

October 27, 2023

Nate Troyer Village Administrator Village of Millersburg 6 N. Washington Street Millersburg, OH 44654

RE: Results of the US-62 Speed Study

Mr. Troyer,

Carpenter Marty Transportation completed a speed study of US-62 for the Village of Millersburg, Ohio. The methods and results of this study are summarized in this letter report. The study area generally includes US-62 (Clay Street/Washington Street) from Jackson Street to the Tobacco Hut south of Logsdon Avenue.

US-62 is a north/south minor arterial roadway in the Village. The posted speed limit south of Jackson Street is generally 35 MPH for northbound vehicles and 25 MPH for southbound vehicles. The Village has expressed a desire to revise the posted speed limit along US-62 south of Jackson Street.

See the study area map in **Figure 1** for the general study limits, existing posted speed limits along US-62 for northbound and southbound vehicles, and speed data collection points.



Figure 1 – Study Area Map **LEGEND** SPEED DATA COLLECTION POINT EXISTING 25 MPH SPEED LIMIT EXISTING 35 MPH SPEED LIMIT S. WASHINGTON STREET IOHN'S AUTO SALES CURRENT NORTHOBUND 25 MPH SPEED LIMIT SIGN TOBACCO HUT S. MONROE STREET



Data Collection & Field Observations

The existing posted speed limits in the study area are as follows: Northbound

- 35 MPH posted from Tobacco Hut to just north of Newton Street
- 25 MPH posted from just north of Newton Street to Jackson Street

Southbound

- 25 MPH posed from Jackson Street until just south of S. Monroe Street
- 35 MPH from just south of S. Monroe Street to Tobacco Hut

Speed data along US-62 was collected during non-peak hours at the following locations on October 3rd, 2023 (also shown in **Figure 1**):

- 163 S. Clay Street
- 425 S. Clay Street
- 618 S. Washington Street
- The intersection of Washington Street & Monroe Street

Collecting speed data during non-peak hours is an ODOT standard. The goal is to obtain free-flow speeds. It is easier to obtain free-flow speeds outside of peak hours because there are less queues and congestion. Under these conditions, drivers can operate at the speeds they feel comfortable driving in the area. The speed data can be found in **Attachment A**.

Raw crash data was obtained from ODOT Transportation Information Mapping System (TIMS) for use in the speed study analysis. Crash data was utilized as-is. The OH-1 reports were not reviewed, and the data was not cleaned. Animal and side street related crashes were excluded from the analysis. Average daily traffic (ADT) volumes were also obtained from ODOT TIMS.

The typical section characteristics and number/type of access points in the study area were quantified based on aerial imagery, street-view data from Google Maps, and notes taken during the study site visit. Lane and shoulder widths were averaged throughout the zone segment areas.

Analysis

A speed zone evaluation was conducted for three alternate scenarios. This analysis approach provides the Village with different possible speed zone options to choose from.

The three different scenarios included analyzing different zones along US-62 using the speed data collected on October 10th, 2023. Form 1296-02 from the ODOT Traffic Engineering Manual (TEM) was utilized to determine recommended speed zones along US-62. While speed studies traditionally exclude the terminal data points from analysis, evaluation sheets were completed for all four data collection locations and zone segments. Additionally, each zone segment was analyzed using USLIMITS2. This is a web-based tool created and maintained by the Federal Highway Administration (FHWA) to provide



planning-level guidance on possible speed limit recommendations. The analysis was conducted in accordance with the ODOT TEM and ODOT standards.

In Scenario 1, the study area (Jackson Street to Tobacco Hut) was segmented into four speed zones, with each data collection location roughly in the middle of each zone. The speed zones are listed below and shown in **Figure 2**:

- Zone 1 Between Jackson Street and Newton Street
- Zone 2 Between Newton Street and No Name Street
- Zone 3 Between No Name Street and John's Auto Sales
- Zone 4 Between John's Auto Sales and Tobacco Hut

In Scenario 2, the study area (Jackson Street to Tobacco Hut) was segmented into two speed zones, with two data collection points in each zone. The speed zones are listed below and shown in **Figure 3**:

- Zone 1 Between Jackson Street and No Name Street
- Zone 2 Between No Name Street and Tobacco Hut

In Scenario 3, the study area (170 S. Clay Street to Tobacco Hut) was segmented into two speed zones, with two data collection points in each zone. However, the segment from Jackson Street to 170 S. Clay Street was omitted from the analysis for this Scenario, thereby keeping the existing 25 MPH posted speed limit for that section of US-62. The speed zones are listed below and shown in **Figure 4**:

- Zone 1 Between 170 S. Clay Street and 551 S. Washington Street
- Zone 2 Between 551 S. Washington Street and Tobacco Hut

Note, due to the short length of many of the existing posted speed limit segments, the most prominent posted speed limit in each zone segment was assumed as the posted speed limit for that segment in the speed analysis forms. This information does not impact the analysis completed within the forms and is provided on the forms for informational purposes only.



Figure 2 – Scenario 1 Speed Analysis Exhibit LEGEND SPEED DATA COLLECTION POINT PROPOSED 30 MPH SPEED LIMIT PROPOSED 35 MPH SPEED LIMIT ZONE 2 S. WASHINGTON STREET CURRENT SOUTHBOUND 35 MPH SPEED LIMIT SIGN JOHN'S AUTO SALES CURRENT NORTHOBUND 25 MPH SPEED LIMIT SIGN TOBACCO HUT S. MONROE STREET



Figure 3 – Scenario 2 Speed Analysis Exhibit LEGEND SPEED DATA COLLECTION POINT PROPOSED 30 MPH SPEED LIMIT PROPOSED 35 MPH SPEED LIMIT ZONE 1 S. WASHINGTON STREET CURRENT SOUTHBOUND 35 MPH SPEED LIMIT SIGN JOHN'S AUTO SALES CURRENT NORTHOBUND 25 MPH SPEED LIMIT SIGN S. MONROE STREET



Figure 4 – Scenario 3 Speed Analysis Exhibit LEGEND SPEED DATA COLLECTION POINT EXISTING 25 MPH SPEED LIMIT PROPOSED 30 MPH SPEED LIMIT PROPOSED 35 MPH SPEED LIMIT ZONE 1 ZONE JOHN'S AUTO SALES CURRENT NORTHOBUND 25 MPH SPEED LIMIT SIG TOBACCO HUT S. MONROE STREET



Results & Conclusions

Evaluations were completed for the Scenario 1-3 analyses previously described. Calculated speed results for each location based on ODOT criteria and USLIMITS2 are shown in **Table 1** for Scenario 1, **Table 2** for Scenario 2, and **Table 3** for Scenario 3. Detailed calculation sheets are provided in **Attachment B**.

Table 1 - Scenario 1 Calculated Speed Results

Zone	Log Point	Log Point			, ,	Proposed Speed
Segment #	Start	End	(MPH)	ODOT Form	USLIMITS2	(MPH)
1	19.64	19.49	25	32	30	30
2	19.49	19.34	35	30	30	30
3	19.34	19.18	35	34	30	35
4	19.18	18.98	35	35	35	35

As seen in **Table 1**, the speeds at which vehicles are currently driving along each segment of US-62 are generally at or lower than the posted speed limits. The exception to this is Zone 1, which has a posted speed limit of 25 MPH but experiences vehicle speeds about 7 MPH over the posted speed limit. If Scenario 1 were to be implemented, the speed limit along the corridor would generally increase, especially for southbound vehicles.

Table 2 - Scenario 2 Calculated Speed Results

Zone	Log Point	Log Point	Posted Speed	Calculated Speed (MPH)		Proposed Speed
Segment #	Start	End	(MPH)	ODOT Form	USLIMITS2	(MPH)
1	19.64	19.34	25	30	30	30
2	19.34	18.98	35	34	30	35

As seen in **Table 2**, vehicles driving along Zone 2 are generally at or lower than the posted speed limits. However, Zone 1 has a posted speed limit of 25 MPH but experiences vehicle speeds about 5 MPH over the posted speed limit. If Scenario 2 were to be implemented, the speed limit along the corridor would generally increase, especially for southbound vehicles. Scenario 2 would provide the same changes as Scenario 1.

Table 3 – Scenario 3 Calculated Speed Results

Table b Beellanie b Galealatea Speed Results						
Zone	Log Point	Log Point	Posted Speed	Calculated Speed (MPH)		Proposed Speed
Segment #	Start	End	(MPH)	ODOT Form	USLIMITS2	(MPH)
1	19.51	19.28	25	30	30	30
2	19.28	18.98	35	34	30	35

As seen in **Table 3**, vehicles driving along Zone 2 are generally at or lower than the posted speed limits. However, Zone 1 has a posted speed limit of 25 MPH but experiences vehicle speeds about 5 MPH over the posted speed limit. If Scenario 3 were to be implemented, the speed limit between Jackson Street and 170 S. Clay Street (the location of the currently posted 25 MPH speed limit sign) would retain the currently existing 25 MPH speed limit for both northbound and southbound vehicles. South of 170 S. Clay Street, the speed limit for southbound vehicles would increase from 25 MPH to 30 MPH, but the speed limit for northbound vehicles would decrease from 35 MPH to 30 MPH, thereby providing a more consistent speed limit throughout the corridor. The southern portion of the study area,



covered by Zone 2, would provide a speed limit of 35 MPH for both northbound and southbound vehicles.

Based on these results, it is recommended that the proposed speed zones in Scenario 3 be implemented. Scenario 3 allows for the speed limits for northbound and southbound vehicles to be more consistent throughout the study area, while also aiding in the transition between the rural, commercial, and downtown portions of Millersburg.

Overall, it is important that posted speed limits are considered reasonable by a majority of drivers. Studies have shown that most drivers tend to drive at a speed with which they are comfortable, so raising or lowering the speed limits does not have a significant effect on speed. However, when the speed limit is set at a level which most drivers consider reasonable, the speed of vehicles is more uniform, which is proven to be a safer traffic pattern. Generally, CM recommends implementing the speed zones shown in Scenario 3.

If I can help in any way, do not hesitate to contact me at gbalsamo@cmtran.com or 614.656.2429 anytime.

Sincerely

Gina Balsamo, PE, PTOE **Project Manager**

Carpenter Marty Transportation

Attachment A Speed Data



Speed Data Collection Form

Location: 163 5. Clay street

North bound

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Speed Data Collection Form

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Observer: Lay + Cmc

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37	29.4	87	30.24
37 38	32.1 32.5 25.4 74.2 30.0 71.3 32.2 76.6 27.4 39.7 22.9 33.6 35.3 34.3 36.4 36.4 36.4 36.4 31.7 36.4 37.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.5 32.6 32.6 32.6 32.6 33.6 32.7 33.6 32.7 34.7 36.4 36.4 36.4 37.7 36.4 37.7 36.4 37.7 37.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.5 31.6 32.7 32.6 32.7 33.6 32.7 33.6 32.7 33.6 32.7 33.6 32.7 33.6 32.7 33.6 32.7 33.6 32.7 33.6 32.7 33.6 32.7 33.6 32.7 32.7 33.6 32.7 33.6 32.7 32.7 33.6 32.7 33.6 33.7 32.7 33.6 33.7 34.7 37.5 31.6 32.7 32.7 32.7 33.6 33.7 34.7 34.7 35.7 37.5 31.6 32.7 32.7 32.7 32.7 32.7 32.7 33.6 33.7 34.7 34.7 35.7 37.5 31.6 32.7 31.6 32.7	87 88	30.2 24.6
39	32-9	89	3(0.1
40	33.2	90	36.1 31.6
41	30.0	91	0 - 2
42	32,7	92	300
43	34.2	93	32.91
44	34.Z 32.8	94	77.7
45	35.6	95	30.8
46	35.6	96	27.3
47	79.1	97	203
48	79.1 34.04	98	34.0 32.94 24.7 30.6 32.3 29.3 33.8
49	25.34	99	35.1
50	33.7	100	37.
1201	07.7	100	71.8

9:10 = 9:41

Speed Data Collection Form

Location: (18 5. 10456...)

Date: 10/3/2.3 Day: 1000 County:

Observer: 1971

Observer: LRY & COME

Pavement Type:

Dry:

Condition:

Width:

Weather:

9:53-15:21

Temperature:

Wet:

9:53-10:24

۸۵	proach/Time: N	1 0	4.
1	35.5	13 pt (1)	34.1
2	35.5	51 52	31.7
3	51.1	53	30. +
	29.5	54	30.3
5	38.4		33.3
	33.9	55	28.44
6	56.7	56	
7	31,2	57	331
8	36.6	58	28.4
9	34.0	59	33·le
10		60	25.4
11		61	34.1
12		62	34.14
13		63	32,7
14		64	37.0-1
15	31.8	65	30.2
16	37.3	66	27.0欠
17		67	25,44
18	34.5	68	28.2
19		69	36.4
20		70	29,9
21	29.0	71	32.3
22	35.8	72	36.3 35.4
23	34.0	73	35.4
24	368	74	22.11★ 28.7
25	33,5	75	28.7
26		76	29.7
27	34,9	77	33.2
28	24.4 . 33.1	78	35.9
29	-33.1	79	52.00
30	29.9%	80	31.3
31	32-25	81	30.9
32		82	25,9
33	35.8%	83	30.24
34	31.5	84	57,9
35	2%.1	85	30.6
36	28.9	86	32.7
37	38,7	87	30.7
38	37.6	88	21.9
39	36,9-2	89	30,6
40	52.2	90	33,8 36.0
41	31.8	91	21.8
42	344	92	30.0
43	32,0	93	28.8
44	29.4	94	33.7
45	33.0	95	31.3A
46	3,2,8	96	33.1
47	9,61.9	97	28.8 32.7 31.34 33.1 33.1
48	33.5	98	23.0
49	364	99	36.8
50	34.4	100	30.0

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1	24.0	51	7698
2	36.1	52	31.9
3	28.7	53	31.9
4	31.8	54	34.9
5	33.8	55	27.4X
6	32.5	56	75.1
7	26.3	57	
8	26.3 33.9★ 24.4	58	77.4K 29.4 27.2 26.6 27.9 21.2
9	29.7	59	75.3
10	34.5	60	36.6
11	34.3	61	27.90
12	28 . (62	21.2
13	27.8	63	25.5
14	30.8	64	29.3
15	26.7	65	31,9
16	29.3	66	32.6
17	25.9	67	32.6 32.6 32.6
18	38.6	68	31.0
19	32.0 28.1 27.8 30.8 24.7 29.3 25.4 32.6 33.4 32.1 33.3	69	34.9
20	33.74	70	35.5
21	33,4	71	32.4
22	32.1	72	26.88
23		73	32.0
24	30.2	74	32,0
25	35.3	75	25.4A
26	」 う€・S	76	30.0
27	29.3	77	34.0 31.5
28	31.10	78	31.5
29	3015-6	79	29.9
30	30.3 30.3	80	29.9 30.0 32.2
31	3073	81	32.2.
32	33.00	82	34.8
33	27.9 ★	83	34.4
34	30.0 30.0	84	37.0
35	30.0	85	27(.0 30.1
36	34.0	86	10 31. L
37	33.6	87	32
38	34.3 3.11	88	743X 29.85
39	2 2 1	89	29,8%
40	30 3A	90	29.22°
41	3051	91	35.0
42	30.6	92	32,7
44	32 · 9 27 · 3 33 · 5	93	31.4 33.3 31.6
44	2200	94	27.7
46	201	95	31.6
46	2013	96 97	24.84
48	28.1 29.3 33.4	98	183
49	31,4	99	75.3 731.5
50	25.6	100	41.8
120	40.0	TOO	234268

Speed Data Collection Form

Location: Southwesty of Chayse Made (125 S. Clay Street)

Date: 1013123 Day: County:

Observer: Lfy + CMC

Pavement Type:

Dry:

Wet:

Condition:

Width:

10:29-11:01

Weather:

Temperature:

18:29-10:59

Ap	oroach/Time: \) oct	1.100110
1	29.5	51	28.4
2	21.2	52	29,3
3	23.9	53	92.4
4	24.3	54	31,00
5	- 24.7	55	31.3
6	2.4.1	56	2016
7	294	57	29.0
8	29.4	58	22,6
9	30.8	59	28.9
10	20.5	60	28.9 27.7
11	23.8	61	27.2
12	18.74	62	28.9
13	24.2	63	25,6
14	19.64	64	36.0
15	19.8	65	24.1
16	30.0	66	24.0\$
17	34.0	67	25.9
18	26.0	68	24.1
19	21.00	69	
20	(7) am 1	70	31.5
21	25.7		24,8
22	28.11	71 72	750
23	10.4		25.9
	7,742	73 74	24.2
24	21.24		27.0
25	31.1	75	25.1
26	34.2 23.6 ×	76	66.7
27	23.6-1	77	19.4
28	15.4%	78	25.6
29	26.6	79	28.9
30	28,9 23,7	80	24,7
31		81	26.1
32	23.5	82	25.3
33	25.6	83	27.4次
34	24,868	84	26.5
35	31.2	85	27.1
36	18.7	86	27.0
37	22.4	87	29,8
38	23.4 29.7	88	28.9 26.1
39	29,7	89	26.1
40	74.3	90	24.5
41	26.3	91	26.34
42	26.6	92	21.7
43	52.0	93	25.9
44	25.84	94	21.5
45	26.1	95	29.2
46	26.2	96	22.8
47	24,4	97	24.9
48	24.4 23.4 27.3	98	24.9 24.5 23.8 21.8
49	27,3	99	25.8
50	26.1	100	21.8-

Δn	araach/Tima:	1.0	1 1
	proach/Time: て 2 <i>て、</i> タ		196014
1	1	51	32,5
2	35.8	52	32,3
3	30,4	53	26,5
4	29.1	54	25 6
5	30,9.	55	34.5
6	25,44	56	32.3
7	20,94	57	31,3
8	36,1	58	23.1
9	32.6	59	29.8
10	29.3	60	32.8
11	35.7	61	34.6
12	36,1	62	33.2
13	29.3	63	29.8
14	25.9	64	25.8
15	34.4	65	28.2
16	29.3	66	28.2 26.3
17	29.3	67	1 30 0 1
18	30.4	68	29.60
19	31.9	69	31.1
20	31.0	70	30.4
21	29.9	71	709
22	29.8	72	29.9
23	30.4		
23	JO.4	73	35.1
24	32.7 30.4	74	34.8
25	30.7	75	24.5
26	30.1	76	30.14
27	31,2	77	20.4
28	30.4	78	30.8
29	25.6	79	29.5
30	29,4 30,0	80	24.8
31	30,0	81	2000
32	28.8 27.8	82	24,0
33	27.8	83	30.5
34	27,5	84	22.1
35	33.1	85	25.6
36	32.7	86	36.4
37	3,4	87	27.7
38	32.0	88	32.6
39	26.6	89	32.6
40	27.7	90	30.3
41	26.4	91	30.0
42	20,4	92	30.5
43	240	93	27.6
44	29,2	94	27.6
45	79.2 B2.0	95	30.4
46	27.64	96	30.2
47	30.3	97	28.8
48	28.1	98	31.4
49	28·1 29.1	99	30.9
50	25,7	100	30.9
الحت	0917	100	700

Note: Vertice Corneline ignoret

Attachment B Calculation Sheets









For Highways with less than 50% of all crossroads grade separated

		CON	IPLETE ALI	GREEN S	HADED AF	REAS				
ROUTE NAME:	eet			ROUTE NUME	BER: US-	62				
BEGIN STUDY AT:	Jackson St					COUN	ITY: Hol	mes		
BEGIN LOGPOINT:	19.64				TOWNSH	IP / MUNICIPAL	ITY: Mil	lersburg		
END STUDY AT:	Newton St	reet				JURISDICTI	ON: Vill	age of Millersburg		
END LOGPOINT:	19.49				EXIS	TING SPEED LIN	IIT (MPH):	25		
LENGTH (MILE):	0.16				AVER	AGE DAILY TRAF	FIC (ADT):	11231		
REFER TO SE	ECTION 12	203 OF THE	TRAFFIC	ENGINEE	RING MAN	UAL FOR AD	DITIONA	AL GUIDANCE		
No. of Houses or Farms 0										
No. of Small Businesses,	Apts./Condo	os	7	NA -1 b		the condition had a				
No. of Medium Business	es, Apts./Co	ndos	1	iviust nave d	irect access to	the roadway being	g studied.			
No. of Major Businesses	, Apts./Cond	os	0							
No. of Minor Street Inte	rsections		2	Subdivision,	Residential, or	Other streets serv	ing the resid	dents of that street.		
No. of Major Street Inter	rsections		0	Streets whic	h serve both th	ne residents and co	mmuters o	f the area.		
No. of Signalized/Round	about Inters	ections	0	Do not inclu	de intersection	s at the beginning	or end of th	ne section.		
No. of Interchange Ramp	ps		0	Do not inclu	de Loop ramps	at the beginning o	or end of the	e section.		
Lane Width (Round down	to nearest foo	t)	13	General wid	th of through la	anes throughout th	ne section.			
Shoulder Width (Round d	own to neares	t foot)	1	General sho	General shoulder width throughout the section.					
No. of Property Damage	Only Crashe	es	8	Latest three	Latest three years of data					
No. of Injury Crashes			4	Weighted va	lue is 2x that o	f a Property Dama	ige Only Cra	sh		
No. of Fatal Crashes 0 W					lue is 4x that o	f a Property Dama	ge Only Cra	sh		
Presence of Vulnerable I	Road Users		High	Pedestrians	/ Bicyclists / An	nish Buggies / etc.	•			
Urban Features			Yes	Sidewalks /	Crosswalks / Cu	urb & Gutter / On-	Street Parkii	ng / Street Lighting / etc		
50 th Percentile Speed			28	Average of a	III speed sample	es that were taker	١.			
85 th Percentile Speed			31	Average of a	II speed sample	es that were taker	ı .			
10-mph Pace Speed		23	to	32	Average of a	all speed samples t	hat were ta	ken.		
Roadway Characteristics	5		A2	CATEG	ORIES:	С ВЗ	B2 B1	A3 A2 A1 DIV		
To View Calculation Sheet or E	Examples of Ro	adway Charac	teristics and Cra	ashes to Includ	e , use Buttons I	Below.				
CALCULATI	ON SHEET		ROADWA	AY CHARACT	ERISTICS	C	RASHES 1	TO INCLUDE		
CALCULATED SPEED:	32	мрн ч	JSLIMITS2 SI	DEED. 3	0 мрн	REQUESTE	n speen.	30 МРН		
CALCOLATED SPEED.	32	JIVIPH C	JSLIIVII I SZ SI	TLLD.	IVIPH	REQUESTE	D SPEED.	30 IVIPH		
		ADDIT	IONAL CONS	SIDERATION	S AND COM	MENTS				
STUDY BY:	Carpent	ter Marty	Transport	ation	DATE:	October 2	25, 2023			
_					MALIEN CLIDA					
		INCLUDE THE	KELATED KE	SOLUTION(S)	VVIIEIN SUBIV	<mark>IITTING THIS FO</mark>	NIVI .			
			BELOW	OR ODOT U	SE ONLY					
CHECKED BY:		т	EST RUN:		МРН	APPROVED	SPFFD.	МРН		
CITECKED DI.			L31 NOI4.		.411 11	ALLICOLD	JI LLD.	1411 11		

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Basic Project Information

Route Name: US-62

From: 19.49 To: 19.64 State: Ohio

County: Holmes County City: Millersburg village

Route Type: Road Section in Developed Area

Route Status: Existing

Roadway Information

Section Length: .16 mile(s) Statutory Speed Limit: 25 mph Existing Speed Limit: 25 mph

Adverse Alignment: No One-Way Street: No

Divided/Undivided: Undivided Number of Through Lanes: 2

Area Type: Residential-Collector/Arterial

Number of Driveways: 10 Number of Signals: 0

Date: 2023-10-18

Crash Data Information

Crash Data Years: 3.00 Crash AADT: 11231 veh/day Total Number of Crashes: 12 Total Number of Injury Crashes: 4 Section Crash Rate: 610 per 100 MVM

Section Injury Crash Rate: 203 per 100 MVM Crash Rate Average for Similar Roads: 297 Injury Rate Average for Similar Roads: 86

Traffic Information

85th Percentile Speed: 31 mph 50th Percentile Speed: 28 mph

AADT: 11231 veh/day

On Street Parking and Usage: Not High Pedestrian / Bicyclist Activity: High

Recommended Speed Limit:



Note: The final recommended speed limit is higher than the 25 mph statutory speed limit for this type of road. An engineering study such as the one carried out with USLIMITS is usually required to set a speed limit above the statutory limit.

Note: The section crash rate of 610 per 100 MVM is above the critical rate (525). The injury crash rate for the section of 203 per 100 MVM is more than 30 percent above the average for similar roads (86) but below the critical rate (221). A comprehensive crash study should be undertaken to identify engineering and traffic control deficiencies and appropriate corrective actions. The speed limit should only be reduced as a last measure after all other treatments have either been tried or ruled out.

Note: A speed zone of .16 miles is generally too short for the recommended speed limit. Consider lengthening the speed zone (if that is possible) or using the speed limits from adjacent sections (if they are appropriate for this section). If the speed and other data you provided are representative of conditions for this short section, then the speed limit noted above may be considered.

Disclaimer: The U.S. Government assumes no liability for the use of the information contained in this report. This report does not constitute a standard, specification, or regulation.

Equations Used in the Crash Data Calculations

M = (Section AADT * 365 * Section Length * Duration of Crash Data) / (100000000) M = (11231 * 365 * .16 * 3.00) / (100000000)

 $\dot{M} = \dot{0.0197}$

Crash Rate (Rc)

Rc = (Section Crash Average * 100000000) / (Section AADT * 365 * Section Length)

```
 \begin{array}{l} \text{Rc} = (4.00 * 100000000) \, / \, (11231 * 365 * .16) \\ \text{Rc} = 609.86 \, \text{crashes per } 100 \, \text{MVM} \\ \\ \hline \textit{Injury Rate (Ri)} \\ \text{Ri} = (\text{Section Injury Crash Average} * 100000000) \, / \, (\text{Section AADT} * 365 * \text{Section Length}) \\ \text{Ri} = (1.33 * 100000000) \, / \, (11231 * 365 * .16) \\ \text{Ri} = 203.29 \, \text{injuries per } 100 \, \text{MVM} \\ \hline \textit{Critical Crash Rate (Cc)} \\ \text{Cc} = \text{Crash Average of Similar Sections} + 1.645 * \, (\text{Crash Average of Similar Sections} \, / \, \text{Exposure}) \, ^ \, (1/2) + (1 \, / \, (2 * \text{Exposure})) \\ \text{Cc} = 297.07 + 1.645 * \, (297.07 \, / \, 0.0197) \, ^ \, (1/2) + (1 \, / \, (2 * \, 0.0197)) \\ \text{Cc} = 524.60 \, \text{crashes per } 100 \, \text{MVM} \\ \hline \textit{Critical Injury Rate (Ic)} \\ \text{Ic} = \text{Injury Crash Average of Similar Sections} + 1.645 * \, (\text{Injury Crash Average of Similar Sections} \, / \, \text{Exposure}) \, ^ \, (1/2) + (1 \, / \, (2 * \, \text{Exposure})) \\ \text{Ic} = 86.34 + 1.645 * \, (86.34 \, / \, 0.0197) \, ^ \, (1/2) + (1 \, / \, (2 * \, 0.0197)) \\ \text{Ic} = 220.72 \, \text{injuries per } 100 \, \text{MVM} \\ \hline \end{array}
```







For Highways with less than 50% of all crossroads grade separated

		CON	IPLETE ALI	GREEN S	HADED AF	REAS					
ROUTE NAME:								62			
BEGIN STUDY AT:	Newton St					COUN	Y: Hol	mes			
BEGIN LOGPOINT:	19.49				TOWNSH	IP / MUNICIPALI	Y: Mil	lersburg			
END STUDY AT:	No Name	Street				JURISDICTIO	N: Villa	age of Millersburg			
END LOGPOINT:	19.34				EXIS	TING SPEED LIM	T (MPH):	35			
LENGTH (MILE):	0.15				AVER	AGE DAILY TRAFI	IC (ADT):	11231			
REFER TO SE	ECTION 12	203 OF THE	TRAFFIC	ENGINEER	RING MAN	UAL FOR ADI	ITIONA	L GUIDANCE			
No. of Houses or Farms 7											
No. of Small Businesses,	Apts./Condo	os	0	NA salabassa sa		the condition had a	a dhad				
No. of Medium Business	es, Apts./Co	ndos	0	Must have c	irect access to	the roadway being	stualea.				
No. of Major Businesses	, Apts./Cond	os	0								
No. of Minor Street Inte	rsections		3	Subdivision,	Residential, or	Other streets servi	g the resid	dents of that street.			
No. of Major Street Inter	rsections		0	Streets whic	h serve both th	ne residents and cor	nmuters of	the area.			
No. of Signalized/Round	about Inters	ections	0	Do not inclu	de intersection	s at the beginning o	r end of th	e section.			
No. of Interchange Ramp	os		0	Do not inclu	de Loop ramps	at the beginning or	end of the	section.			
Lane Width (Round down	to nearest foo	t)	13	General wid	th of through la	anes throughout the	section.				
Shoulder Width (Round d	own to neares	t foot)	1	General sho	ulder width thr	oughout the sectio	١.				
No. of Property Damage	No. of Property Damage Only Crashes 3 Latest					Latest three years of data					
No. of Injury Crashes	No. of Injury Crashes 2 Weighte					of a Property Damag	e Only Cra	sh			
No. of Fatal Crashes 0 Weig					lue is 4x that o	of a Property Damag	e Only Cra	sh			
Presence of Vulnerable I	Road Users		High	Pedestrians	/ Bicyclists / An	nish Buggies / etc					
Urban Features			Yes	Sidewalks /	Crosswalks / Cu	ırb & Gutter / On-S	reet Parkii	ng / Street Lighting / etc			
50 th Percentile Speed			28	Average of a	III speed sample	es that were taken.					
85 th Percentile Speed			31	Average of a	II speed sample	es that were taken.					
10-mph Pace Speed		23	to	32	Average of a	all speed samples th	at were ta	ken.			
Roadway Characteristics	3		B2	CATEG	ORIES:	C B3 B	2 B1	A3 A2 A1 DIV			
To View Calculation Sheet or E	xamples of Rc	adway Charac	teristics and Cra	ashes to Includ	e, use Buttons	Below.					
CALCULATI	ON SHEET		ROADWA	AY CHARACT	ERISTICS	CF	ASHES T	O INCLUDE			
CALCULATED SPEED:	30	мрн ч	JSLIMITS2 SI	PEED: 3	0 МРН	REQUESTE	SDEED.	30 МРН			
CALCOLATED SPEED.	30	JIVIPH C	JSLIIVII I SZ SI	TLLD. 3	IVIPH	REQUESTE	JFLLD.	30 IVIPH			
		ADDIT	IONAL CONS	SIDERATION	S AND COM	MENTS					
STUDY BY:	Carpent	er Marty	Transport	ation	DATE:	October 2	5, 2023				
_					MANAGE CHES						
		INCLUDE IHL	KELATED RE	SOLUTION(S)	VVIIEN SUBIV	IITTING THIS FOR	IVI .				
			BELOW	OR ODOT U	SE ONLY						
CHECKED BAY		т	EST DIINI-		MDH	VDDBU/ED	DEED.	MDH			
CHECKED DI:	HECKED BY: TEST RUN:MPH APPROVED SPEED:MPH										

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Basic Project Information

Route Name: US-62

From: 19.34 To: 19.49 State: Ohio

County: Holmes County City: Millersburg village

Route Type: Road Section in Developed Area

Route Status: Existing

Roadway Information

Section Length: .15 mile(s)
Statutory Speed Limit: 35 mph
Existing Speed Limit: 35 mph
Adverse Alignment: No

Adverse Alignment: No One-Way Street: No

Divided/Undivided: Undivided Number of Through Lanes: 2

Area Type: Residential-Collector/Arterial

Number of Driveways: 12 Number of Signals: 0 Crash Data Vocasi 2 00

Date: 2023-10-18

Crash Data Years: 3.00 Crash AADT: 11231 veh/day Total Number of Crashes: 5 Total Number of Injury Crashes: 2 Section Crash Rate: 271 per 100 MVM

Section Injury Crash Rate: 108 per 100 MVM Crash Rate Average for Similar Roads: 297 Injury Rate Average for Similar Roads: 86

Traffic Information

85th Percentile Speed: 31 mph 50th Percentile Speed: 28 mph

AADT: 11231 veh/day

On Street Parking and Usage: Not High Pedestrian / Bicyclist Activity: High

Recommended Speed Limit:



Note: A speed zone of .15 miles is generally too short for the recommended speed limit. Consider lengthening the speed zone (if that is possible) or using the speed limits from adjacent sections (if they are appropriate for this section). If the speed and other data you provided are representative of conditions for this short section, then the speed limit noted above may be considered.

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Equations Used in the Crash Data Calculations

Exposure (M)

M = (Section AADT * 365 * Section Length * Duration of Crash Data) / (100000000)

M = (11231 * 365 * .15 * 3.00) / (100000000)

M = 0.0184

Crash Rate (Rc)

Rc = (Section Crash Average * 1000000000) / (Section AADT * 365 * Section Length)
Rc = (1.67 * 100000000) / (11231 * 365 * .15)
Rc = 271.05 crashes per 100 MVM

Injury Rate (Ri)
Ri = (Section Injury Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Ri = (0.67 * 100000000) / (11231 * 365 * .15)
Ri = 108.42 injuries per 100 MVM

```
Cc = Crash Average of Similar Sections + 1.645 * (Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))  
Cc = 297.07 + 1.645 * (297.07 / 0.0184) ^ (1/2) + (1 / (2 * 0.0184))  
Cc = 532.93 crashes per 100 MVM

Critical Injury Rate (Ic)  
Ic = Injury Crash Average of Similar Sections + 1.645 * (Injury Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))  
Ic = 86.34 + 1.645 * (86.34 / 0.0184) ^ (1/2) + (1 / (2 * 0.0184))  
Ic = 225.99 injuries per 100 MVM
```







For Highways with less than 50% of all crossroads grade separated

		CON	IPLETE ALI	GREEN S	HADED AF	REAS				
ROUTE NAME:	S. Washing	gton Street			ROUTE NUMBER: US-62					
BEGIN STUDY AT:	No Name	Street				COUNT	Y: Hol	mes		
BEGIN LOGPOINT:	19.34				TOWNSH	IP / MUNICIPALIT	Y: Mill	lersburg		
END STUDY AT:	John's Aut	o Sales				JURISDICTIO	v: Villa	age of Millersburg		
END LOGPOINT:	19.18				EXIS	TING SPEED LIMI	 Г (MPH):	35		
LENGTH (MILE):	0.16				AVER	AGE DAILY TRAFF	C (ADT):	11231		
REFER TO SE	ECTION 12	203 OF THE	ENGINEER	RING MAN	UAL FOR ADD	ITIONA	L GUIDANCE			
No. of Houses or Farms 6										
No. of Small Businesses,	Apts./Condo	os	2	NAt have	:	*	al : a. al			
No. of Medium Business	ses, Apts./Co	ndos	0	iviust nave d	irect access to	the roadway being s	tuaiea.			
No. of Major Businesses	, Apts./Cond	os	0							
No. of Minor Street Inte	rsections		1	Subdivision,	Residential, or	Other streets serving	g the resid	dents of that street.		
No. of Major Street Inte	rsections		0	Streets whic	h serve both th	ne residents and con	muters of	f the area.		
No. of Signalized/Round	labout Inters	ections	0	Do not inclu	de intersection	s at the beginning o	end of th	e section.		
No. of Interchange Ram	ps		0	Do not inclu	de Loop ramps	at the beginning or	end of the	e section.		
Lane Width (Round down	to nearest foo	t)	12	General wid	th of through la	anes throughout the	section.			
Shoulder Width (Round d	lown to neares	t foot)	0	General sho	ulder width thr	oughout the section	•			
No. of Property Damage	Only Crashe	s	7	Latest three	Latest three years of data					
No. of Injury Crashes			0	Weighted va	Weighted value is 2x that of a Property Damage Only Crash					
No. of Fatal Crashes 0 Weigh					lue is 4x that o	of a Property Damag	Only Cra	sh		
Presence of Vulnerable I	Road Users		High	Pedestrians	/ Bicyclists / An	nish Buggies / etc				
Urban Features			Yes	Sidewalks /	Crosswalks / Cu	ırb & Gutter / On-St	eet Parkir	ng / Street Lighting / etc		
50 th Percentile Speed			32	Average of a	III speed sample	es that were taken.				
85 th Percentile Speed			34	Average of a	III speed sample	es that were taken.				
10-mph Pace Speed		26	to	35	Average of a	all speed samples th	it were ta	ken.		
Roadway Characteristics	S		A2	CATEG	ORIES:	C B3 B2	B1	A3 A2 A1 DIV		
To View Calculation Sheet or E	Examples of Ro	adway Charac	teristics and Cra	ashes to Includ	e , use Buttons I	Below.				
CALCULATI	ON SHEET		ROADWA	AY CHARACT	ERISTICS	CR	ASHES T	O INCLUDE		
CALCULATED SPEED:	34	мрн ч	JSLIMITS2 SI	PEED: 3	0 мрн	REQUESTED	SDEED.	35 MPH		
CALCOLATED SPEED.	34	INIPH C	JSLIIVII I SZ SI	PEED. 3	O IVIPH	REQUESTED	JPEED.	J33 IVIPH		
		ADDIT	IONAL CONS	SIDERATION:	S AND COM	MENTS				
STUDY BY:	Carpent	er Marty	Transporta	ation	DATE:	October 25	. 2023			
					ا		-			
		INCLUDE THE	E RELATED RE	SOLUTION(S)	WHEN SUBM	<mark>IITTING THIS FOR</mark>	VI*			
			BELOW F	OR ODOT U	SE ONLY					
CHECKED BY:		т	EST RUN:		МРН	APPROVED S	DEED.	МРН		
CHECKED DI.			LJI NUN.		IVIFFI	AFFROVEDS	T LEV.	IVIFIT		

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Basic Project Information

Route Name: US-62

From: 19.18 To: 19.34 State: Ohio

County: Holmes County City: Millersburg village

Route Type: Road Section in Developed Area

Route Status: Existing

Roadway Information

Section Length: .16 mile(s)
Statutory Speed Limit: 35 mph
Existing Speed Limit: 35 mph
Adverse Alignment: No

Adverse Alignment: No One-Way Street: No

Divided/Undivided: Undivided Number of Through Lanes: 2

Area Type: Residential-Collector/Arterial

Number of Driveways: 9 Number of Signals: 0 Date: 2023-10-18

Crash Data Information

Crash Data Years: 3.00
Crash AADT: 11231 veh/day
Total Number of Crashes: 7
Total Number of Injury Crashes: 0
Section Crash Rate: 356 per 100 MVM
Section Injury Crash Rate: 0 per 100 MVM
Crash Rate Average for Similar Roads: 297
Injury Rate Average for Similar Roads: 86

Traffic Information

85th Percentile Speed: 34 mph 50th Percentile Speed: 32 mph

AADT: 11231 veh/day

On Street Parking and Usage: Not High Pedestrian / Bicyclist Activity: High

Recommended Speed Limit:



Note: A speed zone of .16 miles is generally too short for the recommended speed limit. Consider lengthening the speed zone (if that is possible) or using the speed limits from adjacent sections (if they are appropriate for this section). If the speed and other data you provided are representative of conditions for this short section, then the speed limit noted above may be considered.

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Equations Used in the Crash Data Calculations

Exposure (M)

M = (Section AADT * 365 * Section Length * Duration of Crash Data) / (100000000)

M = (11231 * 365 * .16 * 3.00) / (100000000)

M = 0.0197

Crash Rate (Rc)

Rc = (Section Crash Average * 1000000000) / (Section AADT * 365 * Section Length)
Rc = (2.33 * 100000000) / (11231 * 365 * .16)
Rc = 355.75 crashes per 100 MVM

Injury Rate (Ri)
Ri = (Section Injury Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Ri = (0.00 * 100000000) / (11231 * 365 * .16)
Ri = 0.00 injuries per 100 MVM

Critical Crash Rate (Cc)







For Highways with less than 50% of all crossroads grade separated

		CON	IPLETE ALI	GREEN S	HADED AF	REAS				
ROUTE NAME:	S. Washing	gton Street				ROUTE NUMB	R: US-	62		
BEGIN STUDY AT:	John's Aut	o Sales				COUN.	Y: Hol	mes		
BEGIN LOGPOINT:	19.18				TOWNSH	IP / MUNICIPALI	Y: Mill	lersburg		
END STUDY AT:	Tobacco H	ut				JURISDICTIO	N: Villa	age of Millersburg		
END LOGPOINT:	18.98				EXIS	TING SPEED LIM	T (MPH):	35		
LENGTH (MILE):	0.20				AVER	AGE DAILY TRAFI	IC (ADT):	11231		
REFER TO SE	ECTION 12	203 OF THE	TRAFFIC	ENGINEER	RING MAN	UAL FOR ADI	ITIONA	L GUIDANCE		
No. of Houses or Farms	No. of Houses or Farms 5									
No. of Small Businesses,	Apts./Condo	os	5	NA or borner		the read on better	a dhad			
No. of Medium Business	ses, Apts./Co	ndos	1	Must have c	irect access to	the roadway being	stualea.			
No. of Major Businesses	, Apts./Cond	os	1							
No. of Minor Street Inte	rsections		4	Subdivision,	Residential, or	Other streets servi	ng the resid	dents of that street.		
No. of Major Street Inte	rsections		0	Streets whic	h serve both th	ne residents and cor	nmuters of	the area.		
No. of Signalized/Round	labout Inters	ections	0	Do not inclu	de intersection	s at the beginning o	r end of th	e section.		
No. of Interchange Ram	ps		0	Do not inclu	de Loop ramps	at the beginning or	end of the	section.		
Lane Width (Round down	to nearest foo	t)	13	General wid	th of through la	anes throughout the	section.			
Shoulder Width (Round d	lown to neares	t foot)	0	General sho	ulder width thr	oughout the sectio	١.			
No. of Property Damage	Only Crashe	s	6	Latest three	Latest three years of data					
No. of Injury Crashes			2	Weighted va	alue is 2x that o	f a Property Damag	e Only Cra	sh		
No. of Fatal Crashes 0 Weight					alue is 4x that o	f a Property Damag	e Only Cra	sh		
Presence of Vulnerable I	Road Users		High	Pedestrians	/ Bicyclists / An	nish Buggies / etc				
Urban Features			Yes	Sidewalks /	Crosswalks / Cเ	ırb & Gutter / On-S	reet Parkir	ng / Street Lighting / etc		
50 th Percentile Speed			33	Average of a	ıll speed sample	es that were taken.				
85 th Percentile Speed			36	Average of a	ıll speed sample	es that were taken.				
10-mph Pace Speed		28	to	37	Average of a	all speed samples th	at were ta	ken.		
Roadway Characteristics	S		A2	CATEG	ORIES:	C B3 B	2 B1	A3 A2 A1 DIV		
To View Calculation Sheet or E	Examples of Ro	adway Charac	teristics and Cra	ashes to Includ	e , use Buttons I	Below.				
CALCULATI	ON SHEET		ROADWA	AY CHARACT	ERISTICS	CI	ASHES T	O INCLUDE		
CALCULATED SPEED:	35	мрн ч	JSLIMITS2 SI	PEED: 3	5 МРН	REQUESTE	CDEED.	35 МРН		
CALCOLATED SPEED.	33	INIPH C	JSLIIVII I SZ SI	PEED. 3	IMPH	REQUESTE	J SPEED.	J55 IVIPH		
		ADDIT	IONAL CONS	SIDERATION:	S AND COM	MENTS				
STUDY BY:	Carpent	er Marty	Transporta	ation	DATE:	October 2	5. 2023			
					ا					
		INCLUDE THE	E KELATED RE	SOLUTION(S)	WHEN SUBM	<mark>IITTING THIS FOR</mark>	IVI↑			
			BELOW F	OR ODOT U	SE ONLY					
CHECKED BA		-	EST DIINI.		MDU	VDDD () \(\text{LD}	CDECD.	NADLI		
CHECKED BI:	HECKED BY: TEST RUN: MPH APPROVED SPEED: MPH									

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Basic Project Information

Route Name: US-62

From: 18.98 To: 19.18 State: Ohio

County: Holmes County City: Millersburg village

Route Type: Road Section in Developed Area

Route Status: Existing

Roadway Information

Section Length: .2 mile(s) Statutory Speed Limit: 35 mph Existing Speed Limit: 35 mph Adverse Alignment: No One-Way Street: No

Divided/Undivided: Divided Number of Through Lanes: 2

Area Type: Residential-Collector/Arterial

Number of Driveways: 18 Number of Signals: 0 Date: 2023-10-18

Crash Data Information

Crash Data Years: 3.00
Crash AADT: 11231 veh/day
Total Number of Crashes: 8
Total Number of Injury Crashes: 2
Section Crash Rate: 325 per 100 MVM
Section Injury Crash Rate: 81 per 100 MVM
Crash Rate Average for Similar Roads: 297
Injury Rate Average for Similar Roads: 86

Traffic Information

85th Percentile Speed: 36 mph 50th Percentile Speed: 33 mph

AADT: 11231 veh/day

On Street Parking and Usage: Not High Pedestrian / Bicyclist Activity: High

Recommended Speed Limit:



Note: A speed zone of .2 miles is generally too short for the recommended speed limit. Consider lengthening the speed zone (if that is possible) or using the speed limits from adjacent sections (if they are appropriate for this section). If the speed and other data you provided are representative of conditions for this short section, then the speed limit noted above may be considered.

Note: The road section is in an area with high pedestrian or bicycle activity. Consider implementing engineering measures to reduce speeds before lowering the recommended speed limit. See Engineering Countermeasures for Speed Management and PedSafe for more guidance.

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Equations Used in the Crash Data Calculations

Exposure (M)
M = (Section AADT * 365 * Section Length * Duration of Crash Data) / (100000000)
M = (11231 * 365 * .2 * 3.00) / (100000000)
M = 0.0246

Crash Rate (Rc)
Rc = (Section Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Rc = (2.67 * 100000000) / (11231 * 365 * .2)
Rc = 325.26 crashes per 100 MVM

Injury Rate (Ri)
Ri = (Section Injury Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Ri = (0.67 * 100000000) / (11231 * 365 * .2)

```
Ri = 81.31 injuries per 100 MVM
```

```
Critical Crash Rate (Cc)  
Cc = Crash Average of Similar Sections + 1.645 * (Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))  
Cc = 297.07 + 1.645 * (297.07 / 0.0246) ^ (1/2) + (1 / (2 * 0.0246))  
Cc = 498.18 crashes per 100 MVM  

Critical Injury Rate (Ic)  
Ic = Injury Crash Average of Similar Sections + 1.645 * (Injury Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))  
Ic = 86.34 + 1.645 * (86.34 / 0.0246) ^ (1/2) + (1 / (2 * 0.0246))  
Ic = 204.14 injuries per 100 MVM
```







For Highways with less than 50% of all crossroads grade separated

		CON	IPLETE ALL	. GREEN S	HADED AF	REAS			
ROUTE NAME:	S. Clay Str	eet				ROUTE NUMBI	R: US-	62	
BEGIN STUDY AT:	Jackson St	reet				COUN	TY: Holi	mes	
BEGIN LOGPOINT:	19.64				TOWNSH	IIP / MUNICIPALI	Y: Mill	ersburg	
END STUDY AT:	No Name	Street				JURISDICTIC	N: Villa	age of Millersburg	
END LOGPOINT:	19.34				EXIS	STING SPEED LIM	T (MPH):	25	
LENGTH (MILE):	0.30				AVER	AGE DAILY TRAF	IC (ADT):	11231	
REFER TO SE	ECTION 12	203 OF THE	TRAFFIC	ENGINEE	RING MAN	UAL FOR ADD	OITIONA	L GUIDANCE	
No. of Houses or Farms			7						
No. of Small Businesses,	Apts./Condo	os	7	Must have o	irect access to	the roadway being	studiad		
No. of Medium Business	es, Apts./Co	ndos	1	iviust nave c	meet access to	the roadway being	studied.		
No. of Major Businesses,	, Apts./Cond	os	0						
No. of Minor Street Inter	rsections		6	Subdivision,	Residential, or	Other streets servi	ng the resid	lents of that street.	
No. of Major Street Inter	rsections		0	Streets whic	h serve both th	ne residents and cor	nmuters of	the area.	
No. of Signalized/Round	about Inters	ections	0	Do not inclu	de intersection	ns at the beginning o	r end of th	e section.	
No. of Interchange Ramp	os		0	Do not inclu	de Loop ramps	at the beginning or	end of the	section.	
Lane Width (Round down	to nearest foo	t)	13	General wid	th of through la	anes throughout the	e section.		
Shoulder Width (Round de	own to neares	t foot)	1	General sho	ulder width thr	oughout the section	۱.		
No. of Property Damage	Only Crashe	es .	11	Latest three	Latest three years of data				
No. of Injury Crashes			6	Weighted va	lue is 2x that o	of a Property Damag	e Only Cras	sh	
No. of Fatal Crashes 0 Wei					lue is 4x that o	of a Property Damag	e Only Cras	sh	
Presence of Vulnerable F	Road Users		High	Pedestrians	/ Bicyclists / Ar	mish Buggies / etc			
Urban Features			Yes	Sidewalks /	Crosswalks / Cu	urb & Gutter / On-S	reet Parkir	ng / Street Lighting / etc	
50 th Percentile Speed			28	Average of all speed samples that were taken.					
85 th Percentile Speed			31	Average of a	e of all speed samples that were taken.				
10-mph Pace Speed		23	to	32	Average of	all speed samples th	at were tal	ken.	
Roadway Characteristics	i		B2	CATEG	ORIES:	C B3 B	2 B1	A3 A2 A1 DIV	
To View Calculation Sheet or E	Examples of Ro	adway Charac	teristics and Cra	ashes to Includ	e, use Buttons	Below.			
CALCULATI	ON SHEET		ROADWA	AY CHARACT	ERISTICS	CF	ASHES T	O INCLUDE	
CALCULATED SPEED:	30	NADU I	JSLIMITS2 SI	DEED. 3	0 мрн	REQUESTE	CDEED	30 MPH	
CALCULATED SPEED.	30	MPH L	J3LIIVII I 32 31	PEED: 3	0 МРН	REQUESTE	SPEED.	30 МРН	
		ADDIT	IONAL CONS	IDERATION	S AND COM	MENTS			
STUDY BY:	Carnent	er Marty	Transporta	ation	DATE:	October 2	5 2023		
3.02.2									
		INCLUDE THI	E RELATED RE	SOLUTION(S)	WHEN SUBN	<mark>AITTING THIS FOR</mark>	M		
			BELOW F	OR ODOT U	SE ONLY				
CHECKED BY:		Т	EST RUN:		MPH	APPROVED	SPEED:	МРН	
			'		,				

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Basic Project Information

Route Name: US-62

From: 19.34 To: 19.64 State: Ohio

County: Holmes County City: Millersburg village

Route Type: Road Section in Developed Area

Route Status: Existing

Roadway Information

Section Length: .30 mile(s) Statutory Speed Limit: 25 mph Existing Speed Limit: 25 mph

Adverse Alignment: No One-Way Street: No

Divided/Undivided: Undivided Number of Through Lanes: 2

Area Type: Residential-Collector/Arterial

Number of Driveways: 20 Number of Signals: 0

Date: 2023-10-18

Crash Data Information

Crash Data Years: 3.00 Crash AADT: 11231 veh/day Total Number of Crashes: 17 Total Number of Injury Crashes: 6 Section Crash Rate: 461 per 100 MVM

Section Injury Crash Rate: 163 per 100 MVM Crash Rate Average for Similar Roads: 297 Injury Rate Average for Similar Roads: 86

Traffic Information

85th Percentile Speed: 31 mph 50th Percentile Speed: 28 mph

AADT: 11231 veh/day

On Street Parking and Usage: Not High Pedestrian / Bicyclist Activity: High

Recommended Speed Limit:



Note: The final recommended speed limit is higher than the 25 mph statutory speed limit for this type of road. An engineering study such as the one carried out with USLIMITS is usually required to set a speed limit above the statutory limit.

Note: The section crash rate of 461 per 100 MVM is above the critical rate (458). The injury crash rate for the section of 163 per 100 MVM is more than 30 percent above the average for similar roads (86) but below the critical rate (179). A comprehensive crash study should be undertaken to identify engineering and traffic control deficiencies and appropriate corrective actions. The speed limit should only be reduced as a last measure after all other treatments have either been tried or ruled out.

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Equations Used in the Crash Data Calculations

M = (Section AADT * 365 * Section Length * Duration of Crash Data) / (100000000) M = (11231 * 365 * .30 * 3.00) / (100000000)

M = 0.0369

Crash Rate (Rc)

Rc = (Section Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Rc = (5.67 * 100000000) / (11231 * 365 * .30)
Rc = 460.78 crashes per 100 MVM

Injury Rate (Ri)

Ri = (Section Injury Crash Average * 100000000) / (Section AADT * 365 * Section Length)

```
Ri = (2.00 * 100000000) / (11231 * 365 * .30)

Ri = 162.63 injuries per 100 MVM

Critical Crash Rate (Cc)

Cc = Crash Average of Similar Sections + 1.645 * (Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))

Cc = 297.07 + 1.645 * (297.07 / 0.0369) ^ (1/2) + (1 / (2 * 0.0369))

Cc = 458.23 crashes per 100 MVM

Critical Injury Rate (Ic)

Ic = Injury Crash Average of Similar Sections + 1.645 * (Injury Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))

Ic = 86.34 + 1.645 * (86.34 / 0.0369) ^ (1/2) + (1 / (2 * 0.0369))

Ic = 179.48 injuries per 100 MVM
```







For Highways with less than 50% of all crossroads grade separated

		CON	IPLETE ALL	GREEN S	HADED AI	REAS				
ROUTE NAME:	S. Washing	gton Street				ROUTE NUMBE	R: US-0	62		
BEGIN STUDY AT:	No Name	Street				COUNT	/: Holi	mes		
BEGIN LOGPOINT:	19.34				TOWNSH	IIP / MUNICIPALIT	: Mill	ersburg		
END STUDY AT:	Tobacco H	ut				JURISDICTIO	l: Villa	age of Millersburg		
END LOGPOINT:	18.98				EXIS	STING SPEED LIMIT	(MPH):	35		
LENGTH (MILE):	0.36				AVER	AGE DAILY TRAFFI	C (ADT):	11231		
REFER TO SE	TRAFFIC	ENGINEE	RING MAN	UAL FOR ADD	TIONA	L GUIDANCE				
No. of Houses or Farms			11							
No. of Small Businesses,	Apts./Condo	os	7	Must have o	lirect access to	the roadway being s	udiad			
No. of Medium Businesse	es, Apts./Co	ndos	1	iviust nave c	nect access to	the roadway being s	.uuieu.			
No. of Major Businesses,	Apts./Cond	os	1							
No. of Minor Street Inter	sections		5	Subdivision,	Residential, or	Other streets servin	the resid	lents of that street.		
No. of Major Street Inter	sections		0	Streets whic	h serve both th	he residents and com	muters of	the area.		
No. of Signalized/Rounda	about Inters	ections	0	Do not inclu	de intersection	ns at the beginning or	end of th	e section.		
No. of Interchange Ramp	s		0	Do not inclu	de Loop ramps	at the beginning or	nd of the	section.		
Lane Width (Round down t	to nearest foo	t)	12	General wid	th of through la	anes throughout the	section.			
Shoulder Width (Round do	own to neares	t foot)	0	General sho	ulder width thr	roughout the section				
No. of Property Damage	No. of Property Damage Only Crashes 13 Latest					Latest three years of data				
No. of Injury Crashes			2	Weighted va	lue is 2x that c	of a Property Damage	Only Cras	sh		
No. of Fatal Crashes 0 Weigh					lue is 4x that c	of a Property Damage	Only Cras	sh		
Presence of Vulnerable R	Road Users		High	Pedestrians	/ Bicyclists / Ar	mish Buggies / etc				
Urban Features			Yes	Sidewalks /	Crosswalks / Cı	urb & Gutter / On-Sti	eet Parkir	ng / Street Lighting / etc		
50 th Percentile Speed			32	Average of a	Average of all speed samples that were taken.					
85 th Percentile Speed			35	Average of a	ıll speed sampl	es that were taken.				
10-mph Pace Speed		28	to	37	Average of a	all speed samples tha	t were tal	ken.		
Roadway Characteristics			A2	CATEG	ORIES:	C B3 B2	B1	A3 A2 A1 DIV		
To View Calculation Sheet or E	xamples of Ro	adway Charac	teristics and Cra	ashes to Includ	e , use Buttons	Below.				
CALCULATION	ON SHEET		ROADWA	AY CHARACT	ERISTICS	CR.	ASHES T	O INCLUDE		
CALCULATED SPEED:	34	MDU I	JSLIMITS2 SI	DEED. 3	0 МРН	REQUESTED	CDEED.	35 мрн		
CALCULATED SPEED:	34	MPH L	J3LIIVII I 32 31	PEED: 3	U IMPH	REQUESTED	SPEED.	35 МРН		
		ADDIT	IONAL CONS	SIDERATION	AND COM	MENTS				
STUDY BY:	Carnent	er Marty	Transporta	ation	DATE:	October 25	2023			
51651511		-	•							
		INCLUDE THI	E RELATED RE	SOLUTION(S)	WHEN SUBN	MITTING THIS FORI	1			
			BELOW F	OR ODOT U	SE ONLY					
CHECKED BY:		т	FST RIINI-		МРН	ΔPDR∩\/ED G	DEEU.	МРН		
CHECKED DI.	HECKED BY: TEST RUN: MPH APPROVED SPEED: MPH									

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Basic Project Information

Route Name: US-62

From: 18.98 To: 19.31 State: Ohio

County: Holmes County City: Millersburg village

Route Type: Road Section in Developed Area

Route Status: Existing

Roadway Information

Section Length: .36 mile(s) Statutory Speed Limit: 35 mph Existing Speed Limit: 35 mph Adverse Alignment: No One-Way Street: No

Divided/Undivided: Undivided Number of Through Lanes: 2

Area Type: Residential-Collector/Arterial

Number of Driveways: 25 Number of Signals: 0 Date: 2023-10-18

Crash Data Information

Crash Data Years: 3.00
Crash AADT: 11231 veh/day
Total Number of Crashes: 15
Total Number of Injury Crashes: 2
Section Crash Rate: 339 per 100 MVM
Section Injury Crash Rate: 45 per 100 MVM
Crash Rate Average for Similar Roads: 297
Injury Rate Average for Similar Roads: 86

Traffic Information

85th Percentile Speed: 35 mph 50th Percentile Speed: 32 mph

AADT: 11231 veh/day

On Street Parking and Usage: Not High Pedestrian / Bicyclist Activity: High

Recommended Speed Limit:



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Equations Used in the Crash Data Calculations

```
Exposure (M)

M = (Section AADT * 365 * Section Length * Duration of Crash Data) / (100000000)

M = (11231 * 365 * .36 * 3.00) / (100000000)

M = 0.0443

Crash Rate (Rc)

RC = (Section Crash Average * 100000000) / (Section AADT * 365 * Section Length)

RC = (5.00 * 100000000) / (11231 * 365 * .36)

RC = 338.81 crashes per 100 MVM

Injury Rate (Ri)

Ri = (Section Injury Crash Average * 100000000) / (Section AADT * 365 * Section Length)

Ri = (0.67 * 100000000) / (11231 * 365 * .36)

Ri = 45.17 injuries per 100 MVM

Critical Crash Rate (Cc)

CC = Crash Average of Similar Sections + 1.645 * (Crash Average of Similar Sections / Exposure) ^ (1/2) + (1 / (2 * Exposure))

CC = 297.07 + 1.645 * (297.07 / 0.0443) ^ (1/2) + (1 / (2 * 0.0443))

CC = 443.11 crashes per 100 MVM
```

Critical Injury Rate (Ic) Ic = Injury Crash Average of Similar Sections + 1.645 * (Injury Crash Average of Similar Sections / Exposure) ^ (1/2) + (1/2 * Exposure)) Ic = $86.34 + 1.645 * (86.34/0.0443) ^ (1/2) + (1/2 * 0.0443))$ Ic = 170.28 injuries per 100 MVM







For Highways with less than 50% of all crossroads grade separated

		CON	IPLETE ALI	GREEN S	HADED AF	REAS				
ROUTE NAME:	S. Clay Str					ROUTE NUMB	R: US-	62		
BEGIN STUDY AT:	170 S. Clay	/ Street				COUN	ΓY: Hol	mes		
BEGIN LOGPOINT:	19.51				TOWNSH	IP / MUNICIPALI	ry: Mill	lersburg		
END STUDY AT:	551 S. Wa	shington Stre	et			JURISDICTIO	N: Villa	age of Millersburg		
END LOGPOINT:	19.28				EXIS	TING SPEED LIM	IT (MPH):	25		
LENGTH (MILE):	0.23				AVER	AGE DAILY TRAF	IC (ADT):	11231		
REFER TO SE	ECTION 12	203 OF THE	TRAFFIC	ENGINEER	RING MAN	UAL FOR ADI	OITIONA	L GUIDANCE		
No. of Houses or Farms 7										
No. of Small Businesses,	Apts./Condo	os	2	NA salabassa sa		the could be helder	ar dead			
No. of Medium Business	ses, Apts./Co	ndos	0	Must have o	irect access to	the roadway being	studied.			
No. of Major Businesses	, Apts./Cond	os	0							
No. of Minor Street Inte	rsections		4	Subdivision,	Residential, or	Other streets servi	ng the resid	dents of that street.		
No. of Major Street Inte	rsections		1	Streets whic	h serve both th	ne residents and co	nmuters of	the area.		
No. of Signalized/Round	about Inters	ections	0	Do not inclu	de intersection	s at the beginning (or end of th	e section.		
No. of Interchange Ram	ps		0	Do not inclu	de Loop ramps	at the beginning o	end of the	section.		
Lane Width (Round down	to nearest foo	t)	13	General wid	th of through la	anes throughout th	e section.			
Shoulder Width (Round d	own to neares	t foot)	1	General sho	ulder width thr	oughout the sectio	า.			
No. of Property Damage	Only Crashe	es	6	Latest three	Latest three years of data					
No. of Injury Crashes			3	Weighted va	lue is 2x that o	f a Property Damag	ge Only Cra	sh		
No. of Fatal Crashes 0 W					lue is 4x that o	f a Property Damag	ge Only Cra	sh		
Presence of Vulnerable I	Road Users		High	Pedestrians	/ Bicyclists / An	nish Buggies / etc				
Urban Features			Yes	Sidewalks /	Crosswalks / Cu	ırb & Gutter / On-S	treet Parkir	ng / Street Lighting / etc		
50 th Percentile Speed			28	Average of a	III speed sample	es that were taken.				
85 th Percentile Speed			31	Average of a	III speed sample	es that were taken.				
10-mph Pace Speed		23	to	32	Average of a	all speed samples t	nat were ta	ken.		
Roadway Characteristics	5		B2	CATEG	ORIES:	C B3 E	2 B1	A3 A2 A1 DIV		
To View Calculation Sheet or E	Examples of Ro	oadway Charac	teristics and Cra	ashes to Includ	e , use Buttons I	Below.				
CALCULATI	ON SHEET		ROADWA	AY CHARACT	ERISTICS	Cl	RASHES T	O INCLUDE		
CALCULATED SPEED:	30	мрн ч	JSLIMITS2 SI	PEED: 3	0 мрн	REQUESTE) CDEED.	30 МРН		
CALCOLATED SPEED.	30	JIVIPH C	JSLIIVII I SZ SI	FLLD. 3	IVIPH	REQUESTE	J JFLLD.	IVIPH		
		ADDIT	IONAL CONS	SIDERATION:	S AND COM	MENTS				
STUDY BY:	Carpent	ter Marty	Transporta	ation	DATE:	October 2	5. 2023			
					ا					
		"INCLUDE THI	E RELATED RE	SOLUTION(S)	WHEN SUBM	<mark>IITTING THIS FOF</mark>	IVI*			
			BELOW	OR ODOT U	SE ONLY					
CHECKED BY:		т	FST RIINI-		MDH	ΔDDRΩ\/ED	CDEED.	МДН		
CHECKED DI.	HECKED BY: TEST RUN: MPH APPROVED SPEED: MPH									

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Basic Project Information

Route Name: US-62

From: 19.28 To: 19.51 State: Ohio

County: Holmes County City: Millersburg village

Route Type: Road Section in Developed Area

Route Status: Existing

Roadway Information

Section Length: .23 mile(s) Statutory Speed Limit: 25 mph Existing Speed Limit: 25 mph

Adverse Alignment: No One-Way Street: No

Divided/Undivided: Undivided Number of Through Lanes: 2

Area Type: Residential-Collector/Arterial

Number of Driveways: 15 Number of Signals: 0

Date: 2023-10-18

Crash Data Information

Crash Data Years: 3.00 Crash AADT: 11231 veh/day Total Number of Crashes: 9 Total Number of Injury Crashes: 3 Section Crash Rate: 318 per 100 MVM

Section Injury Crash Rate: 106 per 100 MVM Crash Rate Average for Similar Roads: 297 Injury Rate Average for Similar Roads: 86

Traffic Information

85th Percentile Speed: 31 mph 50th Percentile Speed: 28 mph

AADT: 11231 veh/day

On Street Parking and Usage: Not High Pedestrian / Bicyclist Activity: High

Recommended Speed Limit:



Note: The final recommended speed limit is higher than the 25 mph statutory speed limit for this type of road. An engineering study such as the one carried out with USLIMITS is usually required to set a speed limit above the statutory limit.

Note: A speed zone of .23 miles is generally too short for the recommended speed limit. Consider lengthening the speed zone (if that is possible) or using the speed limits from adjacent sections (if they are appropriate for this section). If the speed and other data you provided are representative of conditions for this short section, then the speed limit noted above may be considered.

Disclaimer: The U.S. Government assumes no liability for the use of the information contained in this report. This report does not constitute a standard, specification, or regulation.

Equations Used in the Crash Data Calculations

M = (Section AADT * 365 * Section Length * Duration of Crash Data) / (100000000) M = (11231 * 365 * .23 * 3.00) / (100000000) M = 0.0283

Crash Rate (Rc)

Rc = (Section Crash Average * 100000000) / (Section AADT * 365 * Section Length)
Rc = (3.00 * 100000000) / (11231 * 365 * .23)
Rc = 318.19 crashes per 100 MVM

Injury Rate (Ri)

Ri = (Section Injury Crash Average * 100000000) / (Section AADT * 365 * Section Length) Ri = (1.00 * 100000000) / (11231 * 365 * .23)

```
Ri = 106.06 injuries per 100 MVM
```

```
Critical Crash Rate (Cc)  
Cc = Crash Average of Similar Sections + 1.645 * (Crash Average of Similar Sections / Exposure) ^{^{^{^{\prime}}}} (2 * Exposure))  
Cc = 297.07 + 1.645 * (297.07 / 0.0283) ^{^{\prime}} (1/2) + (1 / (2 * 0.0283))  
Cc = 483.33 crashes per 100 MVM  

Critical Injury Rate (Ic)  
Ic = Injury Crash Average of Similar Sections + 1.645 * (Injury Crash Average of Similar Sections / Exposure) ^{^{\prime}} (1/2) + (1 / (2 * Exposure))  
Ic = 86.34 + 1.645 * (86.34 / 0.0283) ^{^{\prime}} (1/2) + (1 / (2 * 0.0283))  
Ic = 194.91 injuries per 100 MVM
```







For Highways with less than 50% of all crossroads grade separated

		CON	IPLETE ALI	L GREEN S	HADED AF	REAS			
ROUTE NAME:	S. Washing	gton Street				ROUTE NUMBER:	US-6	62	
BEGIN STUDY AT:	551 S. Wa	shington Stre	et			COUNTY:	Holr	mes	
BEGIN LOGPOINT:	19.28	-			TOWNSH	IP / MUNICIPALITY:	Mill	ersburg	
END STUDY AT:	Tobacco H	ut				JURISDICTION:	Villa	age of Millersburg	
END LOGPOINT:	18.98				EXIS	TING SPEED LIMIT (MPH):	35	
LENGTH (MILE):	0.30				AVER	AGE DAILY TRAFFIC	(ADT):	11231	
REFER TO SE	ECTION 12	203 OF THE	TRAFFIC	ENGINEER	RING MAN	UAL FOR ADDIT	IONA	L GUIDANCE	
No. of Houses or Farms 11									
No. of Small Businesses,	Apts./Condo	os	7						
No. of Medium Business	ses, Apts./Co	ndos	1	Must have o	lirect access to	the roadway being stu	died.		
No. of Major Businesses	, Apts./Cond	os	1						
No. of Minor Street Inte	rsections		5	Subdivision,	Residential, or	Other streets serving t	he resid	lents of that street.	
No. of Major Street Inte	rsections		0	Streets whic	h serve both th	e residents and comm	uters of	the area.	
No. of Signalized/Round	labout Inters	ections	0	Do not inclu	de intersection	s at the beginning or e	nd of the	e section.	
No. of Interchange Ram	ps		0	Do not inclu	de Loop ramps	at the beginning or en	d of the	section.	
Lane Width (Round down	to nearest foo	t)	13	General wid	th of through la	nes throughout the se	ction.		
Shoulder Width (Round d	lown to neares	t foot)	0	General sho	ulder width thr	oughout the section.			
No. of Property Damage Only Crashes 10 Lates					Latest three years of data				
No. of Injury Crashes			2	Weighted va	alue is 2x that o	f a Property Damage C	nly Cras	sh	
No. of Fatal Crashes 0 Weigh					alue is 4x that o	f a Property Damage C	nly Cras	sh	
Presence of Vulnerable	Road Users		High	Pedestrians	/ Bicyclists / An	nish Buggies / etc			
Urban Features			Yes	Sidewalks /	Crosswalks / Cu	ırb & Gutter / On-Stree	et Parkin	ng / Street Lighting / etc	
50 th Percentile Speed			32	Average of a	Average of all speed samples that were taken.				
85 th Percentile Speed			35	Average of a	ıll speed sample	es that were taken.			
10-mph Pace Speed		28	to	37	Average of a	all speed samples that	were tak	ken.	
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To View Calculation Sheet or E	Examples of Ro	adway Charac	teristics and Cra	ashes to Includ	e , use Buttons I	Below.			
CALCULATI	ON SHEET		ROADW	AY CHARACT	ERISTICS	CRA:	SHES T	O INCLUDE	
CALCULATED SPEED.	24	laanu i	ICLIMATES C	DEED. 3	0 04011	DEOLIESTED S	DEED.	25 04011	
CALCULATED SPEED:	34	MPH (JSLIMITS2 SI	PEED: 3	0 МРН	REQUESTED S	PEED:	35 МРН	
		ADDIT	IONAL CONS	SIDERATION	S AND COM	MENTS			
STUDY BY:	Carnent	er Marty	Transporta	ation	DATE:	October 25,	2023		
3.02.51.			<u> </u>		· ·				
		INCLUDE TH	E RELATED RE	SOLUTION(S)	WHEN SUBM	IITTING THIS FORM			
			BELOW I	FOR ODOT U	SE ONLY				
CHECKED BY:		т	FST RIINI-		МРН	APPROVED SE	FFD.	МРН	
CHECKED DI.	HECKED BY: TEST RUN: MPH APPROVED SPEED: MPH								

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Basic Project Information

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Route Status: Existing

Roadway Information

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Rc = (3.00 * 100000000) / (11231 * 365 * .23)
Rc = 318.19 crashes per 100 MVM Injury Rate (Ri) Ri = (Section Injury Crash Average * 100000000) / (Section AADT * 365 * Section Length) Ri = (1.00 * 100000000) / (11231 * 365 * .23)

```
Ri = 106.06 injuries per 100 MVM
```

```
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Cc = Crash Average of Similar Sections + 1.645 * (Crash Average of Similar Sections / Exposure) ^{^{^{^{\prime}}}} (2 * Exposure))  
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Ic = 86.34 + 1.645 * (86.34 / 0.0283) ^{^{\prime}} (1/2) + (1 / (2 * 0.0283))  
Ic = 194.91 injuries per 100 MVM
```