

Attachment 2. Viewer Reaction Time

Members question the 40 sq feet limit for signage in general. Is there an industry standard from which this is derived? Or was this chosen as an arbitrary parameter?

The United States Sign Foundation (USSC Foundation) <https://usscfoundation.org/> is a non-profit organization founded in 1998 is an industry leader in performing on-premise, university level, sign research and publication of industry standards. The USSC states that factors that determine the size of a sign include speed limit, lanes of traffic, distance from curb, legibility, and number of letters on the sign.

One of the factors in calculating sign size is Viewer Reaction Time or VRT. Drivers need an adequate amount of time to comprehend, and safely act after reading a sign. Viewers traveling along Highway 191 are not looking at the sign from a fixed point directly in front of the sign. We calculated Viewer Reaction Time along Highway 191 in West Bluff.

In Bluff, the VRT is primarily driven by the 40 mph speed limit on Highway 191. **The 40 mph speed limit of Highway 191 is the overwhelming driving factor in determining an appropriate area for a sign.**

Drivers traveling at 40 mph are traveling at a speed of 59 ft/second. For a complex highway, which Highway 191 is with its speed limit, the VRT is about 10 seconds. Using this calculation, a driver would require approximately 590 feet to comprehend and act after seeing a sign on Highway 191. For example, in West Bluff, Cottonwood Addition, commercial lots are 30 feet wide. A block along Highway 191 has 12 lots which translates to 360 linear feet of frontage per block. Therefore, a driver would need to see a sign almost a block and a half in the distance to comprehend and safely perform an action.

Viewer Reaction Time			
Computation Relative to Primary Message			
Task	Driving Environment		
	Simple	Complex ¹	Multi Lane ²
Detection	0.5 Second	1 Second	1 Second
Message Scan	0.1 Sec / Letter 0.5 Sec / Symbol	0.1 Sec / Letter 0.5 Sec / Symbol	0.1 Sec / Letter 0.5 Sec / Symbol
Re-Orientation Scan	0.02 Sec / Letter 0.1 Sec / Symbol	0.04 Sec / Letter 0.2 Sec / Symbol	0.04 Sec / Letter 0.2 Sec / Symbol
Maneuver	4 Seconds	5 Seconds	6 Seconds

1. Developed town or city commercial areas. Single or multi-lane travel under 35 mph
 2. Developed urban/suburban commercial areas. Multi-lane travel over 35 mph

Road Conditions	Maneuver	
	Pre Sign	Post Sign
Simple	8 Sec.	4 Sec.
Complex	10 Sec.	5 Sec.
Multi Lane	11 Sec.	5 Sec.

Average
Viewer
Reaction
Time

Sources:

1. *USSC-Guideline-Standards-for-On-Premise-Signs-2018*. USSC Foundation. [Microsoft Word - USSC Sign Standards new Chapter 4 June 20 2014 Jan 26 2015 June 5 2015 \(usscfoundation.org\)](#) . Accessed January 30, 2024.
2. Record of Subdivision Plat/Bluff/Cottonwood Addition Subdivision, 1957. San Juan County. <https://sanjuancounty.org/subdivision> . Accessed January 30, 2024.