



2019

Summit Street

Traffic and Speed Study



City of Toledo

DIVISION OF TRANSPORTATION

Table of Contents:

1. Introduction.....	2
2. Study Location and Limits.....	2
Figure A: Location Map	
3. Physical Characteristics.....	2-3
Table A: Roadway Characteristics	
4. Traffic and Speed Data.....	4
Table B: Speed Data	
Table C: Traffic Counts	
5. Crash History.....	5-6
Table D: Crash Data	
6. Conclusions and Recommendations.....	6

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 Summit Street. This Study will look at a 2.9 mile section of Summit Street from East Manhattan Boulevard to the Ohio/Michigan State line.

2. Study Location and Limits:

Summit Street runs north and south from Broadway to the Ohio/Michigan line. The roadway is classified as Minor Arterial from the Ohio/Michigan line to Interstate 280, then changes to a Principal Arterial to Broadway. This study will concentrate on the section between Manhattan Boulevard to the OH/MI Line.

Figure A:



3. Physical Characteristics:

This section of Summit Street is located in the northern portion of the City of Toledo and does contain on street parking with bus stops and no bike lanes. The terrain is relatively flat with one bridge crossing the Ottawa River. The speed limit is 40 MPH from Manhattan Blvd. to 101st St. and changes to 30 MPH at Cullen Park north of 101st St. It stays 30 MPH from 101st St. to approximately 380 ft. north of 131st St. where it changes to 45 MPH to the OH/MI line. The following **Table A** looks at some roadway characteristics on Summit Street.

Table A:

Suder Avenue Roadway Characteristics	E. Manhattan Blvd to 101st St. & Cullen Park	101st & Cullen Park to 131st St.	131st St. to Shoreland Ave.	Shoreland Ave. to OH/MI line
Pavement Width, ft	40'	40'	52'	60'
Number of Travel Lanes	4	2	4	4
Lane Widths, ft	10-10-10-10	20-20	13-12-12-13	12-12-12-12
Type of Key Features	Commercial, Detwiler Park, US Coast Guard, Bay View Yacht Club,	Commercial, Cullen Park, St. John the Baptist & Messiah Church, Residential	Residential, Commercial, Ottawa River	Commercial
Date and Type of last construction	Resurfaced 2000	Resurfaced 1999, to be Resurfaced 2021		

The section of Summit Street, between E. Manhattan Blvd. to 101st St., is primarily commercial with Detwiler Park, Bayview Park, Bayview Yacht Club and the US Coast Guard. This section of road is primarily a four lane Minor Arterial route that is curbed with a walking/bike path.

The section of Summit Street between 101st Street and 131st Street is primarily commercial with some residential mixed in, Cullen Park and multiple churches. This section of road is a two lane Minor Arterial road that is curbed with sidewalks on both sides of the road.

The section of Summit Street between 131st Street and Shoreland Avenue is primarily residential with some commercial and a bridge crossing the Ottawa River. At this point on Summit Street the Ottawa River is the divider between Washington Township and the City of Toledo. This section of road is uncurbed and does not have any sidewalk except on the bridge crossing the Ottawa River. It is primarily a four lane Minor Arterial road with a small berm north of the bridge.

The section of Summit Street between Shoreland Avenue and the OH/MI line is primarily commercial with marinas, a small shopping center, and is the jurisdiction of Washington Township. It is a Minor Arterial road section that is uncurbed with a berm and no sidewalks.

4. Traffic and Speed Data:

Traffic counts were taken at each signalized and major intersections on Summit Street from Manhattan Blvd. to Shoreland 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.

The chart below shows speed data gathered at multiple locations along Summit Street. Engineering analysis is most often determined on the 85th 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 85th 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:

Summit Street	Average Speed	85% Speed	10 MPH Pace
OH/MI Line to Coveview	NB 43.4, SB 41.3	NB 48, SB 45	37-47
Shoreland to 131st	NB 42.1, SB 43.0	NB 46, SB 47	38-48
128th to 127th	32	NB 34, SB 35	27-37
119th to 118th	32	35	27-37
112th to 111th	NB 30.2, SB 31.3	NB 33, SB 34	26-36
103rd to 102nd	32.4	38	30-40
102nd to 101st	NB 36.2, SB 37.3	40	32-42
101st to Bayview	37.9	46	37-47
Bayview to Manhattan	40.2	NB 45, SB 42	36-46
Average		41	32-42

Table C:

Street Name	NB	SB	Side Street	ADT
Summit @ Shoreland	7375	5326	6090/730	6351
Summit @ 131st St.	7540	6622	367/5867	7081
Summit @ 124th St.	6723	8755	4049/1133	7739
Summit @ 116th St.	6472	6254	1521/572	6363
Summit @ 108th St.	6318	6926	1898	6622
Summit @ Manhattan	4058	4151	1789	4105

5. Crash History:

This report looks at the last three years of accident data, 2016-2018, along Summit Street 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 57 total accidents that occurred on Summit Street. 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. The highest percentage of crashes took place in the section between 101st and 131st street with 40 out of the 57 total crashes. A high number of the 40 accidents were angle (7) and side swipe (7) accidents. That could be contributed by on street parking and speeding in that section of road.

- Injury Crashes 31.6% (23.5% State-wide average)
- Rear End Crashes 24.6% (20.7% State-wide average)
- Sideswipe Passing Crashes 17.5% (6.9% State-wide average)
- Fixed Object Crashes 7.0% (18.6% State-wide average)

Table D:

TRAFFIC_CRASH_YEAR	Number	%
2016	21	36.8%
2017	13	22.8%
2018	23	40.4%
Grand Total	57	100.0%

CRASH_SEVERITY	Number	%
Fatal Crash	1	1.8%
Injury Crash	18	31.6%
Property Damage Crash	38	66.7%
Grand Total	57	100.0%

TYPE_OF_CRASH	Number	%
Rear End	14	24.6%
Angle	11	19.3%
Left Turn	10	17.5%
Sideswipe - Passing	10	17.5%
Fixed Object	4	7.0%
Right Turn	3	5.3%
Pedalcycles	2	3.5%
Pedestrian	1	1.8%
Backing	1	1.8%
Parked Vehicle	1	1.8%
Grand Total	57	100.0%

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.

Based on the information gathered for this report, the City of Toledo, with the cooperation of Lucas County and Washington Township, recommend a change in speed limit from 101st street to 131st street to 35 mph and keep 40 mph from E. Manhattan to 101st street and 45 mph from 131st street to the OH/MI line. See Appendix A for the Speed Zone Evaluation Sheets.



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:	Summit St.	ROUTE NUMBER:	24
COUNTY:	Lucas	TOWNSHIP:	
MUNICIPALITY:	Toledo	JURISDICTION:	Toledo
BEGIN STUDY AT:	E. Manhattan Blvd.	BEGIN LOGPOINT:	10.36
END STUDY AT:	101st St.	END LOGPOINT:	11.40
DIVIDED HIGHWAY:	No	LENGTH (MILE):	1.04
AVERAGE DAILY TRAFFIC (ADT):	4105	EXISTING SPEED LIMIT (MPH):	40

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

No. of Houses or Farms	0	Must have direct access to the roadway being studied.	
No. of Small Businesses, Apts./Condos	4	Must have direct access to the roadway being studied.	
No. of Medium Businesses, Apts./Condos	1	Must have direct access to the roadway being studied.	
No. of Major Businesses, Apts./Condos	1	Must have direct access to the roadway being studied.	
No. of Minor Street Intersections	1	Subdivision, Residential, or Other streets serving the residents of that street.	
No. of Major Street Intersections	0	Streets which serve both the residents and commuters of the area.	
No. of Signalized Intersections	0	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)	10	General width of through traffic lanes throughout the section.	
Shoulder Width (Round down to nearest foot)	0	General width of paved and/or non-paved shoulder throughout the section.	
Crashes (Latest three years of data)	11	Only include crashes within the section, excluding animal and side street crashes.	
85 th Speed of Traffic	44	Average 85th% Speed of all speed samples that were taken.	
10-mph Pace Speed of Traffic	37	to 47	Average Pace Speed of all speed samples that were taken.
Roadway Characteristics	A2	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: 48 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



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:	Summit St.	ROUTE NUMBER:	24
COUNTY:	Lucas	TOWNSHIP:	
MUNICIPALITY:	Toledo	JURISDICTION:	Toledo
BEGIN STUDY AT:	101st St.	BEGIN LOGPOINT:	11.40
END STUDY AT:	131st St.	END LOGPOINT:	12.52
DIVIDED HIGHWAY:	No	LENGTH (MILE):	1.12
AVERAGE DAILY TRAFFIC (ADT):	6951	EXISTING SPEED LIMIT (MPH):	30

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

No. of Houses or Farms	7	Must have direct access to the roadway being studied.	
No. of Small Businesses, Apts./Condos	52	Must have direct access to the roadway being studied.	
No. of Medium Businesses, Apts./Condos	19	Must have direct access to the roadway being studied.	
No. of Major Businesses, Apts./Condos	4	Must have direct access to the roadway being studied.	
No. of Minor Street Intersections	25	Subdivision, Residential, or Other streets serving the residents of that street.	
No. of Major Street Intersections	3	Streets which serve both the residents and commuters of the area.	
No. of Signalized Intersections	3	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)	0	General width of paved and/or non-paved shoulder throughout the section.	
Crashes (Latest three years of data)	39	Only include crashes within the section, excluding animal and side street crashes.	
85 th % Speed of Traffic	36	Average 85th% Speed of all speed samples that were taken.	
10-mph Pace Speed of Traffic	28	to	38
		Average Pace Speed of all speed samples that were taken.	
Roadway Characteristics	A2	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: **38** MPH

REQUESTED SPEED: **35** 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



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:	Summit St.	ROUTE NUMBER:	24
COUNTY:	Lucas	TOWNSHIP:	
MUNICIPALITY:	Toledo	JURISDICTION:	Toledo
BEGIN STUDY AT:	131st	BEGIN LOGPOINT:	12.52
END STUDY AT:	OH/MI line	END LOGPOINT:	13.30
DIVIDED HIGHWAY:	No	LENGTH (MILE):	0.78
AVERAGE DAILY TRAFFIC (ADT):	6716	EXISTING SPEED LIMIT (MPH):	45

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

No. of Houses or Farms	2	Must have direct access to the roadway being studied.	
No. of Small Businesses, Apts./Condos	2	Must have direct access to the roadway being studied.	
No. of Medium Businesses, Apts./Condos	4	Must have direct access to the roadway being studied.	
No. of Major Businesses, Apts./Condos	1	Must have direct access to the roadway being studied.	
No. of Minor Street Intersections	3	Subdivision, Residential, or Other streets serving the residents of that street.	
No. of Major Street Intersections	1	Streets which serve both the residents and commuters of the area.	
No. of Signalized Intersections	1	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)	12	General width of through traffic lanes throughout the section.	
Shoulder Width (Round down to nearest foot)	4	General width of paved and/or non-paved shoulder throughout the section.	
Crashes (Latest three years of data)	8	Only include crashes within the section, excluding animal and side street crashes.	
85 th Speed of Traffic	47	Average 85th% Speed of all speed samples that were taken.	
10-mph Pace Speed of Traffic	38	to	48
		Average Pace Speed of all speed samples that were taken.	
Roadway Characteristics	A2	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: **48** MPH

REQUESTED SPEED: **45** 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