

M-51 from Indiana State Line to M-60BR  
US-12 from 3rd Street to Cass County Line

# Crash Analysis/ Review

City of Niles, Niles Township, Berrien County

**The AECOM Team:**  
AECOM, Bergmann Associates and SME

# Safety Issues - Risk Matrix

Crash Frequency	Frequent	C	D	E	F
	Occasional	B	C	D	E
	Rare	A	B	C	D
		Negligible	Low	Medium	High

Crash Severity

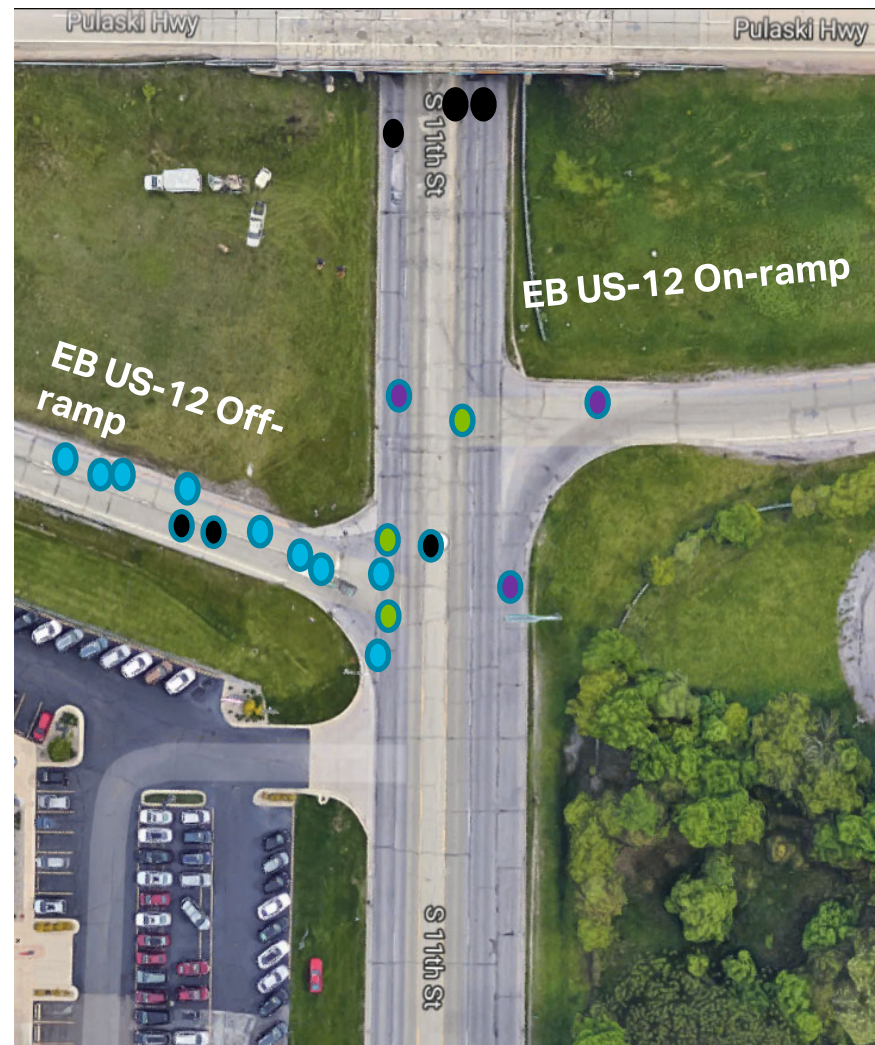
# EB US-12 Off-ramp @ M-51 Crashes (2015-2017)

- RSA Risk Category: D
- 14 of 21 crashes along off-ramp or at off-ramp terminal
- Rear-end crash pattern: 9 rear-end crashes on eastbound off-ramp
- 2 on-ramp related crashes
- Mitigation: align ramps and add sidewalk along M-51

## Crash Type

- Angle
- Rear-End
- Fixed Object
- Other

**EB US-12 Off-ramp @ M-51:  
21 Total Crashes, including  
9 Rear-End Crashes**





# WB US-12 Off-ramp @ M-51 Crashes (2015-2017)

WB US-12 Off-ramp @ M-51:  
15 Total Crashes

- RSA Risk Category: C
- 3 loop ramp merging crashes
- 3 westbound off-ramp crashes (slip ramp)
- 2 rear-end (Right-Turn) crashes and 1 angle crash at Oakdale
- Mitigation: Tee-in the loop ramp, increase separation of Oakdale and WB off-ramp, and add sidewalk along M-51

## Crash Type

- Rear-End
- Side-Swipe Same
- Fixed Object
- Other

M-51/US-12 Scoping Study & PEL



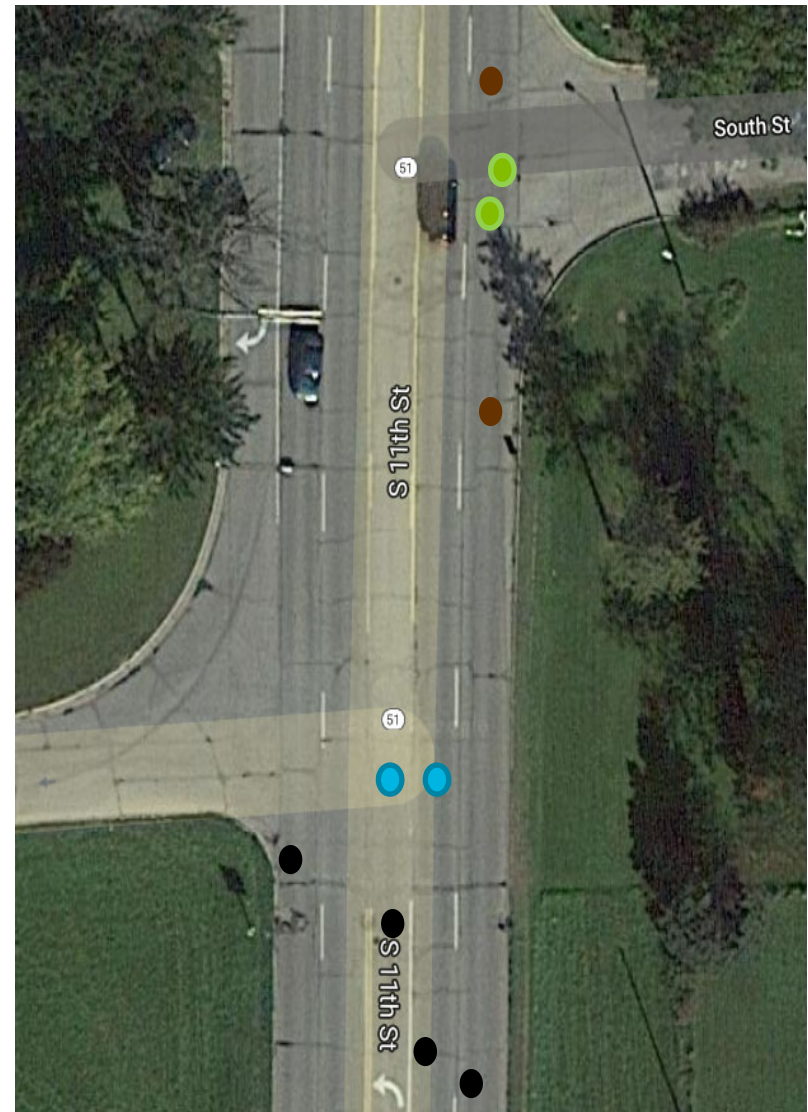
# WB US-12 On-ramp @ M-51 Crashes (2015-2017)

- RSA Risk Category: B
- 4 westbound on-ramp related crashes
- 1 Angle and 1 Head-On Left-Turn crash at South Street
- Mitigation: increase separation of South Street and on-ramp and add sidewalk along M-51

## Crash Type

- Angle/Head-On Left-Turn
- Rear-End
- Deer
- Other

## WB US-12 On-ramp @ M-51: 10 Total Crashes



# M-51 Intersections Crashes (2013-2015 vs 2015-2017)

- 3 intersections had large crash reductions (shaded in table), 2013-2015 vs. 2015-2017.
- Bulk of the reduced crashes were rear-end type on M-51, likely due to signal timing optimization in 2016
- 2015 - 2017: Angle crash patterns on M-51 at Silverbrook and at Fort

M-51 in NILES CRASH HISTORY COMPARISON AND AVERAGE CRASH RATES COMPARISON, 2013-2015 vs 2015-2017

M-51 Intersection	Total Crashes		Crash Rate <sup>(2)</sup>	
	2013 - 2015	2015 - 2017	2013 - 2015	2015 - 2017
M-51 (11th) @ Silverbrook	65	51	2.18	1.71
M-51 (11th) @ Fort <sup>(1)</sup>	34	34	1.34	1.34
M-51 (11th) @ Bell	63	50	1.95	1.55
M-51 (11th) @ Chestnut	51	47	1.77	1.63
M-51 (11th) @ Fulkerson	39	16	1.52	0.63
M-51 (11th) @ Bertrand	<u>30</u>	<u>31</u>	1.21	1.21
<b>TOTAL CRASHES</b>	<b>282</b>	<b>229</b>		

<sup>(1)</sup> Overhead flashing beacon.

<sup>(2)</sup> Crashes per 1 million entering vehicles.

Source: Crash Data-Traffic Crash Analysis Tool 2.0, Traffic Improvement Association

Source: Crash Rates-Crash Analysis Process, SEMCOG, Appendix A, January 2016

Large crash reduction

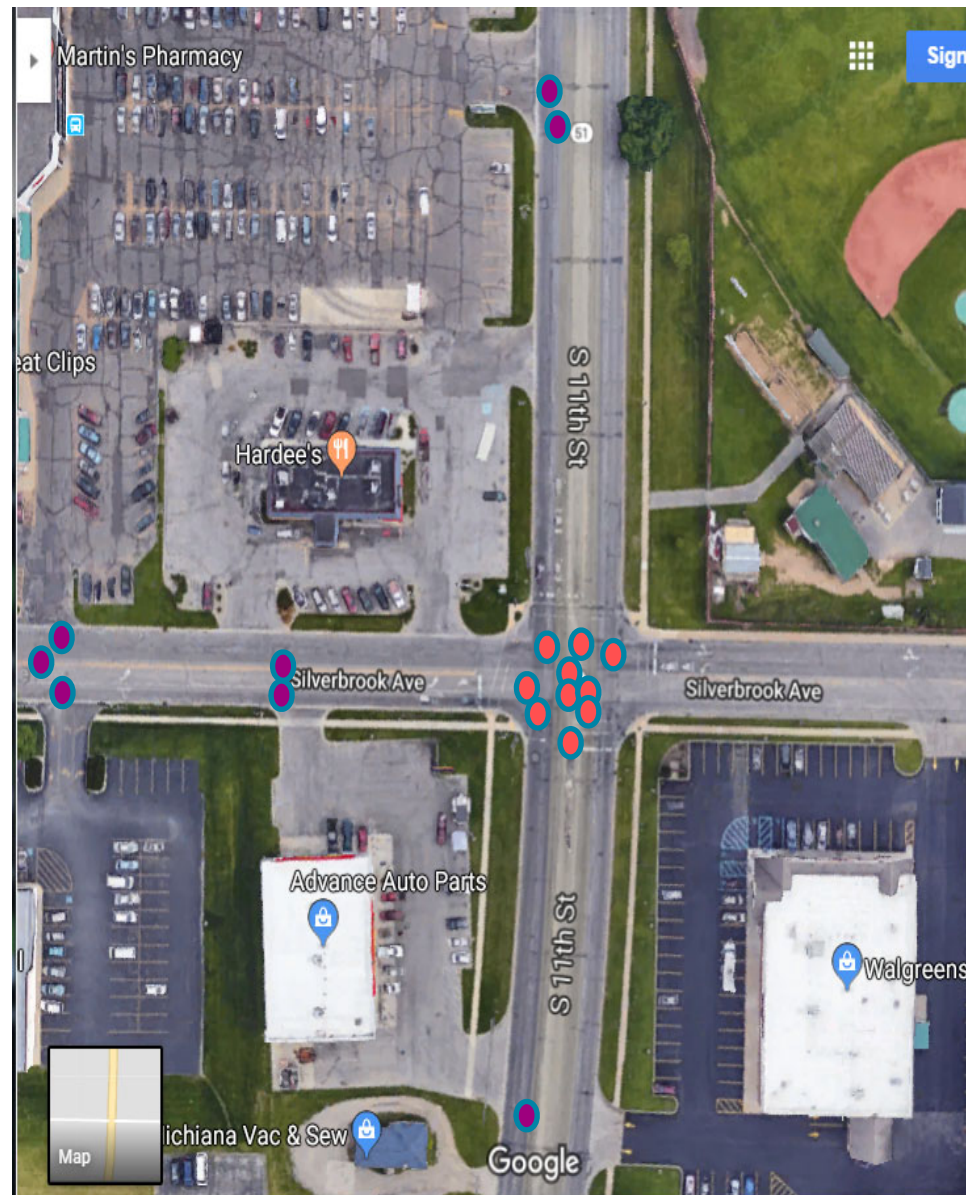


# M-51 @ Silverbrook Ave Crashes (2015-2017)

- RSA Risk Category: D
- Angle crash pattern:  
18 Angle crashes
- 10 intersection Angle crashes, somewhat evenly distributed
- 8 of 18 Angle crashes were driveway-related
- All 8 Angle driveway crashes involved driveway exiting vehicle failing to yield
- Mitigation: align EB/WB left-turn lanes and eliminate/consolidate driveways near intersection

- Intersection Angle Crash
- Driveway-related Angle Crash

## M-51 @ Silverbrook Ave – 18 Angle Crashes (10 intersection, 8 driveway)

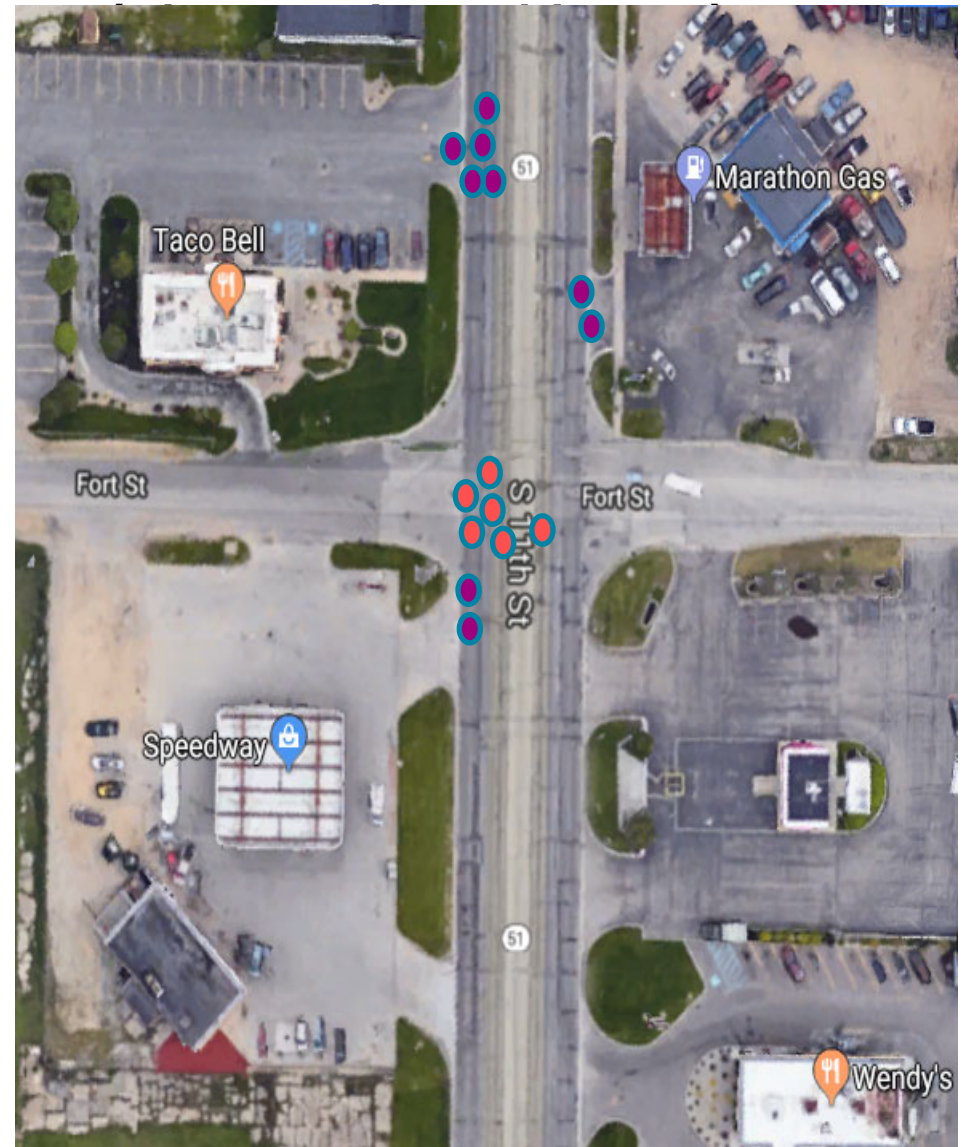


# M-51 @ Fort St Crashes (2015-2017)

- RSA Risk Category: F
- Angle crash pattern: 15 Angle crashes
- 6 intersection Angle crashes, mostly SB-EB
- 9 of 16 Angle crashes were driveway-related.
- 5 of the 9 Angle driveway crashes were at the Taco Bell driveway on M-51
- 17 driveways are located within 250 feet of intersection
- Mitigation: access management to reduce driveway density

- Intersection Angle Crash
- Driveway-related Angle Crash

## M-51 @ Fort St – 15 Angle Crashes

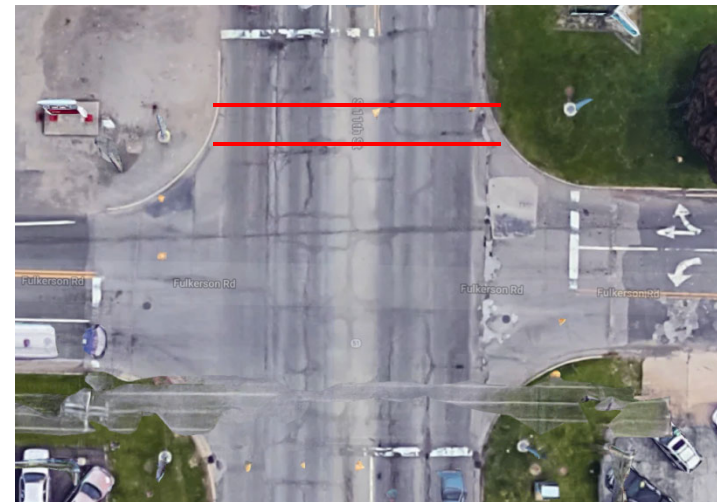




# M-51 @ Bertrand and Fulkerson (2015-2017)

- RSA Risk Category: D
- Fulkerson: 16 crashes in 3 years
- Bertrand: 31 crashes in 3 years
- No marked crosswalks
- Mitigation: add marked crosswalk on the north leg of M-51 with ADA-compliant ramps on the NE and NW corners. (shown in red)

## M-51 @ Fulkerson



## M-51 @ Bertrand

