Speed Hump/Cushion Pilot

Program Review

Department of Public Works

City of Syracuse

1.3.2024

Locations of Speed Cushions and parallel control sites in the Pilot Program:

- Locations selected for speed cushion installations also included corresponding parallel control sites (City Streets only)
- 7 speed cushions were installed, all on city streets.

Neighborhood Streets (Parallel site)

- N. Collingwood Ave
  - Ashdale Ave
- Hickok Ave
  - Shotwell Park
- W. Ostrander Ave
  - W. Matson Ave
- W. Newell St.
  - W. Lafayette Ave
- Kirk Ave
  - W. Kennedy St.
- Strathmore Dr.
  - Robineau Rd.
- Seymour St.
  - Gifford St.

Radar Speed Data

Speed data was collected over 2 separate 7-day periods at each location using mobile radar equipment. Data was collected prior to speed cushion installation and post speed cushion installation. Parallel control sites were also monitored with mobile radar equipment, following the same pre/post collection strategy.

Definitions

Average speed – the mean of all vehicle speeds counted.

Parallel control sites - allow for monitoring of vehicle speeds away from the speed cushion installations, on streets with similar characteristics, the purpose being to document wider area impacts.

85th percentile definition – the speed at or below which 85% of all vehicles are observed to travel past a monitored point.

Determination of Effectiveness – An effective installation will demonstrate a reduction in vehicle speed, no issues of noncompliance or adverse impacts to safety of traveling public, speeding has not increased on parallel streets, no negative impacts to surrounding infrastructure such as drainage or pavement condition issues.

Why lowering speeds is important.

Small reductions in travel speeds can greatly decrease the severity of injuries to the most vulnerable users of the transportation network: bicyclists and pedestrians. Reducing vehicle speeds by even a few miles per hour has been shown to greatly reduce serious and fatal injuries. Figure 1 (below) from VisionZeroNetwork shows how important lower vehicle speeds are in reducing traffic injuries and fatalities on our roadways.

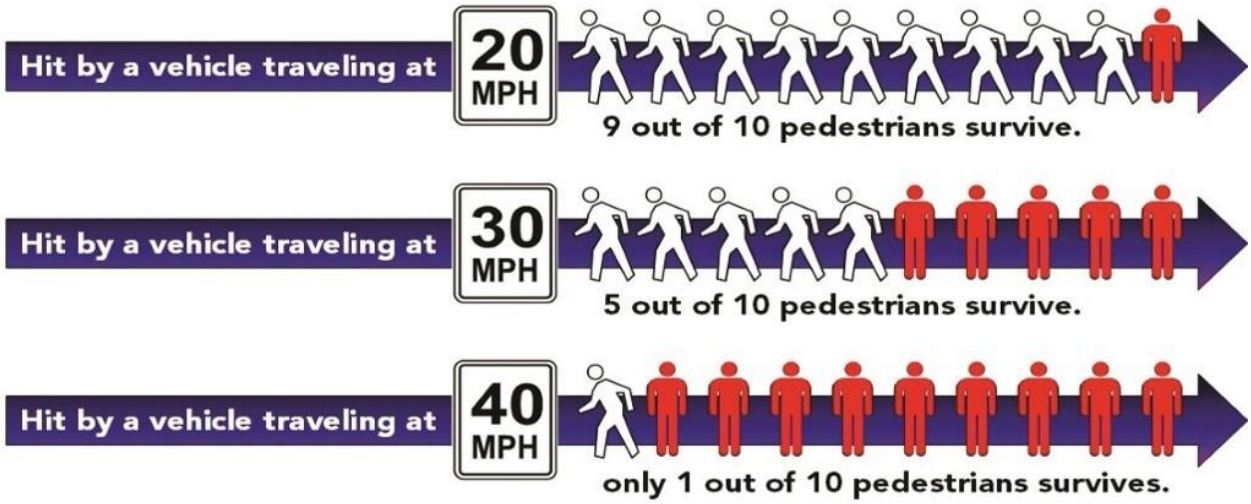
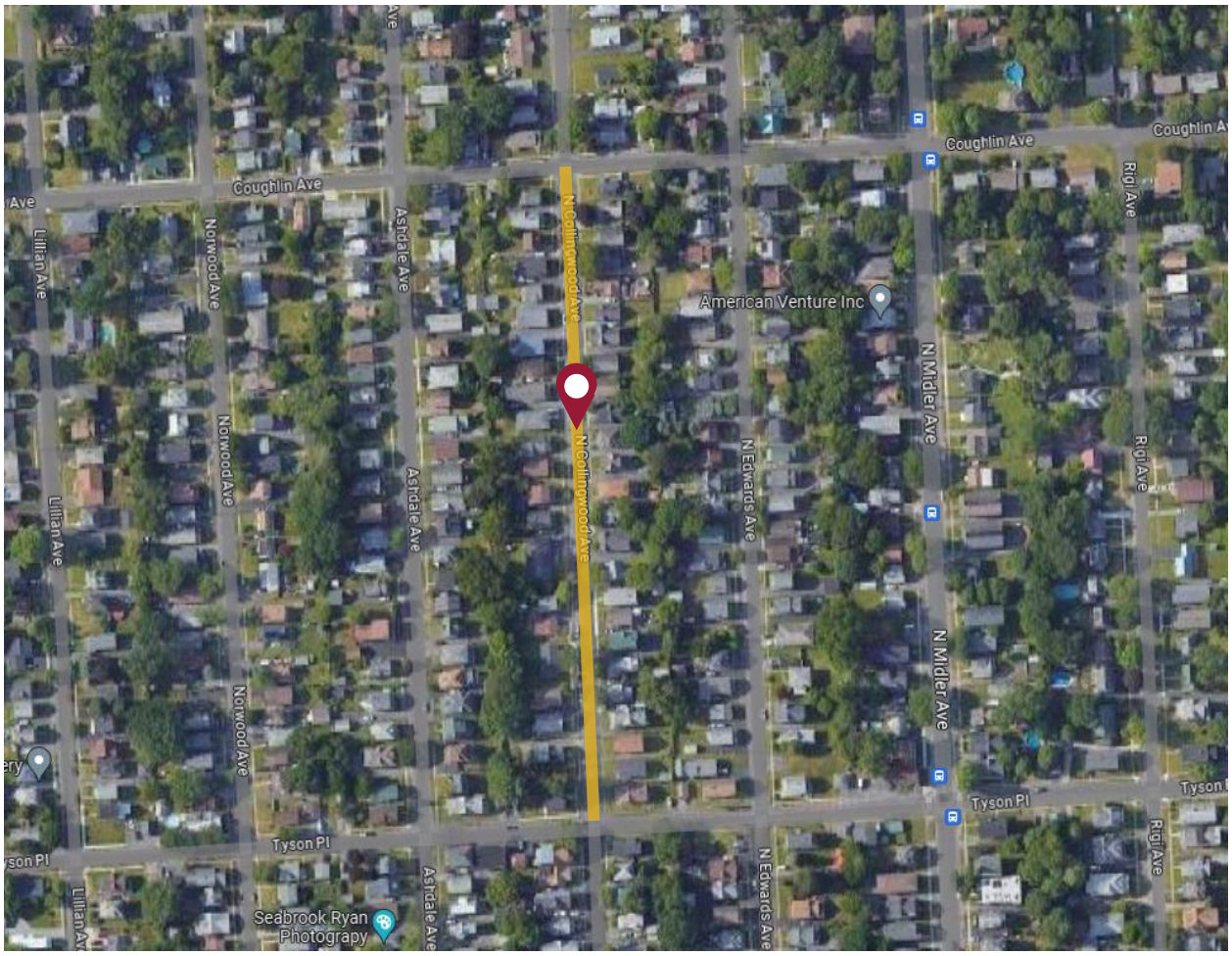


Figure 1: VisionZeroNetwork (2017)

N. Collingwood Ave
SPEED CUSHION SITE

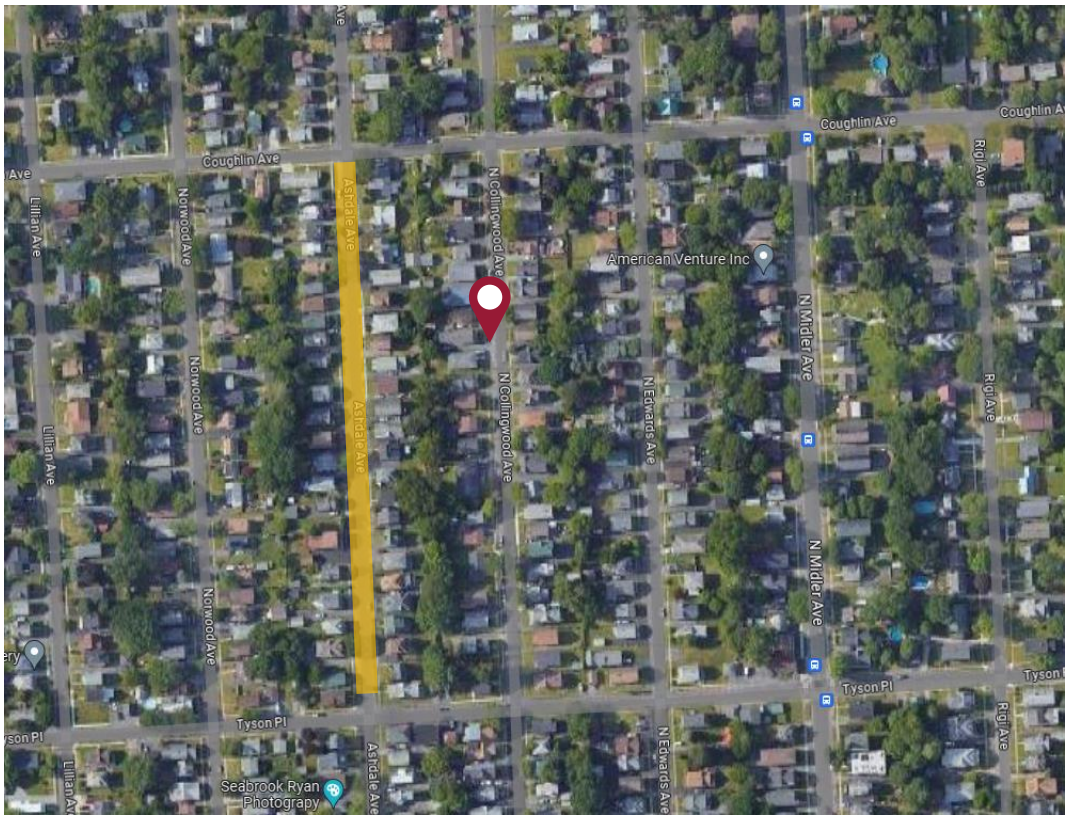


A speed cushion was installed in the 200 block of N. Collingwood Ave.
N. Collingwood Ave is a local road in Eastwood that orients north/south.

PRE	POST	CHANGE
Average = 25 mph	Average = 20 mph	Average = 5 mph decrease
85% = 29 mph	85% = 25 mph	85% = 4 mph decrease

CONCLUSION: Both average speed and 85th percentile decreased in speed.

Ashdale Ave
(N. Collingwood Ave Parallel Site)



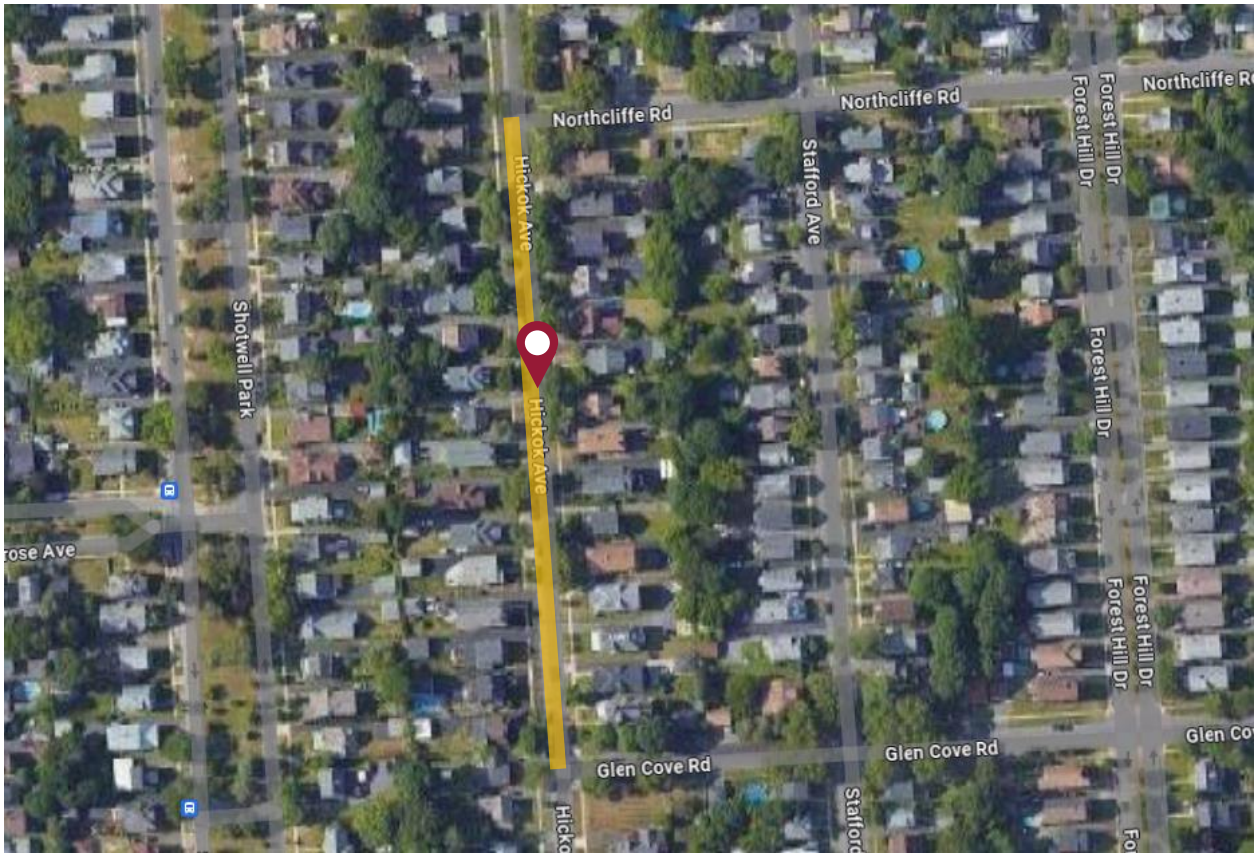
No Speed Cushion was installed at this location. Ashdale Ave is a local road in Eastwood that orients north/south.

PRE	POST	CHANGE
Average = 22 mph	Average = 19 mph	Average = 3 mph decrease
85% = 28 mph	85% = 24 mph	85% = 4 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed.

Hickock Ave
SPEED CUSHION SITE



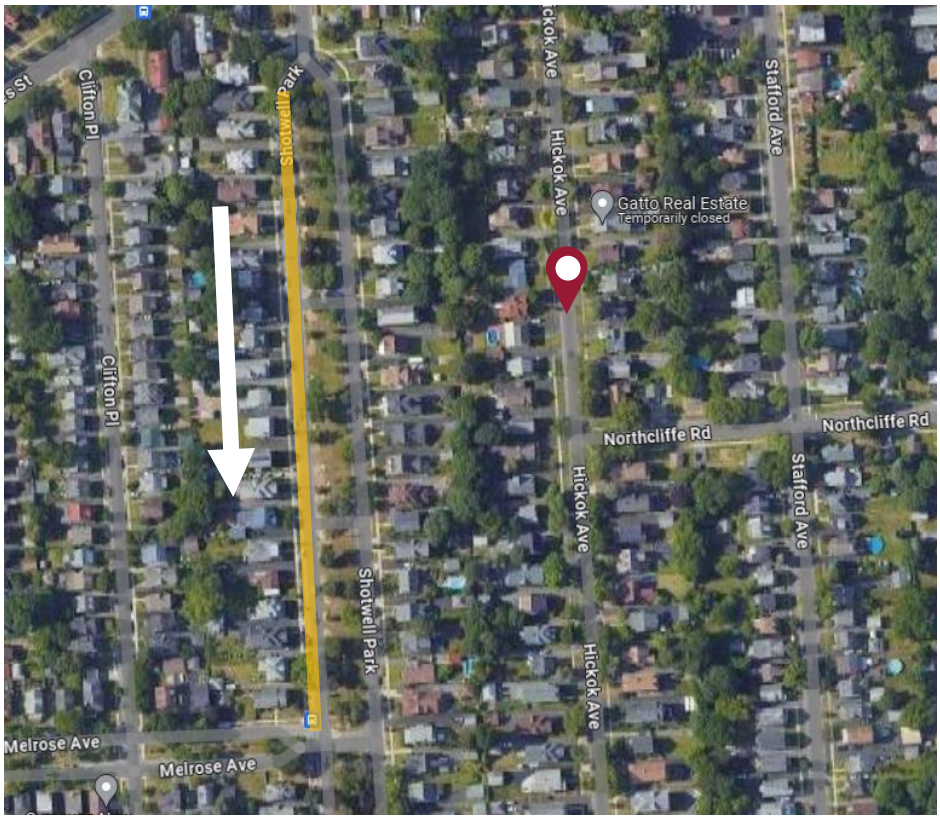
A speed cushion was installed in the 200 block of Hickock Ave. Hickock Ave is a local road in Eastwood that orients north/south.

PRE	POST	CHANGE
Average = 29 mph	Average = 23 mph	Average = 6 mph decrease
85% = 34 mph	85% = 28 mph	85% = 6 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed.

Shotwell Park
(Hickock Ave Parallel Site)



No Speed Cushion was installed at this location. Shotwell Park is a local road in Eastwood that orients north/south with a median. Radar was collected from southbound vehicle travel.

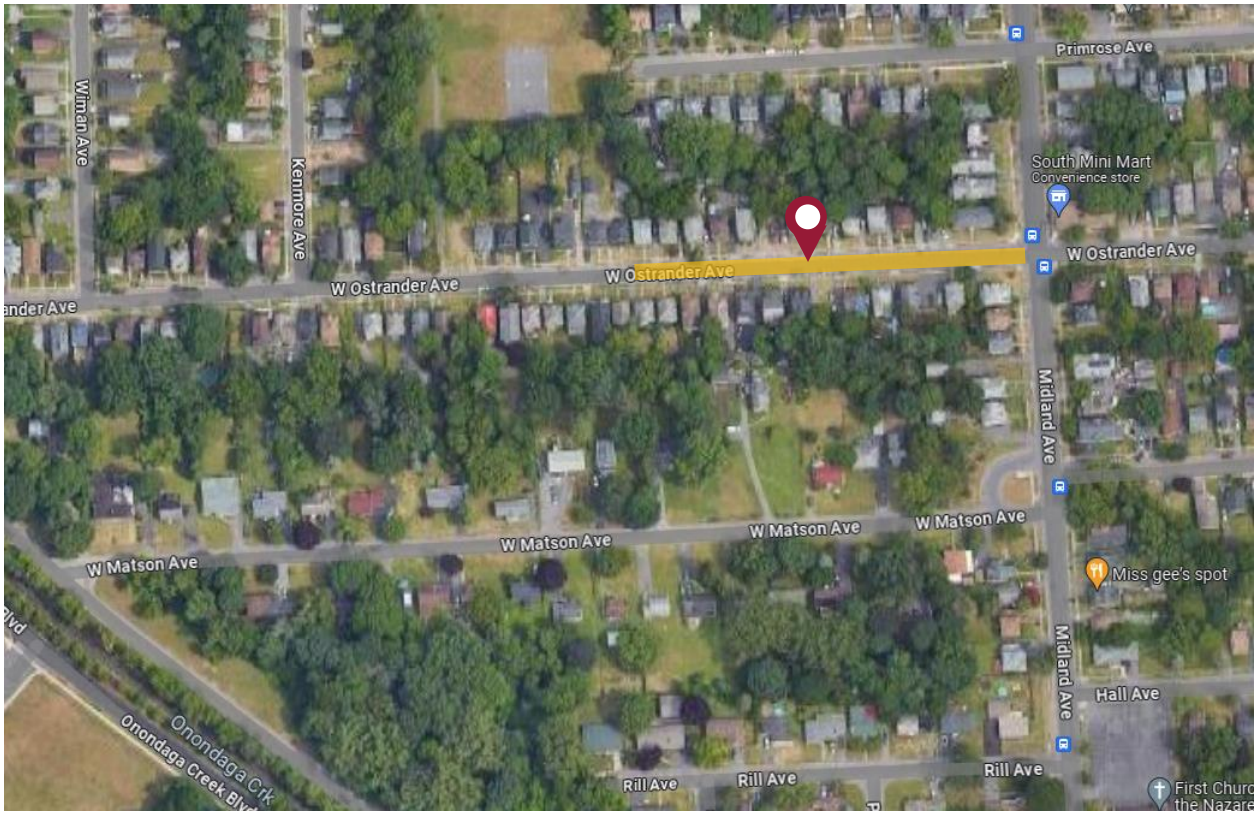
PRE	POST	CHANGE
Average = 28 mph	Average = 30 mph	Average = 2 mph increase
85% = 33 mph	85% = 34 mph	85% = 1 mph increase

CONCLUSION

Both average speed and 85th percentile increased in speed.

Further monitoring is needed.

300 W. Ostrander Ave
SPEED CUSHION SITE



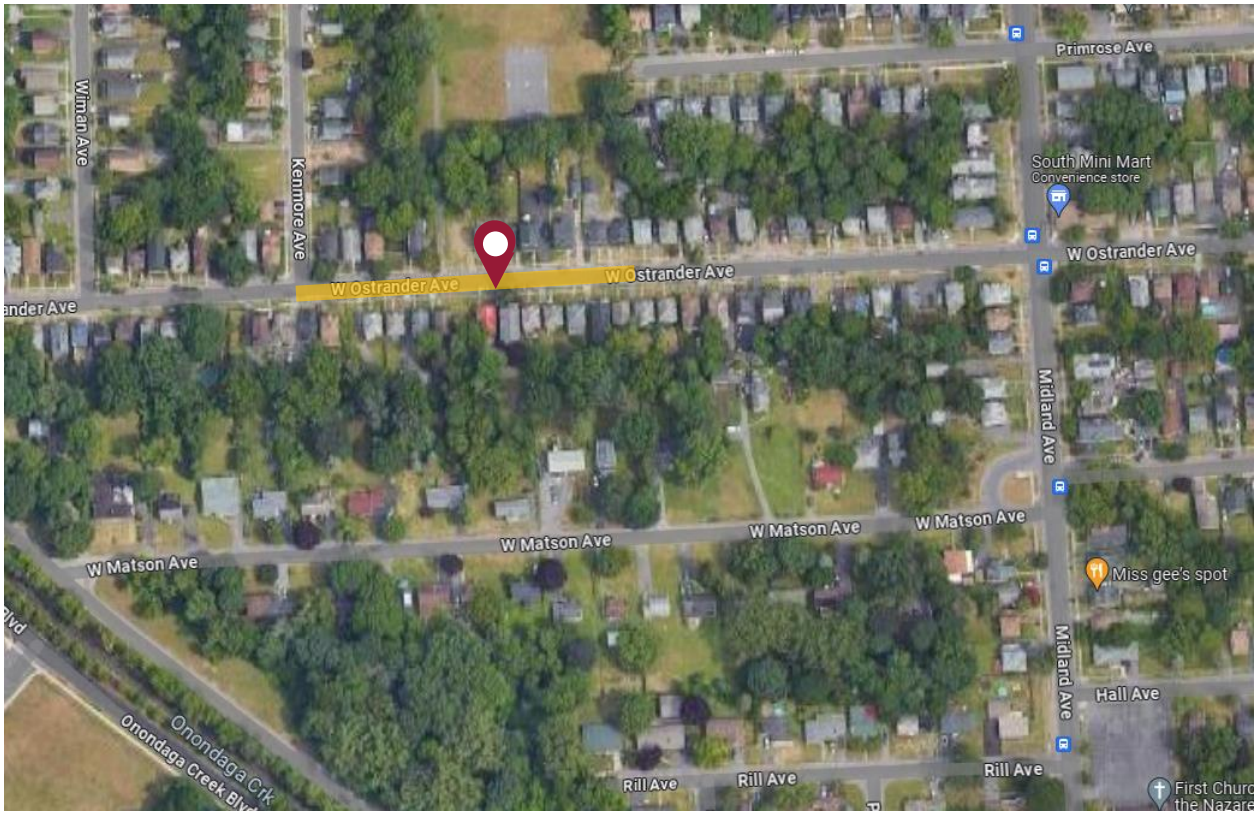
Speed Cushion was installed at this location. W. Ostrander Ave is a road in the Brighton neighborhood that orients east/west.

PRE	POST	CHANGE
Average = 25 mph	Average = 20 mph	Average = 5 mph decrease
85% = 30 mph	85% = 24 mph	85% = 6 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed.

400 W. Ostrander Ave
SPEED CUSHION SITE



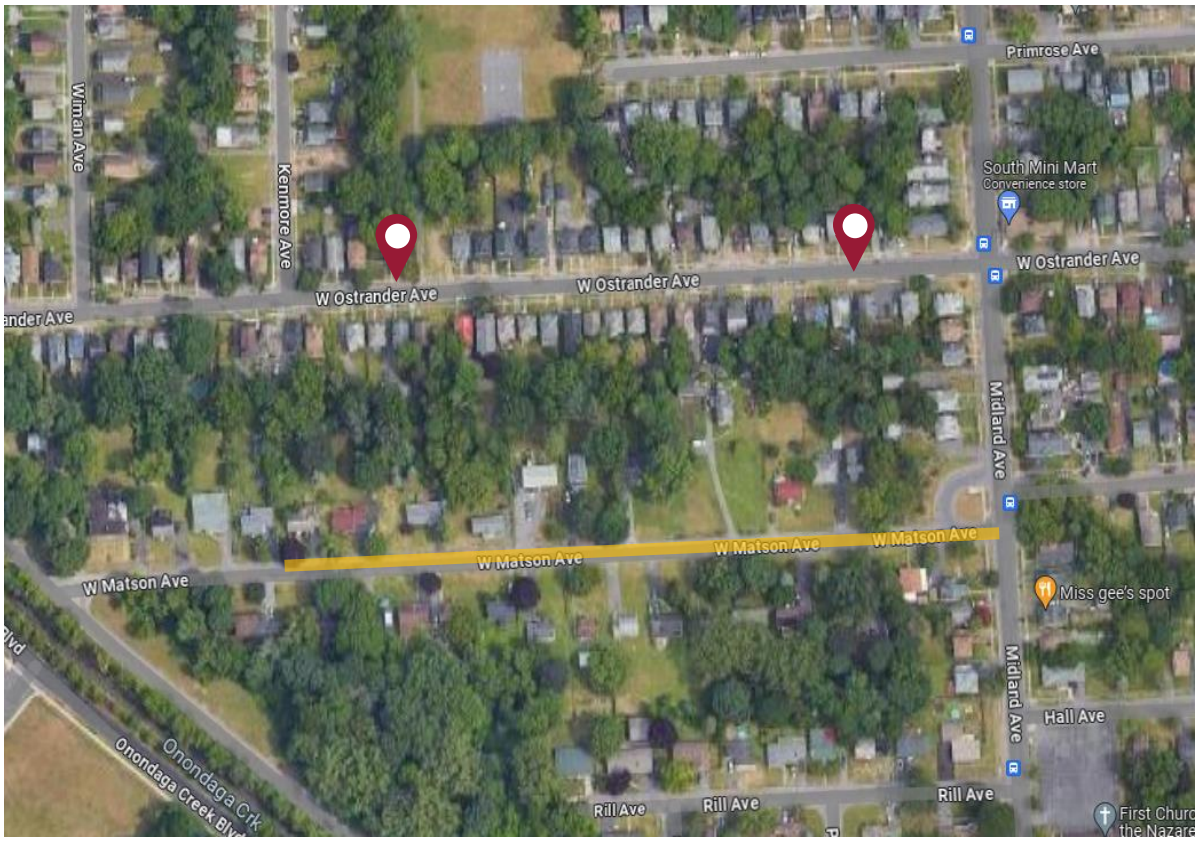
Speed Cushion was installed at this location. W. Ostrander is a road in the Brighton neighborhood that orients east/west.

PRE	POST	CHANGE
Average = 25 mph	Average = 23 mph	Average = 2 mph decrease
85% = 30 mph	85% = 28 mph	85% = 2 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed, though by less than the 300 block.

350 W. Matson Ave
(W. Ostrander Ave Parallel Site)



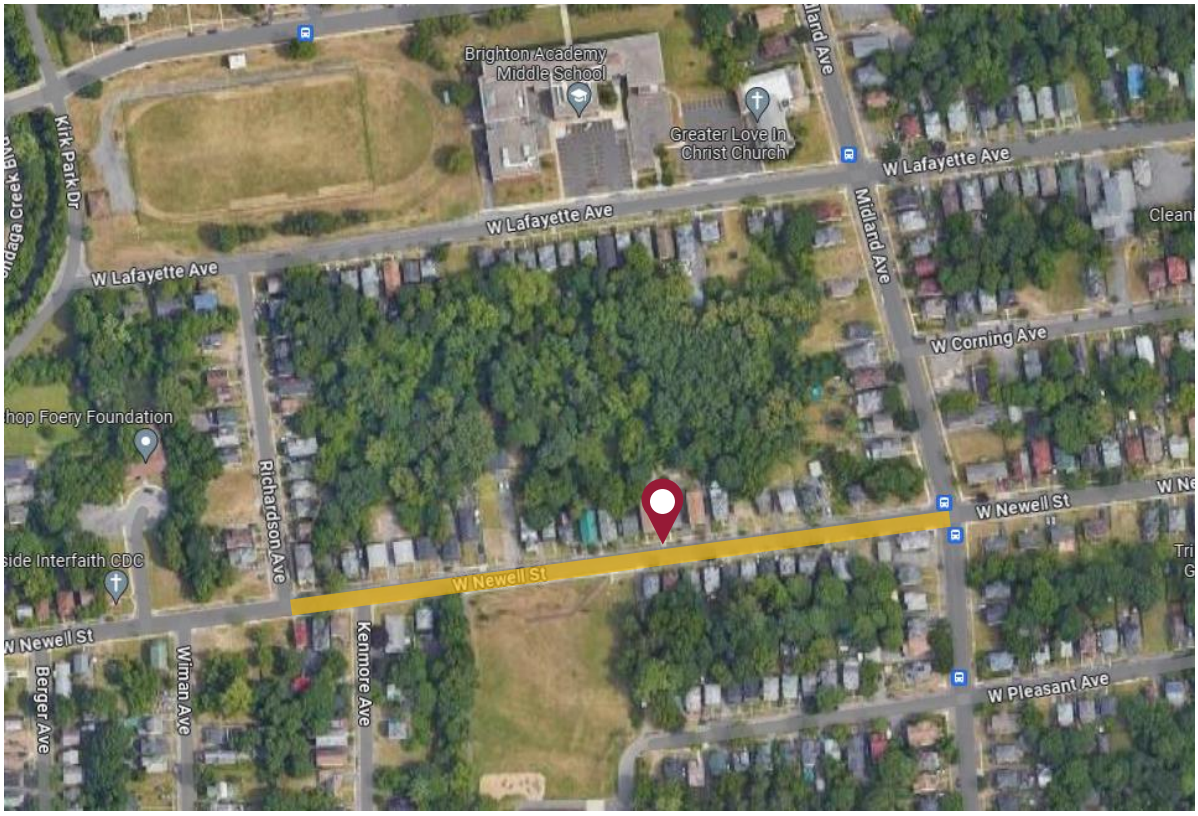
No Speed Cushion was installed at this location. W. Matson Ave is a road in the Brighton neighborhood that orients east/west.

PRE	POST	CHANGE
Average = 21 mph	Average = 18 mph	Average = 3 mph decrease
85% = 27 mph	85% = 24 mph	85% = 3 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed.

310 W. Newell St.
SPEED CUSHION SITE



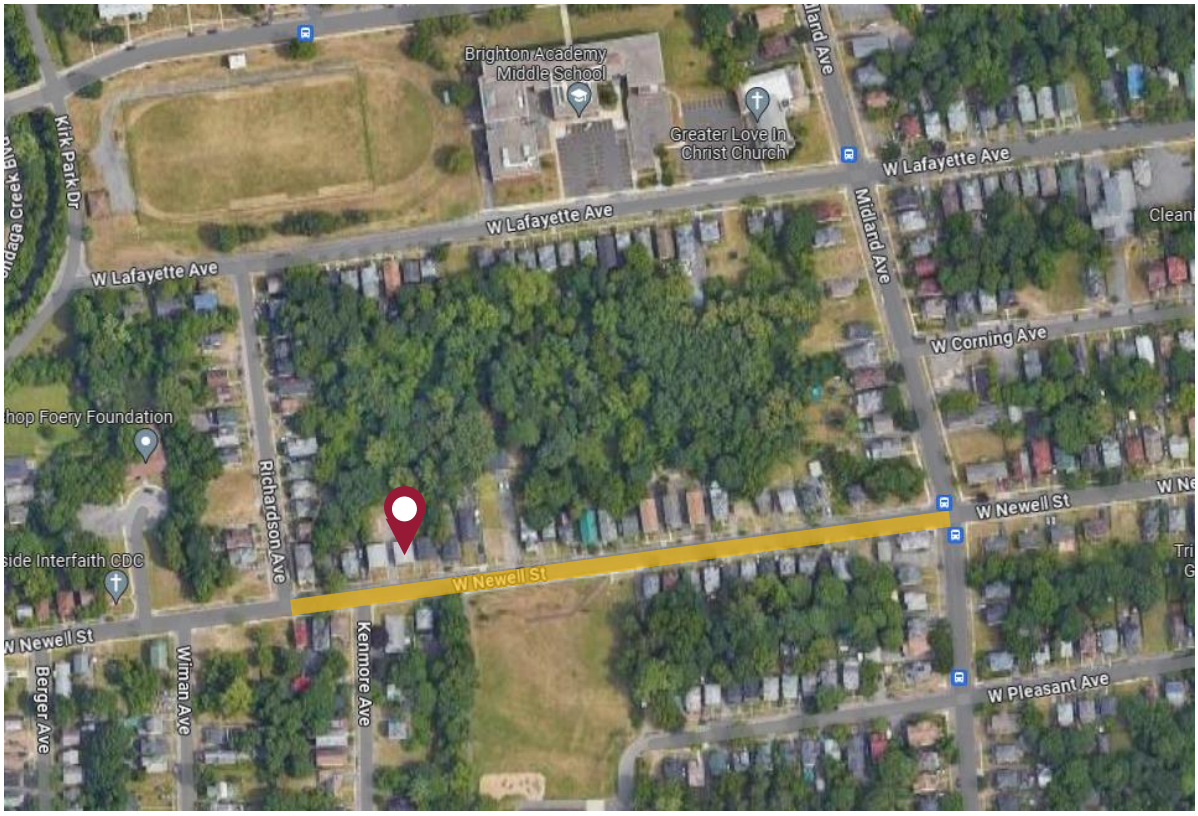
Speed Cushion was installed at this location. W. Newell St. is a road in the Brighton neighborhood that orients east/west.

PRE	POST	CHANGE
Average = 26 mph	Average = 24 mph	Average = 2 mph decrease
85% = 32 mph	85% = 29 mph	85% = 3 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed.

382 W. Newell St.
SPEED CUSHION SITE



A speed cushion was installed in the 300 block of W. Newell St. W. Newell St. is a road in the Brighton neighborhood that orients east/west.

PRE	POST	CHANGE
Average = 26 mph	Average = 25 mph	Average = 1 mph decrease
85% = 33 mph	85% = 31 mph	85% = 2 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed.

W. Lafayette Ave
(W. Newell St. Parallel Site)

No Speed Cushion was installed at this location. W. Lafayette Ave is a road in the Brighton neighborhood that orients east/west.

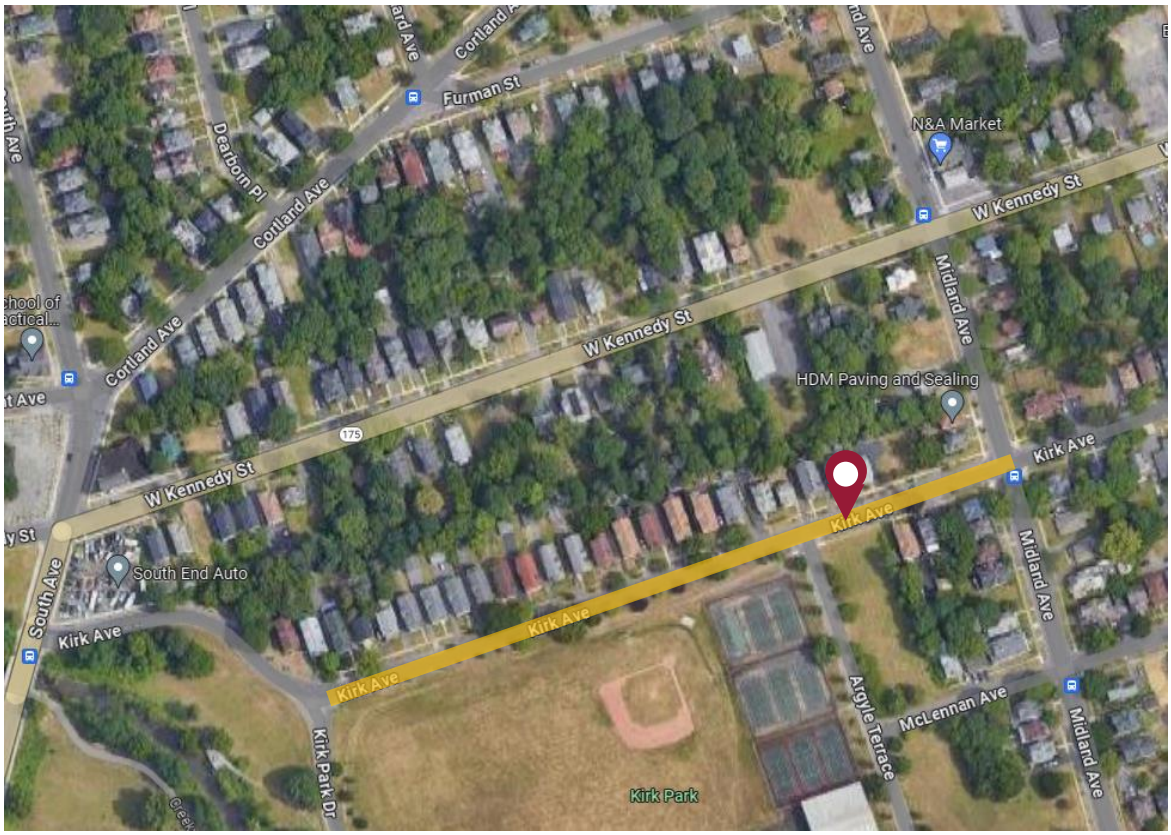
PRE	POST	CHANGE
Average = 23 mph	Average = 22 mph	Average = 1 mph decrease
85% = 28 mph	85% = 28 mph	85% = no change

CONCLUSION

Neither average speed nor 85th percentile were negatively affected and average speed reduced slightly.

Kirk Ave

SPEED CUSHION SITE



Speed Cushion was installed at this location. Kirk Avenue is a road in the Southside neighborhood that orients northeast/southwest.

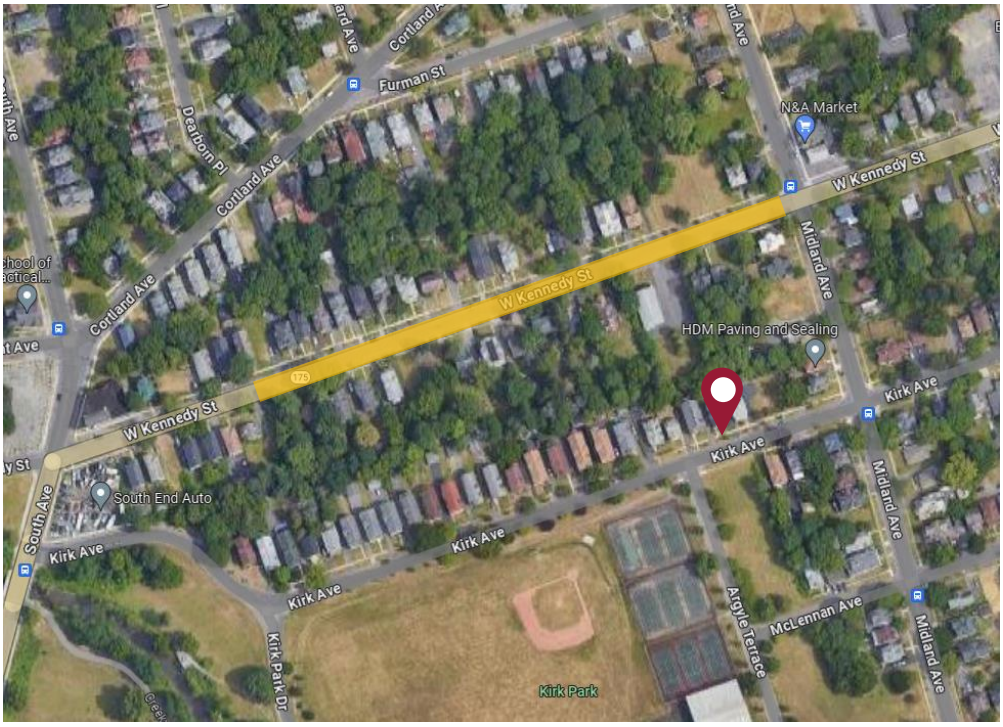
PRE	POST	CHANGE
Average = 28 mph	Average = 14 mph	Average = 14 mph decrease
85% = 33 mph	85% = 17 mph	85% = 16 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed significantly.

Additional interventions in the area include the closure of Argyle Terrace to vehicles, supporting expanded parks programming.

W. Kennedy St.
(Kirk Ave Parallel Site)



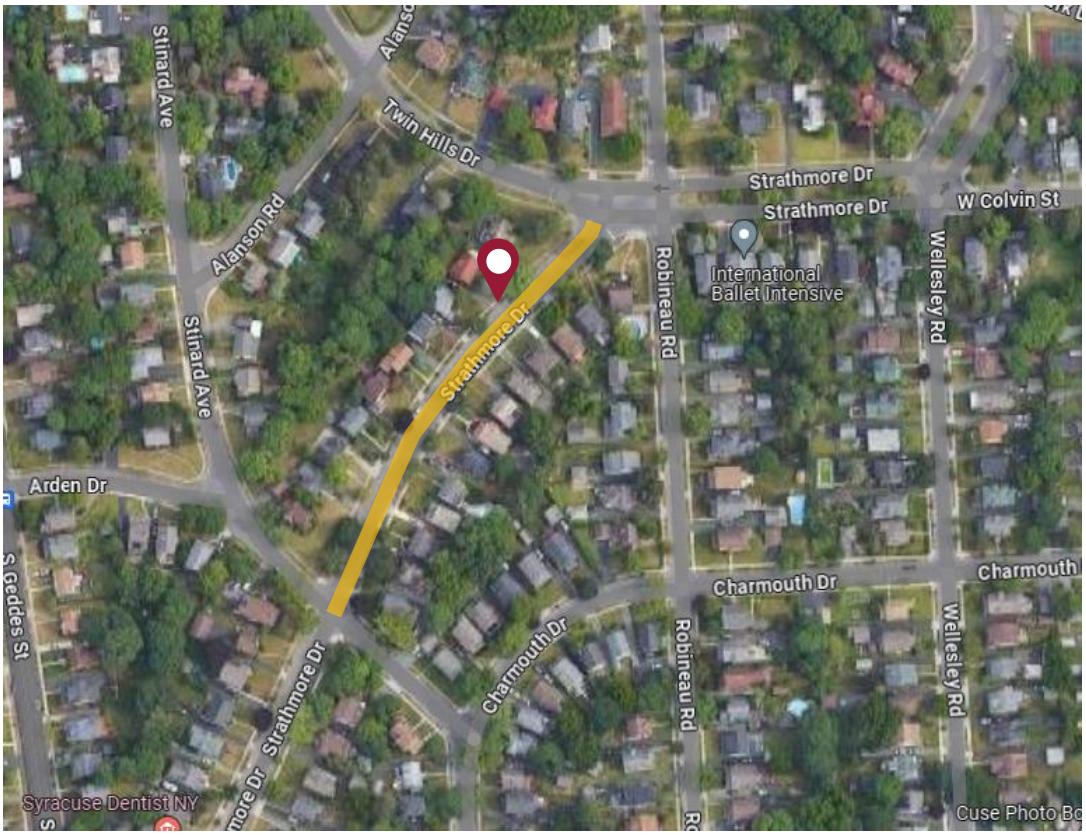
No Speed Cushion was installed at this location. W. Kennedy St. is a road in the Southside neighborhood that orients northeast/southwest.

PRE	POST	CHANGE
Average = 27 mph	Average = 26 mph	Average = 1 mph decrease
85% = 33 mph	85% = 32 mph	85% = 1 mph decrease

CONCLUSION

Both average speed and 85th percentile speed decreased.

200 Strathmore Dr. (NE)
SPEED CUSHION SITE



Speed Cushion was installed at this location. Strathmore Drive is a neighborhood road in Strathmore that orients northeast/southwest.

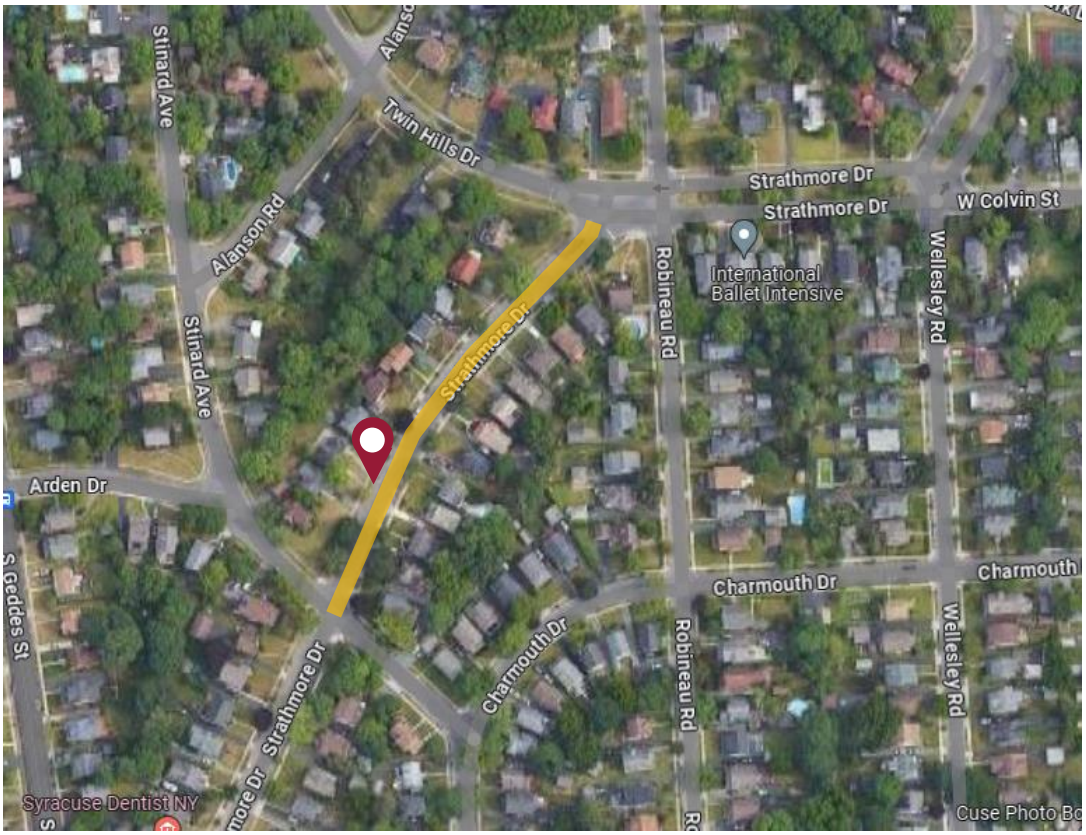
PRE	POST	CHANGE
Average = 27 mph	Average = 8 mph	Average = 19 mph decrease
85% = 33 mph	85% = 11 mph	85% = 22 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed significantly.[1]

[1] Strathmore drive had 2 speed cushions places on a small block. There were also multiple vehicles parked on street near speed cushion which could have been a contributing factor to speed decreases.

200 Strathmore Dr. (SW)
SPEED CUSHION SITE



Speed Cushion was installed at this location. Strathmore Drive is a neighborhood road in Strathmore that orients northeast/southwest.

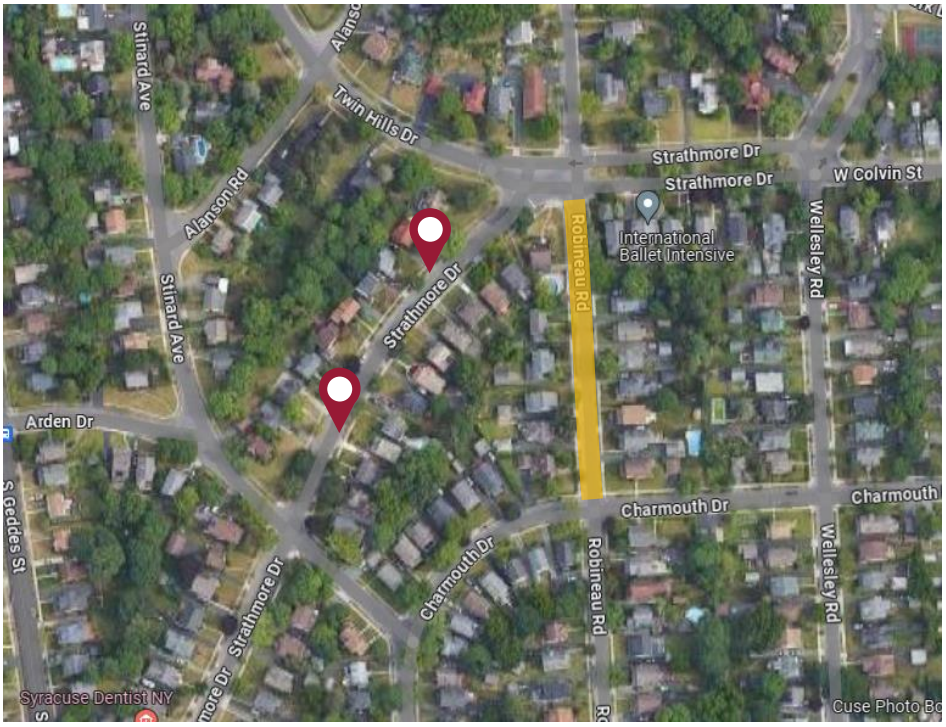
PRE	POST	CHANGE
Average = 24 mph	Average = 13 mph	Average = 11 mph decrease
85% = 28 mph	85% = 17 mph	85% = 11 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed significantly.[2]

[2] Strathmore drive had 2 speed cushions places on a small block. There were also multiple vehicles parked on street near speed cushion which could have been a contributing factor to speed decreases.

Robineau Rd.
(Strathmore Drive Parallel Site)



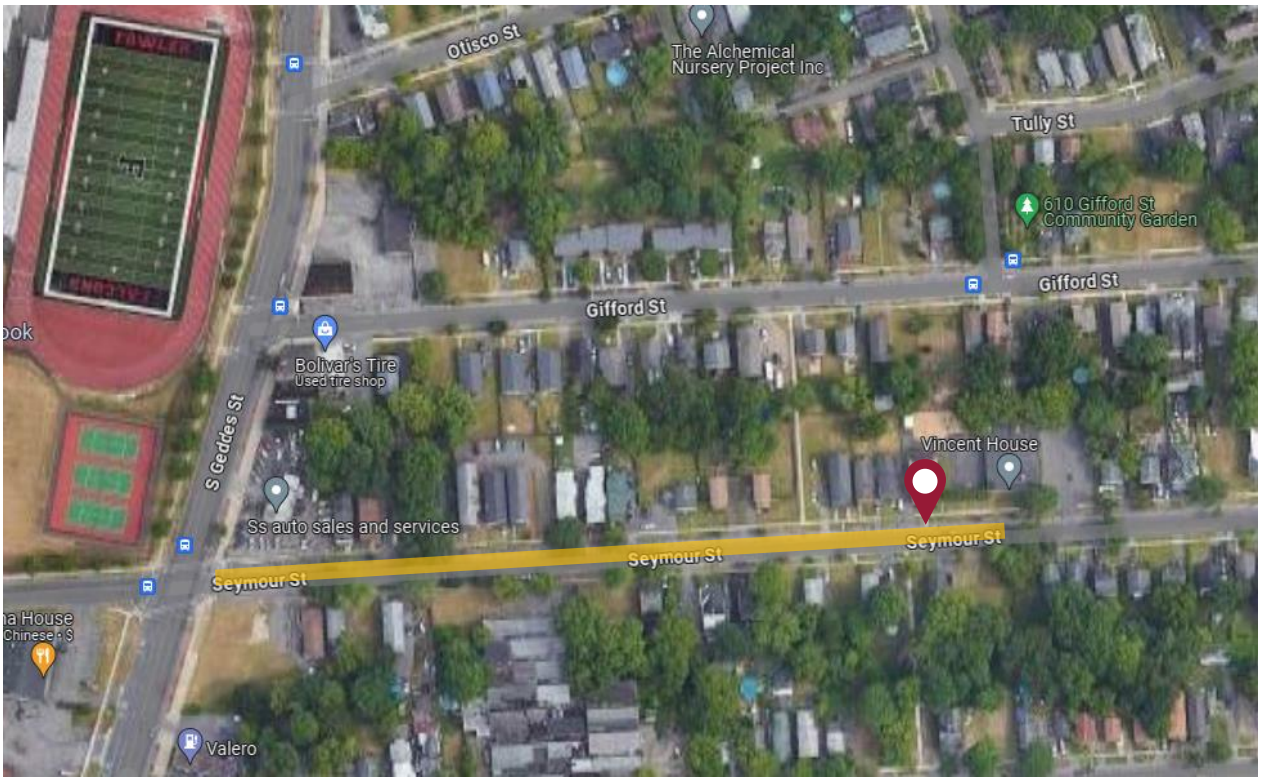
No Speed Cushion was installed at this location. Robineau Rd. is a neighborhood road in Strathmore that orients north/south.

PRE	POST	CHANGE
Average = 24 mph	Average = 19 mph	Average = 5 mph decrease
85% = 29 mph	85% = 25 mph	85% = 4 mph decrease

CONCLUSION

Both average speed and 85th percentile speed decreased.

500 Seymour St. (E)
SPEED CUSHION SITE



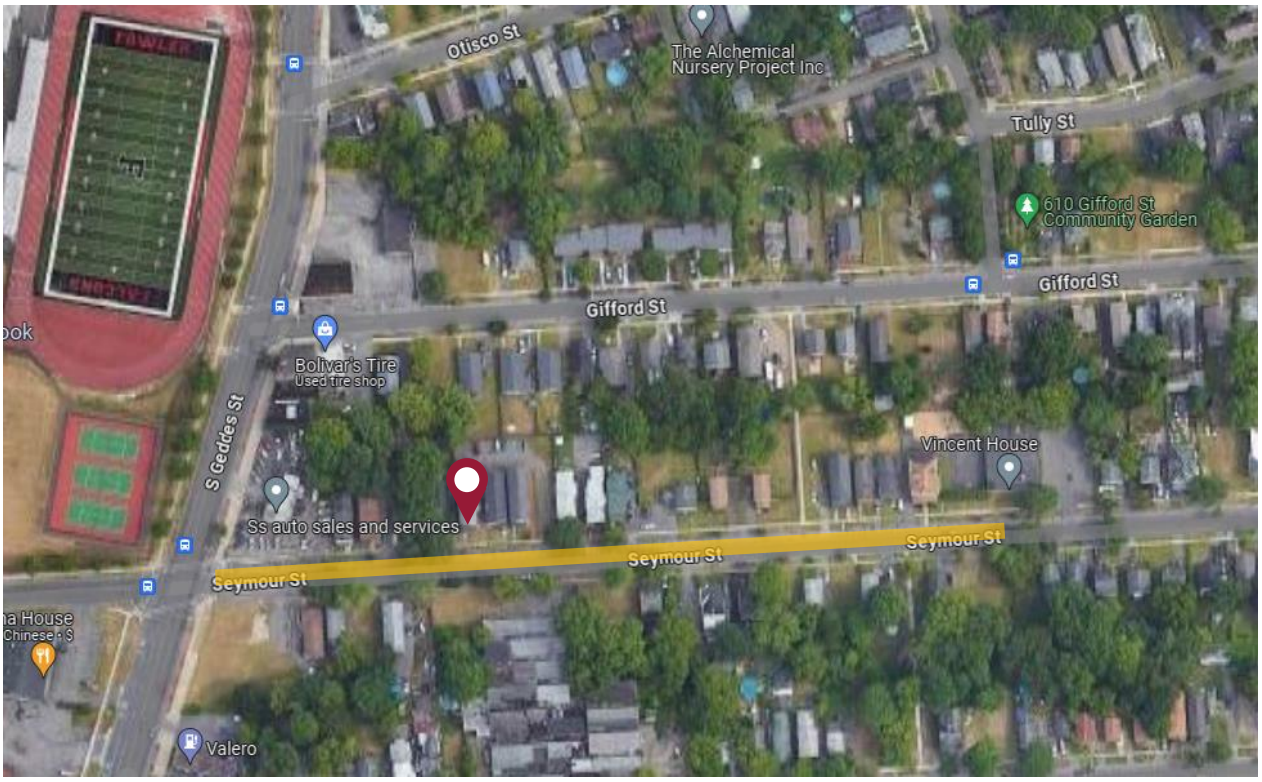
Speed Cushion was installed at this location. Seymour St. is a road in the near Westside neighborhood that orients east/west.

PRE	POST	CHANGE
Average = 30 mph	Average = 27 mph	Average = 3 mph decrease
85% = 36 mph	85% = 32 mph	85% = 4 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed.

500 Seymour St. (W)
SPEED CUSHION SITE



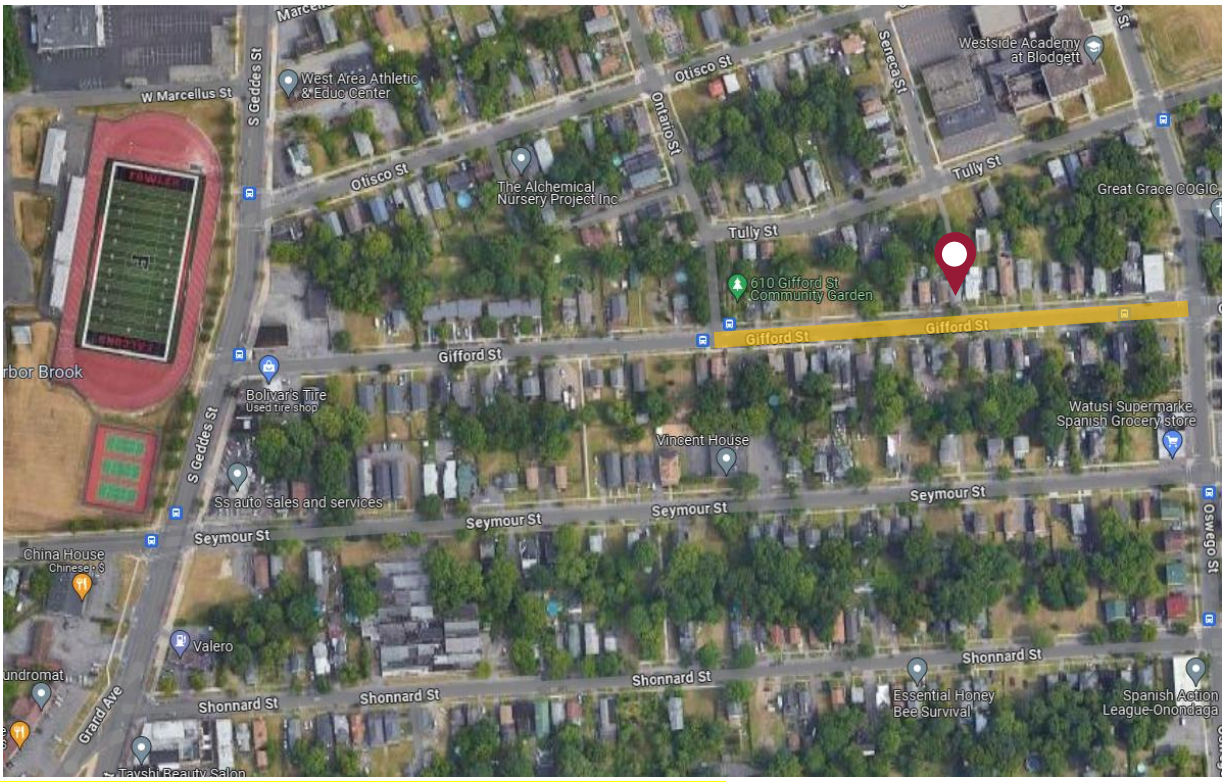
Speed Cushion was installed at this location. Seymour St. is a road in the near Westside neighborhood that orients east/west.

PRE	POST	CHANGE
Average = 29 mph	Average = 24 mph	Average = 5 mph decrease
85% = 34 mph	85% = 28 mph	85% = 6 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed.

Gifford St.
(Seymour St. Parallel Site)



No Speed Cushion was installed at this location. Gifford St. is a road in the near Westside neighborhood that orients east/west.

PRE	POST	CHANGE
Average = 25 mph	Average = 22 mph	Average = 3 mph decrease
85% = 31 mph	85% = 29 mph	85% = 2 mph decrease

CONCLUSION

Both average speed and 85th percentile decreased in speed.

Takeaways:

- No recorded issues of non-compliance or adverse impacts to safety of traveling public at speed cushion sites.
- No negative impact to surrounding infrastructure, including drainage and pavement condition found at speed cushion sites.
- Most parallel control site speeds remained consistent or saw a decrease, with one exception.
- Further data collection (through an extended pilot program) is needed.
- Further adjustment to the design of the speed cushions may be necessary, as requested by the Syracuse Fire Department.
- Adjustment to the install location (mid-block v. end of block) may produce different results and require evaluation.
- Paired installations (multiple streets) may produce different impacts to area streets and require evaluation.

- The pilot installations produced lower speeds in most installation areas and may have contributed to parallel site speed increases at two locations (Stafford Ave in year 1 and Shotwell Park in year 2).
- Further evaluation is required, and the pilot program will be extended to cover a third season.

A final determination of effectiveness is anticipated in 2024