



BROWNSVILLE ROAD CORRIDOR

TRAFFIC SAFETY PLAN

Calhoun Ave to Maytide St.

Focus Group Meeting Date-05/23/2023



Topics to be discussed:

- **Study Area Profile**
- **Traffic & Transit**
- **Traffic Crash Analysis**
- **Existing Condition Analysis**
- **Potential Treatment Options**
- **Next Steps**
- **Discussions**



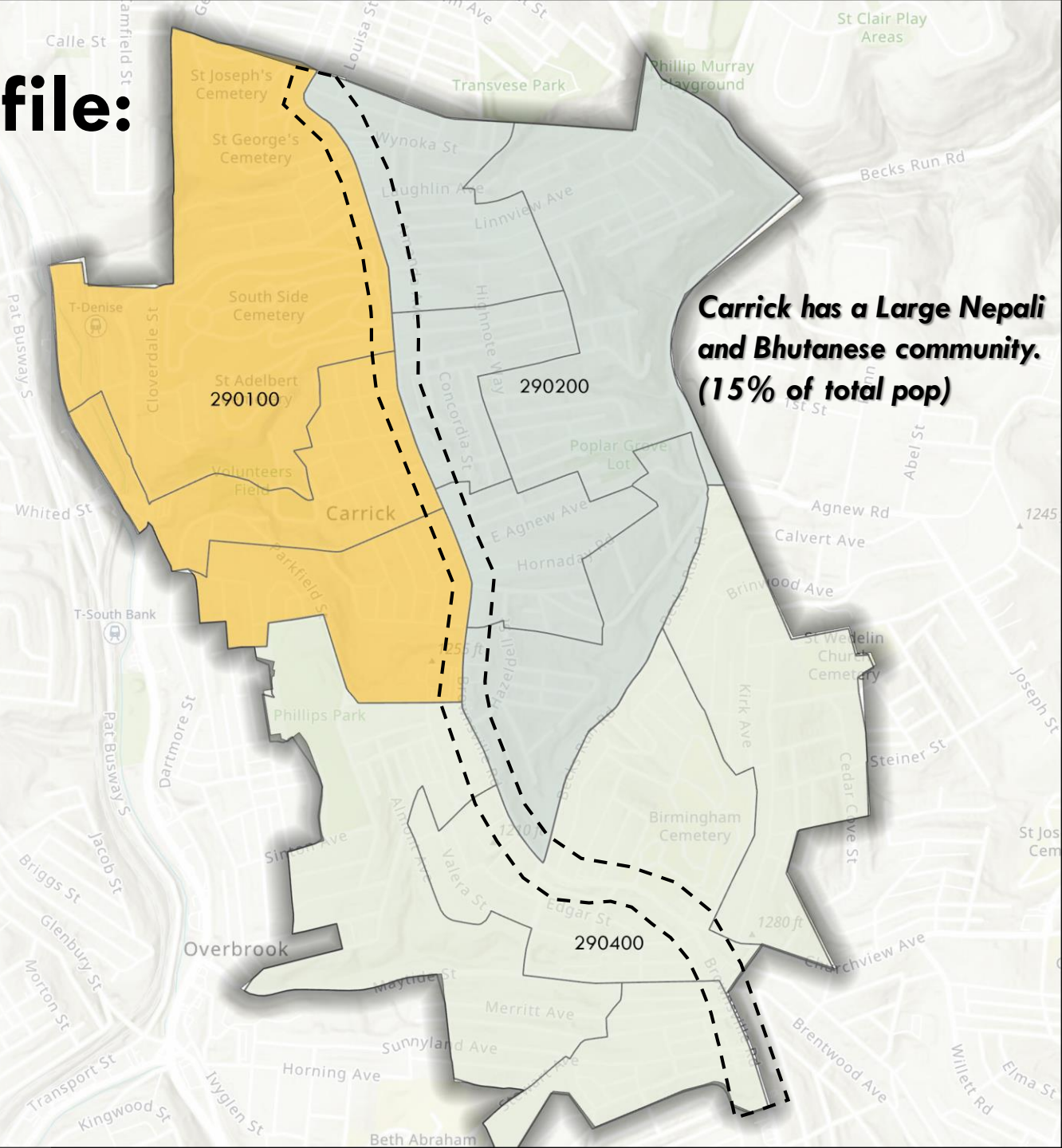
Study Area Profile:

Brownsville Road

Neighborhood:

Carrick

Demographics by Census Tract		City Wide	Carrick Census Tracts		
			290100	290200	290400
Population		302,971	2,130	4,141	4,019
Race	White	62%	67%	64%	72%
	Non-White	38%	33%	36%	28%
Age	Under 18 year	14%	14%	19%	14%
	Over 65 years	16%	14%	20%	17%
	Median Age	34	40	45	38
Individuals with Special Needs		15%	21%	23%	21%
Median Income		\$58,000	\$40,000	\$40,000	\$50,000
Commuter Characteristics					
No Vehicle		10%	13%	16%	11%
Public Transit		9%	17%	18%	8%
Walk to Work		6%	5%	1%	1%





Study Area Profile:

Brownsville Road
(Calhoun Ave to Maytide St.)

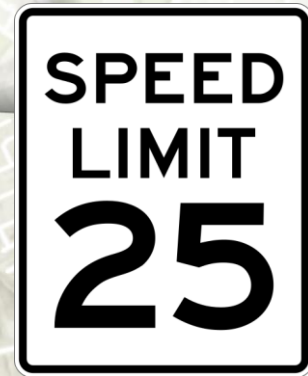
Neighborhood: **Roosevelt PreK - 1**
Carrick

- Corridor Length: 1.9 Miles
- DOMI Class: Collector
- Truck traffic-5%.
- Average Road Width: 40'
- Speed Limit: 25 MPH
 - Three 15MPH School Zones in corridor

Roosevelt 2-5

Carrick High School

Concord K-5



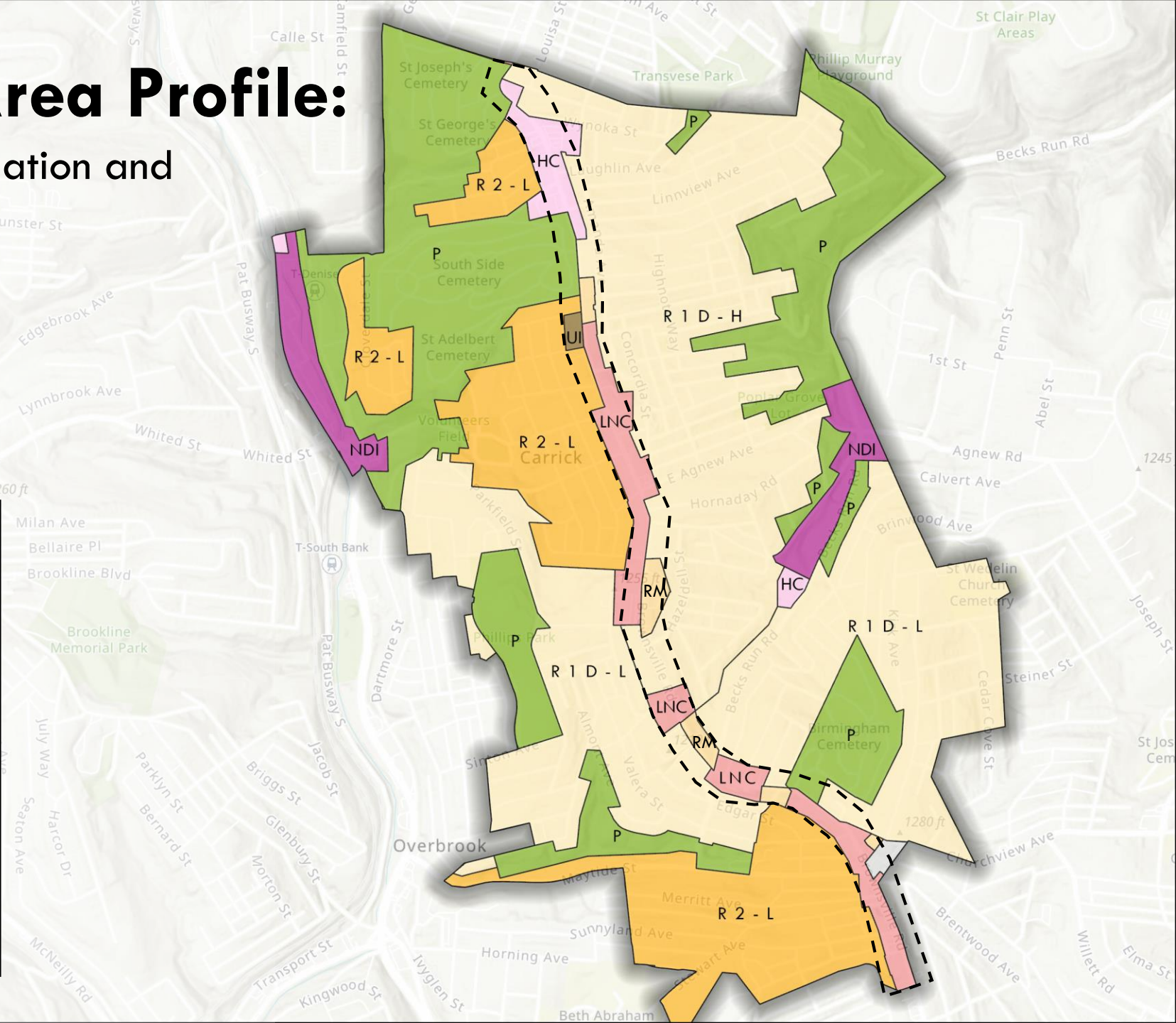


Study Area Profile:

Zoning Information and Destinations

Land Use Zones

- Highway Commercial (HC)
- Hillside (H)
- Local Neighborhood Commercial (LNC)
- Multi-Unit Residential (RM)
- Neighborhood Industrial (NDI)
- Parks (P)
- Planned Unit Development (AP)
- Single-Unit Detached Residential (R1D)
- Two-Unit Residential (R2)
- Urban Industrial (UI)





Study Area Profile:

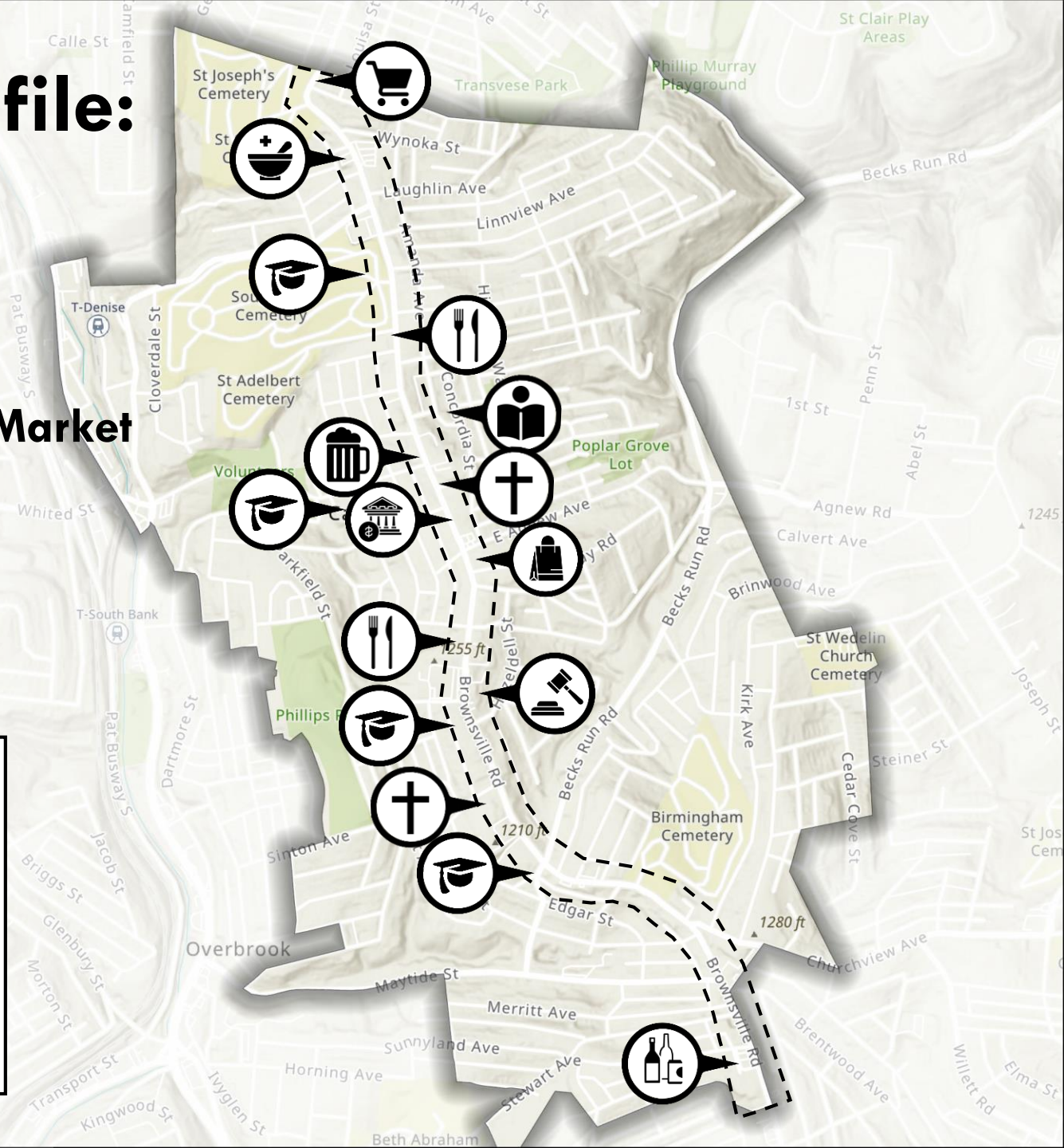
Pedestrian Generators:

- 4 Schools
- 5 Churches
- 1 Temple
- 4 Pharmacy/Grocery/Market
- 3 Daycares
- 3 Playgrounds
- 2 Banks
- 1 Library



Popular Destinations

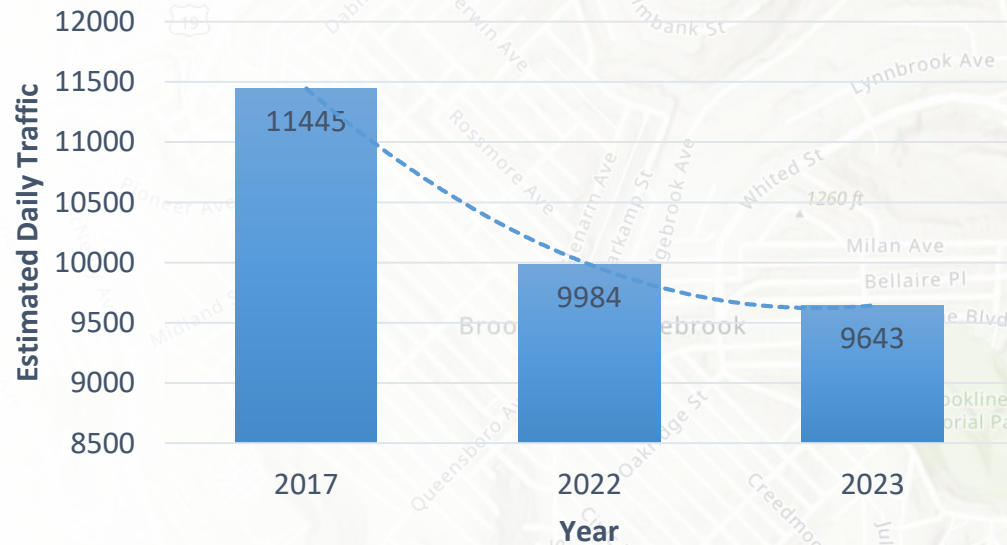
	Bank		Grocery Store		Library
	Pharmacy		Brewery/Bar		School
	Liquor Store		Restaurant		Church
	Court House		Shopping		





Average Daily Traffic (2023)

Daily Traffic Trend 2017-2023



Between Blvd & E. Meyers
9,561 Vehicles/Day
85th Percentile Speed-36 MPH
Max Recorded Speed- 82 MPH.
% driving over speed limit-89%

Between Wycox & Belplain
9,725 Vehicles/Day
85th Percentile Speed-34 MPH
Max Recorded Speed- 77 MPH
% driving over speed limit-85%



Transit Corridor

PRT Routes: 51, 51L

Average Daily Ridership:

Total 1678 (01/2023)

14%

Increase in Ridership
compared to January 2022



196
DAILY
RIDERS

- Cedricton 106 riders
- Wynoka 90 riders



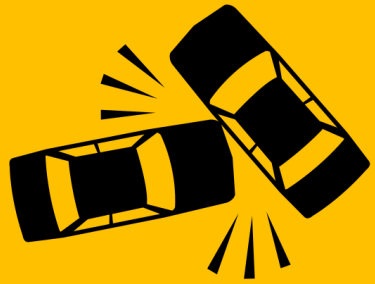
250
DAILY
RIDERS

- Parkfield St.



230
DAILY
RIDERS

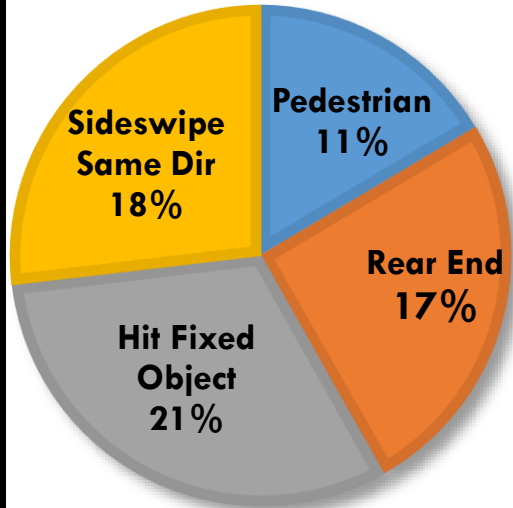
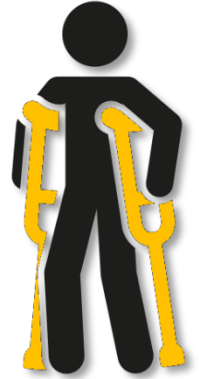
- Sankey 122
- Maytide 108



Crash Analysis (2017-2021)

209 Total
Crashes

52 Injury
Crashes



MAJOR CRASH TYPE



45%

Night Time Crashes
With Street Light



11%

Pedestrian Crashes (23)
All resulted in Injury.

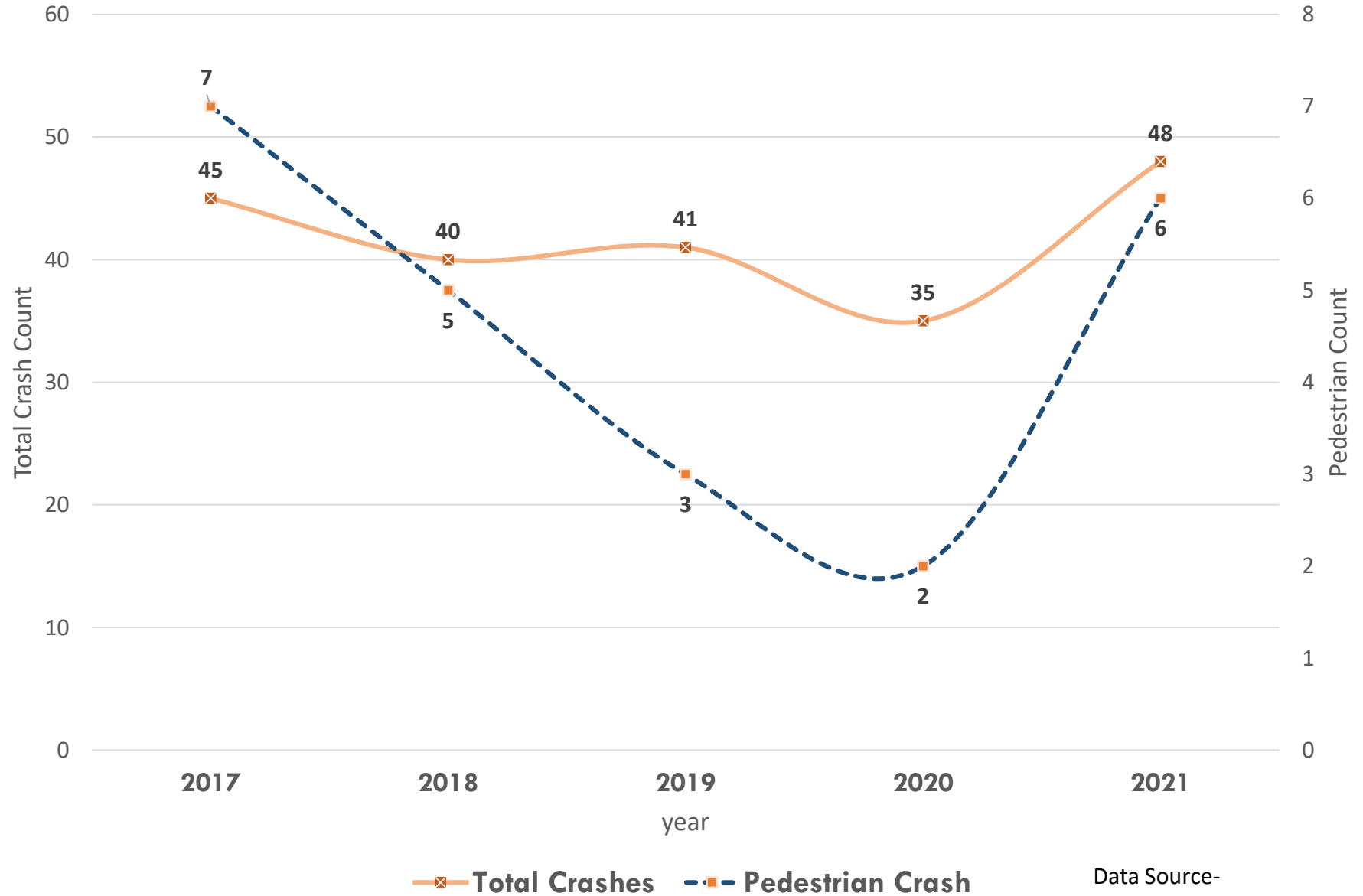
2



**Reported
Bicycle
Crashes**



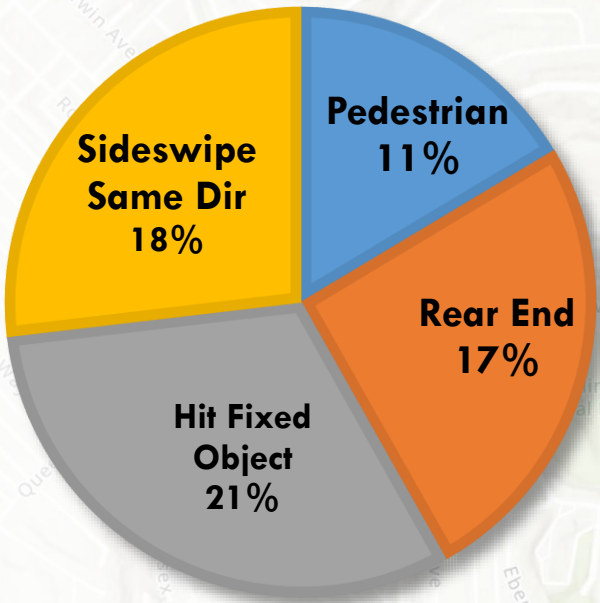
Crash Analysis (2017-2021)



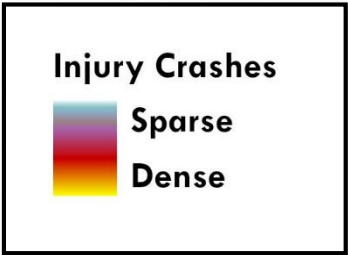
Data Source-
Pennsylvania Crash Information Tool



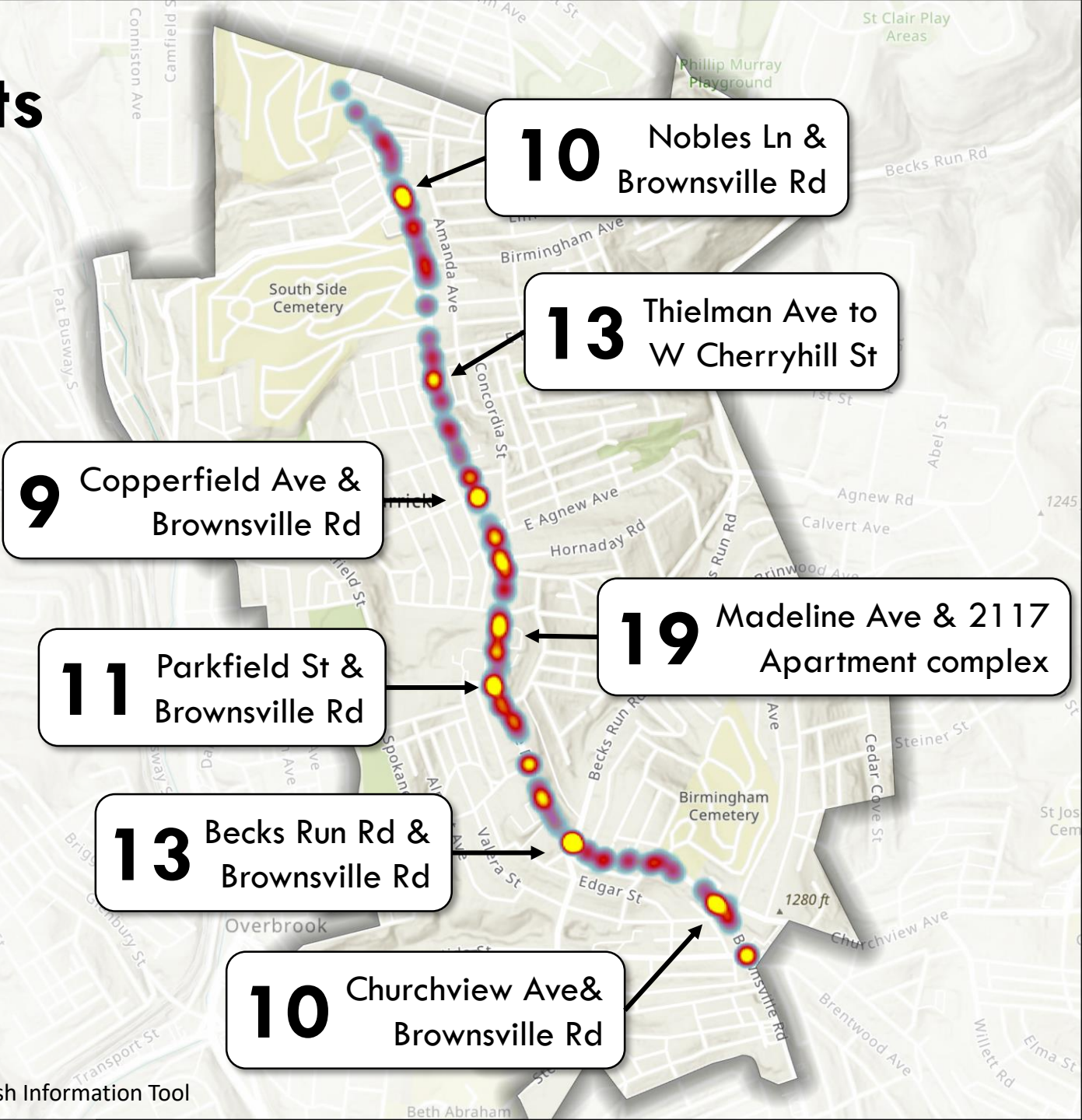
Crash Hotspots (2017-2021)



MAJOR CRASH TYPE

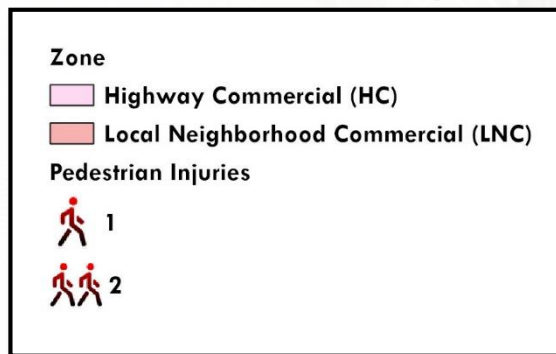


Data Source-
Pennsylvania Crash Information Tool





Pedestrian Crash Hotspots (2017-2021)



**W. Woodford Ave to Parkfield St
Pedestrian Generators**

- Retail
- Restaurants
- Rite Aid

**Wynoka St to Nobles Ln
Pedestrian generators**

- Stop 'n Save
- Rite Aid

**Newett St to Hornaday Rd
Pedestrian Generators**

- Library
- Churches
- Gas Station



Walkability Score

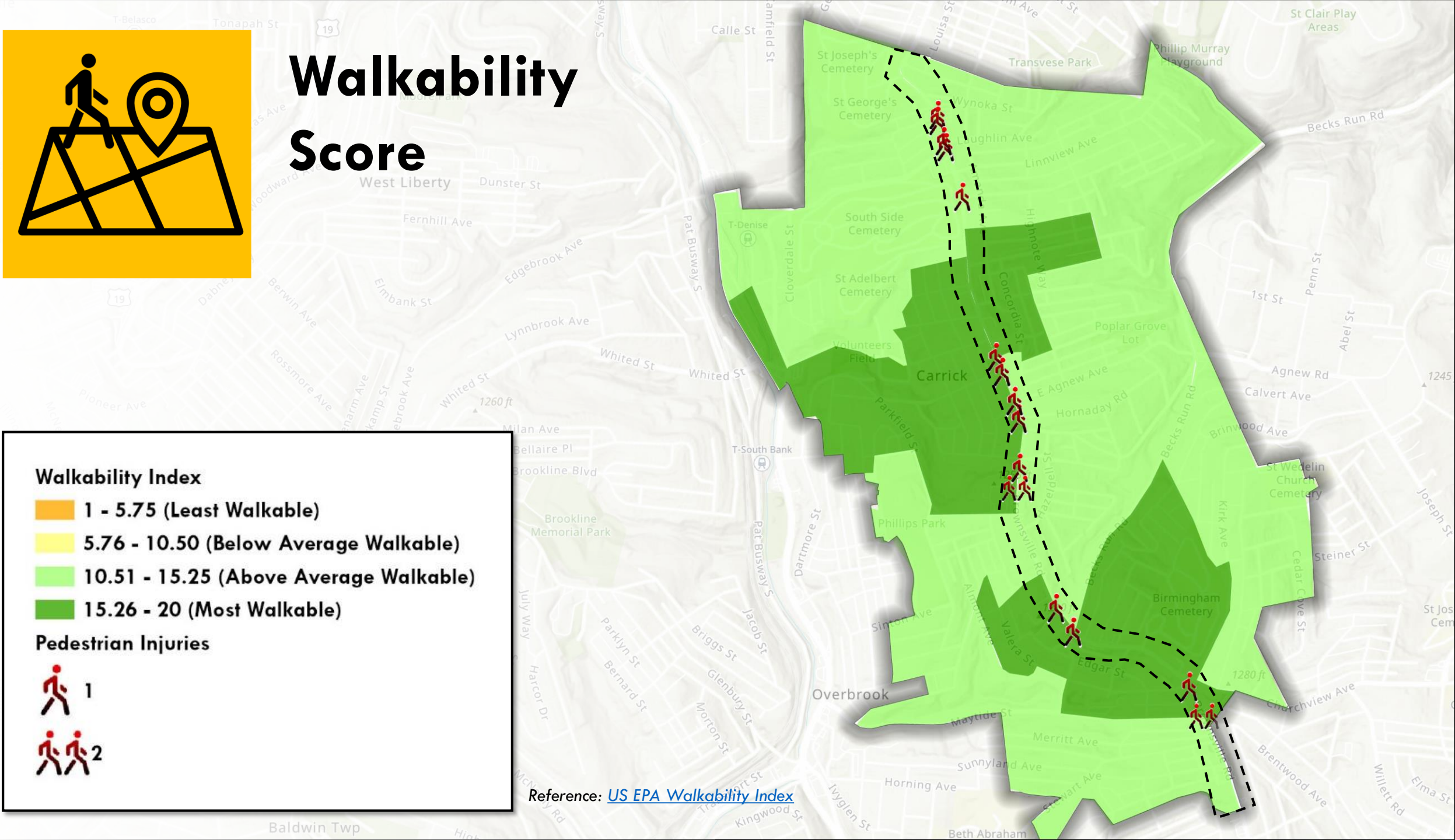
Walkability Index

- 1 - 5.75 (Least Walkable)
- 5.76 - 10.50 (Below Average Walkable)
- 10.51 - 15.25 (Above Average Walkable)
- 15.26 - 20 (Most Walkable)

Pedestrian Injuries



Reference: [US EPA Walkability Index](#)





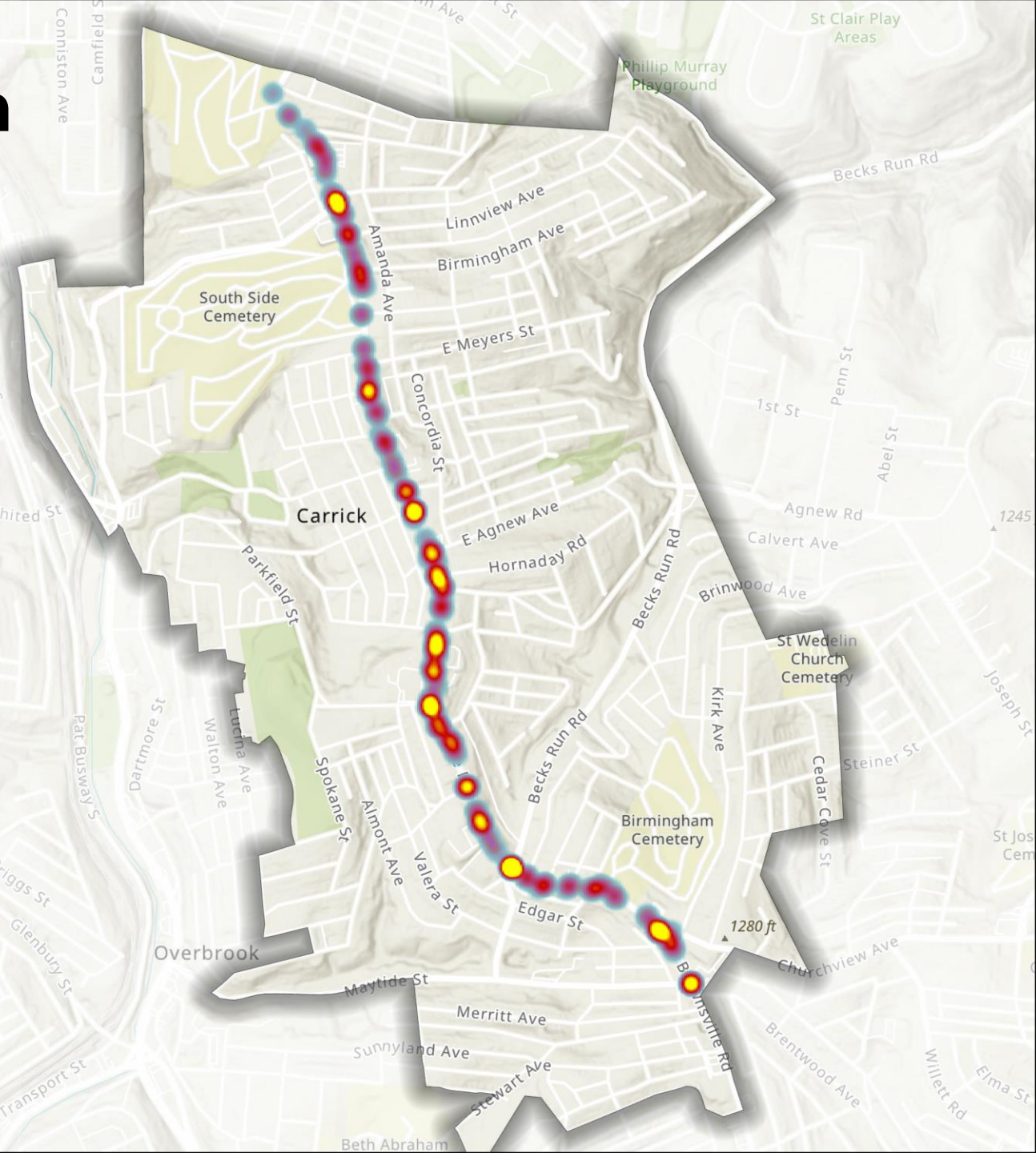
Crash Prediction Model Analysis (2017-2021)

Observed Crashes / Year	Predicted Crashes / Year	Expected Crashes / Year	Excess
18.60	6.27	17.12	10.85

Injury Crashes



Reference: [PennDOT HSIP](#)





Existing Condition Analysis:

- **Identified Issues**
- **Crash Nature**
- **Transit Ridership**



Wynoka St to Minooka St

Identified Issues:

- High pedestrian generator segment.
 - High volume driveways.
 - Un-signalized pedestrian crossing location
 - Lighting improvements needed
- Wynoka St should be realigned from a “Y” to a “T” intersection.

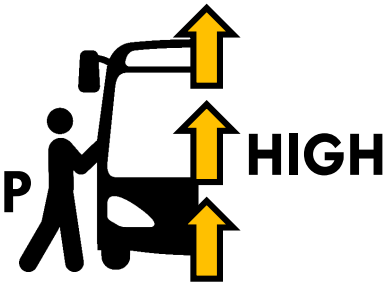
Crash Nature

8 Reported Crashes

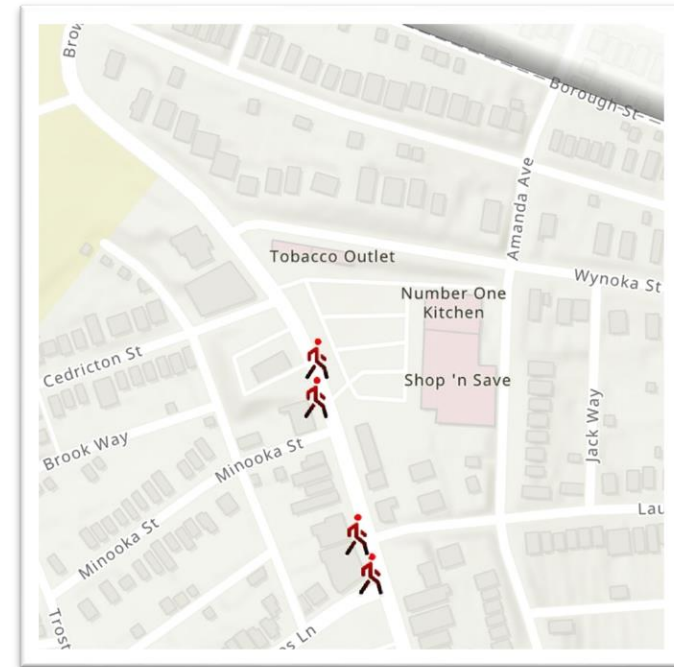
- Hit fixed object
- Pedestrian Crash (2)



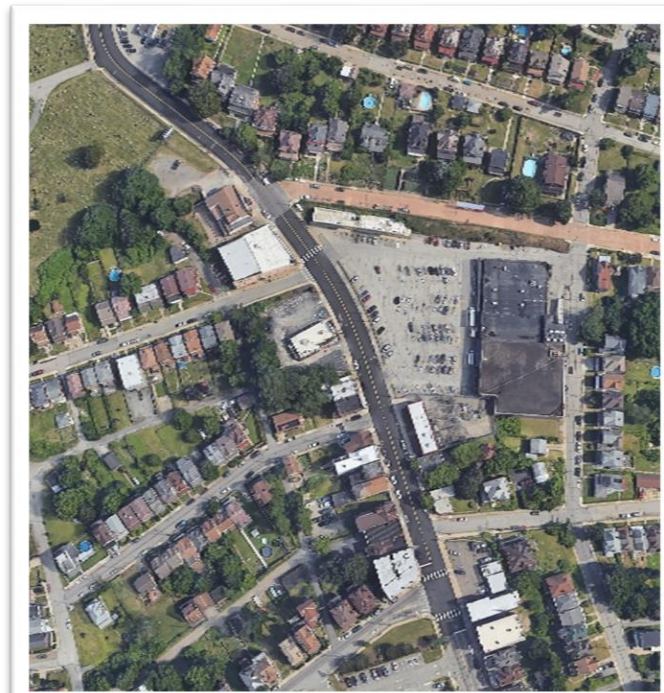
TRANSIT RIDERSHIP



Bus Shelter at Wynoka St. Stop



Wynoka St & Brownsville Rd “Y” Intersection





Nobles Ln & Brownsville Rd

Identified Safety Issues

- ADA ramp & sidewalk upgrades needed
- Pedestrian crossing improvements needed at the intersection

- Evaluate proper lane delineation & Left turn lane.
- Full signal replacement.

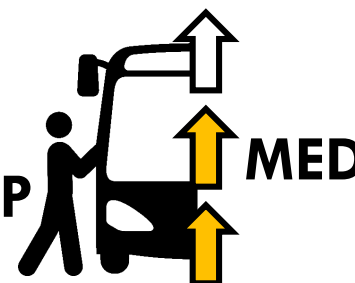
Crash Nature

10 Reported Crashes

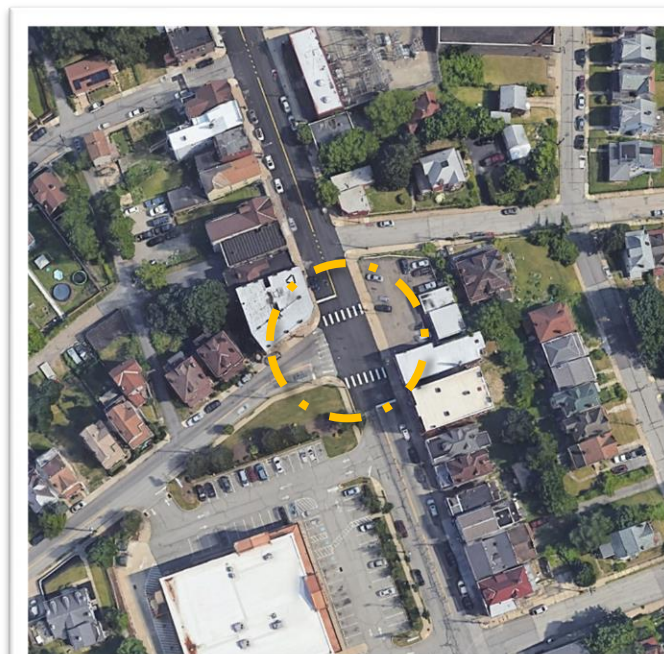
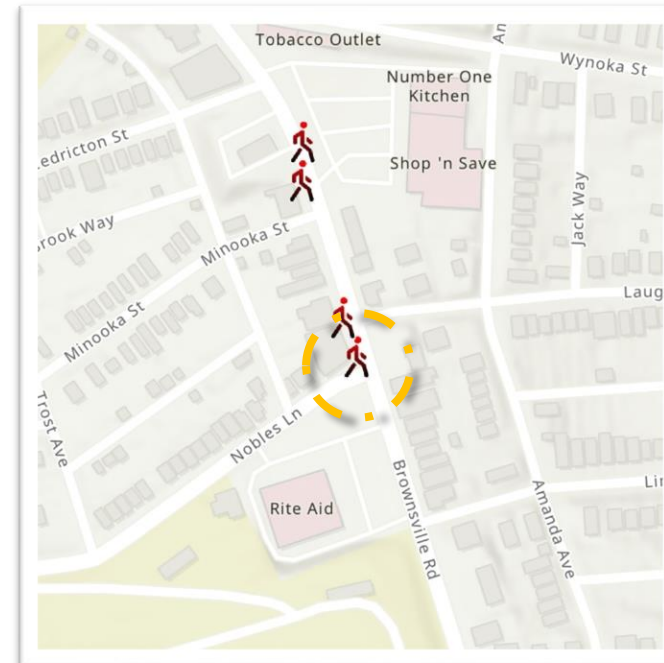


- Angle
- Pedestrian
- Rear End
- Crash

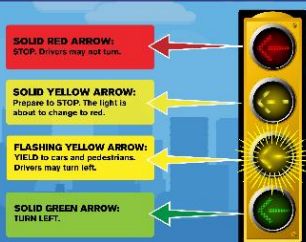
TRANSIT RIDERSHIP



No Bus Shelters at this location.



What Does the Flashing Yellow Arrow Mean?

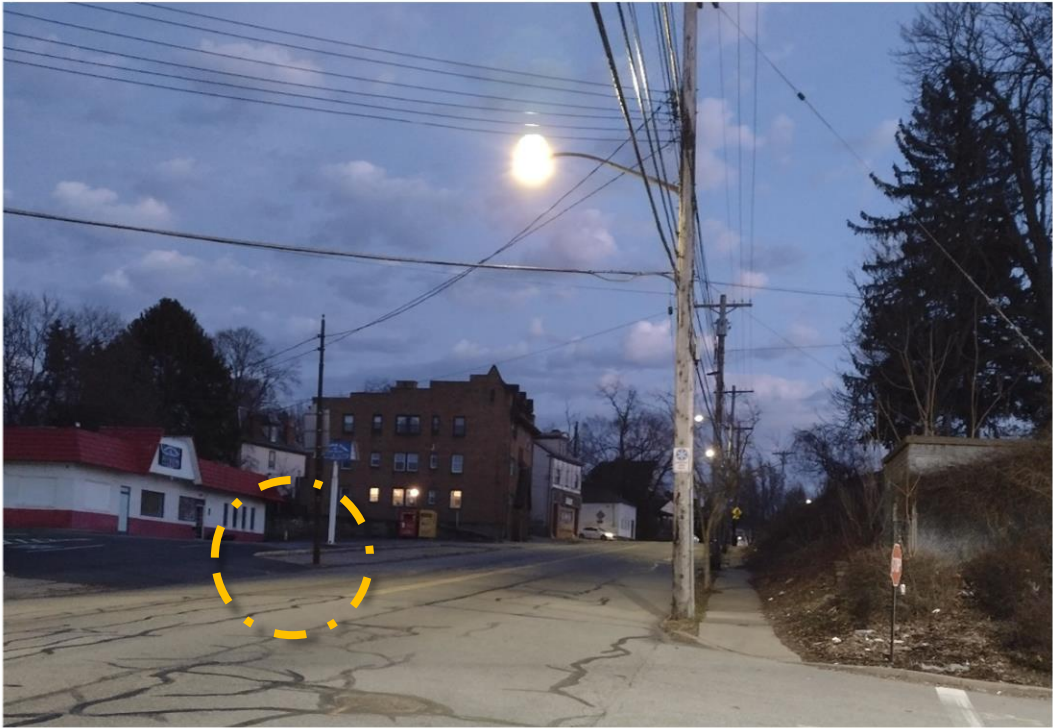
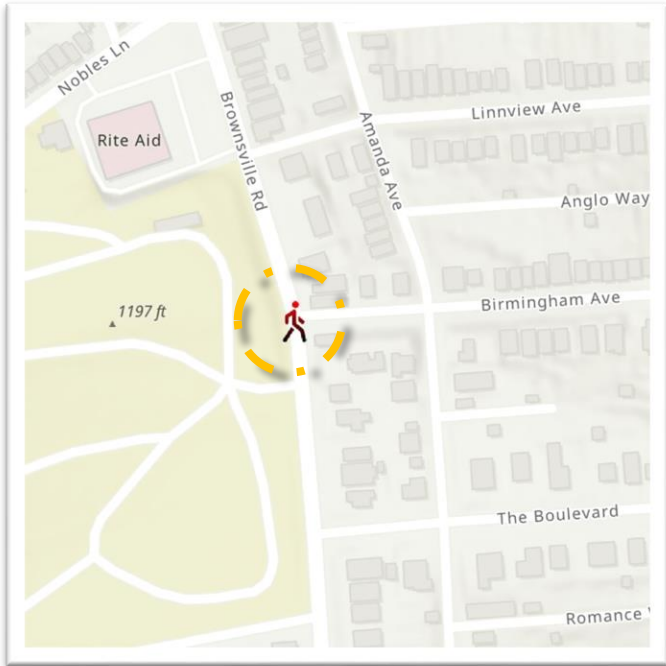




Birmingham Ave & Brownsville Rd

Identified Safety Issues

- Un-signalized pedestrian crossing needs improvement
- Lighting improvements needed



One side street lighting which is present along the corridor creates dark spots along intersections and driveways (seen above).

Crash Nature

7 Reported Crashes

- Hit Fixed Object
- Head On
- Pedestrian Crash (1)
- **5 Nighttime crash**



TRANSIT RIDERSHIP



NO STOPS





The Boulevard & Brownsville Rd

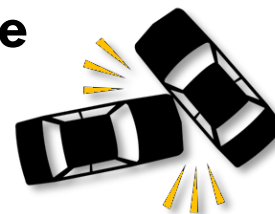
Identified Safety Issues

- Un-signalized pedestrian crossing
- High pedestrian generator Pittsburgh Roosevelt Pre-K 1

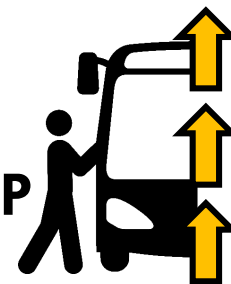


Crash Nature

2 Reported
Crashes

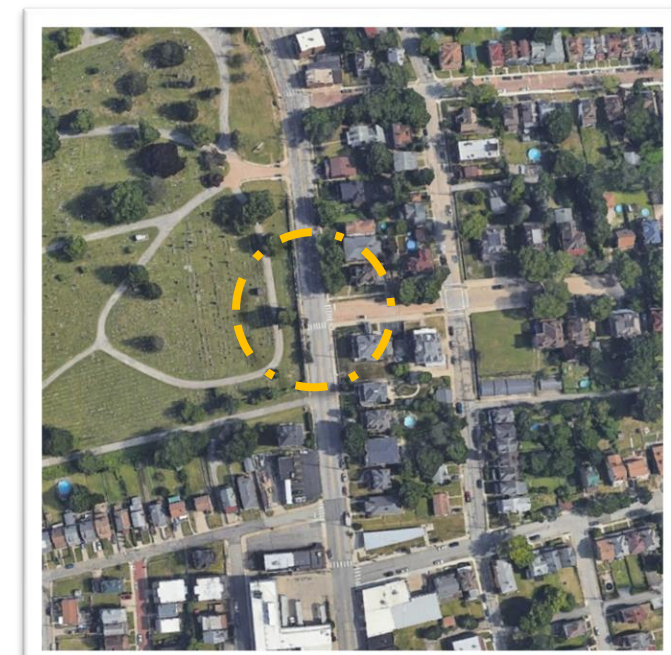
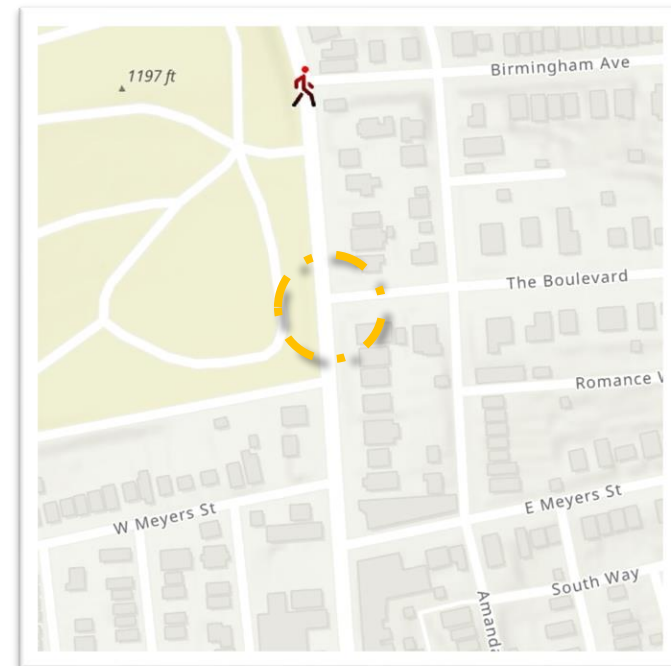


**TRANSIT
RIDERSHIP**



HIGH

No Bus Shelters at this location.



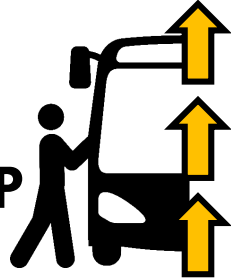


E. Meyers St & Brownsville Rd

Identified Safety Issues

- Un-signalized pedestrian crossing
- High pedestrian generator-Carrick Farmer's Market
- More pedestrian scale lighting improvement needed.

**TRANSIT
RIDERSHIP**

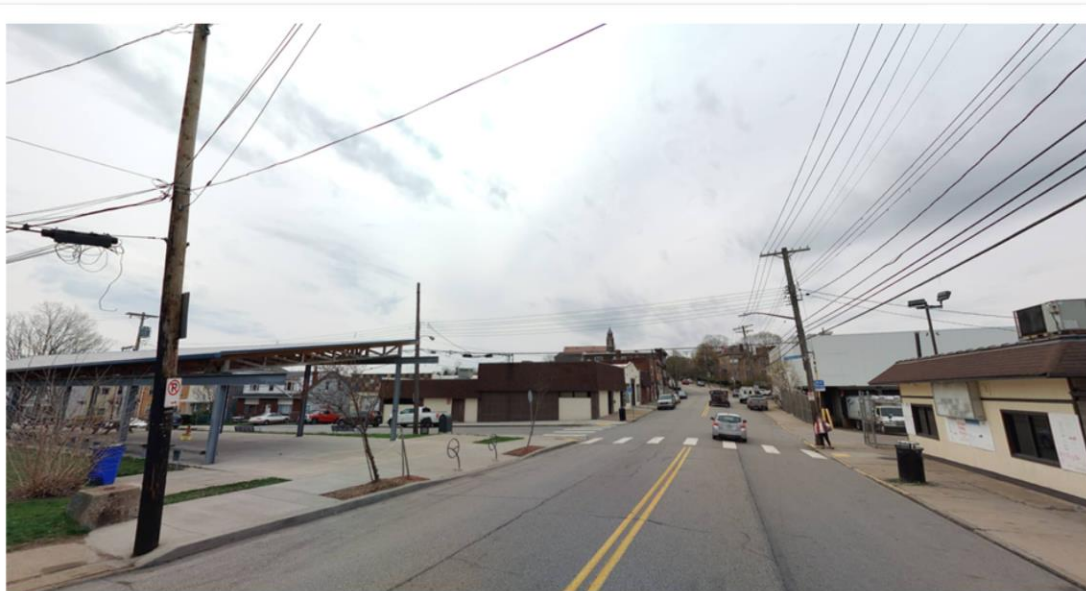
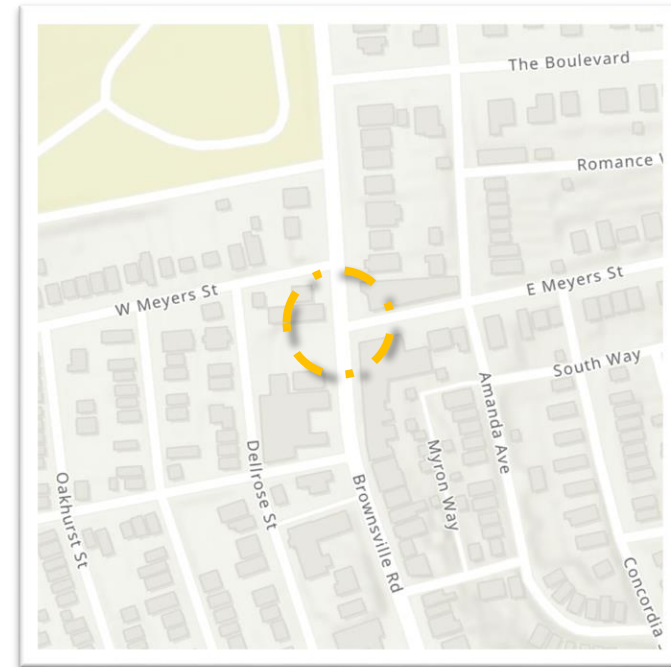
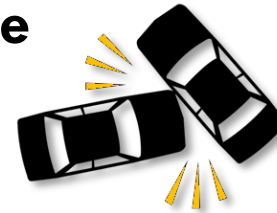


HIGH

No Bus Shelters at this location.

Crash Nature

**3 Reported
Crashes**





Thielman Ave & Brownsville Rd

Identified Safety Issues

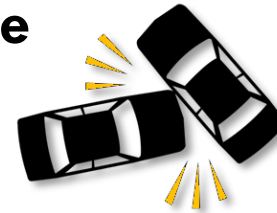
- Deteriorated sidewalk and curb ramps
- Lighting upgrade needed
- Sightline improvement needed



Deteriorated sidewalks create an inaccessible pedestrian environment. This is the result of improper sidewalk material (Asphalt) as well as unpermitted curb cuts/parking.

Crash Nature

7 Reported Crashes

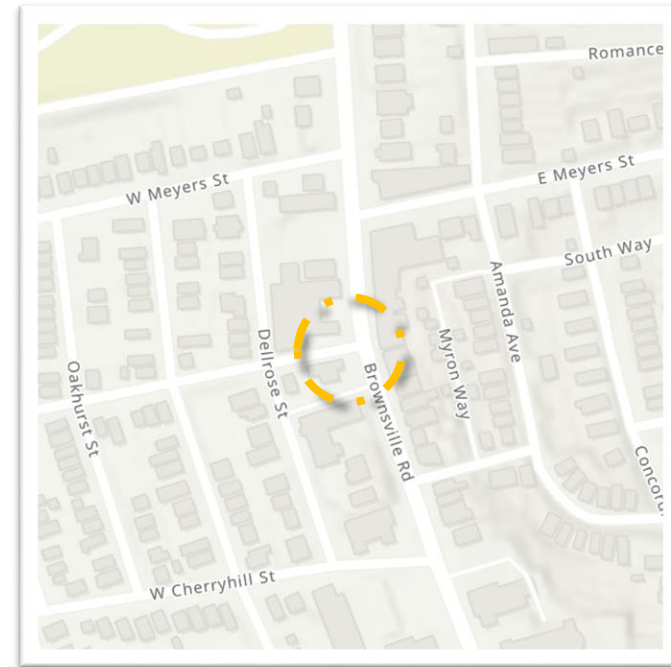


- Angle
- 6 Night time crash
- Rear End

**TRANSIT
RIDERSHIP**



**NO
STOPS**

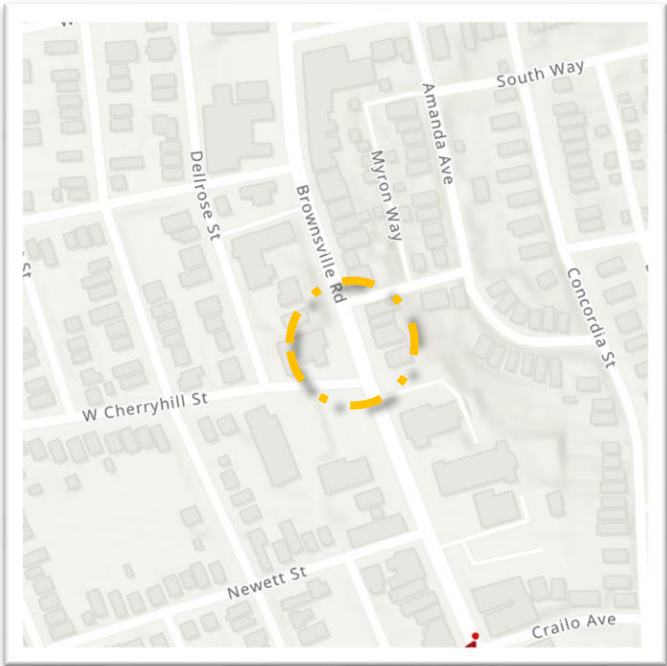




Cherryhill St & Brownsville Rd

Identified Safety Issues

- Un-signalized pedestrian crossing needs improvement
- High Pedestrian generator – Roosevelt 2-5.



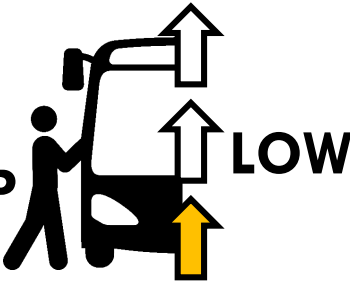
Crash Nature

6 Reported Crashes

- Sideswipe



TRANSIT RIDERSHIP



No Bus Shelters at this location.

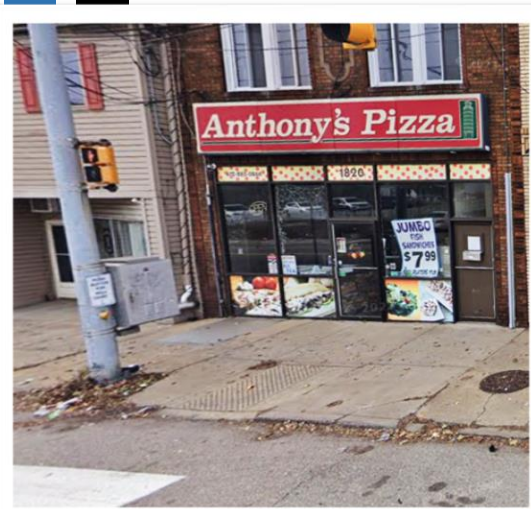
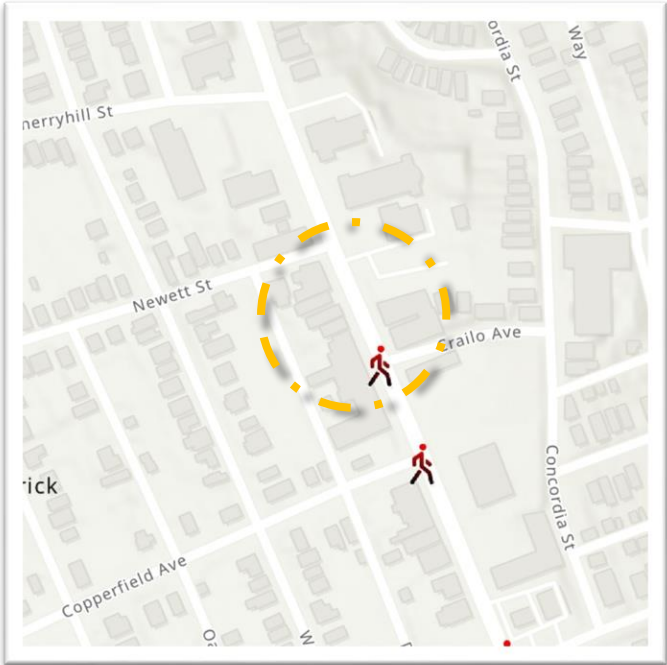




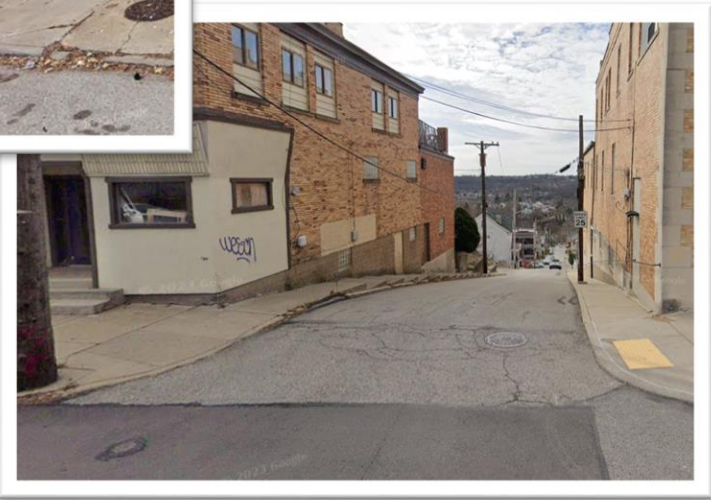
Newett St to Crailo Ave

Identified Safety Issues

- Newett St: Sightline improvement needed.
- Crailo Ave: Signal is outdated and requires full replacement to improve pedestrian accommodations.
- Sidewalk upgrades needed



Outdated ADA Curb Ramps at Crailo and Newitt (both)



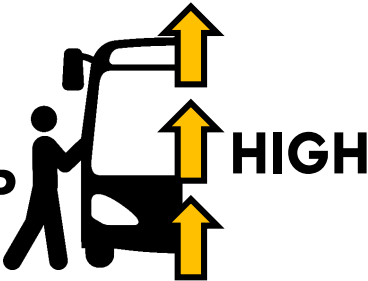
Crash Nature

5 Reported Crashes

- Pedestrian Crash (1)

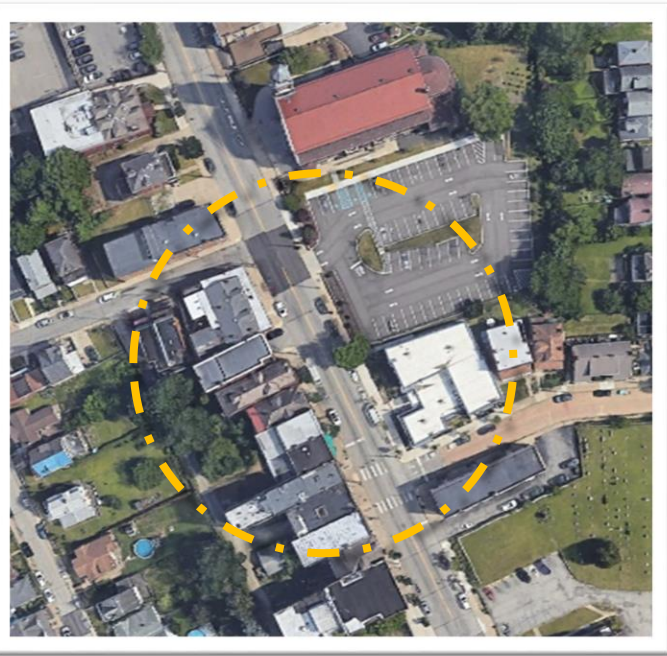


TRANSIT RIDERSHIP



HIGH

No Bus Shelters at this location.





Copperfield Ave & Brownsville Rd

Identified Safety Issues

- Encourage use of nearby signalized crossing at Crailo Ave
- Sightline improvements needed for vehicles turning from Copperfield



Sightline is severely restricted turning from Copperfield to Brownsville due to the grade off Copperfield Ave.

Crash Nature

9 Reported Crashes

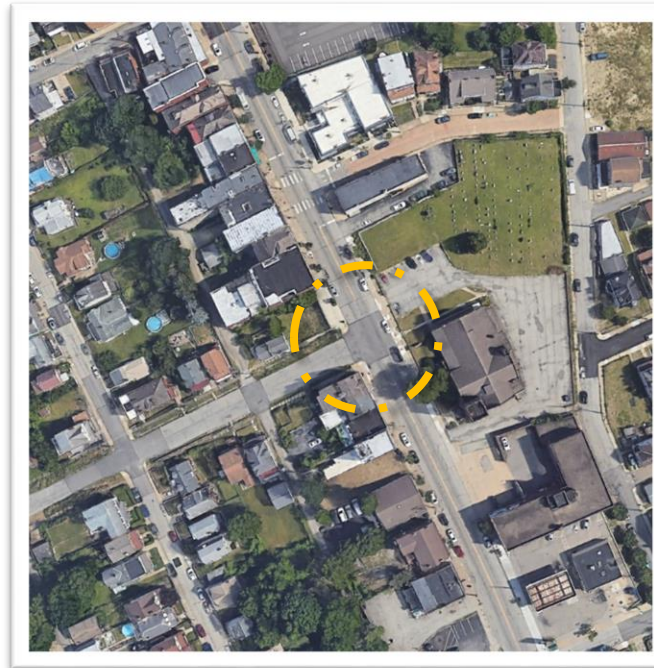
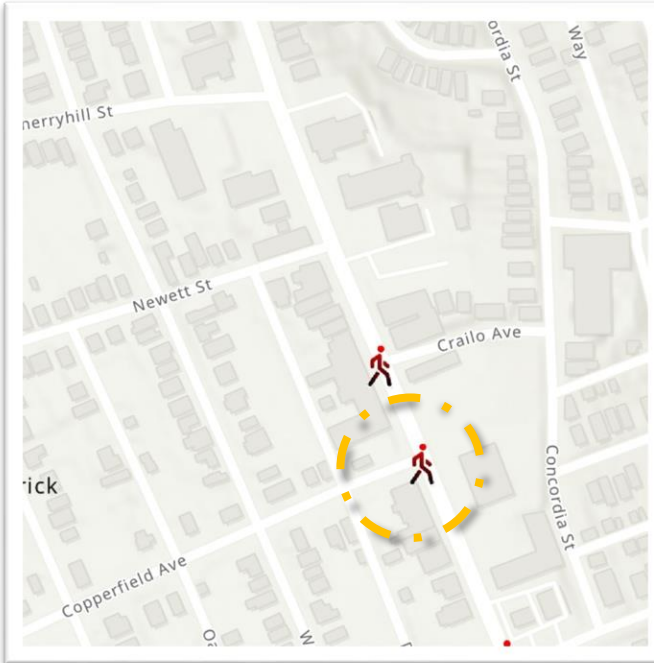
- Angle
- Pedestrian
- Rear End
- Crash (1)



TRANSIT RIDERSHIP



No Bus Stop

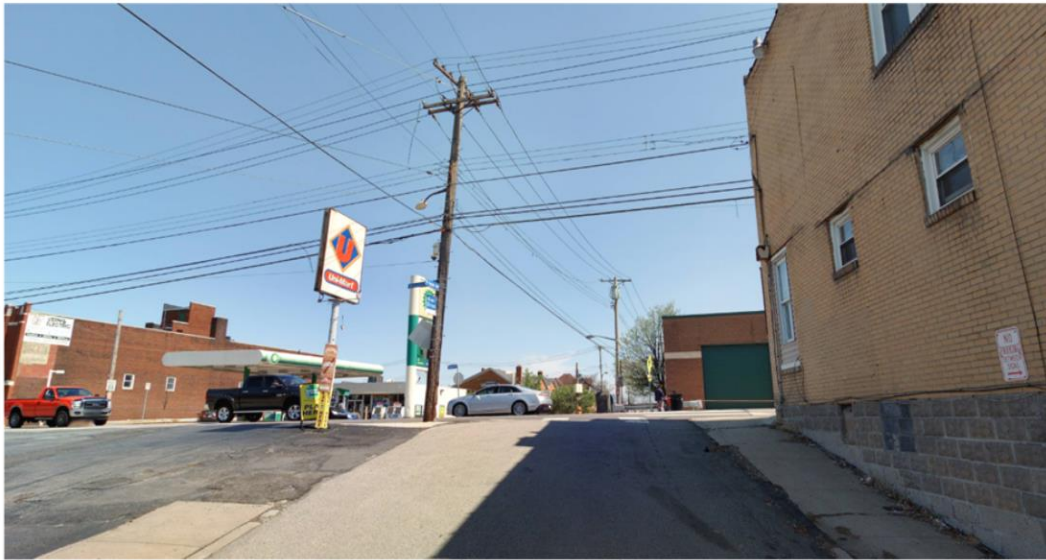




Agnew Ave & Brownsville Rd

Identified Safety Issues

- Un-signalized pedestrian crossing needs improvement
- Sidewalk upgrades needed
- Sightline improvement needed on W. Agnew Ave.
- Access management for customers to BP and Uni-Mart



Visibility is limited for vehicles approaching Brownsville Rd. from W. Agnew Ave. This section of the corridor sees high vehicular and pedestrian volumes due to popular destinations (BP & Uni-Mart).

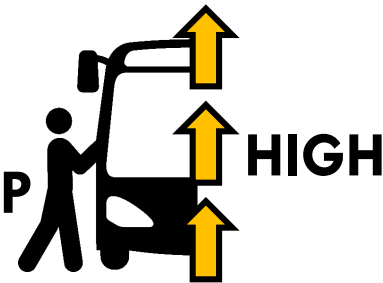
Crash Nature

6 Reported Crashes

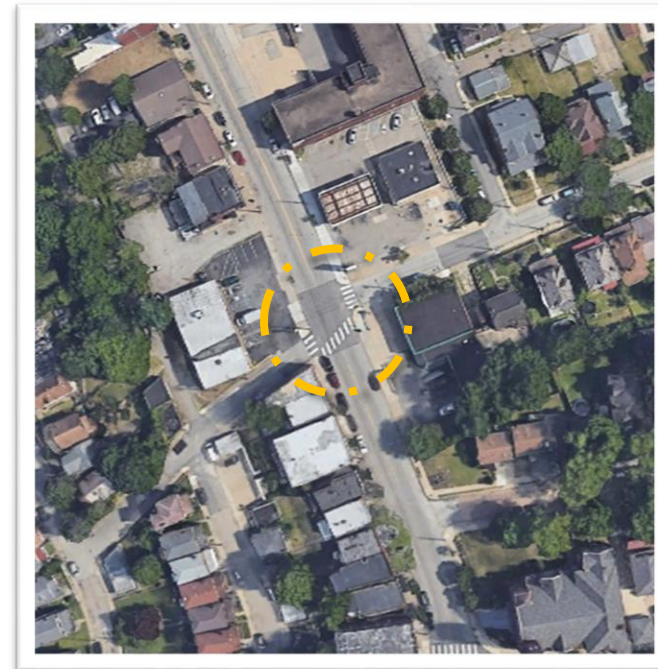
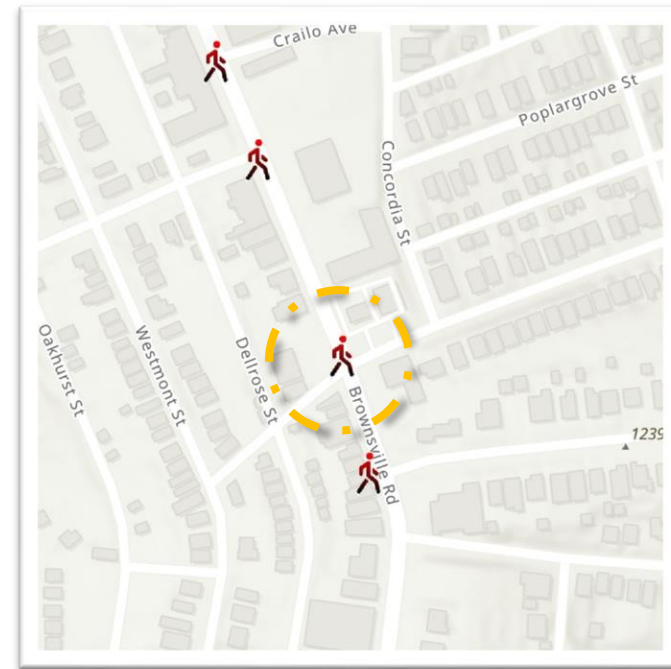
- Sideswipe
- Pedestrian Crash (1)



TRANSIT RIDERSHIP



No Bus Shelters at this location.





Hornaday & Brownsville Rd

Identified Safety Issues

- Speeding concern.
- Sidewalk upgrades needed.
- City is aware of the drainage issue and working on a separate Initiative. Not part of this project.



Crash Nature

6 Reported
Crashes

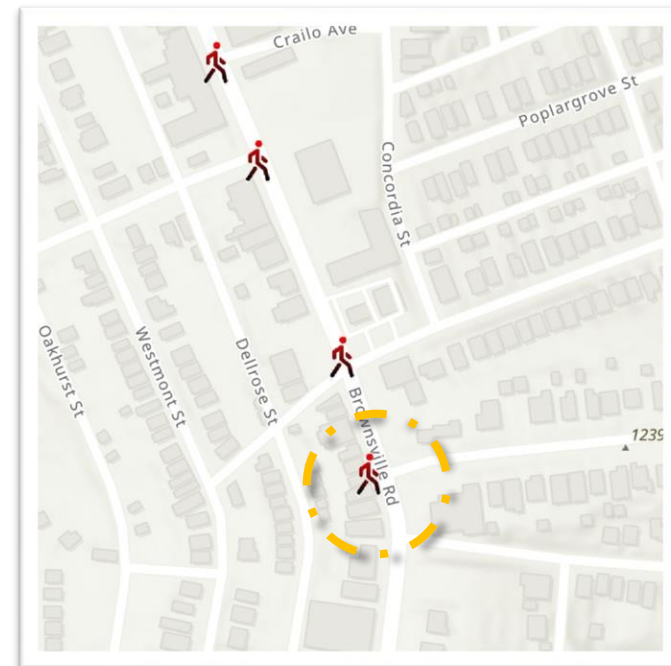
- Sideswipe
- Pedestrian Crash (1)



**TRANSIT
RIDERSHIP**



**NO
STOPS**





Madeline St & Brownsville Rd

Identified Safety Issues

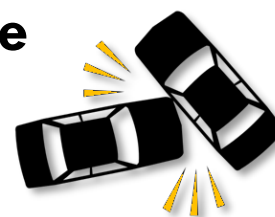
- Un-signalized pedestrian crossing needs improvement.
- Sidewalk upgrades needed
- Pedestrian generator Zion Christian Church
- Parking near the crosswalk is prohibited and need further reinforcement.



Crash Nature

6 Reported Crashes

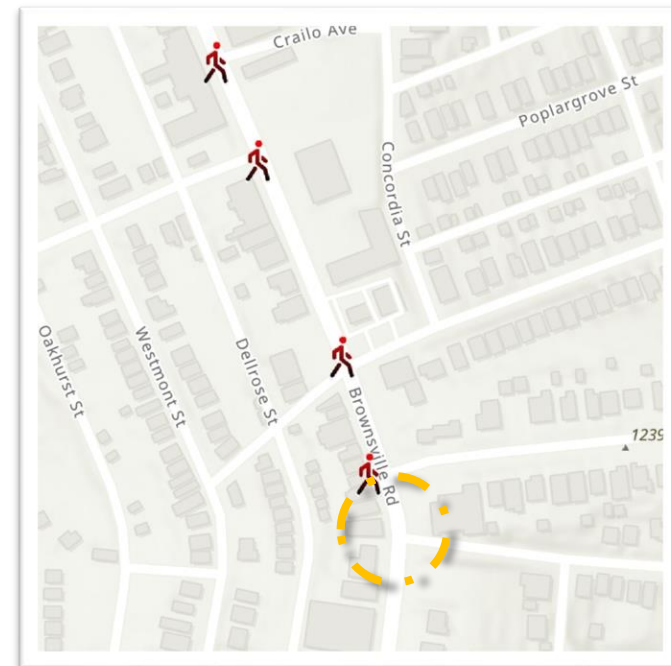
- Sideswipe
- Rear End



**TRANSIT
RIDERSHIP**



**NO
STOPS**





Woodford Ave & Brownsville Rd

Identified Safety Issues

- Woodford Ave: Un signalized pedestrian crossing needs improvement
- Access management needed for busy shopping destinations and apartment building in this section.

- On-street parking management needed to ensure clear sightline for driveway in/out.
- **Distracted driving related crash.**



This section of the corridor is a busy residential and commercial area with multiple driveways on each side of Brownsville Rd.

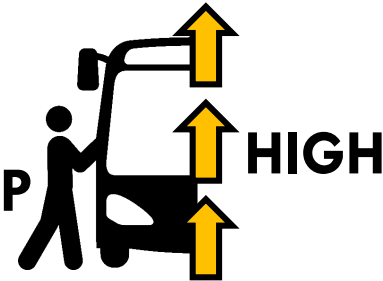
Crash Nature

19 Reported
Crashes

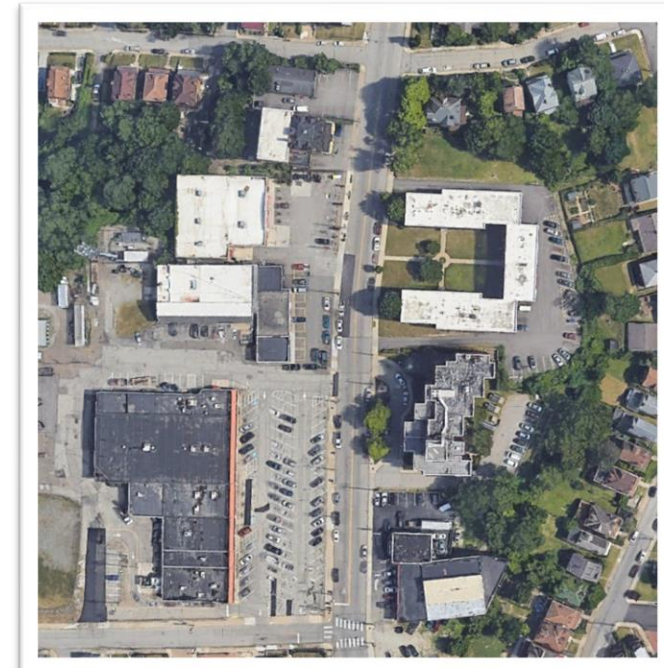
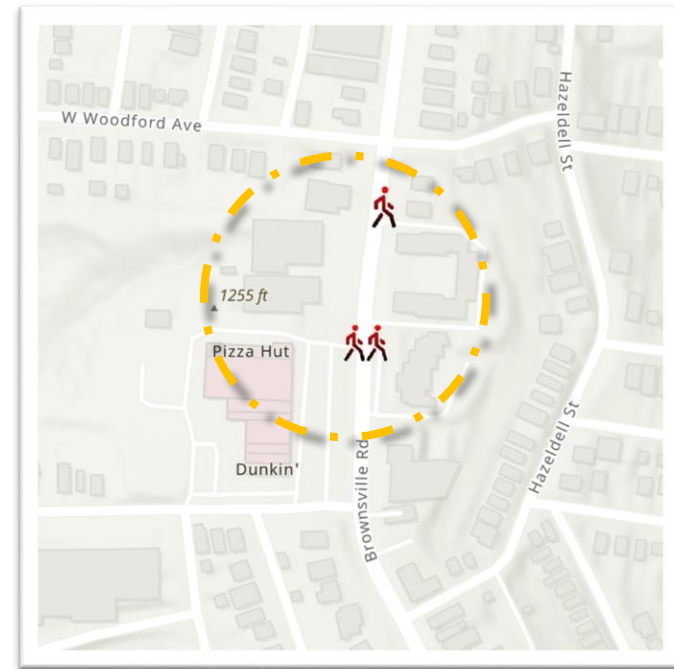
- Sideswipe • Pedestrian
- Rear End Crash (3)



TRANSIT RIDERSHIP



No Bus Shelters at this location.





Parkfield St & Brownsville Rd

Identified Safety Issues

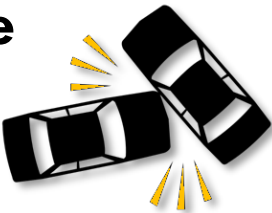
- High pedestrian generators: Carrick High School, shops and apts.
- Speeding issue around the curve.
- New signal in place with scramble phase. Signage needs to be added to indicate diagonal crossing .



This section of the corridor is a busy residential and commercial area with multiple driveways on each side of Brownsville Rd.

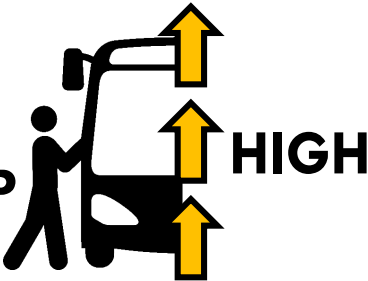
Crash Nature

11 Reported Crashes

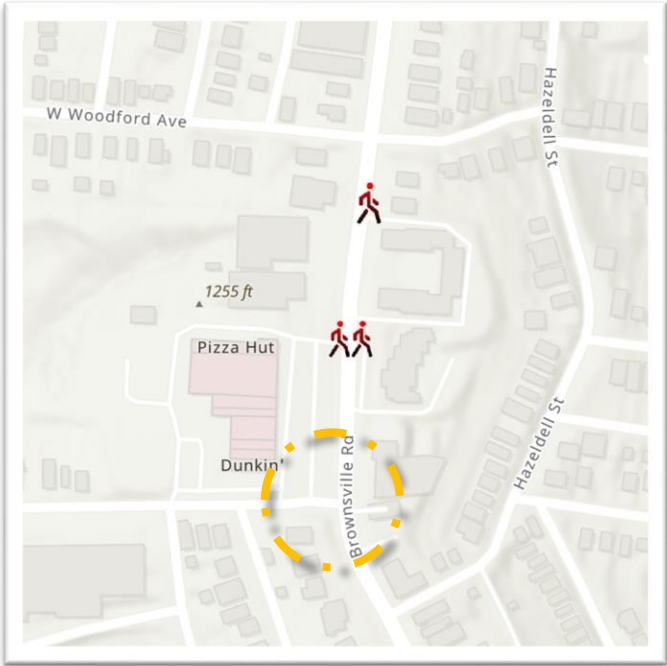


- Hit Fixed Object
- Rear End
- Sideswipe

TRANSIT RIDERSHIP



No Bus Shelters at this location.

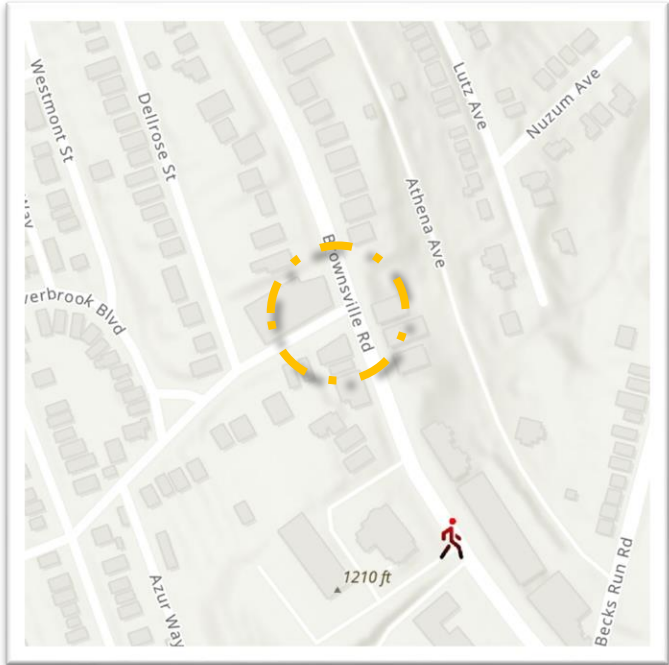




Overbrook Blvd & Brownsville Rd

Identified Safety Issues

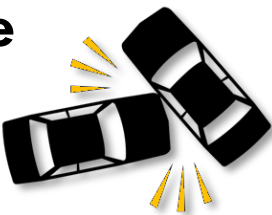
- Un signalized pedestrian crossing needs improvement
- Sidewalk upgrades needed
- Evaluate left turn lane necessity
- Discourage parking near crosswalk.



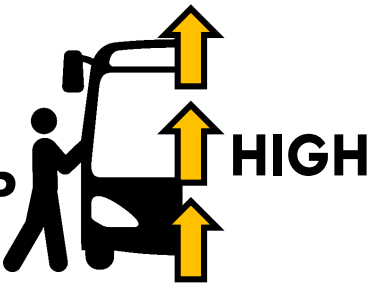
Crash Nature

6 Reported Crashes

- Rear End
- Sideswipe

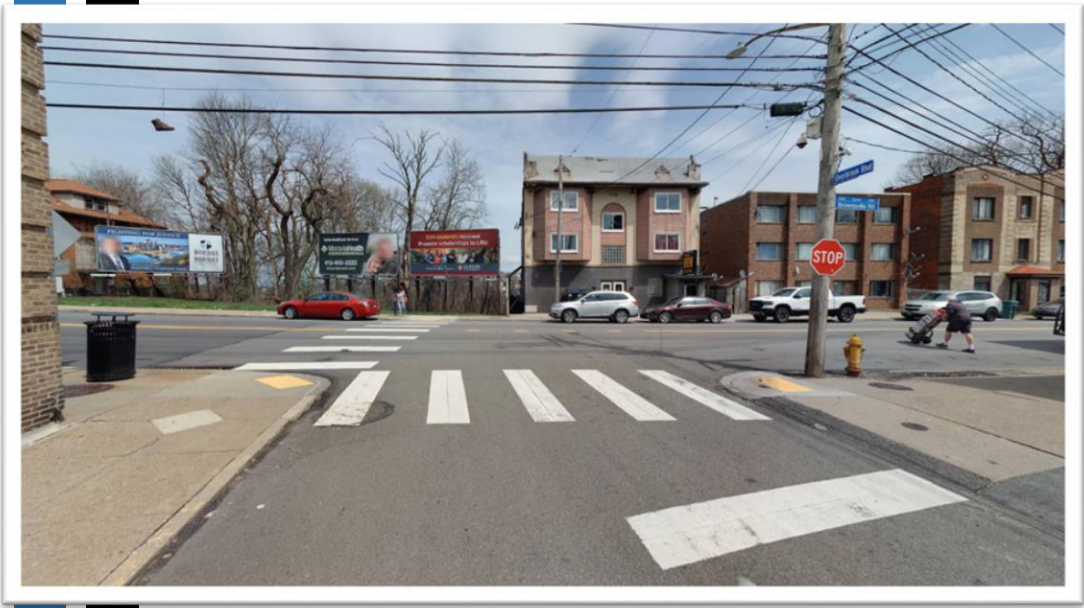


TRANSIT
RIDERSHIP



HIGH

No Bus Shelters at this location.



Vehicles turning on to Brownsville Rd from Overbrook have limited sightline due to adjacent buildings.





Ravella Ave to Becks Run Rd

Identified Safety Issues

- Multiple pedestrian generators: Concord Elementary School, St. Pius X Byzantine Catholic, Apartment buildings.
- Church bus stop connection and pedestrian crossing accommodation needed.

- **Mid-Block crossing location**
- Proper parking lane delineation, access management needed, and sight line improvements needed around church and school.



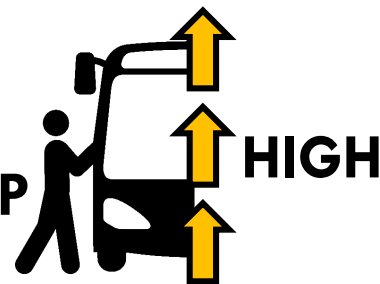
Crash Nature

13 Reported Crashes

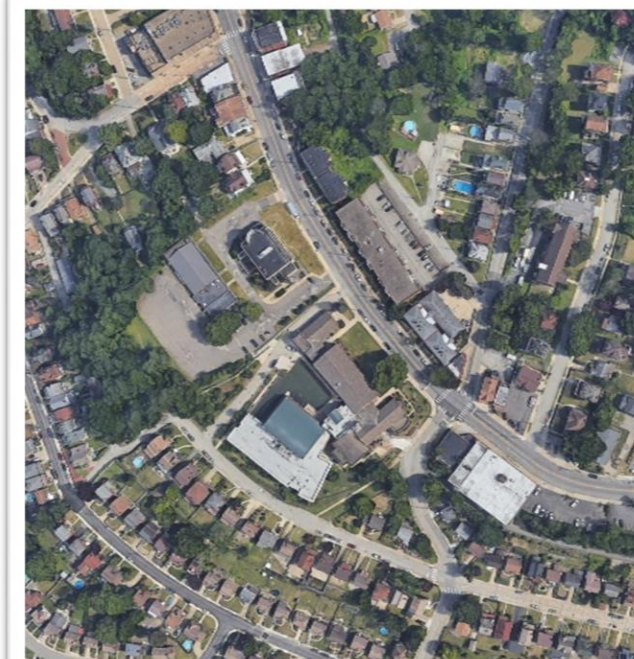
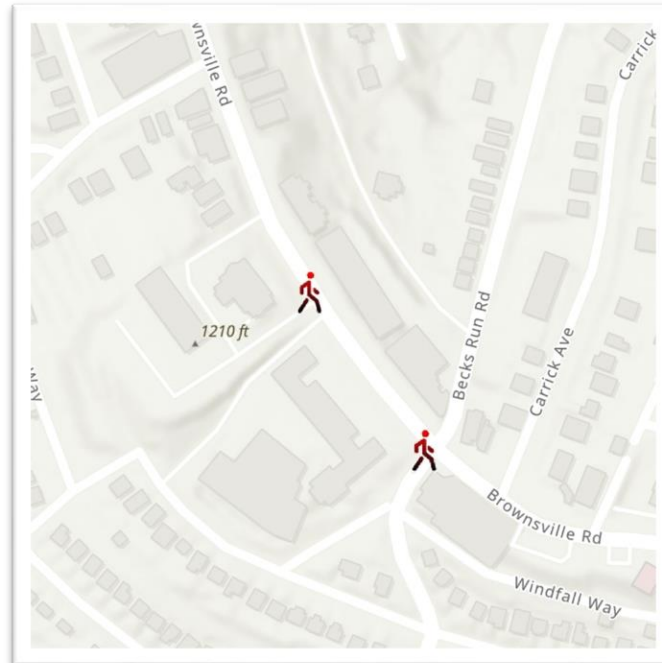


- Angle
- Bicycle Crash (1)
- 1 Pedestrian Crash

TRANSIT RIDERSHIP



Bus shelter on the northbound side of Brownsville Rd.

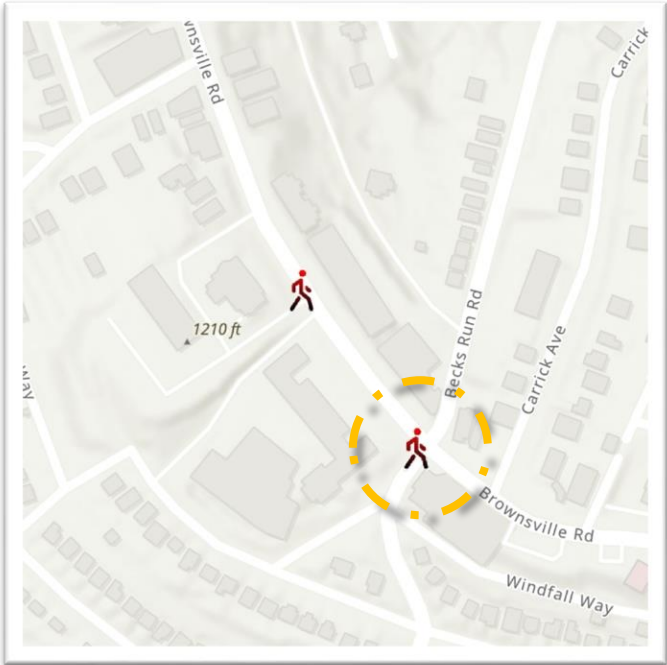




Biscayne Dr / Becks Run Rd

Identified Safety Issues

- Multiple pedestrian generators: Concord Elementary School, St. Pius X Byzantine Catholic, Apartment buildings.
- Signal upgrade needed.
- Lighting upgrades needed



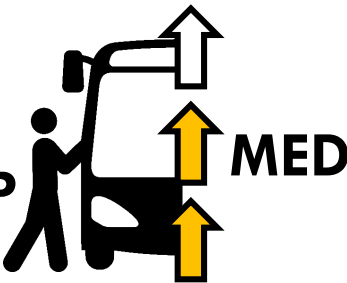
Crash Nature

13 Reported Crashes

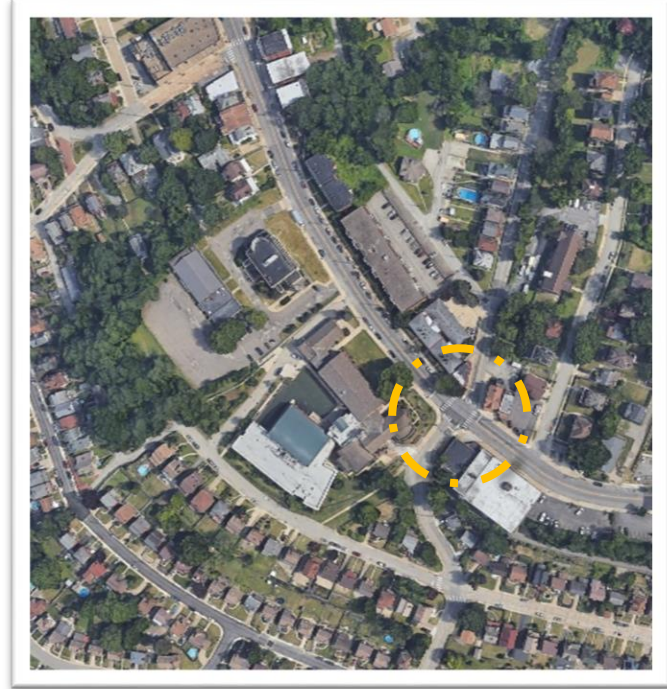


- Angle
- Bicycle Crash (1)
- Pedestrian Crash (4)

TRANSIT RIDERSHIP



No Bus Shelters at this location.

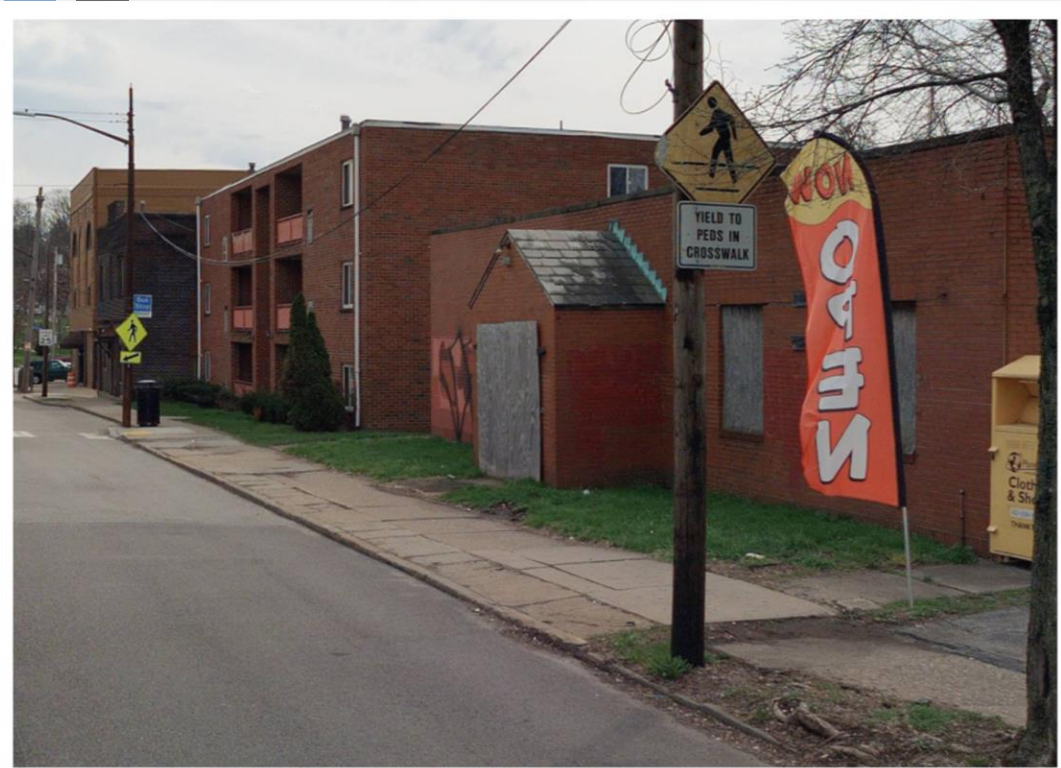




Clifton Blvd & Brownsville Rd

Identified Safety Issues

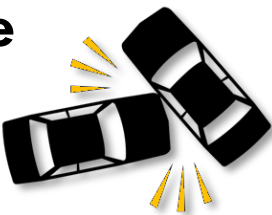
- Un-signalized pedestrian crossing location
- Lighting upgrades needed
- Sidewalk upgrades needed



Sidewalk on the south side of Brownsville Rd approaching Clifton Blvd is deteriorated and needs improvements.

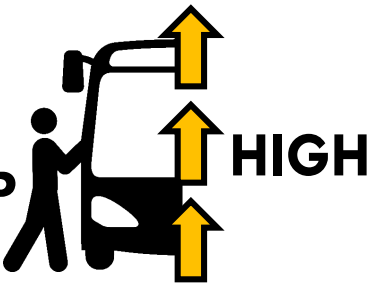
Crash Nature

3 Reported Crashes

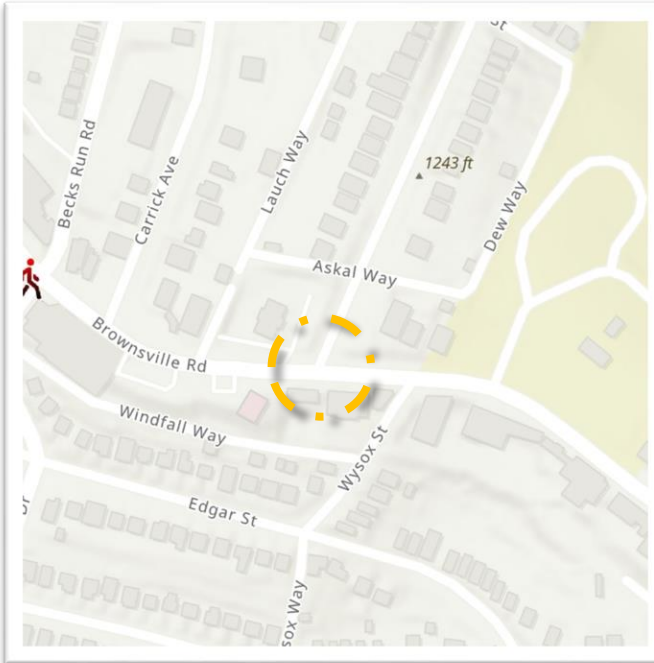


- Sideswipe - All night time

TRANSIT RIDERSHIP



No Bus Shelters at this location.





Wycox St & Brownsville Rd

Identified Safety Issues

- Speeding concerns.
- Sightline improvement needed.

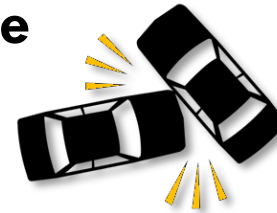


Wycox and Brownsville is not an appropriate intersection for pedestrian crossings. Pedestrians should be encouraged to cross at Clifton.

Crash Nature

5 Reported Crashes

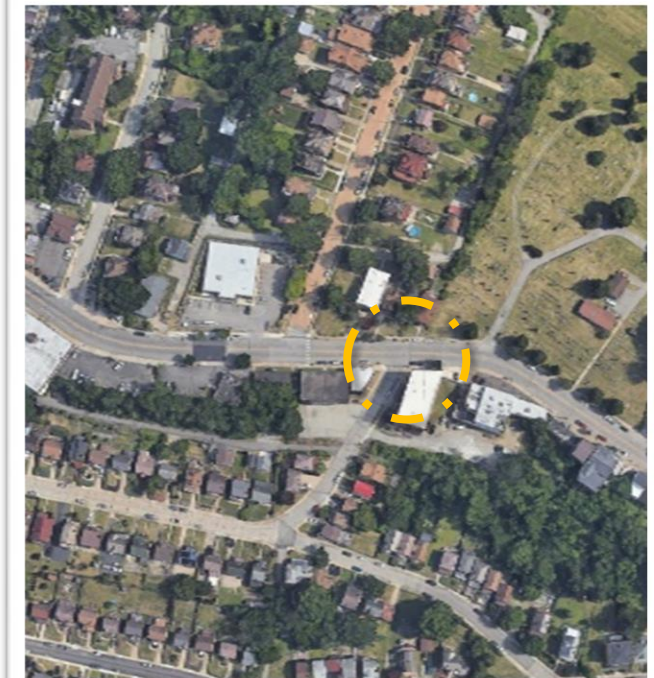
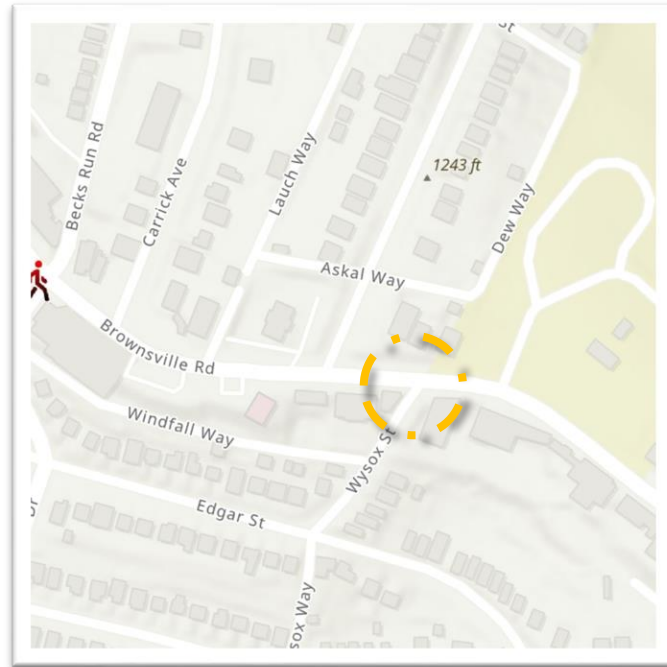
- Sideswipe
- Rear End



**TRANSIT
RIDERSHIP**



**NO
STOPS**





Churchview Ave & Brownsville Rd

Identified Safety Issues

- Sightline issues. Intersection should be realigned from “Y” to “T”
- Un signalized pedestrian crossing improvements needed.
- Crosswalk upgrades needed.
- Lighting upgrades needed.

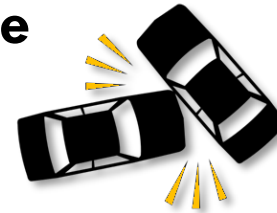
- Sightline issues at Gas station due to parking
- Sidewalk upgrades needed
- Lighting upgrades needed
- Lane delineation improvements needed



The “Y” intersection creates sightline issues for vehicles turning on to Brownsville Rd.

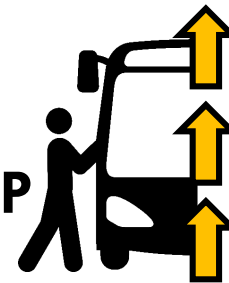
Crash Nature

10 Reported Crashes



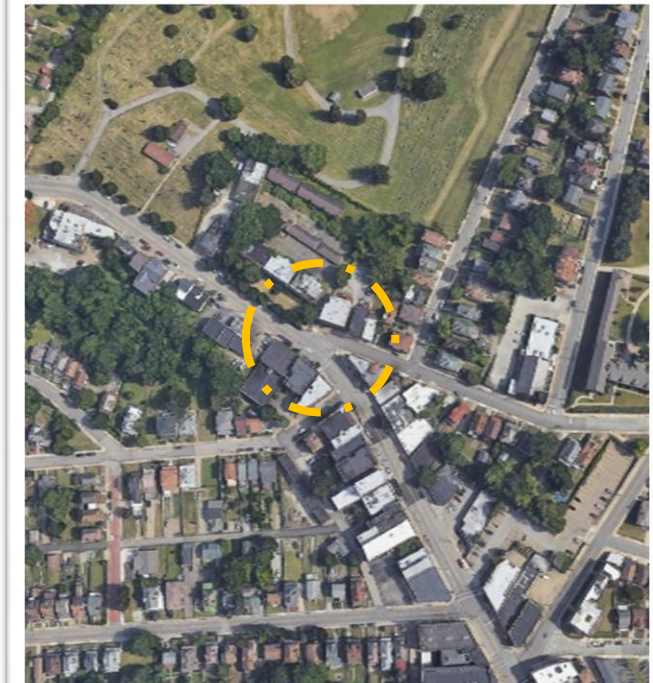
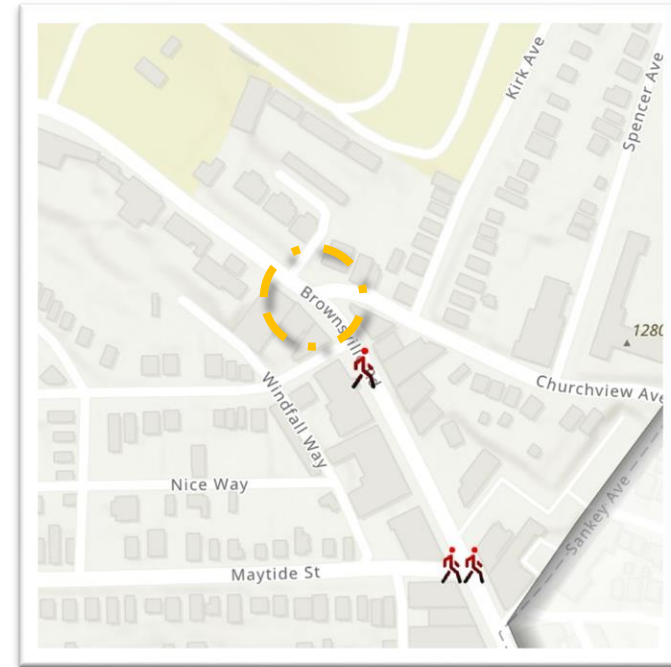
- Sideswipe
- Rear End

TRANSIT RIDERSHIP



HIGH

No Bus Shelters at this location.





Belplain St & Brownsville Rd

Identified Safety Issues

- Sightline issues due to grade .
- Sidewalk upgrades needed
- Crossing should be discouraged at this intersection and directed to Chruchview Ave.



The grade of Belplain St creates a sightline issue for vehicles approaching Brownsville Rd.

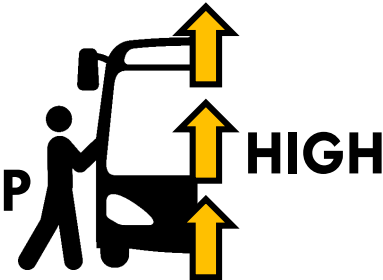
Crash Nature

5 Reported Crashes

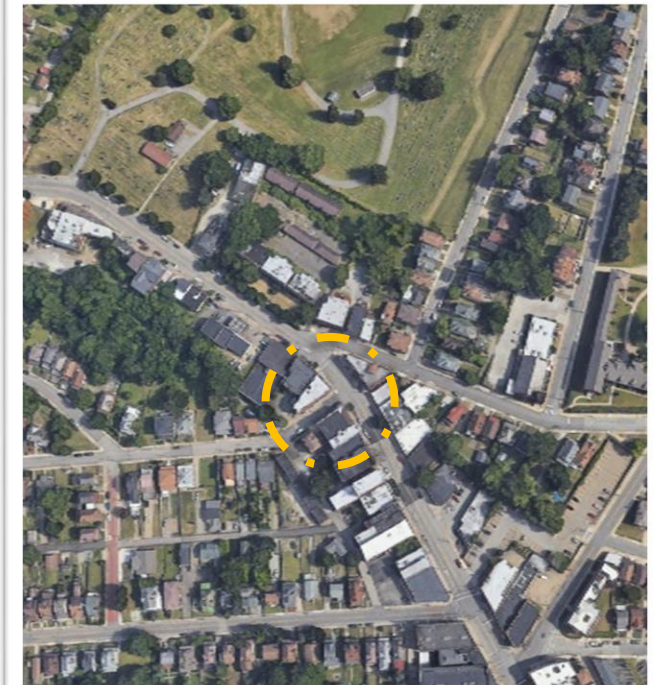
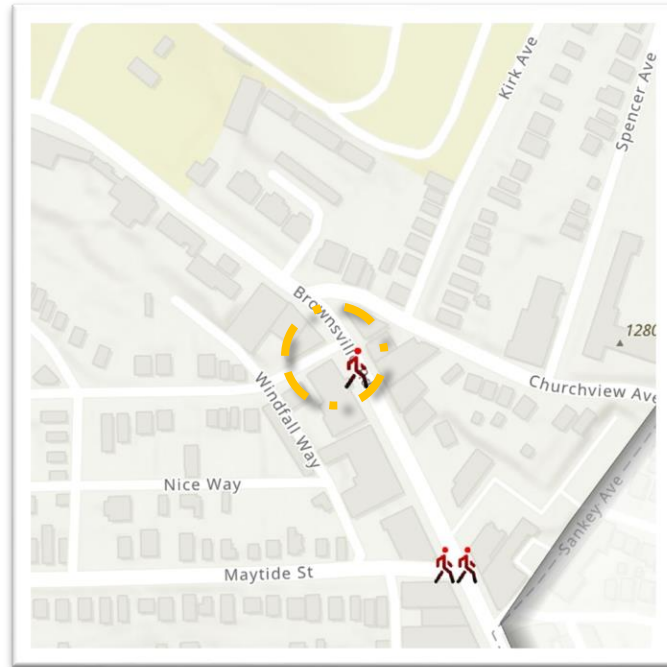
- Sideswipe • Pedestrian Crash (1)
- Rear End



TRANSIT RIDERSHIP



No Bus Shelters at this location.





Maytide St & Brownsville Rd

Identified Safety Issues

- Pedestrian crossing amenities need upgrade.
- Need to evaluate if left turn lane is necessary
- Sidewalk upgrades needed
- Lighting upgrades needed



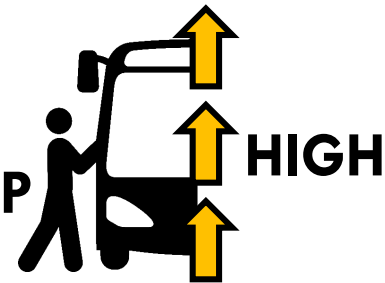
Crash Nature

7 Reported Crashes

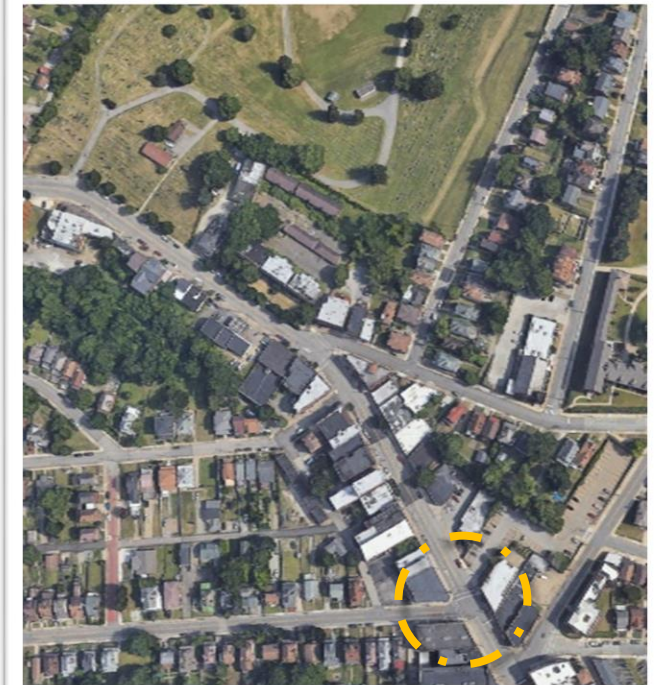
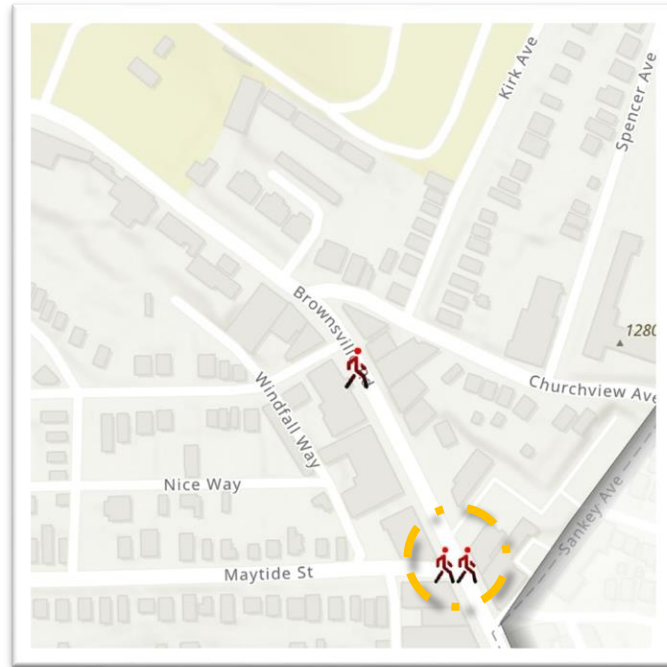
- Angle
- Pedestrian Crash (2)
- Rear End



TRANSIT RIDERSHIP



No Bus Shelters at this location.





Potential Treatment Options

- Un-signalized Crosswalk Safety Improvements
- Intersection Safety Improvements
- Corridor Safety Improvements



Un-Signalized Crosswalk Safety Improvements

Potential Treatment Options for these areas:

- Mid Block Pedestrian Refuge Island
- Raised Crosswalk



Mid Block Pedestrian Refuge Island

Provides pedestrians a safety island midway through crossings.



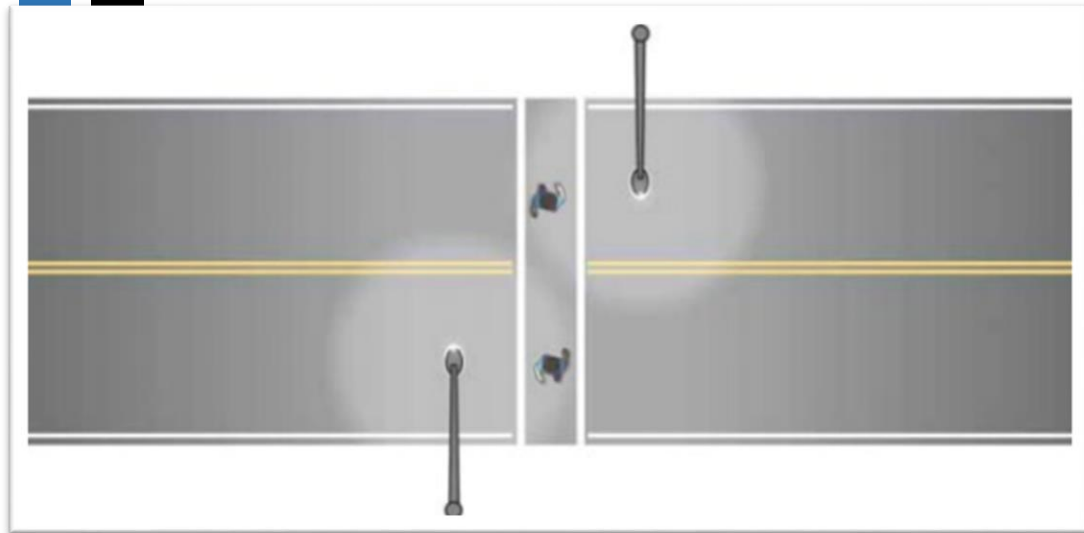
Raised Crosswalk

Increases pedestrian visibility and reduces vehicle speeds.

Un-Signalized Crosswalk Safety Improvements

Potential Treatment Options for these areas:

- Lighting Improvements near the un signalized crossings and the overall corridors.
- Rectangular Rapid Flashing Beacon (RRFB)



Lighting Improvements

Increased street lighting improves visibility of pedestrians as well as stationary objects for drivers.



Rectangular Rapid Flashing Beacon

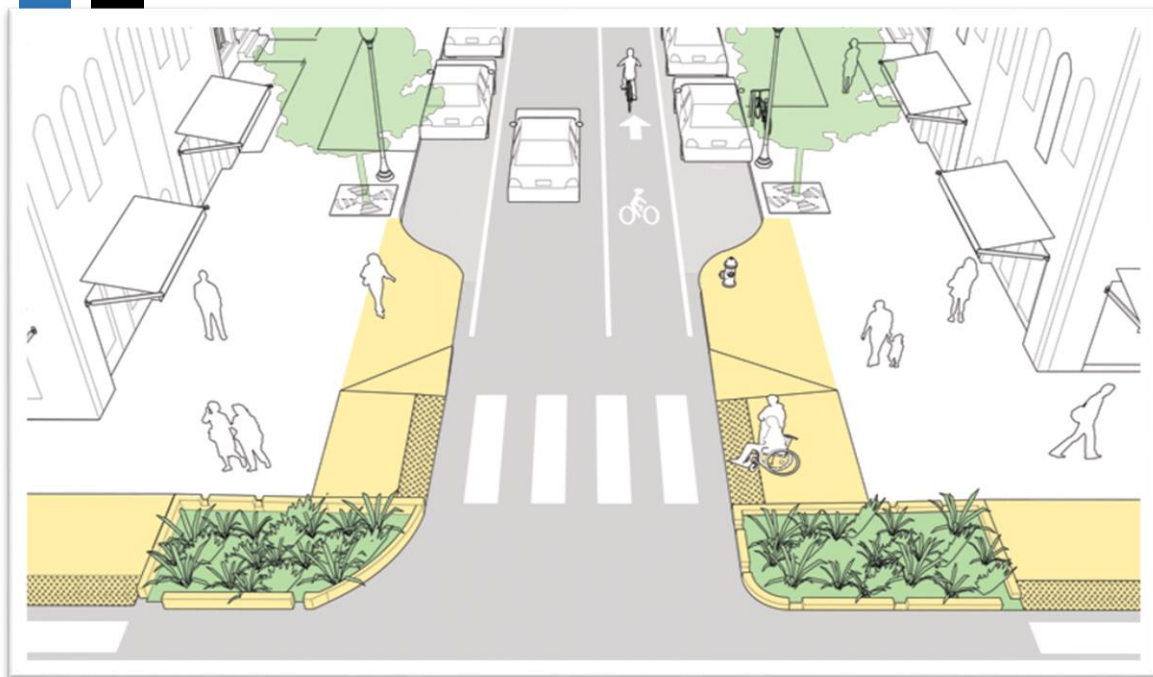
RRFB's improve visibility of crosswalks and pedestrians by alerting drivers to pedestrian crossings.



Intersection Safety Improvements

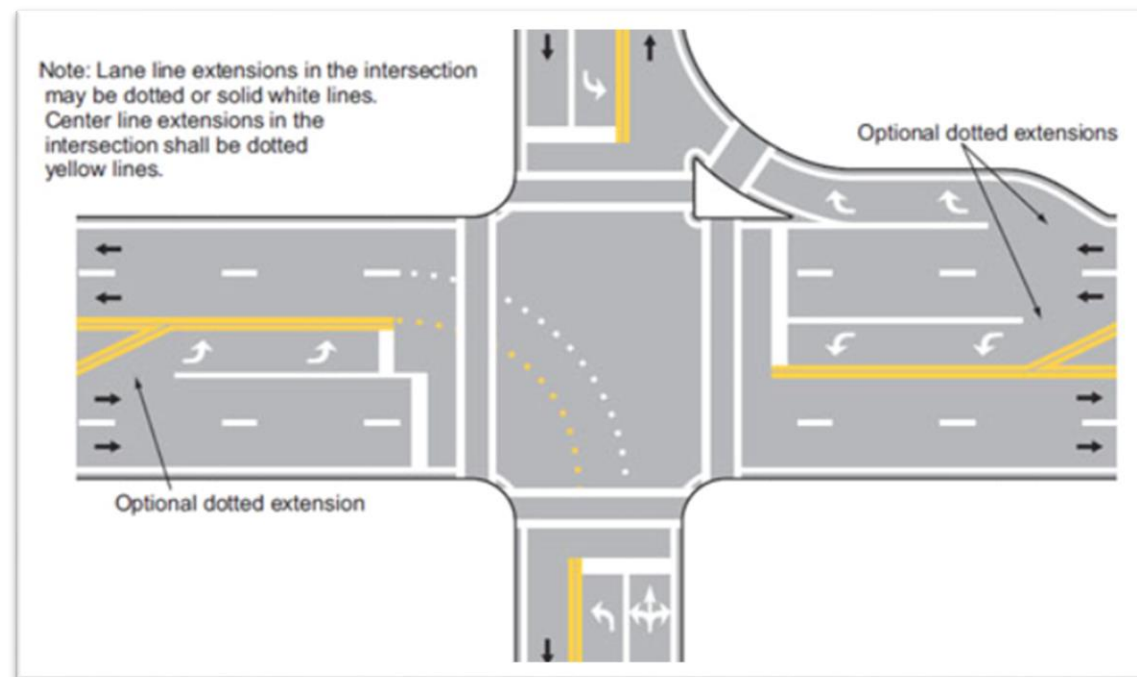
Potential Treatment Options for these areas:

- Curb Extension
- Lane Delineation



Curb Extension

Extending the curb at intersections increases visibility of pedestrians entering the crosswalk by removing sightline obstructions like parked cars and reduce crossing length.



Lane Delineation

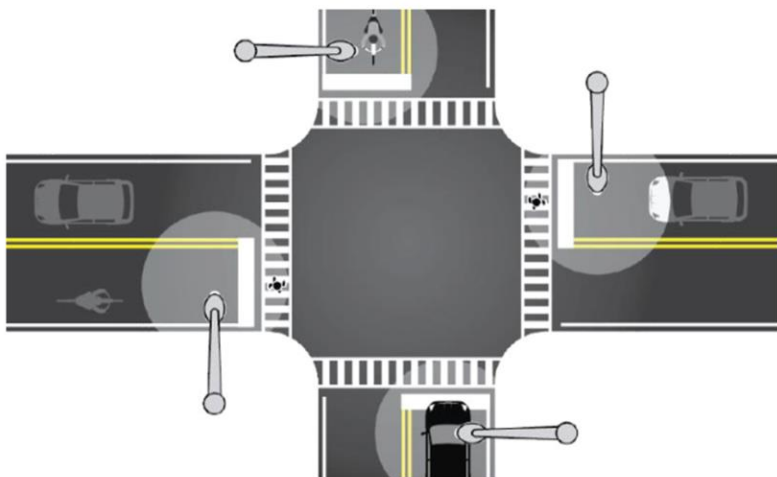
Lane delineations increase driver awareness and direct drivers to a clearer path through the intersection reducing crashes.



Intersection Safety Improvements

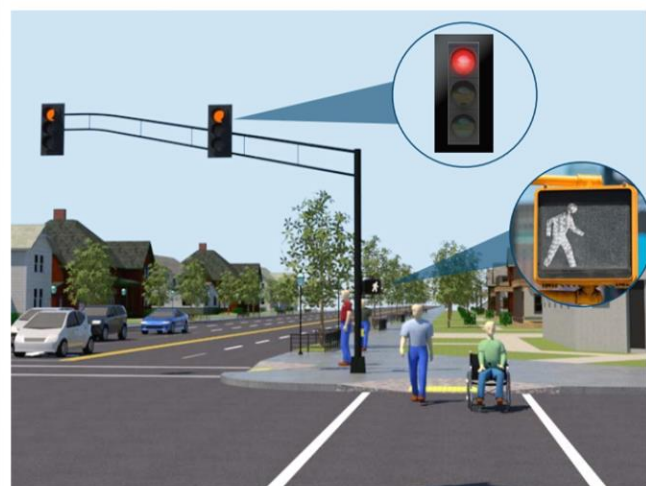
Potential Treatment Options for these areas:

- Curb Ramp Upgrades
- Lead Pedestrian Interval (LPI)
- Lighting Improvements



Lighting Improvements

Increased street lighting improves visibility of pedestrians as well as stationary objects for drivers.



Lead Pedestrian Interval

LPI gives pedestrians a head start entering the crosswalk (typically 3-7 seconds) before vehicles are given a green indication. Pedestrians can better establish their presence in the crosswalk before vehicles enter the intersection.



Curb Ramp Upgrades

Curb ramp upgrades provide ADA compliant access to the sidewalk at crossings. These upgrades include Detectable Warning Surfaces (DWS).



Intersection Safety Improvements

Potential Treatment Options for these areas:

- Low-Cost Intersection Daylighting
- Low-Cost Pedestrian Crossing Refuge Area



Low-Cost Intersection Daylighting

Painted curb extensions are a low cost easily installed safety improvement that visually and physically narrow the roadway, creating safer and shorter crossings for pedestrians.



Low-Cost Pedestrian Crossing Refuge Area

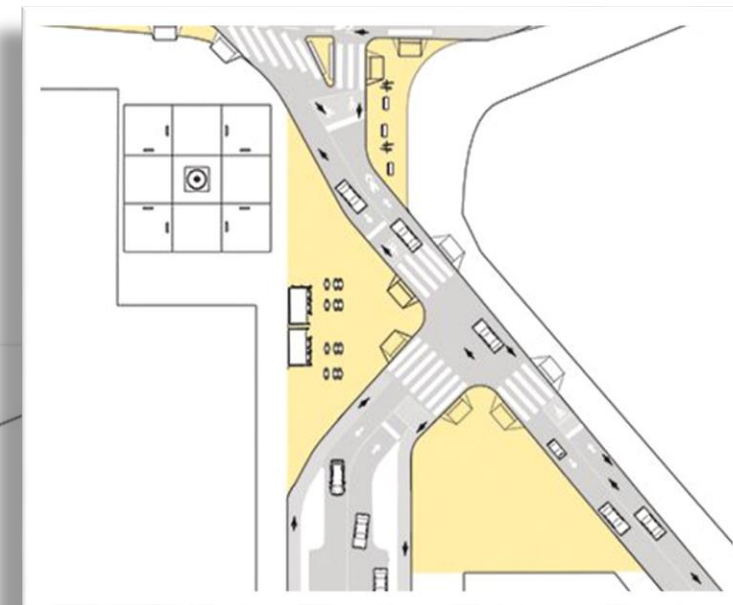
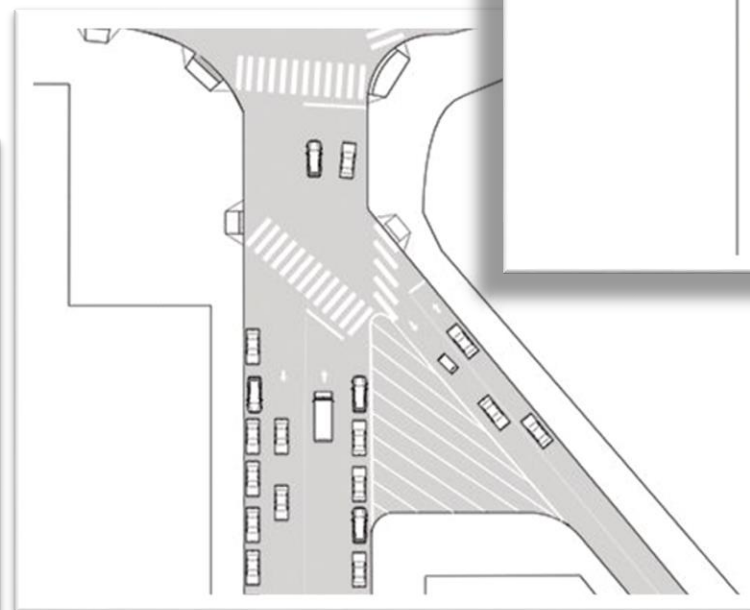
Painted pedestrian refuge areas with flex post delineation are a low-cost and easily installed safety solutions that provides a safe area in the middle of large crossings.



Intersection Safety Improvements

Potential Treatment Options for these areas:

- Intersection Realignment.
- Traffic signal upgrade.



Intersection Realignment

Visibility at acute angle, or “Y”, intersections is much lower and creates more sightline issues compared to perpendicular, or “T”, intersections. Realigning these “Y” intersections to as close to perpendicular as possible will improve sightlines and increase safety for drivers and pedestrians.



Corridor Safety Improvements

Potential Treatment Options for these areas:

- Advance Curve Awareness
- Access Management



Advance Curve Awareness

Signage and pavement markings alert drivers as they approach sharp changes in the road direction. These advance signs and markings allow drivers to slow down prior to reaching the curve.

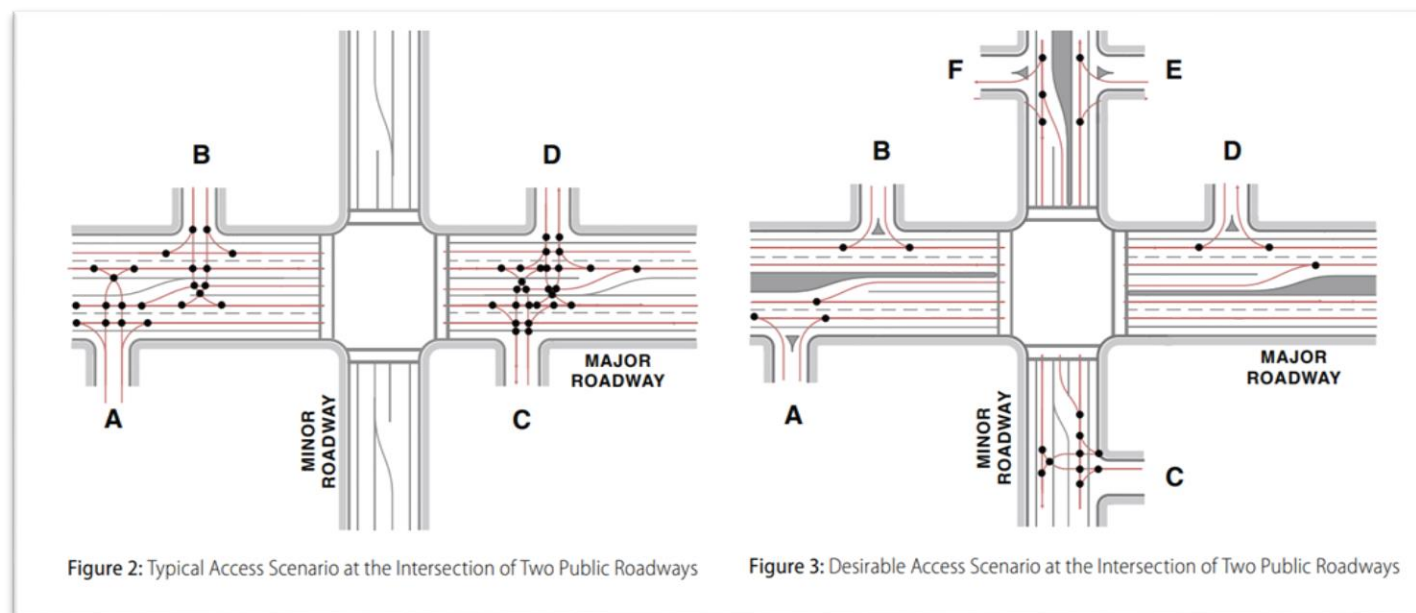


Figure 2: Typical Access Scenario at the Intersection of Two Public Roadways

Figure 3: Desirable Access Scenario at the Intersection of Two Public Roadways

Access Management

Access Management (AM) is the proactive management of vehicular access points to land parcels adjacent to roadways. Access management techniques can include Access Spacing, Driveway Spacing, Safe Turning Lanes, Median Treatments, and Right of Way Management. Access Management promotes the safe and efficient use of the transportation network that maintains mobility.



Corridor Safety Improvements

Potential Treatment Options for these areas:

- Edge & Parking Lane Delineation.
- Existing signage upgrades. .



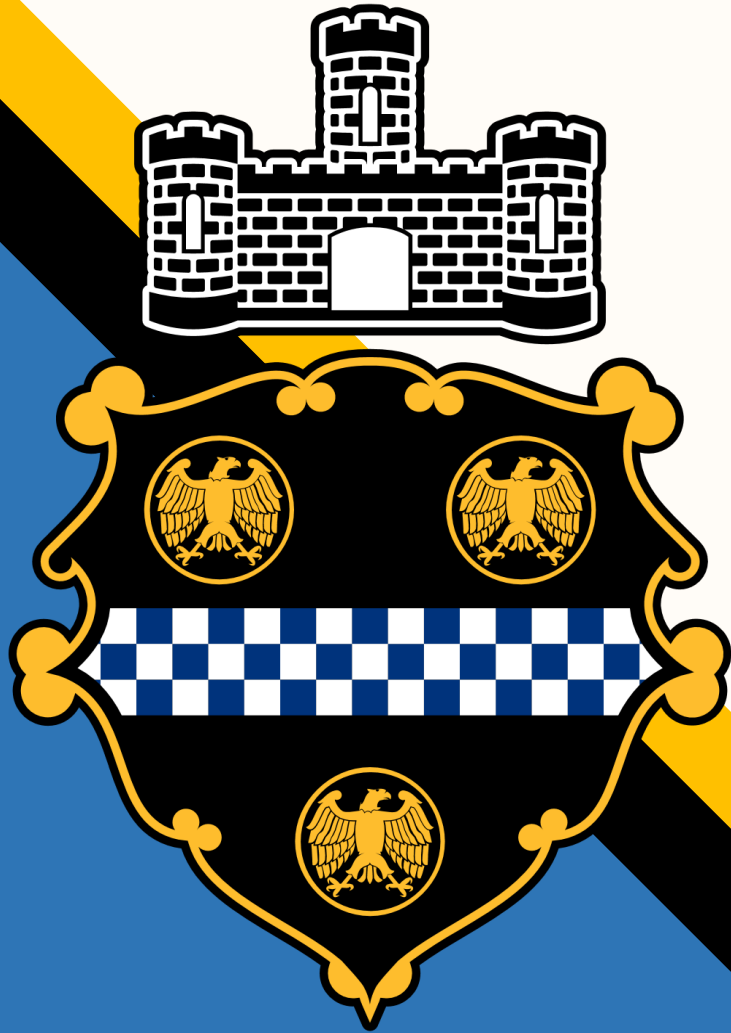
Lane Delineations

Adding edge/parking lines and increasing the size of the lines from 4" to 6" helps drivers better identify the edge of the travel lanes and see the road alignment ahead.



Signage Audit

Signage throughout the corridor needs to be upgraded. A complete audit will be performed as a part of that.



Thank You

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