

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

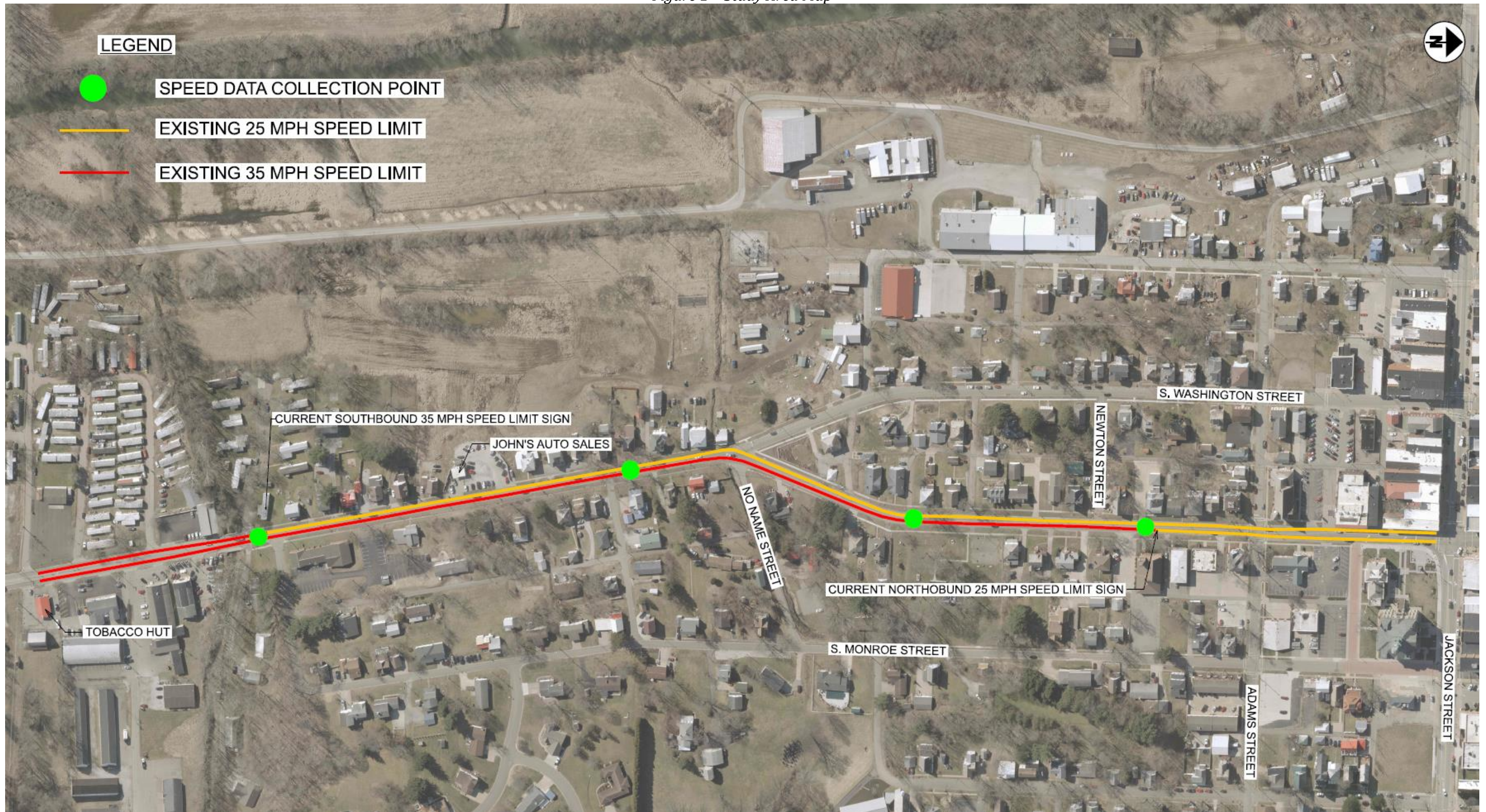
Mr. Troyer,

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



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

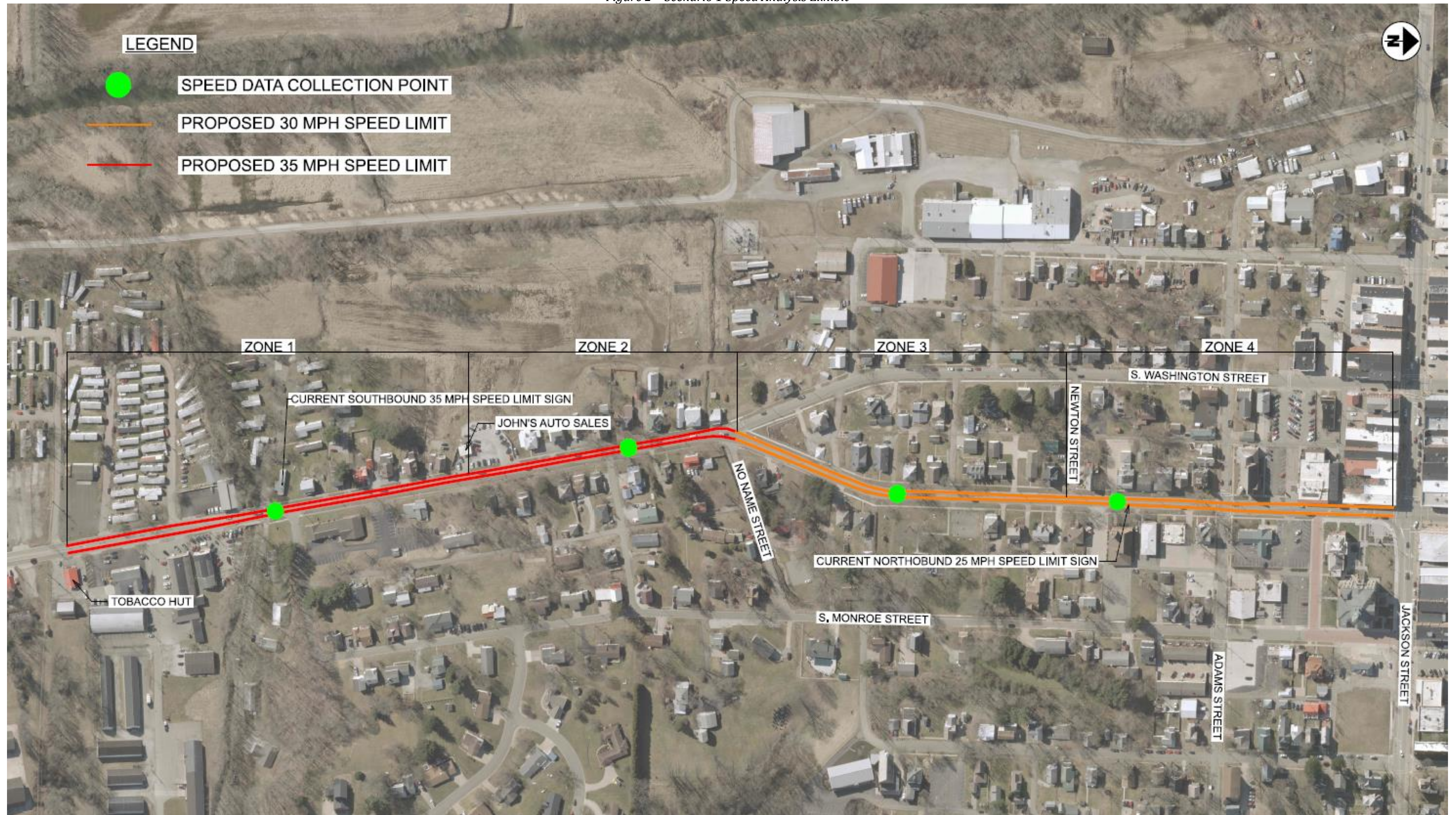


Figure 3 – Scenario 2 Speed Analysis Exhibit

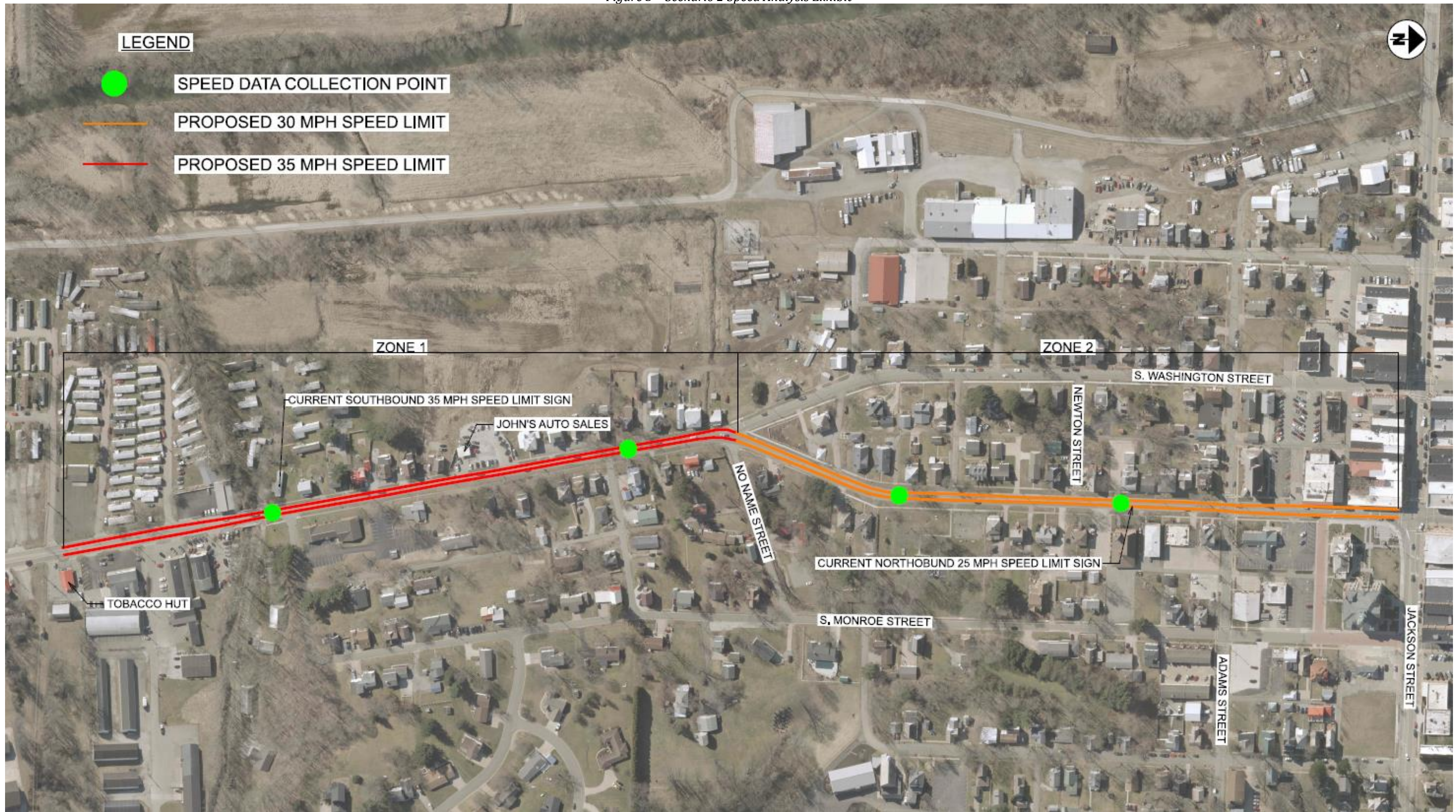
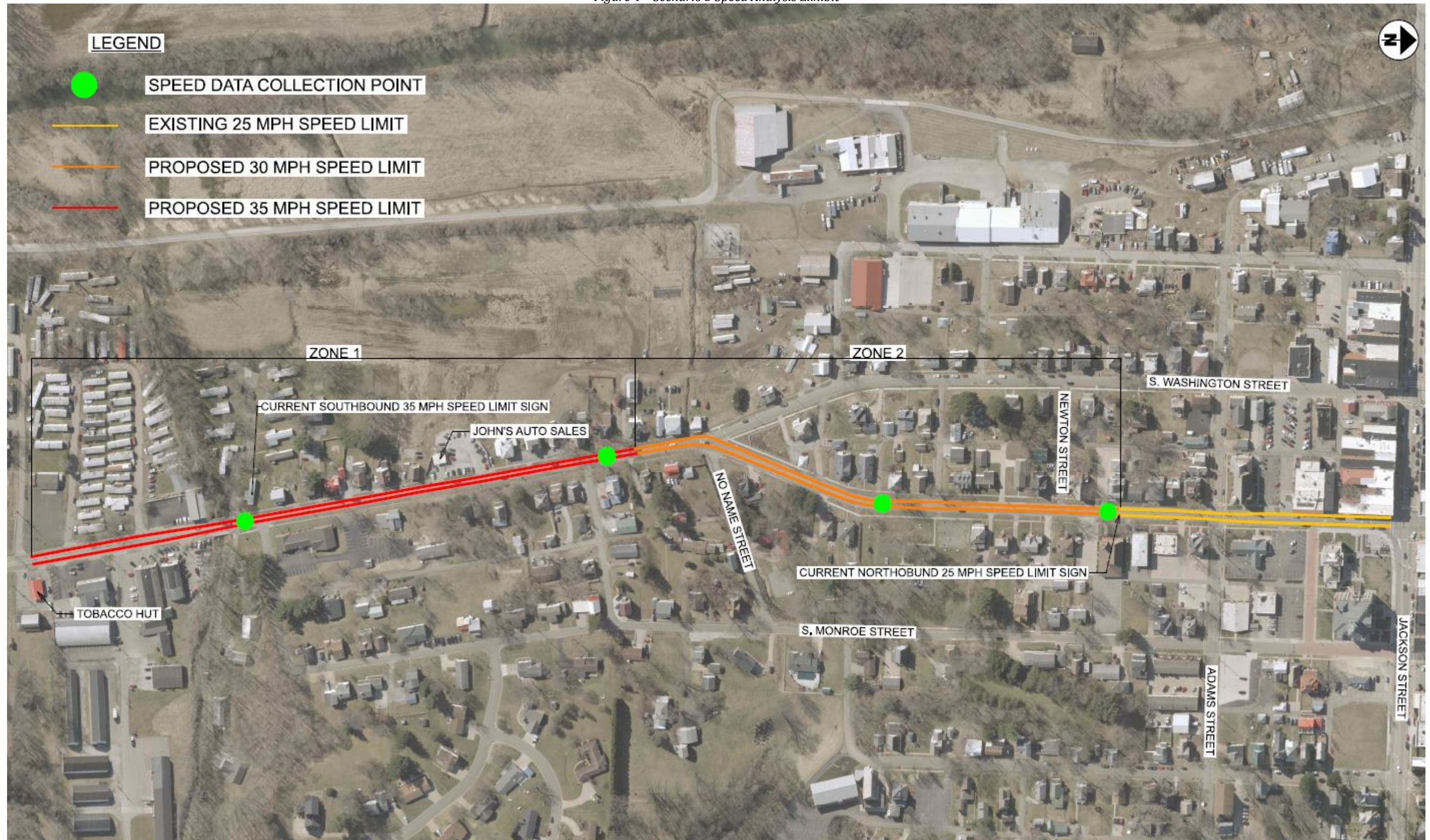


Figure 4 – Scenario 3 Speed Analysis Exhibit



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 Segment #	Log Point Start	Log Point End	Posted Speed (MPH)	Calculated Speed (MPH)		Proposed Speed (MPH)
				ODOT Form	USLIMITS2	
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 Segment #	Log Point Start	Log Point End	Posted Speed (MPH)	Calculated Speed (MPH)		Proposed Speed (MPH)
				ODOT Form	USLIMITS2	
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

Zone Segment #	Log Point Start	Log Point End	Posted Speed (MPH)	Calculated Speed (MPH)		Proposed Speed (MPH)
				ODOT Form	USLIMITS2	
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,

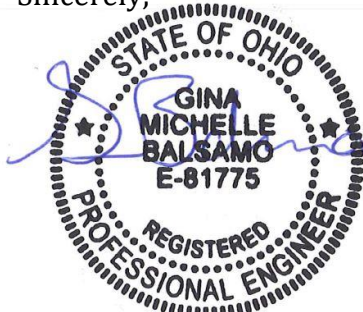
covered by Zone 2, would provide a speed limit of 35 MPH for both northbound and southbound vehicles.

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 S. Clay Street
 Date: 10-3-23 Day: County:
 Observer: LRY + CMC
 Pavement Type: Dry: Wet: Condition:
 Width:
 Weather: Temperature:

1:00-1:29

Approach/Time:	North bound	
1	27.4	51 30.0
2	26.7	52 29.3
3	30.6	53 29.6
4	38.1	54 24.5
5	20.5	55 18.1*
6	26.0*	56 28.4
7	28.8	57 31.9
8	31.5	58 27.4
9	41.4	59 32.4
10	31.2	60 28.2
11	32.1	61 30.9
12	30.7	62 27.1
13	31.0	63 35.8
14	29.5	64 32.7
15	24.1	65 27.0
16	22.1	66 28.7
17	30.0	67 27.6
18	29.5	68 23.3
19	29.6	69 29.5
20	27.1	70 34.1
21	22.4*	71 33.8
22	23.5	72 26.0*
23	26.5	73 27.2
24	29.4	74 25.0*
25	28.5*	75 21.0*
26	31.4	76 30.3
27	37.1	77 25.6
28	40.3	78 24.9
29	35.1	79 23.5
30	29.8	80 24.7*
31	32.6	81 28.5
32	27.6	82 22.6*
33	26.0	83 28.3
34	31.2	84 23.5
35	27.4	85 25.0
36	31.5	86 22.1
37	28.6	87 23.1
38	24.0	88 30.5
39	29.6	89 30.8
40	30.1	90 30.3
41	27.6*	91 29.1
42	28.4	92 26.3
43	25.4	93 27.7
44	33.2	94 28.1
45	31.6	95 28.5
46	27.6	96 26.4
47	31.4	97 28.8
48	31.1	98 30.8
49	32.7	99 25.5*
50	35.7	100 30.0

1:00-1:27

Approach/Time:	South bound	
1	21.5	51 29.1*
2	24.6	52 25.3*
3	32.3	53 23.7*
4	33.2	54 25.3
5	24.8*	55 30.8
6	12.1	56 24.2
7	29.4	57 22.5*
8	25.1	58 31.2
9	24.3	59 29.3*
10	21.1	60 27.8
11	12.6*	61 25.0
12	31.7	62 23.8
13	31.6	63 26.1
14	28.8	64 25.6*
15	18.9	65 27.5
16	27.6	66 28.9
17	30.7	67 23.6
18	28.4	68 28.7
19	26.1	69 24.6
20	26.3	70 29.7
21	27.0	71 28.5
22	37.1*	72 30.2
23	21.6	73 29.2
24	21.4	74 24.9
25	26.7	75 24.8
26	31.5	76 28.7
27	27.0	77 24.9
28	27.7	78 26.7*
29	26.4	79 23.4*
30	29.6	80 23.3*
31	27.3	81 26.4
32	23.3	82 25.9
33	28.7	83 35.9
34	29.8	84 29.3
35	29.3	85 25.9
36	25.5	86 27.0
37	29.5	87 33.9
38	21.5	88 27.5
39	23.4	89 29.5
40	28.1	90 29.9*
41	28.0	91 24.8*
42	30.5	92 23.7
43	29.9	93 27.2
44	32.3	94 35.6
45	27.8	95 30.2
46	28.7*	96 28.4
47	28.5	97 26.3
48	27.6	98 27.0
49	29.4	99 24.9*
50	27.4*	100 18.7

Queues from light reaching collection location

Speed Data Collection Form

Location: Washington + Monroeville
 Date: 10/12/23 Day: Tuesday County: _____
 Observer: LP4 + CMC
 Pavement Type: _____ Dry: _____ Wet: _____ Condition: _____
 Width: _____
 Weather: _____

Temperature: _____

9:10 - 9:44

9:10 - 9:41

Approach/Time: Northbound			
1	38.2	51	31.1
2	30.0	52	26.3
3	30.4	53	31.9
4	30.8	54	30.9
5	35.1	55	26.1
6	31.1*	56	37.3
7	42.8	57	36.0
8	39.3	58	31.3
9	34.8	59	33.9
10	30.8	60	34.3
11	33.6	61	29.7
12	37.5	62	31.2
13	31.9	63	28.6
14	32.4	64	31.0
15	37.0	65	33.1
16	34.1	66	34.0*
17	31.4	67	29.4
18	35.9	68	33.1*
19	36.9	69	30.2
20	32.2	70	32.3
21	32.1	71	29.3
22	34.7*	72	23.7
23	33.3	73	34.1
24	32.0	74	37.0
25	35.8	75	34.5*
26	33.8	76	32.2
27	28.6	77	29.6
28	33.2	78	31.4
29	32.3	79	32.2
30	33.2*	80	35.0*
31	34.8	81	33.6
32	31.1	82	30.0*
33	35.3	83	28.5
34	35.7	84	30.1*
35	35.3	85	32.3
36	33.7	86	32.9
37	35.2	87	31.1
38	32.8*	88	32.2
39	28.5	89	32.9
40	30.8*	90	30.0
41	32.7	91	28.0
42	30.5	92	34.7
43	29.4	93	31.7
44	37.7	94	30.1
45	34.2	95	32.8
46	31.7	96	26.9
47	37.5	97	29.5
48	34.5	98	24.2
49	32.8	99	36.2
50	37.5	100	33.6

Approach/Time: Southbound			
1	34.4	51	27.1
2	36.0*	52	33.4
3	28.1*	53	35.4
4	30.1	54	30.5
5	31.7	55	33.0
6	29.8	56	34.7
7	40.0	57	24.2
8	32.1	58	34.2
9	32.5	59	21.3
10	25.4	60	32.8
11	29.2	61	32.8
12	30.0*	62	35.7
13	29.3	63	35.2*
14	32.2	64	27.6
15	26.6*	65	31.4*
16	27.7*	66	34.0
17	39.7	67	31.2
18	22.9	68	32.5
19	33.6	69	39.3
20	35.3	70	29.1
21	34.3	71	35.3
22	33.4	72	35.8
23	33.3	73	34.7
24	29.6*	74	32.8
25	30.2*	75	29.6*
26	31.7	76	32.5
27	36.4	77	32.3
28	33.6	78	32.7
29	32.5	79	33.6
30	31.5	80	29.2
31	32.8	81	30.2
32	35.9	82	29.0
33	37.5	83	33.9
34	31.1	84	33.9
35	33.3	85	37.0
36	34.2	86	31.8
37	39.4	87	30.2*
38	31.6	88	27.6
39	32.9	89	36.1
40	33.2	90	31.6
41	30.0	91	35.8
42	32.7	92	34.0
43	34.2	93	32.9*
44	32.8	94	27.7
45	35.6	95	30.6
46	34.3	96	32.3
47	29.1	97	29.3
48	34.0*	98	33.8
49	25.3*	99	35.1
50	33.7	100	37.5

Speed Data Collection Form

Location: 618 S. Washington
 Date: 10/3/23 Day: Tue County:
 Observer: LRY-CMC
 Pavement Type: Dry: Wet: Condition:
 Width:
 Weather: Temperature:

9:53-10:21

9:53-10:24

Approach/Time: Northbound			
1	35.5	51	34.1
2	31.1	52	31.7
3	29.5	53	30.3
4	38.9	54	33.3
5	33.9	55	28.4*
6	36.7	56	29.7
7	31.2	57	33.1
8	36.6	58	28.4
9	34.0	59	33.0
10	34.0	60	25.4
11	34.3	61	34.1
12	26.9*	62	34.1*
13	41.3	63	32.7
14	31.0	64	32.0*
15	31.8	65	30.2
16	37.3	66	27.0*
17	32.8	67	25.7*
18	34.5	68	28.2
19	32.8*	69	31.4
20	29.7	70	29.9
21	29.0	71	32.3
22	35.8	72	36.3
23	34.0	73	35.4
24	31.8	74	32.1*
25	33.5	75	28.7
26	30.2	76	29.7
27	34.9	77	33.2
28	29.4	78	35.9
29	33.1	79	32.0
30	29.9*	80	31.3
31	32.2	81	30.9
32	30.5	82	33.9
33	35.8	83	30.2*
34	31.3	84	32.9
35	28.1	85	30.6
36	28.9	86	32.7
37	32.7	87	30.7
38	34.6	88	31.9
39	31.9*	89	30.6
40	31.2	90	33.3
41	31.2	91	31.2
42	34.1	92	30.0
43	32.0	93	28.8
44	29.4	94	33.7
45	33.0	95	31.3*
46	32.8	96	33.1
47	34.2	97	33.7
48	33.5	98	33.5
49	31.4	99	36.8
50	34.4	100	30.0

Approach/Time: Southbound			
1	24.0	51	26.9*
2	30.1	52	26.0
3	28.7	53	31.9
4	31.5	54	34.9
5	33.8	55	27.4*
6	32.5	56	25.1
7	26.3	57	24.4*
8	33.9*	58	29.7
9	29.9	59	25.3
10	34.3	60	26.6
11	32.0	61	27.9*
12	28.1	62	31.2
13	27.8	63	35.5
14	30.8	64	29.3
15	26.7	65	21.9
16	29.3	66	32.6
17	25.9	67	32.6
18	33.6	68	31.0
19	31.6	69	34.9
20	33.7	70	35.5
21	33.4	71	32.4
22	32.1	72	26.8*
23	33.3	73	32.0
24	30.2	74	32.0
25	33.3	75	25.4*
26	35.5	76	30.0
27	29.3	77	34.0
28	31.1*	78	31.5
29	30.5*	79	29.9
30	30.3	80	30.0
31	30.3	81	32.2
32	33.0	82	34.8
33	27.9*	83	34.4
34	30.3	84	27.0
35	30.0	85	30.1
36	34.0	86	31.2
37	33.8	87	32.1
38	34.3	88	24.8*
39	21.1	89	29.8
40	30.3*	90	29.2*
41	31.5*	91	30.0
42	31.6	92	32.7
43	32.9	93	31.4
44	27.3	94	33.3
45	33.5	95	31.6
46	28.1	96	24.8*
47	29.3	97	29.4
48	33.4	98	25.3
49	31.4	99	33.5
50	25.6	100	24.8

Speed Data Collection Form

Location: *Southwest edge of Highway 100 (105 S. Clay Street)*

Date: *10/31/23* Day: _____ County: _____

Observer: *LRH + CMC*

Pavement Type: _____ Dry: _____ Wet: _____ Condition: _____

Width: _____

Weather: _____

Temperature: _____

10:29 - 11:01

10:29 - 10:59

Approach/Time: <i>Northbound</i>			
1	<i>29.5</i>	51	<i>28.4</i>
2	<i>29.2</i>	52	<i>29.3</i>
3	<i>23.9</i>	53	<i>32.4</i>
4	<i>24.3</i>	54	<i>31.3</i>
5	<i>24.7</i>	55	<i>26.9</i>
6	<i>27.1</i>	56	<i>20.6*</i>
7	<i>29.4</i>	57	<i>29.0</i>
8	<i>24.0</i>	58	<i>22.6</i>
9	<i>30.8</i>	59	<i>28.9</i>
10	<i>20.5</i>	60	<i>27.7</i>
11	<i>23.8</i>	61	<i>27.2</i>
12	<i>18.7*</i>	62	<i>28.9</i>
13	<i>24.2</i>	63	<i>25.6</i>
14	<i>19.6*</i>	64	<i>30.0</i>
15	<i>19.8</i>	65	<i>24.1</i>
16	<i>30.0</i>	66	<i>26.0*</i>
17	<i>34.0</i>	67	<i>25.9</i>
18	<i>29.2</i>	68	<i>24.1</i>
19	<i>21.9*</i>	69	<i>31.5</i>
20	<i>30.1</i>	70	<i>24.8</i>
21	<i>23.7</i>	71	<i>21.9</i>
22	<i>28.4</i>	72	<i>25.9</i>
23	<i>19.4</i>	73	<i>24.2</i>
24	<i>21.2*</i>	74	<i>27.0</i>
25	<i>31.1</i>	75	<i>25.1</i>
26	<i>34.2</i>	76	<i>22.8</i>
27	<i>23.6*</i>	77	<i>19.4</i>
28	<i>15.4*</i>	78	<i>25.6</i>
29	<i>26.6</i>	79	<i>28.9</i>
30	<i>28.9</i>	80	<i>26.7</i>
31	<i>23.7</i>	81	<i>26.1</i>
32	<i>23.5</i>	82	<i>25.3</i>
33	<i>25.6</i>	83	<i>22.4*</i>
34	<i>24.2*</i>	84	<i>26.5</i>
35	<i>31.2</i>	85	<i>27.1</i>
36	<i>18.7</i>	86	<i>27.0</i>
37	<i>22.4</i>	87	<i>29.8</i>
38	<i>23.4</i>	88	<i>28.9</i>
39	<i>29.7</i>	89	<i>26.1</i>
40	<i>24.0</i>	90	<i>24.5</i>
41	<i>26.3</i>	91	<i>26.3*</i>
42	<i>26.6</i>	92	<i>21.7</i>
43	<i>32.0</i>	93	<i>25.9</i>
44	<i>25.8*</i>	94	<i>21.5</i>
45	<i>26.1</i>	95	<i>29.2</i>
46	<i>26.2</i>	96	<i>22.3</i>
47	<i>24.4</i>	97	<i>27.9</i>
48	<i>28.4</i>	98	<i>27.5</i>
49	<i>27.2</i>	99	<i>23.8</i>
50	<i>26.1</i>	100	<i>21.8*</i>

Approach/Time: <i>Southbound</i>			
1	<i>25.9</i>	51	<i>32.5</i>
2	<i>35.8</i>	52	<i>32.3</i>
3	<i>30.4</i>	53	<i>26.5</i>
4	<i>29.1</i>	54	<i>25.6</i>
5	<i>30.9</i>	55	<i>34.5</i>
6	<i>25.7*</i>	56	<i>32.3</i>
7	<i>20.9*</i>	57	<i>31.3</i>
8	<i>36.1</i>	58	<i>28.1</i>
9	<i>32.6</i>	59	<i>29.8</i>
10	<i>29.3</i>	60	<i>32.8</i>
11	<i>35.7</i>	61	<i>34.0</i>
12	<i>30.1</i>	62	<i>33.2</i>
13	<i>29.3</i>	63	<i>29.8</i>
14	<i>25.9</i>	64	<i>25.8</i>
15	<i>34.4</i>	65	<i>28.2</i>
16	<i>29.3</i>	66	<i>26.3</i>
17	<i>28.2</i>	67	<i>30.4</i>
18	<i>30.4</i>	68	<i>29.6</i>
19	<i>31.9</i>	69	<i>31.1</i>
20	<i>31.0</i>	70	<i>30.4</i>
21	<i>27.9</i>	71	<i>29.9</i>
22	<i>29.8</i>	72	<i>36.1</i>
23	<i>30.4</i>	73	<i>25.1</i>
24	<i>32.7</i>	74	<i>34.8</i>
25	<i>30.4</i>	75	<i>26.5</i>
26	<i>30.1</i>	76	<i>30.1*</i>
27	<i>31.2</i>	77	<i>26.4</i>
28	<i>30.4</i>	78	<i>30.8</i>
29	<i>25.6</i>	79	<i>29.5</i>
30	<i>29.9</i>	80	<i>24.8</i>
31	<i>30.0</i>	81	<i>32.6</i>
32	<i>28.8</i>	82	<i>29.0</i>
33	<i>27.8</i>	83	<i>30.5</i>
34	<i>27.5</i>	84	<i>27.1</i>
35	<i>33.1</i>	85	<i>25.6</i>
36	<i>32.7</i>	86	<i>36.4</i>
37	<i>31.4</i>	87	<i>27.7</i>
38	<i>32.0</i>	88	<i>32.6</i>
39	<i>26.6</i>	89	<i>27.9</i>
40	<i>27.7</i>	90	<i>30.3</i>
41	<i>26.4</i>	91	<i>30.0</i>
42	<i>29.4</i>	92	<i>30.5</i>
43	<i>27.0</i>	93	<i>27.6</i>
44	<i>29.2</i>	94	<i>31.4</i>
45	<i>32.0</i>	95	<i>30.4</i>
46	<i>29.6*</i>	96	<i>30.2</i>
47	<i>30.3</i>	97	<i>28.8</i>
48	<i>28.1</i>	98	<i>31.4</i>
49	<i>29.1</i>	99	<i>30.9</i>
50	<i>25.7</i>	100	<i>31.0</i>

Note: Vertical Curvature present

Attachment B

Calculation Sheets

Attachment B





Ohio Department of Transportation

SPEED ZONE EVALUATION SHEET

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



TEM FORM 1296-2

COMPLETE ALL GREEN SHADED AREAS

ROUTE NAME:	S. Clay Street	ROUTE NUMBER:	US-62
BEGIN STUDY AT:	Jackson Street	COUNTY:	Holmes
BEGIN LOGPOINT:	19.64	TOWNSHIP / MUNICIPALITY:	Millersburg
END STUDY AT:	Newton Street	JURISDICTION:	Village of Millersburg
END LOGPOINT:	19.49	EXISTING SPEED LIMIT (MPH):	25
LENGTH (MILE):	0.16	AVERAGE DAILY TRAFFIC (ADT):	11231

[REFER TO SECTION 1203 OF THE TRAFFIC ENGINEERING MANUAL FOR ADDITIONAL GUIDANCE](#)

No. of Houses or Farms	0	Must have direct access to the roadway being studied.	
No. of Small Businesses, Apts./Condos	7		
No. of Medium Businesses, Apts./Condos	1		
No. of Major Businesses, Apts./Condos	0		
No. of Minor Street Intersections	2	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/Roundabout 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)	13	General width of through lanes throughout the section.	
Shoulder Width (Round down to nearest foot)	1	General shoulder width throughout the section.	
No. of Property Damage Only Crashes	8	Latest three years of data	
No. of Injury Crashes	4	Weighted value is 2x that of a Property Damage Only Crash	
No. of Fatal Crashes	0	Weighted value is 4x that of a Property Damage Only Crash	
Presence of Vulnerable Road Users	High	Pedestrians / Bicyclists / Amish Buggies / etc..	
Urban Features	Yes	Sidewalks / Crosswalks / Curb & Gutter / On-Street Parking / Street Lighting / etc..	
50 th Percentile Speed	28	Average of all speed samples that were taken.	
85 th Percentile Speed	31	Average of all speed samples that were taken.	
10-mph Pace Speed	23	to 32	Average 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: **32** MPH

USLIMITS2 SPEED: **30** MPH

REQUESTED SPEED: **30** MPH

ADDITIONAL CONSIDERATIONS AND COMMENTS

STUDY BY: **Carpenter Marty Transportation**

DATE: **October 25, 2023**

INCLUDE THE RELATED RESOLUTION(S) WHEN SUBMITTING THIS FORM

BELOW FOR ODOT USE ONLY

CHECKED BY:

TEST RUN: MPH

APPROVED SPEED: MPH

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Date: 2023-10-18

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

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

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

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

Exposure (M)

$$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$$
$$M = (11231 * 365 * .16 * 3.00) / (100000000)$$
$$M = 0.0197$$

Crash Rate (Rc)

$$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$R_c = (4.00 * 100000000) / (11231 * 365 * .16)$$

R_c = 609.86 crashes per 100 MVM

Injury Rate (R_i)

$$R_i = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$R_i = (1.33 * 100000000) / (11231 * 365 * .16)$$

$$R_i = 203.29 \text{ injuries per 100 MVM}$$

Critical Crash Rate (C_c)

$$C_c = \text{Crash Average of Similar Sections} + 1.645 * (\text{Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$$

$$C_c = 297.07 + 1.645 * (297.07 / 0.0197)^{(1/2)} + (1 / (2 * 0.0197))$$

$$C_c = 524.60 \text{ crashes per 100 MVM}$$

Critical Injury Rate (I_c)

$$I_c = \text{Injury Crash Average of Similar Sections} + 1.645 * (\text{Injury Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$$

$$I_c = 86.34 + 1.645 * (86.34 / 0.0197)^{(1/2)} + (1 / (2 * 0.0197))$$

$$I_c = 220.72 \text{ injuries per 100 MVM}$$



Ohio Department of Transportation

SPEED ZONE EVALUATION SHEET

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



TEM FORM 1296-2

COMPLETE ALL GREEN SHADED AREAS

ROUTE NAME:	S. Clay Street	ROUTE NUMBER:	US-62
BEGIN STUDY AT:	Newton Street	COUNTY:	Holmes
BEGIN LOGPOINT:	19.49	TOWNSHIP / MUNICIPALITY:	Millersburg
END STUDY AT:	No Name Street	JURISDICTION:	Village of Millersburg
END LOGPOINT:	19.34	EXISTING SPEED LIMIT (MPH):	35
LENGTH (MILE):	0.15	AVERAGE DAILY TRAFFIC (ADT):	11231

[REFER TO SECTION 1203 OF THE TRAFFIC ENGINEERING MANUAL FOR ADDITIONAL GUIDANCE](#)

No. of Houses or Farms	7	Must have direct access to the roadway being studied.	
No. of Small Businesses, Apts./Condos	0		
No. of Medium Businesses, Apts./Condos	0		
No. of Major Businesses, Apts./Condos	0		
No. of Minor Street Intersections	3	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/Roundabout 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)	13	General width of through lanes throughout the section.	
Shoulder Width (Round down to nearest foot)	1	General shoulder width throughout the section.	
No. of Property Damage Only Crashes	3	Latest three years of data	
No. of Injury Crashes	2	Weighted value is 2x that of a Property Damage Only Crash	
No. of Fatal Crashes	0	Weighted value is 4x that of a Property Damage Only Crash	
Presence of Vulnerable Road Users	High	Pedestrians / Bicyclists / Amish Buggies / etc..	
Urban Features	Yes	Sidewalks / Crosswalks / Curb & Gutter / On-Street Parking / Street Lighting / etc..	
50 th Percentile Speed	28	Average of all speed samples that were taken.	
85 th Percentile Speed	31	Average of all speed samples that were taken.	
10-mph Pace Speed	23	to 32	Average of all speed samples that were taken.
Roadway Characteristics	B2	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: **30** MPH

USLIMITS2 SPEED: **30** MPH

REQUESTED SPEED: **30** MPH

ADDITIONAL CONSIDERATIONS AND COMMENTS

STUDY BY: **Carpenter Marty Transportation**

DATE: **October 25, 2023**

INCLUDE THE RELATED RESOLUTION(S) WHEN SUBMITTING THIS FORM

BELOW FOR ODOT USE ONLY

CHECKED BY:

TEST RUN: MPH

APPROVED SPEED: MPH

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Date: 2023-10-18

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

Crash Data Information

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

Roadway Information

Section Length: .15 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: 12
Number of Signals: 0

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.

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

Exposure (M)

$$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$$
$$M = (11231 * 365 * .15 * 3.00) / (100000000)$$
$$M = 0.0184$$

Crash Rate (Rc)

$$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$
$$Rc = (1.67 * 100000000) / (11231 * 365 * .15)$$
$$Rc = 271.05 \text{ crashes per 100 MVM}$$

Injury Rate (Ri)

$$Ri = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$
$$Ri = (0.67 * 100000000) / (11231 * 365 * .15)$$
$$Ri = 108.42 \text{ injuries per 100 MVM}$$

Critical Crash Rate (Cc)

$C_c = \text{Crash Average of Similar Sections} + 1.645 * (\text{Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$
 $C_c = 297.07 + 1.645 * (297.07 / 0.0184)^{(1/2)} + (1 / (2 * 0.0184))$
 $C_c = 532.93$ crashes per 100 MVM

Critical Injury Rate (Ic)

$I_c = \text{Injury Crash Average of Similar Sections} + 1.645 * (\text{Injury Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$
 $I_c = 86.34 + 1.645 * (86.34 / 0.0184)^{(1/2)} + (1 / (2 * 0.0184))$
 $I_c = 225.99$ injuries per 100 MVM



Ohio Department of Transportation

SPEED ZONE EVALUATION SHEET

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



TEM FORM 1296-2

COMPLETE ALL GREEN SHADED AREAS

ROUTE NAME:	S. Washington Street	ROUTE NUMBER:	US-62
BEGIN STUDY AT:	No Name Street	COUNTY:	Holmes
BEGIN LOGPOINT:	19.34	TOWNSHIP / MUNICIPALITY:	Millersburg
END STUDY AT:	John's Auto Sales	JURISDICTION:	Village of Millersburg
END LOGPOINT:	19.18	EXISTING SPEED LIMIT (MPH):	35
LENGTH (MILE):	0.16	AVERAGE DAILY TRAFFIC (ADT):	11231

[REFER TO SECTION 1203 OF THE TRAFFIC ENGINEERING MANUAL FOR ADDITIONAL GUIDANCE](#)

No. of Houses or Farms	6	Must have direct access to the roadway being studied.	
No. of Small Businesses, Apts./Condos	2		
No. of Medium Businesses, Apts./Condos	0		
No. of Major Businesses, Apts./Condos	0		
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/Roundabout 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)	12	General width of through lanes throughout the section.	
Shoulder Width (Round down to nearest foot)	0	General shoulder width throughout the section.	
No. of Property Damage Only Crashes	7	Latest three years of data	
No. of Injury Crashes	0	Weighted value is 2x that of a Property Damage Only Crash	
No. of Fatal Crashes	0	Weighted value is 4x that of a Property Damage Only Crash	
Presence of Vulnerable Road Users	High	Pedestrians / Bicyclists / Amish Buggies / etc..	
Urban Features	Yes	Sidewalks / Crosswalks / Curb & Gutter / On-Street Parking / Street Lighting / etc..	
50 th Percentile Speed	32	Average of all speed samples that were taken.	
85 th Percentile Speed	34	Average of all speed samples that were taken.	
10-mph Pace Speed	26	to 35	Average 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: **34** MPH

USLIMITS2 SPEED: **30** MPH

REQUESTED SPEED: **35** MPH

ADDITIONAL CONSIDERATIONS AND COMMENTS

STUDY BY: **Carpenter Marty Transportation**

DATE: **October 25, 2023**

INCLUDE THE RELATED RESOLUTION(S) WHEN SUBMITTING THIS FORM

BELOW FOR ODOT USE ONLY

CHECKED BY:

TEST RUN: MPH

APPROVED SPEED: MPH

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Date: 2023-10-18

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

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

Roadway Information

Section Length: .16 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: 9
Number of Signals: 0

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.

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

Exposure (M)

$$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$$
$$M = (11231 * 365 * .16 * 3.00) / (100000000)$$
$$M = 0.0197$$

Crash Rate (Rc)

$$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$
$$Rc = (2.33 * 100000000) / (11231 * 365 * .16)$$
$$Rc = 355.75 \text{ crashes per 100 MVM}$$

Injury Rate (Ri)

$$Ri = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$
$$Ri = (0.00 * 100000000) / (11231 * 365 * .16)$$
$$Ri = 0.00 \text{ injuries per 100 MVM}$$

Critical Crash Rate (Cc)

$C_c = \text{Crash Average of Similar Sections} + 1.645 * (\text{Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$
 $C_c = 297.07 + 1.645 * (297.07 / 0.0197)^{(1/2)} + (1 / (2 * 0.0197))$
 $C_c = 524.60$ crashes per 100 MVM

Critical Injury Rate (Ic)

$I_c = \text{Injury Crash Average of Similar Sections} + 1.645 * (\text{Injury Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$
 $I_c = 86.34 + 1.645 * (86.34 / 0.0197)^{(1/2)} + (1 / (2 * 0.0197))$
 $I_c = 220.72$ injuries per 100 MVM



Ohio Department of Transportation

SPEED ZONE EVALUATION SHEET

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



TEM FORM 1296-2

COMPLETE ALL GREEN SHADED AREAS

ROUTE NAME:	S. Washington Street	ROUTE NUMBER:	US-62
BEGIN STUDY AT:	John's Auto Sales	COUNTY:	Holmes
BEGIN LOGPOINT:	19.18	TOWNSHIP / MUNICIPALITY:	Millersburg
END STUDY AT:	Tobacco Hut	JURISDICTION:	Village of Millersburg
END LOGPOINT:	18.98	EXISTING SPEED LIMIT (MPH):	35
LENGTH (MILE):	0.20	AVERAGE DAILY TRAFFIC (ADT):	11231

[REFER TO SECTION 1203 OF THE TRAFFIC ENGINEERING MANUAL FOR ADDITIONAL GUIDANCE](#)

No. of Houses or Farms	5	Must have direct access to the roadway being studied.								
No. of Small Businesses, Apts./Condos	5									
No. of Medium Businesses, Apts./Condos	1									
No. of Major Businesses, Apts./Condos	1									
No. of Minor Street Intersections	4	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/Roundabout 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)	13	General width of through lanes throughout the section.								
Shoulder Width (Round down to nearest foot)	0	General shoulder width throughout the section.								
No. of Property Damage Only Crashes	6	Latest three years of data								
No. of Injury Crashes	2	Weighted value is 2x that of a Property Damage Only Crash								
No. of Fatal Crashes	0	Weighted value is 4x that of a Property Damage Only Crash								
Presence of Vulnerable Road Users	High	Pedestrians / Bicyclists / Amish Buggies / etc..								
Urban Features	Yes	Sidewalks / Crosswalks / Curb & Gutter / On-Street Parking / Street Lighting / etc..								
50 th Percentile Speed	33	Average of all speed samples that were taken.								
85 th Percentile Speed	36	Average of all speed samples that were taken.								
10-mph Pace Speed	28	to	37	Average 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: **35** MPH

USLIMITS2 SPEED: **35** MPH

REQUESTED SPEED: **35** MPH

ADDITIONAL CONSIDERATIONS AND COMMENTS

STUDY BY: **Carpenter Marty Transportation**

DATE: **October 25, 2023**

INCLUDE THE RELATED RESOLUTION(S) WHEN SUBMITTING THIS FORM

BELOW FOR ODOT USE ONLY

CHECKED BY:

TEST RUN: MPH

APPROVED SPEED: MPH

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Date: 2023-10-18

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

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

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

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.

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

Exposure (M)

$$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$$

$$M = (11231 * 365 * .2 * 3.00) / (100000000)$$

$$M = 0.0246$$

Crash Rate (Rc)

$$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$Rc = (2.67 * 100000000) / (11231 * 365 * .2)$$

$$Rc = 325.26 \text{ crashes per 100 MVM}$$

Injury Rate (Ri)

$$Ri = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$Ri = (0.67 * 100000000) / (11231 * 365 * .2)$$

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



Ohio Department of Transportation

SPEED ZONE EVALUATION SHEET

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



TEM FORM 1296-2

COMPLETE ALL GREEN SHADED AREAS

ROUTE NAME:	S. Clay Street	ROUTE NUMBER:	US-62
BEGIN STUDY AT:	Jackson Street	COUNTY:	Holmes
BEGIN LOGPOINT:	19.64	TOWNSHIP / MUNICIPALITY:	Millersburg
END STUDY AT:	No Name Street	JURISDICTION:	Village of Millersburg
END LOGPOINT:	19.34	EXISTING SPEED LIMIT (MPH):	25
LENGTH (MILE):	0.30	AVERAGE DAILY TRAFFIC (ADT):	11231

[REFER TO SECTION 1203 OF THE TRAFFIC ENGINEERING MANUAL FOR ADDITIONAL GUIDANCE](#)

No. of Houses or Farms	7	Must have direct access to the roadway being studied.								
No. of Small Businesses, Apts./Condos	7									
No. of Medium Businesses, Apts./Condos	1									
No. of Major Businesses, Apts./Condos	0									
No. of Minor Street Intersections	6	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/Roundabout 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)	13	General width of through lanes throughout the section.								
Shoulder Width (Round down to nearest foot)	1	General shoulder width throughout the section.								
No. of Property Damage Only Crashes	11	Latest three years of data								
No. of Injury Crashes	6	Weighted value is 2x that of a Property Damage Only Crash								
No. of Fatal Crashes	0	Weighted value is 4x that of a Property Damage Only Crash								
Presence of Vulnerable Road Users	High	Pedestrians / Bicyclists / Amish Buggies / etc..								
Urban Features	Yes	Sidewalks / Crosswalks / Curb & Gutter / On-Street Parking / Street Lighting / etc..								
50 th Percentile Speed	28	Average of all speed samples that were taken.								
85 th Percentile Speed	31	Average of all speed samples that were taken.								
10-mph Pace Speed	23	to	32	Average of all speed samples that were taken.						
Roadway Characteristics	B2	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: **30** MPH

USLIMITS2 SPEED: **30** MPH

REQUESTED SPEED: **30** MPH

ADDITIONAL CONSIDERATIONS AND COMMENTS

STUDY BY: **Carpenter Marty Transportation**

DATE: **October 25, 2023**

INCLUDE THE RELATED RESOLUTION(S) WHEN SUBMITTING THIS FORM

BELOW FOR ODOT USE ONLY

CHECKED BY:

TEST RUN: MPH

APPROVED SPEED: MPH

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Date: 2023-10-18

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

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

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

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.

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

Exposure (M)

$$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$$

$$M = (11231 * 365 * .30 * 3.00) / (100000000)$$

$$M = 0.0369$$

Crash Rate (Rc)

$$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$Rc = (5.67 * 100000000) / (11231 * 365 * .30)$$

$$Rc = 460.78 \text{ crashes per 100 MVM}$$

Injury Rate (Ri)

$$Ri = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$R_i = (2.00 * 100000000) / (11231 * 365 * .30)$$

$R_i = 162.63$ injuries per 100 MVM

Critical Crash Rate (Cc)

$$C_c = \text{Crash Average of Similar Sections} + 1.645 * (\text{Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$$

$$C_c = 297.07 + 1.645 * (297.07 / 0.0369)^{(1/2)} + (1 / (2 * 0.0369))$$

$C_c = 458.23$ crashes per 100 MVM

Critical Injury Rate (Ic)

$$I_c = \text{Injury Crash Average of Similar Sections} + 1.645 * (\text{Injury Crash Average of Similar Sections} / \text{Exposure})^{(1/2)} + (1 / (2 * \text{Exposure}))$$

$$I_c = 86.34 + 1.645 * (86.34 / 0.0369)^{(1/2)} + (1 / (2 * 0.0369))$$

$I_c = 179.48$ injuries per 100 MVM



Ohio Department of Transportation

SPEED ZONE EVALUATION SHEET

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



TEM FORM 1296-2

COMPLETE ALL GREEN SHADED AREAS

ROUTE NAME:	S. Washington Street	ROUTE NUMBER:	US-62
BEGIN STUDY AT:	No Name Street	COUNTY:	Holmes
BEGIN LOGPOINT:	19.34	TOWNSHIP / MUNICIPALITY:	Millersburg
END STUDY AT:	Tobacco Hut	JURISDICTION:	Village of Millersburg
END LOGPOINT:	18.98	EXISTING SPEED LIMIT (MPH):	35
LENGTH (MILE):	0.36	AVERAGE DAILY TRAFFIC (ADT):	11231

[REFER TO SECTION 1203 OF THE TRAFFIC ENGINEERING MANUAL FOR ADDITIONAL GUIDANCE](#)

No. of Houses or Farms	11	Must have direct access to the roadway being studied.								
No. of Small Businesses, Apts./Condos	7									
No. of Medium Businesses, Apts./Condos	1									
No. of Major Businesses, Apts./Condos	1									
No. of Minor Street Intersections	5	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/Roundabout 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)	12	General width of through lanes throughout the section.								
Shoulder Width (Round down to nearest foot)	0	General shoulder width throughout the section.								
No. of Property Damage Only Crashes	13	Latest three years of data								
No. of Injury Crashes	2	Weighted value is 2x that of a Property Damage Only Crash								
No. of Fatal Crashes	0	Weighted value is 4x that of a Property Damage Only Crash								
Presence of Vulnerable Road Users	High	Pedestrians / Bicyclists / Amish Buggies / etc..								
Urban Features	Yes	Sidewalks / Crosswalks / Curb & Gutter / On-Street Parking / Street Lighting / etc..								
50 th Percentile Speed	32	Average of all speed samples that were taken.								
85 th Percentile Speed	35	Average of all speed samples that were taken.								
10-mph Pace Speed	28	to	37	Average 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: **34** MPH

USLIMITS2 SPEED: **30** MPH

REQUESTED SPEED: **35** MPH

ADDITIONAL CONSIDERATIONS AND COMMENTS

STUDY BY: **Carpenter Marty Transportation**

DATE: **October 25, 2023**

INCLUDE THE RELATED RESOLUTION(S) WHEN SUBMITTING THIS FORM

BELOW FOR ODOT USE ONLY

CHECKED BY:

TEST RUN: MPH

APPROVED SPEED: MPH

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Date: 2023-10-18

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

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

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

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:



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

Exposure (M)

$$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$$
$$M = (11231 * 365 * .36 * 3.00) / (100000000)$$
$$M = 0.0443$$

Crash Rate (Rc)

$$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$
$$Rc = (5.00 * 100000000) / (11231 * 365 * .36)$$
$$Rc = 338.81 \text{ crashes per 100 MVM}$$

Injury Rate (Ri)

$$Ri = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$
$$Ri = (0.67 * 100000000) / (11231 * 365 * .36)$$
$$Ri = 45.17 \text{ injuries per 100 MVM}$$

Critical Crash Rate (Cc)

$$Cc = \text{Crash Average of Similar Sections} + 1.645 * (\text{Crash Average of Similar Sections} / \text{Exposure}) ^ (1/2) + (1 / (2 * \text{Exposure}))$$
$$Cc = 297.07 + 1.645 * (297.07 / 0.0443) ^ (1/2) + (1 / (2 * 0.0443))$$
$$Cc = 443.11 \text{ crashes per 100 MVM}$$

Critical Injury Rate (Ic)

$$Ic = \text{Injury Crash Average of Similar Sections} + 1.645 * (\text{Injury Crash Average of Similar Sections} / \text{Exposure}) ^{(1/2)} + (1 / (2 * \text{Exposure}))$$

$$Ic = 86.34 + 1.645 * (86.34 / 0.0443) ^{(1/2)} + (1 / (2 * 0.0443))$$

$$Ic = 170.28 \text{ injuries per 100 MVM}$$



Ohio Department of Transportation

SPEED ZONE EVALUATION SHEET

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



TEM FORM 1296-2

COMPLETE ALL GREEN SHADED AREAS

ROUTE NAME:	S. Clay Street	ROUTE NUMBER:	US-62
BEGIN STUDY AT:	170 S. Clay Street	COUNTY:	Holmes
BEGIN LOGPOINT:	19.51	TOWNSHIP / MUNICIPALITY:	Millersburg
END STUDY AT:	551 S. Washington Street	JURISDICTION:	Village of Millersburg
END LOGPOINT:	19.28	EXISTING SPEED LIMIT (MPH):	25
LENGTH (MILE):	0.23	AVERAGE DAILY TRAFFIC (ADT):	11231

[REFER TO SECTION 1203 OF THE TRAFFIC ENGINEERING MANUAL FOR ADDITIONAL GUIDANCE](#)

No. of Houses or Farms	7	Must have direct access to the roadway being studied.								
No. of Small Businesses, Apts./Condos	2									
No. of Medium Businesses, Apts./Condos	0									
No. of Major Businesses, Apts./Condos	0									
No. of Minor Street Intersections	4	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/Roundabout 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)	13	General width of through lanes throughout the section.								
Shoulder Width (Round down to nearest foot)	1	General shoulder width throughout the section.								
No. of Property Damage Only Crashes	6	Latest three years of data								
No. of Injury Crashes	3	Weighted value is 2x that of a Property Damage Only Crash								
No. of Fatal Crashes	0	Weighted value is 4x that of a Property Damage Only Crash								
Presence of Vulnerable Road Users	High	Pedestrians / Bicyclists / Amish Buggies / etc..								
Urban Features	Yes	Sidewalks / Crosswalks / Curb & Gutter / On-Street Parking / Street Lighting / etc..								
50 th Percentile Speed	28	Average of all speed samples that were taken.								
85 th Percentile Speed	31	Average of all speed samples that were taken.								
10-mph Pace Speed	23	to	32	Average of all speed samples that were taken.						
Roadway Characteristics	B2	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: **30** MPH

USLIMITS2 SPEED: **30** MPH

REQUESTED SPEED: **30** MPH

ADDITIONAL CONSIDERATIONS AND COMMENTS

STUDY BY: **Carpenter Marty Transportation**

DATE: **October 25, 2023**

INCLUDE THE RELATED RESOLUTION(S) WHEN SUBMITTING THIS FORM

BELOW FOR ODOT USE ONLY

CHECKED BY:

TEST RUN: MPH

APPROVED SPEED: MPH

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Date: 2023-10-18

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

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

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

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

Exposure (M)

$$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$$

$$M = (11231 * 365 * .23 * 3.00) / (100000000)$$

$$M = 0.0283$$

Crash Rate (Rc)

$$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$Rc = (3.00 * 100000000) / (11231 * 365 * .23)$$

$$Rc = 318.19 \text{ crashes per 100 MVM}$$

Injury Rate (Ri)

$$Ri = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$Ri = (1.00 * 100000000) / (11231 * 365 * .23)$$

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) ^ (1/2) + (1 / (2 * Exposure))

Cc = 297.07 + 1.645 * (297.07 / 0.0283) ^ (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) ^ (1/2) + (1 / (2 * Exposure))

Ic = 86.34 + 1.645 * (86.34 / 0.0283) ^ (1/2) + (1 / (2 * 0.0283))

Ic = 194.91 injuries per 100 MVM



Ohio Department of Transportation

SPEED ZONE EVALUATION SHEET

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



TEM FORM 1296-2

COMPLETE ALL GREEN SHADED AREAS

ROUTE NAME:	S. Washington Street	ROUTE NUMBER:	US-62
BEGIN STUDY AT:	551 S. Washington Street	COUNTY:	Holmes
BEGIN LOGPOINT:	19.28	TOWNSHIP / MUNICIPALITY:	Millersburg
END STUDY AT:	Tobacco Hut	JURISDICTION:	Village of Millersburg
END LOGPOINT:	18.98	EXISTING SPEED LIMIT (MPH):	35
LENGTH (MILE):	0.30	AVERAGE DAILY TRAFFIC (ADT):	11231

[REFER TO SECTION 1203 OF THE TRAFFIC ENGINEERING MANUAL FOR ADDITIONAL GUIDANCE](#)

No. of Houses or Farms	11	Must have direct access to the roadway being studied.	
No. of Small Businesses, Apts./Condos	7		
No. of Medium Businesses, Apts./Condos	1		
No. of Major Businesses, Apts./Condos	1		
No. of Minor Street Intersections	5	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/Roundabout 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)	13	General width of through lanes throughout the section.	
Shoulder Width (Round down to nearest foot)	0	General shoulder width throughout the section.	
No. of Property Damage Only Crashes	10	Latest three years of data	
No. of Injury Crashes	2	Weighted value is 2x that of a Property Damage Only Crash	
No. of Fatal Crashes	0	Weighted value is 4x that of a Property Damage Only Crash	
Presence of Vulnerable Road Users	High	Pedestrians / Bicyclists / Amish Buggies / etc..	
Urban Features	Yes	Sidewalks / Crosswalks / Curb & Gutter / On-Street Parking / Street Lighting / etc..	
50 th Percentile Speed	32	Average of all speed samples that were taken.	
85 th Percentile Speed	35	Average of all speed samples that were taken.	
10-mph Pace Speed	28	to 37	Average 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: 34 MPH

USLIMITS2 SPEED: 30 MPH

REQUESTED SPEED: 35 MPH

ADDITIONAL CONSIDERATIONS AND COMMENTS

STUDY BY: Carpenter Marty Transportation

DATE: October 25, 2023

INCLUDE THE RELATED RESOLUTION(S) WHEN SUBMITTING THIS FORM

BELOW FOR ODOT USE ONLY

CHECKED BY: []

TEST RUN: [] MPH

APPROVED SPEED: [] MPH

USLIMITS2 Speed Zoning Report

Project Overview

Project Name: US-62 Speed Study

Analyst: LRY

Date: 2023-10-18

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

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

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

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

Exposure (M)

$$M = (\text{Section AADT} * 365 * \text{Section Length} * \text{Duration of Crash Data}) / (100000000)$$

$$M = (11231 * 365 * .23 * 3.00) / (100000000)$$

$$M = 0.0283$$

Crash Rate (Rc)

$$Rc = (\text{Section Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$Rc = (3.00 * 100000000) / (11231 * 365 * .23)$$

$$Rc = 318.19 \text{ crashes per 100 MVM}$$

Injury Rate (Ri)

$$Ri = (\text{Section Injury Crash Average} * 100000000) / (\text{Section AADT} * 365 * \text{Section Length})$$

$$Ri = (1.00 * 100000000) / (11231 * 365 * .23)$$

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) ^ (1/2) + (1 / (2 * Exposure))

Cc = 297.07 + 1.645 * (297.07 / 0.0283) ^ (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) ^ (1/2) + (1 / (2 * Exposure))

Ic = 86.34 + 1.645 * (86.34 / 0.0283) ^ (1/2) + (1 / (2 * 0.0283))

Ic = 194.91 injuries per 100 MVM