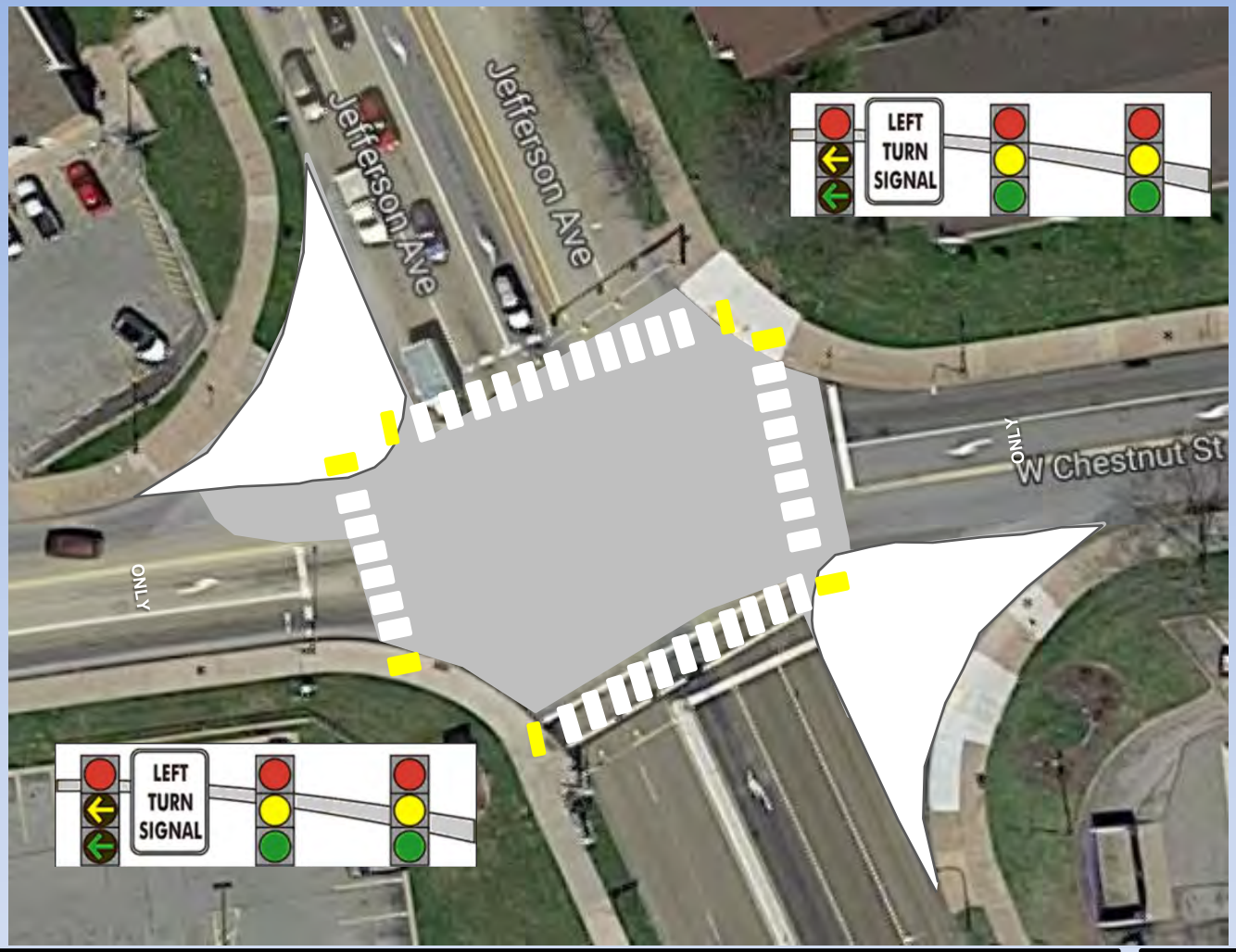
- Consider installing a more restrictive channelizing island.
- Consider posting NO LEFT TURN signs on the near side and far side of the intersection or an ALL TRAFFIC MUST TURN RIGHT sign.

Figure 27: Location Specific: West Chestnut St at Walgreens

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Frequent	Medium	High	E

OBSERVATIONS: There were 20 reportable crashes from August 2012 to July 2017 at the intersection. Intersection geometry makes it difficult for vehicles turning left from Chestnut Street. There is no crosswalk on the northern leg of the intersection. The all-red clearance interval appears to be too short.

Figure 28: Location Specific: Chestnut St and Jefferson Ave



SUGGESTIONS:

- Install protected only left turning phase for Chestnut Street and install appropriate signal heads and detection.
- Eliminate both channelized right turning lanes.
- Evaluate the need to increase the all-red clearance interval.
- Evaluate the need for NO TURN ON RED for all rights.
- Install pedestrian crossing on southbound Jefferson Avenue.

CONSIDERATION:

- Truck and bus turning movements.

Figure 29: Location Specific: Chestnut St and Jefferson Ave (Continued)

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Low	Moderate	C

OBSERVATION: There is inadequate lane control signing on Jefferson Avenue approaching the Chestnut Street and Beau Street intersections.

SUGGESTIONS:

- Install overhead lane control signage at Chestnut Street and Beau Street.
- Consider utilizing Combination Lane-Use/Destination Overhead Guide Signs (R15-1).

Figure 30: Location Specific: Chestnut St and Jefferson Ave (Continued)

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Medium	Moderate-High	D

OBSERVATION: High Speeds, red light running, and other traffic violations are an issue at this traffic signal due the large area of pavement.

SUGGESTIONS:

- Eliminate channelized right turns.
- Eliminate a mass amount of pavement.
- Provide a more urban and pedestrian friendly intersection.

Figure 31: Location Specific: Beau St and Jefferson Ave

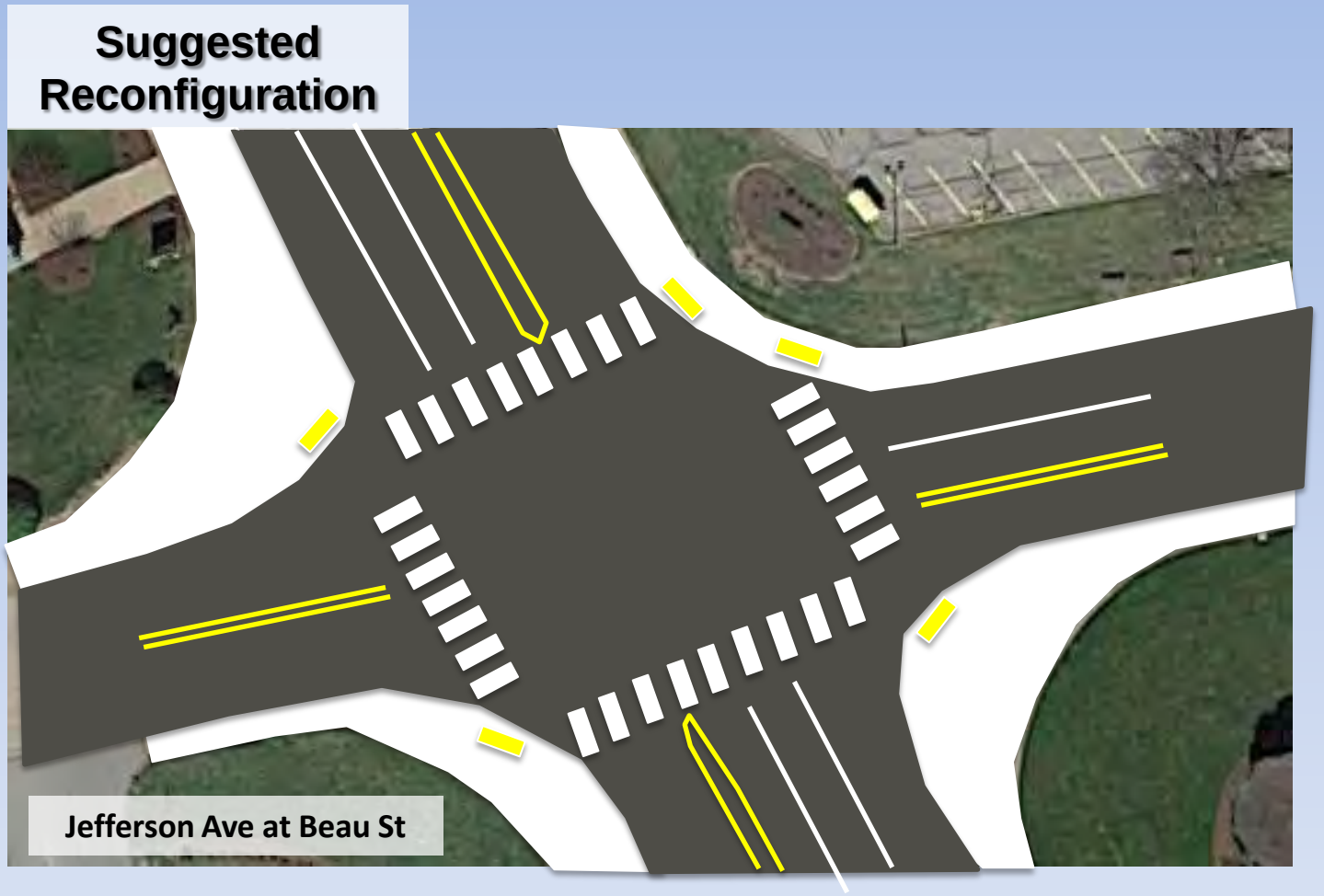
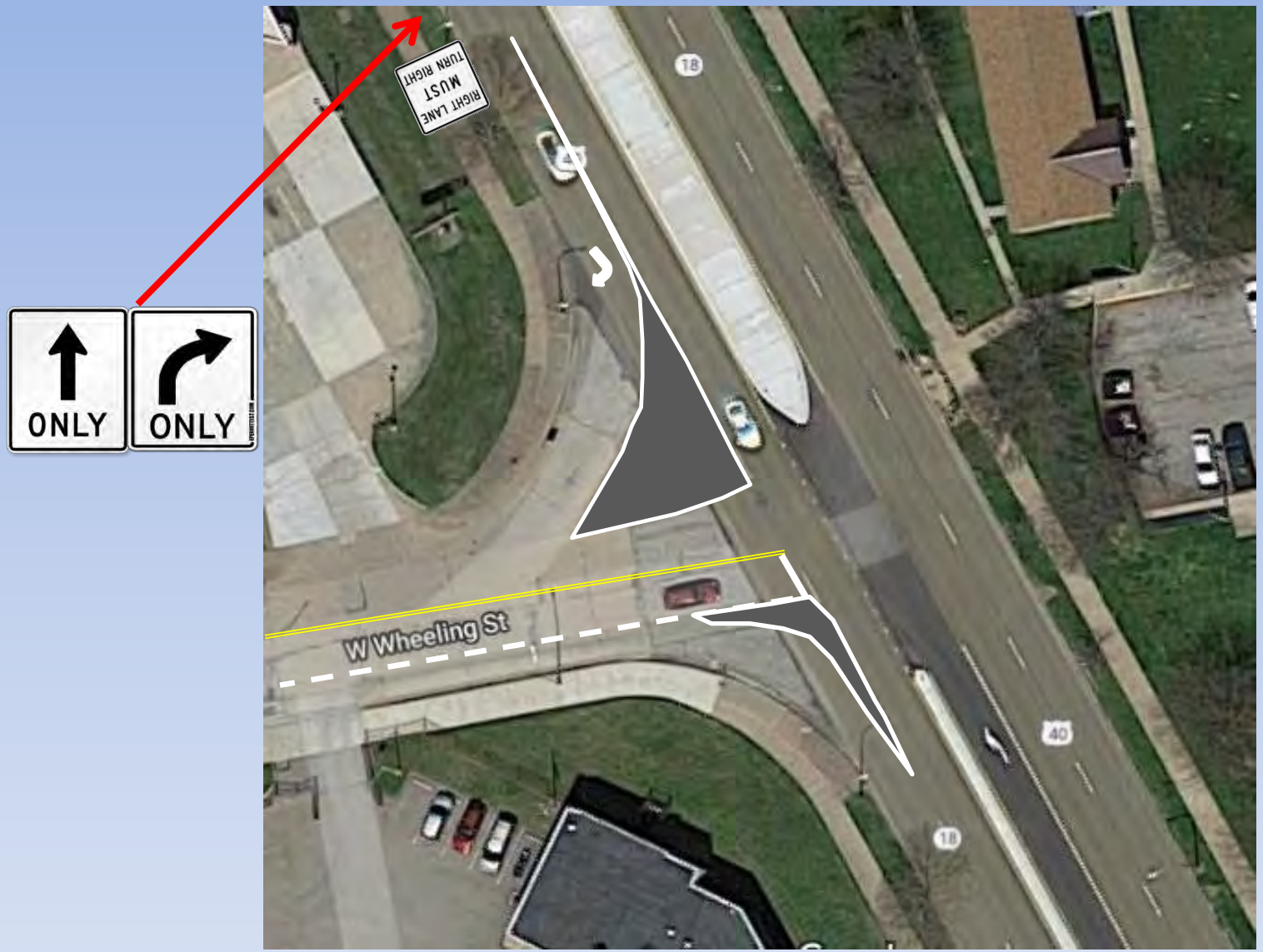


Figure 32: Location Specific: Beau St and Jefferson Ave (Continued)

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Medium	Moderate	C
OBSERVATIONS: Speeding was observed in the area. Turning movements are difficult to make at Wheeling Street and Maiden Street due to speeds and geometry of the roadway.			

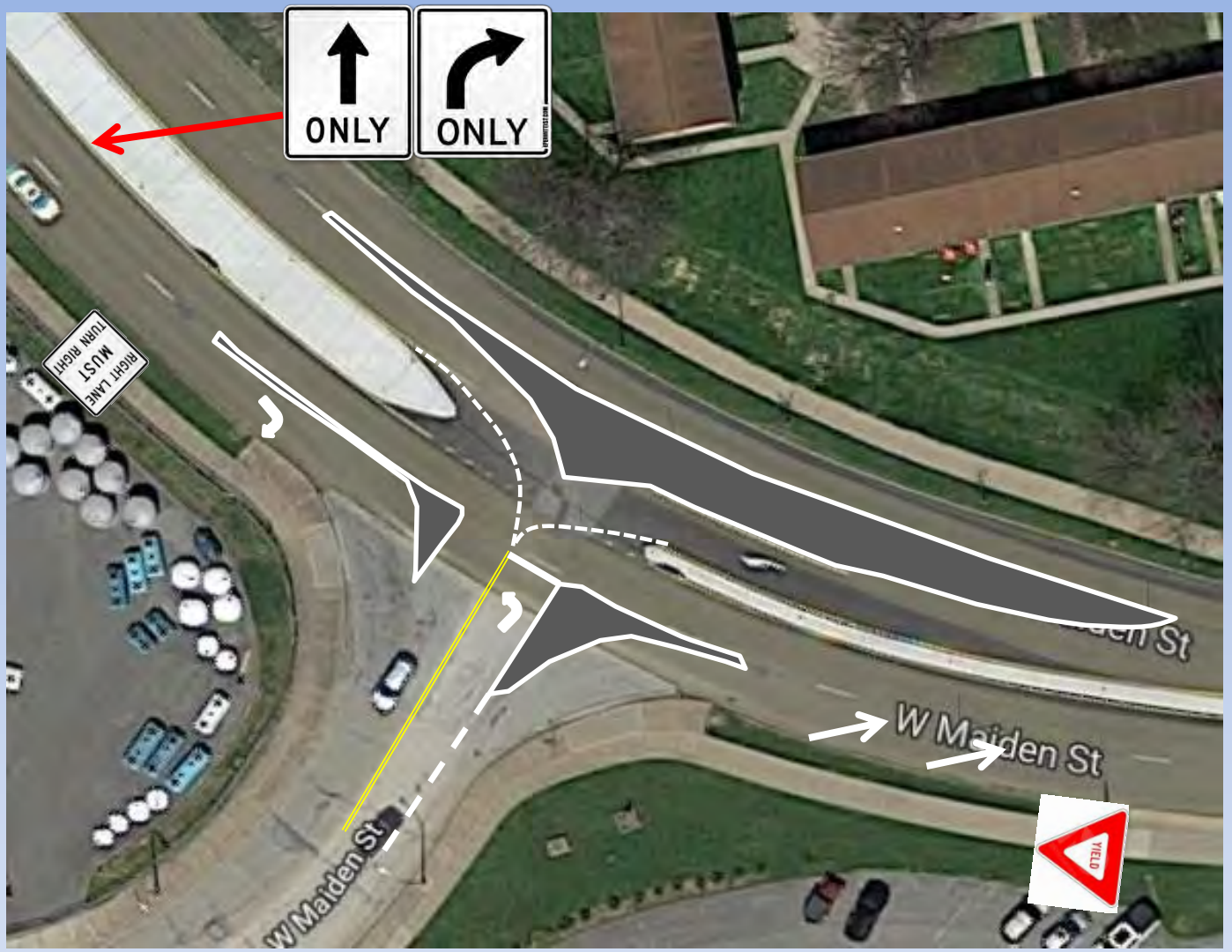
Figure 33: Location Specific: Beau St to Maiden St



SUGGESTIONS:

- Add a double right lane drop at Wheeling Street and Maiden Street.
- Install island to only allow right turns into development.
- Add overhead lane designation signs before Wheeling Street.

Figure 34: Location Specific: Beau St to Maiden St (Continued)



SUGGESTIONS:

- Add a double right lane drop at Wheeling Street and Maiden Street.
- Install island to only allow right turns into Maiden Street.
- Install a Florida “T” intersection at Maiden Street and shorten left turn lane at Wheeling Street.
- Add YIELD sign to merging traffic.

Figure 35: Location Specific: Beau St to Maiden St (Continued)

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Negligible	Moderate-Low	B

OBSERVATION: The roadway is very tight with approximately 7’ parking lanes and 11’ travel lanes.

SUGGESTIONS:

- Eliminate parking spots that are close to intersections and turn lanes.
- Re-evaluate all parking for appropriate placing and signage.

Figure 36: Location Specific: East Maiden St, Between Main St and Franklin St

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATIONS: White crosswalk markings are faded. Push button on northeast corner is broken which may be causing the pedestrian phase to be recalled across Maiden.

SUGGESTIONS:

- Replace white border around brick crosswalks.
- Replace pedestrian push button in northeast quadrant.

Figure 37: Location Specific: Maiden St and Main St

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Low	Moderate	C

OBSERVATION: Sight lines for EB traffic to pedestrians in southern crosswalk are obscured by building corner and crosswalk location. Pedestrian push buttons in northeast and southwest corners are broken. LED lights are burnt out on pedestrian countdown signal.

SUGGESTIONS:

- Relocate crosswalk and ADA ramps to improve visibility.
- Replace broken pushbuttons and pedestrian countdown signal.

Figure 38: Location Specific: Maiden St and South College St

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATION: There is pedestrian crossing demand in the area of Lincoln Street, but no crosswalk facility.

Overhead mast arm signing would help with visibility from roadway curvature
(example photo)

SUGGESTIONS:

- Provide pedestrian crosswalk at Lincoln Street on the east side of the intersection.
- Add a median refuge island.
- Add button-actuated Rapid Rectangular Flashing Beacon for added emphasis.

Figure 39: Location Specific: East Maiden St and Lincoln St

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATION: Motorists frequently go around vehicles on eastbound Maiden Avenue waiting to make a left. Currently, there is inadequate width.

SUGGESTIONS:

- Investigate the feasibility of shifting the double yellow north to widen eastbound Maiden Avenue and allow storage for left-turning vehicles.
- If feasible, stripe a left-turn lane.

Figure 40: Location Specific: Maiden St and Wade Ave

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Negligible	Low	A

OBSERVATION: The Uni Mart plaza driveway entrance/exits are too narrow for two-way operation.

SUGGESTION:

- Consider working with the owner to change the driveways to one-way.

Figure 41: Location Specific: Maiden St at Uni Mart Plaza

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Occasional	Low	Moderate	C
OBSERVATION: Unexpected left-turns into businesses and vehicles backing out from businesses onto Maiden Avenue creates conflicts.			

SUGGESTIONS:

- Option 1: Install a Two-Way-Left-Turn-Lane (TWLTL) from Wade Avenue to Hannah Avenue.
- Option 2: Reconfigure the parking to angle parking at the laundromat and shift centerline to provide a buffer.

Figure 42: Location Specific: Maiden St from Wade Ave to Hannah Ave

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B
OBSERVATION: There are multiple fixed object hazards near the Stewart Avenue intersection.			

SUGGESTIONS:

- Remove the yellow concrete block near the Luxury Box Sign.
- If redevelopment occurs, relocate business signing and utility poles.

Figure 43: Location Specific: Maiden St and Stewart Ave

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Medium	Moderate	C
OBSERVATION: The curve radii is inadequate for large vehicles turning in and out of Stewart Avenue.			

Figure 44: Location Specific: Maiden St and Stewart Ave (Continued)

SUGGESTION:

- As future development or redevelopment occurs for the industrial area behind Stewart Avenue, investigate opportunities to interconnect parcels and provide access at Detroit Avenue.

Figure 45: Location Specific: Maiden St and Stewart Ave (Continued)

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATION: There is moderate truck traffic into Detroit Avenue. Trucks turn into Detroit Avenue and encroach into opposite lanes on East Maiden Street.

SUGGESTION:

- Eliminate four to six parking spaces along eastbound E. Maiden Street at Detroit Avenue.

CONSIDERATION:

- Residential parking needs.

Figure 46: Location Specific: Maiden St and Detroit Ave

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Medium	Moderate	C
OBSERVATION: There is limited sight distance for vehicles exiting Linden Street.			

SUGGESTIONS:

- Remove trees and shrubs that are obscuring sight lines.
- Consider NO LEFT TURN restriction exiting Linden Street.

Figure 47: Location Specific: Maiden St and Linden St

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Rare	Low	Moderate-Low	B

OBSERVATIONS: The curve radii are inadequate for large vehicles turning out of Dunn Avenue. Vehicles encroach on the westbound lanes of Maiden Avenue. Vehicles enter Dunn Avenue on the wrong side of the island.

Figure 48: Location Specific: Maiden St and Dunn Ave

SUGGESTIONS:

- Consider slightly realigning Dunn Avenue to provide a better path for large vehicles.
- Install yellow pavement markings around island or paint the curb yellow.
- Install a WRONG WAY sign on the island.

Figure 49: Location Specific: Maiden St and Dunn Ave (Continued)

EXPECTED FREQUENCY	EXPECTED SEVERITY	RISK RATING	
Negligible	Low	Low	A

OBSERVATION: Right-turns on Dunn Avenue unnecessarily get green time when right-turns on red are permitted and gaps are available.

SUGGESTIONS:

- Consider delaying the side road green phase for the right-turn lane detector.
  - Traffic signal detector amplifier with a delay timer is needed.
- Review signal timings.

Figure 50: Location Specific: Maiden St and Dunn Ave (Continued)

7. CONCLUSION

The Road Safety Audit program is conducted to identify opportunities for improvements in safety for transportation system users. The safety suggestions identified during this audit and documented in this report, along with the outlined improvement strategies, should enhance the overall safety of the study area. The full impact of the improvement strategies will be realized when they are combined, but time and budget constraints may dictate when remedial strategies are implemented.

PennDOT, and local municipalities have already deployed various safety enhancements in the area, including sidewalks on both sides of the entire corridor, upgraded traffic signals at the intersections with Dunn Avenue and Main Street, bicycle safe storm grates, signing in good shape, striped on-street parking, and battery backup and emergency vehicle preemption for some traffic signals through the corridor. Also, most of the corridor has sufficient lighting, and there is a two-way left-turn lane in sections. There is advance warning for vertical clearance at the railroad trestles, and there is train preemption blank-out signing at the Wade Avenue signal. As part of the audit, the strategies shown in the following tables were identified as ways to further enhance safety.

Responsible Parties:
DOT: PennDOT
W: City of Washington
F: Franklin Township
C: Canton Township

Short-Range Improvements:

Improvement	Responsible Party
PennDOT and municipalities should coordinate incident management on I-70 to minimize local impacts.	ALL
Replace damaged, defaced and faded speed limit signs with new retroreflective signs.	ALL
Reevaluate speed limits with the goal of providing consistent speed limits through the corridor.	ALL
Replace damaged and faded signs with new retroreflective signs.	ALL
Replace non-standard signs with MUTCD (Manual on Uniform Traffic Control Devices) standard signs.	ALL
Place overhead lane designation signs where appropriate.	ALL
Install backplates and retroreflective tape at all intersections.	ALL
Work with emergency responders to determine where additional EVP would be effective.	ALL

Improvement	Responsible Party
Evaluate vehicular clearance intervals (yellow and all red timings) to facilitate reduction of red light running.	ALL
Evaluate the need for lead pedestrian intervals and establish consistency in higher pedestrian volume areas (Jefferson to Dunn).	ALL
Install new detection to replace broken detection.	W, F
Work with local task forces to increase DUI enforcement.	W, F, C
Increase enforcement awareness and education.	W, F, C
Add educational DUI signage through the corridor.	ALL
Improve maintenance of existing stormwater facilities with routine cleaning of inlets.	W, F, C
Consider using speed feedback signing for voluntary compliance.	W, F, C
Increase speed enforcement through the corridor.	W, F, C
Remove the SPEED REDUCTION sign in place to sign for a speed increase.	W
Remove parking and sight obstructions within sight triangles as necessary.	ALL
Upgrade pushbuttons and provide countdown signals at Franklin Farms Road.	F, C, DOT
Relocate crosswalk spanning east leg at the intersection with Franklin Farms Road closer to the intersection to maximize visibility from Franklin Farms Road.	F, C, DOT
Add delineation to the barrier and guiderail at the intersection with Franklin Farms Road.	DOT
Add a R10-15 sign to the northbound approach at the intersection with Franklin Farms Road.	F, C
Provide W12-2a LOW CLEARANCE signs on both faces of each railroad trestle for better visibility.	DOT
Add delineation to the barriers at the railroad trestle.	DOT
Remove several parking spaces on Chestnut Street in the area of Cumberland Street to increase sight lines.	W
Evaluate restricting left turns out of Grove Avenue onto Chestnut Street.	W
Work with business owners to try to reconfigure head-in parking from W Chestnut Street, or use parking areas in the rear of the building.	W
Consider posting “NO LEFT TURN” signs on the near side and far side of the Walgreens driveway intersection with Chestnut Street or an “ALL TRAFFIC MUST TURN RIGHT” sign.	W
Install protected only left turning phase for Chestnut Street at Jefferson Avenue and install appropriate signal heads and detection.	W, DOT
Evaluate the need to increase the all-red clearance interval at Chestnut Street and Jefferson Avenue.	W, DOT
Evaluate the need for NO TURN ON RED for all right turn traffic at Chestnut Street and Jefferson Avenue.	W, DOT

Improvement	Responsible Party
Install pedestrian crossing on southbound Jefferson Avenue at Chestnut Street.	W, DOT
Eliminate parking spots that are close to intersections and turn lanes along East Maiden Street.	W
Re-evaluate all parking for appropriate placing and signage along East Maiden Street.	W
Replace white border around brick crosswalks at Maiden Street and Main Street.	W
Replace pedestrian push button in northeast quadrant at Maiden Street and Main Street.	W
Replace broken pushbuttons and pedestrian countdown signal at Maiden Street and S. College Avenue.	W
Provide pedestrian crosswalk at Lincoln Street at Maiden Street on the east side of the intersection with a median refuge island.	W
Consider working with the owner of the Uni Mart plaza on Maiden Street to change the driveways to one-way.	W
Remove the yellow concrete block near the Luxury Box Sign on Maiden Street.	W
Eliminate four to six parking spaces along eastbound E Maiden Street at Detroit Avenue.	W
Remove trees and shrubs that are obscuring sight lines at the intersection of Maiden Street and Linden Street.	W
Consider NO LEFT TURN restriction exiting Linden Street onto Maiden Street.	W
Install yellow pavement markings around the median island on Dunn Avenue approaching Maiden Street or paint the curb yellow, and install a WRONG WAY sign on the island.	W, DOT

Responsible Parties:
DOT: PennDOT
W: City of Washington
F: Franklin Township
C: Canton Township

Mid- and Long-Range Improvements:

Improvement	Responsible Party
Install ADA compliant wheelchair ramps, accessible audible pedestrian signals, high visibility crosswalks (Piano key), and new stop bars.	ALL
Conduct a stormwater management study to determine need for additional facilities.	ALL
Evaluate the possibility of providing a pedestrian connection from the Franklin Farms Intersection to the mall.	F, C, DOT
As the vacant parcels along West Chestnut Street get new businesses, work to close off multiple accesses and provide access between parcels to minimize conflicts.	F, C, DOT
Work with property owner to remediate slope and erosion issue near the railroad trestle.	W, DOT
Realign crosswalk across Atlas Street to eliminate the existing (150' +) crossing.	W, DOT
Evaluate the need for guiderail and delineation on Atlas St. approaching Chestnut St.	W, DOT
Extend northeast curb-line and shorten the corner radius between Chestnut and Atlas Street.	W, DOT
Re-align the curb to lower turning speeds from westbound Chestnut Street onto Atlas Street.	W, DOT
Completely realign Atlas St. with Chestnut St. to allow vehicles to make turning movements appropriately and safely. With this, convert Isabella Street to One-Way northbound.	W, DOT
Reconfigure the intersection with Cumberland Street to create a perpendicular "T" intersection and shorten the crosswalk distance.	W, DOT
Add additional lighting in the area of Cumberland Street and West Chestnut St.	W
Upgrade lighting in the area of head-in parking along West Chestnut Street.	W
Consider installing a more restrictive channelizing island for traffic turning out of Walgreens onto Chestnut Street.	W
Eliminate both channelized right turning lanes at Chestnut Street and Jefferson Avenue.	W, DOT
Install overhead lane control signage at Chestnut Street and Beau Street. Consider utilizing Combination Lane-Use/Destination Overhead Guide Signs (R15-1).	W, DOT
Eliminate channelized right turns at the intersection of Beau Street and Jefferson Avenue. Eliminate a mass amount of pavement, and provide a more urban and pedestrian friendly intersection.	W, DOT
Add a double right lane drop at Wheeling Street and Maiden Street. Install island to only allow right turns into Wheeling Street. With this, add overhead lane designation signs before Wheeling Street. Install a Florida "T" intersection at Maiden Street and Jefferson Avenue, and shorten the left turn lane at Wheeling Street.	W, DOT

Improvement	Responsible Party
Relocate crosswalk and ADA ramps spanning the south leg at Maiden Street and S. College Avenue, to improve visibility.	W
Add button-actuated Rapid Rectangular Flashing Beacon for added emphasis at the proposed crosswalk at Lincoln Street and Maiden Street.	W, DOT
Investigate the feasibility of shifting the double yellow north to widen eastbound Maiden Avenue and allow storage for left-turning vehicles at the intersection with Wade Avenue. If feasible, stripe a left-turn lane.	W, DOT
Consider one of two options for Maiden Street between Wade Avenue and Hannah Avenue: Option 1: Install a Two-Way-Left-Turn-Lane (TWLTL) from Wade Avenue to Hannah Avenue. Option 2: Reconfigure the parking to angle parking at the laundromat and shift centerline to provide a buffer.	W, DOT
If redevelopment occurs, relocate business signing and utility poles away from the roadway along Maiden Street.	W
As future development or redevelopment occurs for the industrial area behind Stewart Avenue, investigate opportunities to interconnect parcels and provide access at Detroit Avenue.	W
Consider slightly realigning Dunn Avenue at Maiden Street to provide a better path for large vehicles.	W, DOT
Consider delaying the side road green phase for the right-turn lane detector. Traffic signal detector amplifier with a delay timer is needed. Also, review signal timings.	W, DOT

Responsible Parties:
DOT: PennDOT
W: City of Washington
F: Franklin Township
C: Canton Township