

SPEED ZONE STUDY
FOR
South Boundary Street
(Between State Route 25 & US Route 20)

Prepared for
City of Perrysburg



PROUDFOOT
ASSOCIATES
CONSULTING ENGINEERS
November 2012

RECEIVED

NOV 30 2012

City of Perrysburg
Engineering Division

SERVICE
SAFETY
MACKIN

Warrant Analysis & Recommendations

Following compilation of all the study data, a speed zone warrant analysis is undertaken for the speed zone section.

The following page summarizes the study area and compiles the factors for determining the calculated speed. In our case, the calculated speed is 38 mph. As speed limits are set in intervals of 5 mph, the recommended speed is rounded down to 35 mph. Rounding down to 35 mph is also recommended due to the two school zones located along South Boundary Street.

It is interesting to note that the Ohio Revised Code in Section 4511.21 allows a speed limit of "35 mph on all state routes or through highways within municipal corporations outside business districts..." As South Boundary Street is considered a through highway, a 35 mph speed limit is appropriate unless a lower speed limit is warranted based upon a geometric and traffic characteristic study (Speed Zone Study). As this study has determined a 35 mph speed limit is warranted, no further action by the ODOT Director of Transportation is required.

**Crash Summary Log
South Boundary Street
(SR-25 to US-20)**

Crash No. **	Date	Military Time	Crash Type	Severity	Notes
1	1/13/2010	1726	Rear End	PD	
2	2/9/2010	815	Out of Control (Snow)	PD	
3	2/12/2010	1358	Angle from Drive	PD	
4	2/21/2010	1040	Rear End	PD	
5	2/25/2010	1259	Side Swipe	PD	
6	4/12/2010	1514	Rear End	Injury	
7	4/27/2010	2024	Out of Control	PD	
8	5/6/2010	1551	Angle	PD	
9	6/30/2010	1702	Rear End	PD	
10	8/30/2010	1014	Failure to Control	PD	Hit Sign
11	9/27/2010	823	Rear End	PD	
12	11/9/2010	1403	Rear End	Injury	
13	11/29/2010	1453	Angle	PD	
14	12/29/2010	1351	Rear End	PD	
15	1/10/2011	1707	Side Swipe	PD	
16	1/14/2011	1823	Rear End	PD	
17	2/5/2011	1848	Left Turn	PD	
18	3/4/2011	1529	Angle From Drive	PD	
19	3/22/2011	841	Rear End	PD	
20	3/22/2011	1316	Failure to Control	PD	Hit Sign
21	6/9/2011	1707	Left Turn	PD	
22	6/13/2011	1036	Car/Bicycle	PD	
23	6/25/2011	1419	Rear End	PD	
24	6/26/2011	1724	Rear End	Injury	
25	10/28/2011	735	Rear End	PD	
26	10/31/2011	1230	Rear End	PD	
27	11/22/2011	1515	Angle	Injury	
28	11/27/2011	1627	Rear End	PD	
29	12/14/2011	1429	Rear End	Injury	
30	1/4/2012	1741	Rear End	PD	
31	12/9/2012	922	Angle	PD	
32	5/22/2012	1155	Angle	Injury	
33	6/7/2012	1204	Rear End	PD	
34	7/17/2012	1056	Rear End	PD	
35	7/17/2012	1745	Rear End	PD	
36	7/23/2012	1505	Rear End	PD	
37	8/3/2012	1411	Rear End	PD	
38	8/7/2012	1326	Rear End	PD	
39	9/13/2012	856	Angle	PD	
40	9/18/2012	1645	Rear End	PD	
41	10/18/2012	1607	Car/Pedestrian	PD	

$$\begin{aligned} \text{Crash Rate / MVM} &= \frac{41 \text{ Crashes}}{1.65 \text{ mi} \times 50\% \times 12,000 \text{ ADT} \times 365 \text{ Days} \times 3 \text{ Years} / 1 \text{ Mil.}} \\ &= 3.8 \end{aligned}$$

*Note: Assume average distance traveled is .825 miles

**Crash Locations are depicted on Speed Study Data Sheets. Crashes occurring on intersection approaches not on South Boundary Street are not included.

Speed Check

Location: West South Boundary at Pump Station: Location #1

Date: 11/20/2012 Day: Tuesday County: Wood

Observer: DAM

Type Pavement: Asphalt Dry: X Wet: Condition: Good Width: 36'

Weather: Sunny Temperature: 47 degrees F

East Bound, Time: 10:40 AM to 12 PM					mph	West Bound, Time: 10:40 AM to 12 PM				
Com. %	Cum. Total	No.	Vehicles			Vehicles		No.	Cum. Total	Com. %
			Passenger Cars	Commercial		Passenger Cars	Commercial			
					Over					
					50					
					49					
	107		1		48					
					47					
					46					
					45					
					44					
					43					
					42					
					41	2		103		
					40					
	106		2		39	2		101		
	104		3		38	4		99		
	101		2		37	3	2	95		
	99		3		36	8		90	87	
	96		3		35	5		82	80	
87	93		4	1	34	5		77		
82	88		8		33	10		72		
	80		9		32	5		62		
	71		10		31	6		57		
	61		10		30	6		51		
	51		12		29	9		45		
	39		13		28	6		36		
	26		6		27	10		30		
	20		9		26	6	1	20		
	11		8		25	3		13		
	3		1		24	6		10		
	2		1		23	2		4		
					22					
	1		1		21					
					20	2		2		
					19					
					18					
					17					
					16					
					15					
					14					
					13					
					12					
					Below					
			106	1	Totals	100	3			

Speed Check

Location: West South Boundary at Car Wash: Location #2

Date: 11/20/2012 Day: Tuesday County: Wood

Observer: DAM

Type Pavement: Asphalt Dry: X Wet: Condition: Good Width: 36'

Weather: Sunny Temperature: 39 degrees F

East Bound, Time: 9:10 AM to 10:30 AM					mph	West Bound, Time: 9:10 AM to 10:30 AM				
Com. %	Cum. Total	No.	Vehicles			Passenger Cars	Commercial	No.	Cum. Total	Com. %
			Passenger Cars	Commercial						
					Over					
	103		1		50					
					49					
					48					
					47					
					46					
					45					
					44		1		109	
					43					
					42					
	102		1		41					
					40		1		108	
	101		4		39		1		107	
	97		2		38					
	95		4		37		1		106	
88	91		6		36					
83	85		5		35		4		105	
	80		5		34		1		101	
	75		6		33		7	1	100	92
	69		4		32		6		92	84
	65		12		31		9		86	
	53		14		30		16		77	
	39		7	1	29		11		61	
	31		8		28		10		50	
	23		10		27		14		40	
	13		8		26		11		26	
	5		2		25		9		15	
					24		1		6	
					23		3		5	
	3		1		22		1		2	
	2		2		21		1		1	
					20					
					19					
					18					
					17					
					16					
					15					
					14					
					13					
					12					
					Below					
			102	1	Totals		108	1		

Speed Check

Location: East South Boundary at Shopping Center: Location #3

Date: 11/15/2012 Day: Thursday County: Wood

Observer: DAM

Type Pavement: Asphalt Dry: X Wet: Condition: Good Width: 36'

Weather: Sunny Temperature: 39 degrees F

East Bound, Time: 11:40 AM to 12:45 PM					mph	West Bound, Time: 11:40 AM to 12:45 PM				
Com. %	Cum. Total	No.	Vehicles			Passenger Cars	Commercial	No.	Cum. Total	Com. %
			Passenger Cars	Commercial						
					Over					
					50					
					49					
					48					
					47					
	106		1		46					
					45					
					44					
					43					
					42					
					41					
					40					
					39					
	105		1		38	1		102		
	104		2		37					
	102		6		36	1		101		
	96		2		35					
89	94		10		34	3		100		
79	84		7		33	1		97		
	77		5		32	10	1	96	94	
	71		11	1	31	4		85	83	
	59		12		30	8		81		
	47		13		29	9	1	73		
	34		13		28	17		63		
	21		12		27	15	1	46		
	9		6		26	12		30		
	3		3		25	11	1	18		
					24	3		6		
					23	3		3		
					22					
					21					
					20					
					19					
					18					
					17					
					16					
					15					
					14					
					13					
					12					
					Below					
			104	2	Totals	98	4			

Speed Check

Location: East South Boundary at Masonic Drive: Location #4

Date: 11/15/2012 Day: Thursday County: Wood

Observer: DAM

Type Pavement: Asphalt Dry: X Wet: Condition: Good Width: 36'

Weather: Cloudy Temperature: 35 degrees F

East Bound, Time: 9:30 AM to 11:00 AM					mph	West Bound, Time: 9:30 AM to 11:00 AM				
Com. %	Cum. Total	No.	Vehicles			Passenger Cars	Commercial	No.	Cum. Total	Com. %
			Passenger Cars	Commercial						
					Over					
					50					
					49					
					48					
					47	1		101		
					46					
					45					
					44	1		100		
					43					
					42	2		99		
					41					
					40	1		97		
					39					
	114		3		38					
	111		3		37	2		96		
	108		3		36	2		94		
	105		2		35	8		92	91	
90	103		9		34	6		84	83	
83	94		1		33	7		78		
82	93		4		32	11		71		
	89		11		31	9		60		
	78		9		30	5		51		
	69		12		29	7		46		
	57		13		28	17		39		
	44		12		27	8		22		
	32		7		26	3		14		
	25		6		25	3		11		
	19		8		24	3		8		
	11		6		23	2		5		
	5		3		22	3		3		
	2		1		21					
	1		1		20					
					19					
					18					
					17					
					16					
					15					
					14					
					13					
					12					
					Below					
			114	0	Totals	101	0			