

WORK ZONE BULLETIN #12/2018

Digital Speed Limit Signs

****Digital Speed Limit signs are currently a trial device. Project Sponsors may choose to use this device on projects that meet the criteria below. Details outlined in this bulletin may be modified in the future based on the results of the trials.****

Summary

Construction activities on provincial highways pose a challenge to worker and motorist safety due to the high travelling speeds on the facility. Temporary speed reductions are considered warranted when the work activities create significant hazards in the roadway environment or put workers into high-risk situations. When neither condition exists, motorist compliance will be low unless there is extensive police enforcement. For this reason, it is critical to only maintain speed reductions during time periods and along roadway segments where the hazards and/or risks to workers exist.

Currently, contractors are required to cover or remove speed limit signs when the reduced speed limit is no longer warranted. This makes driver compliance more likely and allows the roadway to operate at a higher capacity. However, when a work zone sees frequent speed limit changes, covering or removing the signs may become an onerous task. In some cases, speed limit signs that are inappropriate for roadway conditions have been left up on provincial highways.

Digital Speed Limit signs use an electronic message board to display the regulatory speed limit within the work zone. The speed limits displayed on the board can be changed remotely when the work activity or work zone design changes. This is expected to result in several benefits:

- Increased flexibility in work zone speed limit changes
- Improved contractor compliance in displaying the appropriate speed limit
- Reduced worker exposure during work zone set-up and take-down
- Fewer public complaints about unsuitable speed limits

Digital Speed Limit signs should not be confused with Variable Speed Limit signs, which are an ITS application that is discussed in Work Zone Bulletin #11. Digital Speed Limit signs do not change the existing practice of setting work zone speed limits. They simply provide an alternative method of displaying these speed limits.

Key Changes

Type of Project

Digital Speed Limit signs should be considered for projects where the work zone will frequently warrant changes in the posted speed limits based on Section 9.1.3 in Alberta Transportation's *Traffic Accommodation in Work Zones*. Their use should be limited to stationary, long duration projects where the gazetted highway speed is 100 or 110 km/h. The project duration must be long enough to offset the greater expense and work required to set up the Digital Speed Limit signs. This is likely to be a project that is two months or greater. The Project Sponsor is responsible to determine whether a project would benefit from Digital Speed Limit signs.

Sign Standard and Placement

Digital Speed Limit signs shall resemble the static sign that they are replacing as shown in Drawing TCS-B-4.10. They are regulatory signs with digital and static components that have a black message on a white background. For two-lane highways, the sign is 750 mm by 900 mm, and for multi-lane highways, the sign is 900 mm by 1200 mm. All static sections of the sign shall have a retroreflectivity of ASTM Type III or Type IV. The digital component of the sign shall have sufficient brightness to be visible during hours of daylight and darkness. Digital Speed Limit signs must have the capability to be changed remotely.

When Digital Speed Limit signs are incorporated into a signage strategy, both "Maximum Speed (RB-1) signs and "Maximum Speed Ahead" (RB-5) signs shall be digital. This includes the signs used for the work zone speed zone and the transition speed zone. Placement of Digital Speed Limit signs shall follow the same scheme as their corresponding static sign.

Use

Prior to the start of a construction project, the Project Manager (usually, the consultant) shall fill out an "Order Fixing Maximum Speed Limits", indicating the expected speed limits that will be used in the construction project. The Project Manager shall also note that Digital Speed Limit signs are being used in place of static signs. Throughout the project, the contractor is responsible for maintaining a daily log of speed changes that includes the time, posted speed limit and physical locations of the signs. Record-keeping is critical for upholding speed enforcement as well as providing information if a collision occurs.

Effective Date

April 26, 2018

Contact

Elena Yin at (780) 415-4827

Operations, Programming and Planning Branch, Alberta Transportation

References

Work Zone Bulletin #11

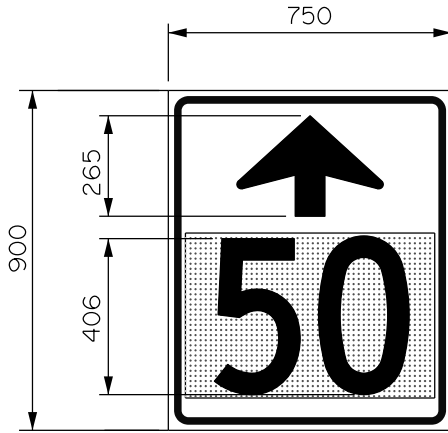
[Traffic Accommodation in Work Zones](#)

Approved

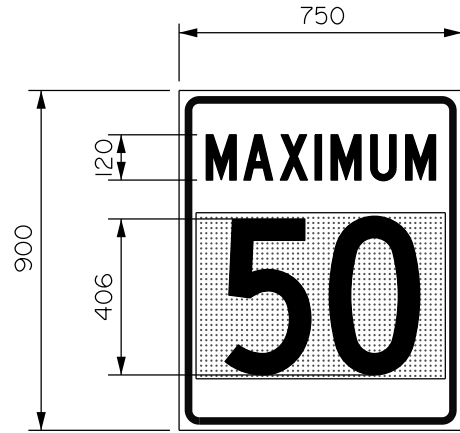
*Original signed
by Tom Loo*

Tom Loo
Assistant Deputy Minister, Delivery Services Division

TWO-LANE HIGHWAY

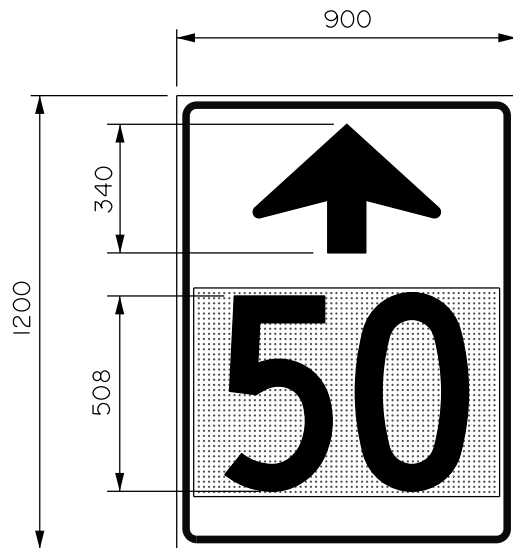


RB-5

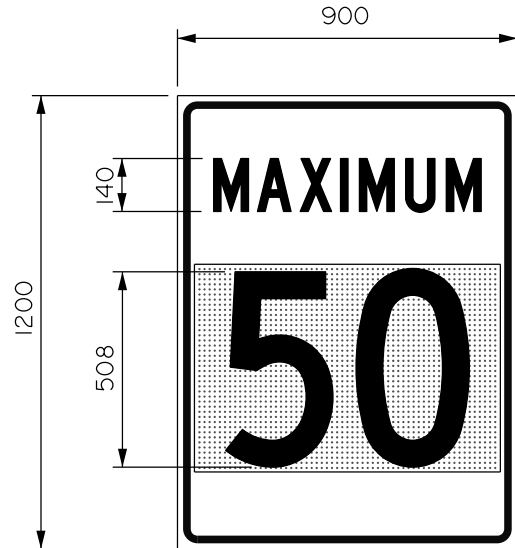


RB-1

MULTI-LANE HIGHWAY



RB-5



RB-1

LETTERING: SERIES C

BORDER: 20mm with 38mm corner radius.

MARGINS: 15mm

STATIC SIGN COLOUR:
Message-white, Border-black, Background-white

DIGITAL BOARD COLOUR:
Number-black, Background-white

STATIC SIGN FACE:
ASTM Type III or IV High intensity retro-reflective sheeting

Note: All dimensions are in mm unless otherwise specified.

No.	REVISIONS	BY	DATE
Approved:			
Assistant Deputy Minister, Delivery Services Division			
Date:	JULY 2017		
DIGITAL SPEED LIMITS			
Prepared By: S.L.	Checked By: N.C.	Scale: N.T.S.	Dwg No.: TCS-B-4.10