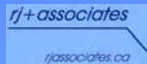


Signing Issues: Making Signs Work

Richard A. James, P. Eng., PTOE
Richard James & Associates, Victoria, B.C.

Ed Miska, P. Eng., PTOE
Chief Traffic, Electrical, Highway Safety and Geometric
Standards Engineer,
B.C. Ministry of Transportation, Victoria, B.C.



**CITE Annual Conference
Saskatoon, SK, June 2005**

Making Signs Work

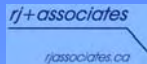
- Adherence to Standards
- Sign positioning
- Sign/legend sizing
- Lane Control versus Turn Control signs
- Route Finding signage
- Liability in signing



What are we doing?

- Use existing examples
- Future designs and upgrading
- Acknowledge changing standards & needs
- Use standards for uniformity

The use of these examples is for illustration only, we do not imply that these situations did not conform to standards when they were built.



Adherence to Standards

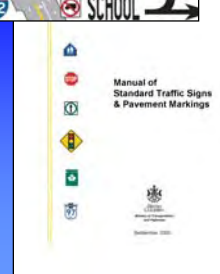
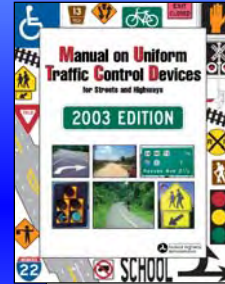
- Communicating critical information
- Be understandable, unambiguous and consistent



Adherence to Standards

by...

- Legislation (regulatory signs)
- Accepted "Best Practices"
- Manual of Uniform Traffic Control Devices
- Provincial/State additions
- Enforcement

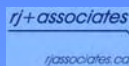


Standardisation

- Critical for Safety - BC Sign Manual....

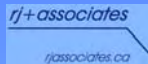
1.5 Standardization of Application

Similar situations must always be signed in the same manner in order to ensure correct driver response. Therefore, to maintain signing integrity, standards for the application of traffic signs must be upheld. Signs should be used only where they are warranted. Excessive use of signs detracts from their effectiveness



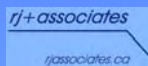
Standardisation

- Critical for Safety
 - Similar situations always the same
 - Ensures correct driver response
 - Common standards must be used
 - Signs used only where warranted
 - Excessive use detracts from their effectiveness



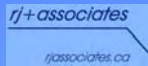
Issues

- Common signing issues include:
 - Inconsistency of application of standard regulatory and warning signs
 - Inconsistency of sign positioning
 - Incorrect sign design for the given driving environment



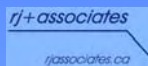
Sign Positioning

- Designed and placed to be clearly visible and legible,
- Read, and understood
- Acted upon safely
- Make and execute the maneuver in a timely and safe manner
- Under prevailing traffic and roadway conditions.



Positioning

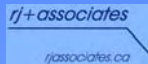
- Same Facility, same location
- Different standard
 - "Freeway"
 - "Expressway"
 - Both 80kph
 - Location



Sign Legend Sizing

“Rule of thumb”

- Time to read is 1 second per word
- 1.5 to 2.0 seconds per phrase.
- Distance of 50 ft (15 m) per inch (25 mm) of letter height.
- Aging driver population - 40 ft (12.1 m) per inch of letter height.



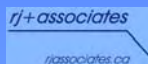
Sign Legend Sizing

▪ Basic Sizes

Freeways & Expressways

	Upper Case (mm)	Lower Case (mm)
Urban	450	360
Rural	350	280

- Clearview Font – 20% better legibility
- Too Small (80kph Expressway)
- Also inside curve in cut



Sign Legend Sizing

- Graphic Signs
 - Too small
 - Non-standard application

- Text Signs
 - Too Small
 - Too Much
 - Too Close



Lane Control vs Turn Control

- Turn Control
 - Mandate or prohibit the movement(s) of **all traffic on an approach**
- Lane Use
 - Use of a **specific lane** on an approach

- Lane Use vs Turn Control
 - **MUST** follow the Regulations
 - Are not interchangeable
 - Mix with extreme care



Lane Control vs Turn Control

- Correct – LT Ban
- Wrong
 - Prohibit + Permit
 - Permit



rj+ associates
rjassociates.ca



Lane Control vs Turn Control

- Wrong
 - Permit
- Correct
 - Lane Control

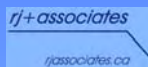


rj+ associates
rjassociates.ca



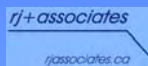
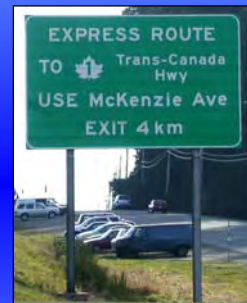
Route Finding signage

- Three categories
 - Direction, in advance of decision points
 - Exit marker and confirmation signs
 - Map style information signs



Route Finding signage

- Good
 - Legible
 - In advance
 - Correct scale for facility
- Legible
- Route markers
- Confirmation



Route Finding signage

- Bad
 - Too Small (80kph facility)
 - Too close
 - Can not see from left lane
- Not visible to drivers
- OK for high pedestrian areas
 - But need signs for drivers

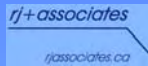


Liability in signing

- Causes of liability exposure include
 - Regulations/Standards not being followed
 - Get used to doing “the wrong thing”
 - Where they are used correctly, ... ignored because drivers have become used to the wrong application of the signs

Liability in signing

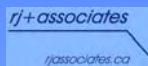
- Solutions include
 - Correct message that is consistent and unambiguous
 - Conform to Regulations and Standards
 - Use Warrants where appropriate
 - Avoid “Special Cases”
 - Document it....



Summary

In three words, the key attributes might be:

- Standards
 - Reinforce consistency
- Visibility
 - Drivers cannot receive the message if they cannot see the sign
- Legibility
 - Allow drivers enough time to read the sign at the prevailing speed



Summary

- A facility-wide view
 - Upgrade projects
 - Adjacent sections need to be reviewed
 - Ensure the overall standard is consistent
- Even if the law is followed
 - Situations can occur where operational problems arise if the application is not appropriate to the actual conditions

