



2019

# Suder Avenue

Traffic and Speed Study



City of Toledo  
DIVISION OF TRANSPORTATION

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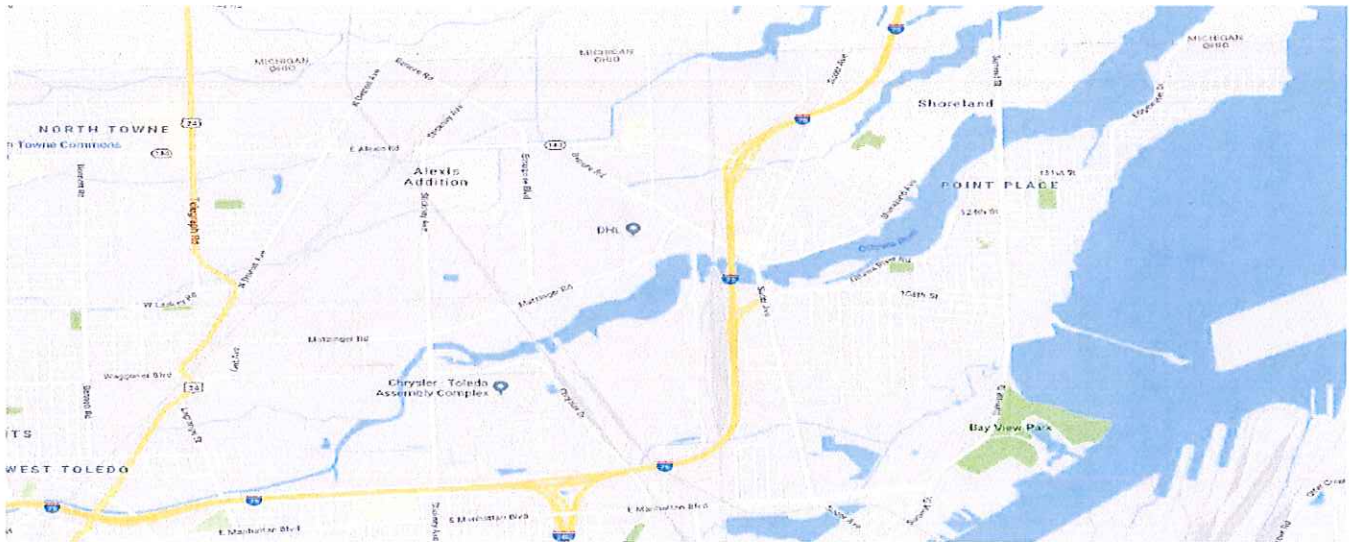
## 1. Introduction:

This traffic and speed study was initiated by the City of Toledo, Division of Transportation with agreement with the Lucas County Engineers offices in response to community requests to lower the speed limit on Suder Avenue. This Study will look at a 3.4 mile section of Suder Avenue from East Manhattan Boulevard to the Ohio/Michigan State line.

## 2. Study Location and Limits:

Suder Avenue runs north and south from Summit Street to the Ohio/Michigan line. The roadway is classified as Urban Collector from the Ohio/Michigan line to East Alexis Road and Urban Minor Arterial from East Alexis Road to Summit Street. This study will concentrate on the section between Manhattan Boulevard to the OH/MI Line.

Figure A:



## 3. Physical Characteristics:

Suder Avenue is located in the northern portion of the City of Toledo and does not contain any on street parking but some sections do have a bike lane on both sides of the street; the terrain is relatively flat with one overpass over interstate 75 and one box bridge crossing the Ottawa River. The speed limit for all of Suder Avenue within the study area is 40 MPH. The following **Table A** looks at some roadway characteristics on Suder Avenue.

**Table A:**

Suder Avenue Roadway Characteristics	E. Manhattan Blvd to Abygail Trail	Abygail Trail to Ottawa River Rd.	Ottawa River Rd. to Benore Rd./Shoreland Ave.	Benore Rd./Shoreland Ave. to E. Alexis Rd.	E. Alexis Rd. to the State Line
Pavement Width, ft	36'	36'	56'	32'	52'
Number of Travel Lanes	2	3	5	2	4
Lane Widths, ft	12-12	12-12-12	13-10-10-10-13	11-11	12-13-13-12
Bike Lane	6'		n/a	5'	
Type of Key Features	Residential, Detwiler Park	Residential, Commercial, Kroger	Commercial, Ottawa River, Rite Aid	Commercial, Residential	Shoreland Elementary, Commercial, Residential, I-75 overpass
Date and Type of last construction	Resurfaced and Waterline 2014		Intersection at Shoreland resurfaced 2008	Reclaimed and Widened 2013	

The section of Suder Avenue, between E. Manhattan Blvd. to Ottawa River Rd., is primarily residential along with commercial in the north and has a baseball field in its limits. The baseball field is owned by Washington Local School District. This section of road is a two lane Minor arterial route that is curbed with sidewalks and a 6' bike lane on both sides.

The section of Suder Avenue between Ottawa River Rd. and Benore Rd./ Shoreland Ave. is primarily commercial with a box bridge crossing over Ottawa River. This section of road is a five lane minor arterial road with an I-75 off and on ramp at Ottawa River Rd. and Suder Ave. intersection. It is curbed with sidewalks on both sides of the road and a sidewalk on the box bridge over the Ottawa River for pedestrians to cross the river.

The section of Suder Ave. between Benore Rd./ Shoreland Ave. to E. Alexis Rd. is primarily residential with some commercial areas like Suder Square shopping mall. This section of road is a two lane minor arterial road that is curbed with sidewalks and a 5' bike lane on both sides.

The section of Suder Avenue between E. Alexis Rd. and the Ohio/Michigan State Line is split between residential and commercial as well as having Shoreland Elementary School. The school zone is from the south side of the intersection of E. Alexis Ave. & Suder Ave. extending approximately 235' north of the intersection on Suder Ave. Suder Ave. from E. Alexis Rd. to the Ohio/Michigan State Line is a split jurisdiction between the City of Toledo and Washington Township. It is a collector road with sections of the road being curbed and other sections uncurbed with a berm. It also has sidewalks on both sides including on the bridge crossing I-75 for pedestrians to use.

#### 4. Traffic and Speed Data:

Traffic counts were taken at each signalized and major intersections on Suder Ave. from Manhattan Blvd to Alexis Ave. Counts are taken from 7:00 am – 6:00 pm and then calculated for Average Daily Traffic (ADT) based on day of the week and time of the year that the information is gathered.

Speed data is taken with a radar gun and collects speeds from a minimum of 100 cars in each direction at each location. Speed data was also collected during the time of the year when school is in session at Shoreland Elementary that is located on Suder Avenue. This information is located in the Appendix.

The chart below shows speed data gathered at multiple locations along Suder Avenue. Engineering analysis is most often determined on the 85<sup>th</sup> percentile speeds which is defined by the Federal Highway Administration as the speed that 85 percent of free flowing traffic is traveling at, or below. The 85<sup>th</sup> percentile speeds are used to evaluate and recommend speed limits based on the assumption the 85% of the drivers are traveling at a speed they perceive as safe. The 10 MPH pace is the 10 MPH band of travel speeds containing the largest number of observed vehicles.

**Table B:**

<b>Suder Avenue</b>	<b>Average Speed</b>	<b>85% Speed</b>	<b>10 MPH Pace</b>
OH/MI Line to Kyle/ Rosemar	41.7	45	37-47
Villamar to Vistamar	39	43	33-43
Vistamar to Alexis	37.6	42	32-42
Mayport to Thornbrook	37.1	41	32-42
Grosse Point to Greenwich	36.2	SB 43, NB 37	31-41
Shoreland to Ottawa River	34.6	SB 40, NB 37	30-40
Ottawa River to Abygail	36.1	SB 39, NB 43	32-42
Hoops to Keen	37.9	42	33-43
Roselawn to Northwyck	40.2	44	37-47
Northridge to Wiler	41.4	46	37-47
Wiler to Willow Brook	40.2	SB 46, NB 41	36-46
<b>Average</b>		<b>42</b>	<b>34-44</b>

## 5. Crash History:

This report looks at the last three years of accident data, 2016-2018, along Suder Avenue and does not include accidents that occurred on the intersecting streets. Accidents involving animals, weather related reasons, intoxicated drivers and health issues were removed from the total number of accidents put into the speed zone evaluation sheet, as specified by ODOT. Copies of the crash reports are not included in this report due to the high volume, however, they can be made available upon request.

During the years of accident data collected there were 102 total accidents that occurred on Suder Avenue. Rear end accidents are predominately related to congestion and you will see an increase in these types of accidents on roads with heavy amounts of traffic. When comparing these statistics with the ODOT Crash Percentage Analyses (2010-2014) (See Appendix D) the following items vary significantly from the statewide average for a road of this type.

- Injury Crashes                                    28.4%                    (23.5% State-wide average)
- Rear End Crashes                                31.4%                    (20.7% State-wide average)
- Sideswipe Passing Crashes                    9.8%                     (6.9% State-wide average)
- Fixed Object Crashes                          4.9%                     (18.6% State-wide average)

Table C:

TRAFFIC_CRASH_YEAR	Number	%
2016	47	46.1%
2017	26	25.5%
2018	29	28.4%
<b>Grand Total</b>	<b>102</b>	<b>100.0%</b>

CRASH_SEVERITY	Number	%
Injury Crash	29	28.4%
Property Damage Crash	73	71.6%
<b>Grand Total</b>	<b>102</b>	<b>100.0%</b>

TYPE_OF_CRASH	Number	%
Rear End	32	31.4%
Left Turn	28	27.5%
Sideswipe - Passing	10	9.8%
Angle	10	9.8%
Right Turn	9	8.8%
Fixed Object	5	4.9%
Head On	4	3.9%
Sideswipe - Meeting	2	2.0%
Parked Vehicle	1	1.0%
Pedalcycles	1	1.0%
<b>Grand Total</b>	<b>102</b>	<b>100.0%</b>

In June of 2018, TMACOG issued the Safety Locations Report, using crash data available from 2014-2016. This report looks at accident data and trends throughout the 10 county area that it covers and a copy of the full report can be found on the TMACOG website, the list of high accident locations from this report can be found in the Appendix. The report identified the following sites along Suder Avenue as high accident intersections and segments.

- #83, Suder at Ottawa River
- #134, Benore at Suder at Shoreland
- #82, Suder (Ottawa River to Manhattan)

#### **6. Conclusions and Recommendations:**

Ohio Department of Transportation uses a Speed Zone Evaluation Sheet to calculate speed limits along roadways. This spreadsheet takes in to account the number of houses or farms, businesses, minor and major intersections, traffic signals, lane widths, crashes, current 85% speed, 10 mph pace of traffic and roadway characteristics of the terrain. Putting the required data into the spreadsheet determined that the calculated speed for Suder Avenue should be 42 mph, see Appendix A.

Based on the information gathered for this report, the current speed limit of 40 is correct for Suder Avenue and the City of Toledo does not recommend changing the current speed limit. While there is a high number of accidents reported, the majority are at high volume intersections and there are ways to address the high number of accidents with additional safety related studies and projects. There are some areas on Suder Avenue where speeding is prevalent and increased enforcement would be recommended at those locations to address that issue.



# Ohio Department of Transportation



## SPEED ZONE EVALUATION SHEET

FOR NON-FREEWAY and NON-EXPRESSWAY HIGHWAYS

TEM FORM 1296-2

**\*COMPLETE ALL GREEN SHADED AREAS\***

ROUTE NAME:	Suder Avenue	ROUTE NUMBER:	
COUNTY:	Lucas	TOWNSHIP:	
MUNICIPALITY:	Toledo	JURISDICTION:	
BEGIN STUDY AT:	OH/MI state line	BEGIN LOGPOINT:	0.41
END STUDY AT:	E. Manhattan Blvd	END LOGPOINT:	3.47
DIVIDED HIGHWAY:	No	LENGTH (MILE):	3.06
AVERAGE DAILY TRAFFIC (ADT):	7603	EXISTING SPEED LIMIT (MPH):	40

For further guidance in completing this form, see the Traffic Engineering Manual, section 1203.

No. of Houses or Farms	150	Must have direct access to the roadway being studied.	
No. of Small Businesses, Apts./Condos	6	Must have direct access to the roadway being studied.	
No. of Medium Businesses, Apts./Condos	9	Must have direct access to the roadway being studied.	
No. of Major Businesses, Apts./Condos	10	Must have direct access to the roadway being studied.	
No. of Minor Street Intersections	24	Subdivision, Residential, or Other streets serving the residents of that street.	
No. of Major Street Intersections	4	Streets which serve both the residents and commuters of the area.	
No. of Signalized Intersections	4	Do not include intersections at the beginning or end of the section.	
No. of Interchange Ramps	0	Do not include Loop ramps at the beginning or end of the section.	
Lane Width (Round down to nearest foot)	11	General width of through traffic lanes throughout the section.	
Shoulder Width (Round down to nearest foot)	5	General width of paved and/or non-paved shoulder throughout the section.	
Crashes (Latest three years of data)	102	Only include crashes within the section, excluding animal and side street crashes.	
85 <sup>th</sup> % Speed of Traffic	42	Average 85th% Speed of all speed samples that were taken.	
10-mph Pace Speed of Traffic	34	to 44	Average Pace Speed of all speed samples that were taken.
Roadway Characteristics	A1	CATEGORIES: C B3 B2 B1 A3 A2 A1 DIV	

To View Calculation Sheet or Examples of Roadway Characteristics and Crashes to Include, use Buttons Below.

CALCULATION SHEET

ROADWAY CHARACTERISTICS

CRASHES TO INCLUDE

CALCULATED SPEED: 42 MPH

REQUESTED SPEED: 40 MPH

Additional considerations and comments:

STUDY BY:

DATE:

**\*INCLUDE THE RELATED RESOLUTION(S) WHEN SUBMITTING THIS FORM\***

BELOW FOR ODOT USE ONLY

CHECKED BY:

TEST RUN:

MPH

APPROVED SPEED:

MPH