# Southwestern Pennsylvania Commission

# *Road Safety Audit*

## Bellefield Avenue

**Oakland Neighborhood, City of Pittsburgh, Allegheny County, PA**

**September, 2015**

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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.

## 1. BACKGROUND

A Road Safety Audit (RSA) is the 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? [1]

An RSA is a proactive process that provides recommendations which 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 Bellefield Avenue in the Oakland neighborhood of the City of Pittsburgh, Allegheny County.

## 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 3-5 members, with outside specialists consulted as needed. Team make-up typically includes 1-2 consultant members, 1 SPC staff person, 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

[1] Source: Federal Highway Administration - http://safety.fhwa.dot.gov/rsa/

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 Project 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 FINDINGS

The following pages provide information on the RSA participants for this study and summarize the findings of the RSA team.

# SPC Road Safety Audit Program-Bellefield Avenue RSA

| Roadway Owner Agency(s) | Roadway Owner Representatives | |
|---|---|---|
| City of Pittsburgh | Amanda Purcell | Municipal Traffic Engineer |

| RSA Team Members | Agency | Role |
|---|---|---|
| Ross Buchan, PE | Gannett Fleming | Transportation Engr. |
| Zachary Kamnikar, PE | PennDOT District 11 | Project Manager |
| Domenic D'Andrea, PE, PTOE | Southwestern PA Commission | Mgr., Ops and Safety |
| Millie French, PE | French Engineering | Transportation Engr. |
| Joshua Grimm | Southwestern PA Commission | Transportation Planner |
| Joshua Spano | Southwestern PA Commission | Transportation Planner |
| Kathy Stefani | Southwestern PA Commission | ATWIC Manager |

| | |
|---|---|
| **Location:** | Bellefield Avenue between Forbes Avenue and Centre Avenue<br>Oakland Neighborhood, City of Pittsburgh |

| Schedule | Date & Time | Location |
|---|---|---|
| Start-up Meeting | Monday, September 21, 2015, 9:00 AM | W PA School for Blind Children |
| Key Person Interviews | Tuesday, September 22, 2015 9:00 AM-12 Noon | W PA School for Blind Children |
| Preliminary Presentation | Wednesday, September 23, 2015, 2:30 PM | W PA School for Blind Children |

| Key Person Interviews | Agency / Affiliation | Phone Number |
|---|---|---|
| Todd Reeves | Western PA School for the Blind Children | 412-621-0100 |
| Julie Whitbeck-Lewinski | Western PA School for the Blind Children | 412-621-8932 |
| Amanda Purcell | City of Pittsburgh Department of Public Works | 412-255-8846 |
| Mavis Rainey | Oakland Transportaton Management Assn. | 412-687-4505 |
| Holly Dick/Janice Lorenz | Bellefield Area Citizens Assn. | 412-683-8151 |
| David Zwier | Oakland Planning and Development Corp. | 412-621-7863 |
| Shannon Leshen | City of Pittsburgh Police-Zone 4 | 412-422-6520 |
| Guy Johnson / Heather Camp | University of Pittsburgh Police | 412-624-4044 |
| Kevin Sheehy | University of Pittsburgh , Parking, Transport. | 412-624-6727 |
| Bob Reppe | Carnegie Mellon University | 412-268-7280 |
| Fred Mergner | Port Authority of Allegheny County | 412-566-5337 |

# Safety Successes

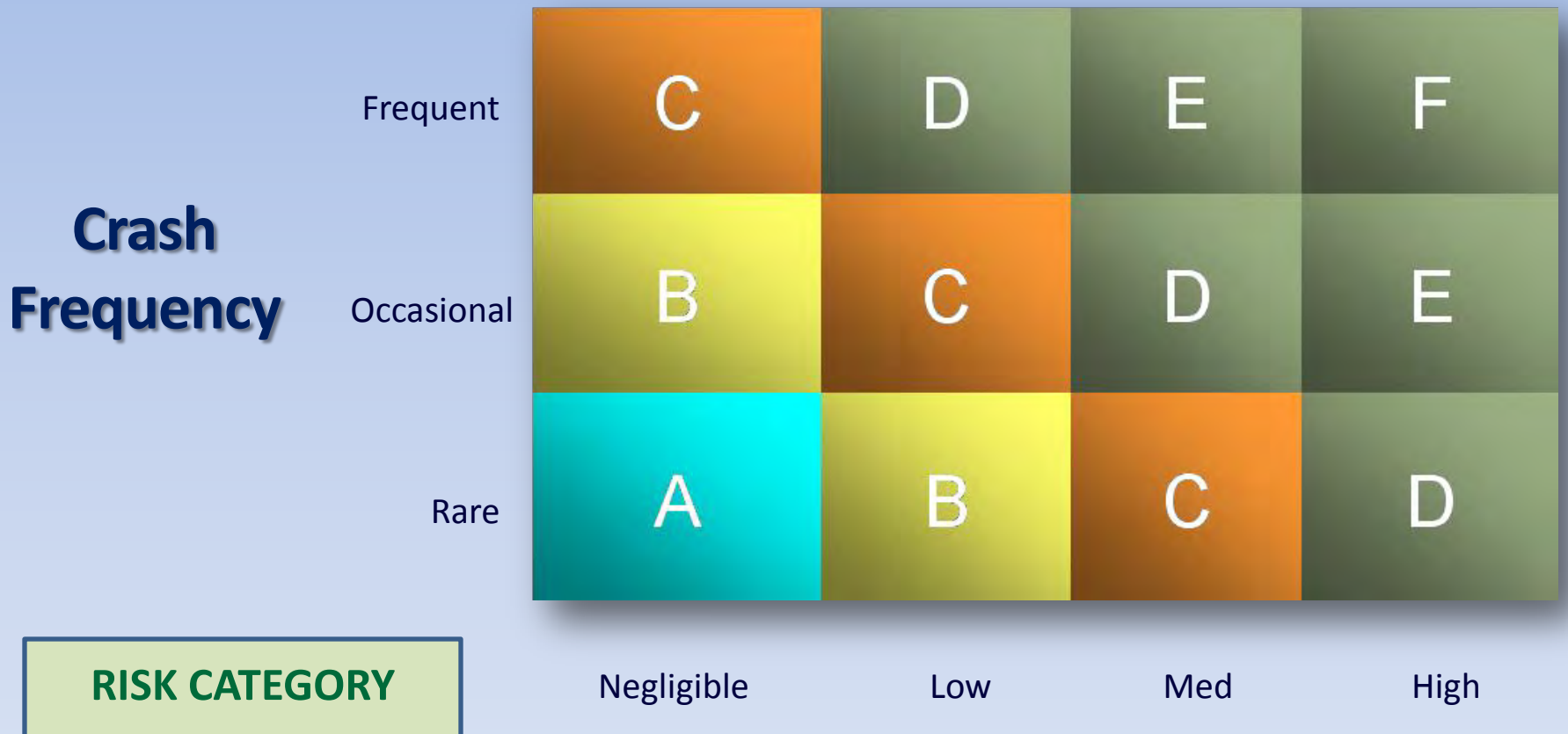
- Audible pedestrian push buttons, ADA ramps and countdown pedestrian signals at Bayard St. and Bellefield Ave.
- WPSBC – Procedures for Safe Driving on School Campus
- School zone speed limit signage
- Bicycle safe storm grates

# Safety Successes

- Lead Pedestrian intervals at Bayard St. and Bellefield Ave. & Fifth Ave. and Bellefield Ave.
- Exclusive Pedestrian phase at Forbes Ave. and Bellefield Ave.
- No Turn On Red signs at various signalized intersections
- Generous sidewalk width
- Pedestrian safety education programs from Pitt, OTMA, & CMU

OTMA
Oakland Transportation Management Association

# Evaluating Risk to Prioritize Safety Issues




**RISK CATEGORY**

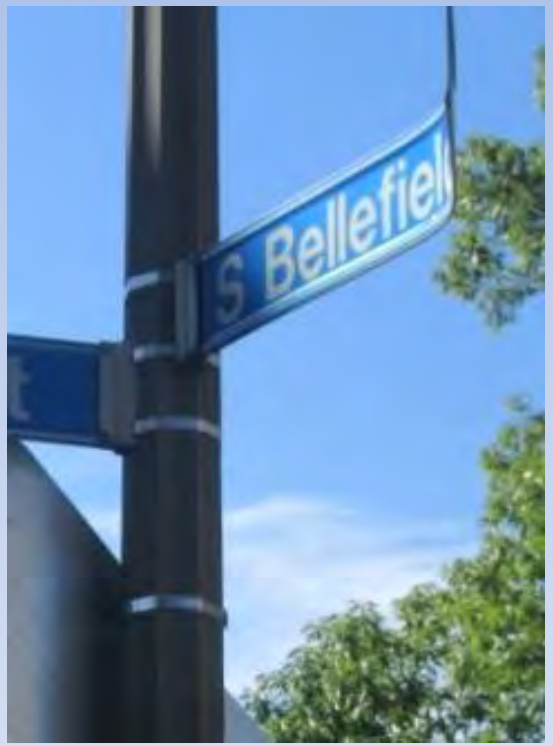
A = Lowest priority

F = Highest priority

# Major Themes

- Pedestrian safety
- Traffic signals
- Speed - Traffic calming
- Transportation Operations at Western PA School for Blind Children

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Rare** | **Negligible** | **Low** | **A** |
| OBSERVATION: Some signs in the corridor have been damaged, defaced or are faded. | | | |



SUGGESTION:

- Replace damaged, defaced and faded signs with new retroreflective signs.
- Replace non-standard signs with MUTCD (Manual on Uniform Traffic Control Devices) standard signs.

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

OBSERVATION: Intersection configuration and/or vegetation obstructs views of signs and signals. Overgrown tree obstructs view of signal and signage at Fifth Ave and Bellefield Ave. Power lines blocking view of signage at Bayard St and Bellefield Ave. The DO NOT ENTER signs on SB approach of Bellefield are difficult to see due to mast arm locations.

**WB Fifth @ Bellefield**

**SB Bellefield @ Fifth**

**NB Bellefield @ Bayard**

SUGGESTION:

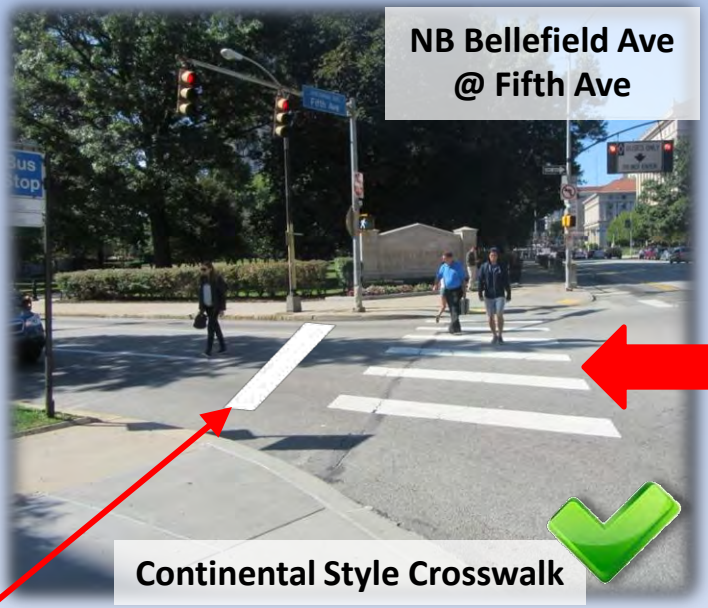
- Trim trees and vegetation.
- Relocate signage to more visible locations.
- Install an additional DO NOT ENTER on the mast arm for the Bellefield Ave SB approach at Fifth Ave.

CONSIDERATIONS:

- Trimming of vegetation is responsibility of property owner.
- Relocating signage is responsibility of City of Pittsburgh.

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

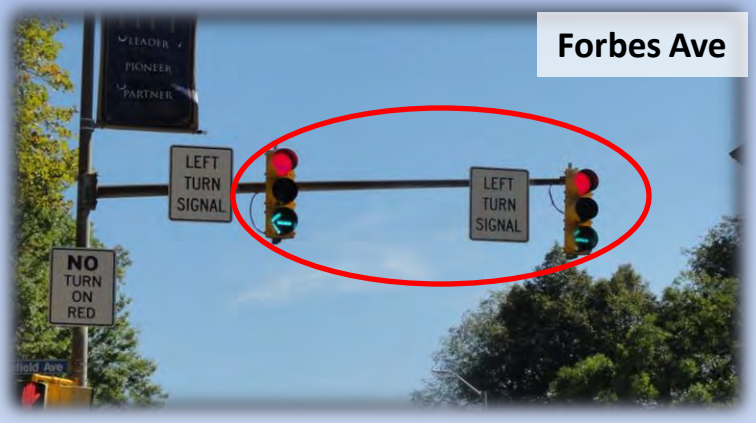
OBSERVATION: Lane designation arrows and stop bars are missing at several locations in the corridor. Crosswalk markings are inconsistent throughout the corridor as well.



SUGGESTION:

- Install lane designation arrows on EB Forbes at Bellefield Ave and on NB Bellefield Ave at Fifth Ave.
- Install Stop Bars at all signalized intersections.
- Install continental ("piano key") style crosswalks of a consistent design at all intersections.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Rare** | **Low** | **Moderate-Low** | **B** |
| OBSERVATION: Signal heads in the corridor do not have backplates. | | | |



SUGGESTION:

- Install backplates on all traffic signals.
- Consider adding retroreflective tape to signal backplates.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Rare** | **Medium** | **Moderate** | **C** |

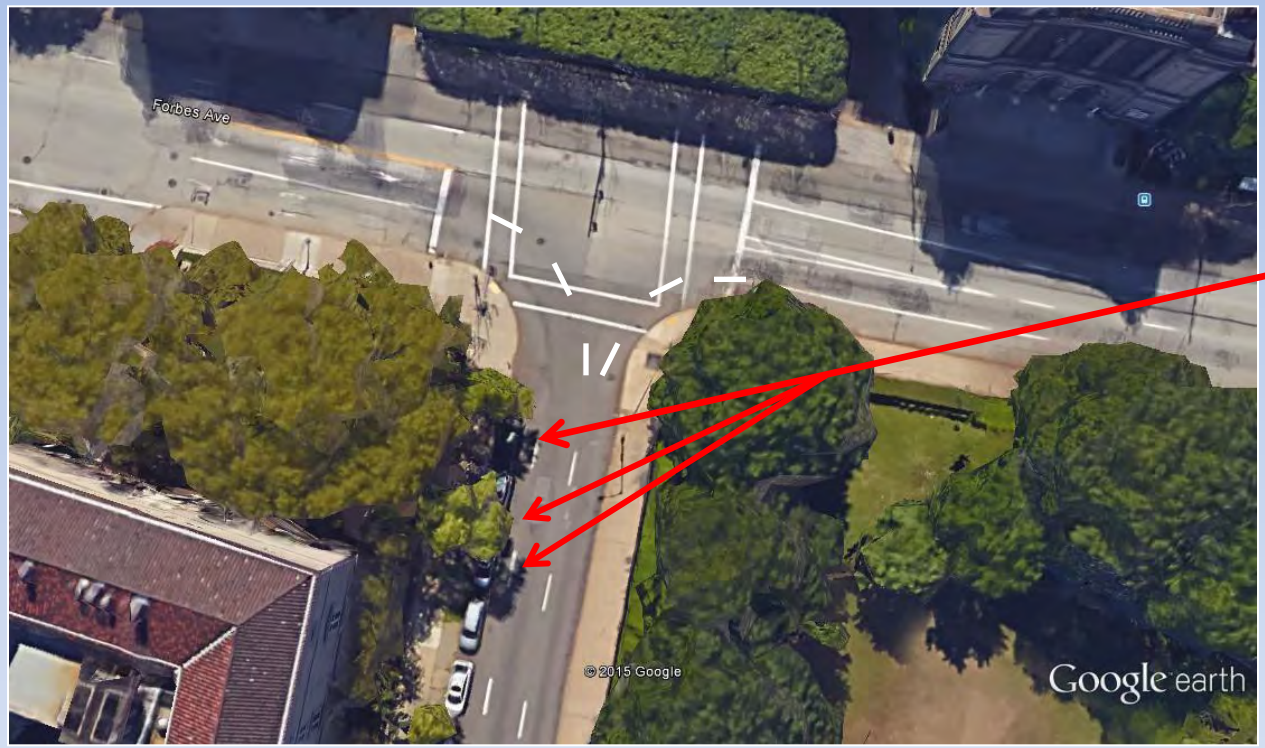
OBSERVATION: At Forbes and Bellefield, traffic signals and wheelchair ramps are not ADA compliant and need to be updated.

SUGGESTION:

- Install traffic signal equipment upgrades to include audible traffic signals and countdown pedestrian signal heads.
- Provide ADA compliant wheelchair ramps on the south (museum side) of Forbes Ave.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Frequent** | **Low** | **Moderate-High** | **D** |

OBSERVATION: Forbes Ave westbound dual left turns and eastbound dual right turns are very tightly spaced and difficult to maneuver. There is no guidance with regard to pavement markings.




**Remove 3 Parking spaces**

SUGGESTION:

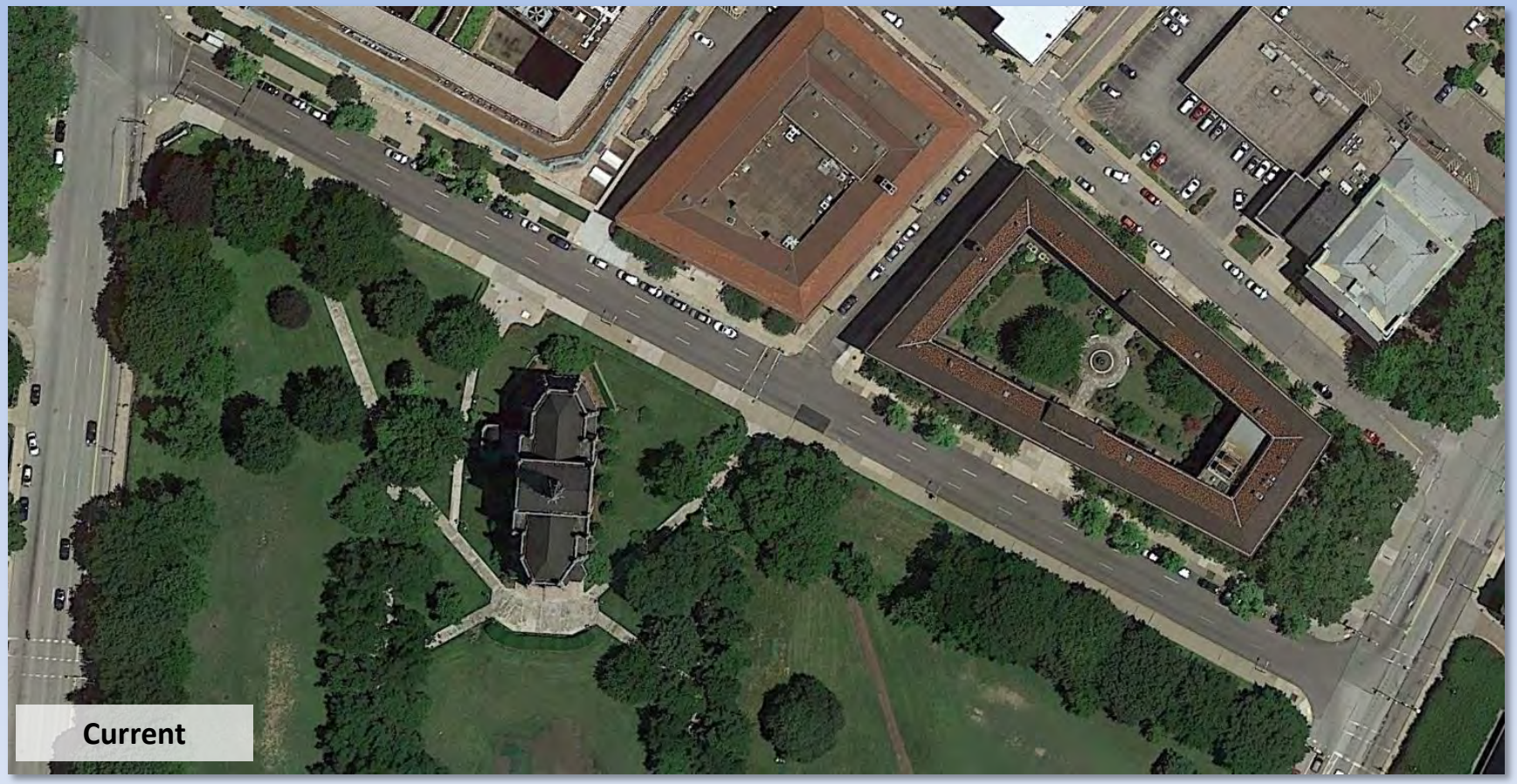
- On the east side of Bellefield, remove the three spaces closest to the intersection to create more turning space.
- Provide pavement markings to guide the dual left and right turns from Forbes Ave.

CONSIDERATIONS:

- Value of parking spaces.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Frequent** | **Low** | **Moderate-High** | **D** |

OBSERVATION: Bellefield Ave between Forbes Ave and Fifth Ave is striped as 3 travel lanes but the rightmost lane is always utilized for parking.



SUGGESTION:

- Restripe Bellefield Ave to have two travel lanes and a designated parking lane.

CONSIDERATIONS:

- Provide a 4 foot left shoulder and reduce travel lane width to 12 feet.

***Bellefield between Fifth and Forbes***

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

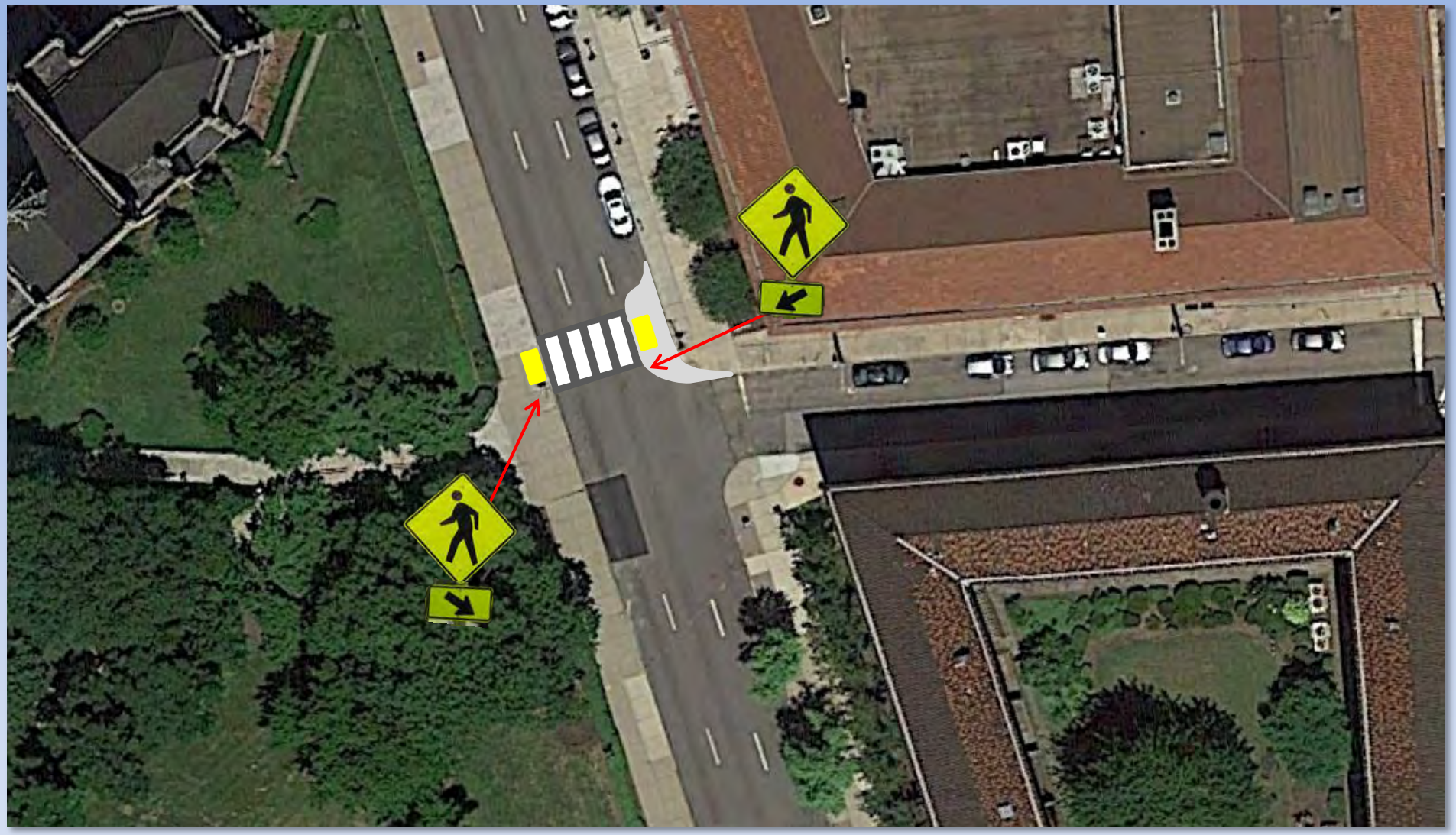
OBSERVATION: Delivery trucks were observed blocking traffic on Bellefield Ave in front of the Pittsburgh Board of Education Administrative Building, restricting traffic to one lane.

SUGGESTION:

- Stripe and sign a 15-minute maximum loading zone in front of the Pittsburgh Board of Education Administrative Building.

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

OBSERVATION: A number of pedestrians were observed crossing Bellefield Ave mid-block near Filmore Street. University of Pittsburgh officials noted that Filmore Street is a major pedestrian corridor for students.



SUGGESTION:

- Create a more attractive crossing by:
  - Installing a bulb-out on the eastside of Bellefield Ave at Filmore Street.
  - Installing ADA compliant curb ramps and pedestrian crosswalk signage.
  - Installing pedestrian scale lighting at the upgraded crosswalk.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Occasional** | **Low** | **Moderate** | **C** |

OBSERVATION: The leftmost lane along Bellefield Ave between Forbes Ave and Fifth Ave is utilized for event parking at Heinz Chapel, creating congestion and aggressive driving along Bellefield Ave.

SUGGESTION:

- Work with Heinz Chapel to explore alternative parking arrangements for weekday events.

CONSIDERATIONS:

- Consider reserving the rightmost parking lane for Heinz Chapel events.

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

OBSERVATION: Roadway luminaries on west side are burnt out or have lost power.

**Location of nonfunctional luminaries**

**Pedestrian scale lighting example**

SUGGESTION:

- Replace and repair any missing lights and fixtures.

CONSIDERATIONS:

- Add pedestrian scale lighting on east and west sides.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Rare** | **High** | **Moderate-High** | **D** |

OBSERVATION: Bus lane signage is not consistent at Fifth Ave & Bellefield Ave as it is along the rest of Fifth Ave. Pedestrians cross Fifth Ave without looking left. Audible walk signal on northeast corner is not as loud as others at the intersection.

**Audible cross signal has low volume**

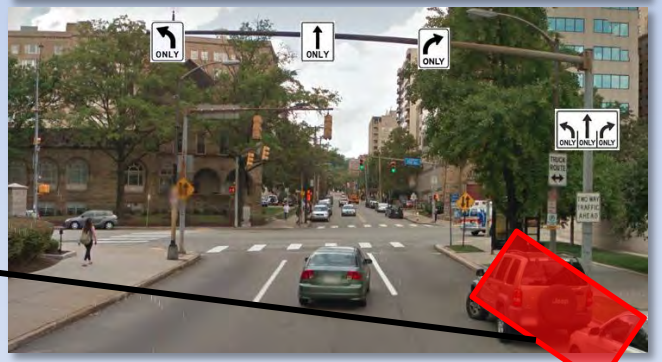
SUGGESTION:

- Add "BUS LANE Look Left" Signage (similar to others on Pitt's campus facing Fifth Ave).
- Adjust volume/speaker on northeast corner.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Occasional** | **Low** | **Moderate** | **C** |

OBSERVATION: Lane assignment is confusing for right and left turns because parking on the east side blocks right lane queue area. Current lane configuration is Left, Thru/Right, Right on NB Bellefield Ave.

**Current**




**Eliminate parking near intersection**

SUGGESTION:

- Eliminate 2-3 parking spots on Northbound approach to extend the right turn lane.
- Create dedicated lane arrangement of left, through, and right.
- Include signage and pavement markings clearly stating lane designations.

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

OBSERVATION: "End One Way" signage is outdated on NB Bellefield.

SUGGESTION:

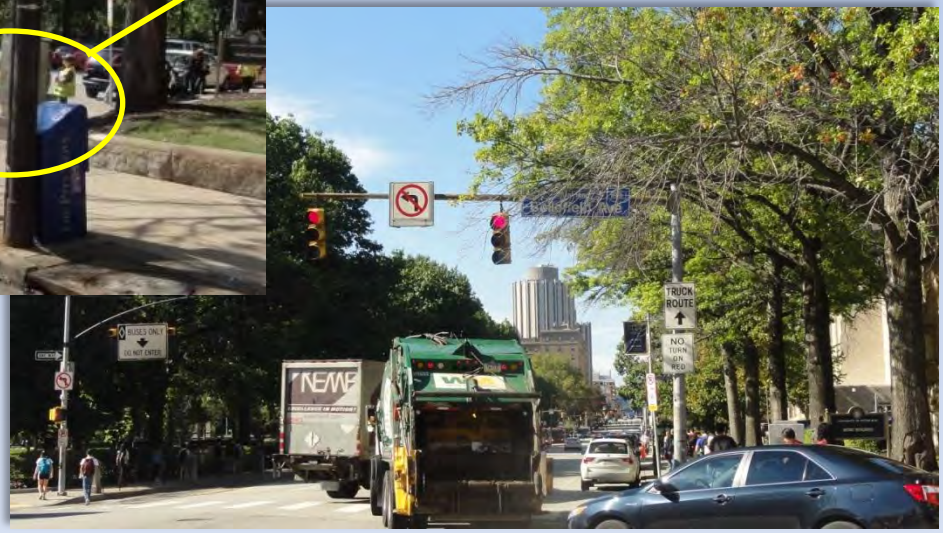
- Update "End One Way" signage to latest standards.

# *Fifth and Bellefield*

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

OBSERVATION: The intersection configuration and high volume of pedestrians on the west side of Bellefield at Fifth create a number of pedestrian-vehicular conflicts. It is difficult for drivers heading south on Bellefield and turning right onto Fifth to see crossing pedestrians.

**Crossing pedestrians are difficult to see**




SUGGESTION:

- Implement a “No Turn on Red” for the southbound approach.

# *Fifth and Bellefield*

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

OBSERVATION: Heavy pedestrian-vehicle conflicts were observed repeatedly at the intersection of Fifth Ave and Bellefield Ave, specifically the crosswalk on the west side of the intersection. Pedestrians were observed crossing the east side of Fifth Ave even though it's prohibited.

**Westside of Fifth**

**Eastside of Fifth**

**Prohibited crossing**

# *Fifth and Bellefield*

SUGGESTION:

- Install bulb-outs on all quadrants except for the southwest corner.
- Provide a crosswalk on the east side of the intersection to reduce the volume of pedestrians on the west side of the intersection.
- Increase the lead pedestrian interval.

CONSIDERATIONS:

- Cost.
- Right-of-way.
- With these improvements, study the possibility of an exclusive pedestrian phase at this intersection

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

OBSERVATION: The controller box is not ideally located, considering the number of visually impaired pedestrians in the area.

**Bayard @ Bellefield**

**Fifth @ Bellefield**

SUGGESTION:

- Relocate controller cabinet to a more suitable location.

CONSIDERATIONS:

- Cost.
- Right-of-way.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Occasional** | **Low** | **Moderate** | **C** |

OBSERVATION: There appears to be speeding on the Bellefield Ave corridor.

**There is currently no speed limit signage on Bellefield Ave**

SUGGESTION:

- Add pavement markings such as a centerline double yellow and parking space delineation in order to calm traffic.
- Add 25 MPH speed limit signs.

## *North Bellefield between Fifth and Centre*

Stripe loading zone on the eastside of Bellefield Ave at the WPSBC campus to calm traffic.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Occasional** | **Low** | **Moderate** | **C** |

OBSERVATION: Schenley High School Developer's have recommended a No Left Turn restriction from NB Bellefield Ave onto Centre Ave during peak hours (7-9 AM and 4-6 PM). The City of Pittsburgh has removed parking on Bayard Street to accommodate bicycle lanes. More residential development is proposed at Centre Ave and Craig Street. Dithridge Street is one-way northbound between Fifth Ave and Centre Ave. All of these developments may result in additional vehicle-pedestrian-bicycle conflicts/congestion along Bellefield Ave.

SUGGESTION:

- Given the anticipated growth in vehicular volume, pedestrian volume, and parking maneuvers, the City should further study the possibility of converting North Bellefield Ave between Centre Ave and Bayard to one-way southbound.

CONSIDERATIONS:

- Traffic operations for WPSBC, residents, and businesses.
- Further traffic calming measures.
- Adjustment of way-finding signage for WPSBC

Traffic calming features to consider if North Bellefield is made one way.

**Chicanes**

**Raised Crosswalks**

**Bulb-outs**

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Rare** | **Medium** | **Moderate** | **C** |

OBSERVATION: There is no advance signage of School Zone. School Zone speed limit signs for SB Bellefield are located too close to the school driveway.

S1-1

S4-3P

SUGGESTION:

- Install S1-1 (School) sign with S4-3P (School) plaque in advance of the school speed limit zone signing.
- Relocate the SB School Zone signs at least 200 ft in advance of school grounds.

CONSIDERATIONS:

- Upgrade to new School Zone signs / flashers.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Rare** | **Negligible** | **Low** | **A** |

OBSERVATION: Way-finding signage directing and labeling school is small or missing.

**Current Signage**

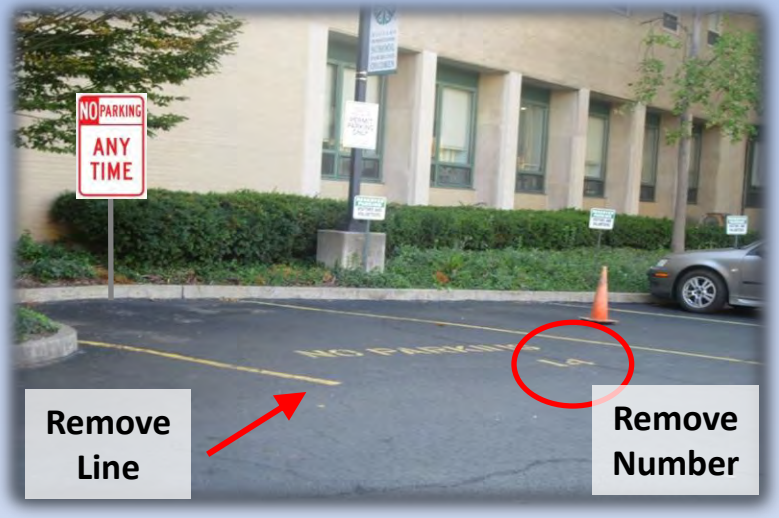
**Small entryway signage in front of school**

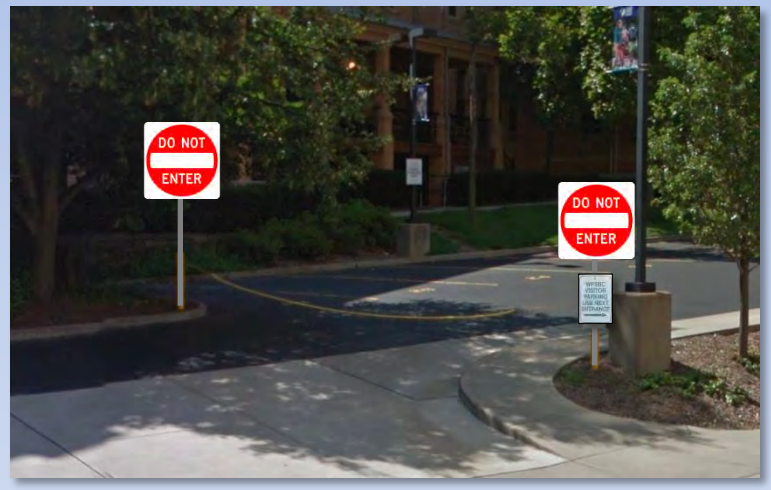
SUGGESTION:

- Install more way-finding signs on Fifth Ave, Centre Ave, and Bayard St.
- Install larger, more visible signage in front of WPSBC Campus.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Rare** | **Negligible** | **Low** | **A** |

OBSERVATION: The pavement markings in the "no parking" space are conflicting. There is no standard signage stating that the driveway is one-way.




SUGGESTION:

- Remove parking stall line and parking number. Install a No Parking sign and crosshatch the restricted parking area.
- Install Do Not Enter Signage at the driveway exit.

CONSIDERATIONS:

- This parking space seems to be consistently used.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Frequent** | **Low** | **Moderate-High** | **D** |

OBSERVATION: Sidewalk is not wide enough or missing altogether in loading and unloading zones in front of the building. Buses and Western PA School for Blind Children personnel must navigate around vehicles parked in the visitor spaces in front of the building.

SUGGESTION:

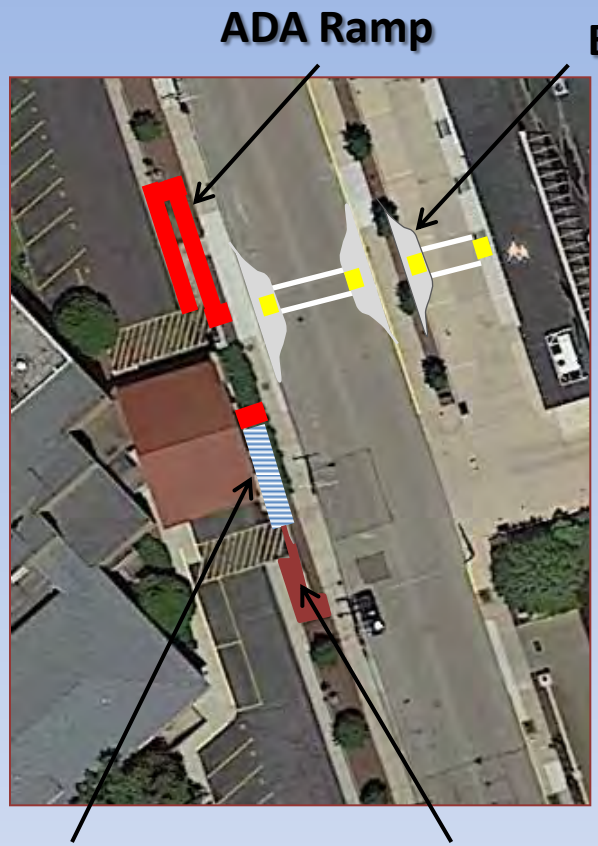
- Restrict buses/vans from loading and unloading underneath the entranceway where sidewalk width is limited to 5-6 feet and cannot accommodate chair lifts (lifts ~ 7 ft. wide).
- Remove the parking to the north and south sides of the entranceway and install a sidewalk wide enough to accommodate lifts (minimum 12 ft.).

CONSIDERATIONS:

- Maintain 2 travel lanes to allow buses and vans to navigate around one another.
- WPSBC Operations

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

OBSERVATION: Western PA School for Blind Children students and personnel must cross Bellefield Ave but none of the existing unmarked crossing locations are convenient or ADA compliant. The WPSBC strategic plan includes a sky bridge to link the facilities from either side of Bellefield Ave.



SUGGESTION:

- The proposed sky bridge would mitigate this issue. However, If the project does not move forward, an ADA compliant crosswalk and ramps should be constructed in front of the building at a consolidated location.

CONSIDERATIONS:

- Cost.
- Right-of-way.
- Utilities.
- Weather.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Occasional** | **Low** | **Moderate** | **C** |

OBSERVATION: Individual school districts are responsible for providing transportation for children who reside in their district and attend WPSBC. A total of 80-90 vans and buses (small and full-size) show up at the school around the same time each weekday, which causes both congestion and potentially unsafe conditions along Bellefield. Additionally, in many cases, a vehicle is carrying only one or two students per trip.

SUGGESTION:

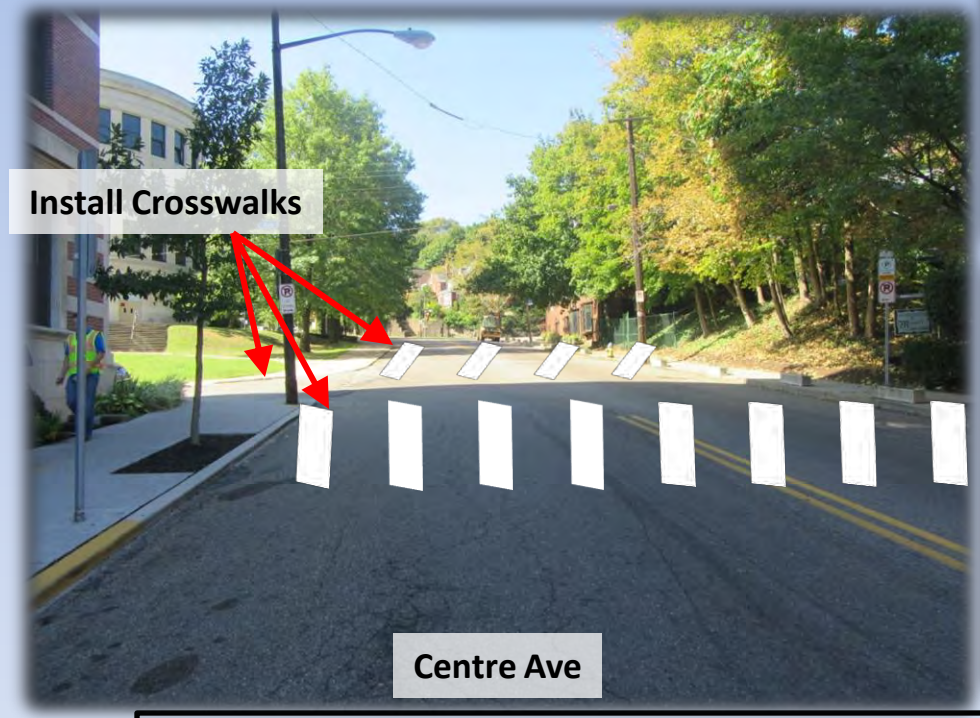
- Broker a conversation with the PA Department of Education to discuss strategies to better coordinate school transportation services for WPSBC and other similar facilities.

CONSIDERATIONS:

- School funding policies.
- Travel times and distances.

| EXPECTED FREQUENCY | EXPECTED SEVERITY | RISK RATING | |
|---|---|---|---|
| **Rare** | **Medium** | **Moderate** | **C** |

OBSERVATION: Crosswalks and some ADA compliant curb ramps are missing at the intersection of Bellefield Ave and Centre Ave.



SUGGESTION:

- Provide continental ("piano key") style crosswalks at this intersection on all legs.
- Install ADA compliant curb ramps on Centre Ave.

CONSIDERATIONS:

- Pitt bus stop on Centre Ave.
- Future Development.

## 4. CONCLUSION

The Road Safety Audit program is conducted to identify opportunities for improvements in safety for transportation system users. The safety issues 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.

The City, Neighborhood, and School have already deployed various safety enhancements in the area, including school zone signage, crosswalks, generous sidewalk widths throughout the corridor, lead pedestrian phases at Fifth Avenue and Bayard Street, an exclusive pedestrian phase at Forbes Avenue, and audible pedestrian push buttons at the signalized intersections of Bayard Street and Fifth Avenue. In addition, Western Pennsylvania School for Blind Children (WPSBC) has implemented procedures for safe driving on the school campus and OTMA and the universities have developed pedestrian safety education programs. As part of the audit, the following strategies were identified as ways to further enhance safety:

<u>Immediate</u>

- Repair lighting on western side of Bellefield Ave between Forbes Ave & Fifth Ave. (City)
- Adjust volume of audible pedestrian signal on the northeast corner of Fifth Ave. (City)
- Increase the lead pedestrian interval at Fifth Ave. (City)

<u>Short-Range</u>

- Replace damaged signs and worn pavement markings. (City)
- Replace non-standard signs with MUTCD standard signage. (City)
- Trim or remove vegetation at Fifth Ave. (Property Owners)
- Stripe and sign a 15-minute maximum loading zone in front of the Pittsburgh Board of Education Administrative Building. (City)
- Update the northbound one way signage on Bellefield Ave approaching Fifth Ave. This includes the two-way traffic ahead signage (W6-3) followed by END ONE WAY (R6-7) signage prior to the intersection. (City)
- Install supplemental DO NOT ENTER sign on the mast arm for SB Bellefield approach at Fifth Ave. (City)
- At southwestern corner of Fifth Ave intersection, add “Bus Lane Look Left” sign. (City)
- Install a “No Turn on Red” sign (R10-11a) at the southbound approach of Fifth Ave. (City)
- Add 25 MPH Speed limit signs throughout Bellefield Ave corridor. (City)
- Add centerline double yellow and parking space delineation pavement markings between Fifth Ave & Centre Ave. for traffic calming. (City)
- Stripe loading zone on east side of Bellefield Ave at WPSBC to facilitate traffic calming. (City)
- Install advance school signage prior to school speed limit sign. (City)

- Install more way-finding signs for WPSBC on Fifth Ave, Centre Ave, and Bayard St. Install larger, more visible signage in front of WPSBC. (City, WPSBC)
- Remove parking stall line and parking number on no parking spot adjacent to building. Crosshatch restricted area and install a No Parking sign. (WPSBC)
- Install Do Not Enter signs at exit of one way school driveway. (WPSBC)

Mid-Range

- Replace all missing lane designation arrows and stop bars throughout corridor. (City)
- Install piano key crosswalks of a consistent design at all intersections including the midblock crosswalk at Filmore St. (City)
- Restripe Bellefield Ave between Forbes Ave and Fifth Ave to include two travel lanes and a designated parking lane. (City)
- Install backplates with retroreflective tape to all signals to enhance night time visibility. (City)
- On the east side of Bellefield Ave at the intersection of Forbes Ave, remove the three parking spaces closest to the intersection and include pavement markings to guide turns from Forbes Ave. (City)
- On the east side of Bellefield Ave at the intersection of Fifth Ave, remove the three parking spaces closest to the intersection and create dedicated lanes for each turning movement and through passage. Include signage and pavement markings that clearly state lane designations. (City)
- Upgrade existing school flashers and relocate to be at least 200 feet from school driveway. (City)

Long-Range

- Install traffic signal equipment upgrades at Forbes Ave to include audible traffic signals and countdown pedestrian signal heads. (City)
- Provide ADA complaint wheelchair ramps on the south side of Forbes Ave and across the eastbound and westbound approaches of Centre Ave. (City)
- Create a more attractive crossing at Filmore St by constructing a bulb-out on the east side of Bellefield Ave and installing ADA complaint curb ramps, pedestrian crosswalk signage, and pedestrian scale lighting. (City)
- Construct bulb-outs at Fifth Ave on all corners except the southwest corner. Provide a crosswalk on the east side of the intersection. (City)
- Relocate controller cabinets at Fifth Ave and Bayard St to a more suitable location, considering the visually impaired. (City)
- Conduct a multi-modal transportation study to determine if a one-way southbound Bellefield Ave between Centre Ave and Bayard St is needed due to the anticipated growth of vehicular, bicycle, and pedestrian traffic. Include consideration of one-way traffic calming features such as chicanes, raised crosswalks, and bulb-outs when studied. (City)

- Remove the parking to the north and south of WPSBC entrance and install a sidewalk wide enough to accommodate lifts (at least 12 feet). Restrict buses and vans from loading and unloading under the entryway. (WPSBC)
- If WPSBC decides not to move forward with sky bridge plan, construct a ramp and new staircase in front of the building at a consolidated location. Include ADA features, bulb-outs, and highly visible crosswalk to allow crossing between buildings. (WPSBC)
- WPSBC and the Pennsylvania Department of Education should discuss strategies to better coordinate school transportation services for WPSBC. (WPSBC)