DISTRICT OF UCLUELET

REGULAR MEETING OF COUNCIL
George Fraser Community Room, Ucluelet Community Centre,
500 Matterson Drive, Ucluelet, and
Electronically via Zoom (Ucluelet.ca/CouncilMeetings)
Tuesday, September 3, 2024 @ 4:00 PM

LATE AGENDA

Sept 1, 2024
To the Mayor and Council,

I am re-writing to express my strong opposition to the zoning amendment application (Application Number Rz22.04) for 1061 Helen Road within the protected Hyphocus Island area. It is concerning that this proposal, previously rejected, has resurfaced. In the last meeting, it was made clear that this involves not just a re-zoning but also an amendment to the Official Community Plan (OCP).

The OCP is meant to serve our community's best interests, not to be altered at the whim of developers seeking to maximize profit. It is a guiding document that reflects our collective vision and values and should not be compromised for proposals that contradict its core principles.

As a concerned resident, I urge the municipality to consider alternatives that balance affordable housing needs with environmental protection. The proposed six 2,150-square-foot homes, totaling nearly 13,000 square feet, are excessive for the available buildable land. This approach, involving extensive clearing and conflicting with the environmental development plan for Hyphocus Island (Area No.4), is unsuitable.

Any development must carefully consider environmental sustainability and adhere to the OCP.

Key Concerns:

Unsustainable Density:

This proposal by Haode Investment Firm seeks to maximize profit on a non-multifamily zoned lot by avoiding higher-priced, appropriately zoned lots in town. Their proposal disregards Hyphocus Island's Official Community Plan. The firm initially proposed 11 units, then adjusted to 6, reflecting their profit-driven motives. This lot does not meet the criteria typically associated with higher-density developments that prioritize locations within or near town centers, which generally have higher walk scores. This raises concerns about the development's alignment with local planning and community infrastructure. A more respectful approach would be reducing this density to better align with other lots throughout the island.

Irreversible Loss of Green Space & Wildlife Corridors:
As per the application, the highlighted area of development would result in a significant loss of green space, contrary to the measures put in place to protect Hyphocus Island in the Ucluelet Official Community Plan and ecological guidelines. The aim to maximize profit without consideration of ecological impact could have irreversible consequences for surrounding wildlife.

Pedestrian Safety Risk:
The proposed development poses a significant safety risk, particularly for families with children on Helen Road, which lacks proper infrastructure for pedestrians. Helen Road is one of the narrowest roads in Ucluelet, and the absence of pedestrian walkways or sufficient space for 2 cars at a time in an area leading back toward schools and amenities increases the risk of accidents. The safety of our neighboring residents should be a top priority

when considering densification. This concern echoes what other neighbors, such as Patricia and Carl Seiber and Silvia Johansson, expressed in their letter to the municipality on June 17, 2024.

Inappropriate Location for Increased Density:

It is important to note that the BC NDP has mandated higher density in areas that are walkable and have easy access to amenities. However, Hyphocus Island is not a suitable location for such density increases, as it is an island with space for only one vehicle to travel to and from, with no pedestrian access. The proposed increase in traffic does not align with the province's intent for densification, which aims to promote walkable communities. The isolated nature of Hyphocus Island makes this development impractical and contrary to the broader objectives of sustainable urban planning.

Conclusion:

We strongly urge the rejection of the proposed zoning and the amendment to the OCP.

Let's prioritize thoughtful planning and community engagement to protect Hyphocus Island's natural beauty and ecological qualities. As stated in the OCP, efforts must be made to preserve and enhance the natural state of Hyphocus Island.

Sincerely,

Spencer O'Brien
796 Marine Drive

September 1st, 2024.

Dear Mayor and Council:

Thank you for the opportunity to once again give input on the proposed land-use change for 1061 Helen Road. We were very pleased that you listened to our concerns, as well as the concerns of many others, in June of 2024, and denied the rezoning. We are disappointed that you are now reconsidering.

Our concerns remain the same.

We still believe that Haode Investments' plan to put six residential dwelling units there is excessive. Helen Road at this end of town is narrow, runs through an existing residential neighbourhood, and is a dead-end road across a causeway. Increased traffic is a major concern.

There are other areas in Ucluelet more suited for development, such as the much more easily accessible site at Minato Road.

There is no assurance that the proposed land-use change on Helen Road will actually provide affordable housing.

We are very concerned that by agreeing to this zoning change, the District would be setting a precedent, leading to overdevelopment of this small island with only one route in and out.

Regarding the "bigger picture" Ucluelet has some major issues right now, including sewer infrastructure at capacity, a loss of medical care as doctors leave, and a loss of grocery stores (we once had three corner stores as well as the Co-op, and are now down to just the Co-op.) We hope Council will take the time to really consider proposed developments as to how they will affect present residents, and how they will actually benefit the community.

We regret being unavailable to attend the meeting, and hope for your continued consideration of the concerns from the residents of this neighbourhood.

Sincerely,

Shirley and Keith Martin, 1147 Helen Rd.

From: bridget reichert
To: Community Input Mailbox
Subject: Hyphocus Island
Date: September 1, 2024 7:23:26 PM

[External]

Dear Mayor and Council Members,

I am writing to voice my strong objection to the zoning amendment application (Rz22.04) concerning 1061 Helen Road, located within the protected Hyphocus Island area. It's alarming to see this proposal, which was previously turned down, making a return. During the last discussion, it became apparent that this isn't just a simple re-zoning issue but also involves altering the Official Community Plan (OCP).

The OCP is supposed to reflect the collective vision of our community and safeguard our shared values. It should not be easily changed to accommodate developers driven by profit. The document serves as a critical guide for ensuring that any developments align with our community's long-term interests.

As a resident deeply concerned about the future of our community, I implore the municipality to explore solutions that address housing affordability without compromising the environment. The plan to build six 2,150-square-foot homes, totaling nearly 13,000 square feet, is excessive given the limited buildable land. This approach, which would require significant clearing and conflicts with the environmental development plan for Hyphocus Island (Area No. 4), is simply not appropriate.

Any development must prioritize environmental sustainability and adhere to the guidelines established in the OCP.

Main Concerns:

- **Excessive Density:**
  Haode Investment Firm’s proposal seems more focused on maximizing profit than on respecting the zoning laws and the community plan for Hyphocus Island. Initially, they suggested 11 units, later reducing it to 6, which still seems to prioritize profit over the community’s well-being. This lot is not suited for the level of density being proposed, especially when considering the lack of proximity to town centers or areas with high walkability scores. A more appropriate solution would involve reducing the density to match the character of the surrounding properties.

- **Environmental Impact:**
  The proposed development would lead to a significant reduction in green space, which contradicts the protections outlined in the Ucluelet Official Community Plan and the ecological guidelines for Hyphocus Island. The push for profit without proper consideration for the environment could have irreversible effects on local wildlife and ecosystems.

- **Safety Issues for Pedestrians:**
  The development also raises serious safety concerns, particularly for pedestrians on Helen Road. This road is one of the narrowest in Ucluelet and lacks proper

infrastructure for pedestrians, making it risky for families, especially those with children. The absence of sidewalks and the limited space for vehicles to pass increases the likelihood of accidents. The safety of local residents should be a paramount concern when considering any increase in density.

- **Location Unsuitable for High Density:**
  While there is a provincial push for higher density in walkable areas with easy access to amenities, Hyphocus Island does not meet these criteria. The island's infrastructure supports only one vehicle at a time, and there is no pedestrian access. Increasing traffic on the island would go against the province's intentions for densification, which aim to foster walkable, accessible communities. The isolated nature of Hyphocus Island makes this development impractical and out of step with sustainable urban planning goals.

In Summary:
I strongly urge the Council to reject the proposed zoning change and amendment to the OCP. It's crucial that we focus on thoughtful, community-centered planning that protects the natural beauty and ecological significance of Hyphocus Island. As outlined in the OCP, our priority should be to preserve and enhance the island's natural environment.

Sincerely,

Bridget Reichert Kelly

From: Adrian Marcoux
To: Community Input Mailbox
Subject: Opposition letter for 1061 Helen Rd
Date: September 1, 2024 3:38:10 PM

[External]
Sept 1, 2024
To the Mayor and Council,

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The OCP is meant to serve our community's best interests, not to be altered at the whim of developers seeking to maximize profit. It is a guiding document that reflects our collective vision and values and should not be compromised for proposals that contradict its core principles.

As a concerned resident, I urge the municipality to consider alternatives that balance affordable housing needs with environmental protection. The proposed six 2,150-square-foot homes, totaling nearly 13,000 square feet, are excessive for the available buildable land. This approach, involving extensive clearing and conflicting with the environmental development plan for Hyphocus Island (Area No.4), is unsuitable.

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Key Concerns:

Unsustainable Density:

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Inappropriate Location for Increased Density:
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Conclusion:
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Let's prioritize thoughtful planning and community engagement to protect Hyphocus Island's natural beauty and ecological qualities. As stated in the OCP, efforts must be made to preserve and enhance the natural state of HyphocusIsland.
Sincerely,

Adrian Marcoux

ADRIAN MARCOUX PHOTOGRAPHY
[redacted]

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Sincerely,

Leanne Pelosi
1055 Helen Rd

From: Jenn Yakimishyn
To: Community Input Mailbox
Subject: Letter concerning September 3- meeting to discuss amendment to zoning 1061 Helen Road
Date: September 2, 2024 11:34:44 AM

[External]

To Mayor and Council, District of Ucluelet

Regarding second request for zoning bylaw amendment for 1061 Helen Road

As residents of Ucluelet, we are concerned with the request to rezone the lot on 1061 Helen from a single to multi-family dwelling. The District of Ucluelet official community plan was put in place to ensure healthy and sustainable growth of the community and this request goes against the vision. The current infrastructure., including sewer, water and roads barely supports the town and current development, and increasing the density of housing in the area would only put additional stress on this infrastructure.

In addition, the foreign developers Haode Investments Ltd is an international company, with little vested interest in the long-term community vision of Ucluelet. The investors purchased the property knowledgeable of the zoning and should work within the official community as all other Ucluelet residents. I am supportive of continuing to build our community, but it must be done sustainably and ensure local infrastructure and community vision are supported. The request to increase the density on 1061 Helen Road does not support this vision and continues to open the door to investors interested in profit over sustainable community development.

Thank you for your consideration,

Jennifer Yakimishyn and Darren Salisbury

1141 Helen Road

Tracy Eeftink
1091 Helen Road
Ucluelet, BC
V0R 3A0

To: Mayor and Council, and the District of Ucluelet

Re: Application number RZ22.04
1061 Helen Road, Ucluelet, BC
Lot B, DL 543 Native Island, Clayoquot District, Plan VIP78185

I appreciate the opportunity to speak against the development proposal from Single Family Residential to Multi Family Residential.

I am a homeowner at 1091 Helen Road, and this development will affect my interests as a resident living near to the subject property.

*Helen road is too narrow in some places, and already has traffic flow interruptions, so increasing the density of this property from single family to multi family would be a significant inconvenience to all residents on this street.

*Making this change to a higher density zoning will negatively impact our neighbourhood for the enjoyment of the existing residents. Low-income housing would be more suited for areas with proximity to services, shopping, schools and playgrounds.

There are other areas in Ucluelet where higher density, and low-income housing would be more suitable. The applicant for this rezoning made the choice to purchase a single-family residential lot, possibly with the intention of applying for rezoning. The District of Ucluelet staff should be encouraged to work with these developers to steer them to areas more suitable for their investments.

Changing the community plan and the zoning at this address will send a message to investors that Ucluelet is a place that they can manipulate for their own interests. Mayor, and Council, please vote against this rezoning application.

Thank you for the opportunity to give my input.

All the best,

Tracy Eeftink

POLICY OPTIONS POLITIQUES

ECONOMY | ENVIRONMENT

Cities can speed up climate action by slowing down traffic

Reducing the limit to 30 km/h on more roads is the most obvious way cities can get serious about decarbonizing their transportation infrastructure.

by Jörg Broschek

January 8, 2024

(Version française disponible ici)

What if there was a way cities and towns across Canada could instantly reduce greenhouse gas emissions, improve mobility, cut the number of stop signs dotting our streets while improving safety?

In fact, there is: the 30 km/h speed limit.

Most just choose not to use it, despite the fact Canadian municipalities aspire to be part of the solution to the biggest collective-action problem in human history:

“They can lead the way,” according to the Federation of Canadian Municipalities (FCM), “to achieving Canada’s climate change and sustainability targets.”

Municipalities can directly and indirectly shape around 50 per cent of Canada’s total greenhouse gas (GHG) emissions. Yet, in most cities transportation remains the largest or second largest emitting sector, driven primarily by personal-vehicle traffic.

Local policymakers face a significant challenge. The sheer scale of urban-transportation infrastructure represents what economists and political scientists call path dependence. From roadway expansion to urban sprawl, past decisions constrain contemporary choices because they reinforce mobility patterns that encourage car usage as the default mode of transportation.

Many Canadian municipalities have increased investment in public transit and complementary infrastructure to promote active transportation such as separate bike lanes or complete streets made for safe mobility for all users.

However, this approach alone is not sufficient to escape from the high-carbon mobility trap. What is needed is a paradigmatic policy shift that not only incentivizes walking and cycling, but also disincentivizes personal-vehicle traffic through robust traffic calming.

A look across the Atlantic demonstrates that municipalities have options. By the 1970s, European cities had begun to gradually pedestrianize their inner cores. In the 1980s and 1990s, they started to introduce speed limits of 30 km/h on certain residential roads along with so-called “play streets” that

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> **Driving momentum for sustainable transportation**
>
> **Moving Canadian municipalities to the forefront of decarbonization**
>
> **Shaping the future of Canadian industry with zero-emission vehicles**
>
> **What – and who – is a city for?**
>
> **More innovative transit, mixed-use development and cities' essential workers**

Since the Paris Agreement in 2015, these efforts have ramped up. In 2022, in car-centric Germany, an alliance of 263 municipalities asked the federal government for full legal authority to expand existing 30 km/h zones wherever they deem necessary.

To be sure, 30 km/h zones won't solve the problem all by themselves. But they are an important tool as part of a more equitable and sustainable local transportation infrastructure. The German Environment Agency, the Canadian Association of Road Safety Professionals and the World Health Organization all urge local governments to follow the lead of cities such as Brussels, Lille or Grenoble and roll out 30 km/h limits across-the-board.

The reason is an abundance of empirical evidence suggesting that 30 km/h is a critical threshold that makes a difference by reinforcing infrastructure equity and sustainability. A lower limit significantly enhances road safety, reduces GHG emissions and eases traffic flows.

In zones of 30 km/h, many four-way stops can be done away with in residential neighbourhoods. Four-way stops are terrible for managing traffic. They also lead to higher vehicle emissions and fuel costs. In place of four-way stops, other cities safely use the rule of "priority to the right" in low-speed zones. One road is given the right of way by default, and approaching vehicles yield as they enter.

But unlike their European counterparts, the vast majority of Canadian municipalities have shied away from adopting policy instruments that local leadership believes would add restrictions for drivers.

Montreal and Banff are noticeable exceptions. For example, Montreal was among the first Canadian municipalities to experiment with 30 km/h speed limits in 2014. Banff demonstrated leadership by introducing 30 km/h as the default in 2022.

On the flipside, in Ontario's Waterloo Region, one of the fastest-growing metropolitan areas in Canada, we get a glimpse into the dynamics behind mediocre efforts to decarbonize local transportation systems.

There, two orders of government share the responsibility for transport infrastructure: three city councils (Cambridge, Kitchener and Waterloo) and the regional council regulate different roadways.

In February 2023, Waterloo city council revoked an earlier decision to introduce 30 km/h on most residential roads, opting instead to apply the reduced speed limit downtown only.

The City of Kitchener did not even consider 30 km/h for its Vision Zero strategy, instead going with 40 km/h in residential neighbourhoods. According to the city's own pilot project, the average speed reduction was a meagre three km/h. Yet for the mayor this step "sets an ambitious goal."

POLICY OPTIONS POLITIQUES

subject to different speed limits. For example, if an adjacent road belongs to the region, it is 40 km/h. If it belongs to the City of Waterloo or Kitchener, it is 30 km/h.

On Dec. 11, 2023, Kitchener's city council decided to further increase inconsistency with a measure whereby only streets without automated speed-enforcement cameras will keep the 30km/h limit.

The same councillor who introduced a motion recognizing a climate emergency in 2019 spearheaded the opposition against robust speed limits in 2023, arguing it is too challenging to get compliance. In the Dec. 11 council meeting, he talked about how speed-camera enforcement is considered punitive.

In Waterloo Region and elsewhere, entrenched interests of drivers are amplified in public debates while those of vulnerable demographics and future generations who would benefit most from change barely resonate. Significant change will remain elusive as long as municipal policymakers fear backlash caused by presenting drivers with a perceived inconvenience.

Effective policy can alter public opinion. When the Austrian city of Graz enacted a speed limit of 30 km/h on all its residential roads, approval rates increased from 44 per cent shortly before it was introduced to 77 per cent two years later. Berlin had success with a 30 km/h project in 2017, and elsewhere in Europe, similar experiments have been a success story.

Canadians are among the highest GHG emitters per capita worldwide. As we learned from the commissioner of the environment and sustainable development in early November, Canada is poised to miss its 2030 emission target. This is not only a federal problem. Local governments bear as much responsibility as the provinces or Ottawa.

Cities can make a difference with modern approaches like lower speed limits. They have little or no downside and are a win-win for safety and the environment.

Do you have something to say about the article you just read? Be part of the Policy Options discussion, and send in your own submission, or a letter to the editor.

Jörg Broschek

Jörg Broschek is a professor of political science and Laurier research chair at Wilfrid Laurier University. X: @Jorg_Broschek

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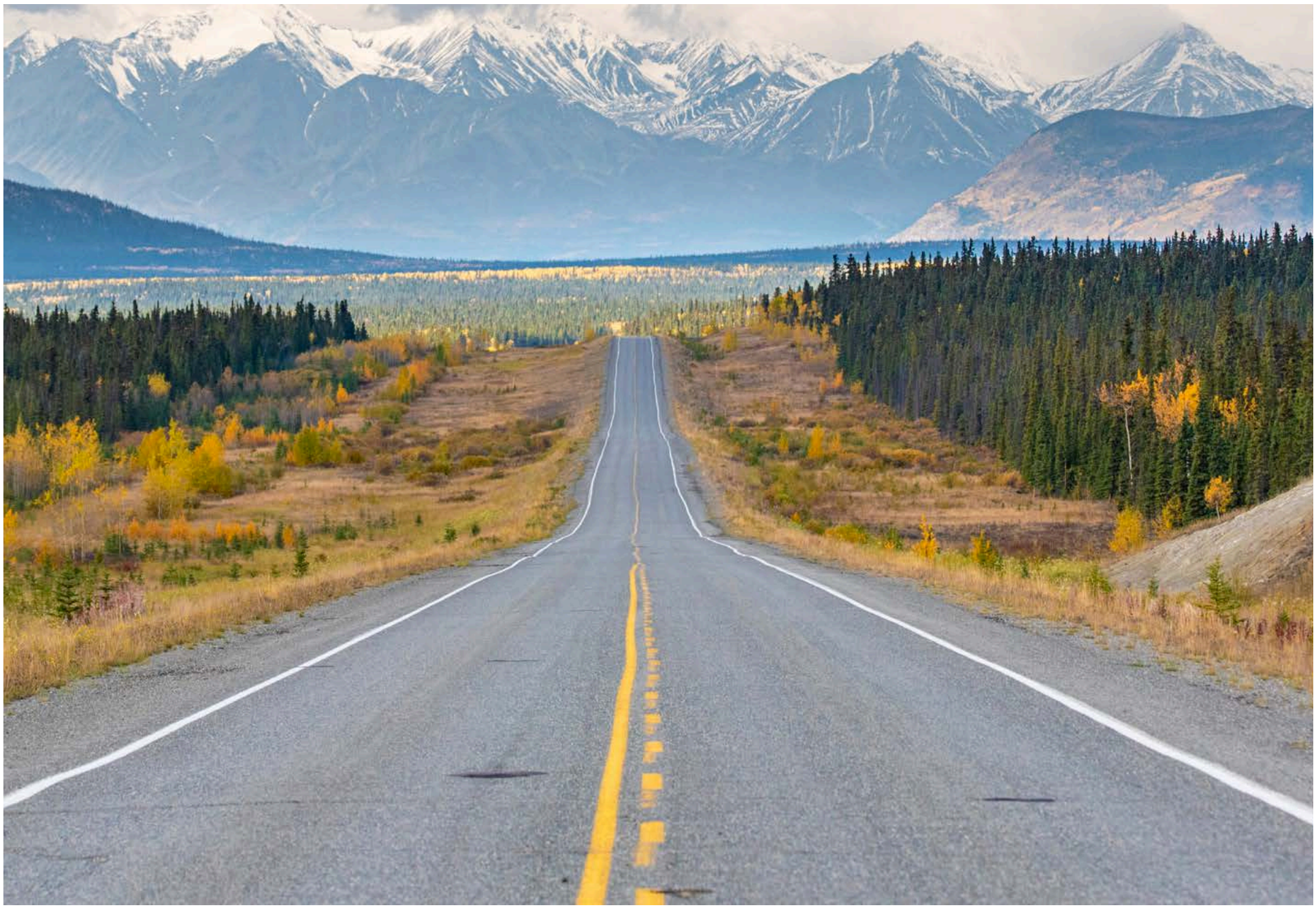

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Published by

POLICY OPTIONS POLITIQUES

John Staddon, Ph.D.
Adaptive Behavior

ATTENTION

Death by Stop Sign

Why US traffic signs are killing thousands

Posted May 4, 2016

A **recent article** in *The Economist* reminds us that American traffic-control arrangements are among the worst in the world. The data are shocking and the reasons **have been obvious for some time**.

In 2013, France, Australia, Spain, Britain, and Germany suffered between 2.9 (Britain) and 5.4 (Australia) road fatalities per 100,000 inhabitants. The United States suffered 10.6 deaths per 100,000 inhabitants, a rate twice as high as the worst of these developed nations. But we drive more than the Brits, don't we? No matter. British fatalities per billion vehicle/kilometers over the same period are 3.6 vs. 7.1 for the U.S. Per capita or per mile driven, U.S. traffic death figures are the worst among developed countries.

The differences between Britain and the U.S. are not small. The U.S. suffers from about *23,000* avoidable traffic deaths

insignificant. Deaths resulting from terrorist activities in our worst recent year totaled just over 3,000.

What is the reason for the enormous disparity between U.S. traffic deaths and deaths in, say, Britain? The answer is that U.S. signs, signals, and road design ignore psychology. Traffic signs in the U.S. always *control* rather than *inform*. They tell you what you must do, rather than giving the information you need to make intelligent decisions. In the process, traffic signs distract drivers by directing attention away from the road. So accidents happen—many more than if driver's attention were undivided.

Look at the familiar stop sign. It does two bad things: First, it makes you look at the stop sign rather than the traffic—it *distracts*. Second, it doesn't tell you what you need to know. It tells you to stop even when you can see perfectly well that there is no cross traffic. It shouts "don't trust your *own judgment*!"

Source: JS image

and distracting signs directly under them. Why are these necessary? Obviously people have come to ignore stop signs because they so often conflict with traffic realities. Stop signs often tell you to stop when it's clearly safe to proceed. The added words puzzle and distract. Why the extra sign? Just what does it mean? All of this reasoning consumes time and attention.

The third sign, the double one, again shows that people ignore stop signs. The local Department of Transportation evidently decided that a REALLY BIG sign, even one with an outline different from the one people are used to (hence recognized more slowly), might actually get people to obey. But if "stop" really meant stop, none of this would be necessary.

The double stop sign is a on a four-way stop, the ultimate in stop sign idiocy—because what on earth is the point of halting traffic from all directions? We know that stopping and starting are a major contributor to pollution. Engines are least efficient when starting from an idle. And time is wasted. No other country I know of has four-way stops. They should be abolished, along with most other stop signs.

judgement. What the sign should do is inform, it should tell you which road, yours or the cross-street you are approaching, and which one has the right of way. That is what you need to know—you don't need to be told to stop even when the road is completely clear. The elaborate and confusing signs in the picture above could all be replaced with a *yield* sign, which tells you what you need to know: Whether to continue or first look for cross traffic.

Source: JS image

The picture above shows how drivers are informed rather than bullied in Britain, which has the lowest traffic-death rate and *almost no stop signs.* The picture shows a one-way street in York, a small town in the north of England. In the U.S., a street like this would have a stop sign at the T-junction with the cross street. Instead, there's a double dashed line across the street. That's the British version of a yield sign. It

of the driver, just where he or she should be looking, not off to one side, acting as a distraction.

ATTENTION ESSENTIAL READS

The Secret Power of Mind-Wandering

What Animal Tracking Can Teach You About Self-Awareness

Almost all U.S. stop signs should be replaced by yield signs (or roundabouts—more about those another time). This would save time and lives, reduce pollution, and cause fewer drivers to break the law. Impoverished precincts might also be less tempted to use safe but illegal behavior as a means of rev-enue enhancement.

Stop signs are but one of many problems with U.S. traffic con-trol. I'll have more to say about the other problems in later posts.

About the Author

John Staddon, Ph.D., is James B. Duke Professor of Psychology, and Professor of Biology and Neurobiology, Emeritus at Duke University.

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Research finds that feeling ignored can affect people's sensory perceptions, such as feeling that surroundings seem quieter

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Asking "What's the point?" often can be a sign that someone is not fully engaged in their life on an emotional level.

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Hampstead crash: Stop signs cause more harm than good, some experts say

Drivers have a complex relationship with the ubiquitous STOP sign and there is a growing movement, in fact, to do away with stop signs altogether

Kathryn Blaze Carlson

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The red octagonal sign is among the most recognizable features of a car-centred society, but drivers have a complex relationship with the ubiquitous STOP sign, one rooted in human nature and behavioural psychology.

There is a growing movement, in fact, to do away with stop signs altogether.

We do not yet know why David Armando Blancas-Hernandez on Monday drove his van carrying 10 passengers through a stop sign, smashing into a straight truck and killing 11 people, including himself. But Ontario Provincial Police officers on Wednesday confirmed the 45-year-old farm worker from Peru failed to stop at the red sign on a hay-barrel lined road in Hampstead, Ont.

STORY CONTINUES BELOW

"This crash did not have to happen," Chief Supt. John Cain said at a press conference. "As we've seen tragically in this case, failure to follow the rules of the road can have an egregious and regrettable impact on lives."

[np-related]

Police would not say whether Mr. Blancas-Hernandez, who did not have the required license to drive such a large van, was speeding, distracted, blinded by the sun or perhaps fatigued. The probe is still in its "infancy," one OPP officer said, but Monday's disaster serves to highlight the dynamic between a driver and a sign that has grown increasingly prevalent on North American roads.

Ever since modern traffic signage was introduced in the early 1900s, governments have mounted stop signs to regulate traffic flow. But back then, little was known of behavioural psychology, said U.K. traffic consultant Ben Hamilton-Baillie, and today researchers know people's personalities, circumstances, and risk tolerances affect their driving decisions as much, if not more, than any sign ever could.

"As a whole, signs are not particularly powerful determinants of behaviour," said Mr. Hamilton-Baillie. "I've never seen anyone light up a cigarette in a church, but I've also never seen a sign that says 'no smoking.' There's a powerful, socially determined cue going on there."

Mr. Hamilton-Baillie is among a growing chorus challenging traditional traffic engineering and calling for the demise of the stop sign in favour of roundabouts. This camp argues that stop signs can cause more harm than good, and that the way a road is built determines driver behaviour far more than any signs staked beside it.

One engineer, Thomas Szirtes, a few years ago called on Toronto City Council to get rid of most of its stop signs. He said the red signs are more political statement than safety mechanism — a visual cue meant to reassure citizens that their loved ones are protected.

Richard Retting, a longtime traffic engineer and former safety director at the City of New York Department of Transportation, said he, too, favours roundabouts over stop signs, mostly because the latter simply go against a driver's grain.

"Drivers like to be mobile, and stop signs are the opposite of mobile," said Mr. Retting, vice president of Sam Schwartz Engineering in Washington, D.C. "Aside from voluntarily complying with an octagonally shaped sign that says 'Stop,' a body in motion tends to stay in motion, so it's not surprising that some drivers simply won't fully stop. That's to be expected, given the human element — we're asking drivers to do something different than they're otherwise doing."

In his own 2002 study on car crashes at stop signs, Mr. Retting said there are roughly 700,000 police-reported crashes at stop signs in the U.S. each year. Although police have not yet said whether Mr. Blancas-Hernandez slowed down at the Hamstead intersection, Mr. Retting said most deadly crashes at stop signs happen when a driver fails to brake at all.

Myriad studies have investigated the usefulness of the stop sign and its relationship with human nature. One 1977 study of Nigerian drivers found private car drivers were more likely to stop at a stop sign than commercial drivers. A 1986 study found drivers stop when another vehicle is in sight.

The social factor was perhaps best highlighted by a 2005 study in the Journal of Applied Behavioural Analysis, which found drivers were far more likely to stop if a volunteer stood beside a stop sign holding a poster that read “Please Stop — I Care.”

Mr. Hamilton-Baillie said whether a person stops at a stop sign might depend on their risk-tolerance. He said a stop sign might even convince someone they do not need to think because the state has done the thinking for them.

Elma Schemenauer, the B.C.-based co-author of The Psychology of Driving: Responding to Road Rage, said whether a person stops might also depend on how often they frequent the intersection and whether they think they “know better” than a sign commissioned by some far-flung bureaucrat.

“Stop signs make some people mad because they don’t like being told what to do,” she said. “They see no one coming, and they feel like a fool stopping. They wonder why they should have to stop, and they take the law into their own hands.”

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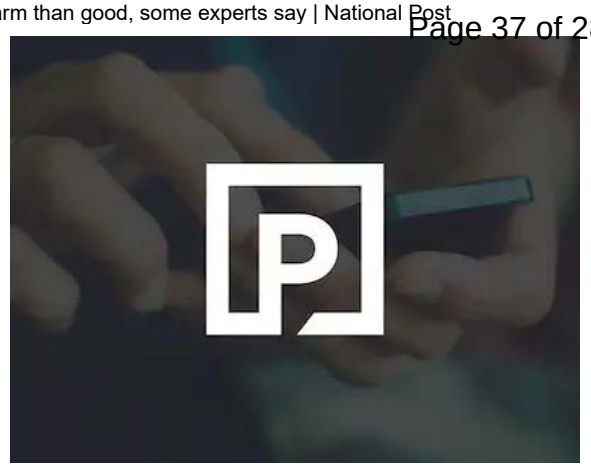

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Manual of Standard Traffic Signs & Pavement Markings

September 2000

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Continuing Record of Revisions Made to the Manual of Standard Traffic Signs

This sheet should be retained permanently in this page sequence within the manual.

All revised material should be inspected as soon as received and the relevant entries made in the spaces provided below.

No.	Date	Entered by	Date of Entry
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HOW TO USE THIS MANUAL

The Decimal Indexing System

This manual consists of two parts and numerous chapters and appendices. Each chapter is divided into sections and, where necessary, subsections. Sections and subsections are identified by a decimal numbering system; for example, the notation 1.6.2 refers to Chapter 1, Section 6, Subsection 2. These numbers should not be confused with the Sign Numbers which are used to identify individual signs, for example, when ordering.

As individual pages throughout the manual are not numbered, the location of any subject within the text depends on the decimal indexing system, and the numerical progression through each chapter.

Revisions and Additions

It may be necessary to add new sections and subsections or to revise some of the existing ones. By using a decimal indexing system and excluding page numbers, it will be possible to insert additional material and still maintain numerical continuity.

Each page has a publication date at the bottom corner. Subsequent updates will have the new revision date in the same location.

Language:

Different words are used throughout the manual to emphasize the degree to which a policy, warrant or criteria requires adherence too. The following defines the intent of the commonly used word:

SHALL: Describes a mandatory condition - it must be done regardless of consequence or price.

SHOULD: Describes an advisory condition - it is desirable to do but not necessarily mandatory.

MAY: Describes a permissive condition - it is optional to do but in no way necessary

Abbreviations

The following abbreviations have been used in the text.

Reference Letters for Functional Groups of Signs:

C = Construction and Maintenance	G = Guide
I = Information	P = Parking & Stopping
R = Regulatory	SP = School & Pedestrian
TW = Temporary Warning	W = Warning

Note: Construction & Maintenance signs (C) and Temporary Warning signs (TW) are detailed in the "Traffic Control Manual for Work on Roadways."

Sign Shapes:

Diam. = Diamond	Oct. = Octagon	Pent. = Pentagon
Rect. = Rectangle	Sq. = Square	Trap. = Trapezoid
Tri. = Triangle		

Sign Colours:

B = Black	Bl. = Blue	Br.= Brown	G = Green
Or.= Orange	R = Red	W = White	Y = Yellow

Metric Measurements:

cm = centimetre	km = kilometre
km/h = kilometre per hour	m = metre
t = tonne	kg = kilogram

Suffixes:

BUS	= Buses	CHIP	= Chip Trucks
FARM	= Farm Trucks	L	= Left
LOG	= Log Trucks	R	= Right
RV	= Recreational Vehicles	SP	= Special
T	= Tab	x	= Oversize
xx	= Oversize	xxx	= Oversize

The letters L and R identify left and right equivalents of the same sign.
The letter T denotes a tab which is generally used only with the sign having the same number less suffix.

Miscellaneous:

Bgd. = Background	Fl. = Fully	Mess. = Message
Refl. = Reflectorized	Sy. = Symbol	

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Guide Signs Continued...

Appendix

1.1 INTRODUCTION

This edition of the British Columbia Manual of Standard Traffic Signs & Pavement Markings replaces the Interim Edition dated May 1989 and is in effect October 1, 2000.

This edition now includes the Information Sign Chapter and the Pavement Marking Chapter.

This manual is in general conformance with the Manual of Uniform Traffic Control Devices for Canada. It also conforms with Motor Vehicle Act Regulations, Division 23, which specifies the designs for a number of the signs contained within this manual.

Standardization of design and application aids recognition and understanding of signs and is important in obtaining motorist compliance and cooperation. Motorists have a right to expect that any given traffic sign will always have the same meaning and will require the same response, regardless of where the sign is encountered. Similar situations where signs are warranted should, therefore, be signed in a similar manner.

When a traffic sign is correctly used, the majority of motorists will comply with the posted regulation or warning, and drive in a safe and orderly manner. Traffic signs are most likely to be ignored if insufficient thought and attention has been given to their application.

This manual cannot provide solutions for every signing problem. Professional judgment will often be required to resolve a situation, but the principles outlined in this manual must always be followed. Any operational problem addressed by signing should be regarded as a temporary solution, until a field study proves the solution is successful. Standardization is important and cannot be over-emphasized. Standard signs must be used wherever practical, and special signs used only when a suitable standard sign will not adequately address the situation.

Chapters 2 to 6 of The Manual of Standard Traffic Signs & Pavement Markings provides standards for design and use of traffic signs, but is not intended to override good engineering judgment; nor are the recommended standards intended to be a legal requirement. While the manual contains language such as “shall” there may be circumstances where strict compliance with such requirements is not reasonable and it will be necessary to deviate from the requirements.

1.2 AUTHORITY AND JURISDICTION

The authority for the placement of traffic signs and other traffic control devices on all streets and highways in British Columbia is contained in various Provincial acts and municipal by-laws.

Some legislation providing authorization for signs may be found in the Ministry of Transportation and Highways Act Sec 14, and the Motor Vehicle Act Sect 119, 135 (2), 146, 208, 209 and 214.

Jurisdiction for traffic control devices is as follows:

- Municipalities: All streets except arterials as defined in Section 27 of the Highway Act.

- Ministry of Transportation and Highways: All arterial highways and public highways in unorganized areas.

1.3 REQUIREMENTS OF SIGNS

Traffic signs are required in order to provide for the safe and orderly movement of motorized and non-motorized traffic and pedestrians. Signs provide information about highway routes, directions, destinations and points of interest. They also provide information on regulations which apply to specific locations or at specific times, and warn of hazards which may not be evident.

To be effective a sign should:

- Fulfill a need.

- Command attention and respect.

- Convey a clear and simple message.

- Allow adequate time for a proper response.

To meet these objectives, signs must have a carefully considered message, be of uniform design, and be applied and placed in a consistent manner. Contradictory or misleading information, incorrect placement or use of inappropriate standard signs can confuse the road user. It is also most important to recognize that improper or excessive use of signs leads to disrespect and non-compliance of the sign.

1.4 FUNCTIONAL GROUPS OF SIGNS

The *Manual of Uniform Traffic Control Devices for Canada* has five classifications of signs as indicated below. For the purpose of this manual, they have been divided into the following functional groups:

M.U.T.C.D. for Canada	***M.o.T.H.***
Regulatory	**Regulatory Signs:** Notify the motorist of traffic regulations that apply which would not otherwise be apparent. Disregard of these signs constitutes a legal offense.
	Parking & Stopping Signs: Control parking and stopping and is a sub-class of the regulatory signs.
Warning	**Warning Signs**: call attention to potentially hazardous or dangerous conditions on or adjacent to a highway or street.
Information	**Guide Signs:** Display route designations, destinations, direction and distances to assist motorists in navigating to their destination.
	Information Signs: Indicate points of interest and or display other geographical or cultural information.
School/Pedestrian	**School & Pedestrian Signs:** May be regulatory or warning and are used to help reduce conflicts between vehicular and pedestrian traffic.
Temporary Conditions	**Temporary Warning Signs*:** Used for temporary conditions, and are orange They generally have an equivalent with yellow background in the **Warning** group.
	Construction and Maintenance Signs*: Used during road maintenance or construction. and may be classified as Regulatory or Warning signs.

1.4 Cont'd

* Construction & Maintenance (C) signs and temporary warning (TW) signs are detailed in the *Traffic Control Manual for Work on Roadways*.

Included in the functional groups, there are a number of tabs which may be mounted above or below some primary signs. Tabs are not to be used alone. There are two types of tabs:

- A supplementary tab displaying information additional to the message conveyed by the primary sign.

- An educational tab indicates in text form the same message represented by a symbol on the primary sign. It may be used to convey the meaning of a symbol during a suitable "educational period," after which it can be removed.

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.

This manual sets guidelines for the application and use of various types of signs. It is not possible to give specific directions for all situations, and therefore proper signing depends on the experience and good judgment of those responsible for traffic control.

Before a new roadway or detour is opened to traffic, all necessary signs including directional signs and route markers must be in place. Guide signs directing traffic to a detour route should be removed as soon as the detour is removed.

Traffic signing should be reviewed frequently to ensure that it is effective, and that it accurately relates to a road's present condition. Signs which are no longer required must be removed.

1.6 STANDARDIZATION OF DESIGN

To simplify the driving task and optimize safety, signs must be recognized and understood at a glance. This requires simplicity and uniformity of design, and consistency of application and placement. Standardization of design includes colour, shape, relative dimensions, message, and illumination or reflectorization.

Standardization of design does not preclude further improvement by minor changes in the proportion of symbols, stroke width and height of letters, width of borders, or layout of word messages. However all shapes and colours must be as indicated, all symbols must be unmistakably similar to those shown, and all text must be as specified in this manual.

The sign illustrations in this manual are only representations of the true designs and should not be used as patterns for sign manufacture.

If a suitable "standard" sign is not available or is inappropriate for a specific traffic control situation, a "special application" sign should be approved by the **Senior Traffic Engineer**. Special application signs should conform as closely as possible to the standards defined in this manual.

1.6.1 SHAPE AND COLOUR

The shape and colour of a sign are important as they identify the functional group to which the sign belongs. Sign colours are indicated under each sign diagram. See “How to Use This Manual” for the abbreviations.

Standard sign colours and acceptable tolerances should conform to Canadian Government Standards Board (CGSB) Standard 62-GP-11M.

The colour of special signs not covered specifically in this manual is governed by the colour assigned to standard signs of the same functional group.

The shape and colour of the different sign groups are as follows:

- **Construction & Maintenance Signs** generally conform to the standards for regulatory & warning signs except that the warning signs have an orange rather than a yellow background.

- **Regulatory Signs** are generally vertical rectangles or squares with black messages on a white background or the reverse. Some signs also incorporate red or green. The major exceptions to this standard are the STOP and YIELD signs which have unique shapes and colours.

- **Parking and Stopping Signs** are vertical rectangles with black and red or green messages on white backgrounds.

- **Warning Signs** are generally diamond shaped with black messages on a yellow background.

- **Guide Signs** are generally a horizontal rectangle with a white message on a green background.

- **Informational Signs** are generally horizontal rectangles or squares using white, combined with green, black and blue.

- **School and Pedestrian Signs** conform to the shape and colour standards of regulatory and warning signs except for the SCHOOL WARNING sign.

- **Temporary Warning Signs** are generally the same a standard warning signs except the have an orange background.

In general, tabs are square or horizontal rectangles. Colours are governed by the colour allotted to the functional group to which they belong.

1.6.1.1 SUBSTRATE

Signs shall be mounted on sheet aluminum, plywood or extruded aluminum substrate.

Plywood shall be 16mm Douglas fir, exterior, High Density Overlaid 2 sides, meeting CSA 0121m 1978 .

Sheet aluminum shall be 0.018” (minimum) Alloy 5052-H38 and extruded aluminum shall be Alloy 6063-T6 conforming to Alcan Shape No. 73247 or equivalent with a yield strength of 255 mpa.

1.6.2 DIMENSIONS

The smallest dimensions shown in this manual are to be regarded as the minimum standard. An oversize sign is permissible and desirable only where investigation has shown that a larger sign is needed for satisfactory visual impact and legibility. Care should be taken that no sign in a group or series is disproportionately larger or smaller than the others.

In determining whether an oversize sign is warranted, consideration should be given to such things as posted speed, background distractions, and degree of hazard as revealed by accident history or field inspection. There are no simple warrants for use of oversize signs; each case must be decided on its own merit. It should be recognized that unnecessary use of oversize signs, particularly of the regulatory and warning types will de-emphasize standard size signs and reduce their effectiveness. An oversize sign must be an enlarged but otherwise identical version of the smaller version of the sign.

When referring to dimensions of a sign with unequal sides, the first number indicates the width and the second number the height. For example a 60 cm x 75 cm sign is 60 cm horizontally and 75 cm vertically.

1.6.3 MESSAGE

Sign messages consist of symbols, words, or a combination of both.

Where possible, a symbol should be used in preference to a word message. New designs for symbol signs may require explanatory tabs for an educational period.

Messages for standard signs should be as shown in this manual. If other sign messages are required for special applications, they should be concise and, if worded, of a letter size which will enable a driver to comprehend the message.

With the rare exceptions shown in the illustrations, all signs have narrow borders of the same colour as the message.

1.6.3.1 UNITS OF MEASURE

Pursuant to the *Weights and Measures Act* of Canada, all units on standard traffic signs are to be displayed in metric measure only. The "Thin**km**etric" information sign should be used at all border crossing from the U.S.A. coming into the province.

1.6.3.2 LANGUAGE

All signs on provincial highways shall be in English only and text shall be comprised of only the English alphabet. Provincial signs in federal jurisdictions must comply with the current Federal language policy.

1.6.3.3 INTERDICTORY AND MANDATORY /PERMISSIVE SYMBOLS

The interdictory symbol is a red ring and diagonal red bar, with the bar normally oriented from top left to bottom right at a 45 degree angle. Whatever is depicted within the interdictory symbol is prohibited.

The mandatory/ permissive symbol is a green ring. Whatever is depicted within the green ring is either mandatory or permitted.

1.6.4 REFLECTORIZATION AND ILLUMINATION

Except where noted otherwise, signs in this Manual must be reflectorized and/or illuminated to show the same colour and shape by night as by day. Roadway lighting may not meet the requirements for sign illumination however it may make the sign more visible at night if there is some flexibility in placing the sign closer to a luminaire to capture the ambient light.

1.6.4.1 MEANS OF REFLECTORIZATION

Reflectorization is achieved by reflective sheeting on the sign background, on the sign message and border or both.

Reflectorization is provided by enclosed or encapsulated lens retroreflective sheeting meeting or exceeding CGSB Standard 62-GP-11M. The level of reflective sheeting required for signs used by the Ministry is shown in the Sign Catalogue, available from the MoTH Sign Shop. Prismatic lens sheeting is restricted in use and may only be used with authorization from the Senior Traffic Engineer.

1.6.4.2 MEANS OF ILLUMINATION

Illuminated signs should be considered wherever reflectorized signs are not effective; for example, where background light sources or other uncontrollable distractions reduce visibility of signs and at decision points on high speed/high volume facilities.

Use of prismatic lens retroreflective sheeting shall not be considered a substitute for sign illumination, especially in urban areas.

Illumination may be provided by:

- Using light within or behind the sign, which illuminates the main message, the background, or both, through a translucent material, or
- An attached or independently mounted sign-lighting fixture directed at the face of the sign from above or below, or
- Fibre optics or light bulb matrices shaped to the lettering or symbol of a sign message.

Overhead signs may require lighting since vehicle headlights may not adequately illuminate the signs. Shoulder mounted signs generally do not require illumination unless their position prevents vehicle headlights from adequately illuminating the sign face.

1.7 STANDARDIZATION OF PLACEMENT

Standardization of sign placement is desirable although it is not always possible to attain because signs must be accommodated to highway design and the relative positioning of other signs.

The following general criteria on sign placement should be noted:

- A sign should be within a driver's field of vision in order to command attention.

- A driver traveling at the speed limit must have time to comprehend the sign, and have adequate time to execute an appropriate response.

- Signs should not block sight lines for traffic entering or leaving a roadway.

Standard placement may be considered under the following subheadings:

1.7.1 SIDE OF ROADWAY

The general rule is to locate signs on the right-hand side of the roadway, where drivers are accustomed to seeing them. However, in some circumstances, signs may best be placed on channelizing islands or overhead. In some cases, such as when there is poor visibility of a primary sign, it may be desirable to supplement it with a second sign placed on the left side of the roadway. This is common on divided roadways and on one-way streets with two or more lanes.

Some primary signs may be placed only on the left, such as W-62 CHEVRON ALIGNMENT marker, which may be located on the outside of sharp right curves, or the W-54L OBJECT marker, which may be installed in front of obstructions on the left side of the roadway.

1.7.2 LONGITUDINAL POSITIONING

Most regulatory signs are placed where the regulation applies and therefore do not need advance placement. Signs such as guide, informational and warning types are placed in advance of the point, object or condition to which they apply. The advance distance at which these signs should be located is generally dependent on the speed limit and should in general conform to Table 1, in the appendix. This table is based on Table II-1 contained in the 1988 edition of the U.S. Department of Transportation Federal Highway Administration Manual of Uniform Traffic Control Devices for Streets and Highways. The advance distances shown in Table 1 are only a guideline. It is likely that circumstances will exist in which sound engineering judgment will support departure from the guidelines. In such cases the technical decision maker must document the reasons for deviating from the guidelines. Table 1 does not apply to signs for temporary works or to W-116 PREPARE TO STOP signs. (see W-116 warrant) Placement of C&T-series signs is covered by Tables A and B in the Traffic Control Manual for Work on Roadways.

Positioning of Regulatory and Warning signs should take precedence over the positioning of other types of signs.

On urban streets, longitudinal positioning may have to be reduced due to limited block length, or additional advance warning signs may be required due to intervening public access points. Signs should be positioned so that they are not hidden by parked vehicles.

1.7.2 LONGITUDINAL POSITIONING Cont'd.

Where a regulation or warning extends for a considerable distance, signs should be repeated.

As a general rule, two signs on separate posts should be erected a minimum of 90 m apart (but no closer than 60 m) where the speed limit is 70 km/h or greater, and at least 30 m apart in lower speed areas. Exceptions to this rule should be kept to a minimum as two signs placed close together are difficult to read.

To minimize distraction, avoid placing two signs that face in opposite directions immediately opposite each other; for example, at a speed zone boundary.

1.7.3 LATERAL POSITIONING

On a road with a shoulder, signs are generally placed between 1.8 m and 4.5m, preferably 3 m, from the edge of the traveled roadway. Signs should not be placed closer than 0.6 m to the face of a roadside barrier or asphalt curb or to any part of the shoulder onto which a vehicle can drive. An exception to these rules is the reduced lateral clearance as indicated in the text for the R-1 STOP sign. Figs 1.1 and 1.2 show examples of typical sign installations.

On a road with curb and gutter, a minimum of 0.3 m clearance from the curb face to the nearest sign edge is permissible.

On sections of road where a clear zone has been established, signs supports must be outside the clear zone, be of a breakaway design or be protected by a barrier or an attenuator meeting Ministry standards. A sign should not be moved from its optimum position in order to meet these requirements.

1.7.4 HEIGHT

Shoulder mounted signs: bottom of the sign 1.5 m above the nearest traveled roadway edge. The height may be increased to 2 m under special circumstances, such as an obstruction in the line of sight. Where two or more signs are required on the same post, the height to the bottom of the lowest sign may be reduced by 0.3 m.

For signs mounted on a median, the bottom of the sign should be a minimum 2.0 m above the surface of the median.

On a freeway or expressway, post mounted directional signs should be mounted with the bottom of the sign 2 m above the traveled roadway edge.

1.7.4 HEIGHT Cont'd.

On a road with curb and gutter and/or sidewalk, or where parking or pedestrian movements are likely, the lowest sign in any assembly should be mounted 2.1 m above of the sidewalk or shoulder.

In an area of high snowfall, it may be necessary to mount a sign higher than normal or to use an extendible metal post so that the height of the sign can be adjusted seasonally.

An overhead sign requires vertical clearance of not less than 5.5 m at all points over the traveled roadway and shoulder.

1.7.5 ANGLE

All signs should be mounted approximately at right angles to the traffic flow and facing the traffic they are intended to serve, except urban Parking and Stopping signs, which should be nearer parallel (between 30 and 45 degrees) to the traffic flow. On curved alignments, the angle of placement should be determined by the course of approaching traffic rather than the roadway edge at the sign location. On grades it may be desirable to tilt the sign forward or back from the vertical to improve the viewing angle. A sign placed precisely at right angles to an approaching vehicle may cause mirror reflection of headlights from its face. To avoid this a sign should be turned slightly away from the road.

Fig 1.1 SIGN HEIGHTS AND LATERAL CLEARANCES

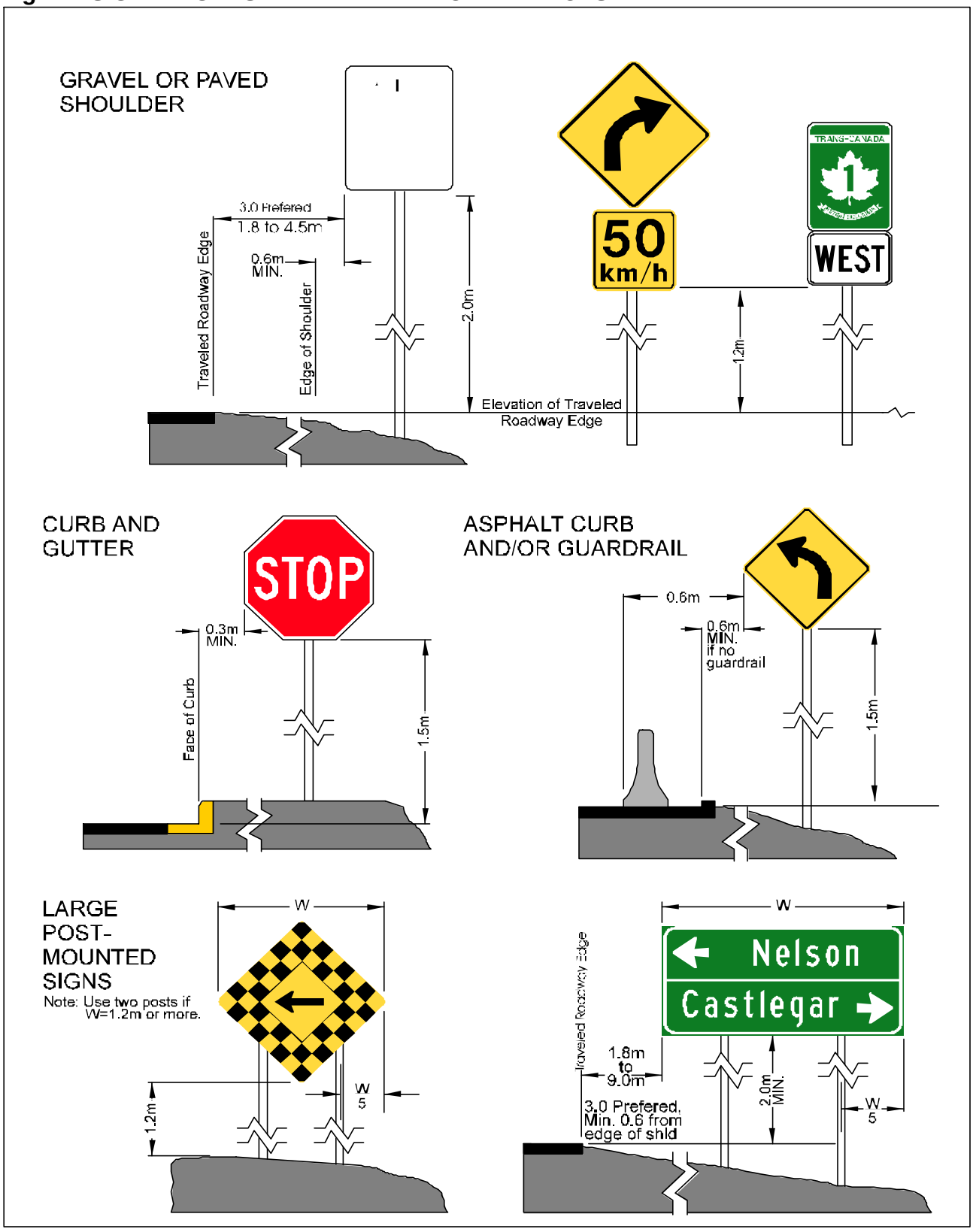
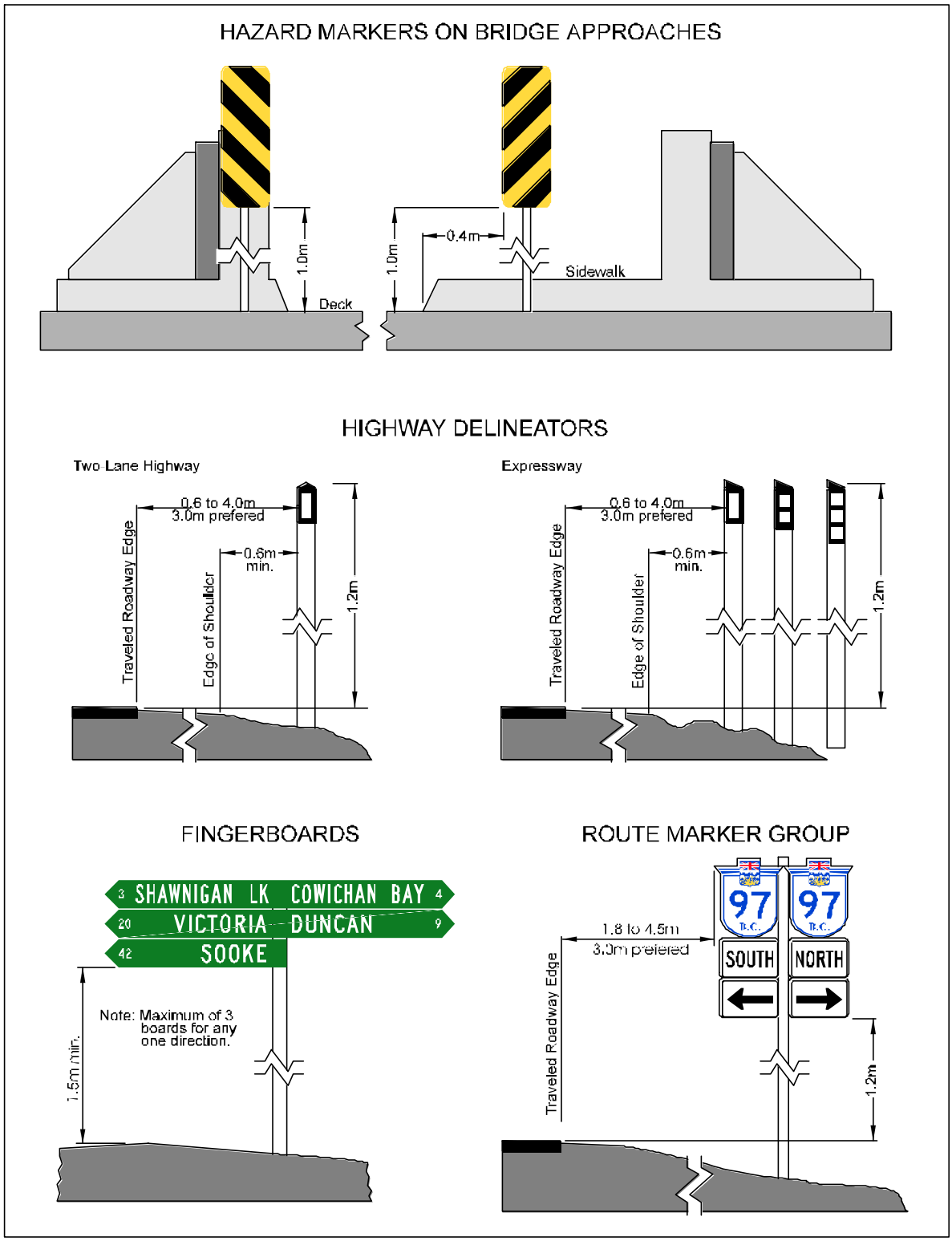


Fig. 1.2 SIGN HEIGHTS AND LATERAL CLEARANCES



1.7.6 MOUNTING AND GROUPING

Signs from different functional groups or signs from the same group serving different purposes should not be mounted on the same face of a sign post except as follows:

- A primary sign supplemented by a tab or tabs
- A route marker group
- A G-8 sign below a W-6, W-7 or W-12 sign
- OBJECT marker below an R-14 sign
- A sign or tab which may be mounted together with an R-1 STOP sign as indicated in the text for that sign.

Non-corrosive fasteners are to be used in attaching permanent signs to their supports in order to prevent sign discoloration.

When two or more signs are used on the same post, the lower sign shall be fastened to the post below the upper sign. The two signs shall not overlap.

1.7.7 SEASONAL REMOVAL OF SIGNS

Some sign messages may only be relevant during certain seasons. If a sign is specified as seasonal, the entire sign face should be removed for the “off” season unless the sign is designed as a ‘flip’ style displaying another message or blank green face when the message is not desired. Covering the sign with plastic, burlap or other similar materials is not acceptable.

1.8 SIGN POSTS AND BASES

Wooden, metal or plastic posts may be used. Plastic posts are generally used only for highway delineators.

Posts and, where applicable, bases shall be installed to hold signs in position against wind, plowed snow and displacement by vandals. At locations where sign supports could be hit by vehicles, they should be located behind appropriate barrier or have breakaway footings. A wooden sign post 15 cm x 15 cm (6” x 6”) or larger must have a hole drilled through the post just above ground level, in accordance with the Standard Specifications for Highway Construction to permit it to break away if hit.

Concrete sign bases must be flush with the graded ground level or be located behind roadside barrier. Before excavating for sign supports, confirmation should be obtained that there are no conflicts with underground utilities.

1.8 SIGN POSTS AND BASES, Cont'd

More than one post will generally be required if a sign is 1.2 m or more in width or has an area greater than about one square metre. Type, number, and size of sign posts can be determined from tables found in the Electrical and Traffic Engineering Manual. For aesthetic reasons, the style and material of sign posts on a section of highway should be as consistent as possible.

Sometimes a sign can be mounted on a support used for another purpose, such as a traffic signal or luminaire pole, provided the mounting is done with banding and no holes are drilled in the poles. Correct location of a sign should not be compromised.

1.9 OVERHEAD SIGNS

An overhead sign may be required:

- Where the message is applicable to a particular lane (or lanes), over which the sign is placed.
- In a tunnel, on a bridge or at an other location where there is insufficient room for a roadside sign.
- On a roadway of two or more lanes in one direction where heavy traffic may interfere with the visibility of a roadside sign.
- Where roadside development with brightly lit commercial signs seriously detract from the effectiveness of a roadside sign.
- Where vertical or horizontal curvature limits the visibility of a roadside sign.
- For consistency, where other signs on a section of highway are overhead.
- On an overhead structure, to indicate a low clearance.
- To identify a cross street or a turn control at a signalized intersection.
- In high snowfall areas where larger signs such as directional signs may be obscured by snow.
- Where it is deemed necessary to place a warning sign assembly with a large backboard and/or flashing light overhead for emphasis.

1.10 MAINTENANCE

A clean, legible and properly mounted sign in good condition commands the respect of drivers. A damaged, defaced or dirty sign is ineffective, therefore it is important that signs be well-maintained. Dirt which may not be obvious on a sign face in daylight can seriously impair the appearance and legibility after dark. A sign, especially one mounted low to the roadway such as an OBJECT marker, may require frequent cleaning.

To ensure proper maintenance, a suitable schedule should be established for the inspection. Cleaning of signs should occur at least twice a year and signs should be replaced immediately when damaged or missing. One inspection per year should be carried out at night to ensure adequate brilliance of reflectorized surfaces. Police, ministry, and maintenance staff should be encouraged to immediately report a damaged, obscured or missing sign.

Care should be taken that vegetation does not obstruct the sight line of a traffic sign. Deep snow may require the seasonal raising of sign heights.

For illuminated signs, a regular schedule of lamp replacement should be maintained so that lamps will be renewed before they are normally expected to burn out.

1.11 SIGN SUPPLY

To ensure uniformity of design, all signs used on Ministry roads for Ministry purposes must be obtained from:

Provincial Sign Shop
945 McMaster Way
Kamloops, B.C. V2V-6K2

Fax: 250 - 828 - 4856

Tel: 250 - 828 – 4851

B L A N K

R-1 STOP SIGN

R-1T3 3 WAY

R-1T4 4 WAY

R-1

(60X60)

R-1 STOP sign is used to control right of way conflicts. The R-1 sign indicates to motorists they must completely stop before entering an intersection and may proceed only when it is safe to do so.

R-1 signs should be used only where traffic engineering studies, indicate they are warranted. These studies should consider factors such as traffic speeds, traffic volumes, sight distance and collision experience.

R-1 signs may be warranted at locations where one or more of the following conditions exist:

- On minor roads which intersect with a major highway or street.
- As a general rule, R-1 signs are required on all side roads which join a main highway at an unsignalized intersection.
- At intersections of minor roads where limited sight distance restricts the safe vehicular approach speed to 15 km/h, or less, and there have been 3 or more accidents per year of a type correctable by the R-1 signs.
- Improvements such as parking prohibition and improved sight distance should implemented first and safety performance monitored. If this proves ineffective, then consider installing R-1 signs.
- At locations where the normal right-of-way rule is ineffective or creates a hazardous situation and a more positive assignment of traffic control is required.
- At unsignalized at-grade railway crossings where the sight distance to an approaching train is inadequate or as an interim measure at a crossing scheduled for grade separation or automatic signal protection.

If an R-1 sign is required on one approach of a four leg intersection, the opposing approach should also be controlled by a R-1 sign. This does not apply where the main traffic flow is on adjacent

approaches as in the case where the numbered highway follows a right angle turn through an intersection.

The R-1 sign should be used discriminatorily and only when warranted. Excessive use of the R-1 sign creates unnecessary delay to motorists and may contribute to an increase in rear-end collisions. R-1 signs should not be used as a speed control device, or a primary tool for traffic calming measures.

MULTI-WAY STOP CONTROL

Multi-way (3-WAY and 4-WAY) stops are a useful means of control in specific applications. Examples are:

R-1T4

(40X20)

- Where traffic signals are not warranted, at the intersection of two like roadways carrying approximately equal traffic volumes. Entering volumes from all approaches should exceed 500 vehicles per hour for any 8 hours of a typical day, and there should have been 5 or more right angle or turning accidents per year of a type correctable by a multi-way stop.

R-1T3

(40X20)

- As an interim measure prior to installation of traffic signals.
- As an interim measure prior to undertaking STOP sign reversal.

At intersections with three or four stop controlled approaches, the R-1T3 3-WAY, or R-1T4 4-WAY tabs should be used below all the R-1 signs.

R-1 SIGN INSTALLATION

The R-1 sign should be erected as near as possible to the point where a vehicle is required to stop. The R-1 may be supplemented with a stop line. Refer to Part B Sec. 2.3.3 for further details on stop lines.

The R-1 sign should be placed between 1.8 m and 4.5 m from the edge of the traveled lane of the approach which is stop controlled. (Lane edge line or edge of shoulder) 3.0 m is desirable. On roads with curb and gutter, the minimum distance between the face of curb and left edge of the sign is 0.3 m. See Figure 1.1 for details.
The R-1 signs should be placed a minimum of 1.5 m to a maximum of 15 m from the traveled edge of the cross road or intersecting road way.

The R-1 sign should be erected about 1 metre in advance of the stop line or marked crosswalk.

The R-1 sign should be oriented so that motorist on the mainline cannot see the sign face. If this is not practical, the R-1 should be shielded from the mainline motorists by using a visor.

Variations of the sign placement dimensions specified above may be necessary and warranted to optimize the visibility of the R-1 to the motorist. Engineering judgment should be used to assess specific sites and variations should be documented.

If a STOP sign cannot be seen from a distance in advance of the stop line equivalent to Condition B of Table 1, Appendix A-1, a W-11 STOP AHEAD sign should be erected so that it can be seen from that distance. W-11 signs may also be warranted where the stop is unexpected, where speeds are high or for an educational period at newly installed STOP signs.

Where two or more lanes of traffic in one direction are controlled by a STOP sign, a second STOP sign should be placed to the left of the lanes to which the stop condition applies if a there is a raised centre median.

The following signs are allowed on the same sign post as the R-1 sign:

Above the R-1:

- G-7 STREET NAME sign
- R-3 ONE WAY sign

Below the R-1:

- R-15 to R19 TURN CONTROL signs
- R-136 WAIT HERE FOR FERRY sign
- R-1T3 or T4 3-WAY or 4-WAY tab
- R-140 YIELD TO ONCOMING TRAFFIC

The addition of any of these signs should not obscure the R-1 sign in any way and the mounting height of the R-1 sign should not be compromised.

STOP signs should not be erected at a signalized intersection except:

- Where a traffic signal is not functioning due to power failure, breakdown or maintenance.

- At a pedestrian signal where there are no signal indications for the minor street.

OVERSIZE R-1X SIGNS

The R-1X oversize STOP sign should be used only in special cases where higher sign visibility is required. Oversize sign should be restricted to important highway or street intersections; for example:

- At channelized intersections, especially in urban areas, where a STOP sign must compete with other large traffic signs or advertising displays.

- At the intersection of two important numbered routes, especially if such an intersection occurs within a high-speed zone.

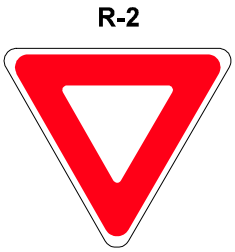
- At the terminal point of an important numbered route.

- On all roads joining or crossing an expressway at grade.

R-1x oversize STOP signs should not be used to replace a standard size STOP sign where the use of a W-11 STOP AHEAD would be more effective.

R-2 YIELD SIGN

The R-2 YIELD sign may be used to control right of way conflicts in situations where a stop control is overly restrictive. Motorist approaching the R-2 sign must yield, and stop if necessary, to motorist having the right of way. Typical applications for an R-2 may include:



(75X75X75)

- Where traffic enters a major road via a one-way ramp where available acceleration length is less than specified by current Ministry design standards. If available acceleration length is equal to or greater than current Ministry geometric standards it is considered a merge condition. See the W-37/W-38 sign warrant.

- On a free right turn lane with little or no acceleration lane.

The R-2 sign should **not** be used:

- As a substitute for STOP signs at right angle intersections.

- If it is apparent that a dangerous situation would be created.

- If sight lines for the merging approach are such that the safe approach speed is greater than 15 km/h.

- To control a major flow of traffic unless that flow is making a right turn.

INSTALLATION CRITERIA:

The R-2 sign should be placed on the right side of the road as near as practical to the point at which a motorist would stop if necessary. In situations where the sign may not be sufficiently conspicuous it may be supplemented with a secondary sign mounted on the left side of the road or ramp.

The R-2 sign should be placed between 1.8 m and 4.5 m (3.0 m desirable) from the edge of the traveled lane (lane edge line or edge of shoulder) of the approach which is stop controlled.

The R-2 signs should be placed between 5.0m to a maximum of 15m from the traveled edge of the cross road or intersecting road way.

The R-2 sign should be oriented so that motorists on the mainline cannot see the sign face. If this is not practical, the R-2 should be shielded from the mainline motorists by using a visor.

Variations of the sign placement dimensions specified above may be necessary and warranted to optimize the visibility of the R-2 to the motorist. Engineering judgment should be used to assess specific sites and variations should be documented.

The R-2 sign should be visible at a distance based on, Condition B, Table 1, Appendix A-1. If this criteria cannot be met, then a W-13 YIELD AHEAD sign should be installed prior to the YIELD sign. A W-13 sign is also used in advance of a YIELD sign in an unexpected location and for an educational period at a newly installed YIELD sign.

An R-8 ONE WAY sign may be mounted above and on the same face of a sign post as a YIELD sign.

MAXIMUM SPEED SIGNS

R-3 MAXIMUM XXkm/h AHEAD

R-4 MAXIMUM XXkm/h

R-5 MAXIMUM XX ENDS

R-6 MAXIMUM XXkm/h UNLESS OTHERWISE POSTED

The R-3 MAXIMUM SPEED AHEAD sign informs motorists that they are approaching a lower speed limit. It is always followed by an R-4 sign indicating the same speed limit .

The R-3 should be installed prior to the R-4 at a distance determined from Table 1 Condition C, Appendix.

R-3

(60X75)

The R-4 MAXIMUM SPEED LIMIT sign establishes a regulatory speed zone under Sec. 146 of the M.V.A. The speed limit indicated on this sign is the maximum lawful speed under ideal conditions for the segment of highway. The speed zone is always supported by an approved H223 form.

R-4

(60X75)

Speed zones must be approved by the Senior Traffic Engineer and are established only after conducting established engineering studies. Contact the Office of the Senior. Traffic Engineer for current speed zoning policy and warrants.

The R-3 and R-4 signs are available in three sizes:

- R-3/R-4 60 x 75 cm
- R-3X/R-4X 75 x 90 cm
- R-3XX/R-4XX 90 x 120 cm

The standard R-4 is typically used in urban areas and on conventional highways where the speed limit is under 100km/h.

The R-4X should be used on rural conventional highways posted at 100km/h or on 4 or more lane highways posted at any speed, and on rural freeways.

The R-4XX is typically used on freeways for transitioning from high speed zones to lower speed zones, but may be used as specified by the Regional Traffic Engineer at other locations if warranted.

Maximum speed signs on multi-lane facilities may be erected on the median 60m ahead of the sign on the right hand side.

A Confirmatory R-4 sign should be erected between 300 m and 600 m beyond the beginning of a speed zone, and a short distance beyond each major intersection and beyond the farthest on ramp of an interchange.

On long uninterrupted sections of rural highway, an R-4 sign should be erected, as a minimum of every 15 to 20 km. Speed zones of 50 km/h or less in urban areas do not generally require Confirmatory signs.

R-4 signs should not be located immediately in advance of a major intersection or in advance of a curve, exit ramp, etc. which is signed with a W-22, W-23 or W-25 ADVISORY SPEED sign.

R-4 signs should also be used to confirm the termination of a school area speed zone. The R-4 should be erected 110-150m beyond the SP-1 and tab assembly erected for the opposing traffic flow.

STATUTORY SPEED LIMITS:

R-5

(60X75)

The R-5 MAXIMUM SPEED LIMIT ENDS sign informs the motorist they are leaving an established speed zone and are entering a segment of highway covered by a statutory speed limit.

Any highway not covered by a speed zone approved by the Senior Traffic Engineer and supported by an H223 form or by a municipal by-law, is covered by a statutory speed limit as described in Sec. 146 (1) of the Motor Vehicle Act.

The statutory speed limit is 50km/h (incorporated areas) or 80km/h (unincorporated areas).

R-4 signs are not installed for statutory speed limits. If a speed zone is established to replace a statutory limit, the appropriate engineering studies, especially curve testing, must be completed before regulatory signs are erected.

BLANKET SPEED ZONES

An R-6 MAXIMUM SPEED UNLESS OTHERWISE POSTED sign informs motorists they are entering an area covered by a blanket speed zone established under Sec. 146(4) of the Motor Vehicle Act. Blanket zones must not exceed 60km/h.

R-6

(60X75)

Descriptions of the blanket zones must be published in the British Columbia Gazette. The office of the Senior. Traffic Engineer will arrange processing Gazette notices.

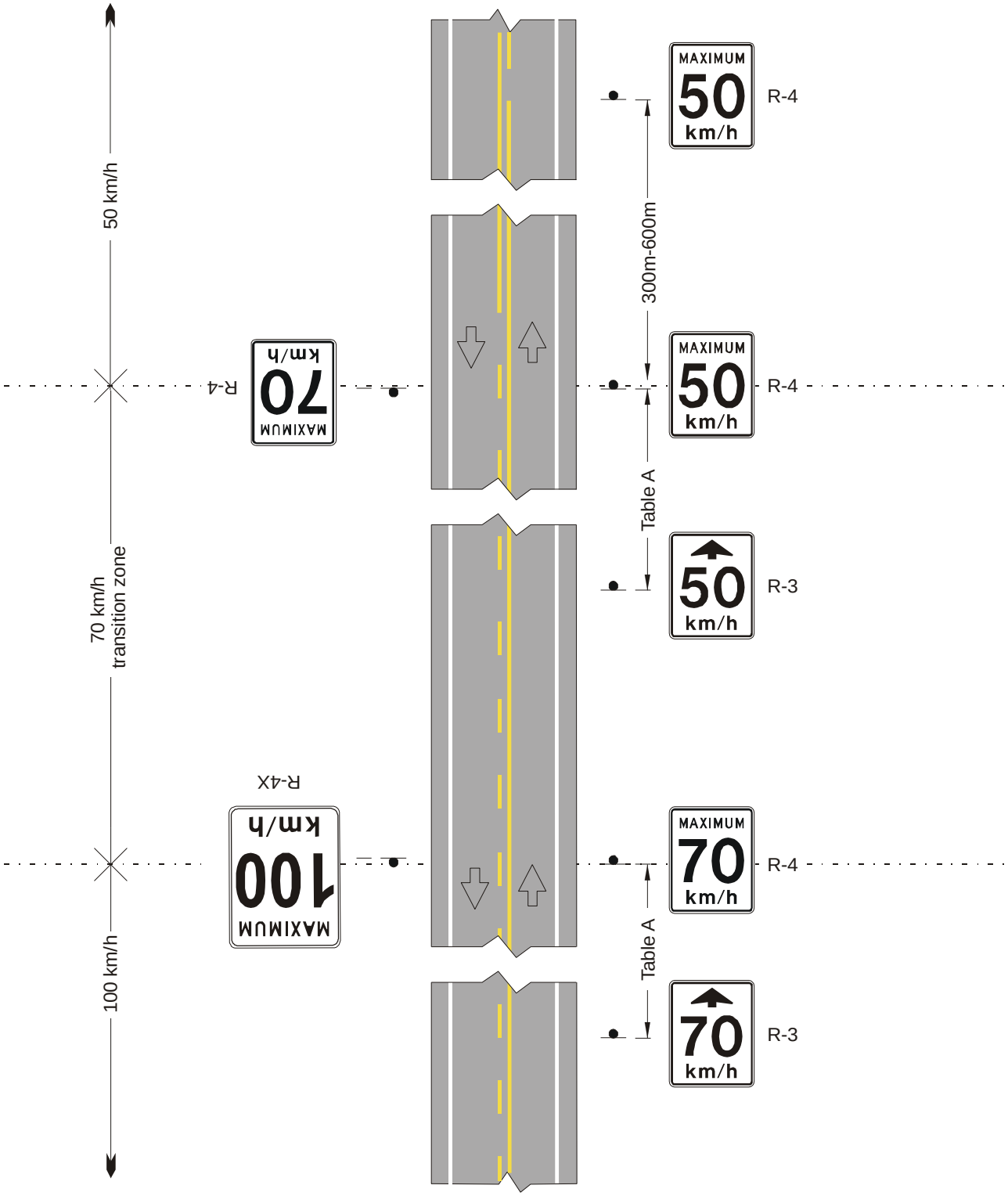
The I-157E or L sign is mounted above the R-6 sign to identify the beginning or end of a blanket speed zone.

A conventional speed zone may be established on a road covered by a blanket zone provided the description of the blanket zone ends with “excluding any intervening speed zones.” In this case the conventional speed zone supersedes the blanket zone.

Refer to Figures 2.1 to 2.4 for examples of speed zone signing.

For other maximum speed limits see sections for SPEED XXkm/h; SP-7 30km/h and SP-8 XXkm/h WHEN CHILDREN ON HIGHWAY tabs.

Figure 2.1 Two-Lane Highway Speed Zone Transition



NOTE: Speed Zone practice is to limit speed reductions to less than or equal to 30 km/h.

Figure 2.2 Freeway Speed Zone Transition

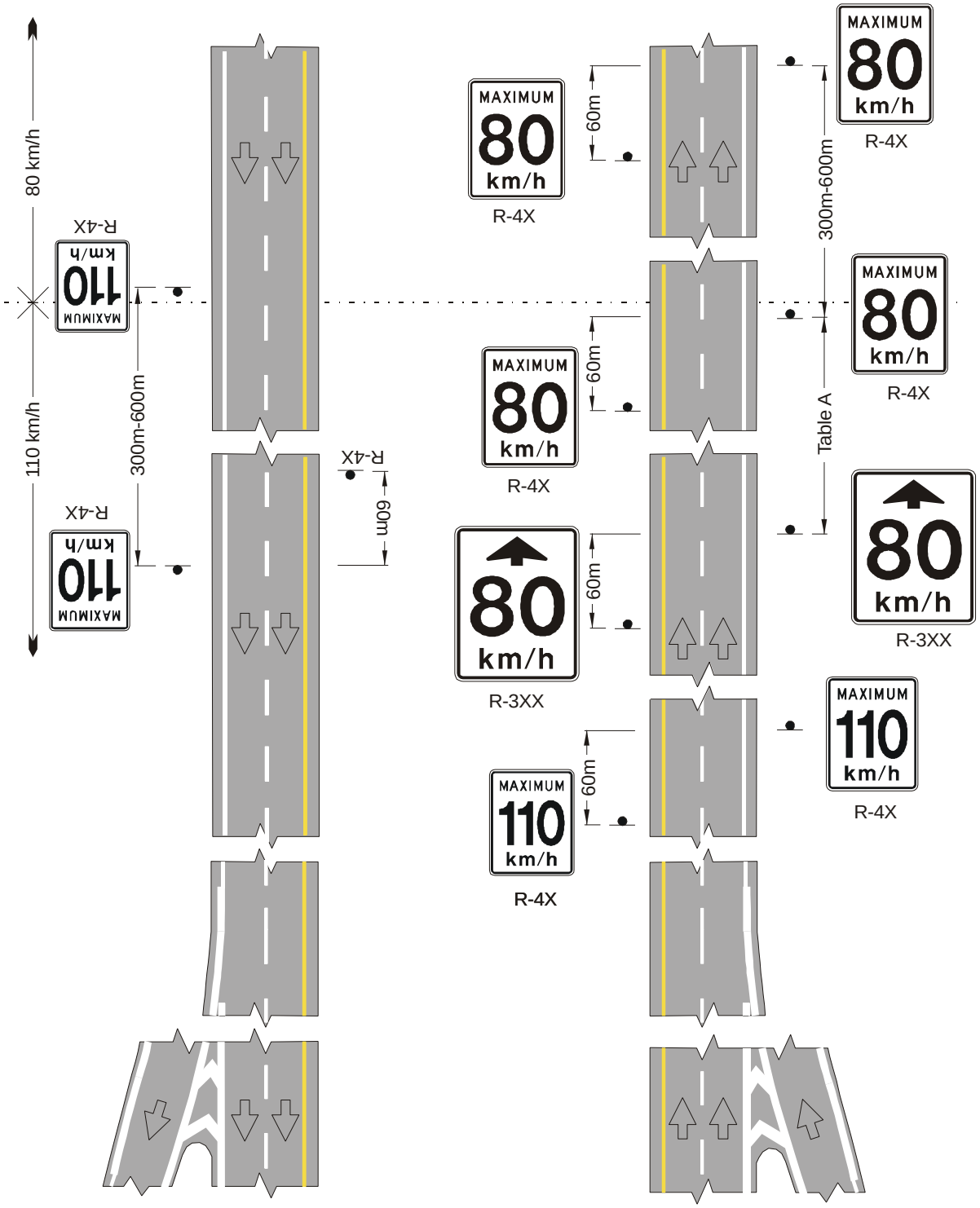


Figure 2.3 Expressway Speed Zone Transition

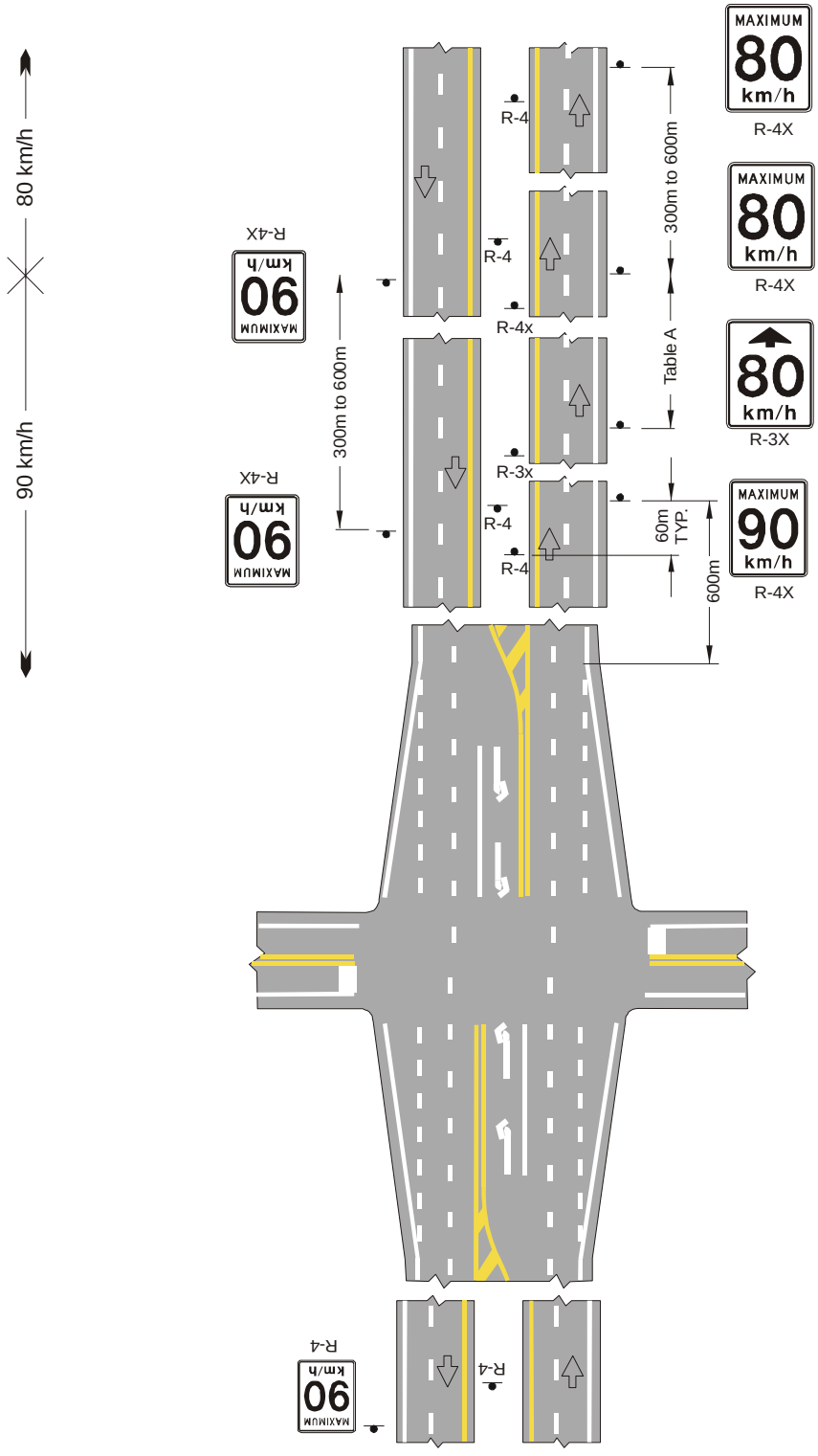
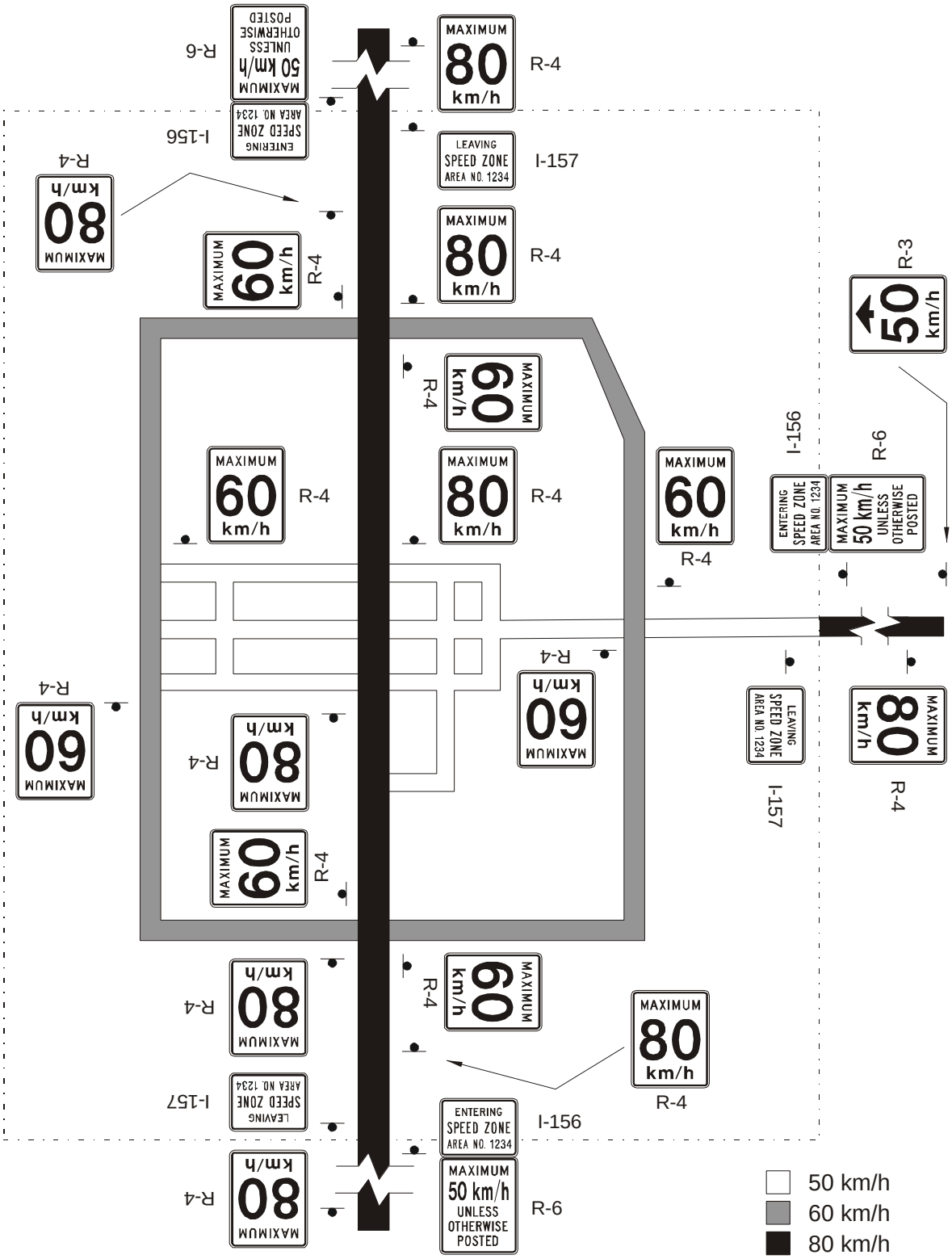


Figure 2.4 Blanket Speed Zone Transition



R-7 SLOWER TRAFFIC KEEP RIGHT

R-7

(60X75)

The R-7 sign directs motorists to enter the passing or climbing lane if their vehicle is incapable of maintaining a speed that is consistent with the majority of vehicles on the highway. The R-7 should be installed at the taper the climbing or passing lane. A confirmatory sign should be erected approximately 1 km beyond the first and approximately every 2 km thereafter A confirmatory sign should not be erected if it would be closer than 1 km to the end of the passing or climbing lane. See Figure 7.37.

The R-7 sign may also used on rural multi-lane highways. Where possible they should be installed in the median, 100 m to 150 m beyond the start of the multi-lane section and a short distance beyond each major intersection and beyond the farthest on-ramp at an interchange. R-7 signs are not used in H.O.V. facilities.

R-8 ONE WAY

R-8

(90X30)

The R-8 sign indicates to motorists that a road is restricted to travel in only one direction.

At unsignalized intersections the R-8 sign should be placed in the far left and near right positions to face motorists approaching the one way road. R-8 signs may be supplemented by a suitable R-15 turn control sign placed on the far right.

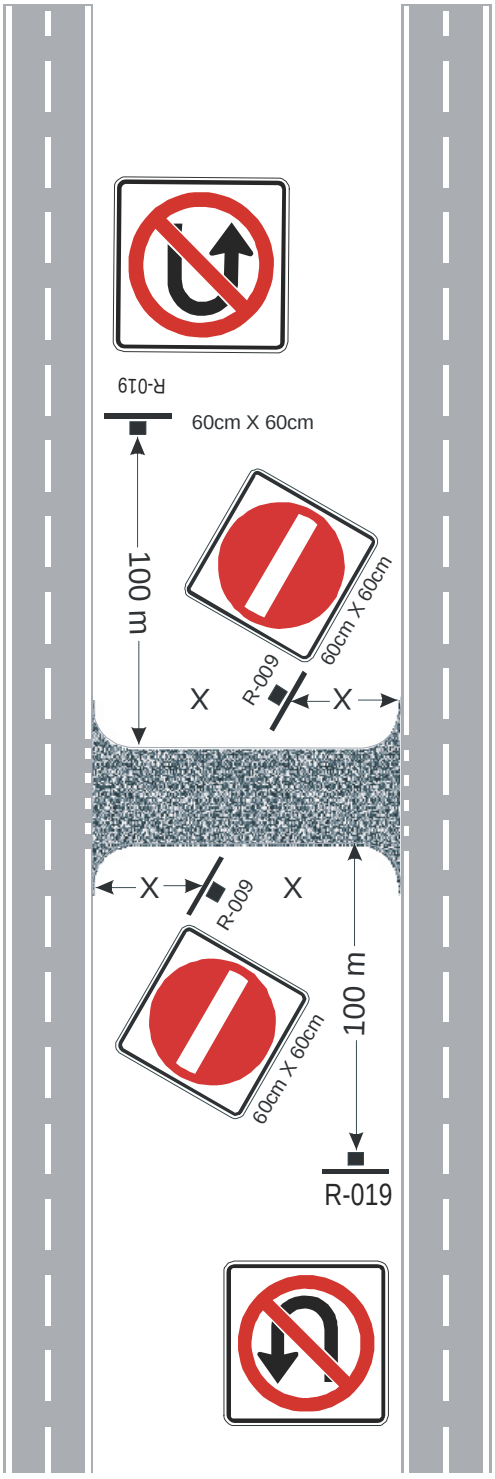
At a signalized intersection the signs should be placed as near as practical to the appropriate signal heads.

At “T” intersections or at commercial access, the R-8 sign should be placed parallel to the one-way roadway and opposite the access. A second R-8, or alternately a suitable R-16 TURN CONTROL sign may be erected in the near right position.

If there is a R-1 STOP sign in the near right position an R-8 may be mounted above the R-1 on the same post.

The text “ONE WAY” may be added within the arrow to emphasis the one way message.

Figure 2.5 Emergency Turn-around Signing



X= Variable, R-9's to be placed so they do not directly face through traffic

R-9 DO NOT ENTER

R-9

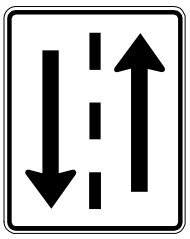
(60X60)

The R-9 sign indicates to motorists that they are not permitted to enter the road or ramp when this sign is visible. The R-9 should be erected in the far right and far left corners of an intersection facing traffic which might enter a one-way roadway or ramp in the wrong direction. It may also be erected overhead if this is necessary to make it more conspicuous. At a signalized intersection where the traffic on an approach faces a one-way street, the R-9 should be placed as close to the appropriate signal heads as possible.

At a freeway off ramp or other one-way roadway, R-139 WRONG WAY signs should be installed on both sides of the one-way roadway beyond the R-9 signs.

Arrows painted on the pavement on an intersection approach, and indicating the direction of travel on a one-way roadway may also be used to reinforce the ‘do not enter’ message.

R-10



(60X75)

R-10 TWO-WAY TRAFFIC

The R-10 TWO-WAY TRAFFIC signs indicate to motorists that they are entering a two way road. R-10 signs are required on both sides of the one-way roadway at the point where the two-way road begins. Confirmatory R-10 signs should be installed approximately 1 km to 1.5 km along the two-way roadway and beyond major access points.

The R-10 sign may also be used through construction zones if it is not clear that the road is a two way facility.

R-12

(75X60)

R-12 ROAD CLOSED

The R-12 sign indicates to motorists a road which has been temporarily closed to all traffic (except to equipment working on the closed section) for the purposes of construction, maintenance, or because of a temporary emergency condition.

R-12 T LOCAL TRAFFIC ONLY TAB

The R-12 T LOCAL TRAFFIC ONLY tab should be used with the R-12 if access to private property is maintained for local traffic along the closed section. Barricades erected at the point of closure should have be placed so local traffic may enter or leave the closed section safely.

The R-12 T tab is installed below the R-12 sign.

R-12T

(75X30)

R-13 VEHICLES INCAPABLE OF 60 km/h PEDESTRIANS, BICYCLES, FARM IMPLEMENTS, ANIMALS PROHIBITED

R-13

(60X75)

The R-13 sign should be erected at the beginning or entrances to all Schedule 1 Highways. Where possible it should be so located as to prevent prohibited traffic from entering the highway. Schedule 1 Highways are listed in Division 19 of the Motor Vehicle Act Regulations.

Where cyclists are allowed on segments of Schedule 1 Highways, a modified R-13 signs with the word “BICYCLES” deleted from the sign may be used.

R-14 L KEEP LEFT

R-14 R KEEP RIGHT

R-14R

(60X75)

The R-14 R KEEP RIGHT sign is used at the approach end of a raised median or traffic island, underpass pier, etc. where traffic is required to keep to the right of such obstructions. It should be erected about 6 m beyond the approach end of a median island. If required on an underpass pier, the KEEP RIGHT sign should be mounted on, or immediately in advance of, the approach face of the median pier with the inside edge of the R-14 flush with the inside edge of the obstruction.

A W-54L OBJECT MARKER should be mounted with a R-14 sign. See the W-54 warrant.

The R-14L KEEP LEFT sign is only warranted in special cases, such as paving, sealcoating, or maintenance, where it is necessary for traffic to pass an obstruction on the left-hand side.

R-15R

(60X60)

TURN CONTROL SIGNS

R-15L&R	**NO LEFT / RIGHT TURN**
R-15T	**TIME RESTRICTION TAB**
R-16L&R	**TURN LEFT / RIGHT**
R-17	**NO TURNS**
R-18	**TURN**
R-19	**NO U TURN**

TURN CONTROL signs may be used at intersections or accesses to mandate or prohibit the movement(s) of all traffic on an approach as specified on the sign.

R-15T

(60X30)

The main consideration in selecting the appropriate turn control sign is to optimize driver intuition. The following are some general guidelines for selecting these signs:

R-16L

(60X60)

- It is desirable to indicate to the motorist what they must do rather than what they cannot do.
- A prohibited movement which is normally permitted should be signed using a prohibition sign e.g. R-15
- If a prohibition is repeated over several blocks in succession, (e.g. urban one-way streets) the signs also perform a confirmatory role and should be applied consistently. In this case each intersection would be signed with a R-17 sign.
- If a movement, either permitted or restricted, is obscure to the motorists, then that movement should be signed.
- Where there is a violation history of a mandatory sign, a prohibited sign may be used instead

R-18

(60X60)

R-17

(60X60)

TURN CONTROL signs should not be confused with LANE USE signs which are used are used to regulate the use of specific lanes and are mounted in advance of the intersection.

At an intersection with a one-way road, R-8L or R-8R ONE WAY signs and R-9 DO NOT ENTER signs should provide the primary control and TURN CONTROL signs may also be used if necessary.

The R-19 NO U TURN sign may be used to restrict motorists from making U-turns at intersections or mid-block locations where U-turns are considered dangerous.

R-19

(60X60)

R-15T signs are mounted below R-15 to R-19 signs when the turn control is not full time.

At signalized intersections TURN CONTROL signs should be mounted as near as possible to the applicable signal heads.

At unsignalized intersections, TURN CONTROL signs should be placed on the near right and far left corners of the intersection.

If an additional TURN CONTROL sign is erected in advance of an intersection, ensure that there are no alleys or driveways intersecting the road between the signs and the main intersection. At any intersection where the turn control is in effect during certain periods of specified days, or where specific vehicle types are exempted, a tab showing the restricted period or periods and/or the exempt vehicle type should be mounted immediately below each TURN CONTROL sign.

R-22 DO NOT PASS

R-23 PASSING PERMITTED

R-22

(60X60)

R-23

(60X60)

The R-22 and R-23 signs may be used where it is necessary to reinforce the passing prohibition imposed by the barrier line markings, or where normally permitted passing should be prohibited due to construction activity. See the Traffic Control Manual for Work on Roadways. If the passing prohibition is long, intermediate R-22 signs may be required.

R-22 sign may also be installed permanently, under exceptional circumstances, where collision statistics indicated that it is necessary to reinforce the passing prohibition imposed by barrier line. An R-23 should always be used in conjunction with an R-22 sign to mark the end of the no passing zone (i.e. neither sign should be used without the other).

BRIDGE LOAD LIMIT SIGNS

R-24

(60X75)

R-24 **BRIDGE LOAD LIMIT XX TONNES G.V.W.**

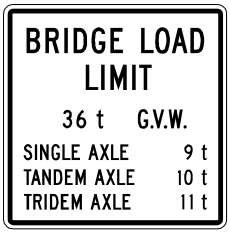
R-24SP **MULTI-AXLE VEHICLE BRIDGE LOAD LIMIT Xt G.V.W. SINGLE AXLE Xt, TANDEM AXLE Xt, TRIDEM AXLE Xt**

R-24T1 **TRUCKS MAXIMUM SPEED XX**

R-24T2 **X km AHEAD**

Bridge load limits are usually imposed by the Regional Bridge Engineer, but in an emergency, limits may be imposed by any representative of the Ministry or its maintenance contractors.

R-24 SP



(90X90)

The R-24SP sign is used to restrict maximum axle loading. It may indicate any or all of single, tandem and tridem axle restrictions and may also include a G.V.W. restriction.

The R-24 sign is used on a structure incapable of carrying the maximum licensed gross vehicle weight.

G.V.W. restrictions are shown to the nearest tonne. Axle restrictions are normally shown to the nearest tonne but never more precisely than 0.1 tonne.

R-24 T1

(60X45)

The R-24T1 TRUCKS MAXIMUM SPEED tab is used with an R-24 or an R-24SP sign where a reduction below the prevailing speed limit is considered necessary because of narrow bridge width or to reduce impact loading on the structure.

R-24T2

(60X30)

The R-24 or R-24SP sign combined with appropriate R-24T2 tab should be erected at the detour or turn-around point to provide advance notice of the bridge load limit to reduce back tracking.

Unless there is an intervening intersection an R-24 or R-25 sign is placed in advance of the bridge a distance not less than Condition B of Table 1, Appendix A-1.

R-25L & R STOP LINE

The R-25 sign may be used at a traffic signal or signalized railway crossing to indicate the point at which motorist shall stop their vehicles.

The R-25 may also be used at temporary or portable control signals where stop lines cannot be placed or where installed stop lines need additional emphasis.

For permanent installation it should be post mounted at the intended stop location and to the right of approaching traffic. An R-25L may also be mounted to the left where there is more than one lane on an intersection approach. The arrows on R-25 signs always point inward toward the traveled roadway.

R-25R

(45X60)

R-26 VEHICLES WITH FLANGES OR LUGS MUST PROTECT BRIDGE DECK

The R-26 sign may be warranted on unpaved minor roads where it is evident that vehicles equipped with lugs or flanges have crossed a bridge without protecting the bridge deck, or where there is a risk of this occurring.

The sign should be mounted on, or just in advance of, the bridge.

R-26

(45X60)

R-27 ONE BUS OR TRUCK ONLY ON BRIDGE

The R-27 sign is used to notify large commercial vehicle operators or bus drivers that more than one large vehicle may overload the bridge or that the bridge deck is too narrow to allow two large vehicles to pass.

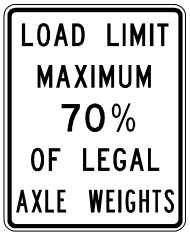
The sign should be placed a distance in advance of the bridge as shown under Condition B of Table 1, Appendix A-1, unless approach speed is less than 50 km/h and visibility is good, in which case the sign may be placed on the bridge.

R-27

(45X60)

VEHICLE WEIGHT RESTRICTIONS

R-29



(60X75)

R-29 LOAD LIMIT MAXIMUM 70% OF LEGAL AXLE WEIGHT

R-30 LOAD LIMIT 3 TONNES G.V.W.

The R-29 LOAD LIMIT MAXIMUM 70% OF LEGAL AXLE WEIGHTS imposes vehicle load restrictions for the protection of the highway during periods when the road sub-base weakens such as during spring thaw or during frequent freeze/thaw cycles.

The R-29 sign may be erected at the discretion of the District Highways Manager after publication in newspapers of notice of intent to impose temporary load restrictions.

The R-29 sign is erected outside urban areas, at main road junctions and as necessary to indicate the extent of the load restriction.

A 50% overlay decal or plate may be used to alter the restriction percentage. Typically either a 70% or 50% load restriction would be imposed.

R-30

(60X75)

The R-30 LOAD LIMIT 3 TONNES G.V.W. sign may be used on unpaved roads when it is necessary to prohibit all traffic except cars and light trucks with a specified maximum gross weight.

The R-29 and R-30 signs should be removed as soon as the load restrictions are no longer required.

R-42 $2000 MAXIMUM PENALTY FOR LITTERING

The R-42 sign should be erected near border points for motorists entering the Province. The R-42 should also be placed on all main highways, 50 to 80 kilometers apart for each direction of travel. In problem areas, the R-42 sign may be required at more frequent intervals.

R-42

(60X60)

R-42 T OR DUMPING DOMESTIC WASTE OR SEWAGE

The R-42T tab should be installed below the R-42 on the same post and erected at all roadside rest areas maintained by the Ministry. The R-42 and R-42T assemblies should generally be located near litter containers and placed so that the message is visible only to people in the rest area. The R-42T tab should not be visible from the highway.

R-42T

(60X30)

R-43 DO NOT DUMP REFUSE

This sign may be used to prohibit dumping where evidence indicates this is taking place in unauthorized areas.

R-43

(45X60)

R-44 KEEP OFF MEDIAN

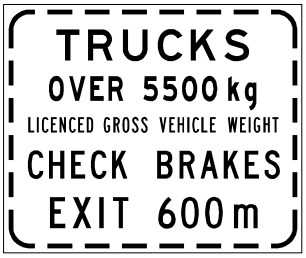
The R-44 sign may be used on a divided highway where there is evidence of illegal U-turns or driving on unpaved medians. If warranted, it should be erected on the median side of the roadway.

R-44

(60X75)

BRAKE CHECK SIGNS

R-45



(120X100)

R-45 TRUCKS OVER 5500kg LICENCED GROSS VEHICLE WEIGHT CHECK BRAKES EXIT XXm

R-46 TRUCKS STOP HERE CHECK BRAKES STEEP HILL AHEAD

The R-45 TRUCKS OVER 5500 kg LICENCED GROSS VEHICLE WEIGHT CHECK BRAKES EXIT XXXm sign is used in advance of a pullout or wide shoulder where a mandatory brake check is required for trucks over 5500 kg. G.V.W.

R-46

(90X120)

The R-45 sign can be supplied with distances other than 600 m but should not be erected closer to the pullout or wide shoulder than is required for Condition B of Table 1, Appendix A-1. The R-45 sign is available in three sizes:

- 120cm x 100cm for two lane two-way highways
- 240cm x 200cm for 70 km/h>, 4 lane highways
- 360cm x 300cm for freeways.

If an R-45 sign is installed requiring truck drivers to check brakes, an R-46 TRUCKS STOP HERE CHECK BRAKES STEEP HILL AHEAD sign is also required within the pullout or area of wide shoulder intended for that purpose. It should be placed on the right side and downstream near the end of the pullout or wide shoulder.

See also W-29 STEEP HILL sign.

Refer to Figures 3.3 and 3.4 for typical sign layouts

CHAIN SIGNS

R-47 CARRY CHAINS BEYOND THIS POINT

R-50 CHAINS MANDATORY ON ALL TIRES OF DRIVE AXLE BEYOND THIS POINT

R-52 CHAINS MAY BE REMOVED

R-53 VEHICLE COMBINATIONS WITH X OR MORE AXLES OR TOWING TRAILERS MUST CHAIN UP HERE

R-47

120 x 60

R-50

120 x 80

CHAIN SIGNS are installed under authority of the Sec. 208(2) of the Motor Vehicle Act and are warranted on any highway where adverse snow and/or ice conditions may be expected.

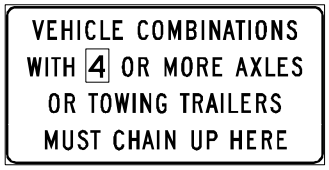
The R-47 sign is used on roads leading into areas that experience high snowfall, such as mountain passes, to advise motorists chains may be required in order to proceed.

R-52

120 x 60

The R-50 and R-53 may be used interchangeably depending on site specific conditions. Normally the R-50 is displayed when the use of tire chains is mandatory, however in some areas only vehicles with certain axle configuration experience traction problems, therefore the R-53 may be used with the appropriate overlay displaying the number of axles. Note using an “2” overlay results in the same message as the R-50. The bottom portion of the R-53 is a hinged sections allowing the message “OR TOWING TRAILERS” to be covered when this restriction is not required.

R-53



244 x 122

The R-52 sign should be used at the point where the chain-up requirement is no longer in effect.

See also the G-140 & G-141 CHAIN UP AREA signs.

R-53 O/L

R-55 YIELD CENTRE LANE TO OPPOSING TRAFFIC

R-55

(90X120)

The R-55 sign is required on a three lane hill or other section of three lane two-way roadway where pavement markings permit overtaking in the single lane (downhill) direction (see Part B, Pavement Markings).

The R-55 sign should be erected at the start of each passing opportunity to face motorists in the single (downhill) lane direction. Confirmatory signs should be installed at 800 m intervals throughout the passing section. The R-55 is not required if its location is within 200m of the end of the three lane section.

R-56 YIELD TO ONCOMING TRAFFIC

R-56

(90X120)

The R-56 sign is used where only one lane is available on a short section of a two lane two-way road or bridge. The R-56 is warranted when traffic volumes are too light and speeds too low to justify use of a TCP or installation of a Temporary Lane Control Signal or Temporary Traffic Signal. The end of the one lane section must be visible.

This sign may be permanently installed at a one lane (5.5m or less total width) bridge, with a W-51 and W-51T ONE LANE STRUCTURE assembly. If there is only one lane available on a bridge for a temporary period a TW-51 and TW-51T assembly should be used in place of a W-51 and W-51T assembly.

The R-56 sign may also be used in temporary installation with a C-24 sign on a short section of road which temporarily has only one lane open. See also TW-26 sign warrant.

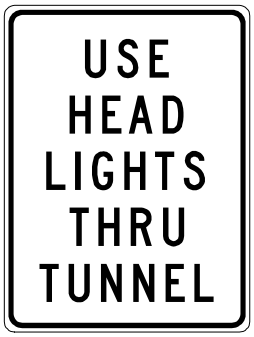
The R-56 sign is erected in advance of the beginning of the single lane a distance preferably equal to Condition B of Table 1, Appendix A-1. It must be installed at only one end of the one-lane section. If the R-56 sign is required because of closure of one lane it should be erected facing traffic which would normally use the closed lane.

If the R-56 sign is used where the road narrows to one lane then the R-56 should be erected for the direction with the greater sight distance.

R-57 USE HEADLIGHTS THRU TUNNEL

The R-57 sign is required in advance of all major tunnels and snowsheds. It is placed approximately 50 m in advance of the tunnel portal. The W-30 TUNNEL and W-30T REMOVE SUNGLASSES assembly is placed 110 to 230 m in advance of the portal. Signs with the word "TUNNELS" may be used in advance of multiple, closely spaced tunnels/snow sheds.

R-57



(90X120)

R-58 NO TRESPASSING MINISTRY OF TRANSPORTATION AND HIGHWAYS

The R-58 sign is used for the protection of Ministry materials and property. It may be erected on any access to Ministry yard, gravel stock pile, etc. at the boundary of the public road right-of-way, or at other locations as required.

R-58

(45X30)

R-59 DANGER NO TRESPASSING - EXCAVATION

The R-59 sign should be installed at locations where the public might inadvertently enter Ministry property and be in danger due to an excavation.

R-59

(60X45)

R-60 NO ENTRY- AUTHORIZED PERSONNEL ONLY- REGULATED UNDER THE MINES ACT- CONTACT LOCAL DISTRICT HIGHWAYS OFFICE, MINISTRY OF TRANSPORTATION AND HIGHWAYS

The R-60 sign is required at each vehicle entrance to Ministry gravel pits in order to comply with the Mines Act and Code. It is not required at temporary borrow sites on Ministry right-of-way, unless directed by the Chief Inspector of Mines.

R-60

(45X60)

R-80

(75 x 75)

LANE USE SIGNS

R-80 **THIS LANE LEFT OR RIGHT**

R-81 **THIS LANE THRU**

R-82 L **THIS LANE LEFT**

R-82 R **THIS LANE RIGHT**

R-83 L **THIS LANE THRU OR LEFT**

R-83 R **THIS LANE THRU OR RIGHT**

R-84 **THIS LANE LEFT, THRU OR RIGHT**

R-81

(75X75)

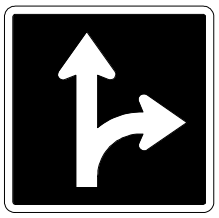
LANE USE signs are used to indicate to the motorists the use of a specific lane on an approach to an intersection. LANE USE signs regulate the lane assignment on approach to intersections and should be used where the movement is contrary to driver expectation or to the normal rules of the road.

R-82L

(75X75)

LANE USE signs should not be confused with TURN CONTROL signs. Turn control signs are used to control all traffic in all lanes at an intersection.

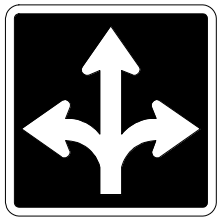
R-83R



(75X75)

LANE USE signs should be mounted over the centre of the lanes to which they apply. A minimum of 5.5 metres clearance is required under each sign. The signs should preferably be mounted at a distance of at least 25 metres in advance of the intersection. If two or more sets of signs are used in advance of the same intersection, they should be spaced at least 75 m apart. Ensure that there are no lanes or minor accesses intersecting the road prior to the main intersection to which the LANE USE signs apply.

R-84



(75X75)

The R-82 L or R may be used in a shoulder application when overhead mounting is not practical. A “RIGHT LANE” or “LEFT LANE” tab must mounted below the sign.

SIDE MOUNTED LANE USE SIGNS

R-85L **TWO LANES LEFT**

R-85R **TWO LANES RIGHT**

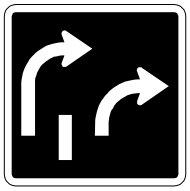
R-86L **LEFT LANE LEFT, RIGHT LANE THRU**

R-86R **LEFT LANE THRU, RIGHT LANE RIGHT**

R-87L **LEFT LANE LEFT, RIGHT LANE LEFT OR THRU**

R-87R **LEFT LANE THRU OR RIGHT, RIGHT LANE RIGHT**

R-85R



(60X60)

R-86R

(60X60)

See the first paragraph of OVERHEAD LANE USE SIGNS for warrants for SIDE MOUNTED LANE USE SIGNS.

Overhead LANE USE SIGNS are preferable to side mounted ones. However, side mounted signs may be used as a temporary installation until overhead signs can be installed They may be used as a permanent installation provided traffic speed and volume are low and the lane the sign applies to is no more than two lanes away from the sign.

R-87L

(60X60)

TWO-WAY LEFT TURN LANE SIGNS

R-88

(60X75)

R-88 TWO-WAY LEFT TURN LANE BEGINS

R-89 TWO-WAY LEFT TURN LANE ENDS

R-90 TWO-WAY LEFT TURN LANE

R-88 and R-89 signs are usually placed back to back, to indicate the commencement or termination of a two way left turn lane. Where there is a raised median island they may be post mounted on the island. If there is no raised island, oversize signs should be mounted over the middle of the lane.

R-89

(60X75)

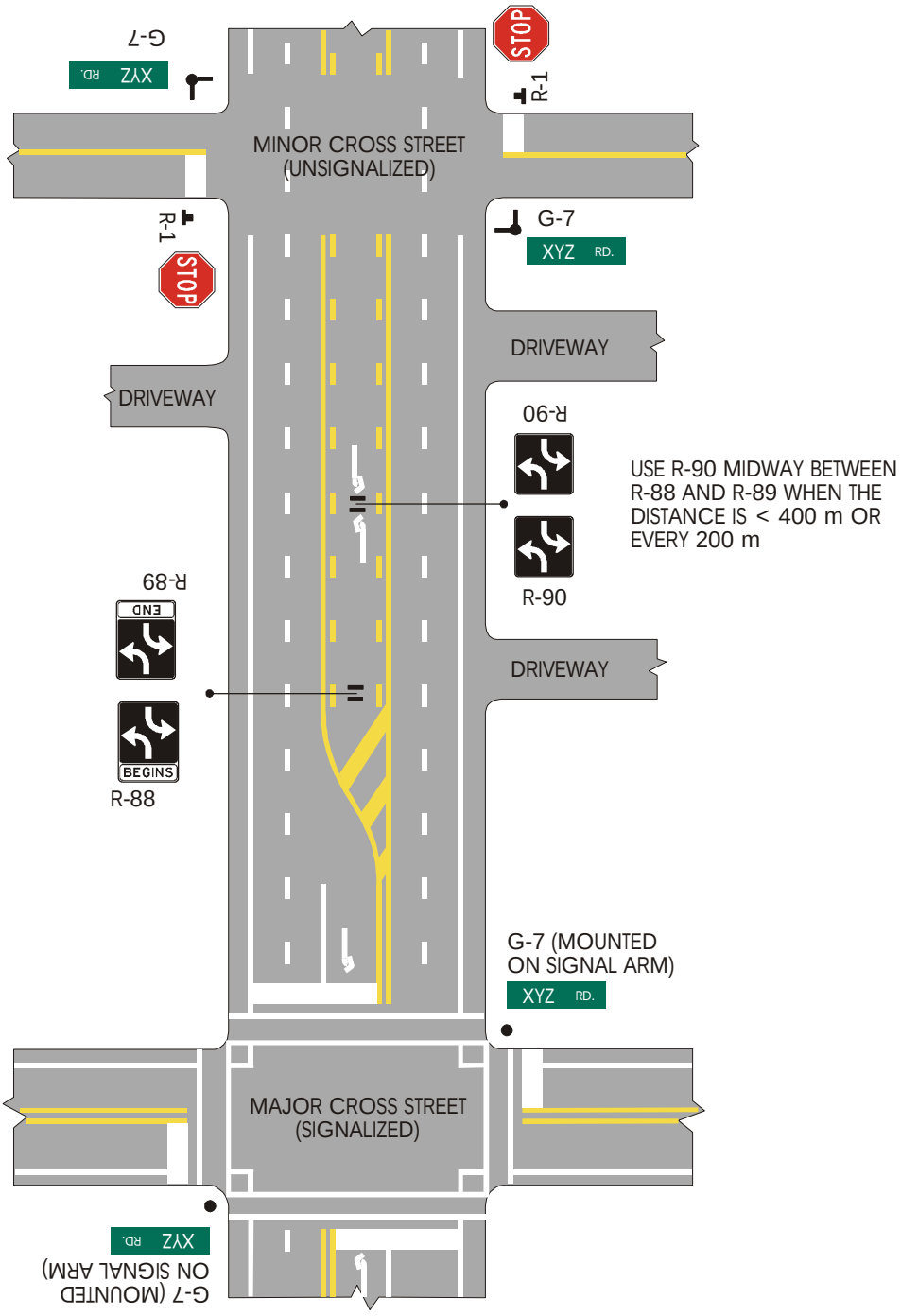
The R-90 sign is installed, usually back to back, over the middle of a two-way left turn lane approximately 200 m from R-88 and R-89 signs and from other R-90 signs, with at least one pair per block.

R-90

(90X90)

Refer to Figure 2.6 for typical two way left turn signing.

Figure 2.6 Two Way Left Turn Lane Signing



B L A N K

R-100 AIRCRAFT PATROLLED

The R-100 sign should be installed for a six month introductory period at the first pavement marking of a newly established aerial speed check zone.

R-100

(75X60)

R-101 END OF PUBLIC ROAD

The R-101 sign is used to mark the end of a public road and the start of a private road on which public traffic is allowed.

R-101

(60X75)

R-102 END OF MAINTAINED PUBLIC ROAD

The R-102 sign is used to mark the point on a public road beyond which maintenance is not carried out regardless of whether the road beyond is public or private.

R-102

(60X75)

R-103 EXCEPT BUSES

The R-103 sign may be used immediately below R-9 DO NOT ENTER or TURN CONTROL SIGNS where buses are exempted from restrictions which apply to other traffic. If used in conjunction with a TURN CONTROL SIGN and an R-15T TIME RESTRICTION tab, the R-103 sign should be mounted below the R-15T tab.

R-103

(60X30)

R-104

(240 x 200)

R-104 B

(240X30)

R-104 C

(240 x 30)

R-104 F

(240X30)

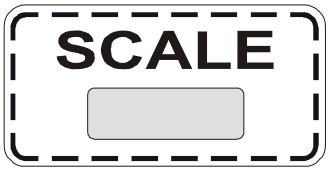
R-104L

(240X30)

R-104 R

(240X30)

R-105



300 x 180

R-104 VEHICLES OVER 5,500 KG LICENCED GROSS

R-104TBUS	**INCLUDING BUSES NOT LICENSED IN B.C.**
R-104TCHIP	**EMPTY CHIP TRUCKS EXEMPT**
R-104TFARM	**EMPTY FARM TRUCKS EXEMPT**
R-104TLOG	**EMPTY LOG TRUCKS EXEMPT**
R-104TRV	**RECREATIONAL VEHICLES EXEMPT**
	ALL TABS

The R-104 sign is required in advance of any permanent scale to direct commercial vehicle operators to provincial weight scales.

The R-104 may be supplied in two formats:

1. In two pieces which permits the bottom half to be folded up obscuring the message when the scale is closed.

2. In one piece but used in conjunction with a changeable message sign reading “SCALE OPEN/CLOSED”.

The R-104 and changeable message OPEN/CLOSED sign, if used, should be placed at distances in advance of the beginning of the scale exit taper/ access or in advance of the widest point of the median left turn island in the case of left accesses, as follows:

a) Two Lane Conventional Highways:

- R-104: 300 m
- If an changeable message OPEN/CLOSED sign is used, it will be placed 300 m and the R-104 at 600 m.

b) Four Lane Highways:

- G-130 “SCALE 300m” at 300 m; R-104 at 600 m
- If a changeable message OPEN/CLOSED sign is used it should be placed at 300m, the G-130 at 600 m and the R-104 at 900 m

c) Scales accessed via an interchanges:

R-104 sign should be located mid way between the 1200 m and 600 m advance directional signs.

If an changeable message OPEN/CLOSED sign is used it should be located mid way between the 600 m advance direction sign and the turnoff directional sign at the start of the off ramp taper. All directional signs for the approach should include the message SCALE in green on white as the bottom line.

Under conditions (a) and (b) for a scale on the right with an exit taper a G-131 sign should be placed at the beginning of the taper. If there is no taper a G-132R should be used immediately in advance of the access. For a scale on the left a G-132L sign should be placed on the right side adjacent to the widest point of the median left turn island.

Tab signs as illustrated may be added below an R-104 sign at the discretion of the scale operator.

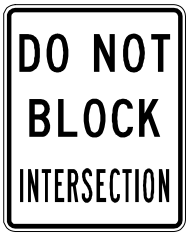
Oversize R-104 signs and tabs should be used where there are two or more lanes in one direction and the speed limit is 70km/h or higher.

R-106 DO NOT BLOCK INTERSECTION

R-107 DO NOT BLOCK ACCESS

The R-106/R-107 signs may be used where queuing vehicles create a problem by blocking access at minor intersections or major commercial accesses.

R-106



(60X75)

R-107

(60X75)

R-109 L

(45X60)

R-109L & R LEFT/ RIGHT TURN SIGNAL

This sign is used to the right of or below all traffic signal heads that control left turn/right turn movements.

R-110

(75X75)

R-110 LEFT TURN YIELD ON SOLID GREEN

This sign may be used to the right of or below a traffic signal head containing a left turn protected/permissive arrow if drivers making left turns on the green ball appear to not be yielding to opposing traffic.

R-112

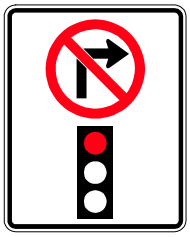
(90X120)

R-112 NO HITCH HIKING - PICKUP IS ILLEGAL

This sign is only required where hitchhiking is observed on a Schedule 1 Highway (a designated freeway). It must be used in combination with both an R-13 sign which prohibits pedestrians, and P-10 EMERGENCY STOPPING ONLY signs.

Where required, an R-112 sign is placed at the start of a Schedule 1 Highway and on the right side of an on ramp near the convergence of the ramp and the through lanes.

R-117 R



(60X75)

R-117R NO RIGHT TURN ON RED SIGNAL

The R117 sign indicates to a motorist facing a red signal that a right turn after stopping on a red signal is not permitted. Conditions which may justify its use are:

- Inadequate sight distance or restrictive geometrics.
- Irregular intersection or intersection with more than four approaches.
- Hazardous conflict with pedestrians.

- Double left turns by opposing traffic or double right turns.
- An unacceptable record of accidents involving right turns on red.
- A railway crossing near the intersection on the approach to which the right turn is made.

The R-117R should be mounted to the right of the primary signal head and below a far right auxiliary signal head if one exists.

TRUCK ROUTE SIGNS

R-120 NO TRUCKS

R-120

(60X60)

The R-120 sign is used to prohibit heavy trucks. On the Provincial highway system it will generally only be used at access points to municipal streets on which heavy trucks are prohibited or where road geometrics cannot accommodate commercial traffic.

R-121 TRUCK ROUTE

R-121

(60X60)

The R-121 sign may be used with an appropriate arrow in advance of a turn off to a designated truck route.

These signs may be used with appropriate G-15x to G-17x DIRECTIONAL TABS.

R-130 STOP BEFORE DRIVING ON SCALE

R-130

(60X60)

This sign is placed on the scale building facing approaching traffic. If the scale services bi-directional traffic it is placed on both ends of the scale building.

R-136

(60X30)

R-136 WAIT HERE FOR FERRY

At a minor ferry terminal the R-136 sign may be installed below an R-1 STOP sign to mark the point from which vehicles waiting for a ferry should queue.

R-139

(60X45)

R-139 WRONG WAY

The R-139 sign should be used as a supplement to R-9 DO NOT ENTER signs where motorists frequently proceed the wrong way on a freeway off ramp or other one-way roadway. It should be installed on both sides of the one-way roadway below the R-9 signs.

R-140 YIELD TO ONCOMING TRAFFIC

R-140

(60 x 30)

The R-140 sign should be used at an intersection where there is only one stop controlled approach and traffic on the other approaches are unregulated.

The R-140 is placed below the STOP sign.

An R-140 sign must not be substituted for an R-56 if the R-56 is warranted.

R-152

(60X60)

R-152 NO BICYCLES

The R-152 sign may be used at the point where bicycles are required to leave a main roadway and follow another road, a separate bike path or to traverse an interchange by following the ramps rather than the through roadway.

R-153 CYCLISTS STOP AND DISMOUNT

R-153

(60X30)

The R-153 sign may be used where it is felt necessary to have cyclists dismount and walk their bicycles for their own safety or that of pedestrians.

A typical use is at pedestrian grade separations, or on a bridge where pedestrians and cyclists are required to share the sidewalk or the bridge railing height does not meet current cycling standards. The segment where this restriction applies should be short enough to expect reasonable compliance to the signs.

R-155 CYCLISTS USE SIDEWALK ONLY - YIELD RIGHT OF WAY TO PEDESTRIANS

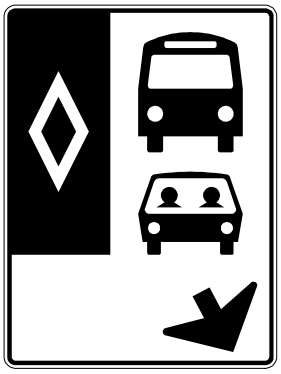
R-155

(45X60)

The R-155 sign may be used on a highway or bridge with no shoulders and high traffic volumes and/or narrow lanes where permitting cyclists to use the sidewalks would improve cyclist safety. The R-155 should only be used where pedestrian volumes are low enough that cyclists/pedestrian conflicts would be minimal. Note that per the R-153 warrant, bridge rail heights should meet current standards, otherwise use the R-153 sign.

RESERVED LANE SIGNS

R-211 R



(90X120)

R-200 to R-236

and

R-240 to R-243

Signs from this group identify traffic lanes reserved for use by designated types of vehicle(s) and/or vehicles carrying a minimum specified number of occupants. For information on their use and the associated pavement markings refer to the Ministry publication “H.O.V. (High Occupancy Vehicles) Pavement Marking and Signing Practice.”

P-1 to P- 7 & P- 9 PARKING CONTROL SIGNS

P-1 D

(30X30)

Parking control signs are used to notify the motorist of parking restrictions as specified on the sign. The sign should be erected where the restriction is in effect and be oriented at 30 to 45 degrees from the curb line or road edge so it is visible to the motorist. Signs without arrows should be placed at 90 degrees to the roadway.

Parking control signs with arrows should be repeated at approximately 100m intervals in urban areas, until the restriction no longer applies.

P-2 L

(30X45)

P-3 L

(30X45)

P-1 D/L/R NO PARKING ANYTIME should be used when a parking restriction is in effect for 24 hours per day year around. The arrow should be specified as required.

P-2 L/R NO PARKING, BUS STOP sign should be used to restrict parking at stops of for regularly scheduled public bus service stops or tour coach stops as required.

P-4 L

(30X45)

P-5 D

(30X45)

P-3 L/R NO PARKING, LOADING ZONES sign should be used where commercial vehicles require a time limited parking zone for delivery/pick-up of goods.

P-4 L/R NO PARKING, HERE TO CORNER sign may be used to reinforce parking restrictions, especially in snow belts, for parking restriction close to intersections.

P-5 D/L/R NO PARKING, <HH:MM> signs should be used where parking restrictions are only required at certain times of the day.

P-6 D

(30X45)

P-7 D

(30X45)

P-6 D/L/R PARKING <TIME LIMITED> signs may be used to permit limited time parking during specified times of day.

P-7 D/L/R PARKING, PARALLEL ONLY sign should be used where motorists have a tendency to angle park where it is not desirable, such as on wide streets with limited pavement markings.

P-9

(45X60)

P-9 NO PARKING ON PAVEMENT may be used where parking is permitted on the shoulders, but motorists tend to park along or near the road impeding traffic flow.

P- 8, P-10 to P-12, P- 14 NO STOPPING SIGNS

NO STOPPING signs indicate to the motorist that stopping is prohibited along the zone specified by the sign. No Stopping signs are effective at all times, on all days of the week. These signs are used where stopping along the curb or shoulder may create a hazard or impede traffic.

P-8 D

(30X30)

The sign should be erected where the restriction is in effect and be oriented at 30 to 45 degrees from the curb line or road edge so it is visible to the motorist. Signs without arrows should be placed at 90 degrees to the roadway.

P-8 and P-8 D/L/R NO STOPPING signs are used to indicate that stopping is prohibited along the established zone.

P-8

(60X60)

P-8 NO STOPPING signs *without* arrows are 60 x 60 cm in dimension and should be only used on freeways and expressways. P-8 signs *with* arrows are 30 x 30 cm and should be used only on urban arterials.

P-10

(45X60)

P-10 EMERGENCY PARKING ONLY signs shall be used where parking is restricted to only emergency situations and where adequate parking area exist.

P-11

(45X60)

P-11 NO STOPPING ON PAVEMENT signs are used where stopping is prohibited and where there is a known problem due to motorists stopping on the traveled portion of the roadway.

P-12

(45X60)

P-12 NOT STOPPING ON BRIDGE signs are used to indicate that stopping is prohibited on the bridge.

P-14

(45X60)

P-14 NO STOPPING ON TRACKS signs are used in advance of railway crossings to indicate that stopping is prohibited on the railway tracks.

P-13

(45X60)

P-13 NO CAMPING OR OVERNIGHT PARKING

The P13 NO CAMPING OR OVERNIGHT PARKING sign may be used at pullouts, picnic sites, viewpoints, roadside rest stops, etc. wherever such a restrictions may be required to prevent camping or overnight parking.

P-15

(60X60)

P-15 PLEASE LIMITED YOUR STAY TO XX HOURS

The P-15 PLEASE LIMITED YOUR STAY TO XX HOURS may be used at MoTH rest stops and pullouts to indicate that the facility is not intended for long term recreation activities, however it is not intended to restrict commercial vehicle operators from sleeping in vehicle cabs.

P-100

(30X45)

P-103-L

(30X60)

P-100 EMPLOYEE PARKING ONLY

The P-100 EMPLOYEE PARKING ONLY signs shall be used where only employees of the associated company or agency are allowed to use the marked parking facilities.

P-103 L/R HANDICAPPED PARKING ONLY

P-103 HANDICAPPED PARKING ONLY signs are used to mark parking facilities that are reserved for vehicles displaying the approved handicap placard.

P-104 NO STOPPING AVALANCHE AREA

P-104

(90 x 120)

The P-104 AVALANCHE AREA signs indicate to motorists that an avalanche hazard exists and stopping is prohibited. The W-106 AVALANCHE AREA ENDS sign shall be used to mark the end of the hazard area.

W- 1 to W-5 CURVE & ALIGNMENT WARNING SIGNS

W-1 to W-5 Curve signs are used to warn the motorist of the severity and direction of a change in roadway alignment. The direction of the arrow on all Curve signs indicates either a left or right configuration, as dictated by the roadway. For multiple turn signs (W-3, W-5), the first turn of the roadway shall determine the curve configuration.

W-1L

(60X60)

A W-3 REVERSE CURVE sign shall be used where two consecutive curves turn in opposite directions, and are separated by a tangent of less than 120 m.

W-2

(60 x60)

If a curve is so severe that the highway reverses or nearly reverses its cardinal direction, a W-4 SWITCHBACK sign should be used.

W-5 WINDING ROAD signs should be used if there is a series of five or more curves, with similar advisory speeds, separated by tangents of less than 120 m. If there are fewer than five curves in succession, one or more REVERSE CURVE signs may be used.

W-3R

(60X60)

If a W-5 WINDING ROAD sign requires a W-22 ADVISORY SPEED tab sign, the tab shall display the lowest advisory speed for the series of curves. A W-24 ADVISORY DISTANCE tab may also be used where the winding section exceeds 1 km in length.

W-4L

(60X60)

Curve Signing Warrants shall be used to determine the most appropriate Curve Warning Sign or assembly to use, as per Table 3.1a. Where all previous signing efforts have failed, Curve Warning signs may be placed overhead where an engineering investigation satisfies a combination of two or more of the following criteria:

- the recommended safe speed is 20 km/h below the posted speed limit
- the location is listed as an “Accident Prone Location” by the *Senior Highway Safety Engineer* with the curve identified as a problem
- additional emphasis of the sign is required due to visual clutter

W-5L

(60X60)

It is recommended that the overhead sign be illuminated for emphasis at night; however, illumination may not be necessary if:

- no power source is available to illuminate the sign
- sufficient ambient light is available, e.g. from luminaries.

Simultaneous Flashers may be added to overhead signs where the recommended safe speed is 40 km/h or more below the posted speed limit, and/or at locations where the accident frequency is high.

Approval for overhead curve signs must be obtained from the Senior Traffic Engineer prior to installation.

Installation guideline: Condition C, Table 1, (Appendix).

DETERMINATION OF ADVISORY SPEED FOR HORIZONTAL CURVES

The advisory speed at which a curve may be negotiated is determined with the aid of an electronic or mechanical inclinometer. This instrument measures and records the lateral gravitation forces on the vehicle as it is driven through the curve.

The advisory speed (which is determined to the nearest 10 km per hour) may be defined as that speed at which the transverse inclination or “bank” of the testing vehicle, plus centrifugal force, reaches a predetermined degree of inclination. The acceptable degree of inclination varies inversely with the safe speed. See Table 3.1b. The procedure to determine the advisory speed is as follows:

a) Drive through the section to be tested at, or below any advisory or posted speed limits, and choose a significant landmark(s), such as a cross road name or structure, as a reference for the test location.

b) Drive through the curve (or series of curves) at the posted advisory speed, or slightly below the posted legal speed as conditions allow. A rule of thumb is to begin the test at a speed 10 km/h below any posted legal or advisory speeds to ensure safety.

c) Drive through the curve parallel to the centre lane line at a constant rate of speed without “flattening” the curve.

d) Note the instrument reading for each pass through the curve until a reading within the allowable inclination per Table 3.1b is achieved for the posted legal speed category.

e) Advisory speeds are established based on which allowable reading was obtained, relative to the posted legal speed for the section.

f) Refer to Table 3.1a for the signing treatment appropriate for each particular situation.

Example: *Posted legal speed = 80km/h*

Instrument indicates 12° at 80km/h

Instrument indicates 10° at 70km/h

A W-1 sign is warranted since it only required a 10km/h drop in speed to bring the allowable inclination within the limits for the posted speed.

NOTE:

The Vehicle used for testing should be an average-sized "family" vehicle with suspension in good condition and tires with average wear. Winter or deep-tread tires should not be used. Pick-up trucks cargo vans, S.U.V.'s are not acceptable test vehicles.

Testing should be done under normal driving conditions, on bare and dry pavement.

On new sections of road, it is desirable to have the lane markings in place or preliminary marking lines on the pavement before testing.

Curve test results will vary for each direction. Note a curve will not always require signing in both directions.

TABLE 3.1a

Legal Speed Limit (km/h)	ADVISORY SPEED (km/h)						
	90	80	70	60	50	40	30
100	W-1	W-1, W-22	W-21, W-1, W-22	W-21,W-2, W-22	w-21, w-2, W-22	W-21, W-2, W-22	W-21, W-2, W-22
90		W-1	W-1, W-22	W-21, W-1, W-22	W-21, W-2, W-22	W-21, W-2, W-22	W-21, W-2, W-22
80			W-1	W-1, W-22	W-21, W-1, W-22	W-21, W-2, W-22	W-21, W-2, W-22
70				W-1	W-1, W-22	W-21, W-1, W-22	W-21, W-2, W-22
60					W-1	W-1, W-22	W-21, W-1, W-22

Table 3.1b

Posted Speed Range (km/h)	**Max. Allowable Inclination**
0-40	14°
41-60	12°
61-limit	10°

LEVEL 1
W1 to W5 only

LEVEL 2
ADD W-22 below curve sign

LEVEL 3
ADD W-21 prior to curve sign

LEVEL 4
ADD W-23 in place of W-21

See individual sign warrants for application

LEVEL 5 OVERHEAD

LEVEL 6 OVERHEAD, ILLUMINATED

LEVEL 7 OVERHEAD WITH FLASHERS

W- 6 & W-7 CONCEALED ROAD SIGNS

The W-6 CROSSROAD and W-7 SIDE ROAD Concealed Road signs warn motorists of concealed or unusual conditions ahead where the vision triangle is inadequate for the motorist to react to a sudden entry of another motorist from the side road.

W-6

(60X60)

W-6 and W-7 signs should not be installed in advance of intersections where Route Junction, Advance Route Directional, and Route Directional Assemblies are in place.

G-8 ADVANCE ROAD AND STREET NAME signs may be erected on the same post immediately below the W-6 and W-7 signs.

Installation guideline: Condition C, Table 1, (Appendix).

W-7

(60X60)

W-8 & W-9 INTERSECTION SIGNS

The INTERSECTION signs warns motorists they are approaching a concealed or unusual intersection.

The W-8 “T” INTERSECTION sign warn motorists that there is a “T” intersection ahead and they will be required to make a right or left turn but are not required to stop. If the approach is stop controlled, the STOP AHEAD sign should be used instead.

The W-9 “Y” signs should be used to warn motorists approaching a “Y” intersection from the road that forms the stem of the “Y”. It shall not be used at a “Y” intersection that is channelized by traffic islands, or where ROUTE marks and JUNCTION or ADVANCE DIRECTIONAL tabs are in place.

The W-8/9 signs are generally required only on, or in conjunction with minor roads.

Installation guideline: Condition C, Table 1, (Appendix).

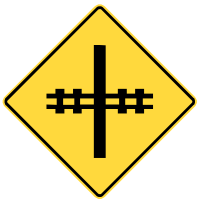
W-8

(60X60)

W-9

(60X60)

W-10a

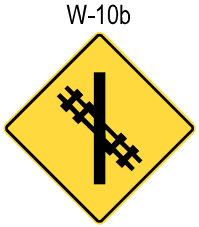


(75X75)

W-10 RAILWAY ADVANCE WARNING SIGNS

The W10a-b RAILWAY AHEAD signs warn motorists of an at-grade railway crossing the roadway ahead. The W-10c-d L/R RAILWAY CROSSING SIDE ROAD AHEAD sign warns that a railway intersects a side road on the left or right ahead.

W-10b

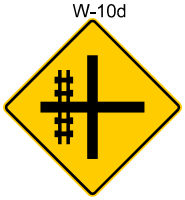


(75X75)

W-10c

(75X75)

W-10d



(75 x75)

The W-10 sign should be placed in advance of all railway at-grade crossings, even if protected by signals, gates, or flagpersons, **except in the following cases**:

a) at an infrequently used minor siding or spur crossing that is controlled by a flagperson and has a speed limit of 50 km/h or less on the street.

b) in developed urban areas where crossings are fully protected and the physical conditions are such that suitable sign placement is not practical.

On a divided highway or one-way street, it may be desirable to erect a supplemental sign on the left side of the roadway or within the median divider.

The Installation guideline: Condition C, Table 1, (Appendix).

W-11

(75X75)

W-13

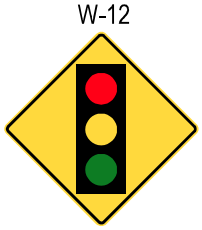
(75X75)

W-11 & W-13 STOP/YIELD AHEAD SIGN

The W-11 STOP AHEAD or W-13 YIELD AHEAD sign warns motorists of an upcoming stop or yield condition. This sign should be installed if there is inadequate visibility for safe stopping distance or a safe yield maneuver due to conditions such as poor horizontal or vertical geometry, foliage, parking etc. High approach speeds may also warrant installation of this sign. The W-11/W-13 may also be used for an educational period to warn motorist of a newly installed stop sign or yield sign.

Installation guideline: Condition B, Table 1, (Appendix).

W-12



(75X75)

W-12 SIGNAL AHEAD SIGN

The W-12 SIGNAL AHEAD sign warns motorists of the presence of traffic signals at the intersection ahead.

The W-12 SIGNAL AHEAD sign should be used:

a) where the signals are not visible for a minimum distance of 120 m in advance of the intersection

b) where the conditions of visibility, light and background distractions warrant an advance warning.

If warranted, the W-116 PREPARE TO STOP WHEN AMBER FLASHING will replace the W-12.

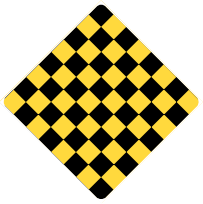
A G-8 ADVANCE ROAD AND STREET NAME sign may be mounted immediately below the W12 sign.

Installation guideline: Condition B, Table 1, (Appendix).

W-14 , W-15 , W-16 CHECKERBOARD SIGNS

The W-14 CHECKERBOARD sign warns motorists of the termination of a road.

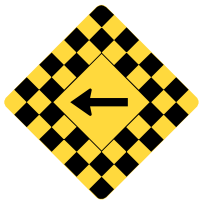
W-14



(75X75)

A W-15 sign may be used to warn motorists of an abrupt change of alignment at a turn or curve. The W-15 sign may be configured for left or right turns by installing the sign in the desired orientation. W-15 signs may be installed alone or in combination with delineators and/or other warning signs to mark a very abrupt change in alignment.

W-15

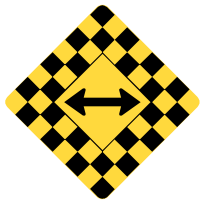


(75X75)

W-16 signs should be used at “T” intersections, where they will direct the traffic that approaches from the roadway forming the stem of the “T”.

W-15 or W-16 oversized Checkerboard signs may be used where approach speeds are 70km/h or greater, or where past traffic performance indicates a need for greater visibility or emphasis.

W-16



(75X75)

These signs should be mounted in a diamond shaped orientation so that the black squares occupy the top and bottom corner positions.

Checkerboard signs shall be located directly in line with the path of the approaching traffic above and behind any barricades.

W-17 ROUNDABOUT SIGN

The W-17 ROUNDABOUT sign warns motorists they are approaching a roundabout where it would normally not be expected. If warranted the W-17 should be installed prior to the yield sign at the roundabout in accordance to Condition B, Table 1, (Appendix). Note the W-17 sign is not used to warn of traffic calming circles in residential areas.

W-17

(60 x 60)

W--18, W-19 LOW CLEARANCE SIGNS

W-18

(75X75)

The W-18 ADVANCE LOW CLEARANCE and W-19 LOW CLEARANCE signs indicate the maximum amount of overhead clearance available under low bridges, underpasses, and other structures.

W-18 signs and W-19 signs must be used together. They warn of any overhead structures with less than 5.00 m of vertical clearance. These signs shall be provided for all pedestrian overpasses regardless of vertical clearance.

Safe clearances should be established by determining the difference in elevation between the highest and lowest points of the structure over the span of the pavement (traveled roadway and paved shoulders) and rounded down to the nearest 0.02 m less than the actual figure. This is important in areas where frost action occurs and affects the pavement height. Note that clearances may vary along a lane through a structure as well as from side to side.

W-19

(90X60)

Structures may be considered horizontal if the difference between the minimum and maximum clearances of the structure along the span of the pavement is 0.10 m or less. Horizontal structures require only one W-19 sign denoting the minimum clearance. If the difference in clearance is greater than 0.10 m, then a W-19 sign is required above all of the traveled lanes denoting the minimum clearance along each lane.

When more than one W-19 sign is installed, the W-18 LOW CLEARANCE AHEAD sign shall display the lowest clearance of any of the associated W-19 signs on the structure.

Clearances should be checked periodically, and the Restricted Clearances Register should be updated after resurfacing.

Installation guideline: Condition B, Table 1, (Appendix).

W-20

(75X75)

W-20 TWO WAY TRAFFIC AHEAD SIGN

The W-20 TWO WAY TRAFFIC AHEAD sign warns motorists of a change from a one-way road to a two-way road or transitions from a divided highway to two-way undivided highways. W-20 signs shall be used in conjunction with R-10 signs.

Installation guideline: Condition C, Table 1, (Appendix).

W-21 SLOW SIGN

W-21

(60X60)

The W-21 SLOW sign is only warranted where the advisory or safe speed at which a hazard may be negotiated is at least 30 km/h lower than the posted speed limit as per Table 3.1.

The W-21 sign is used only in association with a warning sign assembly, mounted alone on a separate post. It shall not be used independently to warn of a potential hazard. It is generally only required in rural areas.

On long, winding sections of highway, where a SLOW sign is warranted per Table 3.1 at frequent intervals, it shall only be erected in advance of the most hazardous curves. This prevents over-signing, and preserves the effectiveness of the SLOW sign.

W-22 ADVISORY SPEED AND W-24 ADVISORY DISTANCE tabs shall not be mounted on the SLOW sign post.

Installation guideline: Condition C, Table 1, (Appendix).

W-22 ADVISORY SPEED TAB

W-22

(45X45)

The W-22 ADVISORY SPEED tab must only be used with the Curve Warning or Bump warning signs on the same post, to indicate the recommended safe speed that a curve or bump may be negotiated.

See the individual warning sign warrant for application criteria.

W-23 SUNBURST ADVISORY SPEED

W-23

(75X75)

The W-23 SUNBURST ADVISORY SPEED sign warns of a potentially hazardous roadway section ahead. They are only warranted at locations where there is a documented accident history or motorist disregard of usual warning signs. They shall not be used independently to warn of a hazard. When warranted, they shall be used in place of a standard W-21 SLOW sign.

The W-23 signs will display an ADVISORY SPEED tab (W-22) attached at the centre, with the W-23 sign mounted in a diamond shaped orientation. In special circumstances where it is necessary to erect a diamond sign in place of the W-22 tab, the appropriate W-23 sign shall be mounted as a square to allow for a more effective viewing of the W-23 sign's characteristics.

W-23 signs are restricted. Authorization for this use must be obtained from the Regional Traffic Engineer before they are erected.

See Curve Warning Sign Warrants for applications.

W-24 ADVISORY DISTANCE TAB

W-24

(45X45)

The W-24 ADVISORY DISTANCE tab informs motorists that the condition that the warning sign specifies, exists for a distance of 2 km or more length. The distances shown on the tab should be shown in multiples of 1 km.

The W-24 tab shall be mounted immediately below the Warning sign that it supplements or below the W-22 Advisory Speed tab if one exists.

W-25

(90X120)

W-25 ADVISORY EXIT SPEED SIGN

The W-25 ADVISORY EXIT SPEED sign indicates the recommended safe speed on interchange exit ramps where the advisory speed is 10 km/h or more below the posted speed limit.

Accepted engineering procedures should be used to determine the speed at which ramp curves may be safely driven.

Where additional advisory speed warning is required on a ramp beyond the gore, a standard curve sign and W-22 ADVISORY SPEED tab combination may also be erected.

W-25 signs should be erected on the ramp near the gore, but not along the preceding taper. They should be installed on the right-hand side of the ramp. If a ramp curves sharply to the right, an additional W-25 sign may be erected on the left-hand side of the ramp to make the warning more noticeable. A W-11 and W-12 sign placed on the left-hand side of the ramp must be at least 30 m from the W-25 sign in the gore.

W-26 ROAD NARROWS SIGN

The W-26 ROAD NARROWS sign warns motorists on two-lane roadways that the traveled roadway width is reduced to such an extent that two vehicles cannot pass safely without reducing speed. The sign should not be used where there is a reduction in the number of traffic lanes. The sign is generally not required on minor roads with low traffic volumes unless the total traveled roadway width is reduced to less than 5m.

W-26

(75X75)

On divided highways where the width of the median is adequate, a second sign should be erected on the left.

In addition to the W-26 sign, W-55 DELINEATORS may be used to emphasize the roadway width reduction.

Installation guideline: Condition C, Table 1, (Appendix).

W-28

(75X75)

W-28 SPEED LIMIT AHEAD SIGN

The W-28 SPEED LIMIT AHEAD sign will replace the R-3. See the R-2 warrant for application. The Senior Traffic Engineer will advise when this sign
is in effect.

W-29 STEEP HILL SIGN

The W-29 STEEP HILL sign warns motorist, especially commercial vehicle operators, of a steep downgrade ahead that may require the use of a lower gear. The numeral shown below the symbol represents the percentage of the downgrade.

W-29

(75X75)

The W-29 sign should only be used in advance of downgrades which include sections that are 6% or steeper for lengths exceeding the following:

Grade	6%	7%	8%	9%	11%	13%	15%
Length Exceeding	600m	300m	250m	150m	120m	100m	60m

W-29 T

(60X30)

The W-29 sign is also required for hill of any length with a grade of 6% or more, combined with horizontal curves of more than 4 degrees.

The percent grade shown on the sign should be the average grade on the section, weighted by distance and rounded up to the nearest whole number. Adjacent downgrades which are separated by segments shorter than 200m with grades under 6% should be considered as one section.

A separate W-29 sign should be installed in advance of a shorter but steeper segment, provided the grade verses segment length meets the above criteria.

See Figure 3.1 Signing of Steep Hills and grade calculation

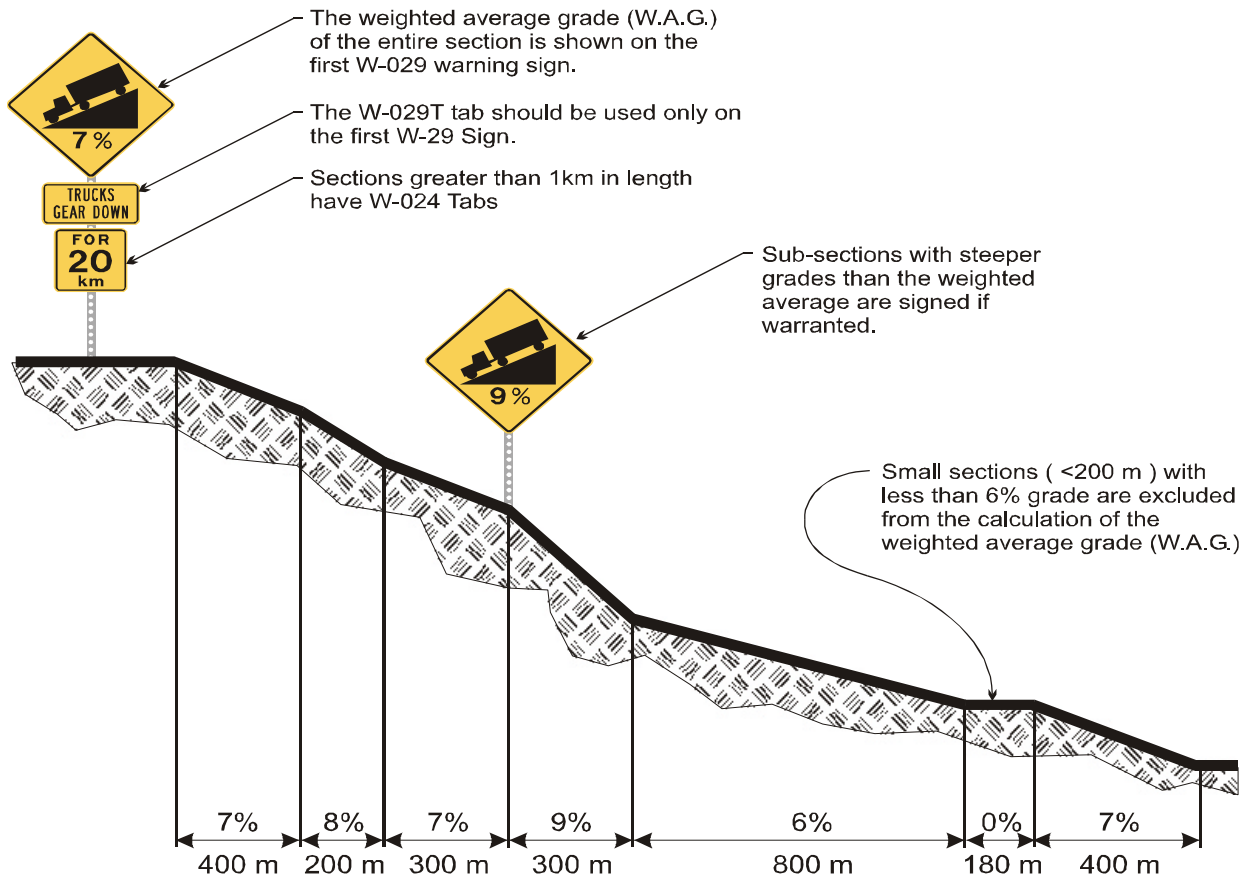
The W-29T TRUCKS GEAR DOWN tab is required under the first of a group of W-29 signs which indicate steep grades for a particular hill for which there are no brake check facilities available.

For exceptionally long and steep hills with a high rate of truck accidents, R-46 TRUCKS STOP HERE - CHECK BRAKES - STEEP HILL AHEAD signs may also be required. W-24 ADVISORY DISTANCE tabs may be used with W-29 signs to mark downgrades of 1 km or more in length. In the case of very long downgrades, it may be desirable to erect intermediate signing at intervals of 1 km or more, especially if the grade on the hill is not uniform. If the W-24 tab is used in conjunction with a W-29 T tab, the W-24 tab should be mounted under the W-29 T tab.

Grade Profile Signs are placed within brake check areas (see Figure 3.3) in a location where drivers of stopped vehicles can easily view them. They are intended to show information which will influence a driver's speed selection on the hill. Accordingly, the following information is provided:

- a profile of the relative grades on the hill and a distance scale
- the location of all runaway lanes

Figure 3.1



$$(W.A.G.) = \frac{7(400)+8(200)+7(300)+9(300)+6(800)+7(400)}{400+200+300+300+800+400} = 7\%$$

W-30

(60X60)

W-30 TUNNEL SIGN

The W-30 TUNNEL sign warn motorists of a tunnel structure ahead and should be used in advance of all tunnel and snowshed portals.

The W-30 T REMOVE SUNGLASSES tab should only be used below W-30 signs in advance of all major tunnels and snowsheds where an R-57 USE LIGHTS THRU TUNNEL sign is used.

W-30 T

(60X30)

Installation guideline: Condition C, Table 1, (Appendix).

W-32 W-33 SLIDE AREA /ENDS SIGNS

W-32

(60X60)

The W-32 SLIDE AREA sign warns approaching traffic that they are entering an area of potential slide hazards. The W-33 END SLIDE AREA sign marks the end of the slide hazard area.

These signs should be used in areas where slides occur frequently, or where there is a risk of slides occurring.

W-33

(60X60)

The W-24 ADVISORY DISTANCE TAB should be used below the W-32 sign when such an area extends for a distance of greater than 1 km.

Installation guideline: Condition C, Table 1, (Appendix).

W-35 ADDED LANE SIGN

W-35 R

(75X75)

The W-35 ADDED LANE sign warns motorists of the convergence of two roads where an additional lane of 1 km or longer is added to the mainline highway such that merging is not necessary. The sign placement should based on site conditions so that it is visible by motorists on both segments. If this is not possible, signs should be erected on both roads.

W-37 L

(75X75)

W-37 MERGING TRAFFIC AHEAD SIGN

The W-37 L/R MERGING TRAFFIC sign warns motorists on a main roadway that they may encounter vehicles entering the lane ahead.

The W-37 sign shall be installed on the side of the roadway on which merging traffic will be encountered, and positioned so as not to obstruct the driver's view of those vehicles about to merge.

W-37 signs are not required at intersections that have raised, channelizing islands.

W-38 MERGE SIGN

The W-38 MERGE sign warns motorists facing the sign that they must merge into another traffic lane ahead.

The W-38 sign shall be used at freeway/expressway on-ramps (or other such one-way approaches that merge with a major road at a small angle), provided that the available parallel distance on the ramp is sufficient to allow a vehicle to reach the highway posted speed before leaving the ramp and entering the outer through lane of the freeway/expressway. If this condition is not met, then a R-2 YIELD sign shall be used instead of a W-38 sign.

The W-38 sign shall be placed on the on-ramp as far as possible ahead of the merge area. The W-38 sign is not a substitute for the W-61 LANE END sign. See the W-61 for its applications.

W-38

(75X75)

W-41

(75X75)

W-41Ta

(60X30)

W-41 SLIPPERY ROAD SIGNS

The W-41 SLIPPERY ROAD sign should be used to warn motorists in advance of sections of roadways and bridges which become hazardous under wet or cold climatic conditions. The appropriate tab for conditions encountered must be used with this sign.

The use of these signs shall be kept to an absolute minimum, and upon the correction of the slippery condition, the sign should be promptly removed.

When the W-41 sign is used to indicate hazardous roadway sections greater than 1 km in length, a W-24 ADVISORY DISTANCE tab should be mounted below the Warning sign.

Confirmatory signs on long slippery sections should be placed approximately 3 km apart.

Installation guideline: Condition C, Table 1, (Appendix).

W-41Tc

(60X30)

W-41Tb

(60X30)

W-41Td

(60X30)

W-42 WATCH FOR ROCKS/DEBRIS ON ROAD SIGN

The W-42 WATCH FOR ROCK or DEBRIS ROAD sign warns motorists of the possible hazards of falling rock or debris accumulation on the roadway.

These signs may be repeated for emphasis along sections of such roadways. Where this hazard extends for a distance of greater than 1 km, W-24 ADVISORY DISTANCE tabs should be used in conjunction with the W-42 signs.

W-42

(75X75)

If maintenance records indicate that substantial quantities of debris routinely falls causing either partial or full lane closure, the W-42 sign should be replaced with the W-32 SLIDE AREA sign.

Installation guideline: Condition C, Table 1, (Appendix).

W- 44, W-45, W-46 LIVESTOCK SIGNS

W-44

(60X60)

The W-44 WATCH FOR LIVESTOCK, W-45 CATTLE CROSSING and W-46 CATTLEGUARD signs warn motorists of domesticated animal crossing hazards.

The W-44 sign should be erected in open-range areas where cows, horses, or other domesticated animals are known to stray over or gather on the highway.

Before W-44 signs are erected in a new open-range area, the Ministry of Agriculture, Fisheries and Food and the British Columbia Beef Cattle Growers' Association should be consulted regarding placement of the signs. Signing itself is the responsibility of the Ministry of Transportation and Highways.

A W-24 ADVISORY DISTANCE tab, mounted below the W-44, is used to indicate the length of the highway within the open-range area. Where open-range sections are over 5 km in length, confirmatory W-44 signs (without W-24 tabs) should be erected approximately 3 km apart.

The W-45 sign is required at locations where cattle frequently cross a highway. If the cattle crossing is used infrequently, permanently mounted signs are not necessary, and the cattle owner shall be responsible for the placement of temporary signs on the shoulder as required. Such signs shall only be in place while cattle are crossing the highway.

For information regarding cattle drives, please refer to the Ministry's *Cattle Drives on Highways* interim policy.

The W-46 sign should be used to warn motorists at all cattle guard locations. If sight conditions require a reduction in speed of 20 km/h or more, a W-22 ADVISORY SPEED tab should be used below the W-46 sign.

Installation guideline: Condition C, Table 1, (Appendix).

W-45

(75X75)

W- 48 DIVIDED HIGHWAY ENDS SIGN

The W-48 DIVIDED HIGHWAY ENDS sign warns motorists of an impending transition from divided highway operation to undivided highway operation.

This sign shall only be used on multi-lane highways. For single lane two-way highways, R-10 TWO WAY TRAFFIC and W-20 TWO WAY TRAFFIC AHEAD signs should be used instead.

This sign shall not be used at a channelized intersection or in place of the R-14 KEEP RIGHT sign.

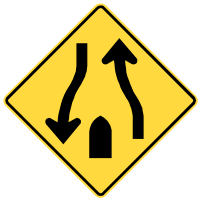
When the W-48 sign is installed, it should be oriented in such a way as to have the median symbol in the bottom corner.

Installation guideline: Condition C, Table 1, (Appendix).

W-46

(60X60)

W-48



(75X75)

W-49 PAVEMENT ENDS SIGN

The W-49 PAVEMENT ENDS sign warns motorists of a change from paved (asphalt, concrete, or other finished pavement surface) to a gravel or dirt section beginning.

Installation guideline: Condition C, Table 1, (Appendix).

W-49

(75X75)

W- 50 NO CENTRE LINE SIGN

The W-50 NO CENTRELINE sign warns motorists of the absence of centreline pavement marking on the road surface ahead.

This sign should be used on completed re-surfaced new roadway projects when it is anticipated that a centreline will not be painted immediately.

The W-50 sign shall not be used to indicate the end of a paved section of highway.

W-50

(75X75)

Installation guideline: Condition C, Table 1, (Appendix).

W-51

(75X75)

W- 51 NARROW STRUCTURE SIGN

The W-51 NARROW STRUCTURE sign warns motorists of a structure ahead that is narrower than the approach roadway.

This sign should be used in advance of bridges, tunnels, and other narrow structures. Depending on the roadway conditions, the W-51 and W-51T shall be used as shown in Figure 8.4 in Part 'B'. A R-56 YIELD TO ONCOMING TRAFFIC is required when W-51T tabs are used.

W-51 T

(60x30)

Installation guideline: Condition B, Table 1, (Appendix).

W- 54 OBJECT MARKERS

W-54 D

(30x90)

The W-54 DOUBLE OBJECT MARKER and W-54 L/R LEFT/RIGHT OBJECT MARKERS warn motorists of objects or obstructions on the roadway.

Object markers should be used to mark obstructions which encroach on a shoulder or the traveled roadway; for example,

a) On left and right bridge end posts that encroach on the shoulder or the traveled roadway

b) the diverging end of traffic islands which face, and are adjacent to oncoming traffic

c) the end of the guardrail flare (or 'hinge' point of the barrier treatment)

W-54 L

(30x90)

The W-54 L is used to mark obstructions on a motorist's left and the W-54 R to mark obstructions on the right. Where traffic traveling in one direction is allowed to proceed both to the left and to the right of an obstruction, a W-54 DOUBLE OBJECT marker is required.

W-54 R

(30x90)

W-54 L & R signs should be positioned with the inside edge of the marker in line with the inside edge of the object. On bridges with sidewalks, the marker should be installed with the inside edge 0.4 m back of the curb face. For bridges without sidewalks, the inside edge of the marker shall be in line with the inside edge of the bridge rail end post. However, where a concrete barrier is located at the end of the sidewalk and in line with the curb face, the object marker shall be mounted with its inside edge in line with the inside

edge of the concrete barrier. Refer to Figure 1.2 installation for more details.

Object markers should be mounted on posts immediately in advance of the obstruction being identified, and generally positioned with the bottoms of the markers about 1.0 m above the level of the traveled roadway. If markers erected at this height on traffic islands impair sight distance, then the mounting height may be reduced so that the bottoms of the markers are 0.5 m above pavement level.

When a Object marker is mounted below and on the same post as another standard sign, the mounting height of the marker is governed by the standard mounting height of the upper sign. Where a W-54L OBJECT MARKER is mounted below a R-14 sign, it is permissible to centre the W-54 between the R-14 and the pavement level.

Object marker stripes slope downward towards the side or sides of the obstruction on which traffic is allowed to pass.

W-55 DELINEATOR SIGNS

REFER TO CHAPTER 7, SECTION 7.6 DELINEATORS

W-61 RIGHT/LEFT LANE ENDS SIGN

The W-61 RIGHT/LEFT LANE ENDS sign indicates a reduction in the number of lanes of pavement ahead either from the right or from the left.

The W-61 sign is only used for the reduction of a group of continuous lanes, and, therefore, should not be used in advance of an acceleration lane.

Pavement markings and/or delineation markers may also be used to mark the transition.

The appropriate version of the sign shall be used for the specific roadway configuration, that is, the W-61 R shall be used when the right lane ends, and the W-61 L when the left lane ends.

The oversize version of these signs should be used on multi-lane facilities, or wherever greater emphasis is required.

Refer to Figure 7.37 for installation guidelines.

W-61 R

(75x75)

W-61 L

(75x75)

W-61 T

(60x30)

W-62 CHEVRON SIGN

The W-62 CHEVRON sign provides motorists with additional guidance as to changes in the horizontal alignment of the roadway.

W-62

(60x75)

W-62 signs may be used in addition to normal curve warning signs, to indicate sharp changes in the horizontal alignment of a road. Other signs which should also be considered in the treatment of such special situations are the W-55 DELINEATORS the W-23 SUNBURST, and the W-15 CHECKERBOARD signs. A typical example of a where W-62 signs may be required is a sharp curve at the end of a long tangent.

The W-62 shall not be used to mark obstructions such as medians, overpass piers, etc.

W-62 signs should be installed on the outside of a curve, at right angles to approaching traffic, with the lower edge 1.2 m above the nearest edge of a traveled lane.

Spacing between W-62 signs should be such that the motorist always has two signs in view until the change of alignment eliminates the need for signs. A minimum of three W-62 signs shall be placed on a curve.

W-62 signs should be mounted with the same specifications as W-15 SINGLE ARROW CHECKERBOARD signs.

W-63 & W-64 WATCH FOR WILD ANIMALS SIGNS

W-63

(75x75)

The W-63 WATCH FOR MOOSE and W-64 WATCH FOR DEER signs warn motorists of known wild animal crossings or known sections where animals may be present on or along the highway creating a hazard.

Where there is history of moose related accidents the W-63 sign shall be used.

Where there is history of deer related accidents the W-64 sign shall be used.

If the crossing area covers a distance of greater than 1 km, a W-24 ADVISORY DISTANCE tab shall be used. Intermediate W-63/64 signs (without W-24 tabs) may be required for long segments of animal crossings, but such signs should not be more than 8 km apart.

Intermediate warning signs without W-24 tabs may be required where wild animals are known to cross randomly along a considerable length of road. Additional signs may be required if there are intervening intersections from which significant volumes of traffic enter the main road.

The oversize versions of these signs should be used on multi-lane roadways, or where special emphasis is required.

Installation guideline: Condition C, Table 1, (Appendix).

W-106 END AVALANCHE AREA SIGN

The W-106 END AVALANCHE AREA sign should be used with the P-104 NO STOPPING AVALANCHE AREA sign to indicate the end of the avalanche danger.

W-107 DIP IN ROAD SIGN

The W-107 DIP sign warns motorists of a depression in the roadway ahead.

This sign may be used in advance of a depression in the roadway which could cause cargo to shift, or a vehicle to veer from its course.

Installation guideline: Condition C, Table 1, (Appendix).

W- 108 BUMP/ ROUGH ROADWAY SIGN

W-108

(75x75)

The W-108 BUMP sign warns of a bump or rough roadway ahead.

The W-108 sign should be used to warn of sudden changes in the road surface which can create a potentially dangerous condition. Such areas include frost heaves, fill settlements, short pot-holed sections, etc. where such objects are likely to remain for extended periods of time and exceed 15 m in length.

For sections over 1 km in length, W-24 ADVISORY DISTANCE tabs should be used in conjunction with the W-108 or W-310 sign. W-22 ADVISORY SPEED tabs should be used as outlined under their own application guidelines.

The C-16 TEMPORARY HAZARD MARKER OR C-25 TEMPORARY BUMP sign may be used for short duration conditions per Traffic Control Manual for Work on Roadways.

Installation guideline: Condition C, Table 1, (Appendix).

W- 114 LOW FLYING AIRCRAFT SIGN

W-114

(60x60)

The W-114 LOW FLYING AIRCRAFT sign warns motorists of low flying aircraft within the vicinity of the road.

This signs should be used where low flying aircraft may cause difficulties for road users through excessive noise or visual distraction. Potential locations for this sign are roadways near airports, or wherever the aircraft approach envelope is low.

Installation guideline: Condition C, Table 1, (Appendix).

W-115

(60 x 60)

W-115 METAL BRIDGE DECK SIGN

The W-115 sign should be used to warn motorists, especially motorcyclists, of a bridge ahead that has a metal deck and may be slippery .

W-115T

(45 x 30)

W- 116 PREPARE TO STOP WHEN AMBER FLASHING SIGN

The W-116 PREPARE TO STOP WHEN AMBER FLASHING and W-116 R PREPARE TO STOP AT RAILWAY CROSSING signs warn drivers approaching a signal that they may have to come to a complete stop at the intersection or railway crossing.

An advance warning flasher consists of a davit-mounted warning sign with two alternating flashing signal heads. Advance warning flashers are primarily used to warn drivers approaching signals of an impending change from green to yellow. They are placed in advance of an intersection to allow the motorist traveling at the posted speed limit sufficient time to come to a safe and controlled stop.

W-116

(244x122)

Advance warning flashers are timed to activate a certain number of seconds before the signal at the intersection turns yellow. This time is calculated so that a driver who passes the advance flashers just a split-second before they come on has time to clear the intersection safely. The distance of the advance warning flasher from the signal stop line is a function of the speed limit and the approach grade. Advance warning sign distance are specified in Table 20 Section 400 of the Electrical and Traffic Engineering Manual. The traffic engineer will calculate advance flasher timing and sign location.

Use of the W-116 sign with advance warning flashers is warranted when:

a) the legal speed limit on the highway is 70 km/h or higher

b) view of the signals is obstructed due to vertical or horizontal alignment - regardless of the legal speed limit - to the extent that the safe stopping sight distance is insufficient

c) there is a grade approaching an intersection sufficient to require a greater than average braking effort

d) drivers are exposed to many miles of high speed driving before encountering the first signal of a community in a location where signals might be unexpected.

W-116R PREPARE TO STOP AT RAILWAY CROSSING SIGN

W-116 R

(244x122)

The W-116R sign warns motorists they must stop at the railway crossing if the amber lights are flashing.

Without restricting the intended usage, the W-116 R sign may be considered for the following locations:

a) signalized crossings on roadways with a speed limit of 70 km/h or greater

b) signalized crossings where stopping sight distance is insufficient

c) signalized crossings at the bottom of a hill or downgrade of considerable length

d) signalized crossings where environmental conditions frequently restrict visibility (i.e. fog or sunset glare)

If power is unavailable, it may necessary to consider an alternate advance warning strategy. Contact the Regulatory Liaison Officer, Bridge Section, Engineering Branch.

On federally chartered railways, federal grants may be available for installation.

W-116 signs shall be mounted overhead per Table 20 Section 400 of the Electrical and Traffic Engineering Manual.

The installation and location of these devices requires the approval of the Regional Traffic Engineer.

W- 121 ROAD SUBJECT TO FLOODING SIGN

W-121

(75x75)

The W-121 ROAD SUBJECT TO FLOODING sign warns motorists of possible roadway flooding ahead.

This sign should be used on roadways where frequent or seasonal flooding of the roadway occurs. This sign should only be required when the flooding condition is due to roadway characteristics which cannot feasibly be corrected due to technical or financial reasons.

Where possible, the flooding problem should be remedied or mitigated.

Installation guideline: Condition C, Table 1, (Appendix).

W-122

(75x75)

W- 122 STRONG CROSS WIND AREA SIGN

The W-122 STRONG CROSS WIND AREA sign warns motorists of possible driving objects caused by strong and abrupt cross winds. This sign may be warranted in areas prone to frequent strong cross winds, such as roadways on plateaus or hills, or wherever high winds are channelized.

Installation guideline: Condition A, Table 1, (Appendix).

W-123

(75 x 75)

W-123 OPENING BRIDGE SIGN

The W-123 OPENING BRIDGE sign warns motorists that the bridge ahead is a opening bridge which when in operation, can be lifted or swung open to permit the passage of boat, and that the traffic will be required to stop when the bridge is open.

If the approach to the opening bridge is posted at a high speed and/or a high volume location, traffic signals may also be required.

Installation guideline: Condition B, Table 1, (Appendix).

W-125

(60x60)

W- 125 VISION LIMITED SIGN

The W-125 VISION LIMITED sign warns motorists of limited sight visibility ahead due to physical obstructions such as adverse vertical or horizontal alignment, or any other intrusions into the road user's sight triangle.

Installation guideline: Condition A, Table 1, (Appendix).

W-126

(60x60)

W- 126 HORSE AND RIDER SIGN

The W-126 HORSE AND RIDER sign warns motorists of potential horseback riders on the roadway. This sign may be used on narrow or winding roadways where horseback riding is known to take place.

The W-126 sign shall be installed just prior to the start of any roadway used for horseback riding.

W-128 DIVIDED HIGHWAY AHEAD SIGN

W-128

(75x75)

The W-128 DIVIDED HIGHWAY AHEAD tab sign indicates to motorists that they are approaching an intersection with a divided highway. This sign should be used in advance of four-lane divided highways with “at grade” intersections, where the minor road is controlled by an R-1 STOP sign.

The W-128T tab may temporarily be used with the W-128 sign for an educational period.

W-128 T

(60x30)

Installation guideline: Condition B, Table 1, (Appendix).

W- 129 CYCLIST CROSSING SIGN

W-129

(75x75)

The W-129 CYCLIST CROSSING warns motorists of a bike route crossing a roadway.

Installation guideline: Condition B, Table 1, (Appendix).

W-130 CYCLISTS ON ROADWAY SIGN

W-130

(75 x 75)

The W-130 CYCLIST ON ROADWAY warns both motorists and cyclists that both may be present on the roadway. This sign should be used where the presence of cyclists would be unexpected by the motorist, or where there is heavy volumes of cycling traffic on the route.

W- 131 CYCLIST WARNING SIGN

W-131

(45x45)

The W-131 CYCLIST WARNING sign warns cyclists of a potentially hazardous road condition ahead.

The appropriate W-132 to W-136 tab should be used to identify the nature of the hazard.

W-131 signs shall be erected just prior to the hazard, subject to practical field limitations.

W- 132 to W-136 CYCLIST WARNING TABS

The W-132 SLIPPERY WHEN WET and W-133 SLIPPERY WHEN FROSTY tab signs warn cyclists of potentially hazardous wet and frosty road conditions.

W-132


(40x20)

W-133


(40x20)

The W-134 GROOVED BRIDGE DECK tab sign warns cyclists that the bridge deck is grooved, and may result in a loss of control.

W-134


(40x20)

The W-135 CYCLISTS USE CAUTION tab sign warns cyclists of a hazard ahead.

W-135


(40x20)

The W-136 CYCLIST WARNING - UNEVEN ROAD tab sign warns cyclists that the road surface is rough and may be hazardous.

W-136


(40x20)

Cyclist Warning Tab signs shall only be used with the W-131 CYCLIST WARNING sign. They shall be installed immediately below the appropriate warning sign.

If the cyclist hazard is not described by the W-132, W-133 W-136 or W-134 tabs the W-135 tab may be used as a generic warning to cyclists to proceed with caution.

W-140 RESERVED LANE AHEAD SIGN

W-140

(75x75)

The W-140 RESERVED LANE AHEAD sign warns motorist that a lane ahead is reserved for use by special vehicles or vehicles with specific minimum occupancy levels. The exact nature of the restrictions will be identified on regulatory signs.

W-140 T


(60 x 30)

The W-140T tab may be used with this sign to specify times of day and days of week when the restriction applies.

W-145 NO EXIT SIGN

W-145

(45 x 45)

The W-145 NO EXIT sign should be erected at the entrance to non-through roads. The W-145 may be installed on the back side of the R-1 STOP side facing traffic entering the side road.

The W-145a tab may be mounted below the W-145 sign to warn drivers of large vehicles that it may be difficult to turn around at the end of the road.

W-145 a

(45 x 30)

If the W-145a tab is used, the W-145 sign and tab must be mounted on a separate post and oriented in such a way that it is not visible to motorists approaching the R-1 STOP sign on the side road.

See also G-123 DEAD END sign.

W-314 FARM VEHICLES SIGN

W-314

(75 x 75)

The W-314 FARM VEHICLE sign warns motorists that farm vehicles may be crossing the highway or travelling along the shoulder for short distances when moving between fields.

Installation Guideline: Condition C, Table 1, (Appendix).

W- 316 LOGGING TRUCK SIGNS

W-316 L/R

(75x75)

The W-316 LOGGING TRUCKS sign warns motorists that logging trucks are operating within the area and may crossing or entering or using the roadway ahead, creating a potentially hazardous situation.

This sign should only be used where a high percentage of the vehicles using the roadway are logging trucks.

Oversize W-316 signs may be used where additional emphasis is require, such as on high-speed facilities. Oversize W-316 signs are restricted in use.

If installed on logging truck routes, confirmatory W-316 signs should be installed at 5km intervals.

Installation guideline: Condition A, Table 1, (Appendix).

W- 317 TRUCK CROSSING/TURNING AHEAD SIGNS

The W-317 TRUCK TURNING/CROSSING AHEAD sign warns motorists that trucks or heavy equipment may be frequently entering, crossing or turning from or onto the roadway ahead creating a potentially hazardous situation.

W-317 L

(75x75)

These signs shall be used in conjunction with the R-20 NO PASSING FOR 150 METRES sign on highways where pavement markings indicate that overtaking is permitted.

If the truck/equipment movement is not in progress, these signs must be removed or covered. Right or left versions of this sign should be used to indicate the direction from which vehicles may be entering the highway.

Installation guideline: Condition A, Table 1, (Appendix).

W- 318 FIRE TRUCK ENTRANCE SIGN

The W-318 FIRE TRUCK ENTRANCE sign warns motorists of a fire station access ahead. Fire trucks infrequently egress or ingress the station, creating a hazard to motorists, especially when blocking the roadway when backing-in.

W-318L

(75x75)

This sign should be used at all fire truck entrances even if a fire signal exists.

The W-318T tab shall only be used temporarily for an educational period.

W-318 T

(60x30)

The appropriate right or left version of the W-318 sign, indicating the direction from which the fire trucks enter the roadway, should be installed per Condition B, Table 1, (Appendix).

W-320 ROAD SUBJECT TO DENSE FOG SIGN

The W-320 ROAD SUBJECT TO DENSE FOG sign warns motorists of the potential hazard of dense fog on the roadway. This sign may be used in areas prone to frequent occurrences of dense fog throughout the year; for example, valleys, or near bodies of water prone to foggy conditions.

W-320

(75x75)

Installation guideline: Condition A, Table 1, (Appendix).

W-321 RESERVED LANE CROSSING SIGN

W-321

(75x75)

The W-321 RESERVED LANE CROSSING sign warns motorists of the existence of a near-side reserved lane, and indicates that a right turn should be completed in the lane adjacent to the reserved lane.

The W-132 sign should be used on the approach to a roadway with a reserved lane if right turns are permitted.

This sign may be temporarily used for an educational period when the reserved lane is initially installed or permanently in locations where there is a high violation rate for vehicles entering the reserved lane from an intersecting roadway.

W-322 R

(150x120)

W- 322 RUNAWAY LANE AHEAD SIGN

The W-322 TRUCK LANE AHEAD XXXm sign warns motorists, specifically commercial vehicle operators, that an approved, and adequately designed run-away lane facility is located ahead.

This sign should be placed at either 500 m or 1000 m points from the entrance to the runaway lane.

Under special circumstances, these distances may be modified in consultation with the Regional Traffic Engineer to suit field conditions.

See Figure 3.2 for typical signing layout.

W-323 L

(240 x 120)

W-323 RUNAWAY LANE ENTRANCE SIGN

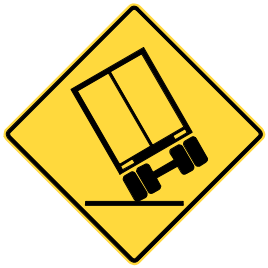
The W-323 RUNAWAY LANE sign is used at the entrance of the runaway lane located on both sides of the lane.

For runaway lanes to the left of the roadway, a left hand version of this sign may be used on approval of the Senior Traffic Engineer. See also the W-327 sign.

The W-323 runaway lane entrance sign shall be erected at the beginning of the taper to the runaway lane.

W-324 TRUCK ROLLOVER WARNING SIGN

W-324



(75 x 75)

Senior Traffic Engineer approval required for installation.

W-325 SLOW TRUCKS USE 4-WAY FLASHERS ON GRADE SIGN

The W-325 SLOW TRUCKS USE 4-WAY FLASHERS ON GRADE warning sign advises commercial vehicle operators and other large vehicles to use their 4-way flashers when traveling downhill to alert other motorists of the speed differential between their vehicle and the other vehicles.

W-325

(90x100)

This sign may be used on grades where the operating speed of large trucks is expected to drop 30 km/h or more below the posted speed limit.

It is restricted in use, and should be used on high speed, multi-lane highways or freeways only under the authorization of the Senior Traffic Engineer in consultation with Highway Safety Section.

W-326

(90 x 120)

This sign should be installed at the start of and intermittently along steep and/or long grades.

W-326 TRUCK ADVISORY SPEED SIGN

The W-326 SUGGESTED TRUCK SPEED warning sign advises commercial vehicle operators and other large vehicles operators of the maximum safe descent speed down steep grades.

W-326 T

(90 x 30)

The safe descent speed is determined by analyzing the relationship between the mass of the vehicle and the length and steepness of the grade verses vehicle brake temperature. Contact the Senior Highway Safety Engineer for evaluation of the advisory descent speed limit.

The W-326 sign should be installed prior to the commencement of the grade.

W-327 RUNAWAY TRUCK CROSSING SIGN

W-327

(90x90)

The W-327 RUNAWAY TRUCK CROSSING sign warns of the possibility of runaway trucks crossing the roadway in order to utilize a runaway lane facility located on the left hand side of the down-grade traffic.

Use of the W-327 sign requires Senior Traffic Engineer approval.

W-327 sign assemblies shall be installed per Condition A, Table 1, (Appendix), in advance of the runaway lane taper for uphill traffic, or 300 m in advance of the taper if the W-327T tab is used.

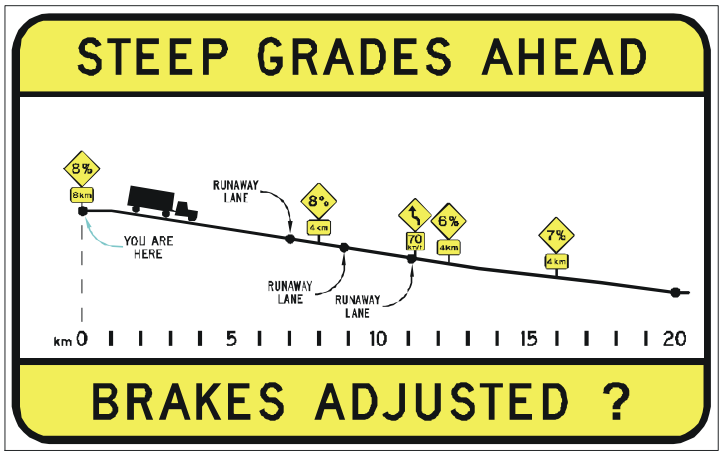
W-329 NEW TAB

W-329

(90x45)

The W-329 NEW tab should be used with the W-12 sign for new signal installations. The NEW tab should remain in place for three months until motorists become familiar with the signal. If the signal has W-116 ADVANCE WARNING flashers, the W-329 and W-12 signs must be removed after the three month education period terminates. The W-329 may also be used with any other standard sign to draw attention to revisions in traffic control.

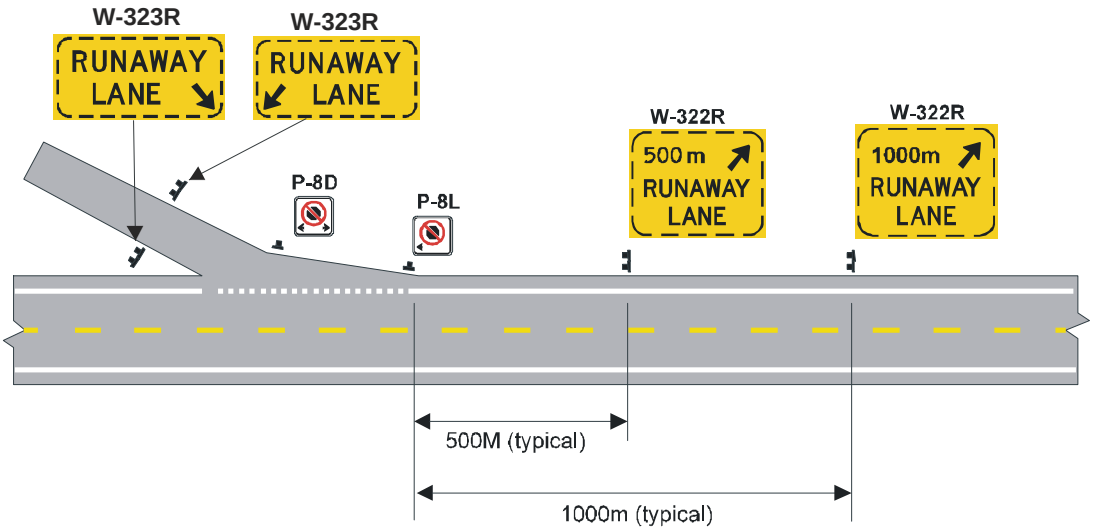
Grade Profile Sign: (Custom Sign)



Supply grade profile information to the Provincial Sign Designer.

Figure 3.2 Runaway Lane Signing

A) Right Runaway Lane:



B) Left Runaway Lane

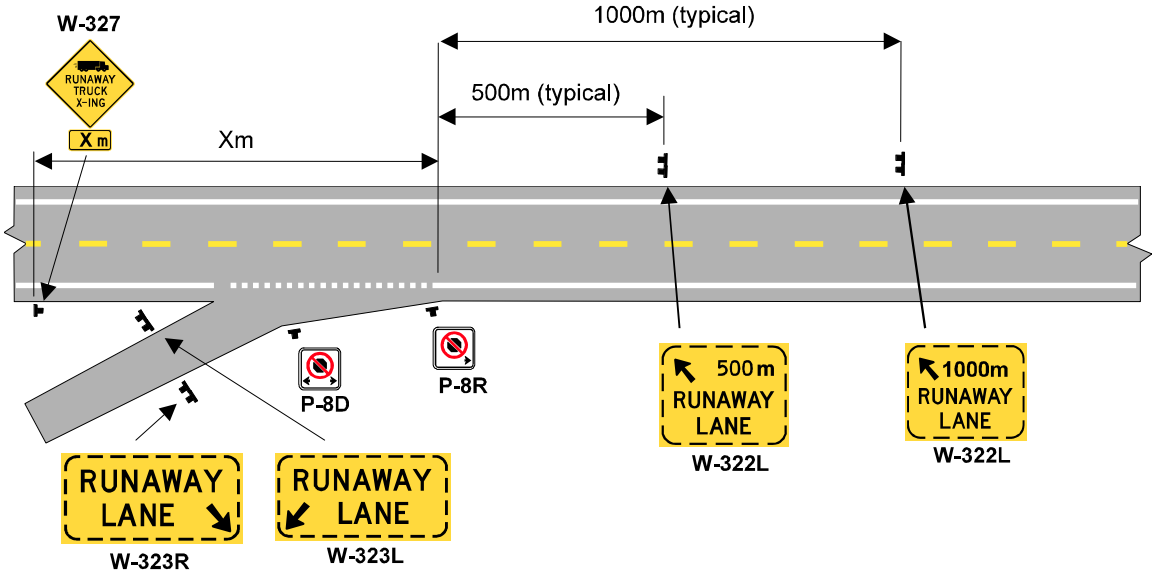


Figure 3.3 Conventional Highway Brake Check

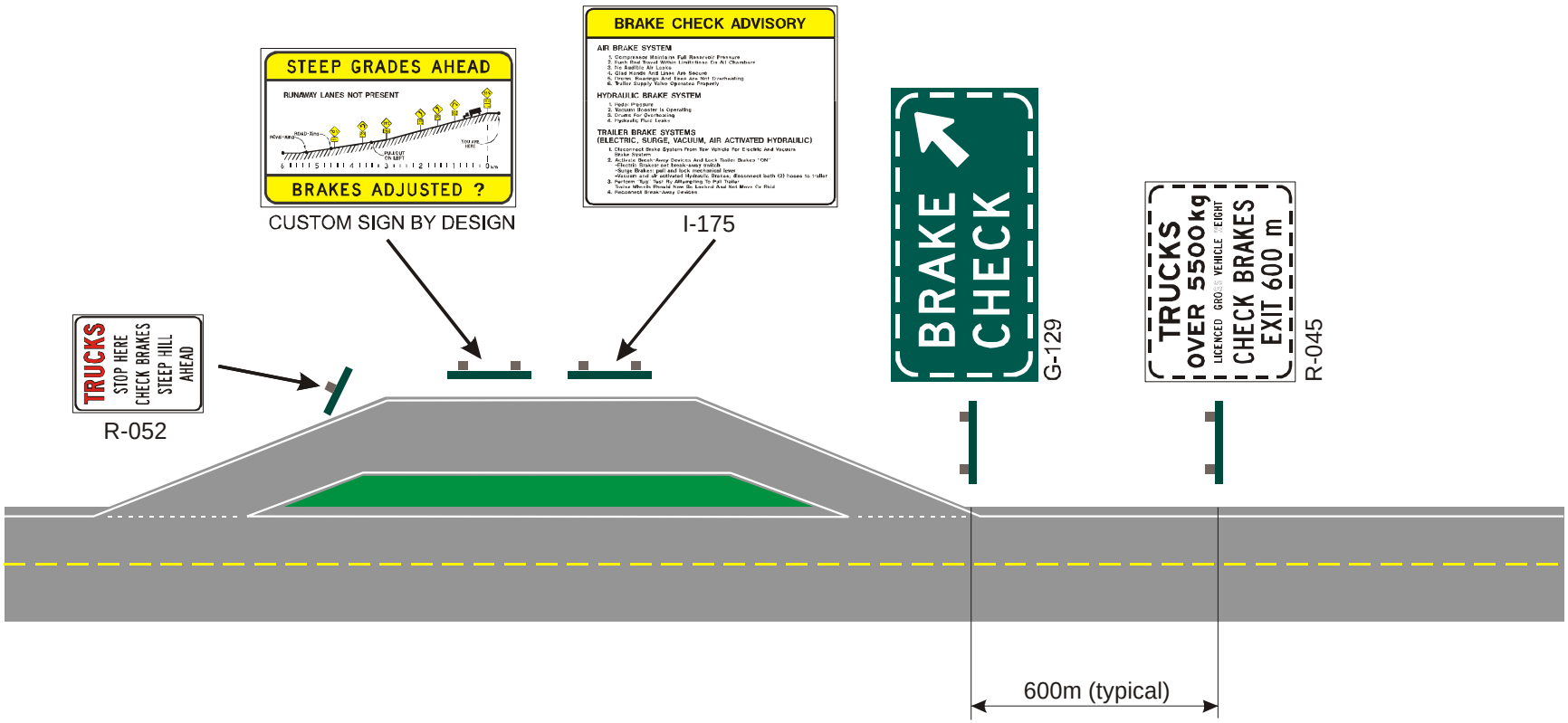
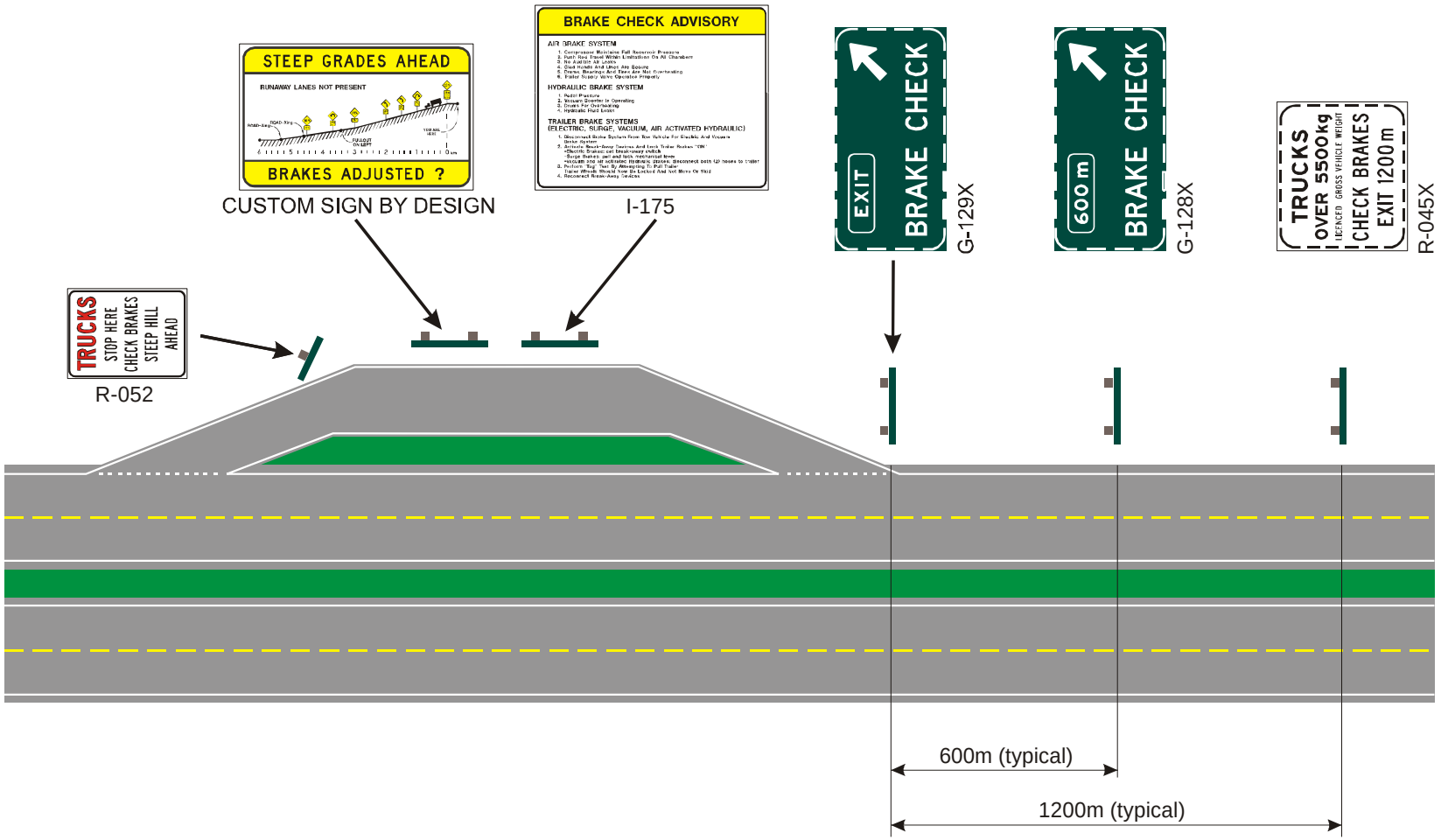


Figure 3.4 Freeway Brake Check



4.1 INTRODUCTION

Guide signs provide motorists with information on direction and distance to destinations on their selected route of travel. The design and layout of guide signs should be directed at the motorist who is unfamiliar with the area and consequently requires clear, concise and consistent sign messaging so they are able to navigate to their destination in an orderly manner.

Directional guide signs such as G-1 and G-5 signs are used in advance of major intersections or junctions to indicate the direction to a destination; confirmatory distance signs such as the G-6 signs are used beyond intersections and major junctions to indicate the distance in kilometers to the next destination and major destination/control city. Route markers such as G-10 signs are erected at consistent intervals along a highway as route confirmation.

Guide sign messaging must be clear and simple and use only warranted destinations. They should not be used to satisfy political desires or to provide 'advertising' for communities.

4.2 CONTROL CITY & DESTINATION SELECTION POLICY

The destinations shown on guide signs must be significant enough to allow the traveler to navigate the highway system in and beyond the province. "Control cities," "major destinations" and "next destination" are defined in this chapter to provide consistency in guide sign messaging. Control cities and major destinations are identified on Map 4.1 .

Control cities are major traffic generators or destination points throughout the province and in adjoining provinces, territories or states. These cities or destinations are generally known to most motorists and are separated by long distances. Control cities should appear on all successive guide signs throughout the length of a given route until that destination is reached. Control cities should be:

- identified as pull-through destinations on freeway guide signs
- used at route diverge points on freeways

- shown on destination orientation on side roads approaching interchanges

- the destinations on G-1 type signs

- the bottom destination on G-6 signs

Major destinations are smaller cities and/or towns that are of secondary interest to a large portion of travelers.

Small towns or communities may be identified on guide signs if they are the “next destination” that a traveler will arrive at along the given route. The next destination will generally coincide with the communities identified on the “British Columbia Road Map and Parks Guide” published by Tourism B.C. and should offer some basic motorist services such as fuel and food.

In no case shall a unincorporated community or a “Village,” as defined under the Municipal Act, which is not on the subject highway, be identified on a guide sign. The only exception to this will occur when a unincorporated community must be signed just prior to a side road that leads to that community or in remote areas where there is no other larger towns to reference.

Major traffic generators such as universities, military bases, institutional hospitals (e.g. psychiatric hospitals), stadiums and fairgrounds etc. may qualify for supplemental guide signs as outlined in Table 4.2.

Signs will not be provided for profit oriented enterprises or businesses regardless of size unless it qualifies for blue directional signs under the Ministry’s “Service & Attraction Signing Program.” Signing will not be provided for neighborhoods without basic motorist services such as fuel and food.

Major ferry terminals servicing British Columbia Ferry Corporation routes shall be considered “sub-destinations” and as such should be identified on guide signs with the control city on the given route. Ferry terminals are usually identified in colour panels. Contact the Provincial Sign designer for details.

On urban/suburban freeways, only cross street names shall be identified. If the cross street is a numbered highway, only the route number and the ***closest qualifying municipality*** shall be identified on the sign.

To determine the validity of a 'closest qualifying municipality,' **all** of the following criteria must be met:

- The destination **must** be incorporated as a "Town", "District", "City" or "Mountain Resort Municipality" under the B.C. Municipal Act.

- The destination must be a **control city** or the **first closest municipality** to the highway, excluding the municipality the highway travels through. The control city takes precedence over the first closest municipality, if there is a control city adjoining another municipality.

- The destination **must** be of commercial interest and have a viable central business district and provide at least basic motorist services such as fuel and food.

The messages on primary guide signs should be limited to two destinations or street names. City or municipality names combined with street names should be avoided. If there are two or more signs on one structure, the destinations listed shall be limited to one per sign or three maximum for all signs.

If there are two or more routes to the same destination, usually the shortest, or best route (highest level facility) shall only be identified on guide signs.

4.3 GENERAL CONVENTIONS FOR GUIDE SIGNS

4.3.1 Colour and Retroreflectivity

Guide signs shall generally be white letters, symbols and borders on a green background. Exceptions to this format exist as noted in the graphical representations throughout this manual.

Retroreflectivity shall be per 1.6.4 of the General Provisions of this manual. Freeway guide signs will have encapsulated lens sheeting

letters on an encapsulated lens sheeting background. The use of prismatic lens sheeting must be approved by the Senior. Traffic Engineer.

4.3.2 Lettering

Lettering for guide signs is standardized in North America. All guide signs used on the provincial highway system shall conform to the lettering style specified in the "1977 Metric Edition Standard Alphabets for Highway Signs and Pavement Markings". This standard is available from the Transportation Association of Canada office in Ottawa. The standard font is the Highway Gothic series varying from type "B" to "E(m)" depending on the particular application. It is not necessary for a designer to use these fonts in preliminary sign layouts. The Provincial Sign Designer will input the final design into the Provincial Sign Shop C.A.M. system software for letter cutting.

Upper/lower case letters shall be used for all destination names, street names or geographical features. Cardinal directions shall be in upper case only. Metric units shall be entirely in lower case letters (e.g. 'km' 'm').

Letter sizes are predetermined for G-1 and G-6 signs. Therefore, lettering will be selected at the time of final design. G-5 freeway signs require customized design. Further details on lettering sizes for this series are outlined in Table 4.2.2.

4.3.3 Arrows, Borders

A variety of styles and sizes for arrows have been developed for different applications. They are detailed in the "Guide Sign Specifications for B.C. "

Arrows for G-1 signs should be within the destination panel of the sign. Each destination should have its own arrow regardless of the direction indicated.

All guide signs shall have borders conforming to the "Guide Sign Specifications for B.C." except for G-7 and G-7X, small street name signs, and G-3 fingerboard signs.

4.3.4 Abbreviations

Abbreviations should be kept to a minimum and cardinal directions (NORTH, SOUTH, EAST, WEST) must always be capitalized.

Abbreviations should not be used for town/city names. i.e. Pt. should be “Port.”

Numbered cross streets should only use the number (e.g. 123 St.) exclude the suffix (e.g. not 123rd St.)

Where abbreviations are required the standard versions are as follows:

Ave	=	Avenue
Blvd	=	Boulevard
Br	=	Bridge
Cyn	=	Canyon
Ctr	=	Centre
Cir	=	Circle
Ct	=	Court
Cr	=	Creek
Cres	=	Crescent
Dr	=	Drive
Fwy	=	Freeway
Hwy	=	Highway
Isl	=	Island
Info	=	Information
Lk	=	Lake
Ln	=	Lane
Pl	=	Place
R	=	River
Pkwy	=	Parkway
Pt	=	Port
R	=	River (use “River” for town/city names)
Rd	=	Road
Rte	=	Route
St	=	Street
Tr	=	Trail
Ter	=	Terrace

4.4 GUIDE SIGN WARRANTS (except G-5)

G-1

(WTSXHTS)

The **G-1, Destination Direction** sign series directs motorists to the next major destination or control city depending upon the geographical setting. These signs shall be erected 100m to 200m in advance of intersections and are typically shoulder mounted. In urban areas, overhead mounting may be desirable if criteria outlined in Sec. 1.9, 'General Provisions', of this manual is satisfied.

These signs should carry the names of three destinations arranged with the through destination on top, followed by the destination to the left and finally the destination to the right on the bottom panel. Each destination must have its own arrow and be contained within a border even if the destinations happen to be in the same direction. If more than one destination is shown for any one direction, the name of the closer destination should be above the more distant one. In rare instances, four destinations may be used on these signs, but should be restricted to low speed rural application where there is minimal competing signing and visual clutter.

These signs should not contain route markers or km indications except for low volume rural un-numbered routes where there is little traffic conflict or other visual clutter. These signs may be installed on the far side of the intersection, especially for rural stop controlled intersections for added visibility. Refer to Fig. 4.2 for sample layouts.

The G-1 signs are offered in three sizes, which are generally related to the type of highway and posted speed limits shown below: (G-6 signs are also shown)

Sign No.	Panel Height	Width	Letter Size[1]	Speed Limit
G-1u/ G-6u	305mm	0.9 –1.8m	140mm C	Max 50km/h[2]
G-1 / G-6	405mm	1.8 –3.0m	190mm C	To 70 km/h[3]
G-1x/ G-6x	610mm	2.4 –4.3m	250mm Em	>70 km/h[4]

[1] C= Highway Gothic C font / Em = Highway Gothic E modified font
[2] Limited to urban low speed areas or low volume rural areas on un-numbered routes
[3] May be used on rural, 2 lane low volume highways posted up to 100km/h
[4] Usually required only on multi-lane high volume routes; may also be used on these highways if posted <= 70km/h

G-3 Fingerboard Signs are used to direct motorists to small towns and villages generally with populations of less than 500.
G-3 are only used at low volume, minor intersections. This may include a numbered route in rural areas if traffic volumes are low enough not to warrant advance destination information. These signs are installed only at the intersection, not in advance of it. A maximum of three G-3 signs per direction are allowed on one post with the closest destination on top panel. The kilometers to each destination should be to the centre of the destination. (Town Hall or CBD may be used to determine the centre.)

G-3

(WTSXHTS)

G-3 signs should not be used to identify street name except where it is necessary to provide direction to an important road. In this case the road name should be prefixed by "To" e.g. "To Mountain Ave".

G-3 signs are supplied in a standard height of 150mm and a length of 1000mm. The length may be increased to 1800mm for a double destination sign.

G-5 Custom Guide Signs: see figures 4.4 to 4.13

G-6 Destination Distance signs indicate the number of kilometers to the centre of the next destination and major or control city on the highway. Therefore the convention is to indicate two (maximum three) destinations on this sign. The bottom destination should always be the control city and should be shown consistently on G-6 signs along the route until that destination is reached.

G-6

(WTSXHTS)

The identification of control cities and major destinations shall conform to Map 4.1 .

One to a maximum of three communities with a minimum population of 1,000 may appear on the G-6 signs. If a route divides or intersects with another number highway that serves equally important destinations, both destinations may appear on a G-6 sign along with the next destination. The name of the closest destination should appear above the more distant destination.

When requested, up to three additional smaller communities may be identified on supplemental G-6 signs, erected 200-300m beyond the primary G-6 The smaller communities should have a population of 1,000 or more and offer basic motorist services such as fuel.

G-6 signs should be installed at the following locations:

- Approximately 200 to 300m beyond the developed area departing an incorporated municipality
- Within 900m of the junction of numbered highways facing traffic leaving the junction.
- Approximately every 20km between destinations or 40km intervals for highways that lie north of 54° latitude.

For sign sizes refer to the table on the previous page

Signs for freeway facilities should be custom designed using the freeway sign design criteria to suit the speed limit and geometric conditions.

G-7, G-8 Street Name Signs:

G-7

(WS x 15)

Street name signs shall be posted at all junctions of roads and highways under ministry jurisdiction. The recognized local Street name should be used to ensure postal and telephone directory addresses correspond to the Street name sign. The highway name rather than the route number is desirable since route markers are usually designated in advance of the intersection using G-10 route markers.

G-7x

(W18 x 22.5)

Where the ministry highway passes through an incorporated municipality, the municipality is responsible for installing and maintaining all shoulder mounted Street name signs. As per section 4.3.1, all Street name signs shall be white on green, however at the discretion of the Regional Traffic Engineer the ministry may supply and install G-7O and G-8 signs in urban areas that match the colour theme of the municipality if their colour differs from white on green. In some urban areas block numbering may be allowed on G-7 signs. The block numbers shall appear under the street type. Abbreviations for street types shall be as described in 4.3.4.

All Street name signs are fabricated with Highway Gothic “C” fonts. Refer to Table 4.1 for sizes and material.

G-7 signs are post mounted and are used on local, collectors or arterial roads with a posted speed limit of 60km/h or less. Double sided messaging is available .

G-7X signs are post mounted and are used on arterials with a posted speed of 70km/h or greater. Double sided messaging is available. G-7 and G-7X signs do not have borders.

G-7o and G-7oX signs are mounted on traffic signal arms at intersections. G7o signs are used where the posted speed on the mainline through the intersection is 60km/h or less and the G-7oX is used where the speed limit is 70km/h or greater. G-7o and G-7oX signs must be mounted by ridged type, non-corrosive fasteners and be positioned no closer than 500mm to the signal head.

G-7O

(WTS x 30)

G-7OX

(WTS x 40)

G-8 and G-8D signs are used to identify cross streets on conventional and expressway classed facilities. The G-8 sign is normally erected alone, but may be used in conjunction with a warranted W-6, W-7 or W-12 sign. G-8D signs are used where the legs of a crossroad have different names. The name of the road to the left shall appear at the top of the sign above the road to the right.

G-8

(WTS x 40)

The G-8 signs are not used at the junction of two numbered routes. See Figures 4.1 & 4.2 for examples of guide sign layouts at various intersections.

G-8D

(WTS x 40)

G-9 signs are restricted to freeway/expressway applications. They are used to identify rivers creeks, canals, road or railway structures passing over or under the highway. The primary purpose is to identify geographical features so motorists may orient themselves with respect to the surrounding area. G-9 signs are placed on the right side of the road prior to the entity they are identifying, or may be fastened to an overhead structure. These signs are not to be used to identify an interchange structure.

G-9

(WTSX30)

Route Markers

G-10

(45X60)

All provincial numbered routes shall be marked by the G-10 or G-11 route markers. The G-10 is specifically reserved for the designated Trans Canada Highways which are Route 1 and Route 16. Route 16 is also designated as the "Yellowhead Highway" therefore, in addition to the G-10 marker, the G-11Y marker without a number referenced on it, shall be installed to the right of the G-10 for the duration of this route. Route 5 from the junction of Route 1 in Kamloops to the junction of Route 16 is also designated as the "Yellowhead Highway", therefore it shall be marked with a G-11Y with '5' indicated on it. Route 3 shall be marked with the G-11C "Crowsnest" marker. All other routes shall be marked with the G-11 and the appropriate route number indicated on the sign.

G-11

(51X60)

Route markers should be installed every 10 - 20 km on rural highways as route confirmation and in the following situations:

G-11C

(51X60)

- After the junction of unnumbered routes
- On a numbered route leaving a community, 100 – 200 m beyond the developed area
- In urban areas as frequently as required to confirm the route to the motorists. Usually the route marker is placed at the far side of the intersection.

G-11Y

(51X60)

(51X60)

Route markers are often combined with arrow tabs, cardinal direction tabs or special message tabs to form route marker "assemblies." Tabs, if required, with the exception of the "TO" tabs, are mounted below the route marker. Arrow tabs, if required, are mounted at the bottom of the assembly, below cardinal direction tabs. Refer to Fig. 4.3 for examples of typical route marking and tab assemblies.

Oversize route markers shall be used at the junction of major routes and on freeways. They may be used where special emphasis is required, such as in urban areas.

For specifications on mounting assemblies refer to the current version of the *Standard Specification for Highway Construction*.

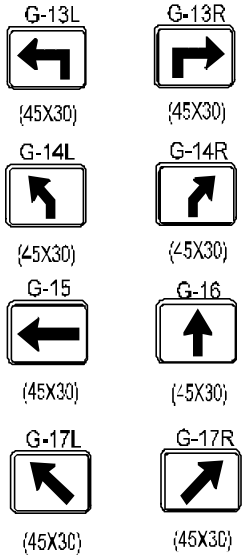
Hospital Route Markers

G-12, Hospital Route Marker may be erected on any arterial highway to direct motorist to an established hospital offering 24 hour emergency services, where the route to the hospital is not clear or well marked. The criteria on the following page should be met before these signs are erected.

- The hospital and/or municipality are required to erect and maintain confirmatory hospital route marker signs from the highway to the hospital entrance.
- Confirmatory signs must be installed before MoTH erects signs on the highway
- Signs, if warranted, shall identify the shortest and most convenient route to the hospital from the highway.
- If the hospital is greater than 2 km from the highway a distance tab must be installed below the G-12.

The G-12 sign should be installed on the highway prior to the turn-off in accordance to Table I, Condition A, with the appropriate arrow tab, G-13 -G-17, indicating the direction to the facility.

See also G-121 Medical Clinic signs.



Directional, Junction, Cardinal Direction and Special Tabs

The G-13 through to G-25 Tabs are used in conjunction with route markers to form specific assemblies depending on the application. G-13 and G-14 tabs are advance directional tabs are used in the assemblies the motorist first sees approaching a junction. The G-15 to G-17 signs are directional and are used in the assembly just prior to the junction or route direction change.

G-18, JCT or G-19 JUNCTION tabs are used in the route junction assembly to advise motorist of the upcoming intersection with a numbered route(s). The G-18 should be used where only one

numbered route intersects with the traveled route and the G-19 should be used where two or more numbered routes intersect the traveled route.

G-20N

(45X30)

G-20 series cardinal direction tabs are used in the assemblies prior to the junction of two or more numbered routes for motorist directional orientation and they are used on the departure leg of the junction of numbered routes to confirm the direction of travel.

G-21

(45X30)

The G-21 BY-PASS and G-21 BUSINESS tabs may be used where a route splits prior to entering a city or urbanized area then rejoins at some distant point. These tabs are seldom required in B.C. as most routes are renumbered to an “A” series (e.g. Rte 19 becomes 19A) if a new by-pass type route is constructed.

G-22

(45X30)

G-23

(45X30)

The G-23 ENDS tabs indicates the official end of a provincial numbered route and indicate the point at which the road becomes under municipal control or is no longer classified as arterial highway under the Highway Act.

G-25

(45X30)

The G-25, TO tab is used above the route marker to guide motorists from local street networks to major provincial routes. The appropriate cardinal direction tab and or directional arrows may also be used below the route marker as required. These assemblies may be installed as required to complete municipal guide signing or to sign areas where access to provincial numbered highways is not obvious.

G-040

(240 x 180)

The G-40 oversize JUNCTION sign should be used on urban or rural facilities where the posted speed limit is 80km/h or higher and the conventional route marker assembly is considered too small to adequately advise the motorist of the upcoming junction. This sign should not be used on facilities with G-5 signs in place where route markers are incorporated on the sign face itself.

G-29

(60X30)

The G-29 POLICE sign may be erected at the request of police and/or municipal officials if the nearest police station is not easily visible from a provincial highway. This sign is only installed on roads under MoTH jurisdiction with the G-114 directional arrow sign oriented to the correct direction.

If the police station is a 2 km or greater from the highway, the municipality shall be responsible for erecting and maintaining

confirmatory signs prior to MoTH installing the G-29. A G-30 tab indicating the distance in km to the station should be installed under the G-29.

The G-29 sign should be erected prior to the turnoff in accordance to Table I, Condition A.

Airport Signs

The G-100 series signs may be used to indicate routes to airports providing the appropriate regularly scheduled commercial air service. The G-100 JET sign may be used to direct motorist to airports providing jet aircraft service. The G-100P directs motorists to regional airports offering only propeller aircraft service and the G-100F is used for commercial floatplane ports and G-100H for heliports.

All versions of these signs should be used with the G-114 or G-115 directional arrow tabs mounted below the respective sign. These signs should be used only on provincial highways prior to the access to the airport, however the G-100 sign series may be erected as required to form continuity in signing provided by municipalities.

The G-100 JET symbol may be incorporated on G-5 signs where appropriate.

The G-101 FERRY symbol should be used as to direct motorists to vehicle ferries that form part of the provincial transportation network. These include all ferries operated by the B.C. Ferry Corporation, MoTH Marine Branch ferries, Washington State ferries, and any private ferry operators who offer regularly scheduled ferries available to the general public. This sign should be used with the G-114 or G-115 as required. A customized tab indicating a specific destination or terminal may be installed below the G-101. G-114/115 tabs are mounted below destination/terminal tabs.

G-101 symbol may be incorporated in G-5 signs where appropriate.

G-103 TRAIN STATION sign may be used to direct motorists to the passenger train stations from the nearest numbered highway.

G-100

(60X60)

G-100P

(60X60)

G-100F

(60X60)

G-100H

(60X60)

G-101

(60X60)

G-102

(60 x 60)

G-103 EXIT sign is used in the gore of interchange exits as a supplemental guide sign to indicate the point at which the exit lane departs from the mainline traffic lanes. The G-103 sign should be placed as near as practical to the apex of the gore, leaving approximately 1.2m from the edge of the sign to the edge of the pavement.

G-103

(180X120)

On freeways a G-103S shall be used. The exit number on the sign shall be equivalent to the number on the kilometer marker (see G-104) or, if kilometer markers are not used, the number must correspond to ministry convention for exit numbering. G-103S should not be used if the signing prior to the gore does not have exit number tabs or reference the exit number.

G-103S

(180X120)

G-104 KILOMETER MARKERS may be used on all provincial highways to provide a means of geographic reference along a given route. They are used as an aid in referencing maintenance issue, emergency sites and assist the motorist with estimating travel progress, especially in remote rural regions.

Kilometer markers begin with ‘0’ at the westerly commencement of the highway for west-east routes and at the southerly commencement of the highway for south-north routes. Therefore km ‘0’ for Route 1 is at Horseshoe Bay and km ‘0’ for Route 97 is the USA border. For the purpose of kilometer markers, Vancouver Island is treated as a separate entity.

G-104

(20XHTS)

Kilometer marker numbers are continuous for an entire route and DO NOT correspond to L.K.I. segments. This prevents duplicate kilometer points on a route.

Kilometer markers on dual numbered routes should carry the G-104 for the primary or dominant route. This is usually the lower numbered route or higher volume route. The incremental numbering would still carry on ‘invisibly’ for the subordinate route, and the respective G-104s would continue where the routes diverge.

On conventional highways G-104s should be placed only on the right side of the road. On divided facilities, G-104s should be placed on the right side of the highway for both directions. Eastbound or southbound motorists would then see G-104’s with descending numbers.

It is recognized that in the future the number on the kilometer markers may appear to be invalid due to road realignment. The number on the G-104 is a geographic reference rather than a precise measure of the road length. If this occurs it may be accommodated by adjusting the position of the G-104 between two given points. For example: if a road is realigned between km 35 and km 45 resulting in the highway being shortened by 2km (from 10 km to 8km between km marker 35 and km marker 45) km marker 40 would be placed 4.0km north (or east) of km35, which by measure is km39.0 This will maintain validity of the G-104's for the remainder of that route.

G-104's should be installed at 5 km intervals or at 2 km intervals over a 10 km segment where more frequent or more accurate location references are required. The G-104 may be installed within +/- 20 m of its correct location. If this is not possible, it should be omitted. Lateral positioning of the G-104's are based on the same criteria as delineator posts.

The G-110 GOLD RUSH TRAIL route marker shall be used on those sections of Rte 97 and Rte 20 which have been designated the official "Gold Rush Trail" by the Heritage Branch of Tourism BC.

The G-112 PARK & RIDE and G-113 PARK & POOL signs shall be used to direct motorist to authorized parking lots where BC Transit or vanpool stops are regularly scheduled. The appropriate directional arrow may be installed below the sign to provide directional information to the motorist. These signs shall not be used on freeways.

G-114 and G-115 DIRECTIONAL ARROW signs are used below various guide signs to provide directional information to motorist.

The G-121 MEDICAL CLINIC sign may be used in place of the G-12 HOSPITAL sign in remote areas where hospital facilities are not available. Qualified medical staff must be on duty at all times. If staff are 'on-call' the telephone number must be prominently displayed and a public telephone must be available at the clinic or in a prominent location close by. Confirmatory signs off the main highway, if required, must be installed and maintained by the clinic or municipality.

G-110

(75 x 75)

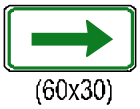
G-112

(60 x 90)

G-113

(60 x 90)

G-114



(60x30)

G-115

(60x45)

G-121

(60x80)

G-123

60 x 60

G-123T

60 x 30

The G-123 sign is used at the entrance to urban/suburban streets or roads that have no exit but have adequate turning areas This sign should be placed so that motorist can see the sign before initiating a turn into the dead end road. The G-123T DEAD END tab may by used for an educational period to confirm the meaning of this sign.

G-124 to G-127 BICYCLE signs are used in conjunction with recognized bicycle paths or routes on or near provincial roads. Contact the office of the Senior. Traffic Engineer for current marking and signing standards for bicycle facilities and the ministry's Interim Cycling Policy.

G-124

(45 x 45)

G-125

(45 x 45)

G-125 B

(60 x 45)

G-125 T

(45 x 30)

G-126

(60 x 80)

G-127

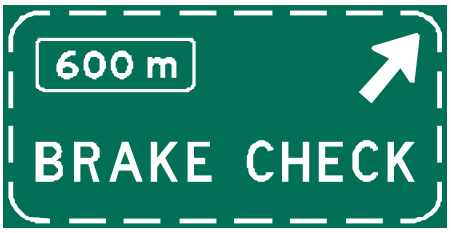
(60 x 80)

Brake check and Scale signs

The G-128 to G-132 series are used to direct commercial vehicle drivers to official provincial brake check sites or weigh scale facilities.

See Fig. 3.3 and 3.4 for examples of signing layouts for these facilities.

G-128 (360 X 180)



G-130 (270 X 180)

G-129 (240 X 120)

G-131 (240 X 120)

G-132 (120 X 75)

G-140, G-141 CHAIN UP AREA SIGNS

The G-140 and G-141 CHAIN UP AREA signs are used to direct motorists to areas cleared to allow the safe installation of tire chains as dictated by road conditions. The G-141 is installed approximately 600m prior to the area and the G-140 is installed at the entrance or taper to the pull out area.

G-140

The G-140 and G-141 sign are available in three sizes:

- 180 x 150cm for conventional 2 lane highways
- 300 x 210cm for multi lane divided highways posted ≥ 80km/h
- 360 x 275cm for rural freeways

G-141

4.5 Freeway and Custom Guide Signs:

4.5.1 Introduction

The G-5 series are customized signs specially designed for each geographical location and are used on expressway and freeway facilities. They may be shoulder or overhead mounted depending upon the application. See Sec.1.9 for criteria on overhead signing. Some of the conventions for G-5 signs are established such as general layout, spacing, message limits etc. Successful custom guide signing involves combining technical signing knowledge and applying principles of various human factors. Human factors include traveler navigation needs, vehicle control, perception and understanding of the sign message.

There are three critical components that must be addressed to prepare a successful sign design: ***sign system design*** or the interaction of new signs and messaging with current signs and messages; effective ***destination selection*** and ***sign face design*** or the layout of the sign, position of arrows and symbols and amount of information placed on the sign or signs

Freeway guide signing has several characteristics that differentiate it from conventional guide signing. Due to the high speed of travel and limited time available for the driver to read messages, the same messages must be repeated several times, preferably three in order for the driver to comprehend, react and take action. Sign sizes are larger to allow an adequate message legibility. Sign position is often critical, as the driver must be able to safely make maneuvers in response to the guide signs messages.

4.5.2 Conventions for G-5 signs

G-5 signs in rural areas shall identify only control cities or major destinations as illustrated on Map 4.1.

A maximum of nine conceptual units or major words shall appear on G-5 signs.

Signs should be placed: at the point of maneuver and at 600m and 1200m prior to point of maneuver for a total of three advance signs where possible.

4.5.2 Cont'd

Ferry terminals should be identified on the sign within a colour coded panel. Ferries are not consider a destination, only a means by which the motorist gets to their destination. Ferry terminals panels should be used in conjunction with the city/town to which the route leads. Tsawwassen and Schwartz Bay terminals are identified on white panels with blue text. Duke Point is identified with black text on a white panel. Horseshoe Bay and Departure Bay are identified with blue panels with white text.

Upward pointing arrows are used to indicate lane destination and direction.

Minimum spacing between guide signs is 300m. Supplemental guide signs may be spaced at a minimum of 200m. Maximum spacing should not exceed 15 seconds of travel time.

Shoulder mounted signs should be oriented 5° away from the driver to reduce headlight glare.

Exit tabs or panels are always used on G-5 signs. On expressways or facilities where exit numbering is not used, the exit panel shall appear on the top left quadrant of the sign. On freeways a tab with the text EXIT followed by the exit number shall be mounted on the top right hand side above the sign in addition to the exit panel.

4.5.3 Guide Signing Theory

Signs are used to communicate information to the motorist through a combination of messaging (letters, numerals, symbols diagrams or combinations of these) sign shape and colour, and retroreflective qualities. These criteria combined in certain ways and sizes directly affect the sign legibility.

Table 4.1 Street name Signs: Sizes and Materials

TYPE	HEIGHT (mm)	LENGTHS (mm)	LETTER HEIGHT (mm)	MATERIAL
G-7	150	450,600, 750,900	75	Aluminum Flat Bar
G-7X	225	600,750,900, 1200	125	Aluminum Flat Bar
G-7o	300	1200,1500,1800	150	Flat Sheet Aluminum or Plywood
G-7oX	400	1200, 1500, 1800, 2100	230	Flat Sheet Aluminum or Plywood
G-8	400	600, 750,900	130	Flat Sheet Aluminum or Plywood
G-8D	400	900,1200	110	Plywood

Table 4.2 Criteria for Supplemental Signing for Major Traffic Generators

Facility	Criteria	Rural	Urban/ Suburban
Institutional Hospital	Max. distance from Highway:	10km	5km
Fairgrounds Stadiums/Arenas	Publicly Owned(1) Min Annual Attendance:	50,000	250,000
Military Base	Min. number of civilian & military personnel on base:	2,000	2,000
Zoos	Publicly owned, non-profit, Min attendance Numbers:	100,000	500,000

(1) Must have continuous year around activities. For periodic events temporary signing may be used.

Note: The Regional Traffic Engineer shall determine if signs may be erected under this criteria. Primary guide, warning and regulatory signs take precedent over supplemental destinations therefore each eligible major traffic generator may not necessarily be signed unless sufficient space exists on the roadway for such signs. Major traffic generators shall not be signed from urban freeways. Confirmatory signs, including on municipal roads, should be in place before signs are erected on provincial highways.

Table 4.3 GUIDE SIGN TEXT HEIGHTS:

FACILITY		TEXT SIZE (mm) (Highway Gothic E[m])	
1. **Freeways & Expressways**		Upper case	Lower Case
a)	Urban high volume*	450	360
b)	Urban* (AADT ≥ 20,000)	400	300
c)	Rural (shoulder mount)	350	280
d)	Supplemental Signs:	80% of above values	

* Overhead signs, >90KM/H & AADT >= 50,000 VPD

2. Conventional Highways		Upper case	Lower Case
a)	Rural	250	200
b)	Urban (speed reduced)	200	150
c)	Supplemental Signs	80% of above values	

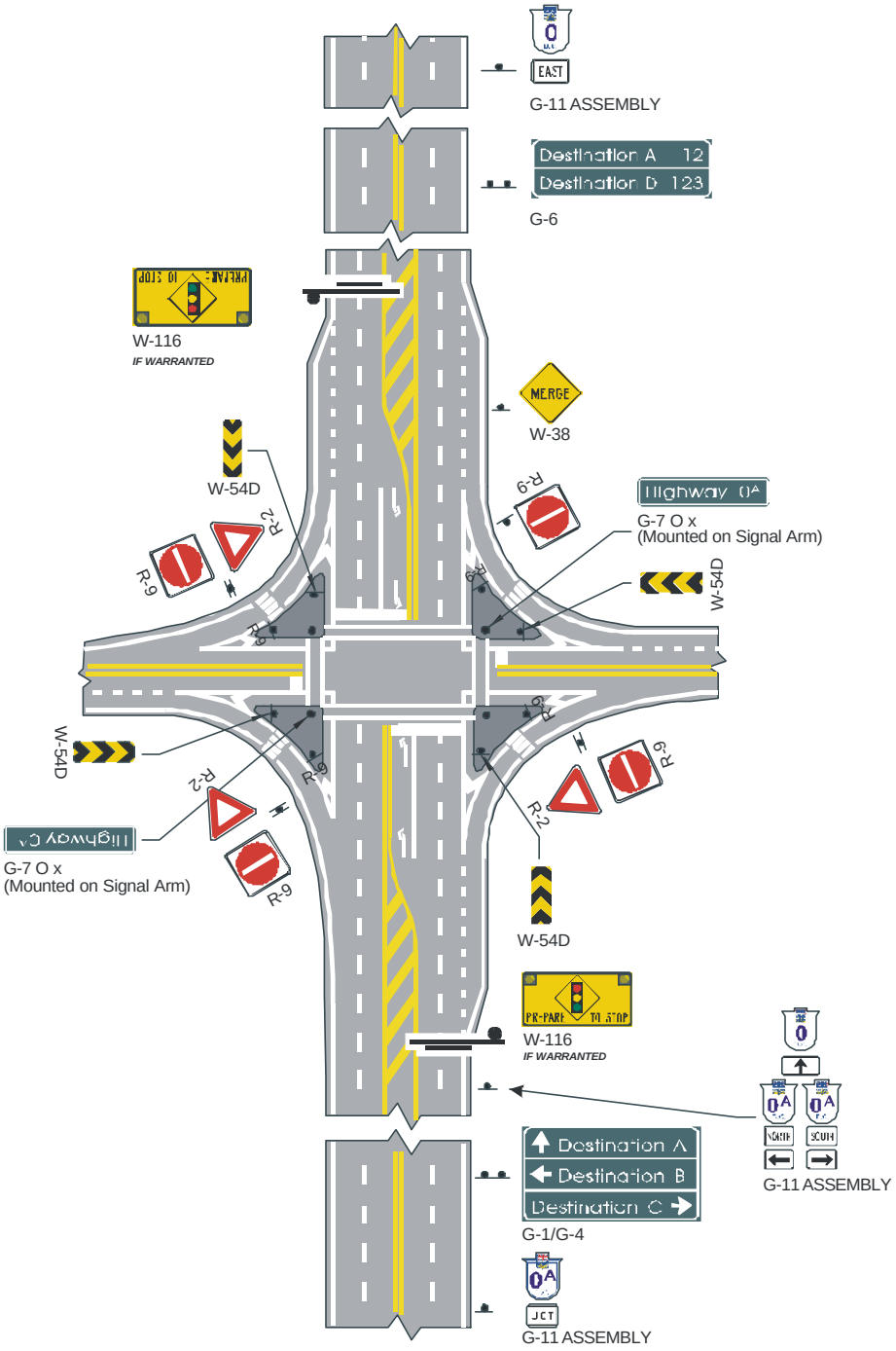
Note:

The above values are based on sign displaying messages with approximately nine conceptual units (CU) or major words. For required text heights for signs containing more than 9 CU's refer to Figure A5-1 or A5-2 in the Manual of Uniform Traffic Control Devices for Canada.

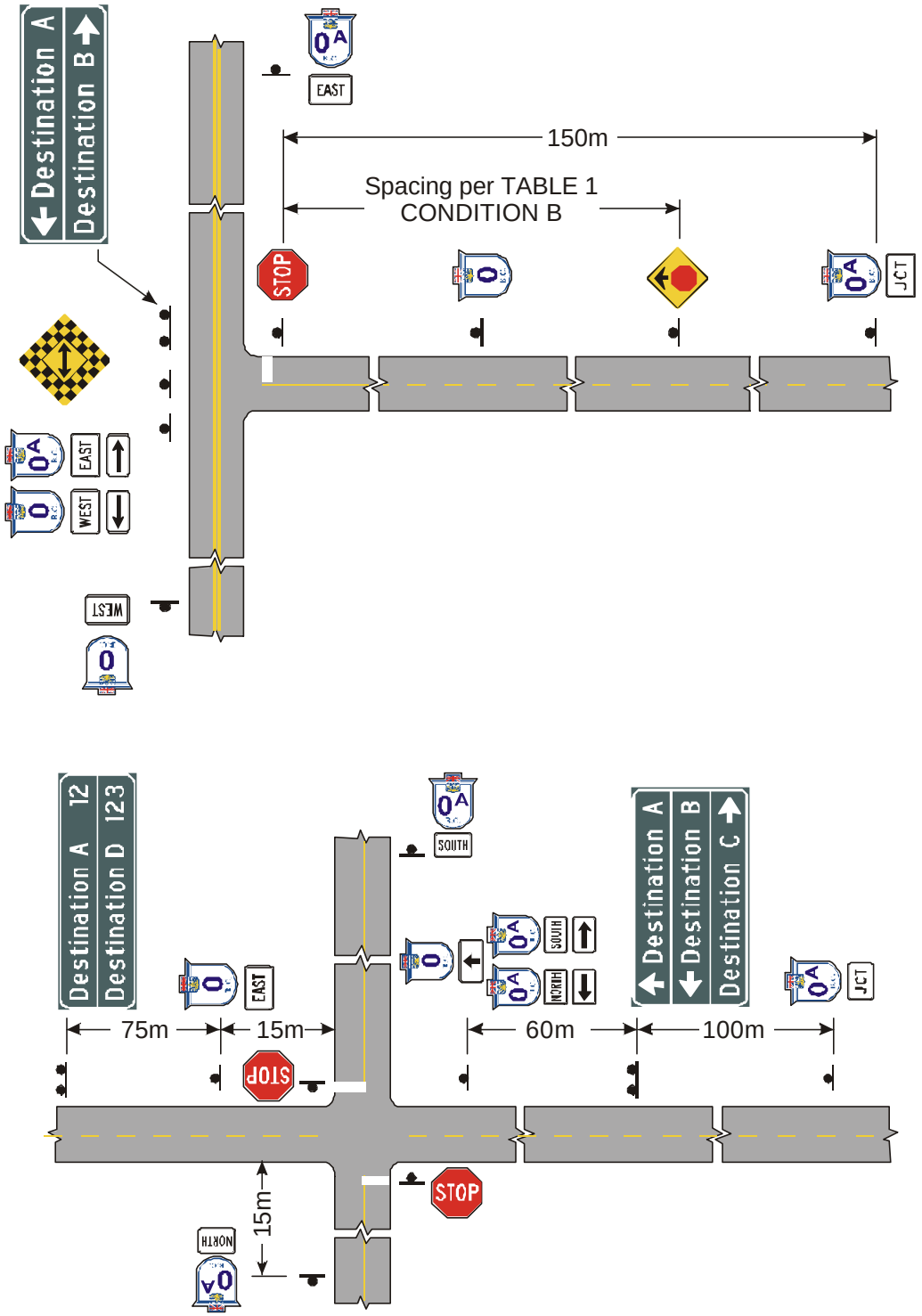
Letter size for signs viewed while stationary:

25mm text height per 15m viewing distance

4.1 TYPICAL SIGN PLACEMENT – SIGNALIZED JUNCTION, TWO NUMBERED ROUTES

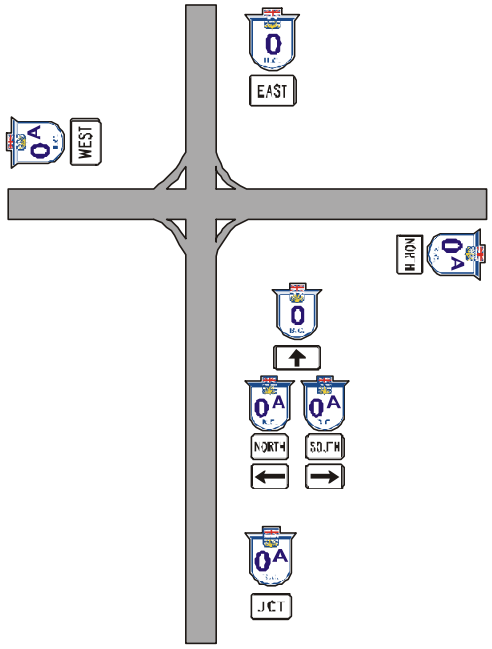


4.2 TYPICAL ROUTE MARKER PLACEMENT AT INTERSECTIONS

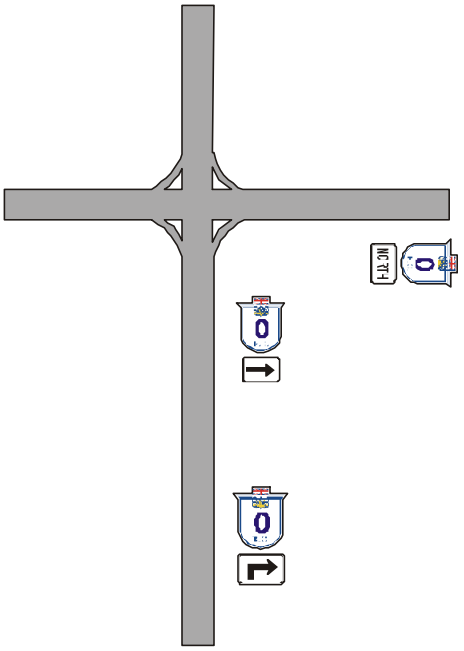


4.3 SAMPLE ROUTE MARKER PLACEMENTS

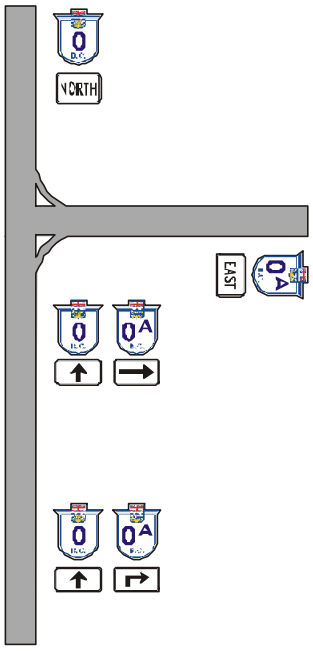
A. Junction of Two Numbered Routes



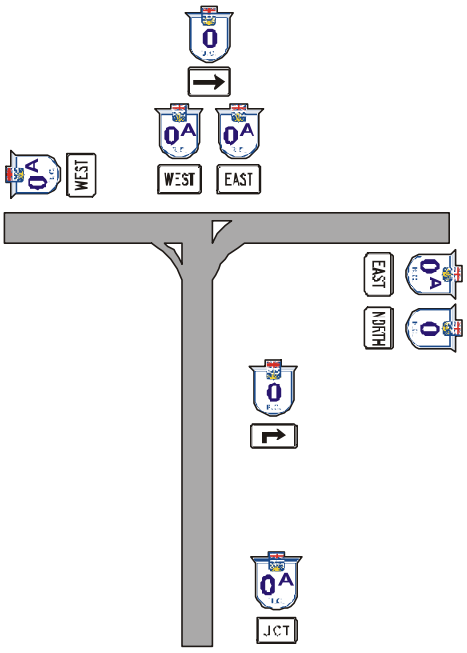
B. Route Turn



C. Route Diverge



D. Route Merge 'T'

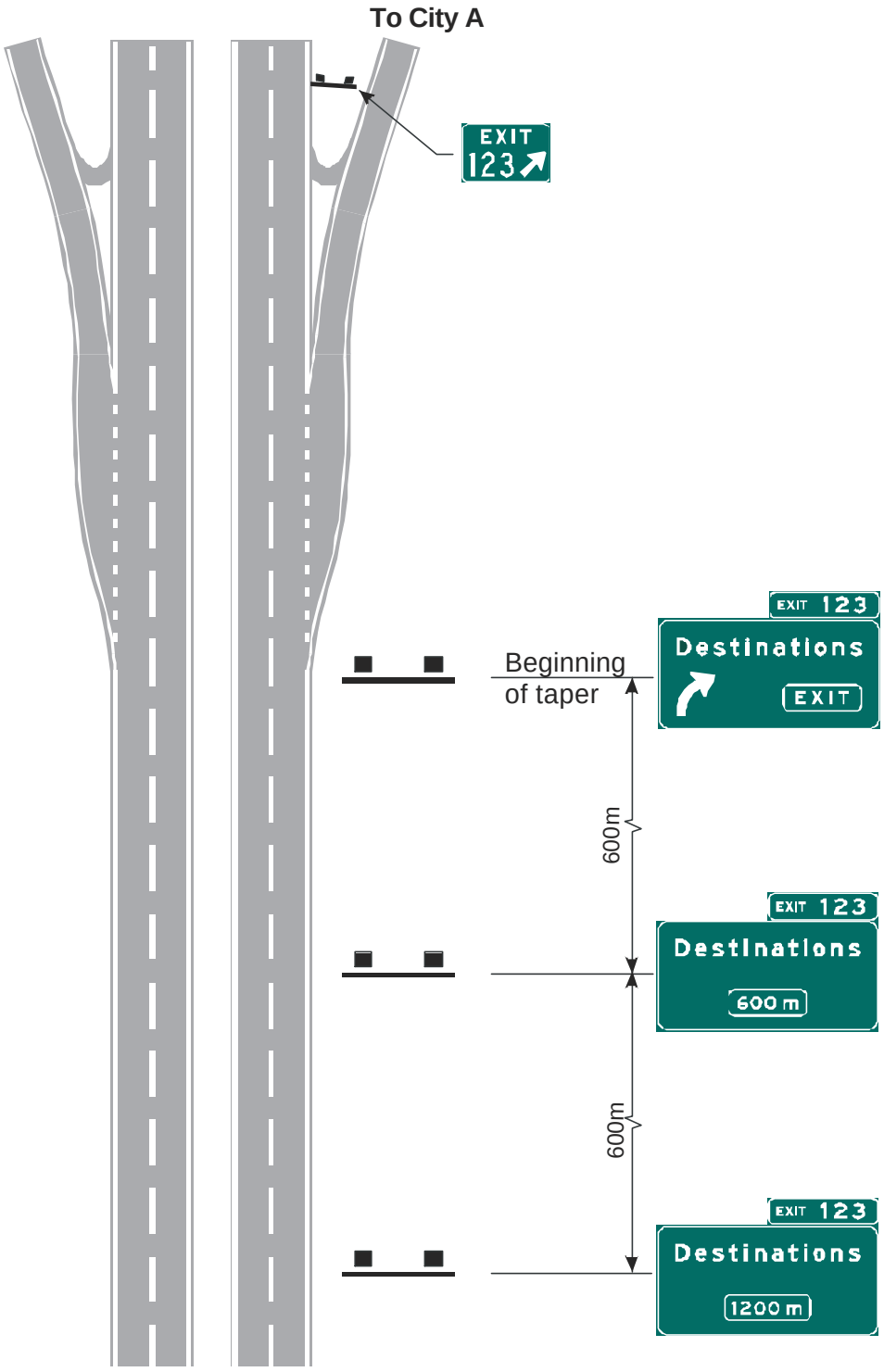


See Fig. 4.2 for guide sign placement and sign spacing.

B L A N K

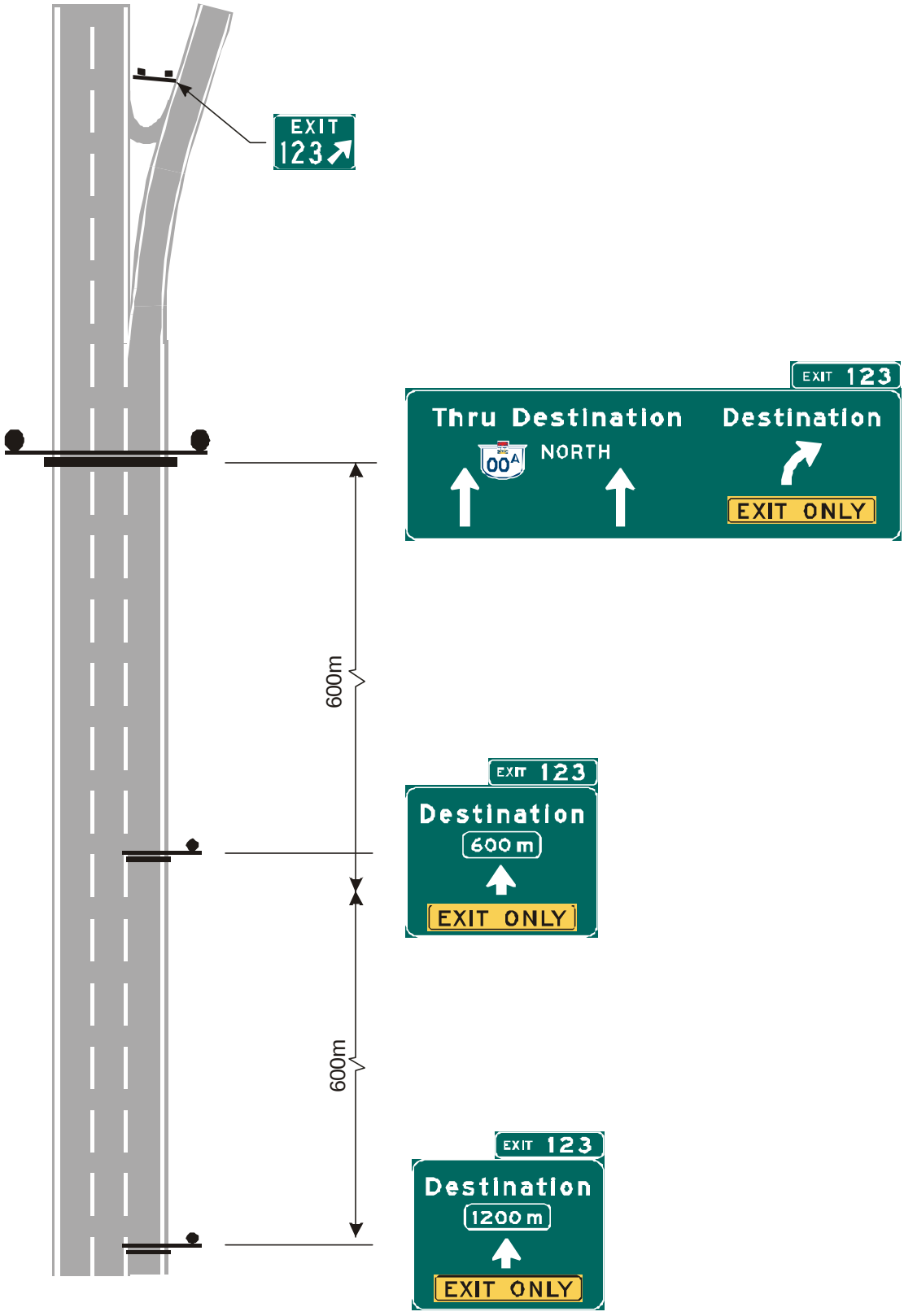
(NO FIGURE 4.4)

4.5 CONVENTIONAL SINGLE LANE EXIT

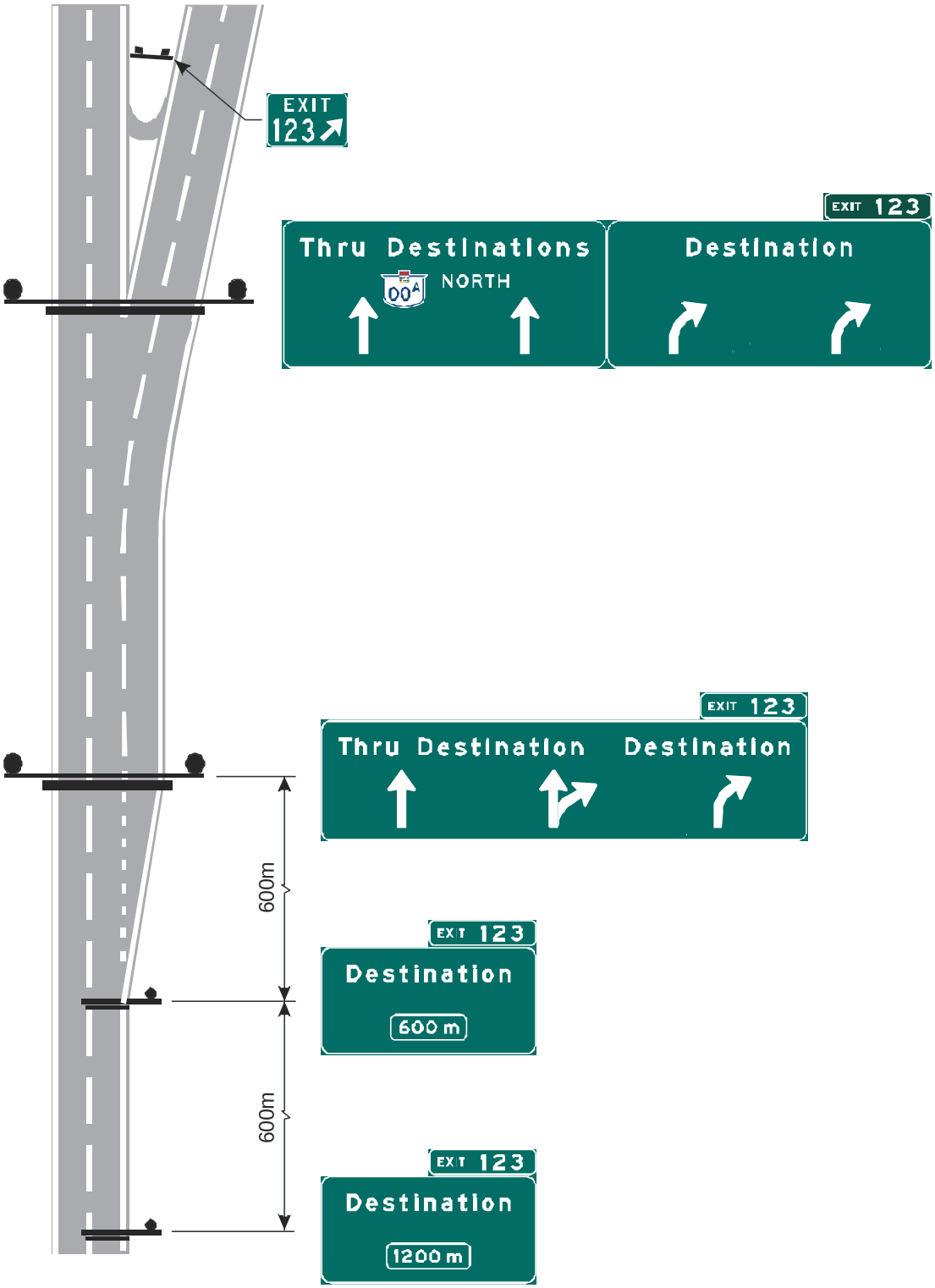


- 2 signs prior to the exit sign is desirable
- Sign spacing at 1200m and 600m is desirable, but may be revised to optimize sign visibility

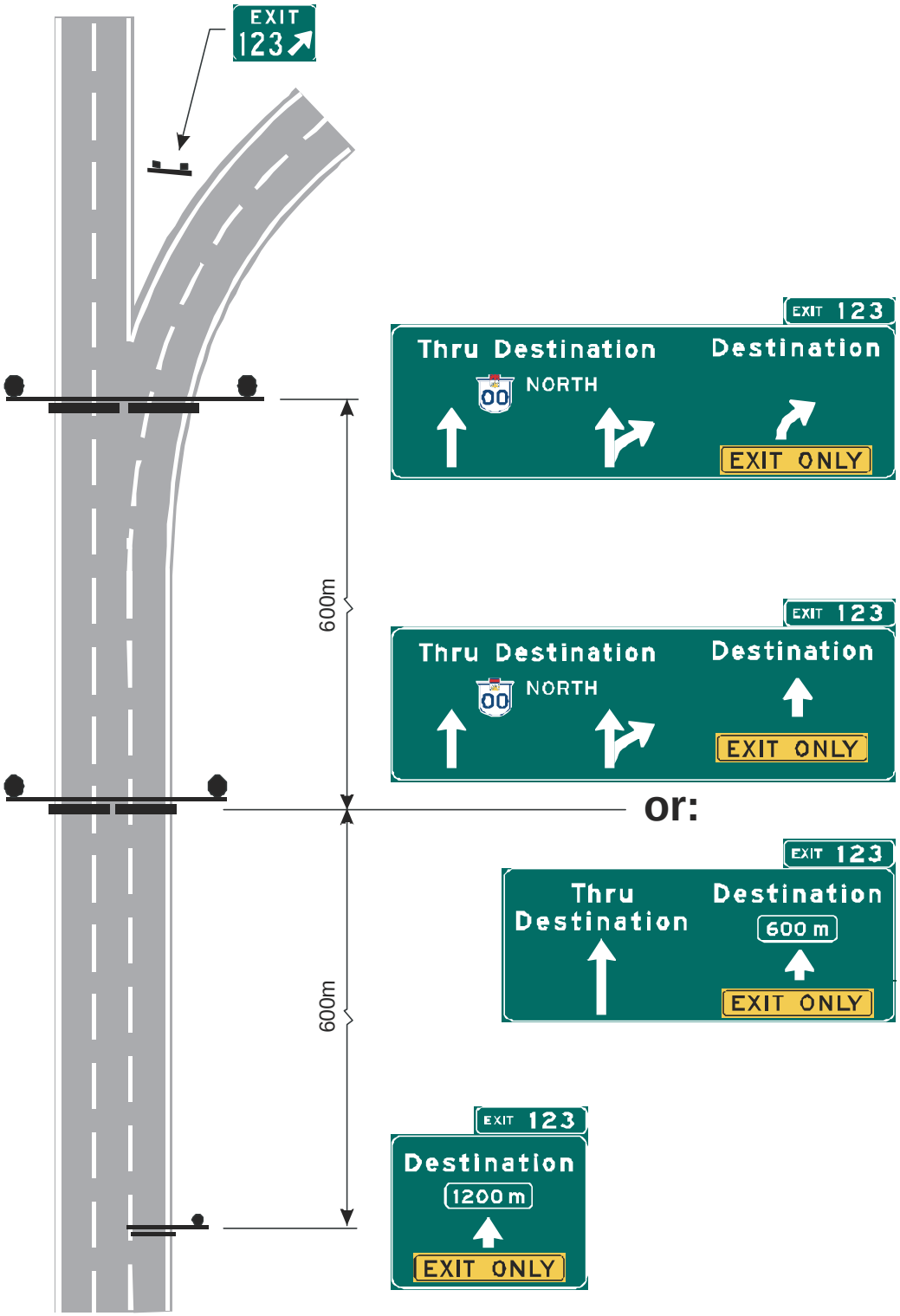
4.6 CONVENTIONAL RIGHT LANE MANDATORY EXIT



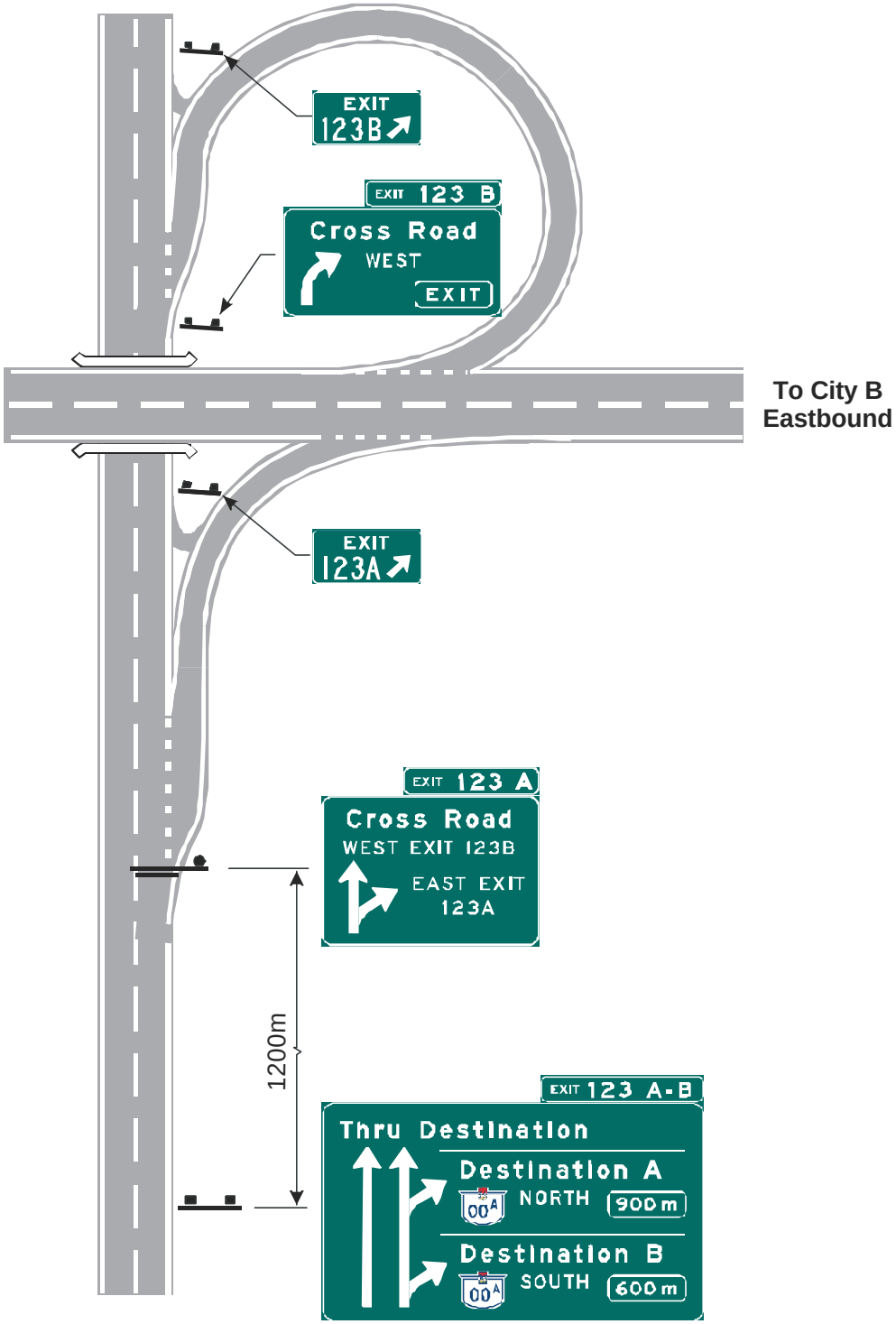
4.7 DUAL EXIT, TAPER TERMINAL



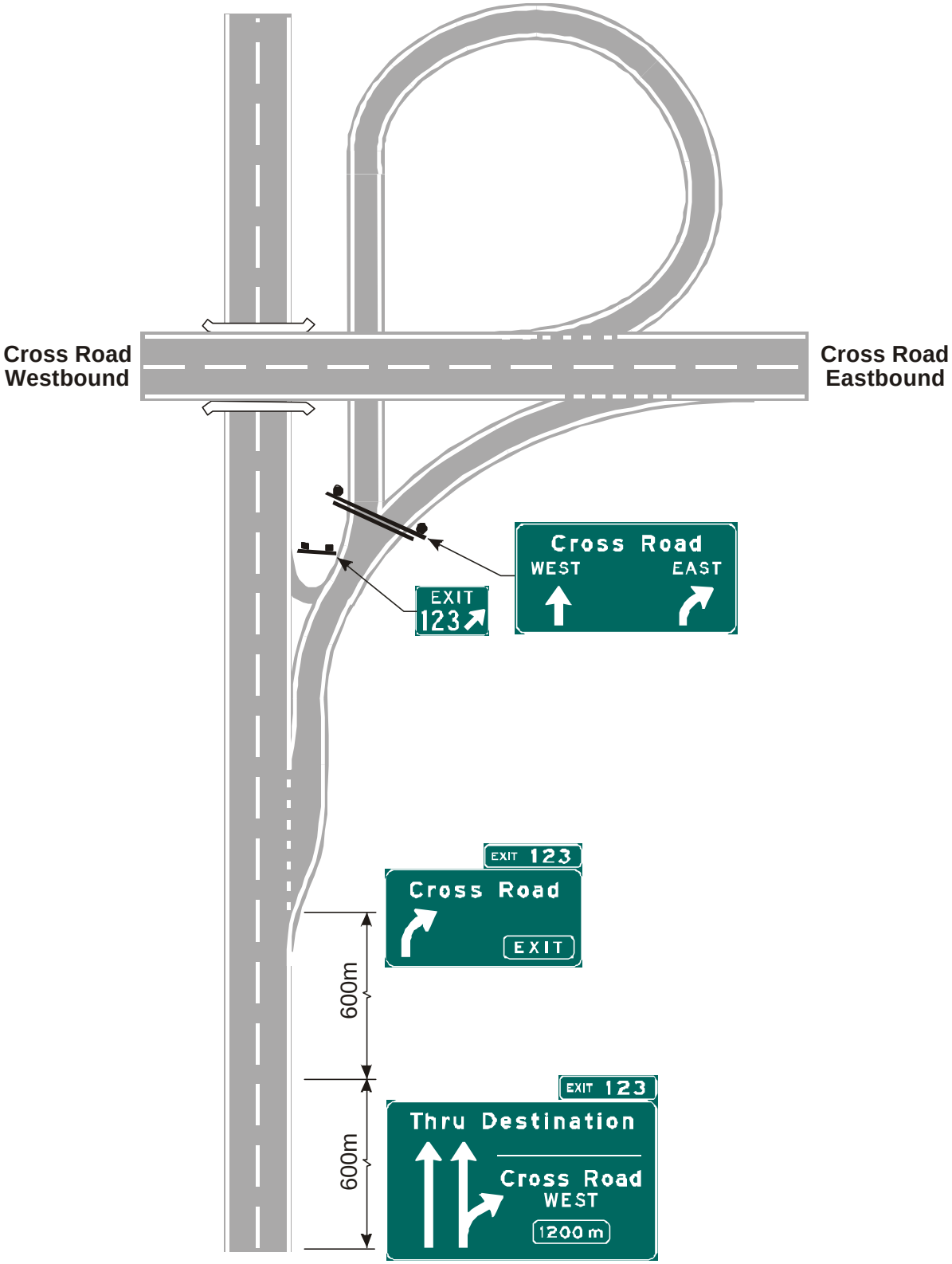
4.8 DUAL EXIT, RIGHT LANE MANDATORY EXIT



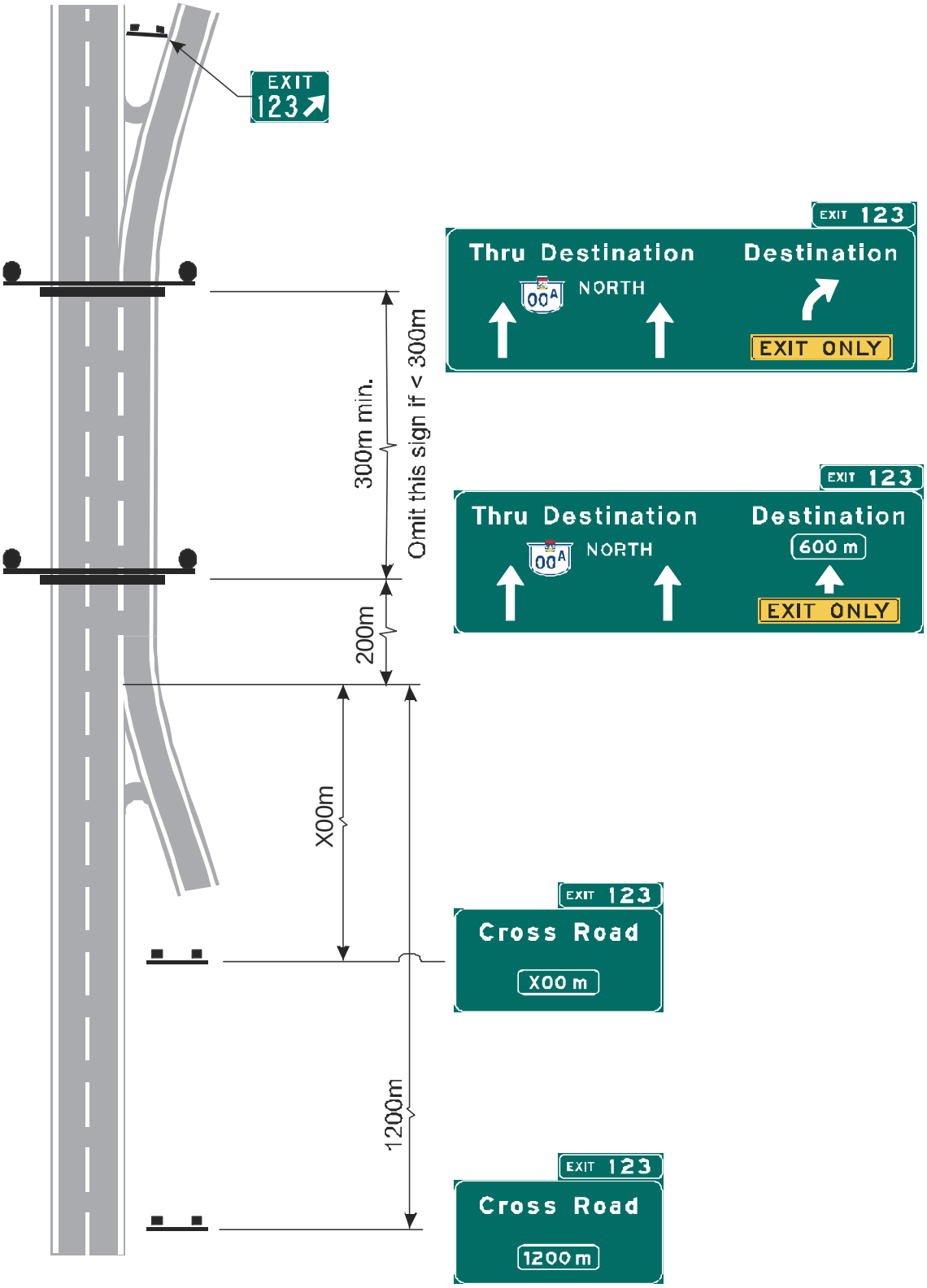
4.8 CONVENTIONAL INTERCHANGE, SEQUENTIAL EXITS



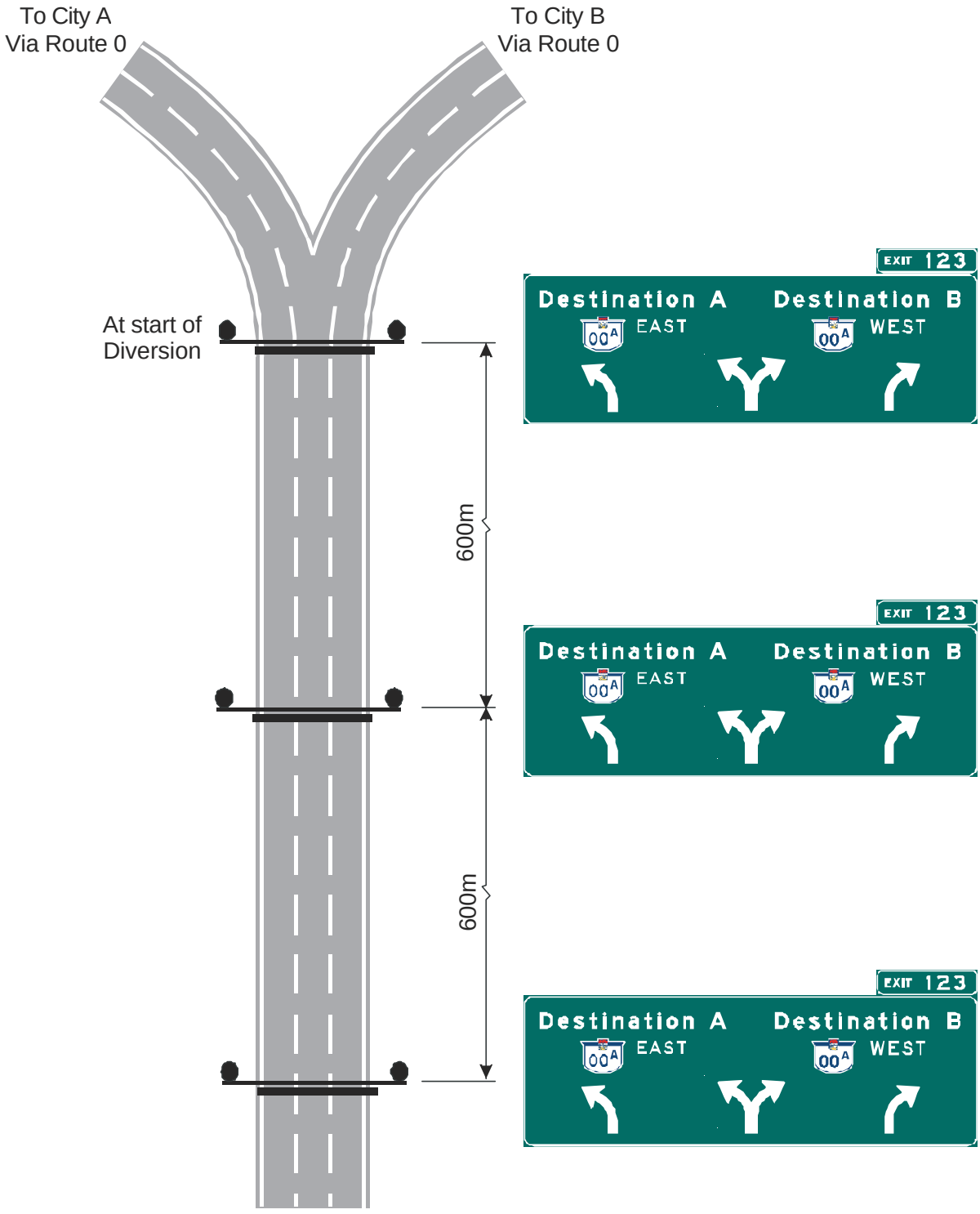
4.10 CONVENTIONAL INTERCHANGE, SINGLE EXIT



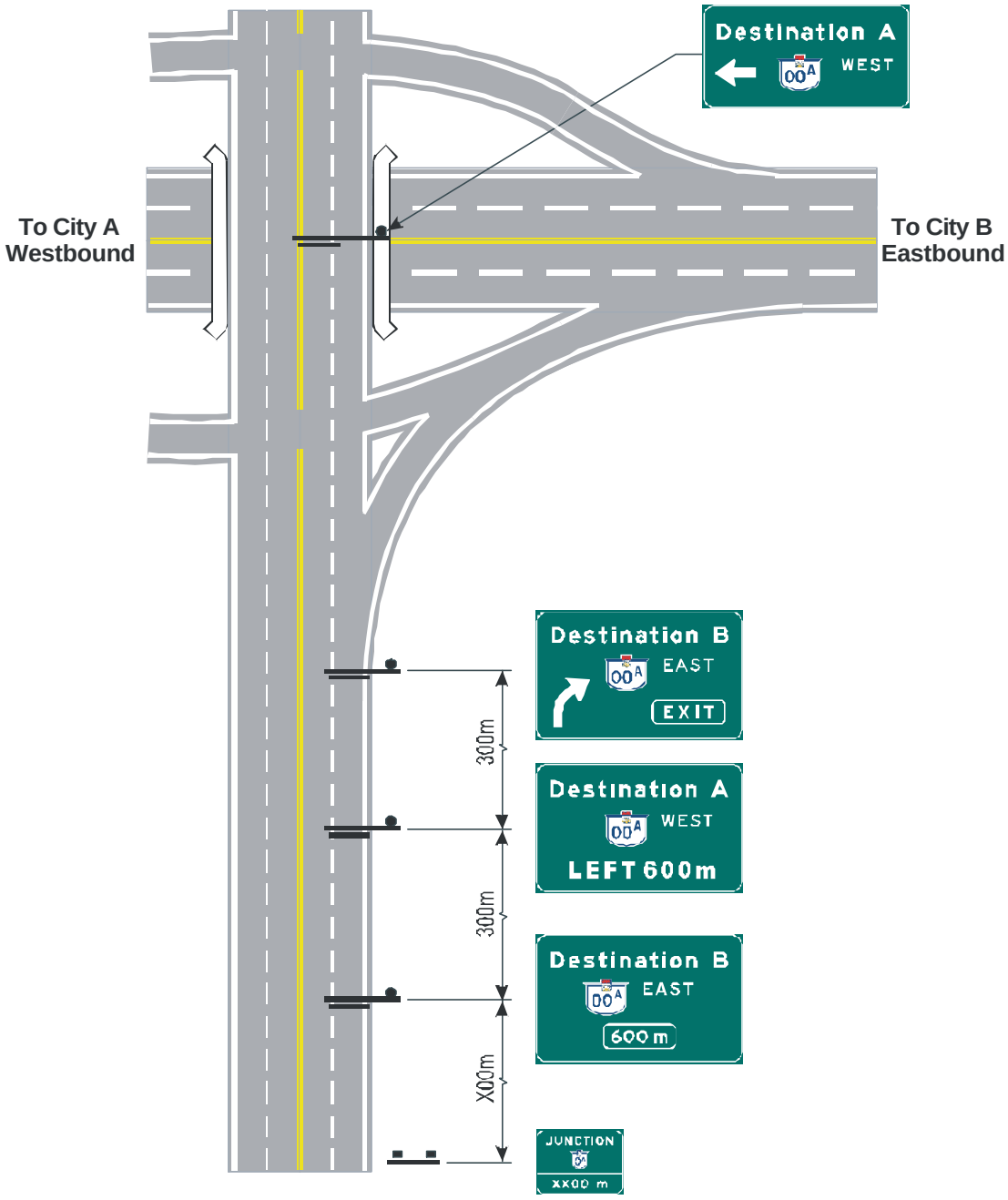
4.11 CLOSELY SPACED ENTRANCE-EXIT RAMPS



4.12 MAJOR DIVERGE

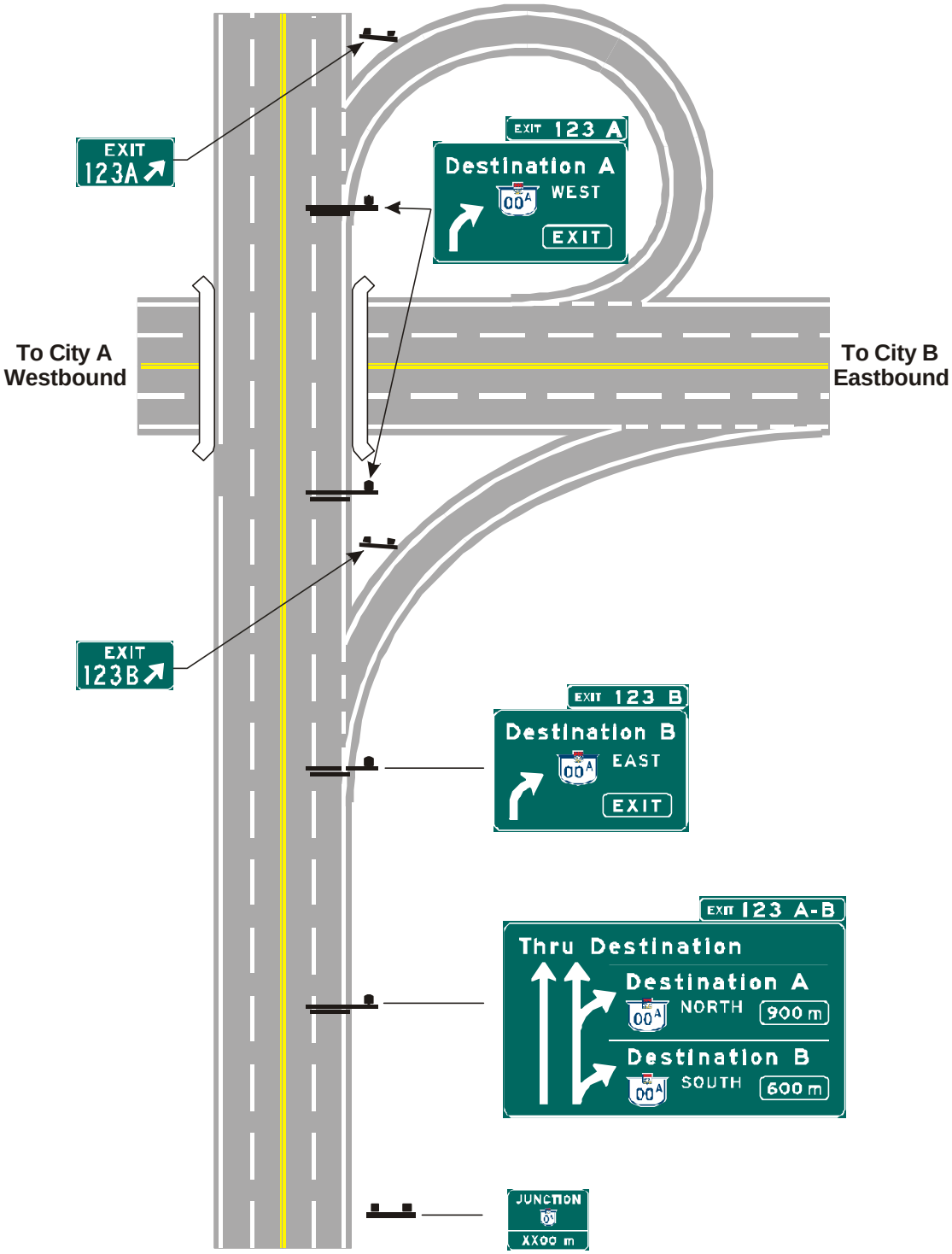


4.13 CROSS ROAD SIGNING – DIAMOND I/C

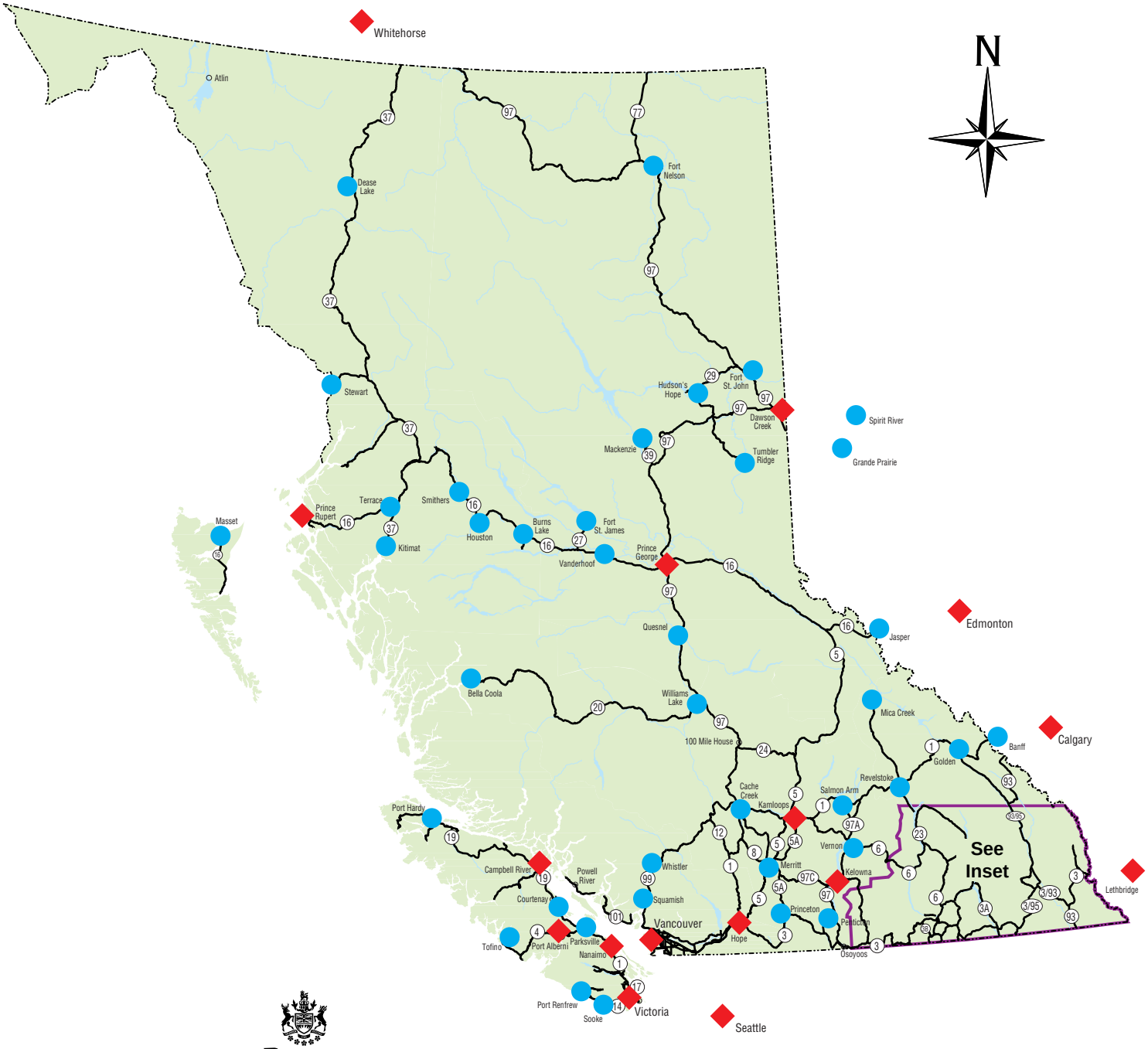


- For low volume rural interchanges G-10's alone or in conjunction with G-2/3 may be adequate.
- Due to the variance of the geometric layouts at interchange crossroads, each location should be signed in a manner that effectively directs the motorists to their destinations.
- Signs may be sidemounted for the two lane sections.

4.14 CROSS ROAD SIGNING – CONVENTIONAL I/C

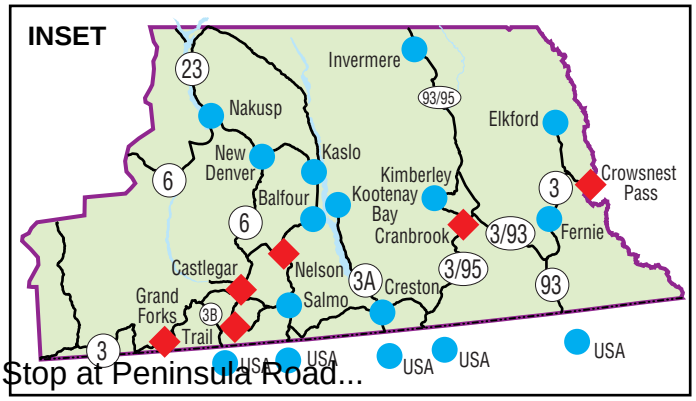


CONTROL DESTINATIONS AND MAJOR DESTINATIONS FOR GUIDE SIGNS IN BRITISH COLUMBIA



BRITISH COLUMBIA

Ministry of Transportation and Highways



LEGEND

- MAJOR OR END DESTINATION
- CONTROL DESTINATIONS

Note: Warrants and application criteria for pedestrian crossing facilities are detailed in the "*Pedestrian Crossing Manual for British Columbia"* or current equivalent document.

SP-1 SCHOOL AREA SIGN

The SP-1 SCHOOL AREA sign is used to warn motorists that they are in the vicinity of a school and children may be walking along or crossing the roadway. It may also be used in place of an SP-16 sign where there are both a school crosswalk and children walking along the road.

SP-1

(60 x 60)

In cases where a reduction from the posted speed limit is required, SP-7 or SP-8 speed zone tabs may be used in conjunction with SP-1 signs. Refer to the SP-7 or SP-8 sign descriptions for more information regarding their use.

A SP-17 NO PASSING tab shall be erected below SP-1 signs where traffic approaches an established crosswalk on a two lane roadway. If an SP-7 or 8 tab is also necessary, the SP-17 tab shall be mounted below a secondary SP-1, and erected a suitable distance in advance of the primary assembly.

The SP-1 should be installed in advance of school crosswalks per the *Pedestrian Crossing Control Manual* or per Table 1, Condition "B" prior to the boundary of school grounds.

Refer to Fig. 5.2 for sample sign placement and layout.

The SP-1 oversize sign may be used wherever the speed limit is 70 km/h or higher, or where additional emphasis is required.

This sign will be converted to black on fluorescent yellow-green colours to conform to the M.U.T.C.D. for Canada. Contact the Traffic & Electrical Section for details.

SP-2 PEDESTRIAN CROSSWALK AHEAD

The SP-2 PEDESTRIAN CROSSWALK AHEAD sign warns motorists that they are approaching a pedestrian crosswalk at locations with limited sight visibility to the crosswalk or areas where pedestrians may be walking along the road.

SP-2

(60 x 60)

The pedestrian symbol should be oriented to face towards the centre of the roadway.

The SP-2 should be installed per the Pedestrian Crossing Control Manual.

SP-3 PLAYGROUND AHEAD

SP-3

(60 x 60)

The SP-3 PLAYGROUND AHEAD sign warns motorists of a nearby public playground, where the presence of children, on or near the roadway, could create a hazard to the motorist.

In special cases, where speed zone is desirable a SP-7 30 km/h tab may be used in conjunction with an SP-3 sign. Refer to the SP-7 sign descriptions for more information regarding the establishment of a 30 km/h playground speed zone.

A SP-17 NO PASSING tab should be erected below SP-3 signs where the traffic approaches an established crosswalk on a two-lane roadway. If a SP-7 tab is also required, the SP-17 tab shall be mounted below a secondary SP-3 and erected a suitable distance in advance of the primary assembly.

Refer to the SP-17 sign description for more information regarding its use.

The sign should be installed per the *Pedestrian Crossing Control Manual.*

SP- 4 SCHOOL CROSSWALK

SP-4L

(60 x 75)

The SP-4L/R SCHOOL CROSSWALK signs indicates to motorists the location of school crosswalks.

School crosswalks should be installed in accordance to the *Pedestrian Crossing Control Manual*, in consultation with school and municipal authorities, as required.

Crosswalks should only be installed if they meet the appropriate warrant criteria.

A marked crosswalk shall always be indicated both by pavement markings and signs or traffic signals. At raised right channelizations, SP-4 signs are not required.

Where SP-4 signs are required, both left and right versions of the sign must be used, and placed in such a way that the symbols on each sign faces the centre of the roadway. Drivers approaching a crosswalk should be able to see at least two of these signs.

Depending on volume of traffic and the roadway cross-section, SP-4 signs may be mounted on the shoulder, on the median, overhead, or a combination of these locations.

For information regarding the *Safe Route to School* program, please consult the Ministry's Highway Safety Section, Engineering Branch.

Please refer to the Ministry's *Pedestrian Crossing Control Manual for British Columbia* for typical sign installations.

SP- 5 PEDESTRIAN CROSSWALK

The SP-5 L/R PEDESTRIAN CROSSWALK signs inform motorists of the location of a pedestrian crosswalk.

Pedestrian crosswalks shall be installed only where warranted, in consultation with local authorities.

Crosswalks must not be marked and signed unless the appropriate crosswalk warrants are filled.

SP-5L

(60 x 75)

A marked crosswalk shall always be indicated both by pavement markings, and signs or traffic signals. At raised right channelizations, SP-5 signs are not required.

Where SP-5 signs are required, both left and right versions of the sign must be used, and placed in such a way that the symbols on the sign face the centre of the roadway. Drivers approaching a crosswalk should be able to see at least two of these signs.

Depending on volume of traffic and the roadway cross-section, SP-5 signs may be mounted on the shoulder, on the median, overhead, or a combination of these locations.

Please refer to the Ministry's *Pedestrian Crossing Control Manual for British Columbia* for typical sign installations.

SP-7 SPEED ZONE TABS FOR SCHOOL & PLAYGROUND AREAS

SP-7

(45 x 30)

The SP-7 30 km/h tab is used to establish a speed zone for elementary schools or playgrounds and is used in conjunction with a SP-1 or SP-3 sign. When SP-7 tabs are used, a 30 km/h school speed zone is established, for the period between 0800h and 1700h on school days. When used with an SP-3 sign, the SP-7 establishes a similar playground speed zone between dawn and dusk.

The Senior Traffic Engineer's approval must be obtained before establishing these zones. The zones are used only in very special cases, and are not allowed on numbered routes or arterial highways. The ends of school and playground speed zones should be marked by reconfirming the primary speed zone by installing a R-4 sign within approximately 100m of the end of the school speed zone.

If used , the SP-7 tab shall be mounted below the SP-1 or SP-3 sign.

SP- 8 50km/h WHEN CHILDREN ON HIGHWAY SIGN

SP-8

(60 x 60)

The SP-8 50 km/h WHEN CHILDREN ON HIGHWAY tab sign informs motorists that the maximum allowable speed of travel, when children are present on the roadway, is 50 km/h.

When SP-8 tabs are used with SP-1 signs on highways which are considered routes to school when the speed limit is 60 km/h or higher. The 50 km/h speed zone is in effect whenever children are on any part of the traveled roadway, between 0800h and 1700h on school days.

The end of this zone should be marked by reconfirming the primary speed zone, using a R-4 sign, within approximately 100m of the end of the area where this restriction takes place.

In special cases, the speed limit displayed on SP-8 signs may be lowered or increased to accommodate certain situations, but only with the prior approval of the Senior Traffic Engineer.

If used, the SP-8 tabs shall be mounted below the SP-1 signs.

SP- 9 NO PEDESTRIAN CROSSING

The SP-9 NO PEDESTRIAN CROSSING sign informs pedestrians that crossing the roadway at the signed location is prohibited.

This sign should be used at locations where pedestrians are known to cross a roadway at a point deemed unsafe or improper.

The SP-9 should be installed to face the sidewalk, with the bottom of the sign 1.0 m above the pavement. This sign should be positioned so as to be highly visible to pedestrians who may be tempted to cross where it is unsafe to do so.

60 x 60

SP- 10 PUSH BUTTON FOR WALK SIGNAL

The SP-10 L/R/D PUSH BUTTON FOR WALK SIGNAL sign informs pedestrians that they must use the marked button in order to activate the pedestrian crossing signal.

The SP-10 should be used at locations that have pedestrian actuated traffic control signals.

Where required, SP-10 signs shall be mounted 15 cm above the push button. The appropriate version of the sign with the arrow and pedestrian symbols pointing in the direction of the crossing should be used for each location.

SP-10D

(13 x 20)

SP- 11 DO NOT PASS SCHOOL BUS WHEN LIGHTS FLASHING

The SP-11 DO NOT PASS WHEN LIGHTS FLASHING sign informs motorists that passing a school bus with flashing red lights is prohibited.

This sign was installed at vehicle entry points to the province, on the outskirts of communities and at random locations along school bus routes. There may be unusual situations where the use of additional SP-11 signs is necessary, but this sign should be limited to replacement of existing signs only.

SP-11

(90 X 120)

SP-12

(30 x 45)

SP- 12 NO FISHING OR LOITERING ON BRIDGE

The SP-12 NO FISHING OR LOITERING ON BRIDGE sign indicates that fishing or unnecessary lingering on the bridge may constitute a hazard to themselves and to passing motorists and therefore is prohibited.

This sign shall be erected on the bridge structure, and oriented so as to be easily observed by pedestrians.

SP-13

(45 x 60)

SP- 13 WALK ON LEFT FACING TRAFFIC

The SP-13 WALK ON LEFT FACING TRAFFIC sign informs pedestrians that it is safer to walk along the roadway shoulder *against* the direction of traffic.

The SP-13 sign is used to encourage safer pedestrian roadway habits in locations where there is an absence of pedestrian pathways or sidewalks. It is particularly useful at the edge of built-up districts where sidewalks are discontinued.

Where required, SP-13 signs should be installed on the right hand side of the roadway in such a way as to be easily seen by pedestrians.

SP-16

(60 x 60)

SP- 16 SCHOOL CROSSWALK AHEAD

The SP-16 SCHOOL CROSSWALK AHEAD signs warns motorists that they are approaching a school crosswalk.

The SP-16 sign shall be installed on the right side of the roadway with the symbol oriented to face across the roadway.

For more information regarding the SP-16 sign, please refer to the *Pedestrian Crossing Control Manual for British Columbia*.

This sign will be converted to fluorescent yellow-green background colour to conform to the M.U.T.C.D. for Canada. Contact the Traffic & Electrical Section for details.

SP-17

(60 x 30)

SP- 17 NO PASSING TAB

The SP-17 NO PASSING tab sign informs motorists that passing is prohibited on the roadway through the school zone.

The SP-17 may be used below SP-1 and SP-3 (or below the SP-7/8 tab if used) signs on 2 lane roadways if pavement markings restrict passing.

SP- 18 PEDESTRIANS USE SIGNAL

The SP-18 PEDESTRIAN USE SIGNAL sign directs pedestrians to use the signalized crosswalk to cross the road.

The SP-18 sign is used where crosswalks have been removed, and pedestrian crossing is only permitted at the signalized intersections.

If a handrail exists at the location, the SP-18 sign shall be mounted on the rail.

SP-18D

(30 x 45)

SP- 19 SCHOOL BUS TURN AHEAD

The SP-19 SCHOOL BUS TURN AHEAD sign warns motorists of the presence of a designated school bus turn-around facility.

This sign should be installed per Table 1 Condition A, Appendix A-1.

Use of this sign requires Senior Traffic Engineer approval.

SP-19

(75 x 75)

SP- 20 SCHOOL BUS STOP AHEAD

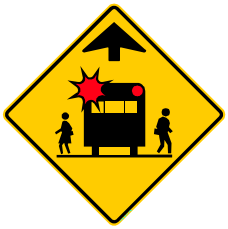
The SP-20 SCHOOL BUS STOP AHEAD warns motorists of the presence of school bus stops, and the possibility of children on the road.

This sign shall be used at unanticipated or poorly located school bus stops, where potential hazards may exist. Relocation of such bus stops to a better location should be considered, but this must be weighed against the fact that children may be required to walk farther along the roadway to reach the relocated bus stop.

This sign should be installed per Table 1 Condition A, Appendix A-1.

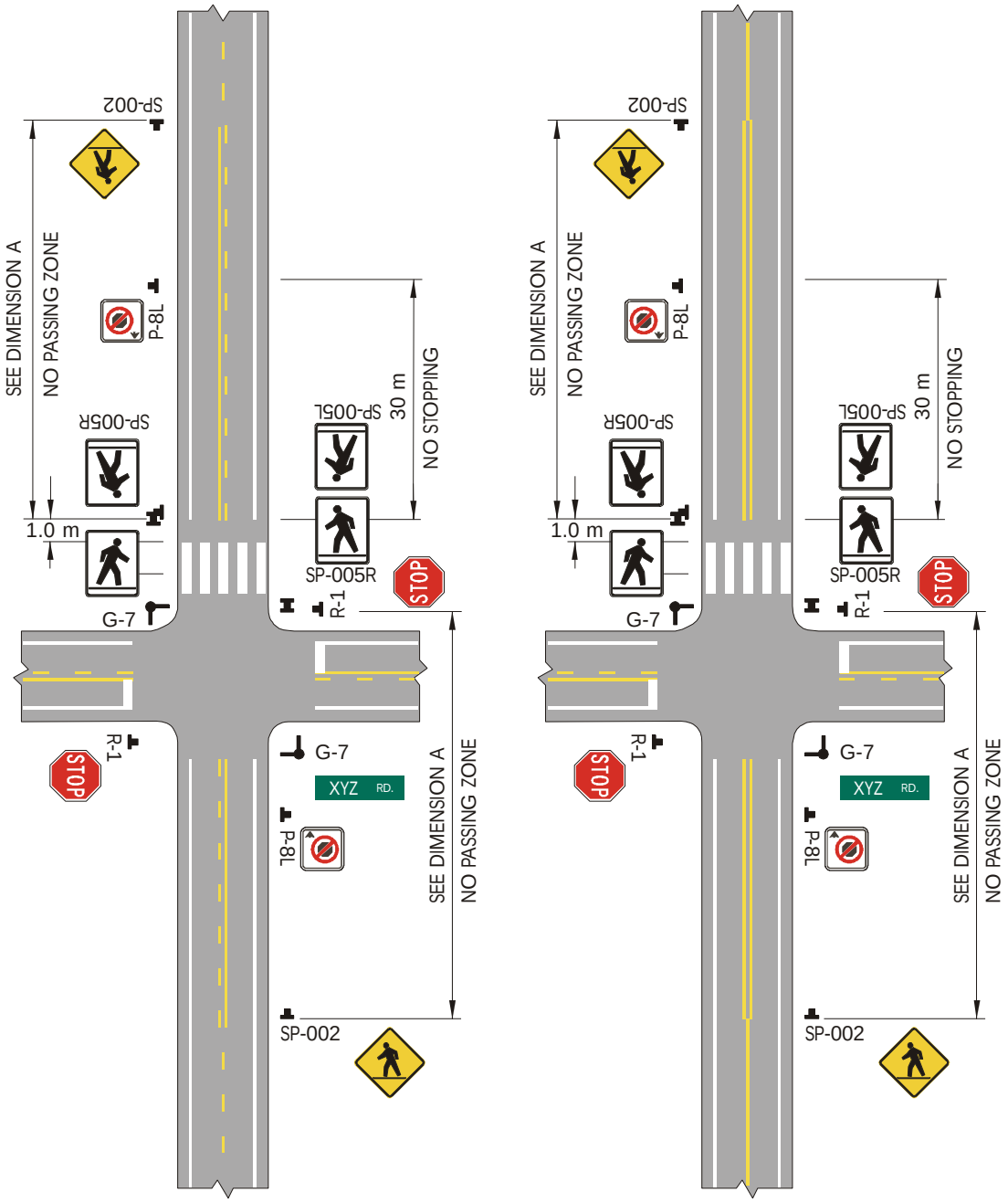
Use of this sign requires Senior Traffic Engineer approval.

SP-20



(75 x 75)

Figure 5.1 Crosswalk Signing



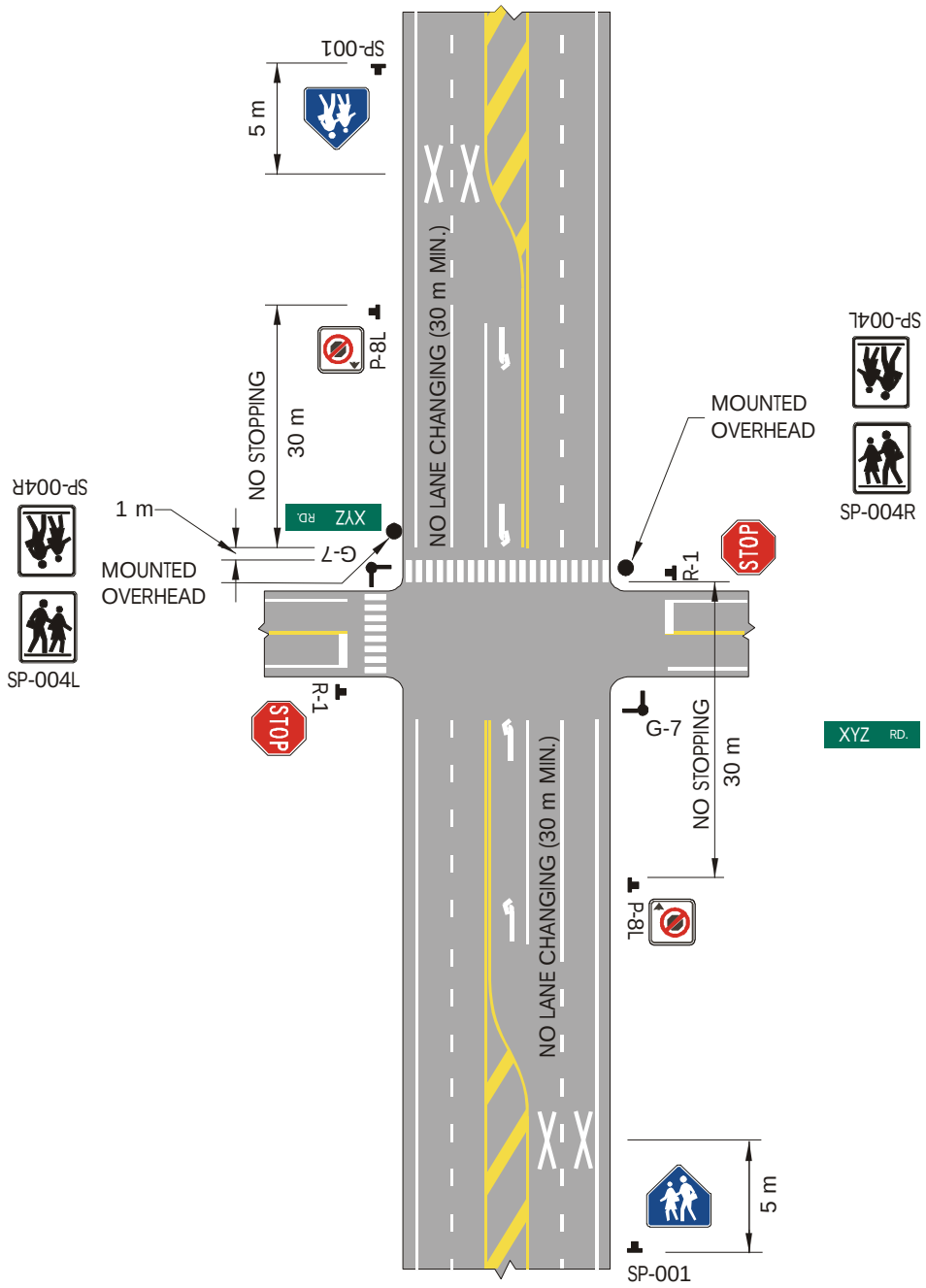
DIMENSION A:	
SPEED	MINIMUM NO PASSING DISTANCE
50 km/h	60 m
60 km/h	100 m
70 km/h	120 m
80 km/h	140 m

Notes:

1. See Figure 7.45 for crosswalk marking

2. Refer to the current pedestrian crossing manual for warrants and other crossing types

Figure 5.2 School Area and Crosswalk Signing



Notes:

1. See Figure 7.46 for school crossing pavement markings

2. Refer to the current pedestrian crossing manual for warrants and other crossing types

I-3 CREEK, RIVER & LAKE SIGNS

The 1-3 CREEK, RIVER or LAKE sign should be used to identify major creeks and rivers that flow under or near a numbered highway and all lakes that are visible from the highway.

The I-3 signs may be installed on the bridge structure or in advance of the bridge or culvert as field conditions permit.

When used to identify lakes, the I-3 sign should be installed on its own post on the shoulder at points where the lake is visible and may be repeated every 5 to 10km where the highway follows the shoreline of a large lake.

I-3

75 x 30

I-6 HISTORIC SITE SIGN

The I-6 Historical site sign may be used to identify historic sites established and maintained by the Federal Government, the Heritage Branch of the Ministry of Small Business, Tourism and Culture or any other recognized non-profit historical agency or society. Signs within the site are supplied and installed by the agency operating site or may be under permit if within the highway right of way.

The I-6 should be placed approximately 400m in advance of the access to the site.

I-6

80 x 60

I-7 STOP OF INTEREST SIGN

The I-7 STOP OF INTEREST sign is used in advance of a pullout or viewpoint that has is a stop of interest to the traveling public.

Typically these sites are geographical or environmental in nature and have permanent raised profile metal signs within the site The signs are installed and maintained by the agency or society that identified the entity of interest. The I-7 sign should be installed approximately 400m in advance of the access to the pullout.

I-7

60 x 80

I-8, I-9 VIEWPOINT and ENTRANCE SIGN

I-8

60 x 80

I-9

90 x 45

The I-8 VIEWPOINT sign should be installed approximately 400m prior to the entrance to an established viewpoint. If the site is designated as a stop of interest the I-7 sign should be used instead of the I-8 sign.

The I-9 VIEWPOINT ENTRANCE sign should only be used when the entrance to the site is not clearly visibly to the motorist.

I-10 / I-11 REST AREA SIGNS

I-10

90 X 90

I-11

90 X 120

I-10 and I-11 REST AREA signs are used to identify rest areas established by MoTH.

The I-11 should be installed approximately 400m prior to the access to the rest area and the I-10 should be installed just prior to the entrance.

See also I-108 REST AREA INFORMATION sign.

I-17 to I-20 ENTERING COMMUNITY SIGNS

The I-17 to I-20 ENTERING XXX should be installed on numbered highways at or near the boundary of the community. If the community is served by the 9-1-1 emergency telephone number system, the I-20T should be installed bellow the Community name sign.

The I-19 may be used for unincorporated communities that have at least a post office and several resident families and two commercial establishments providing fuel and food. The Regional District must approve the name of the unincorporated community.

The I-19 is not used to identify rural subdivisions located off the highway.

I-17

I-18

I-19

I-20

90 x 45

I-20T

60 x 20

I-28 to I-29 DIRECTIONAL TABS

I-28 to I-29 DIRECTIONAL TABS should be used with directional signs when advance directional information is required.

The brown arrows are to be used with the I-6 HISTORIC SITE signs only.

I-28 L I-28 R I-29

I-28 A L I-28 A R I-29 A

30 x 20

I-26 & I-27 LANDMARK / ELEVATION SIGNS

The I-26 SUMMIT ELEVATION sign may be erected at the point where the highway reaches the summit of a significant pass or mountain. The I-26 should be installed as near as practical to the highest point of the highway and should indicate the elevation to the nearest metre above mean sea level.

The I-27 LOOKOUT ELEVATION sign may be used to identify lookouts or viewpoints adjacent to the highway where the elevation may of interest to the motorist. The I-27 should be installed at the outer edge of the lookout or viewpoint and should indicate elevation in metres above mean sea level.

I-26

75 x 60

I-27

75 X 60

I-30 / I-31 FRONTAGE ROAD

I-30 R

120 x 60

I-31 R

120 x 60

The I-30 or I-31 FRONTAGE ROAD signs may be used to identify frontage roads leading to residences (I-30) or businesses (I-31). The frontage road itself must access the main highway at two points.

I-32 LITTER BARREL AHEAD

I-32

45 x 60

The I-32 LITTER BARREL AHEAD sign should be installed 100 to 250m in advance of location where litter barrels have been placed under authority of the ministry.

See also I-103

I-33 CITY/TOWN/BUSINESS CENTRE

I-33 R

120 x90

The I-33 CITY CENTRE (TOWN/BUSINESS) sign may be installed on conventional highways, upon request by communities, where the highway bypasses the community central business district. The I-33 should be installed in advance of the preferred route into the community. Only one route will be signed and the community will have the choice of City/Town Centre OR Business Centre, but not both.

I-35 R.F.I. SIGN

I-35

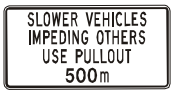
30 x30

The R.F.I. (Road Features Inventory) sign may be installed at selected locations along any highway to indicate the RFI number. The sign should be positioned parallel to the shoulder and may be installed below existing signs or delineators. The I-35 is primarily for use by maintenance staff and is not intended to be visible to the motoring public. See also G-104 for kilometer markers.

I-43 SLOW VEHICLES USE PULLOUT 500m
I-45 PULLOUT

The I-43 and I-45 “PULLOUT” signs should be used to direct slow moving vehicles into pull-out lane (see Fig 7.36 for typical layout)

I-43



120 x 60

I-45

75 x 60

I-63 PASSING LANE 2km AHEAD

The I-63 PASSING LANE 2km AHEAD sign shall be erected 2km in advance of a passing lane, which is provided on rural highways to facilitate passing vehicles travelling in the same direction.

If it is not practical to install this sign 2km in advance of the passing lane, the position may be adjusted and the distance on the sign adjusted accordingly.

The new version of the I-63 sign will be phased in on BC highways through attrition. Upon depletion of the sign shop’s stock, this sign will be supplied in accordance to the TAC ID-23 version.

I-63

60 x 75

I-063

90 x90

I-63 T

90 x60

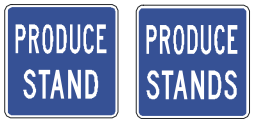
I-64 FRUIT STAND(S) I-64T

I-170 PRODUCE STAND(S)

The I-64 FRUIT STAND or I-170 PRODUCE STAND signs may be used on conventional highways in advance of an eligible fruit or produce stand or stands or in advance of sideroads where eligible stands are located. Fruit or produce stands should be permanent structures, legally erected, meeting zoning regulations, with adequate parking area. Operators should have a business license sell and only locally grown products.

I-64 I-64 S

I-170 I-170 S



60 x 60

I-64 / I-170 CONT'D

I-64 T

60 x 30

The I-64T is used to indicate the distance to the side road that eligible stands are located on. Appropriate arrow tabs should be used to provide direction information.

The I-64 or I-170 sign should installed in accordance to Condition C, Table 1, Appendix

I-65 PLEASE AVOID USE OF ENGINE BRAKES IN URBAN AREAS

I-65

90 x 90

The I-65 sign may be used on provincial highways where the use of engine retarding braking ('jake brakes") by commercial vehicle operators creates reoccurring, noise and resulting in public complaints. The text "IN URBAN AREAS" may be deleted if the location is in a rural area or replaced with "FOR NEXT XX km"

I-67 CHECK YOUR FUEL

I-67

180 x 90

The I-67 CHECK YOUR FUEL, NEXT SERVICE XX km should be used on highways where service stations are limited. Typically when distances between service stations exceed 80 km, this sign is warranted.

I-101 / I-113 & C / I-151 RECREATION AREA SIGNS

I-101 I-113

I-113 C I-151

60 x 60

These signs are used to identify eligible recreation areas accessed from conventional rural highways.

The I-113 ALPINE ski symbol is typically used on large custom signs installed for eligible alpine skill hills. See the Policy Manual for Supplemental Signs for detailed policy. The I-113 may be used on non-numbered side roads as confirmatory signs to the eligible skill hill.

RECREATION AREA SIGNS, CONT'D

The I-113C/I151/I-101 sign may be installed on any rural conventional highway to indicate an eligible cross country ski, snowmobile or hiking area. The particular area should have adequate off-site parking and marked and groomed or maintained trails. These signs are not to be used to mark trails that cross or use provincial highways rights of way.

I-103 LITTER BARREL

The I-103 LITTER BARREL sign should be used near or on litter barrels installed under the authority of the ministry in rest areas.

I-103

60 x45

I-108 REST AREA IDENTIFICATION SIGN

The I-108 REST AREA sign should be used in ministry maintained rest areas to identify the name of the rest area and the local district highways office.

I-108

120 x 60

I-110 SHORE ACCESS

The I-110 SHORE ACCESS sign may be used on rural, subdivision roads (non-numbered highways) to indicate access to oceans, lakes or rivers.

I-110

60 x60

I-136 / I-137 / I-140 VISITOR INFORMATION SIGNS

I-136

75 x75

I-137 TA I-137 TC I-137 TR

75 x 120

I-137 A I-137 C I-137 R

75 x 75

I-138 L I-138 R

75 x 30

I-140

75 x 75

The visitor information centres are approved and administered by the Manager, Visitor Services, Tourism B.C. Contact the Senior Traffic Engineer for the current approval procedure.

The I-136 signs are used to inform motorists of “Level 1” (Full Status Visitor Info Centre) or “Level 2” (Associate Visitor Info Centre).

I-136 signs are installed typically 2km prior to the access or turn-off to the centre, followed by a sign 400m prior to the main access. Variation on the distance and arrows styles are permitted to suit specific site requirements.

I-136X (120 x120cm) signs should be used on multi-lane high speed (>70km/h) facilities.

The I-137TA, I-137TC, I-137TR VISITOR INFORMATION signs are used to inform motorists of Tourism B.C. visitor centres that also provide area, community or regional information at the same location.

The I-137A, I-137C, I-137R VISITOR INFORMATION signs are used to inform motorists of visitor centres sponsored by local or regional tourism agencies offering area, community or regional information only.

Any of the I-137 sign series are typically installed 400m in advance of the access or side road to the info centre with the appropriate I-138L/R tab.

On freeway facilities, a customized sign will be fabricated and installed as a “tab” below an existing guide sign, usually the 1200m or on a separate structure approximately 2km in advance of the exit to the centre. Continuity signs should be provided from the exit ramp to the centre as required.

The I-140 sign is used for “Level 3” Tourist/Visitor Information Booths.

I-157 SPEED ZONE AREA

The I-157 Entering or Leaving signs should be used where blanket speed zones are in effect (see R-4 warrant Chapter 2 for details on blanket zones)

I-157 E

I-157 L

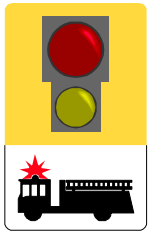
60 x 45

I-167 FIRE SIGNAL

The I-167 FIRE SIGNAL should be installed in advance of firehalls per Fig. 7.43 of Chapter 7.

Note the sign is supplied with a cutout for the signal head.

I-167 R



75 x 120

I-168 / I-169 WILDLIFE VIEWING AREA

The I-168 WILDLIFE VIEWING ARE and I-169 CONFIRMATORY signs may be used to identify designated viewing areas established by the Ministry of Environment, Lands & Parks or other recognized agency.

The Ministry of Transportation and Highways will install the I-169 sign on highways in advance of the access or turnoff to the site, and the I-169 confirmatory signs are installed by others under permit from the highways district office.

The I-168/I-169 will not be installed on freeways.

I-168

90 x 135

I-169

60 x 60

I-171 PLEASE LET BUSES ENTER

The I-171 sign may be used where public transit buses experience difficulty in entering main stream traffic under a merge condition.

I-171

60 x 75

I-174 WINE ROUTE

I-174

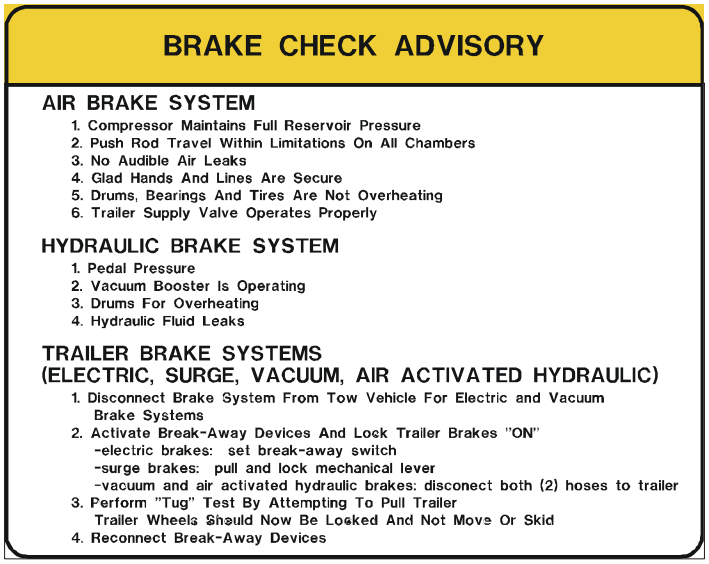
45 x 60

Wine Route signs may be installed on provincial highways that are designated a “wine route” by the Wine Institute of BC and the Ministry of Transportation and Highways.

For details on this sign policy see the Policy Manual for Supplemental Signs.

I-175 BRAKE CHECK ADVISORY

The I-175 BRAKE CHECK SIGN forms part of the signing requirements for designated brake check areas. Refer to Figures 3.3 and 3.4 of Chapter 3 for sign placement.



240 x 190

I-177 B.C. GROWN™ SIGN

The I-177 B.C.Grown™ Sign may be used on rural conventional highways or expressways to identify eligible direct farm market operations located up to 7km from the highway.

If there are two or more eligible farm operations then the I-177T "X FARMS" tab must be used.

The I-178 arrow/"CLOSED" tab shall also be used below the I-177T. The farm operator is responsible for ensuring the "CLOSED" tab is displayed if the market is closed for the season. In the case of multiple operations, all must be closed before the "CLOSED" tab is displayed.

The ministry will install up to three confirmatory signs on side roads under ministry control. Additional signs, if required, may be installed at the expense of the farm operator. Side roads under municipal jurisdiction must have confirmatory signs in place prior to the I-177 assembly being installed on the highway.

If a farm operation is located greater than 3km from a I-177 sign assembly, the I-178 arrow tab shall display the distance to the farm in the nearest km.

Farm operation eligibility is determined by the Provincial Agricultural Specialist of the Ministry of Agriculture and Food. Farm operators who wish to apply for I-177 signs for their operation should direct their initial application to that ministry.

See also I-64 & I-170 FRUIT and PRODUCE STAND sign.

Refer to the "Business Identification" policy in the *"Policy Manual for Supplemental Sign"* for details on type of signs permitted at the farm access.

I-177

60 x 60

I-177 T

60 x 30

I-178

45 x 30

(CLOSED on Reverse)

I-180 to I-183 INFORMATION SIGNS ENTERING BRITISH COLUMBIA

I-180

240 x 240

I-180X

490 x 180

I-180B

488 x 305

The I-180 series, I-181, I-182, I-183 signs are typically used on highways upon entering the province.

The I-180 series “Super Natural British Columbia™ Welcomes You” should be the one of the first sign travelers see upon entering the province. The I-180 is usually used on conventional highways, the I-180X should be used on multi lane facilities and the I-180B is reserved for use on the “monument” style signs in national parks to conform to Federal language policy.

Note the graphic and “Super, Natural British Columbia” is a registered trademark of Tourism B.C. used with permission.

I-181

180 x 90

The I-181 SEAT BELT USE COMPULSORY IN BRITISH COLUMBIA should follow the I-180. The I-180X should be used on multi-lane facilities.

I-182

210 x 120

The I-182 THIN***KM***ETRIC Sign should follow the I-181 sign on entry points from the U.S.A. to remind American travelers that speed and distance information is displayed in metric units.

I-183

240 x120

The I-183 3 VEHICLE COMBINATION UNITS should be installed after the I-181 on entry points from Alberta to remind motorists that the BC Motor Vehicle Act prohibits such vehicle type on BC highways.

7.0 Introduction

The purpose of this chapter is to establish policy and guidelines for the uniform application of pavement markings for roads under the jurisdiction of the B.C. Ministry of Transportation and Highways.

The motorist relies on pavement markings for guidance, car positioning, and information. Unless all markings are uniform, motorists may be confused and uncertain of the purpose of the markings. If markings not conforming to this manual are necessary, they should be reviewed and approved by the Senior Traffic Engineer or Regional Traffic Engineer.

Markings have definite and important functions to perform in traffic control. In some cases, they are used to supplement the regulations or warning of other devices such as traffic signs or signals. In other instances, they are used alone to convey certain regulation and warnings, which would not be obtainable, by any other devices.

Pavement markings have limitations. They may be covered by snow, may not be clearly visible when wet, or may not be durable when subjected to heavy traffic. In spite of these limitations, they have the advantage of conveying warnings or information to drivers without diverting their attention from the roadway.

Before any new highway, surface detour, or temporary route is open to traffic, all necessary pavement markings must be in place. Pavement markings, which are no longer applicable, should be removed immediately to avoid possible confusion to the motorist.

For a typical pavement marking drawing layout, please refer to drawing 1220.L of the Ministry of Transportation and Highways Design Manual.

7.1 Materials

The most common method of marking pavement is by means of paint; however, a wide variety of other suitable marking products are available.

arking material used in the vicinity of pedestrian or bicycle traffic should not present tripping or excessive slipping hazards.

All materials must be approved for use by the Ministry of Transportation and Highways Geotechnical and Materials Engineering Branch. (Ref. *Standard Specifications for Highway Construction Sec. 321* and the *Recognized Product List)*

7.2 Longitudinal Pavement Markings

Longitudinal pavement markings, as shown in Figure 7.1, shall conform to the following:

7.2.1 Colors

Yellow lines (directional dividing lines) delineate the separation of traffic traveling in opposite directions. Yellow lines are also used to mark the left edge line of divided highways and one way roadways, which includes portions of freeway/expressway ramps. Yellow lines are also used to mark both sides of two-way left turn lanes.

White lines (lane lines) are used to delineate the separation of traffic flow in the same direction. White lines (edge lines) are also used to mark the outside edge of the right lane.

Colour specifications are detailed in the *Standard Specifications for Highway Construction* Sec. 321(f).

7.2.2 Pattern

Broken lines are permissive in character.

Solid lines are restrictive in character.

Line width indicates the degree of emphasis.

7.2.3 Intersections

Directional dividing lines and lane lines shall not continue through an intersection. but they may continue through intersections with commercial accesses or private driveways. In no case shall a solid line be carried across an intersection where the side road is under the jurisdiction of the Ministry.

7.2.4 Double Lines

A double line, consisting of two solid yellow lines, delineates the separation of traffic in opposite directions and prohibits passing for both directions.

A double line, consisting of a single broken yellow line and a single solid yellow line, delineates the separation of traffic in opposite directions. Passing is permitted for the traffic adjacent to the broken line and is prohibited for traffic adjacent to the solid line. This line is also used to delineate a two-way left turn lane in which the solid line is placed on the outside, as shown in Figure 7.32.

Double directional dividing lines should be used on all numbered highways.

Double dashed yellow lines are used for lane reversal systems. See Section C2.7.1 of the Manual of Uniform Traffic Control Devices for Canada for further discussion.

7.2.5 Single Solid Dividing Lines

(see also Sec C2.1 MUTCD for Canada for further discussion)

Single solid directional dividing lines should be used based on the following criteria:

URBAN ROADS

- arterials posted at 60km/h or less

RURAL ROADS

- total pavement width is 6.0 m or greater AND
- ADT >200

Where there is approximately 80% or more “no passing” broken directional dividing lines shall be used, based on applicable sight distances outlined in Sec. 7.10.

7.2.6 Lane Edge Lines

A lane edge line shall only be painted where the paved or stabilized shoulder, measured from the center of the edge marking, is more than 300 mm. Minimum lane width requirements must also be met. Normally, lane edgelines are used on all numbered highways providing these criteria are met.

Lane edge lines are not used if the roadway has curb and gutter. Lane edge lines may be used where extruded asphalt curb is placed to control drainage. Edge lines shall only be applied in a consistent nature and not applied intermittently.

Traffic volumes, commercial vehicle volumes, safety performance and climatic conditions should be considered before lane edge lines are considered on non-numbered highways.

7.3 Transverse Pavement Markings

7.3.1 Colors

Transverse markings, as shown in Figure 7.2, are stop bars, crosswalks, aircraft patrol markings, parking space markings, and words or symbols are white with the exception of transverse median markings (crosshatch) which shall be yellow.

7.3.2 Shapes

Due to the low approach angle at which transverse pavement markings are viewed, it is necessary that transverse lines and symbols be elongated to give adequate visibility to the driver.

7.3.3 Stop Lines

Stop lines are a supplemental device to indicate the point where a vehicle shall stop in compliance with a the R-4 STOP SIGN, a traffic signal or a protected railroad crossing.

Stop lines are mandatory at:

- stop conditions on numbered routes
- signalized intersections
- on the approach to a numbered highway from a major side road

7.3.3 Stop Lines, Cont'd:

Stop lines are desirable but not mandatory at:

- minor road junctions to numbered routes
- intersections where motorists cannot determine the proper stop position

Stop lines are not required at stop conditions on gravel roads, in conjunction with zebra pedestrian crossing markings without the R-4 Stop Sign or used alone without a R-4.

Stop lines shall extend from the right curb, pavement edge or edge line, to the directional dividing line. In the case of one-way streets, to the left curb, pavement edge, or edge line. In all cases, stop lines must be perpendicular to the centerline of the traveled roadway.

The stop lines should be staggered on adjacent lanes at skewed intersections if the distance from the front corner of the first stop line to the front corner of the adjacent stop line is greater than 1.2 m. See Figure 7.22.

If a crosswalk and stop sign exist on the same leg of an intersection, there shall be 1.0 m separation between the stop line and the nearer crosswalk line. Where there is no marked crosswalk, the stop lines shall be set back from the intersection to allow for a future crosswalk.

7.3.4 Crosswalks

A crosswalk is that part of the roadway used to channel pedestrian traffic. In determining the type of crosswalk most suited to a particular crossing location, a number of factors should be considered which include: pedestrian volume, pedestrian age and agility, roadway width, vehicle volume and speed, visibility conditions, and the proximity of adjacent traffic control.

The recommended pavement markings for crosswalks are longitudinal stripes, which are more visible to approaching drivers. This type of crosswalk is commonly referred to as zebra markings. Twin parallel line type crosswalks are only suitable at intersections that are fully signalized or stop sign controlled approaches for the purpose of regulating vehicular movements.

Free rights are not included in this category and should be marked with zebra stripes as per Figure 7.23.

7.3.4 Crosswalks, Cont'd:

Zebra markings, Figure 7.2, consist of a series of equally spaced longitudinal stripes, parallel to the centerline of the roadway. The recommended length of the stripes is 3.0 m where posted speed limits are 60 km/h or less, and 4.0 m where speed limits are 70 km/h and greater. The stripes are elongated for increased visibility.

Stop bars are not required at pedestrian crossings except where the approach is controlled by a signal or a stop sign.

The twin parallel line crosswalk consists of two parallel solid lines 30 cm wide. The lines are painted across the entire pavement width, either oriented to connect the sidewalks from the cross streets, or perpendicular to the centerline of the roadway. The width between lines is usually determined by the width of the cross street sidewalk(s) or the volume of pedestrians who use the crossing. The recommended minimum width is 2.5 m.

Refer to the current manual for pedestrian crossing control and warrants or the Highway Safety Section for additional information.

7.3.5 Lane Use Arrows

Lane use arrow pavement markings shall only be used for left turn lanes, combination lanes, and drop lanes. The spacing of left turn and combination lane arrows shall be a 30 m minimum to a preferred 50 m maximum, with no more than three arrows per lane.

Table 2.1 Suggested Arrow Spacing For Drop Lanes

Speed (km/h)	Spacing (m)	Max. # of Arrows
50	50 - 100	3
60	50 - 100	3
70	50 - 100	4
80	50 - 100	4
90	50 - 100	5
100	50 - 100	6

7.3.6 Letters and Symbols

Letters and numeral markings shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices for Canada produced by the Transportation Association of Canada. Refer to Appendix A-2 for TAC Lettering Standards.

7.4 Chevron and Crosshatch Pavement Markings

Chevron and crosshatch markings are used to discourage vehicular travel over a paved portion of the roadway.

7.4.1 Chevron Pavement Markings In Gore Areas (Figure 7.6)

A gore is the wedge-shaped paved area between a through lane and a one-way off or on-ramp. At off-ramps and on-ramps, the lines outlining the gore and the chevron markings within the gore area are white.

These markings are to be at a slope of 2:1 measured from the lane edge lines. Chevrons are normally 600 mm wide and spaced 10.0 m center to center. A 6.0 m spacing may be used in smaller gore areas where space is limited.

Chevrons shall form a V shape, with the bottom of the V at the mid-point between the through lane and the ramp.

7.4.2 Crosshatch Pavement Markings in Median Areas (Figure 7.7)

Crosshatch markings are to be yellow, spaced at 10.0 m centre to centre and at slope of 2:1 to the direction of travel. All crosshatch markings are 600 mm wide.

7.4.3 Advance Crossing Marking (Figure 7.5)

The "X" marking shall be used in advance of crossings, typically railroad crossings and may be used in advance of school cross walks at the discretion of the Regional Traffic Engineer.

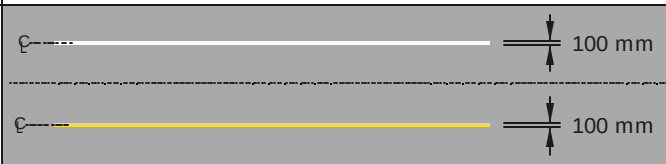
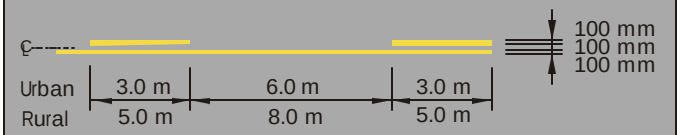
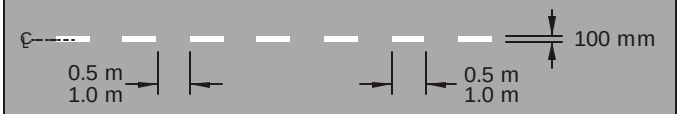
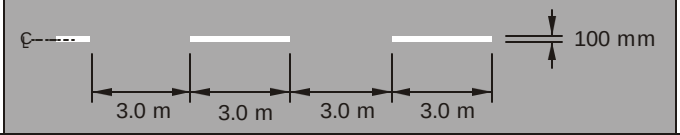
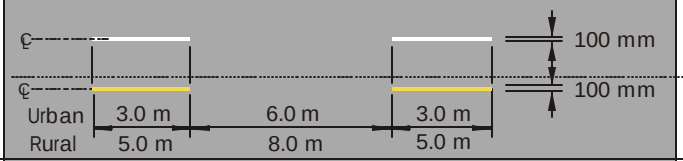
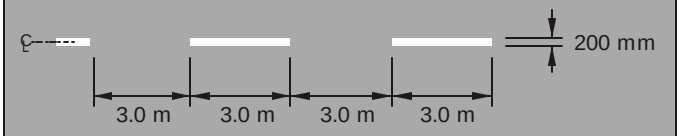
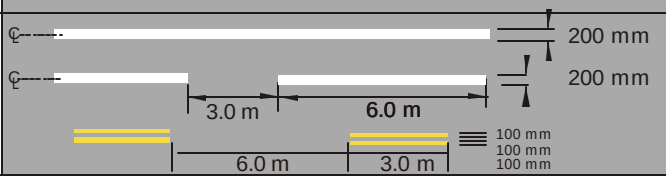
When used in advance of the railway crossing the "X" shall be placed 10m after the appropriate W-10 sign measured to the centre of the "X" . Refer to Figures 7.42 for typical application. The "X" is typically not required at railway crossings if other regular pavement markings such as centre lines or edge lines are not used.

Table 7.1 Distances Traveled

Posted Speed Limit (km/h)	Distance (m) Traveled In 4 Seconds	8 Seconds	12 Seconds
50	60	120	180
60	70	140	210
70	80	160	240
80	90	180	270
90	100	200	300
100	110	220	330
110	120	245	370

Figure 7.1

Longitudinal Markings

Line Type	Pattern	Use
Solid		Edge and lane lines prohibiting lane changes Directional dividing lines
Double Solid		Directional dividing lines prohibiting passing
Simultaneuous Solid And Broken		Directional dividing lines, and two-way left turn lanes
Broken		Guiding lines 0.5m for intersection 1.0m for bus bay/pullout
Broken		Continuity lines
Broken		Lane lines Directional dividing lines
Broken (Critical Areas)		Continuity lines for critical areas (eg. ramps)
Special		Edge and lane lines for critical areas and special lane designation Double dashed yellow lines for lane reversal systems

NOTE: ALL LONGITUDINAL LINES ARE TO BE REFLECTORIZED

THE MINIMUM PAINT LINE OFFSET SHALL BE 400 mm FROM PHYSICAL OBSTRUCTIONS SUCH AS BARRIER, GUARDRAIL, RAISED TRAFFIC ISLANDS, BRIDGE ABUTMENTS, MEDIANS, LAMP BASES, SIGN BASES, ECT. (MEASURED FROM THE CENTER OF THE LINE TO THE FACE OF THE OBSTRUCTION)

Figure 7.2

Transverse Markings

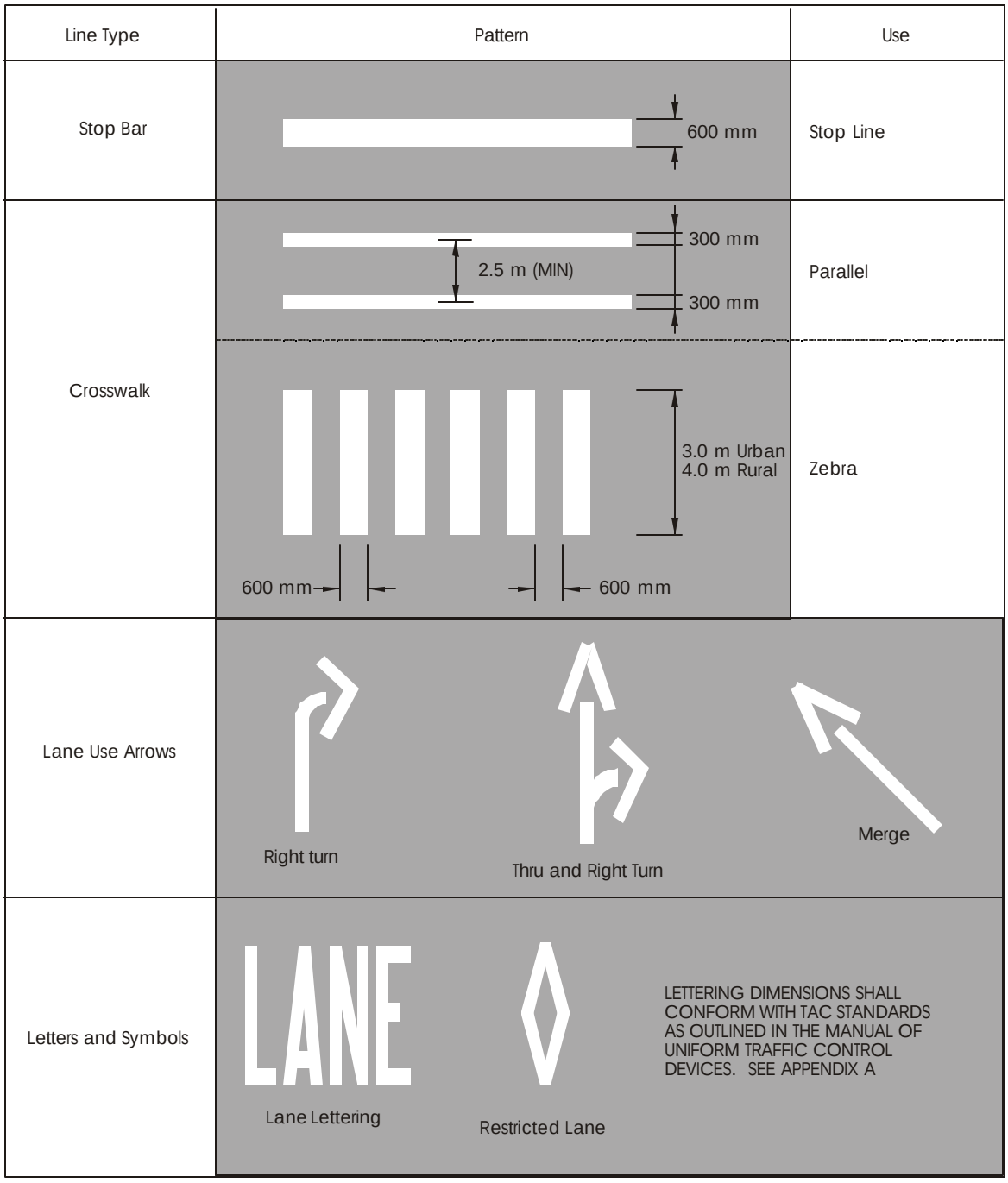


Figure 7.3

Left / Right Turn Arrow

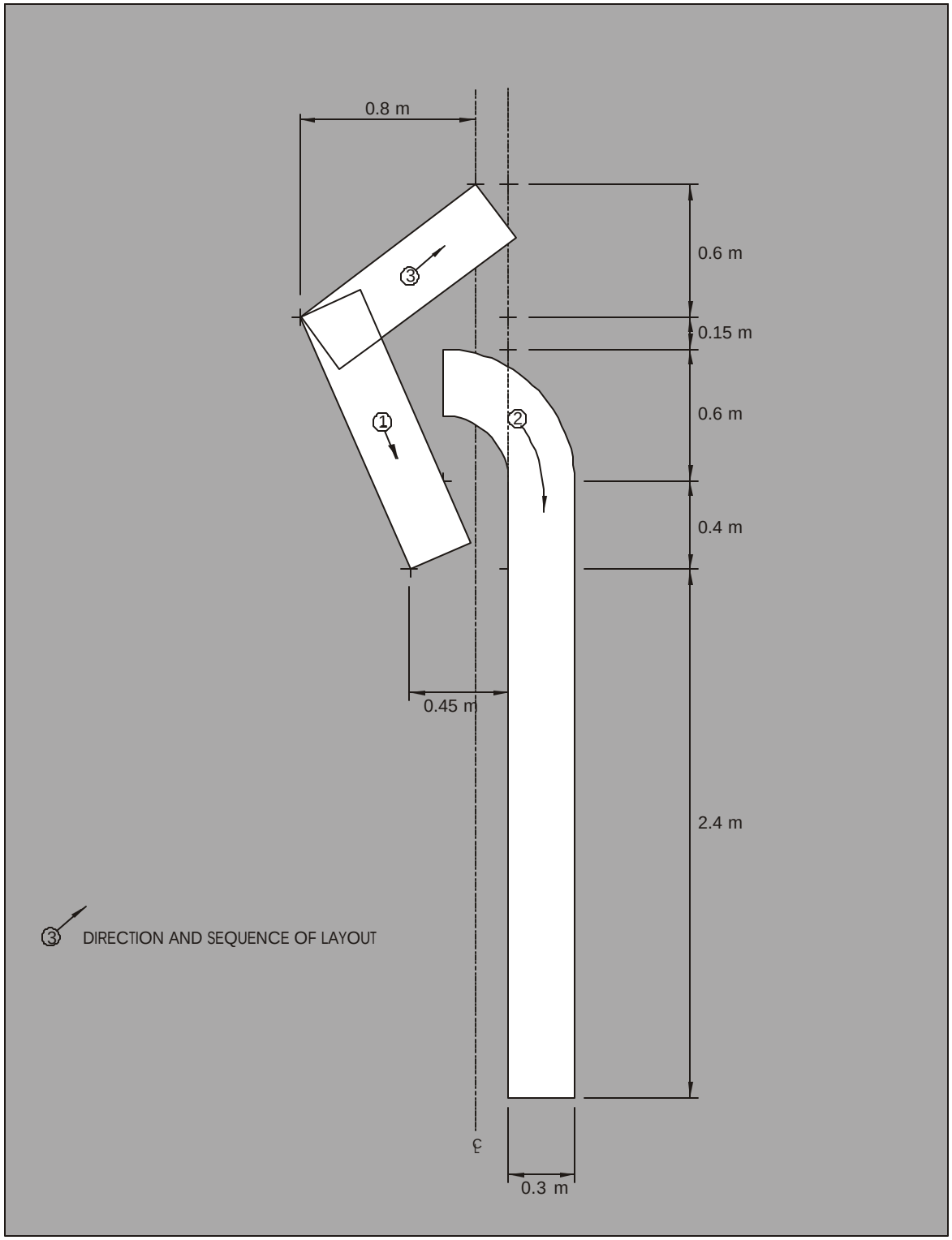


Figure 7.4

Straight and Left / Right Arrow

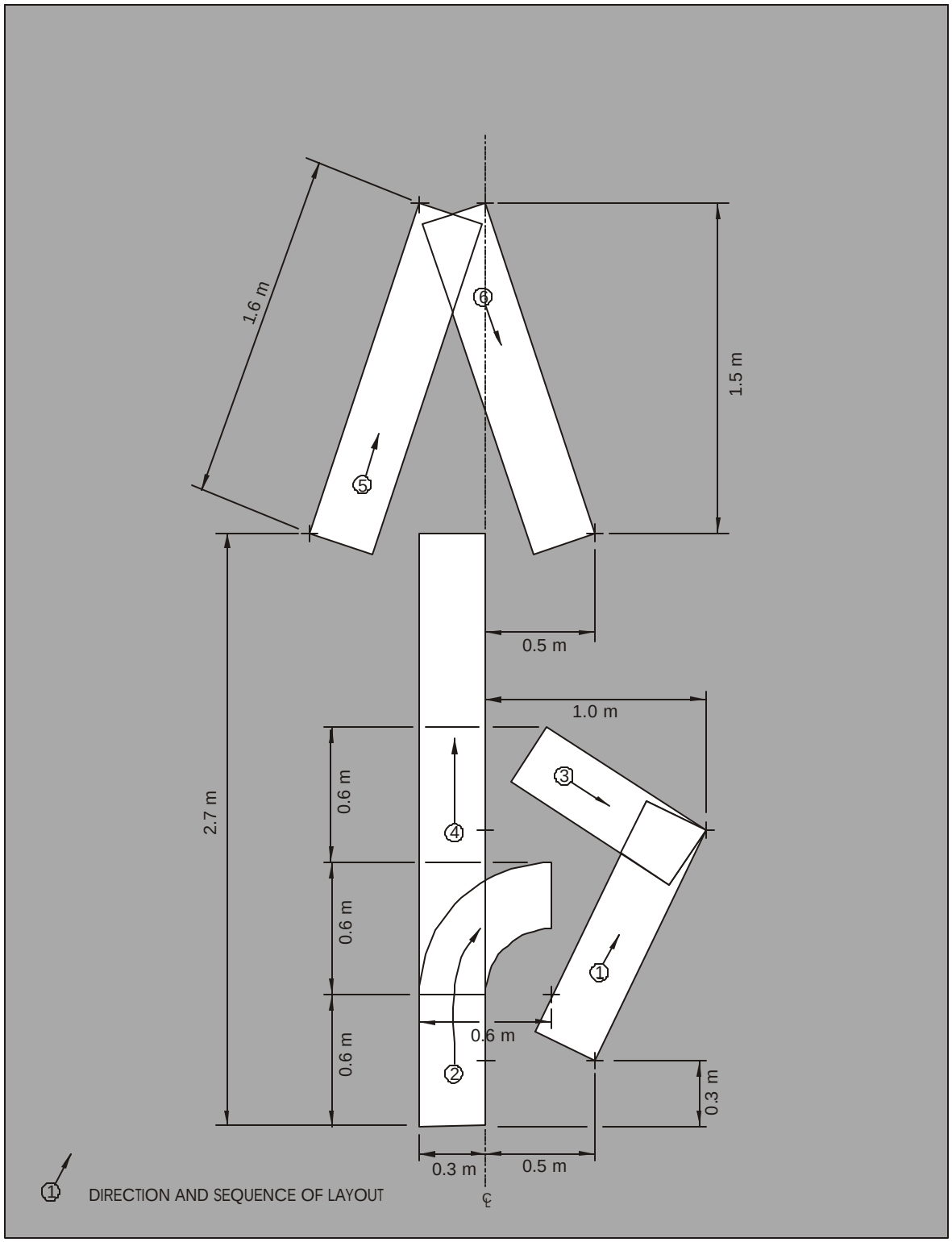
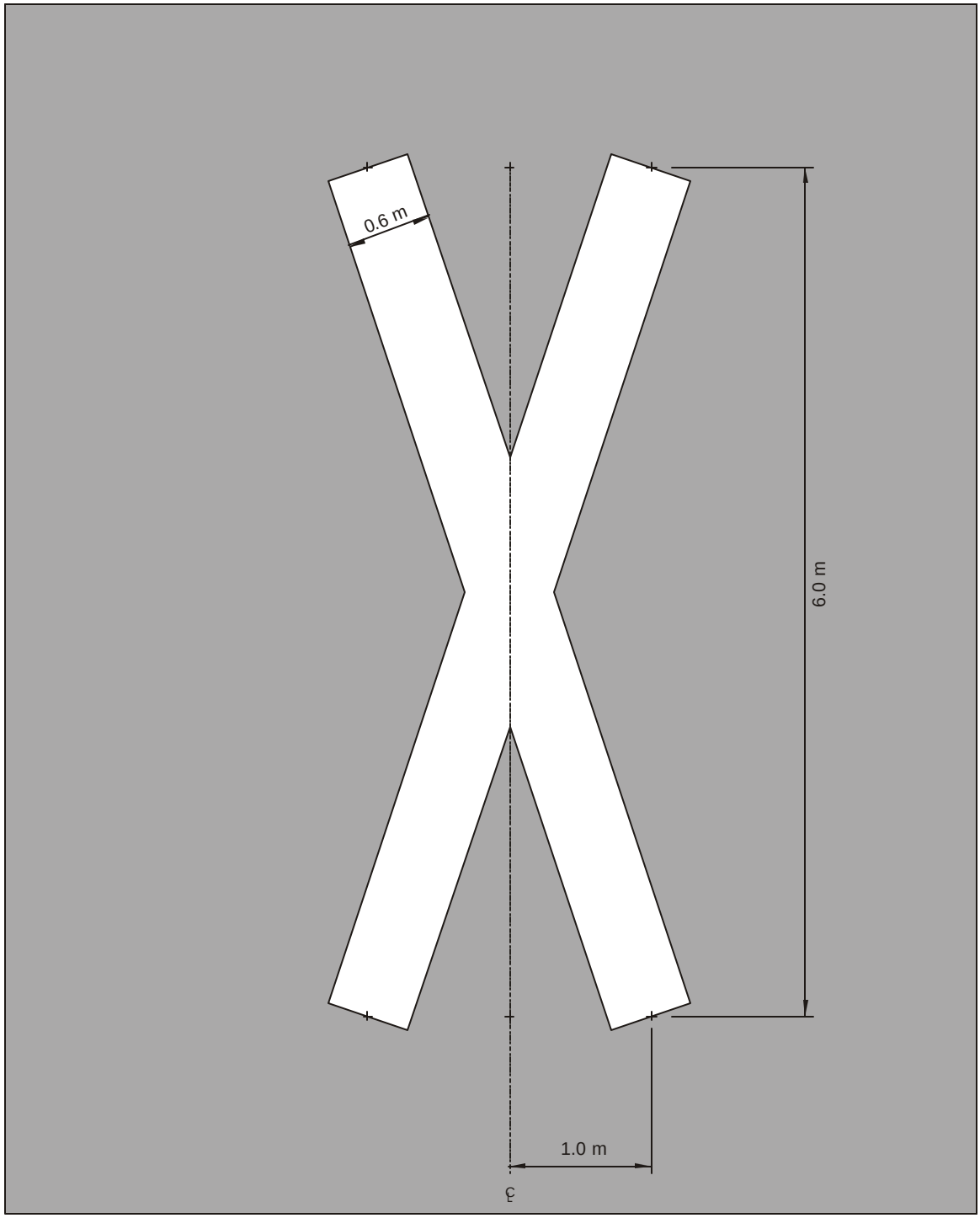


Figure 7.5

Advance Crossing Marking



NOTE: USED IN ADVANCE OF CROSSINGS
SEE FIGURE 7.42 & 7.46 FOR DETAILS

Figure 7.6

Gore Areas Markings

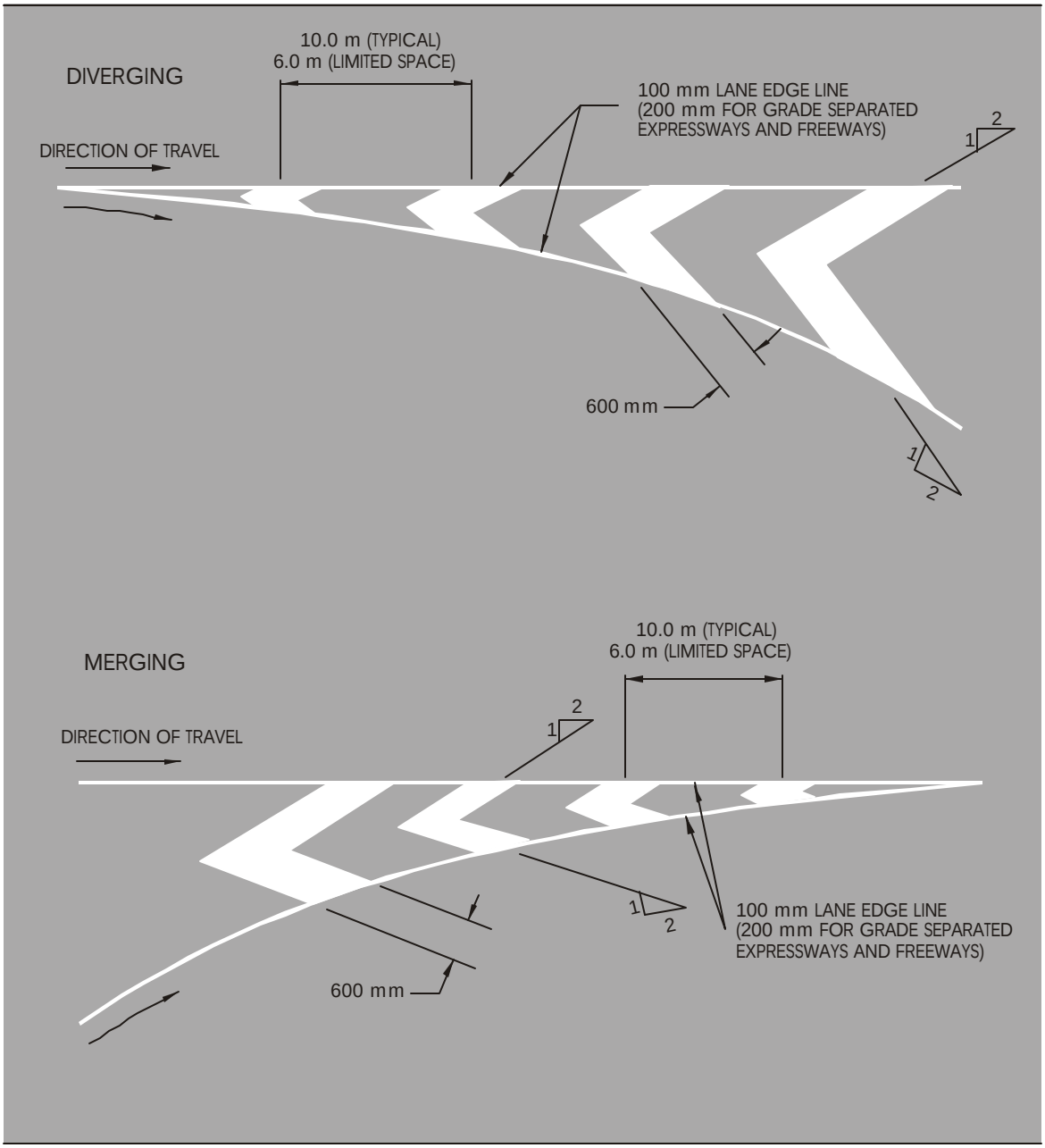


Figure 7.7

Median Markings

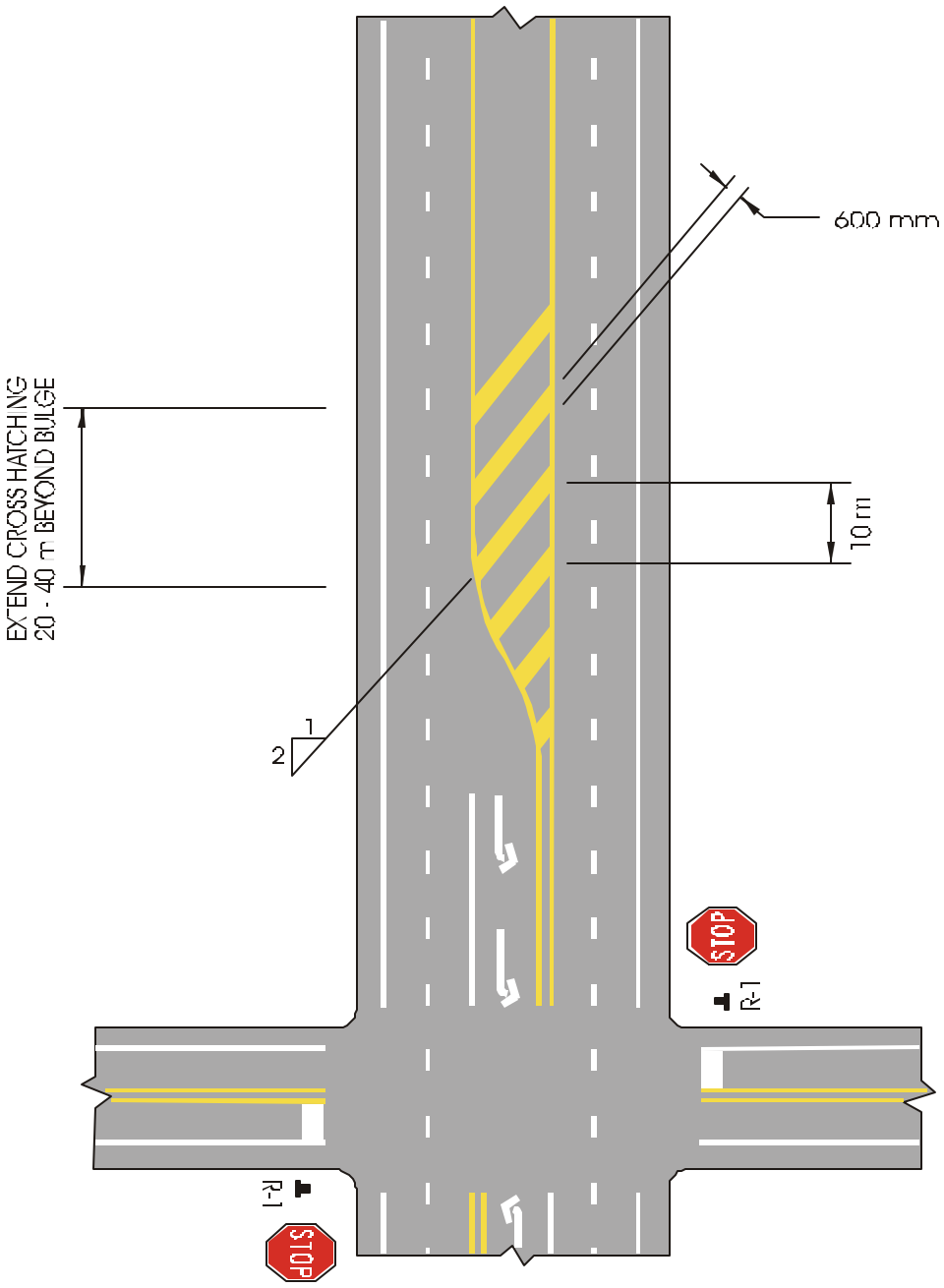
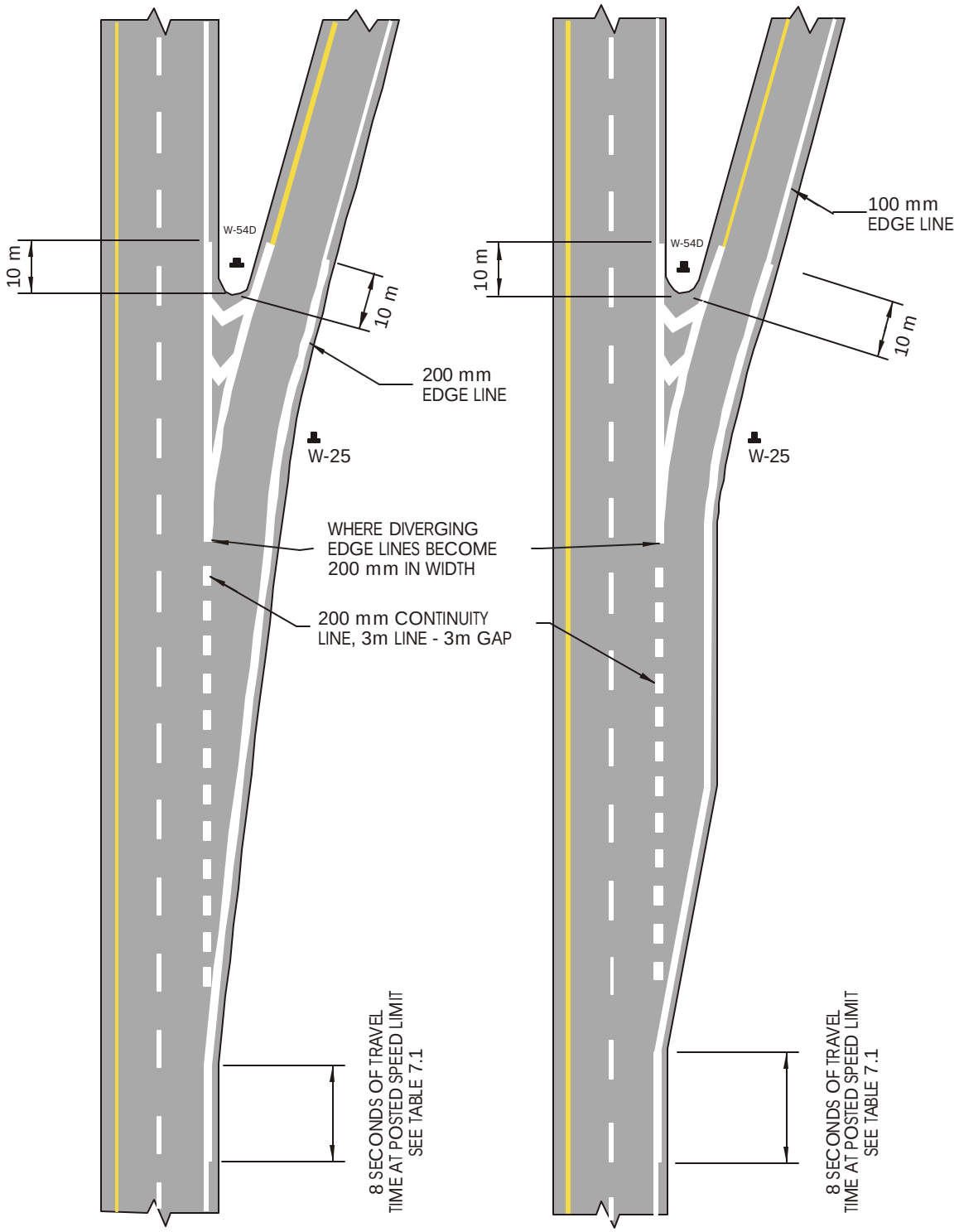


Figure 7.8

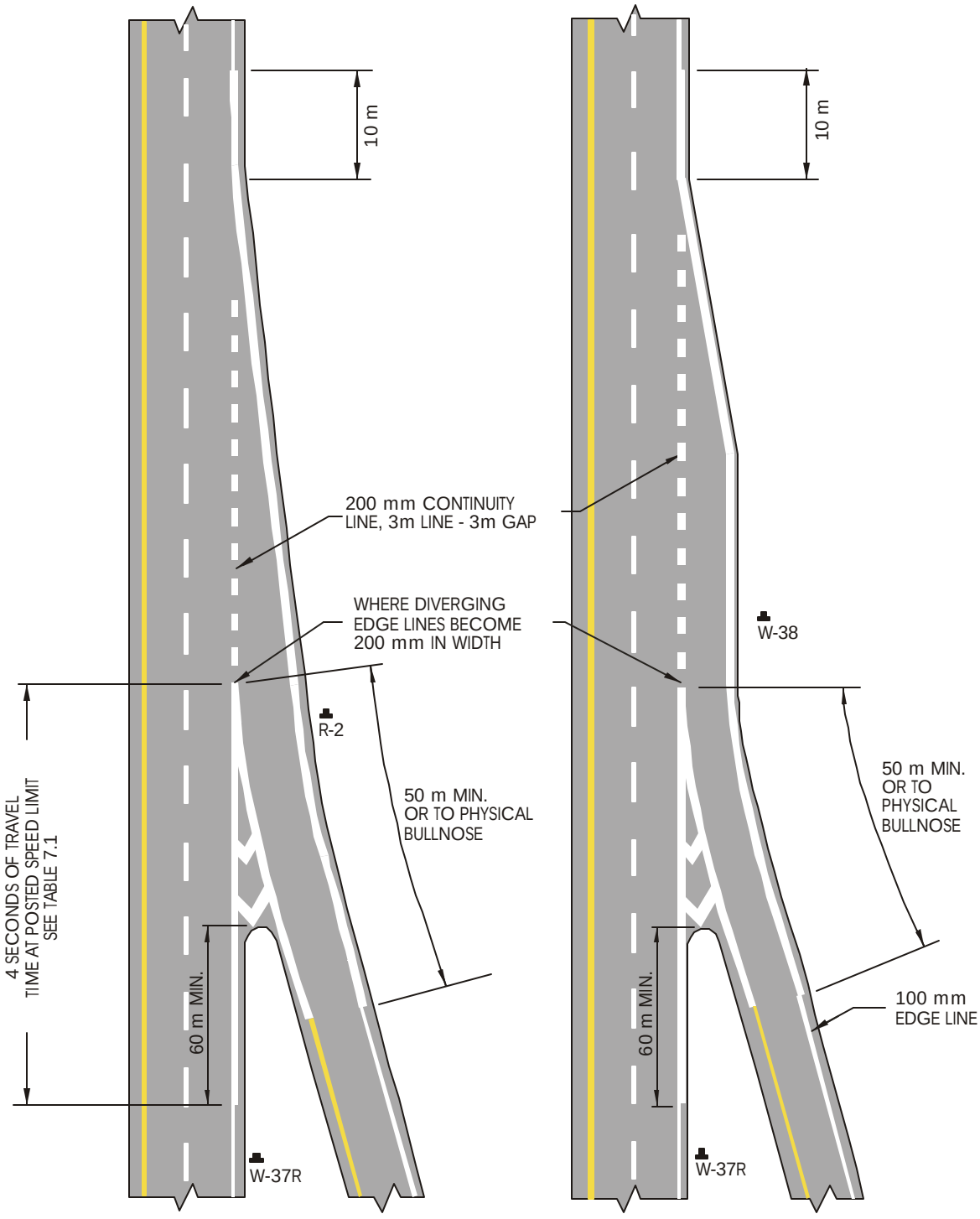
Freeway /Expressway Off-Ramp Markings



NOTE: IF THE DISTANCE BETWEEN 200 mm LINES IS < 200 m THEN CONNECT THE 200 mm LINES.

Figure 7.9

Freeway / Expressway On-Ramp Markings



NOTE: IF THE DISTANCE BETWEEN 200 mm LINES IS < 200 m THEN CONNECT THE 200 mm LINES.

Figure 7.10

Freeways / Expressway Auxiliary Lane Markings

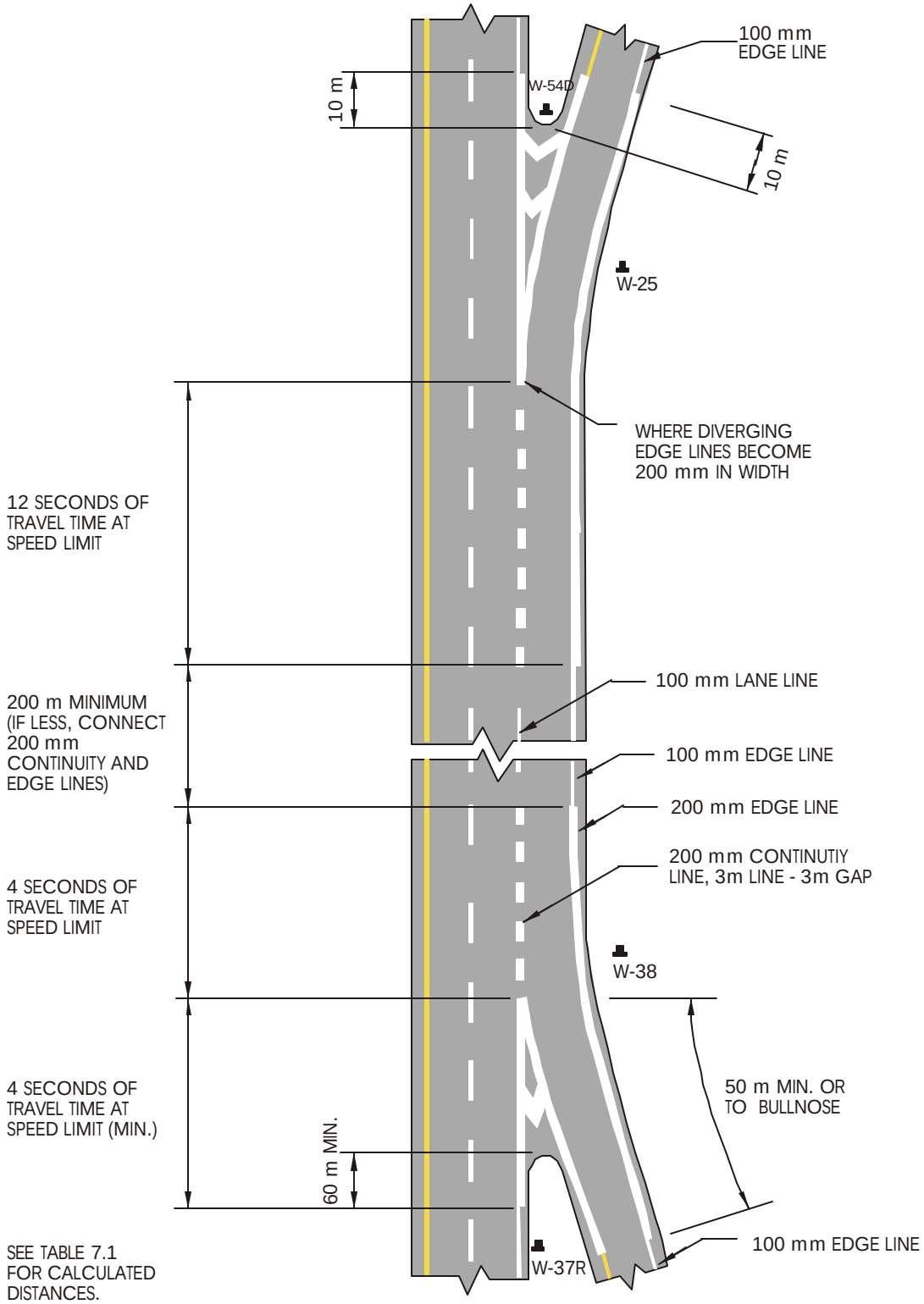


Figure 7.11
Freeway / Expressway Dual Right Lane Exit Markings

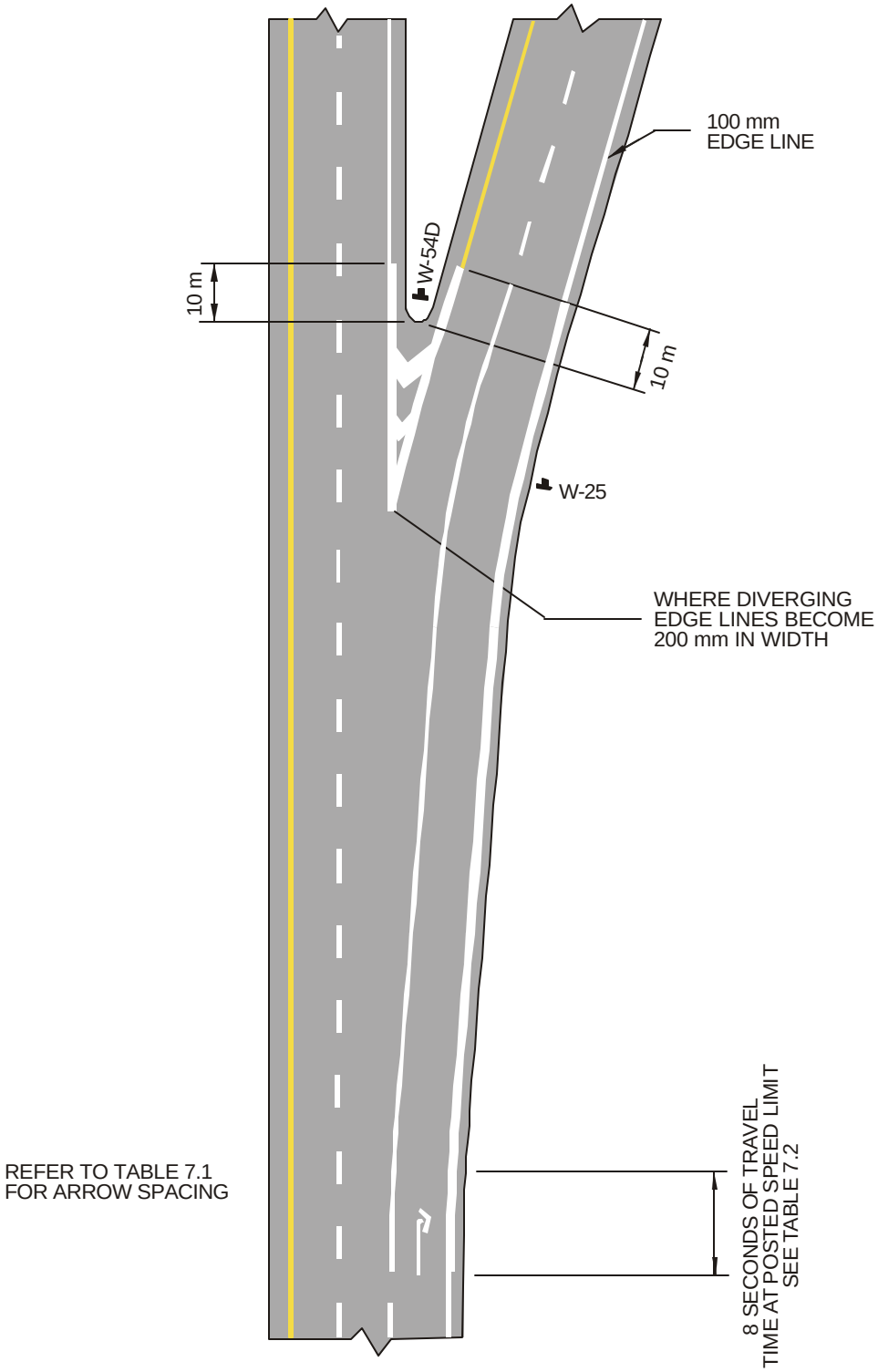
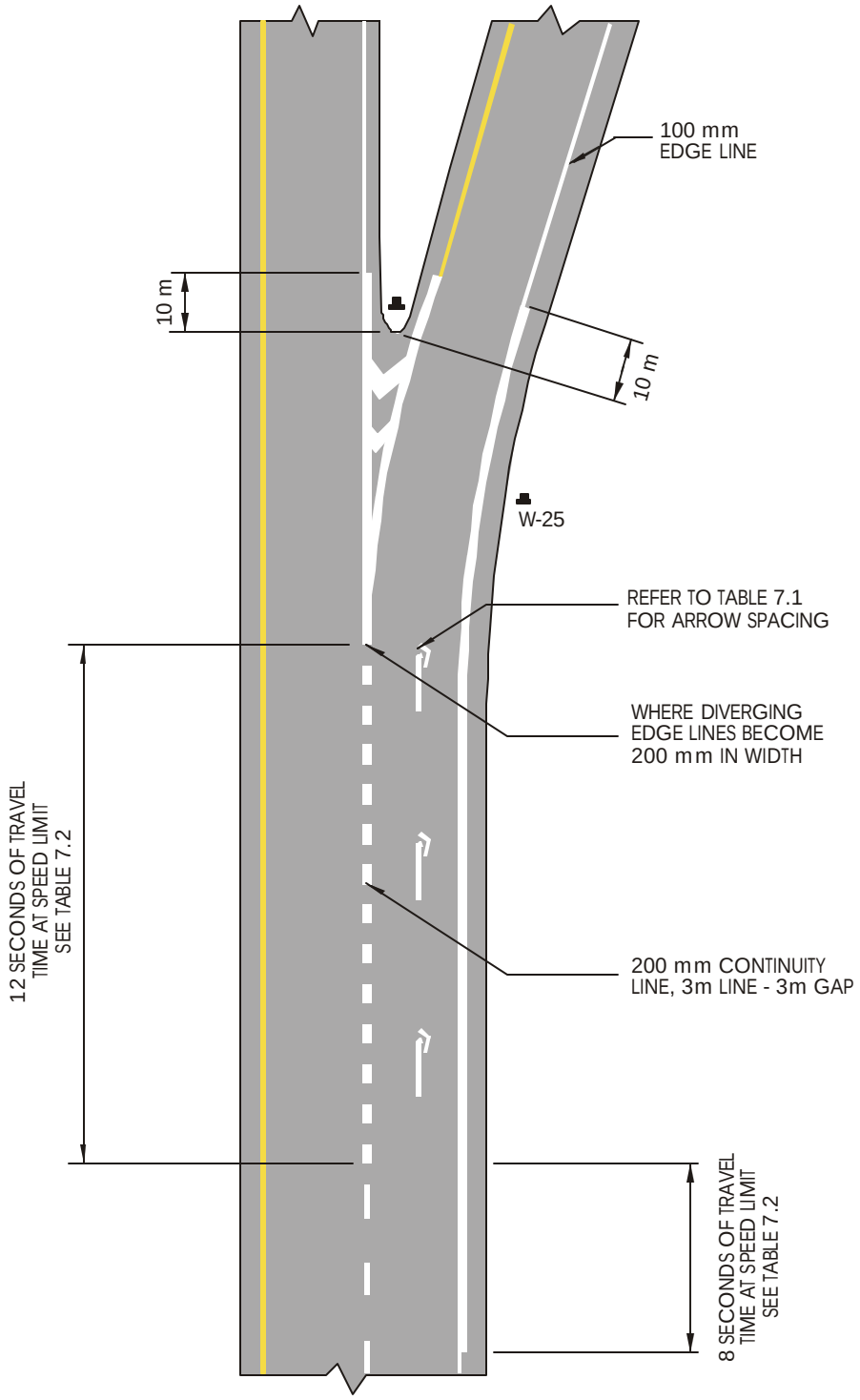


Figure 7.12

Freeway / Expressway Single Drop Lane Markings



7.5.0 Delineation

Road-edge delineation, through the use of barrier or post mounted reflectors, or lane edge delineation through the use of raised pavement markers, is an effective aid for night driving. Delineation should be used where there are changes in horizontal alignment, particularly at locations where the night accident frequency is high or the alignment at night is confusing

Delineation is to be considered as guide markings rather than warning devices and shall never be substituted for a proper warning sign

7.5.1 Raised Pavement Marker (RPMs) – Lane Edge Delineation

RPMs may be reflective or non-reflective. The following sections generally refer to reflective RPMs. For discussion on non reflective RPMs, especially when used as replacement for markings, see Sec. C2.9.3 of the MUTCD for Canada

RPMs are often used on coastal routes to provide additional guidance. Snow plowing will damage surface reflectors, therefore they are generally not used in areas which receive large or frequent snowfalls. Installation of RPMs shall be approved by the Regional Traffic Engineer.

RPMs are not required in urban areas with street lighting and a posted speed of 50 km/h or lower. RPMs are not installed within an intersection.

In order to reduce snowplow damage, RPMs may be recessed from the top of pavement by grinding a longitudinal slot in the asphalt. This slot shall be 1.3 m long. The width and depth of the slot will be governed by the type of reflector chosen. Depending on product, typical widths of cut will vary from 108 mm to 154 mm. RPMs are to be set “flush” with top of pavement surface. A typical depth, is 20 mm at the centre, tapering out to 0 mm at each end of the slot.

RPMs must be approved for use by the Ministry of Transportation Engineering Branch. Approved RPMs are listed in the “*Recognized Product List*” available from the Engineering Branch.

The District Transportation Office shall keep a list of highway where RPMs have been installed.

7.5.2 RPM Spacing[1]:

- 26.0m maximum where 5.0m dash and 8.0m gap is used
- 18.0m maximum where 3.0m dash and 6.0m gap is used.
- 13.0m for left turn lanes (see Fig. 7.13)
- 300mm in advance of dashed lines
- 50mm to right of median lane line where applicable

7.5.3 RPM – Reflective White Mono-Directional

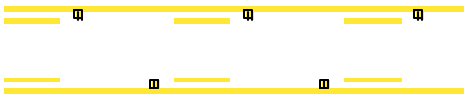
- Used on lane lines separating traffic in the same direction of travel

7.5.4 RPM – Reflective Yellow Mono-Directional

- used on the median line on freeways and other multilane highways divided by a non-traversable median.

7.5.5 RPM – Reflective Yellow Bi-Directional

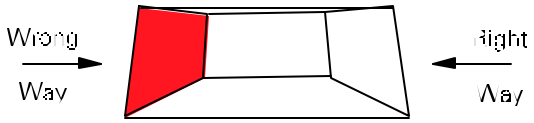
- Used on directional dividing lines and to outline median crosshatched markings . (See Figure 7. 13)
- Used on two-way left turn lanes spaced at 9.0 m to face each direction of travel.



[1] Where warranted and approved by the RTE, spacing may be reduced and RPMs installed at every dashed line , ref: Sec. C2.9.2 of the MUTCD for Canada

7.5.6 RPM – Reflective Red and White Bi-Directional

- Use for two-way delineation in controlling wrong way traffic movements on divided highways, off or on ramps, and one-way streets.



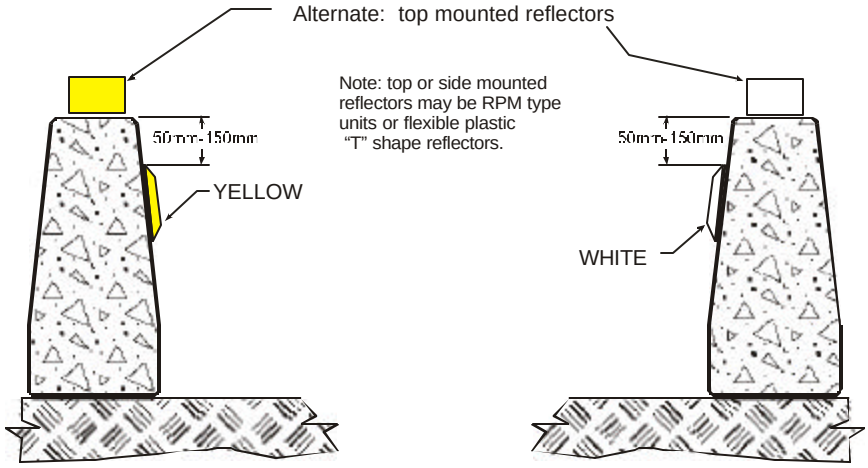
7.6.0 CMB, CRB & Post Mounted Reflectors – Road Edge Delineation

7.6.1 CMB / CRB Reflectors

The color and spacing of reflectors mounted on long continuos sections of Concrete Median and Roadside Barriers is governed by the same guidelines as specified for pavement mounted RPMs (See Section 7.5.2.1 for spacing). [2]

On isolated curves with CRB, the barrier mounted reflector may be spaced in accordance to Table 7.4a if the curve radius is known. Alternatively, if the curve radius is unknown the delineator spacing may be based on Table 7.4b using the posted curve advisory speed.

[2] CMB/CRB warrants a higher level of delineation since they represent a physical entity within the road prism, therefore reflector spacing is limited to a maximum 26m



7.6.2 Post Mounted Delineation

Post mounted reflectors should be 150 x 150cm W-55 mounted on suitable supports such as square steel posts or wood posts. Flexible delineator posts with factory installed retroreflective sheeting may also be used. Refer to Section 635 of the Standard Specification for Highway Construction for approved delineator supports and installation details

The W-55 may be substituted with an approved equivalent reflector having at least 225 square cm of retroreflective area and an R_A equivalent to prismatic lens sheeting.

Table 7.3 Application Guidelines for Delineation

	FREEWAY & EXPRESSWAY			CONVENTIONAL HIGHWAY	
	CURVE	**TANGENT**	**INTERCHANGE***	**CURVE**	**TANGENT**
WHITE (Right)	Mandatory	Recommended	Recommended	Optional **	Optional
YELLOW (Median)	Mandatory***	Recommended	Mandatory	N/A	N/A
SPACING	SEE TABLE 7.4a	60m	30m	SEE TABLE 7.4a	60m
	* ALSO APPLIES TO INTERCHANGES ON CONVENTIONAL HIGHWAYS				
	** MANDATORY ON ACCIDENT PRONE CURVES				
	*** ONLY FOR RH CURVES <2000M RADIUS				

Two-lane highway delineation shall consist of a reflector mounted on a suitable post. Reflectors shall be erected so that the approach face is approximately perpendicular to the highway centreline.

Reflector colour always correspond to the colour of the pavement markings. E.g. right shoulder reflector = white, left median reflector = yellow, left shoulder reflector = white.

Reflectors shall be erected on the right-hand side of the roadway for delineating left-hand curves and on the left for similar right-hand curves. Reflectors will always be located on the outside of curves. For those curves which are require delineation in both directions, two reflectors should be used on each post throughout the curve so that one reflector is visible for each direction of travel. In this cases it may be necessary to rotate individual posts away from the standard position (approach face perpendicular to centreline) in order to obtain a maximum effect. The spacing of reflectors through horizontal curves is shown in Table 7.4a. (see Figure 7.14)

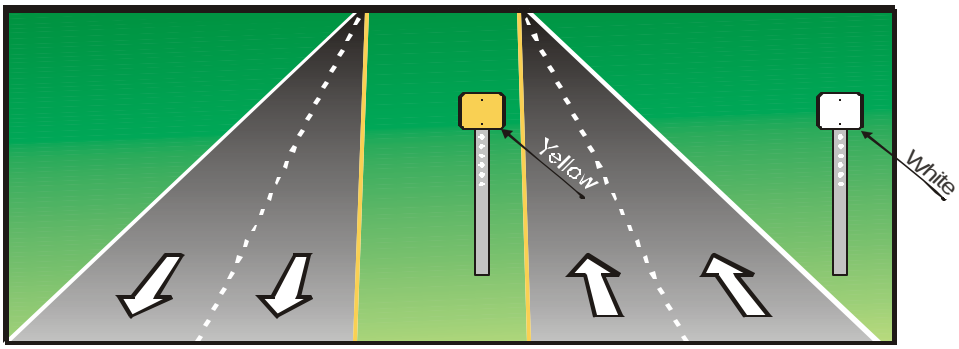
7.6.2 Post Mounted Delineation (Cont'd)

The use of delineation on straight sections of roadway is optional but may be specified by the Regional Traffic Engineer. When delineation is specified in this case, the reflectors should be spaced 60 m apart.

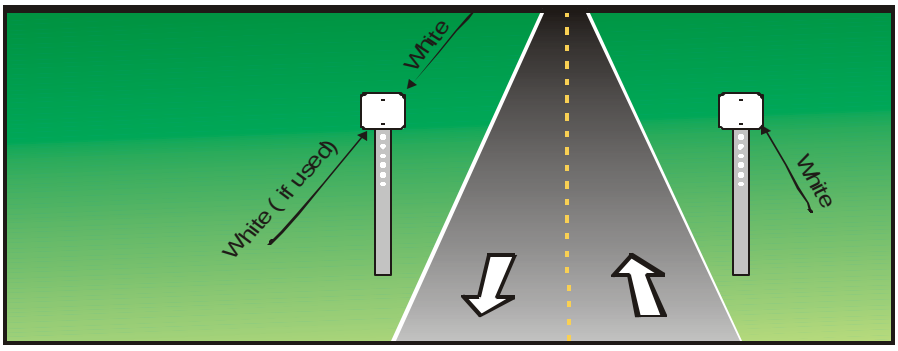
Where driveways, side roads or other obstructions interrupt this regular spacing, the reflector affected shall be moved a distance not to exceed one-quarter of the normal spacing, or omitted. Where continuous roadside barriers exist, refer to Section 7.5.2.

Delineation is required at all interchanges regardless of illumination.

Typical Reflector Application



DIVIDED HIGHWAYS



TWO LANE CONVENTIONAL HIGHWAY

7.6.3 Active "Lighted" Delineation Systems

Active delineators may be in-road, on barrier or on delineator posts. They may be powered by solar energy, batteries, or hard wired power supply systems and most utilize LED's (light emitting diodes). They have a higher purchase and installation cost so they are typical only used at locations where a high level of delineation is warranted.

Active delineators have the advantage of being visible from a greater distance than unlit delineators. They do not rely on vehicle headlights for illumination. Active delineators emit light so they can be seen from a greater distance, typically > 1 km.

Active delineation systems are generally limited to higher volume highways and may be considered for use on: accident-prone curves, areas prone to fog and/or rain, or where geometric condition demand a high level of positive guidance. The units should be used such that the light output of active delineators improves driver guidance and safety. Hence these devices should not be used in a location or manner that causes driver distraction.

Site suitability is an important consideration. Areas of continuous shade may not be good candidates for solar power and illuminated urban areas may not be a good area for active delineators in general. Also, active delineators may be more at risk of vandalism due to their novelty.

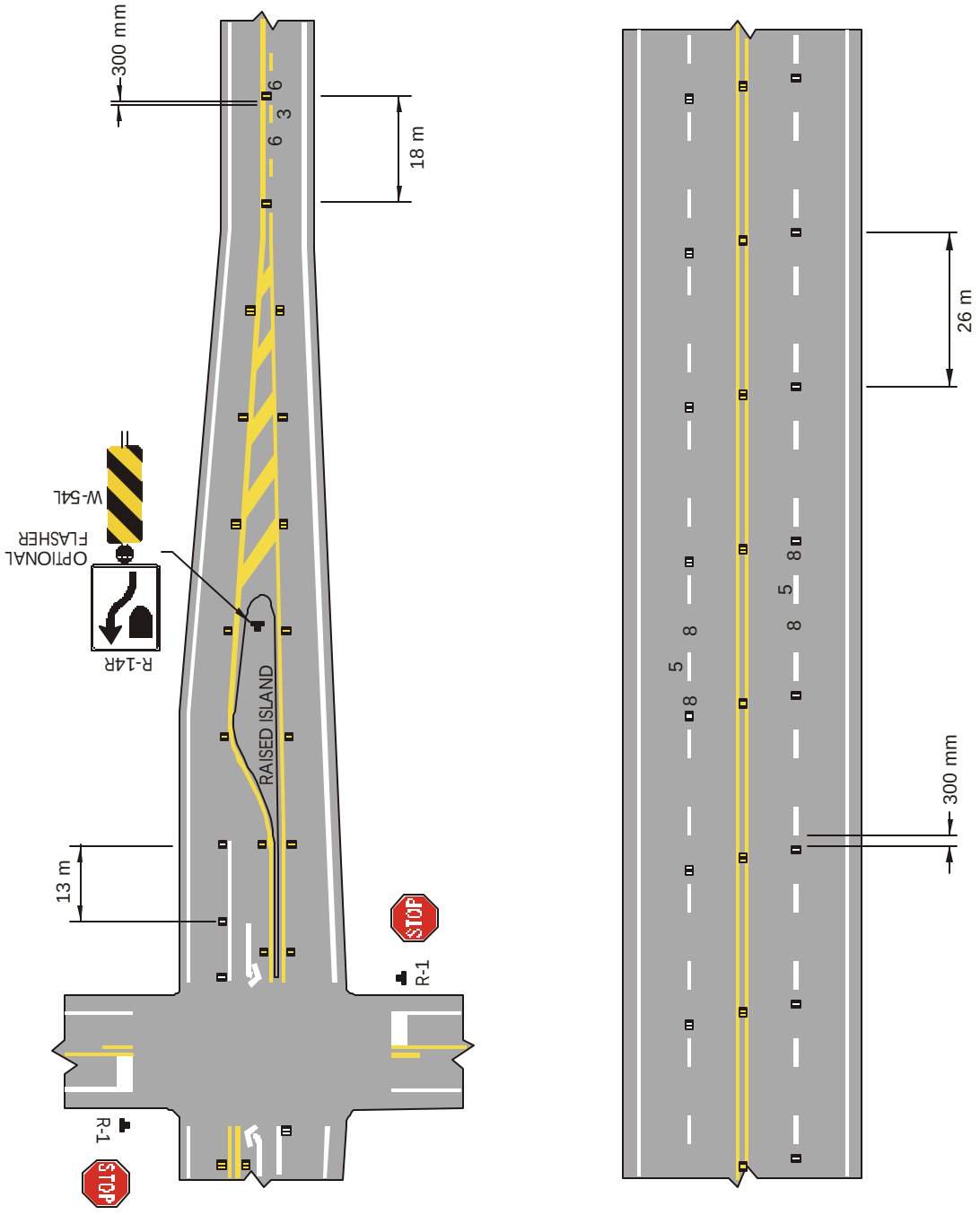
Active delineators are spaced in accordance to 7.5.2 unless otherwise directed by the Sr. Traffic & Electrical Engineer.

The observation angle of active delineator is determined by the beamwidth of the LED. Therefore the beamwidth of the LED will influence how delineator must be oriented in relation to the curvature of the road. LED's with beamwidths of ≤40° require critical alignment to optimize their visibility. LED's with beamwidths of ≥40° usually can be installed with the centre of the LED in line with the barrier.

Use of active delineators must be recommended by the R.T.E. and must be approved by the Sr. Traffic & Electrical Engineer.

Figure 7.13

Raised Pavement Markers (RPMs)



Note: Where the systematic spacing of RPMs is interrupted by a cross street, railway etc., an RPM may be moved in either direction for a distance not exceeding ¼ of the normal spacing. If the RPM still obstructs, it should be left out and the normal spacing continued as though as RPMs were in place.

Figure 7.14

Reflector / RPM Spacing On Horizontal Curves

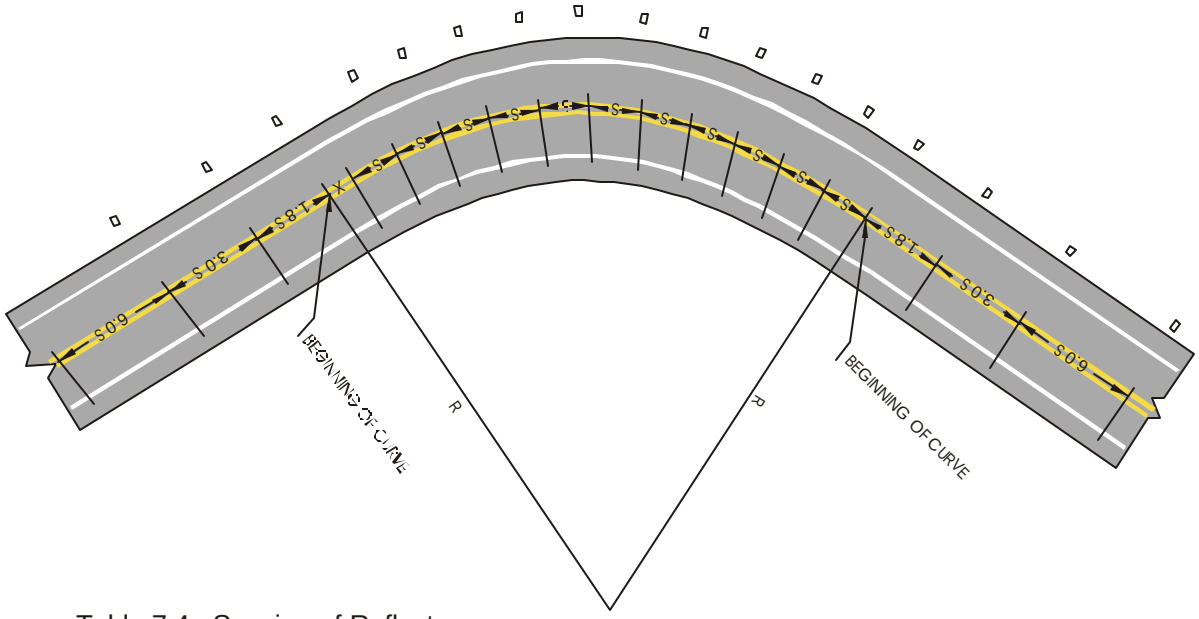


Table 7.4a Spacing of Reflectors on Horizontal Curves (R Known)

Radius (m)	S (m)	1.85 S (m)	3 S (m)	6 S (m)
>=950	34	60	60	60*
750 949	30	56	60	60
600 – 749	27	50	60	60
440 – 599	23	43	60	60
340 – 439	20	37	60	60
250 – 339	17	31	51	60
190 – 249	15	28	45	60
130 – 189	12	22	36	60
90 – 129	11	20	33	60
55 – 89	8	15	24	48
<55	5	9	15	30

Table 7.4b (R unknown)

Advisory Speed (Km/h)	Spacing (m)
< 40	5
50	7.5
60	10
70	12.5
80	15
>90 (regulatory)	26 or 60*

26m for reflectors on CMB/CRB, 60m for post delineators

The spacing on the curve is found by using the formula $S = 2\sqrt{0.3R}$, where R = the radius of the curve in meters. The spacing to the first reflector in advance and beyond the curve is 1.85 S, to the next reflector 3 S, to the next 6 S. Reflector spacing should not exceed 60 m

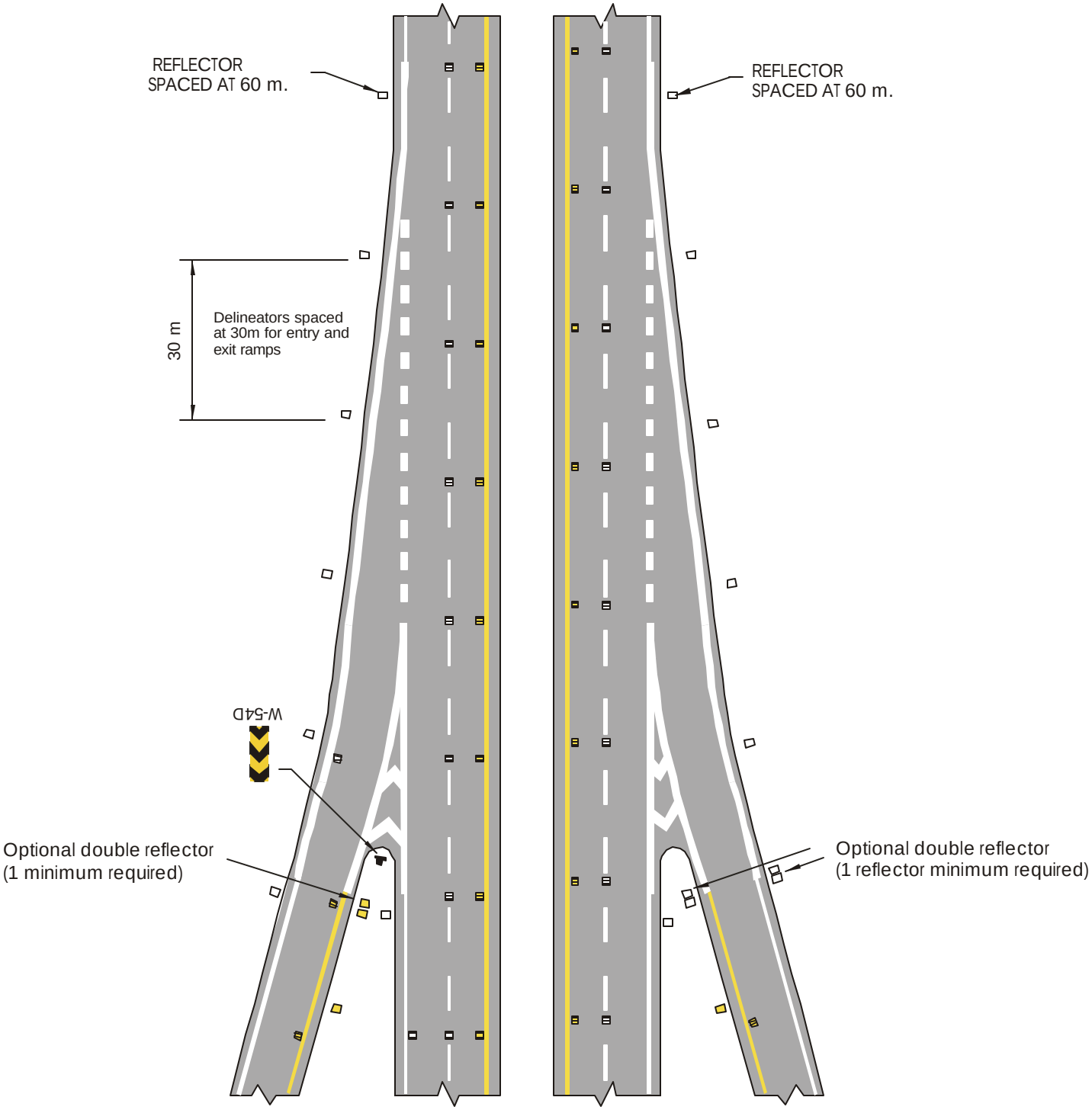
Note:
1. Divide the X distance among all spacings
so at least the last reflector falls at the end of the curve

2. Spacing between reflectors not to exceed 60m.

3. Reflectors shall be installed perpendicular to oncoming traffic

Figure 7.15

Delineators & RPM's on Freeway / Expressway Ramps



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7.7 Restricted Lanes (Bus/HOV Lanes)

A full time restricted lane is reserved for the exclusive use of Buses and High Occupancy Vehicles. The lane is separated from a normal through lane by a 200 mm wide lane line. At intersections/interchanges where right/left turns are permitted the 200 mm wide lane line shall be dashed to permit lane changes. The dashed line shall consist of a 6 m line and a 3 m gap. The length of the line is defined in Figure 7.18. A 100 mm wide lane line shall be broken with a 0.5 m line and 0.5 m gap across the mouth of an at grade intersection.

At signalized intersections where right turns are permitted from the side street, the restricted lane shall be marked with a white line 200 mm in width on a 2:1 taper from the curb to the lane line. This line shall have a 1.5 m gap centered on the width of the through lane. The lane lines shall be solid for a minimum of 30 m from the start of the block. This right turn pavement marking shall not be used for part time restricted lanes. See Figure 7.17.

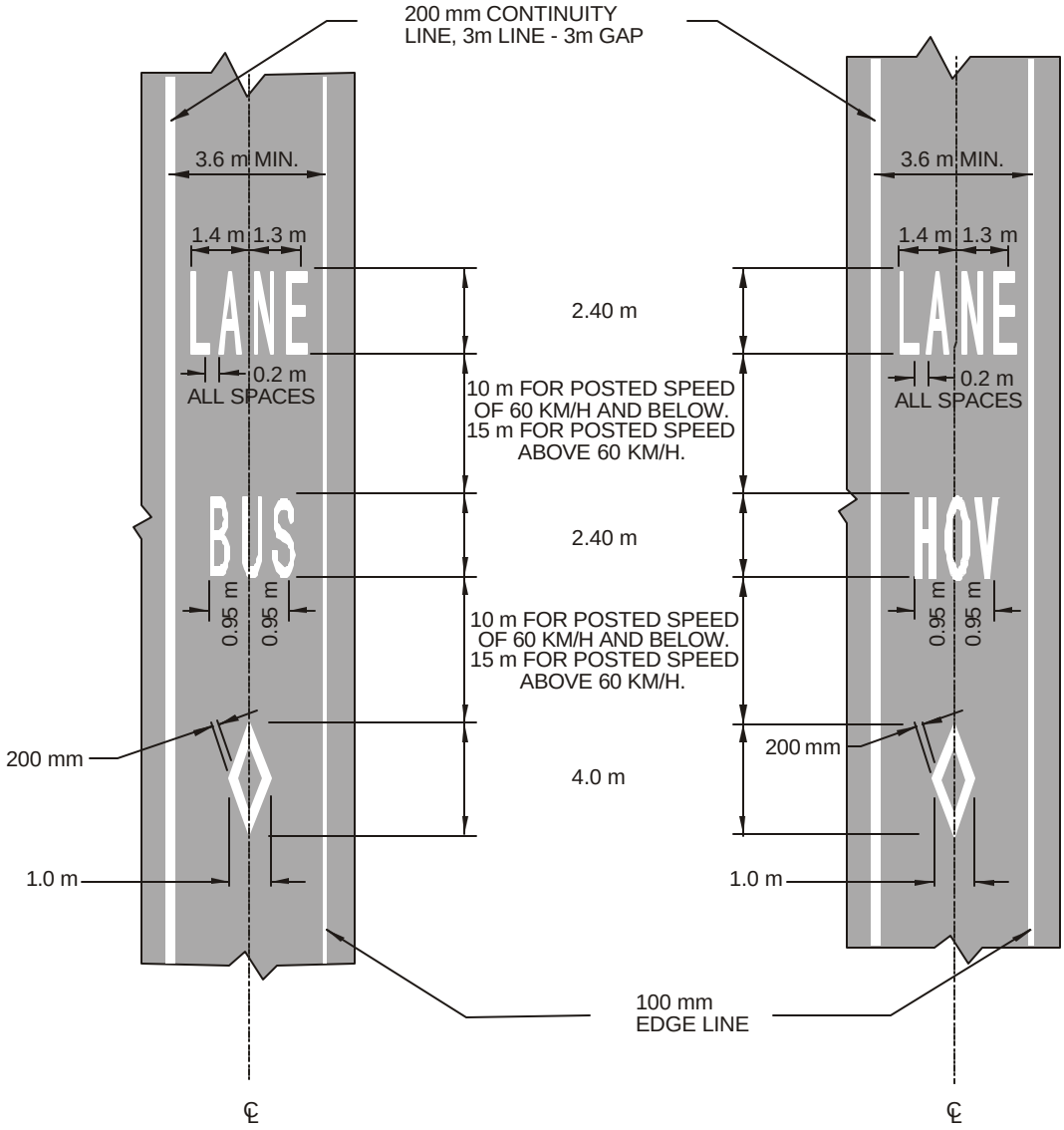
HOV or BUS LANE text pavement markings shall not be used for part time restricted lanes. The elongated diamond symbol shall be used to supplement the signing on both full-time and part-time restricted lanes.

The frequency of the restricted lane marking shall be based on posted speed, block length, distance from the intersections and engineering judgment. For urban applications where intersections are closely spaced, a minimum of one set of markings shall be placed for each block. As a general rule, markings are to be spaced at four times the posted speed. (e.g. for a 50 km/h posted speed, the spacing between markings would be 50 x 4 = 200 m)

Restricted lanes shall be painted to obtain a minimum width of 3.6 m. In areas where a lane width of 3.6 m is not obtainable, the Senior Traffic Engineer must be consulted.

Figure 7.16

Reserved Lane Markings



NOTE: BUS AND HOV PAVEMENT MARKING SYMBOLS AND WORDED MESSAGES ARE TO BE REPEATED AT 200 m TO 280 m INTERVALS DEPENDING ON THE OVERALL LENGTH AND CONTINUITY OF THE LANE

LETTERING DIMENSIONS SHALL CONFORM WITH TAC STANDARDS AS PER THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CANADA. SEE APPENDIX A-2.

Figure 7.17

Reserved Lane Right Turn Marking
(Signalized Intersection)

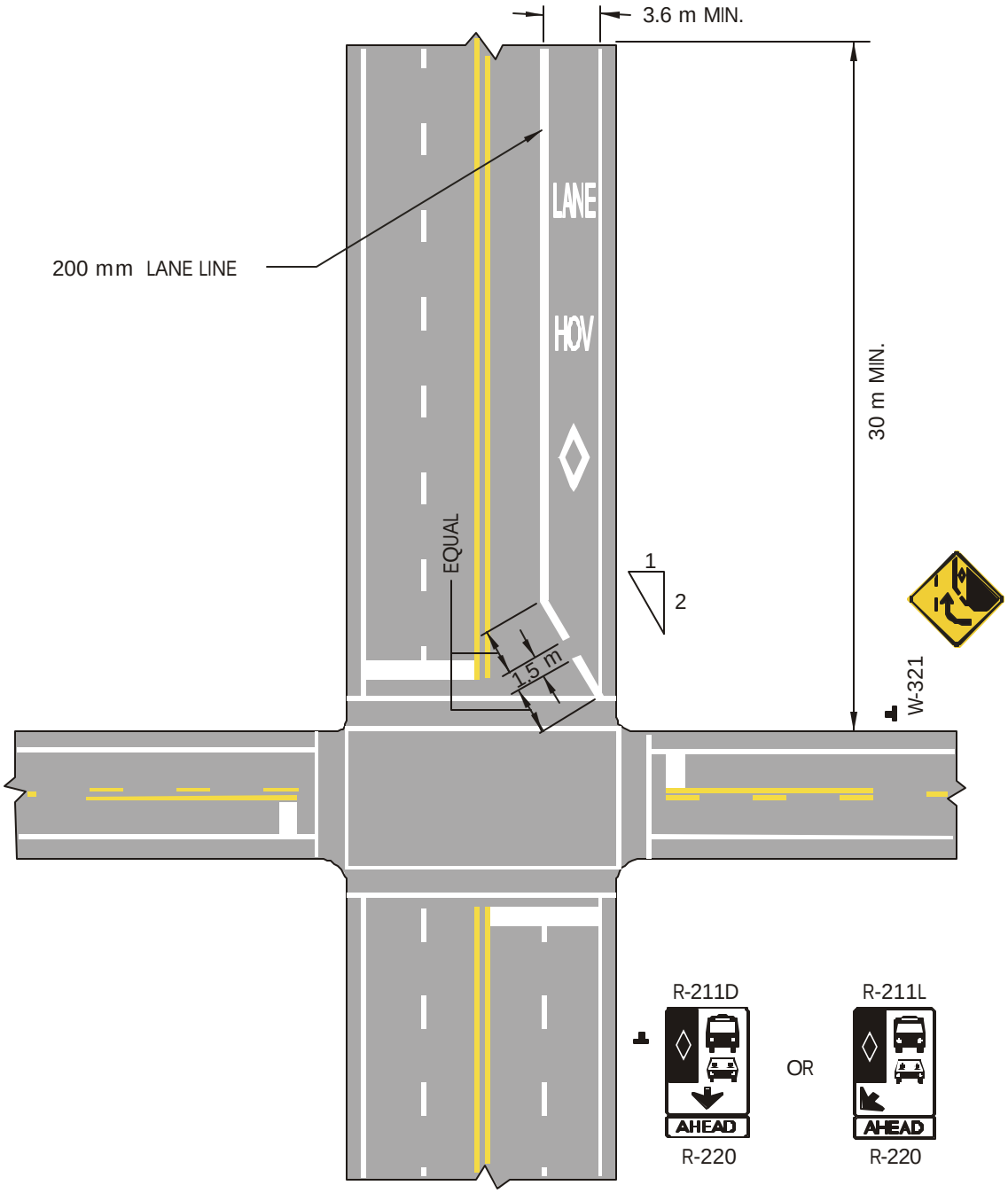
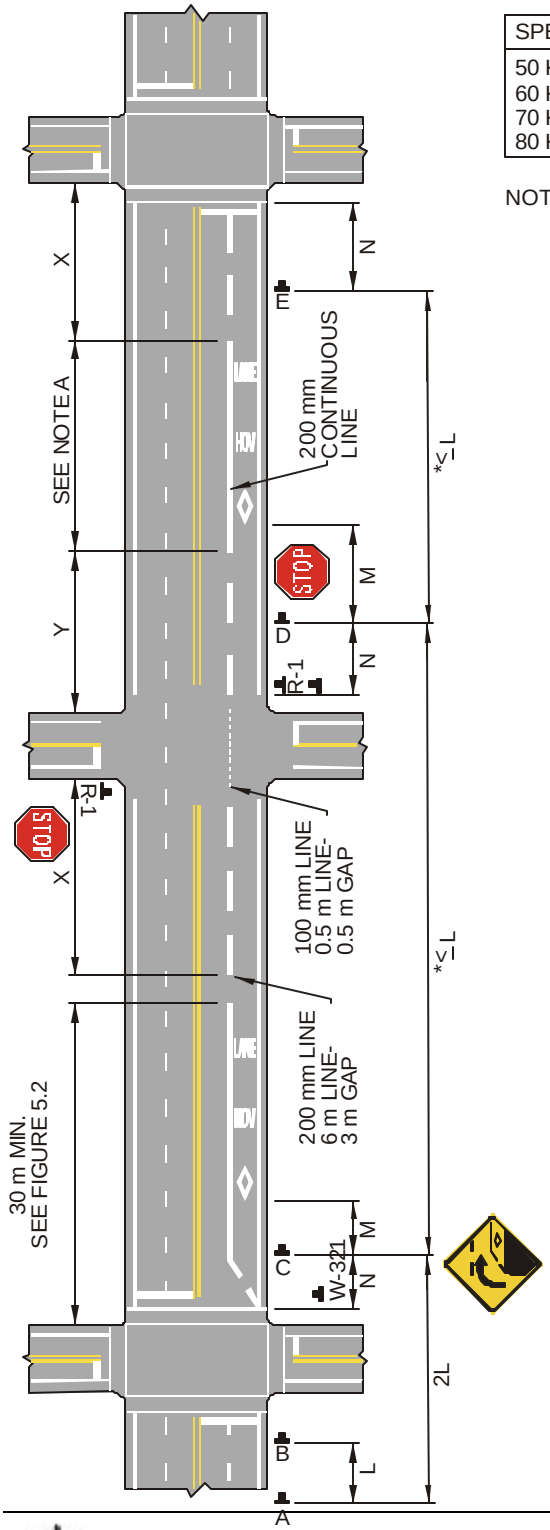


Figure 7.18

Reserved Lane Markings
Full-Time Operation (Urban)



SPEED	X	Y
50 KM/H	105m	65m
60 KM/H	120m	65m
70 KM/H	130m	65m
80 KM/H	140m	70m

NOTE A:

-IF THE REMAINDER OF THE BLOCK IS LESS THAN 30 m THEN CONTINUE WITH BROKEN LINE.

NOTE: *IF THE DISTANCE BETWEEN INTERSECTIONS IS GREATER THAN 200 m, ADDITIONAL D (R-211D/L) SIGNS MAY BE REQUIRED.

FOR RESTRICTED LANES OVER 1000 m IN LENGTH, ADDITIONAL B (I-200) SIGNS MAY BE REQUIRED.

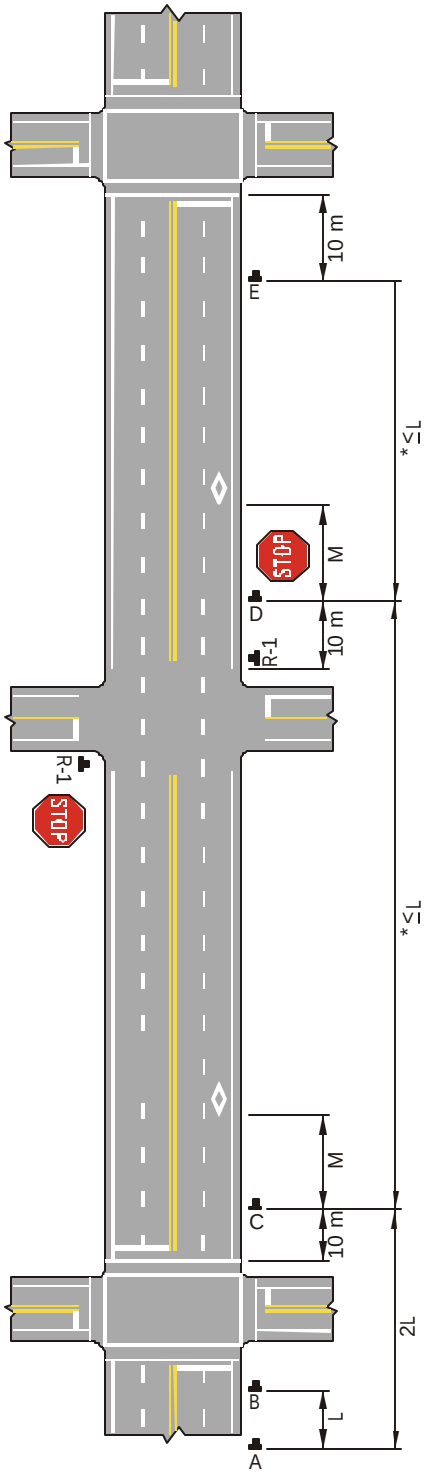
FOR FURTHER INFORMATION ON SIGN APPLICATION AND PLACEMENT SEE RESERVED/RESTRICTED LANE SIGNING POLICY.

SPEED	L	M	N o/h	N shld
50 KM/H	200m	10m	40m	20m
60 KM/H	240m	10m	40m	20m
70 KM/H	280m	10m	40m	20m

	OVERHEAD APPLICATIONS	SHOULDER APPLICATIONS
E	R-211D ENDS R-222	R-211L ENDS R-222
D	R-211D	R-211L
C	R-211D BEGINS R-221	R-211L BEGINS R-221
B	HOV 2 or more PERSONS PER VEHICLE R-240	HOV 2 or more PERSONS PER VEHICLE R-240
A	R-211D AHEAD R-220	R-211L AHEAD R-220

Figure 7.19

Reserved Lane Markings
Part-Time Operation (Urban)



SPEED	50 km/h	60 km/h	70 km/h
L	200 m	240 m	280 m
M	10 m	10 m	15 m

NOTE: *IF THE DISTANCE BETWEEN INTERSECTIONS IS GREATER THAN 200 m, ADDITIONAL (R-216D/L) SIGNS MAY BE REQUIRED.

FOR RESTRICTED LANES OVER 1000 m IN LENGTH, ADDITIONAL B (I-200) SIGNS MAY BE REQUIRED.

FOR FURTHER INFORMATION ON SIGN APPLICATION AND PLACEMENT SEE RESERVED/RESTRICTED LANE SIGNING POLICY.

ALTERNATE

E — R-216L — R-222 — ALTERNATE: R-215 — R-222

D — R-216L

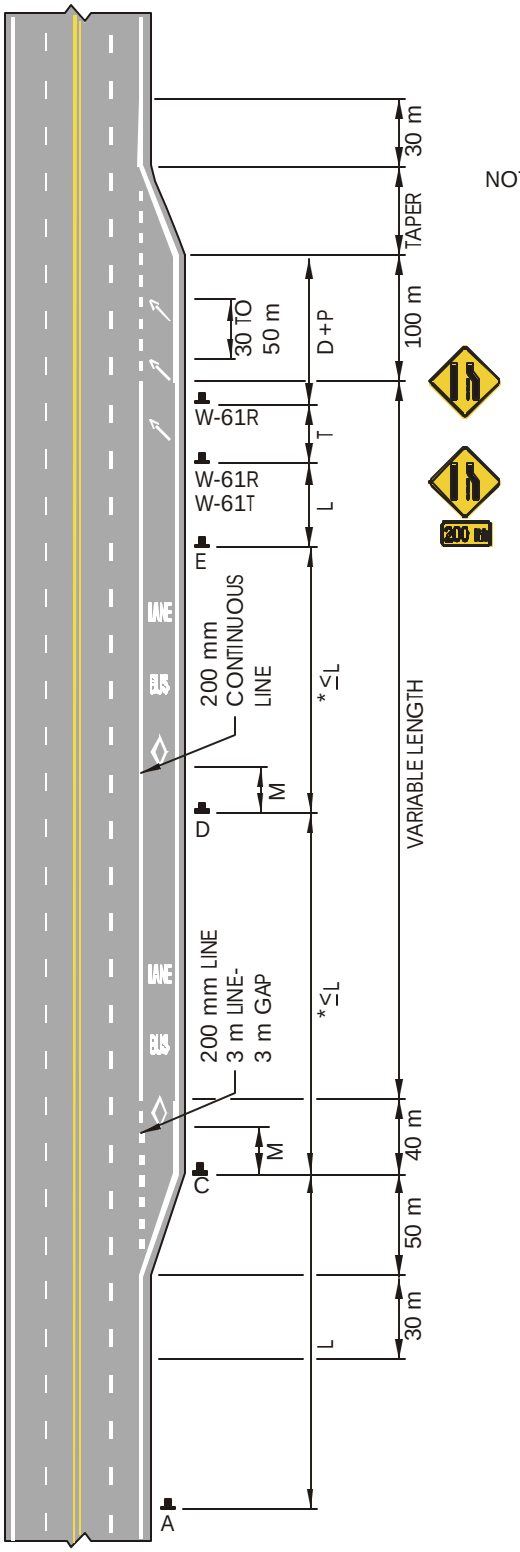
C — R-216L — R-221

B — R-240

A — R-216L — R-220 — ALTERNATE: R-215 — R-220

Figure 7.20

Bus Lane Markings



NOTE: SEE Figure 7.37 FOR TAPER, D, P, AND T DIMENSIONS

*IF THE DISTANCE BETWEEN INTERSECTIONS IS GREATER THAN 200 m, ADDITIONAL D (R-201D/L) SIGNS MAY BE REQUIRED.

FOR FURTHER INFORMATION ON SIGN APPLICATION AND PLACEMENT SEE RESERVED LANE SIGNING POLICY.

SPEED	L	M
60 KM/H	240m	10m
70 KM/H	280m	10m
80 KM/H	320m	10m
90 KM/H	360m	10m

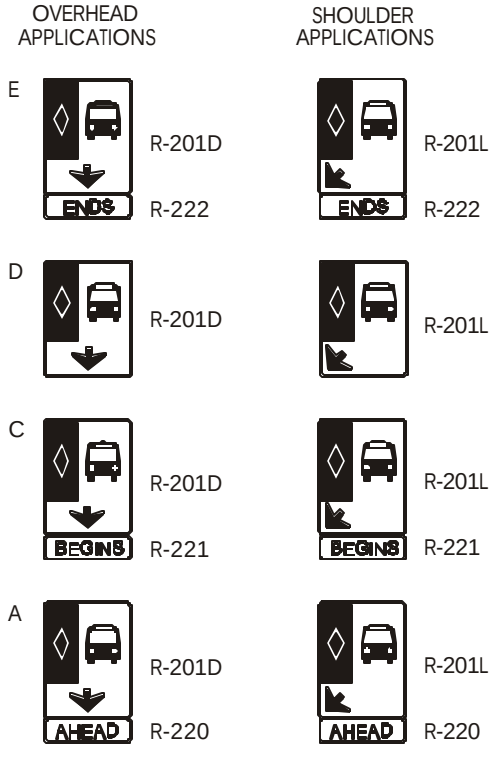


Figure 7.21

Signalized Intersection Markings - Curb & Gutter

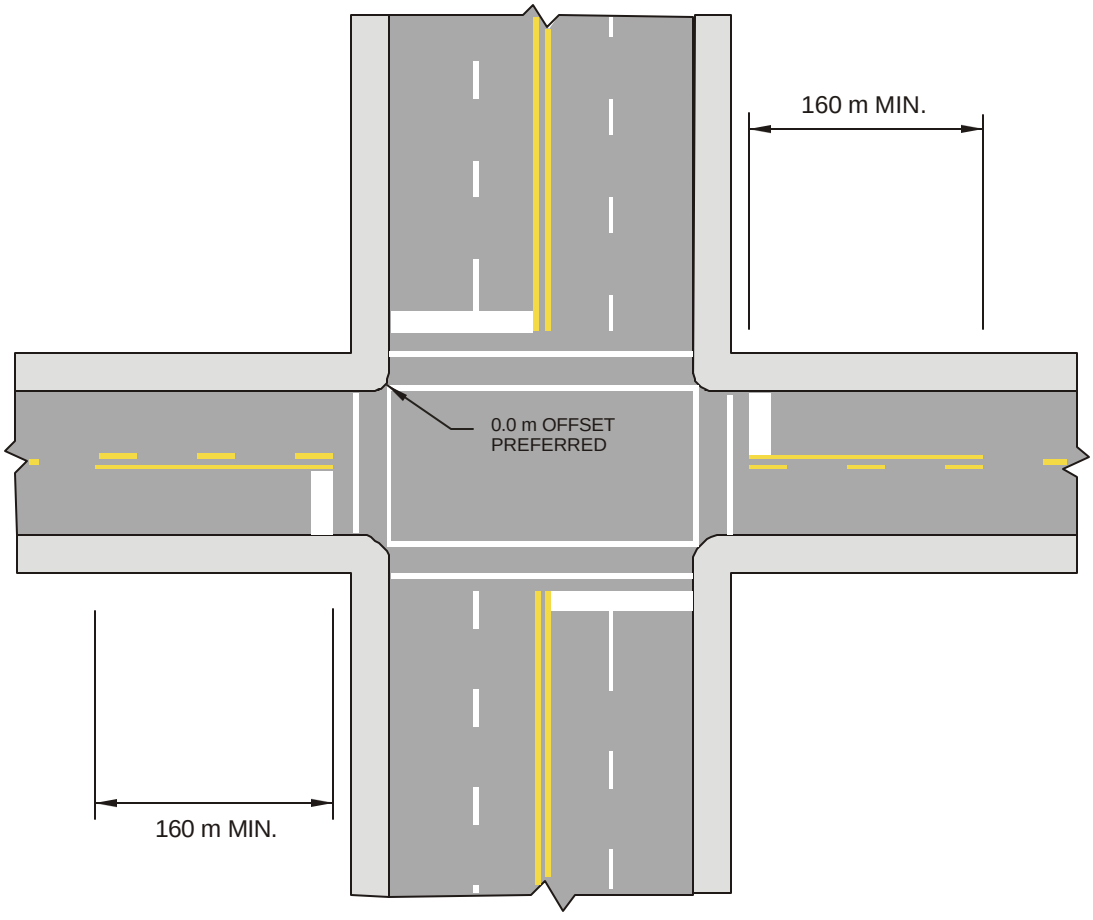


Figure 7.22

Skewed Signalized Intersection Markings

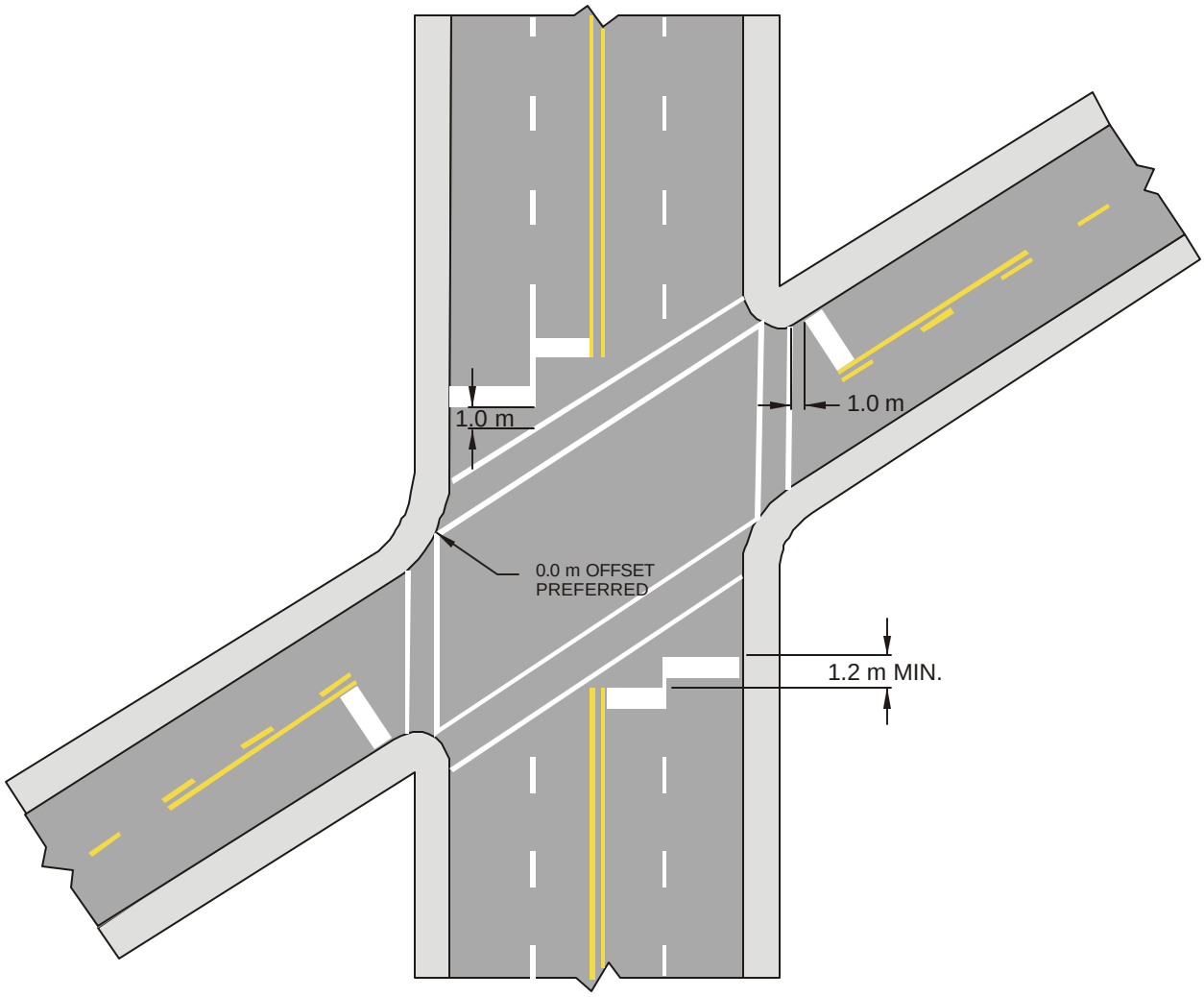
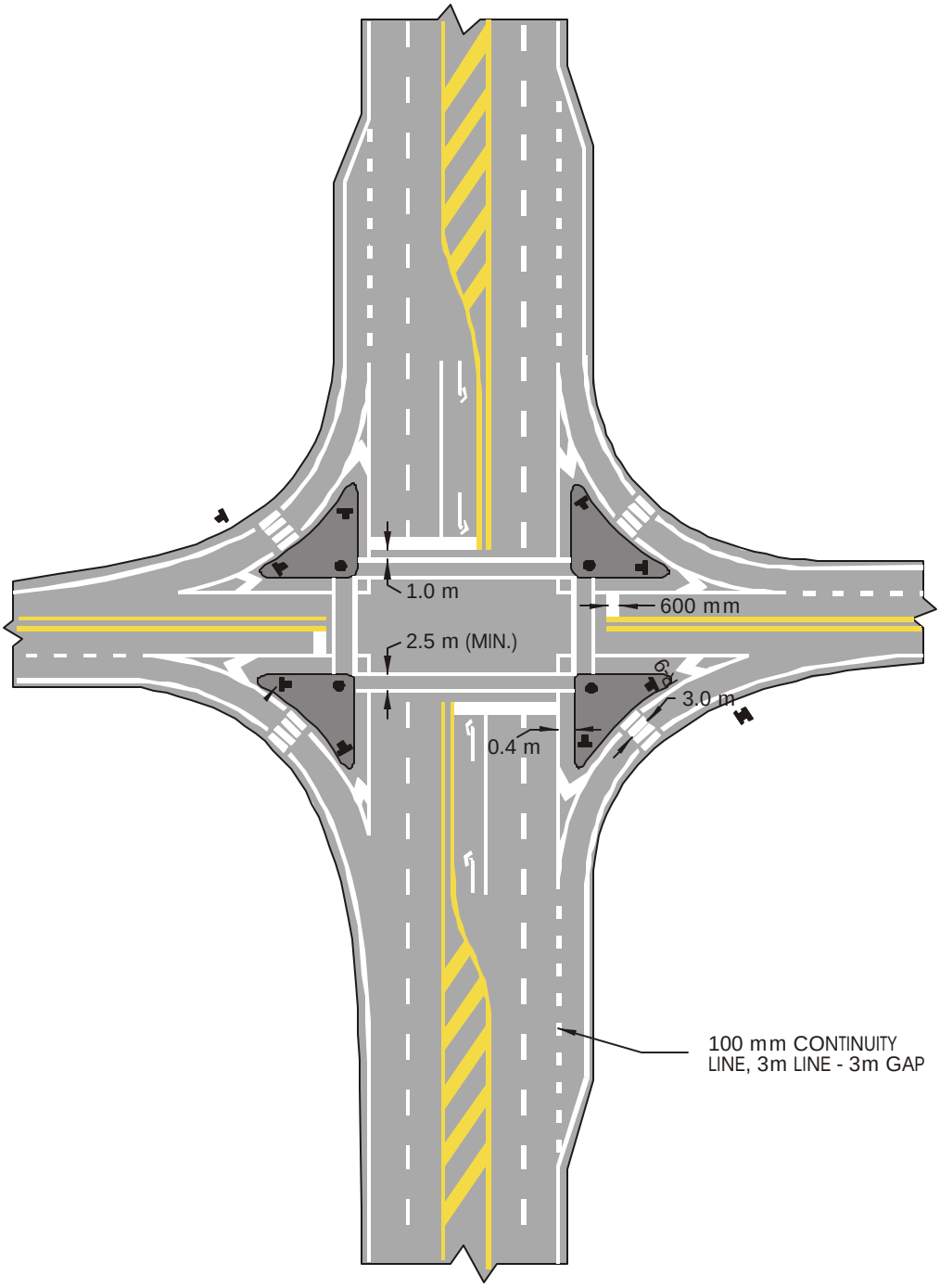


Figure 7.23

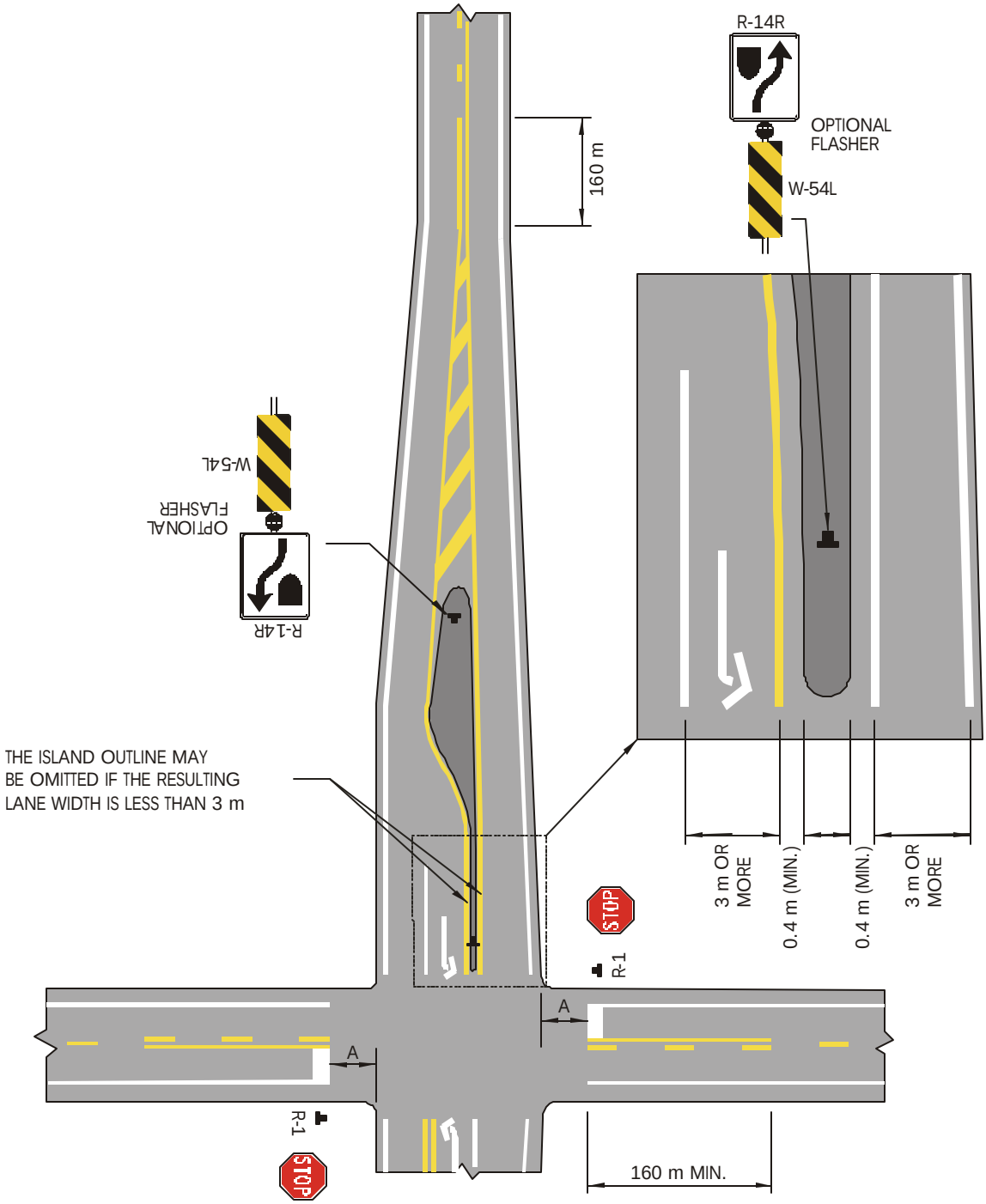
Signalized Intersection Markings
(Open Shoulder Design)



NOTE: WHERE THERE IS NO MARKED CROSSWALK, THE STOP LINE SHALL BE SET BACK FROM THE INTERSECTION TO ALLOW FOR A FUTURE CROSSWALK.

Figure 7.24

Un-signalized Intersection Markings



DIMENSION A: WHERE THERE IS NO MARKED CROSSWALK, THE STOP LINE SHALL BE SET BACK FROM THE INTERSECTION TO ALLOW FOR A FUTURE CROSSWALK.

Figure 7.25

Right Turn Acceleration and Deceleration Lane Markings

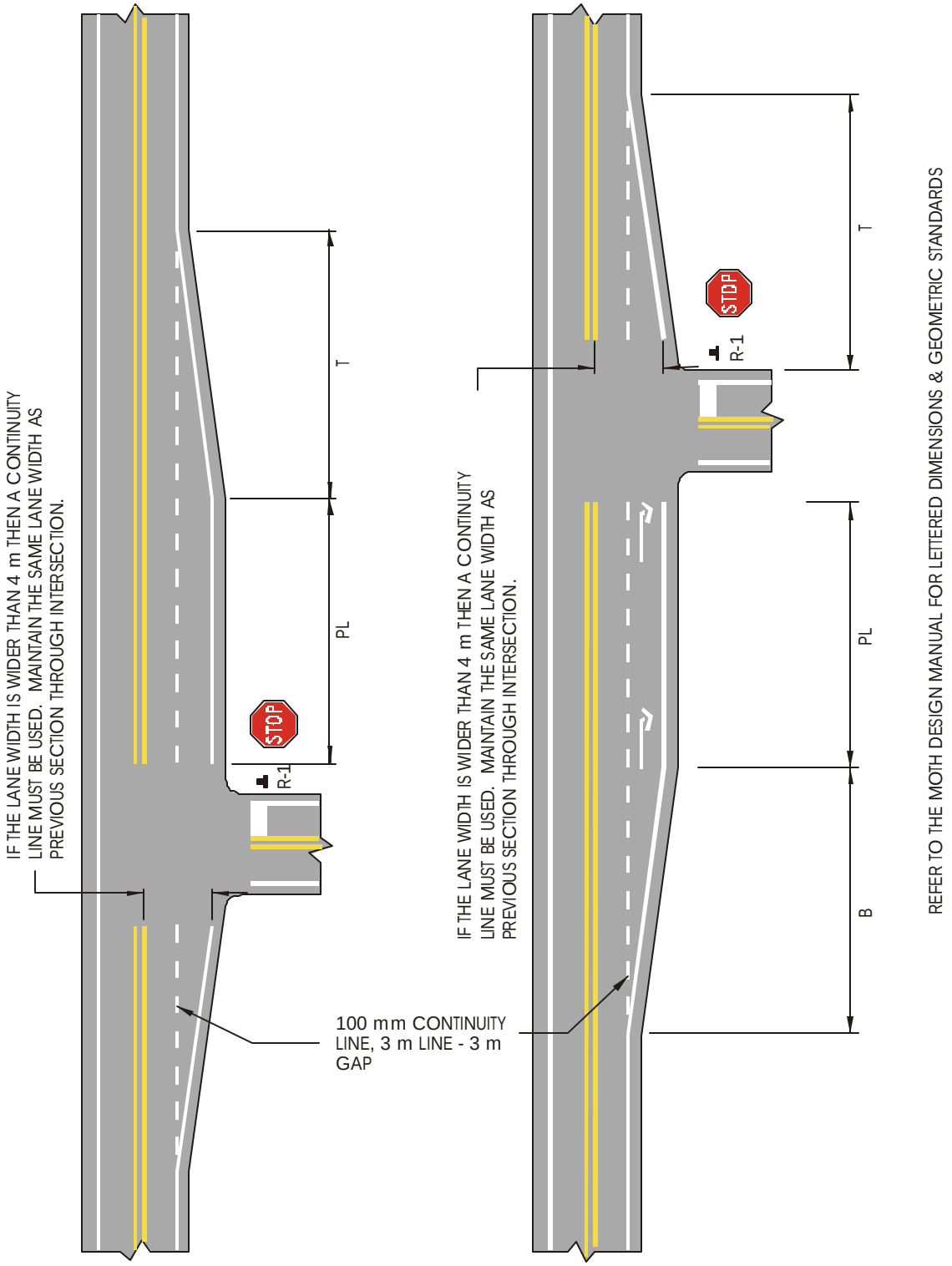
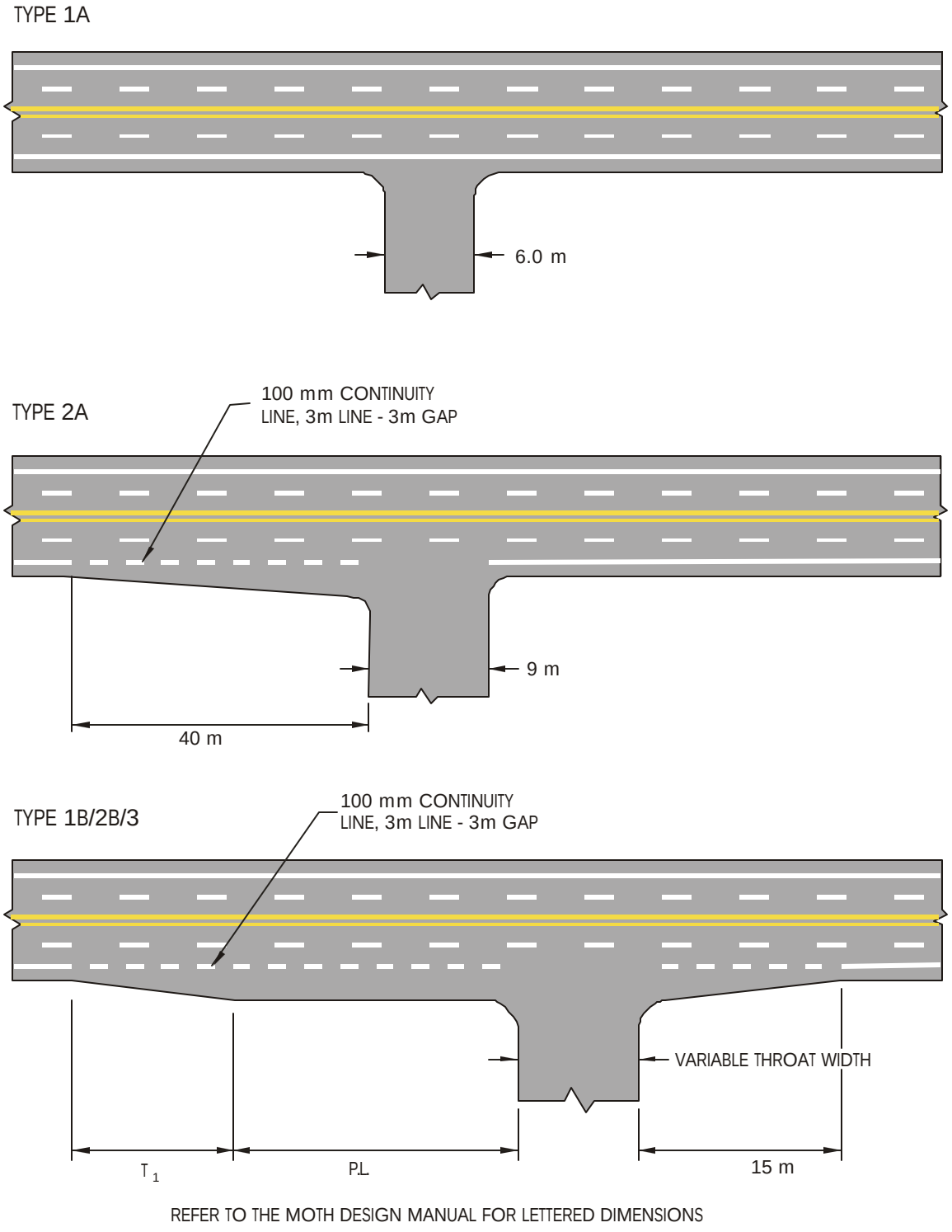


Figure 7.26

Private Access Markings



REFER TO THE MOTH DESIGN MANUAL FOR LETTERED DIMENSIONS

7.8 Left Turn Lane Pavement Markings

All left turn lanes must be approved by the Regional Traffic Engineer prior to painting.

Left turn lanes must be constructed to the standards shown in the MoTH Design Manual before painting.

100 mm, 1 m line - 1 m gap continuity lines may be used across the throat of left turn slots where the alignment restricts the visibility of the pavement markings.

At intersections with dual left turns, continuity lines should be used to delineate the two turn lanes. The continuity lines shall be marked such that the design vehicle specified for the geometric design can turn in the outside lane and a smaller vehicle in the inside lane can turn simultaneously. The design vehicle for the inside lane movement will depend on the local traffic conditions and mix.

7.8.1 Rural

Short continuity dash markings (3.0 m gap and 3.0 m line) shall not be marked on rural left turn lane designs except in special circumstances (e.g. a sharp curve with limited sight distance.

7.8.2 Urban

The urban left turn lane marking shown in Figure 7.28 may be used where the speed limit is less than or equal to 60 km/h.

Figure 7.27

Left Turn Lane Markings (Rural)

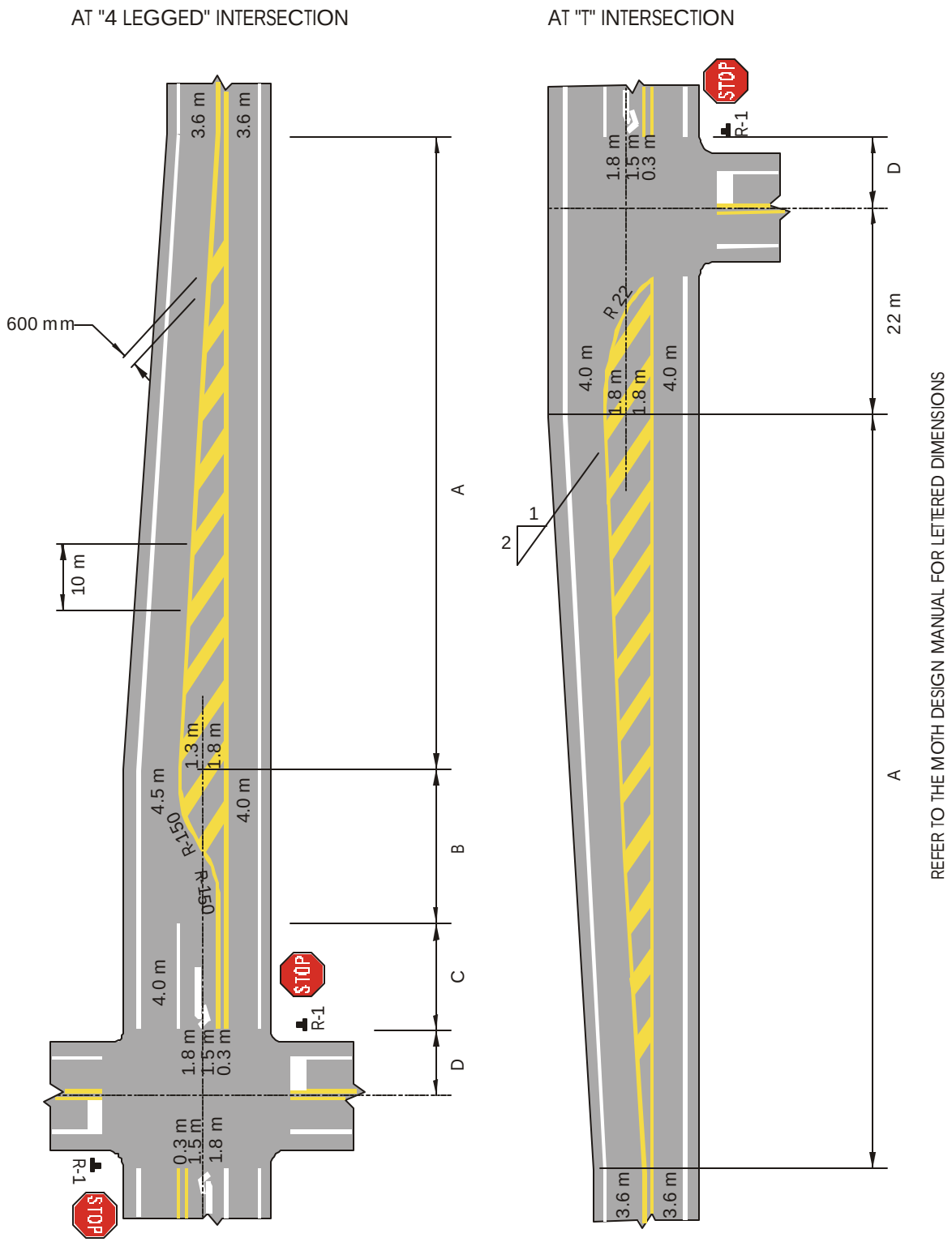


Figure 7.28

Left Turn Lane Markings (Urban)

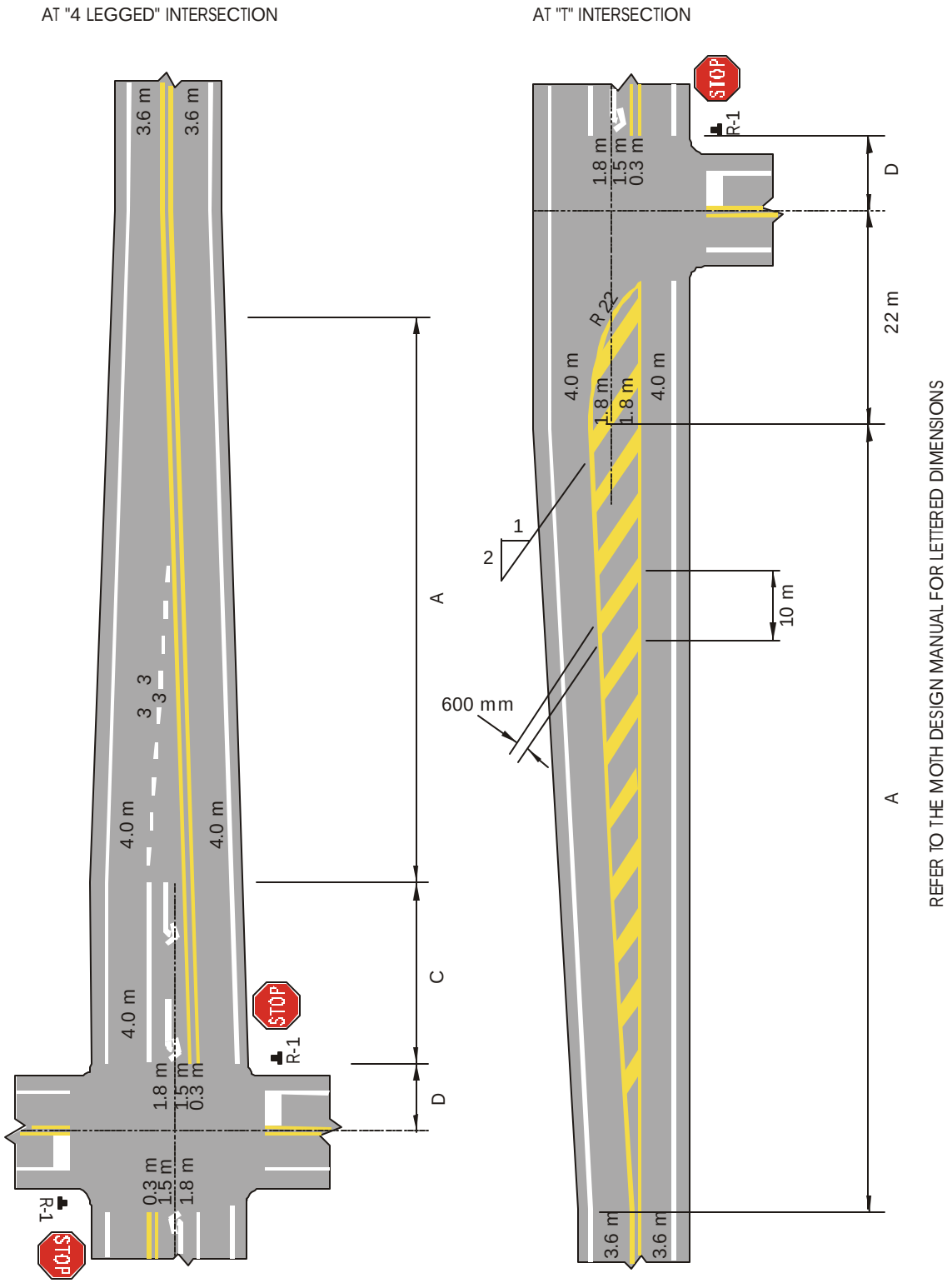


Figure 7.29

Long Load Left Turn Lane Markings

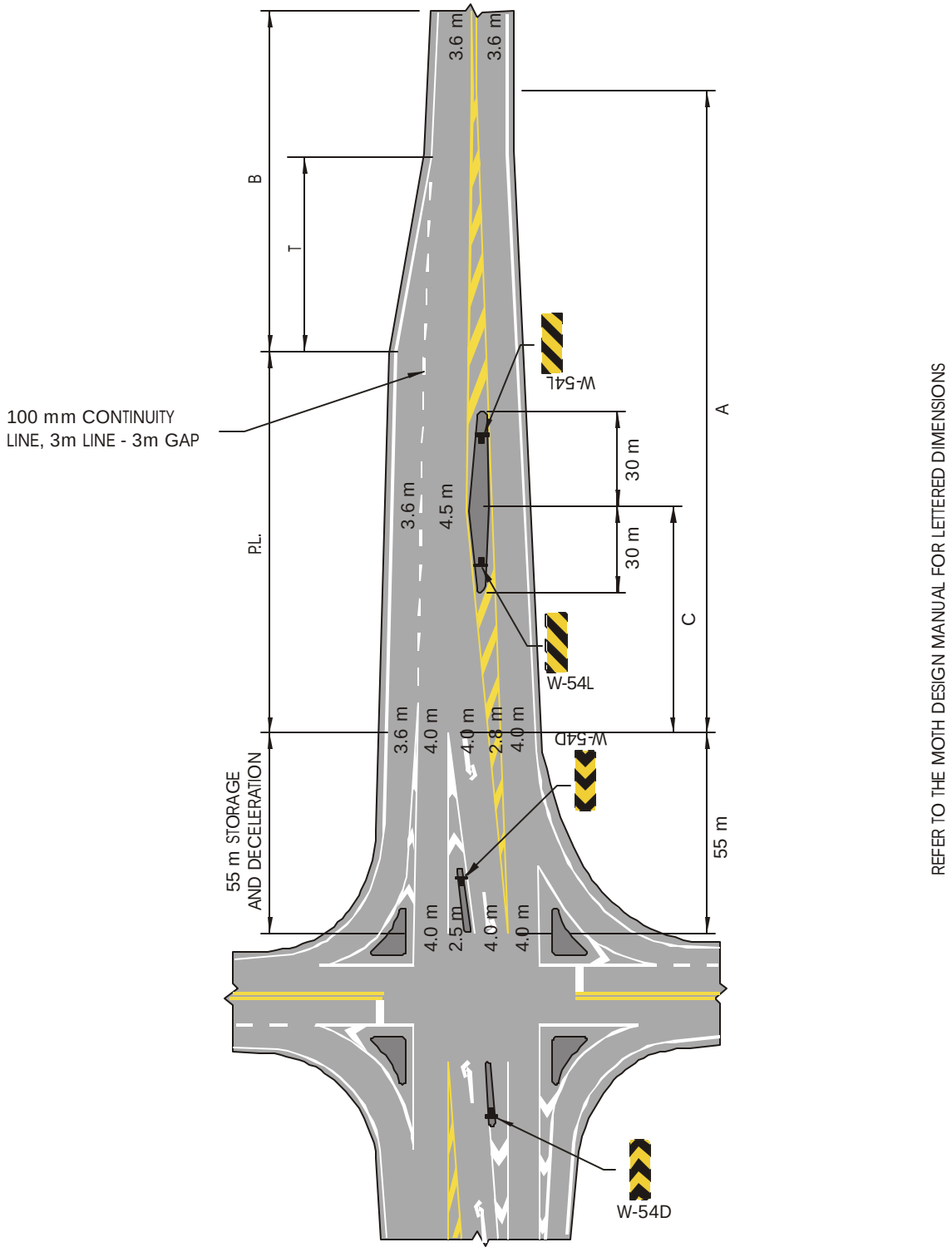


Figure 7.30

Protected "T" Intersection Markings

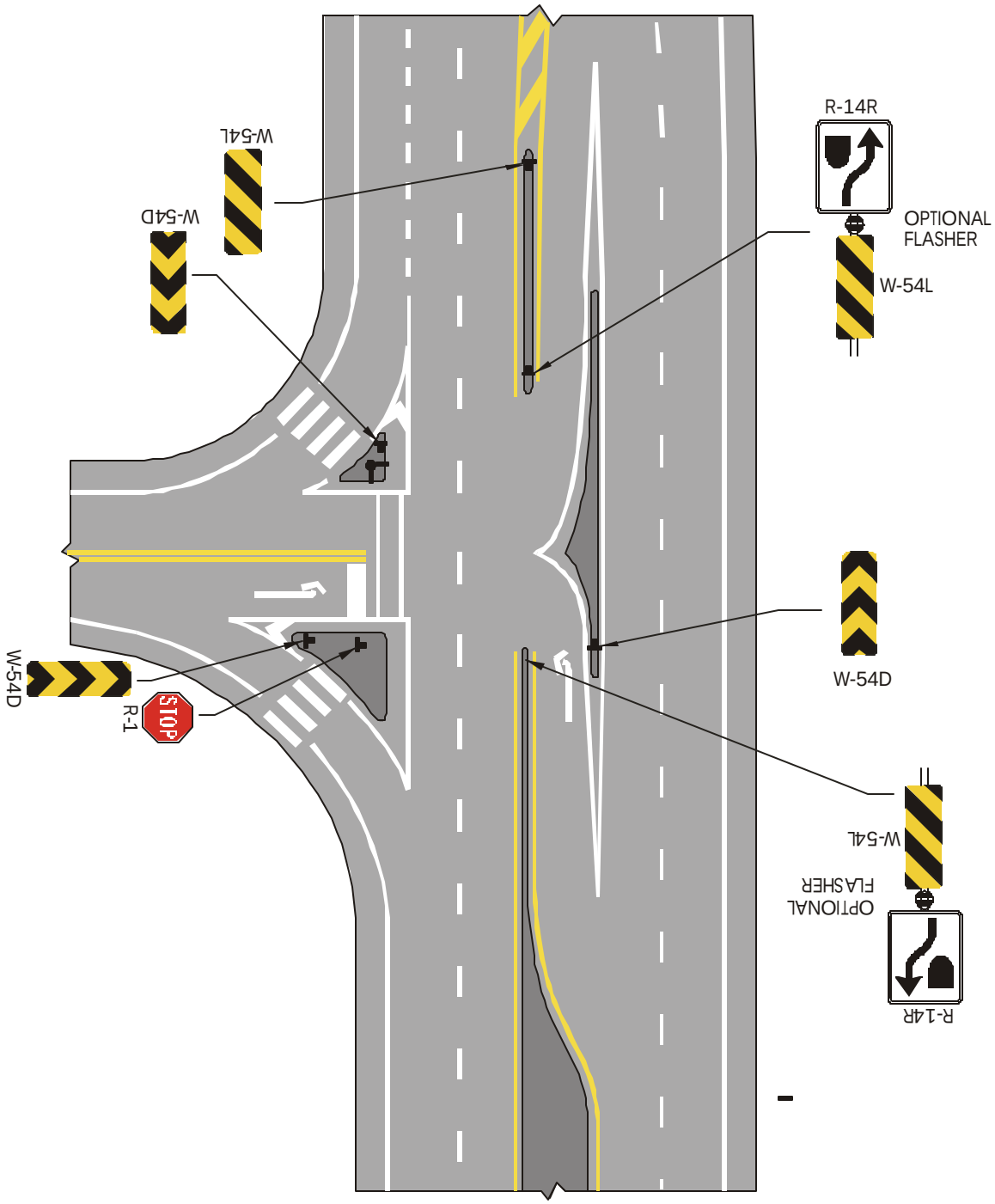
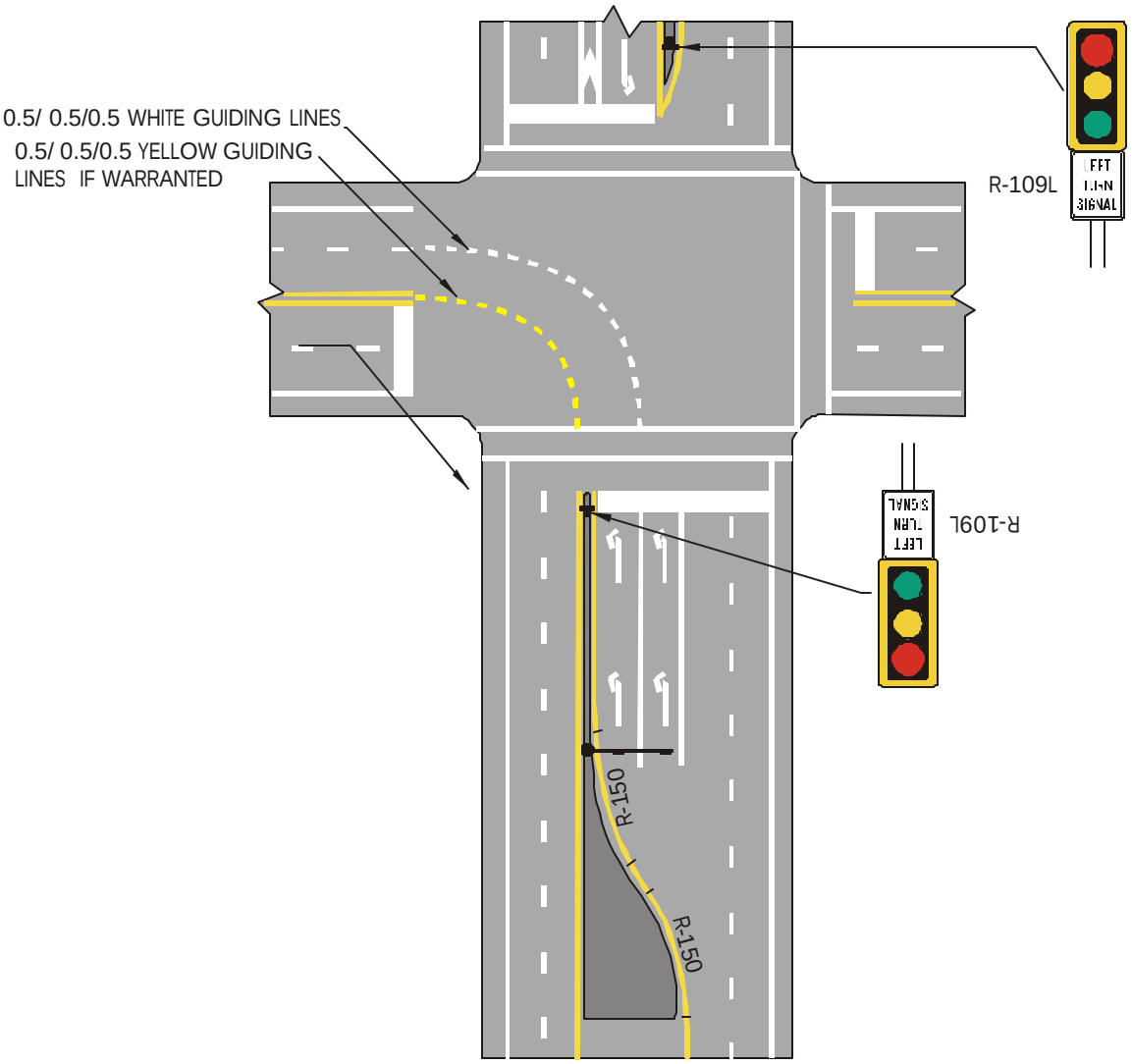


Figure 7.31

Dual Left Turn Lane Markings
(Signalized Intersection)



NOTE: GUIDING LINES MAY BE USED FOR SINGLE LEFT TURN LANES IF THE VERTICAL ALIGNMENT AT AN INTERSECTION SECLUDES THE LONGITUDINAL MARKINGS ON THE FAR SIDE OF THE INTERSECTION.

7.9 Two Way Left Turn Lanes

7.9.1 General

Two way left turn lanes (TWLTL) are an effective median treatment for urban and suburban collectors and arterials when mid block access to a large number of low volume driveways is required. They are applicable when pedestrian crossing volumes are low and signalized intersections are few and widely spaced.

See The MoTH Design Manual for further details.

7.9.2 Application:

The TWLTL is typically restricted to urban/suburban roads where posted speeds are a maximum 60 km/h. The TWLTL treatment is not recommended for use on rural highways as it restricts mobility.

7.9.3 Median Lane Width

From 3.0 to 5.0 m.

The recommended width on provincial highways is 4.6 m, to allow for the conventional one way left turn lane development at major intersections.

The width of the median TWLTL should be equal to or greater than the adjacent through lanes. TWLTL widths less than 3.5 m should only be used in urban areas where the posted speed is 50 km/h or less.

7.9.4 Intersection Treatment

TWLTL lane markings are interrupted at minor cross streets and conventional one-way left-turn lane treatment are used for major cross streets. See Figure 7.32 High volume accesses should be treated as major intersections.

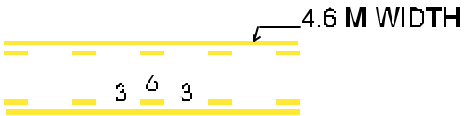
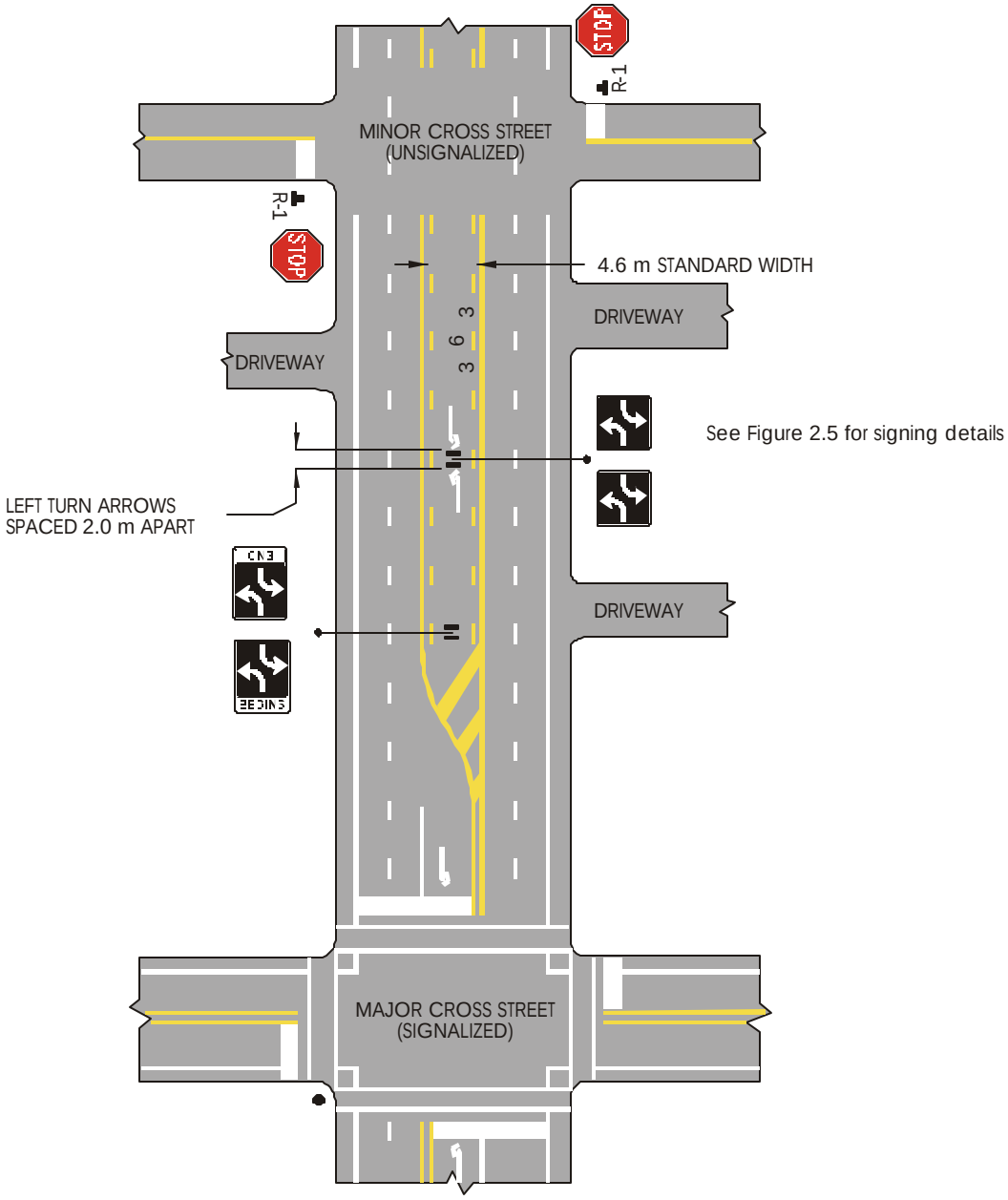


Figure 7.32

Two Way Left Turn Lane Markings



NOTE: A MINIMUM OF ONE SET OF LEFT TURN ARROWS SHALL BE PAINTED IN THE MIDDLE OF A SHORT TWO WAY LEFT TURN LANE.

SETS OF LEFT TURN ARROWS SHALL BE PAINTED 100 m FROM AN INTERSECTION AND IN CONJUNCTION WITH THE PLACEMENT OF R-150A SIGNS.

FOR PAINTED LEFT TURN SLOT DESIGNS, INSTALL CROSS-HATCH MARKINGS TO THE WIDEST POINT OF TRANSITION. FOR RAISED ISLANDS INSTALL 3 - 5 CROSS-HATCH MARKINGS BEYOND CHANNELIZATION.

7.10 No Passing Zones

No-passing zones shall be established using a “barrier” line (solid yellow line) at vertical or horizontal curves and at any location on two and three-lane highways where passing in one direction must be prohibited because of restricted sight distances or other unsafe conditions.

7.10.1 Barrier Lines

7.10.1.1 Sight Distance

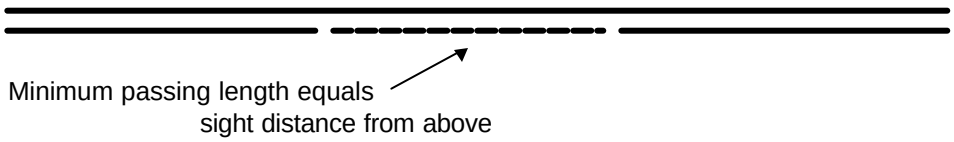
A no-passing zone where sight distance is restricted shall be one in which the sight distances ahead are equal to or less than that listed below for the posted speed limit:

Posted Speed Limit (km/h)	**Distance (m)**
50	160*
60	200*
70	240*
80	275*
90	330*
100	400*
110	475*

** These distances, when applied in the field are modified slightly to conform to the 13 metre **dash line cycle** (5 (m) dash & 8 (m) space).*

7.10.1.2 Minimum Passing Zone Lengths

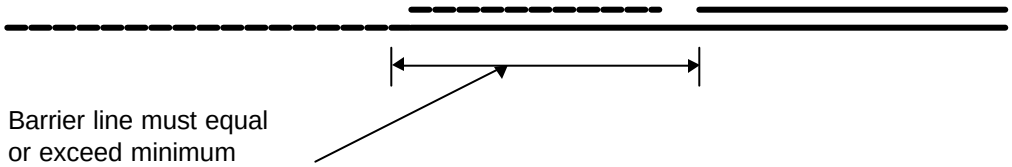
If a passing zone in one direction lies between successive no-passing zones, the actual passing zone or segment of dashed lines cannot be less than the distance as stated above. If the length is less than this distance, then the passing zone should be eliminated and made no-passing by the use of a double solid yellow line.



7.10.1.3 Single to Double Centre line Transitions

At locations where single dashed directional dividing lines (passing zone) would lead into a double solid directional dividing line (no-passing zone) then a single barrier line should be extended for a minimum of the sight distance dimension into the passing zone for traffic approaching a barrier line. This extension will shorten the passing zone for approaching drivers, however, this extension will provide an additional safety buffer for those drivers already carrying out passing maneuvers in this direction.

When transitioning from a single centre line to a double centre line with a solid barrier and dashed line, the barrier line should meet the sight distance criteria. If it doesn't then the single centre line should be solid for a sufficient length to meet the applicable sight distance. This circumstance commonly occurs where rural roads tie in with their urban counterparts.



7.10.1.4 Miscellaneous Application of Barrier Lines

Barrier lines shall be marked, unless otherwise instructed, at all points as follows:

a. Where sight distance is restricted because of either vertical or horizontal curvature, or both.

b. On each approach to a signalized intersection

c. On the approach to an intersection of two or more numbered routes or an intersection with a left turn lane

d. On the approach to left hand painted or curbed islands

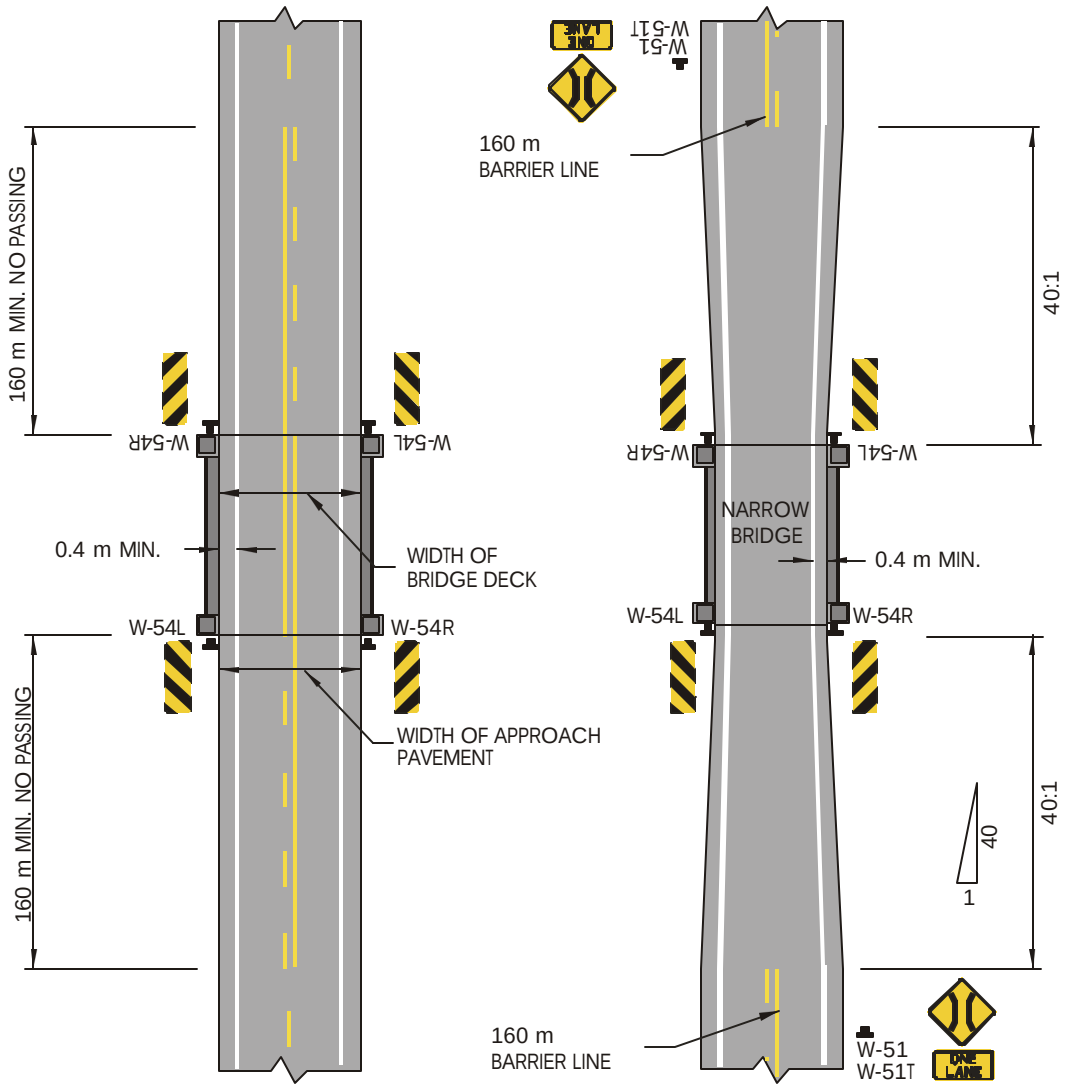
e. On the approach to a beginning of a three lane section of highway with a barrier line length corresponding to the sight distance.

7.10.2 Field Measurement of Barrier Lines

Field measurement of barrier lines should be done in accordance with the general methodology described in Section C2.2 of the *Manual of Traffic Control Devices* for Canada, except eye height is based on approximately 1.5 m and the target height is approximately 0.6 m

Figure 7.33

Narrow Bridge and Subway Markings



Notes:

1. A NO PASSING zone shall be marked on the approaches to and through the facility if the width of the facility is 1.25m + approach pavement width or less

2. If the pavement width of the approach is < 7.0m a single barrier line shall replace the double line on the approaches & on the facility

3. When a single barrier line is used, edge lines are omitted

4. If the pavement width on the facility is <= 5.0m, (6.0m for roads with high volumes of commercial vehicles) it shall be considered a SINGLE LANE facility

5. Edge lines may be used on a SINGLE LANE facility if the total width is >=3.5m on numbered highways & 3.2m on non-numbered highways AND edge lines are used on the highway AND 0.4m can be maintained between the edge line & curb face

Figure 7.34

Cattle Guard Approach Markings

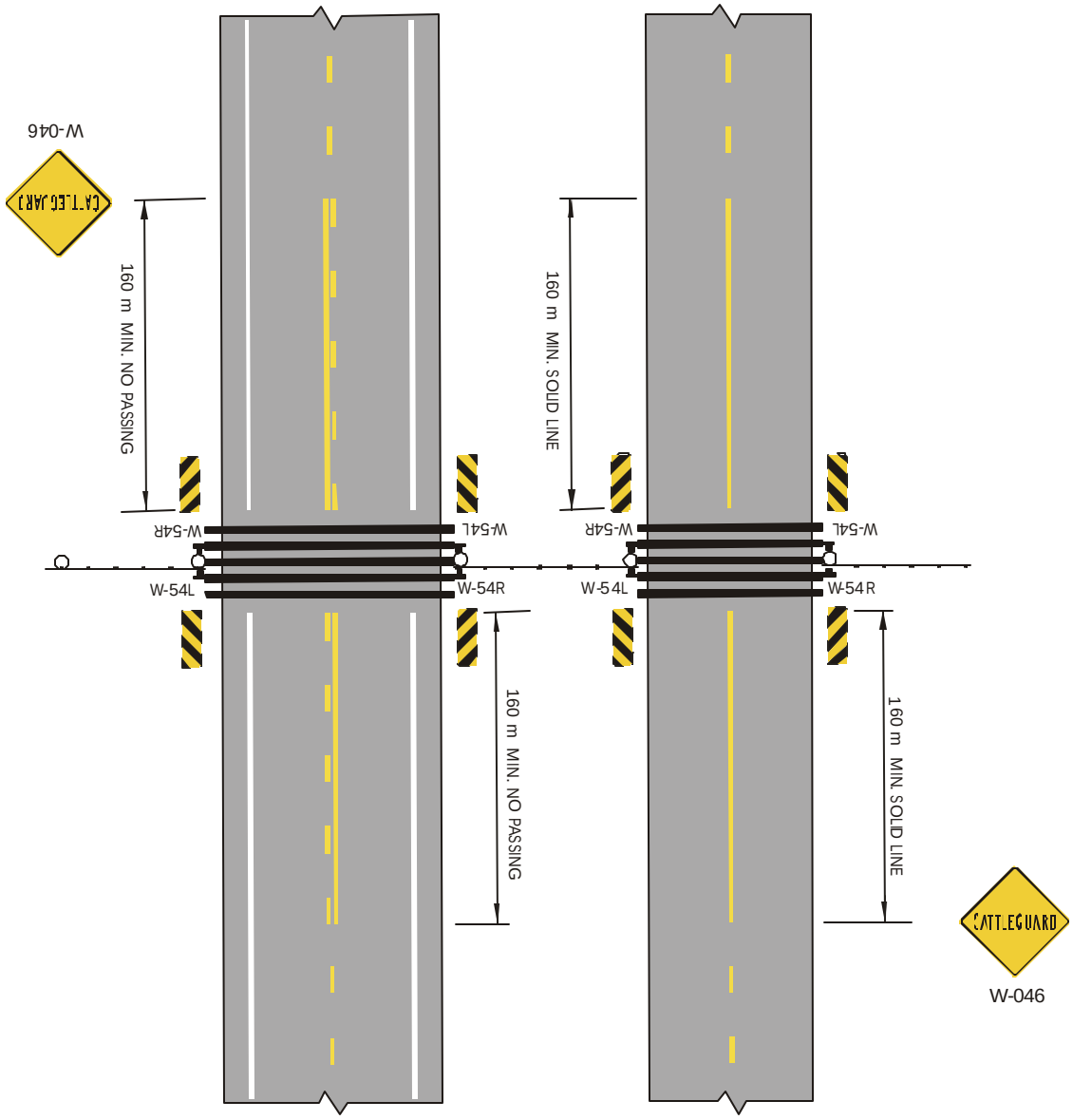


Figure 7.35

Bus Stop Markings

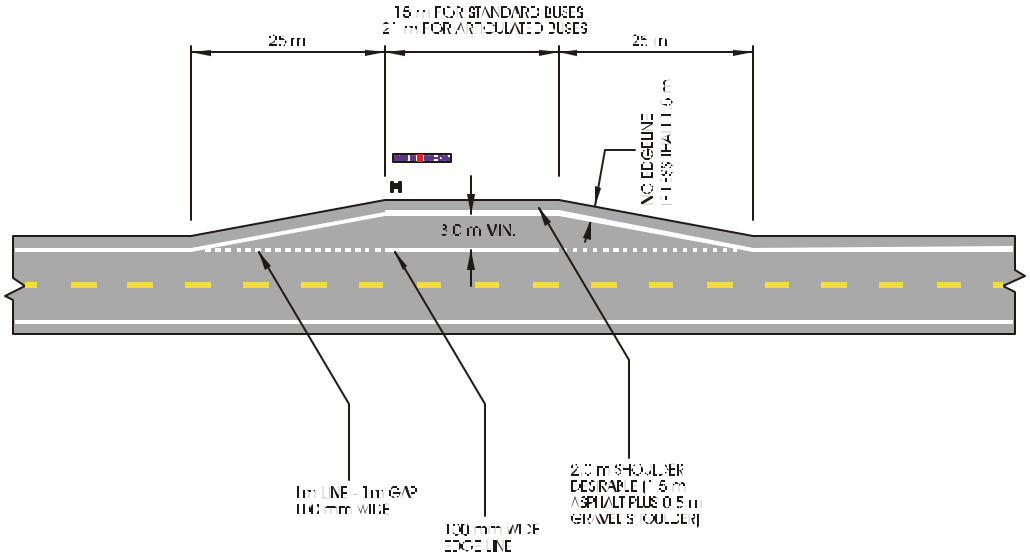


Figure 7.36

Slow-Moving Vehicle Pullout Markings

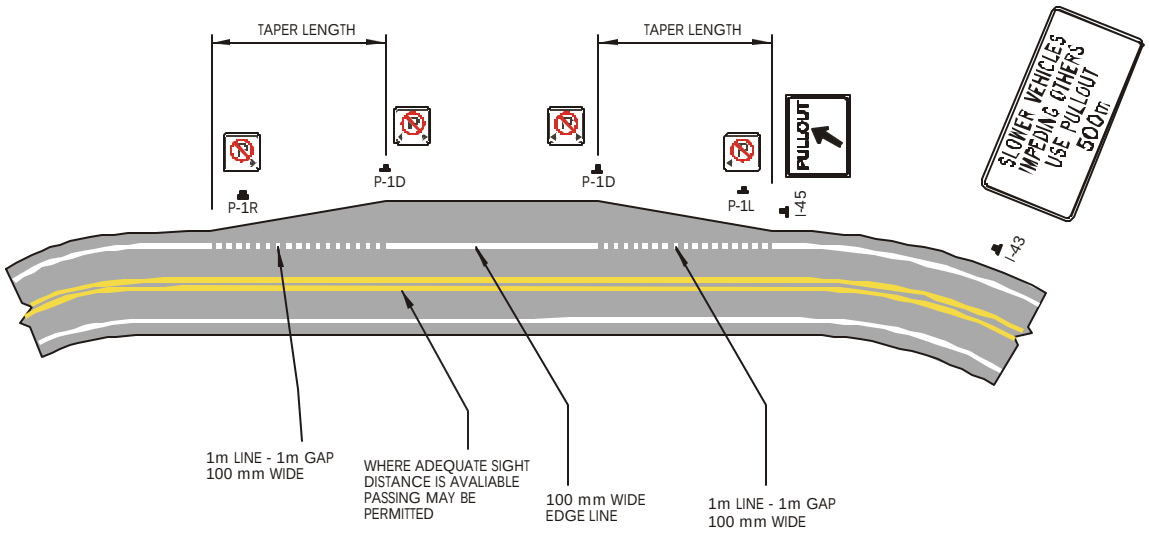
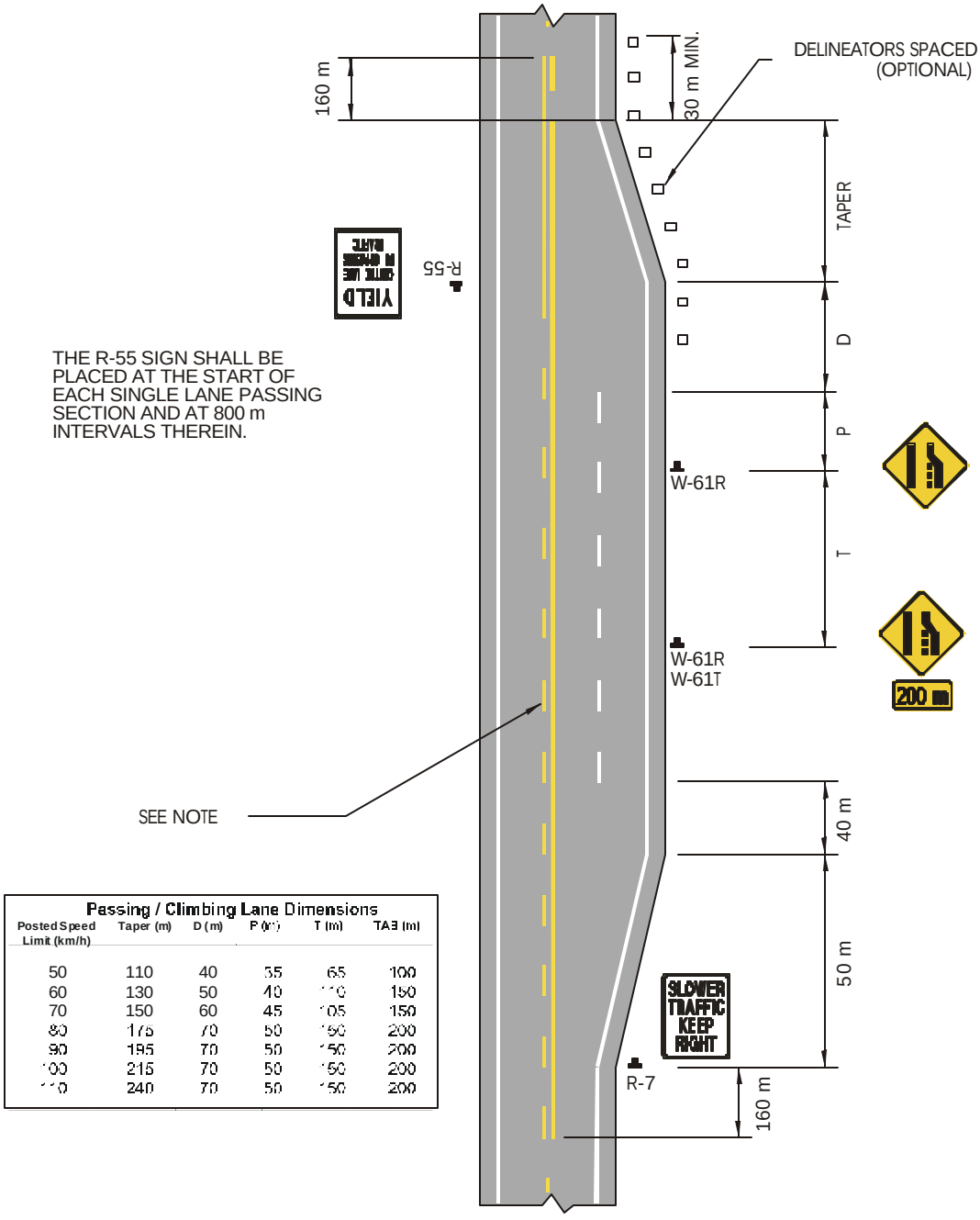


Figure 7.37

Passing / Climbing Lane Markings & Sign Placement



Passing / Climbing Lane Dimensions

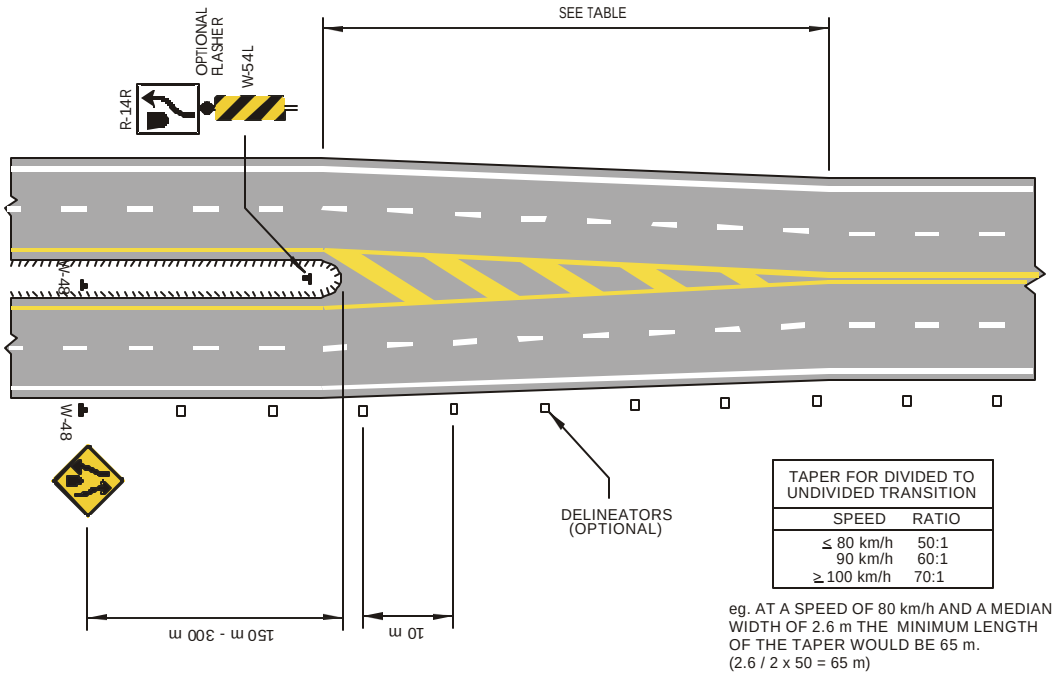
Posted Speed Limit (km/h)	Taper (m)	D (m)	P (m)	T (m)	TAE (m)
50	110	40	35	65	100
60	130	50	40	110	150
70	150	60	45	105	150
80	175	70	50	150	200
90	195	70	50	150	200
100	215	70	50	150	200
110	240	70	50	150	200

NOTE: CONTINUOUS BARRIER LINES SHALL BE MARKED IN THE SINGLE LANE DIRECTION REGARDLESS OF THE SIGHT DISTANCE UNLESS APPROVED FOR DOWNHILL PASSING BY THE SENIOR TRAFFIC ENGINEER.

PASSING IN THE SINGLE LANE DIRECTION MAY BE ALLOWED ONLY WHERE THE PASSING SIGHT DISTANCE IS ADEQUATE AND WHERE S.A.D.T. VOLUME IS LESS THAN 4000 VEHICLES. OTHERWISE, PASSING IN THE SINGLE LANE DIRECTION SHOULD BE PROHIBITED BY A BARRIER LINE.

Figure 7.38

Transitional Markings:
Four Lanes, Divided to Undivided



TAPER FOR DIVIDED TO UNDIVIDED TRANSITION	
SPEED	RATIO
≤ 80 km/h	50:1
90 km/h	60:1
≥ 100 km/h	70:1

eg. AT A SPEED OF 80 km/h AND A MEDIAN WIDTH OF 2.6 m THE MINIMUM LENGTH OF THE TAPER WOULD BE 65 m.
(2.6 / 2 x 50 = 65 m)

Figure 7.39

Transitional Markings
Four Lanes to Two Lanes

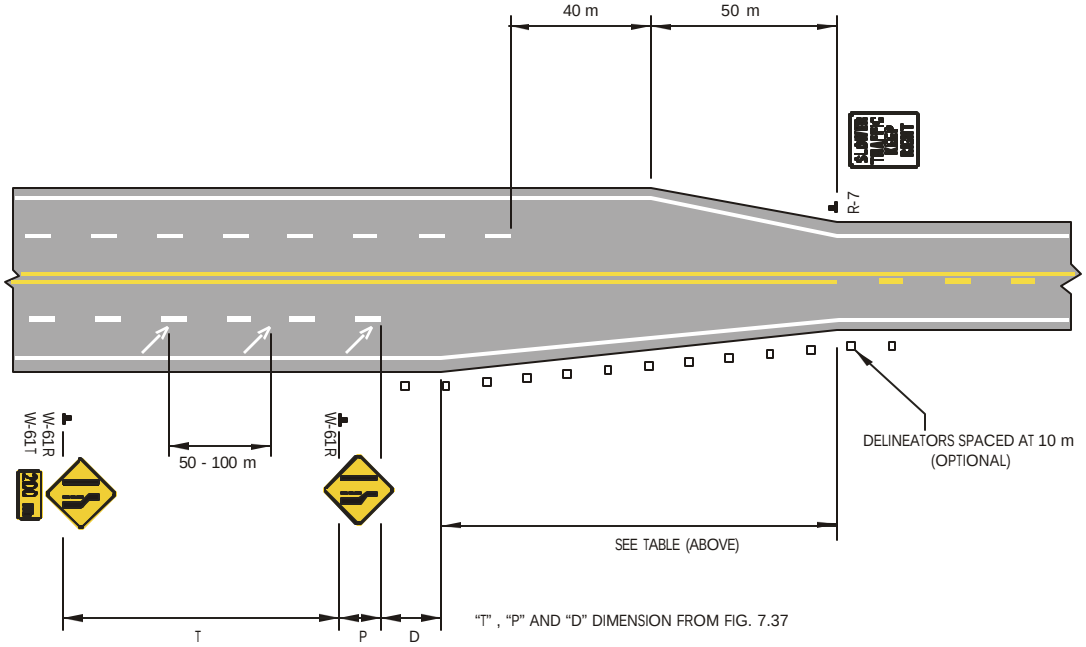


Figure 7.40

Aerial Speed Check Markings

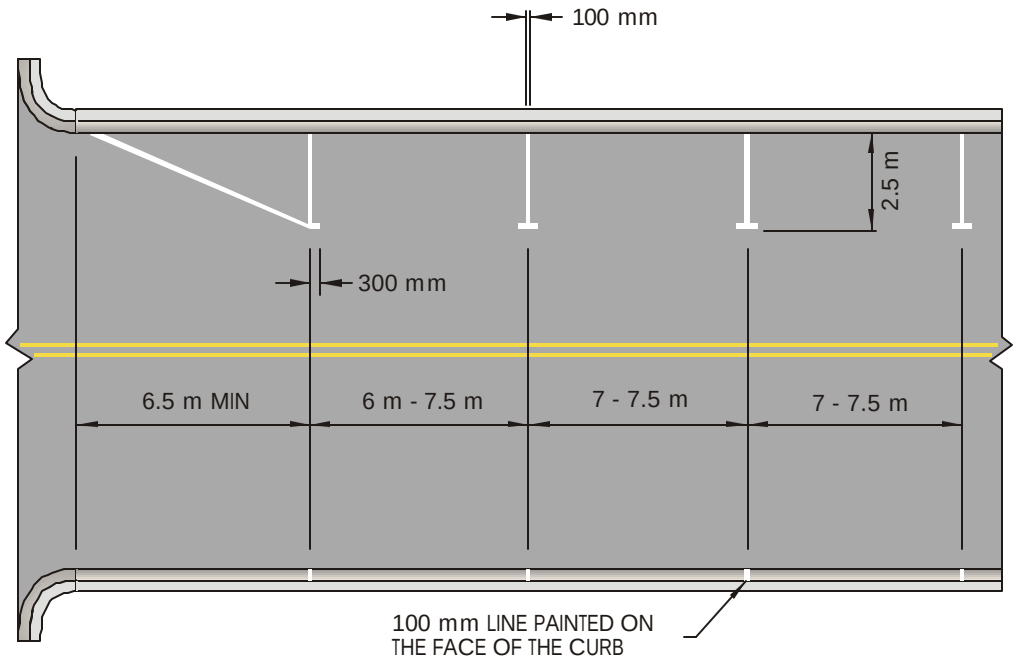
Notes:

1. A Police Officer must assist & document the layout and measurement and repainting of these markings which would be submitted in court as evidence if a speeding violation is challenged.
2. Markings are white, non-reflectorized
3. A minimum of 6 markings shall be place 500m centre to centre
4. These markings should only be used on tangent highway segments

R-100

Figure 7.41

Parallel and Angle Parking Stall Markings



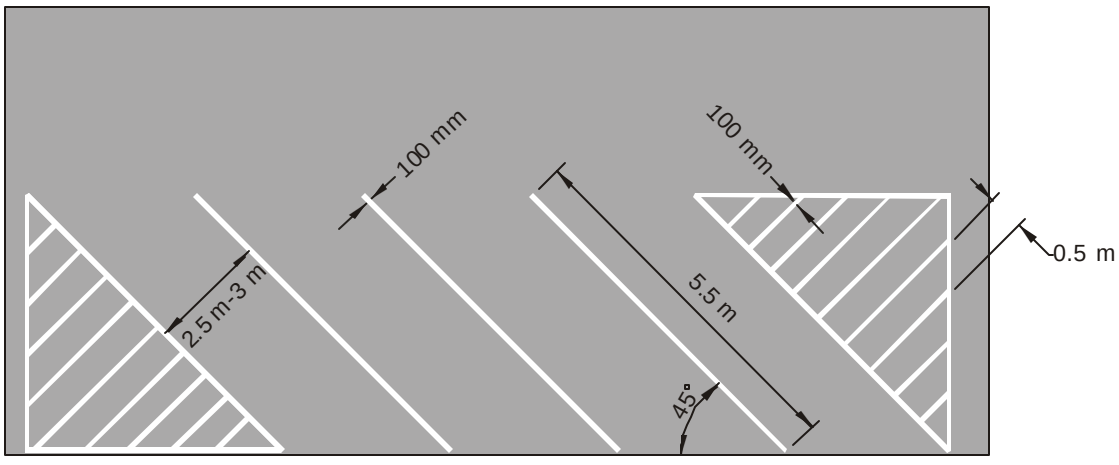
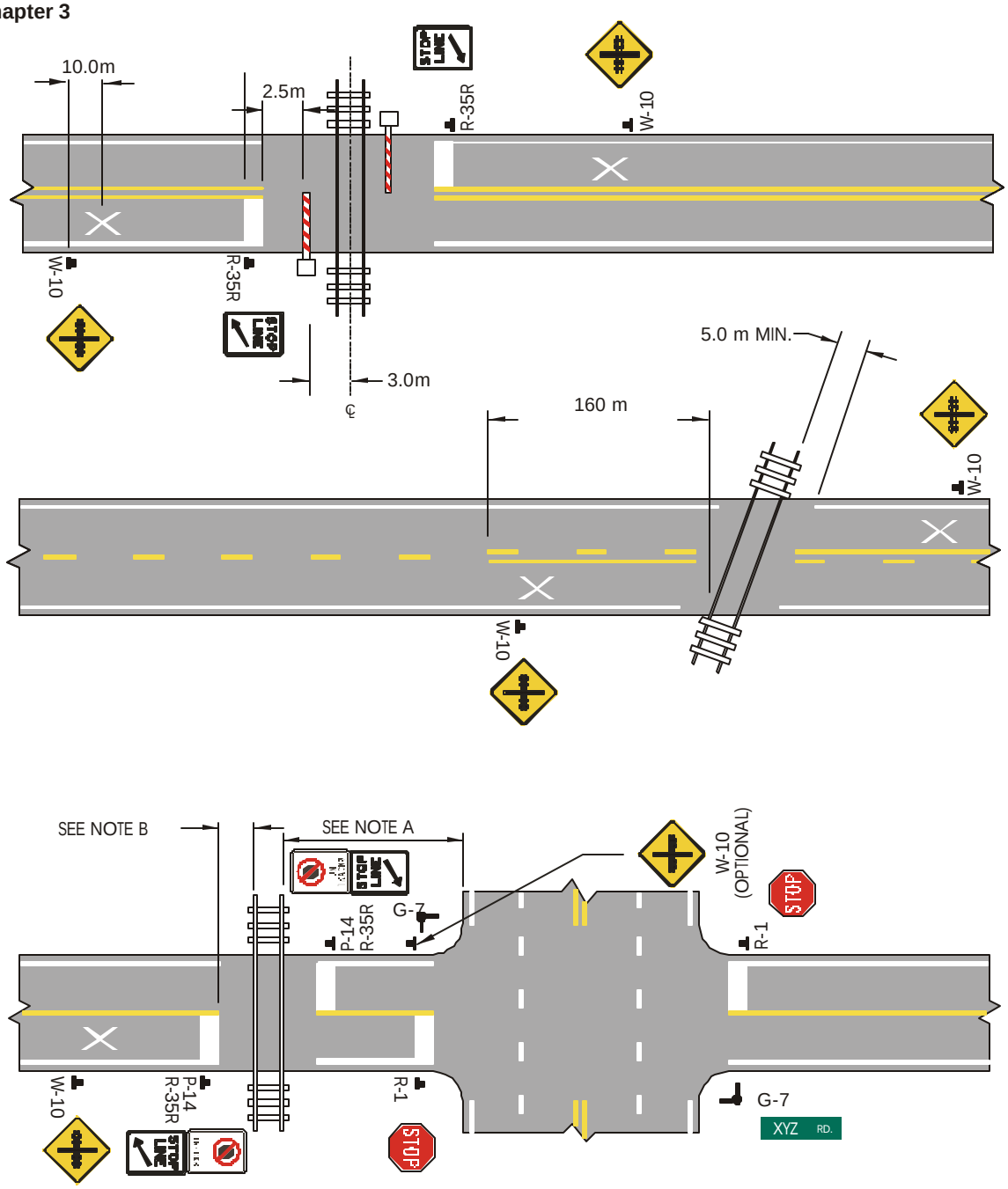


Figure 7.42

Railroad Crossing Markings

Note: For W-10 Placement refer to Chapter 3



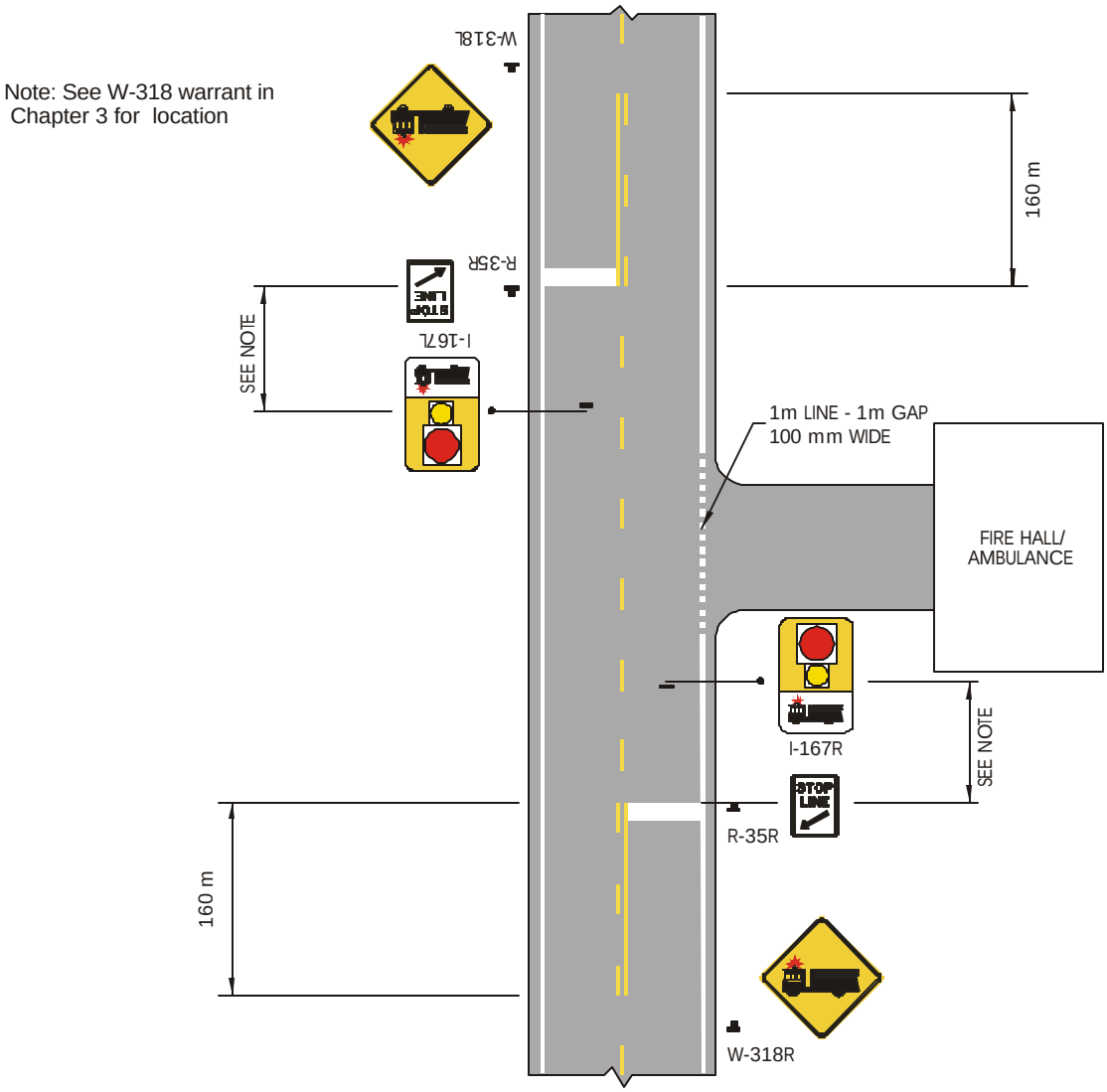
Notes:

1. Stop lines shall be placed at crossings within 60m of major intersections. The "X" may be omitted in this situation

2. Stop lines shall be as close as practical to the crossing, but no closer than 5.0m to the nearest rail.

Figure 7.43

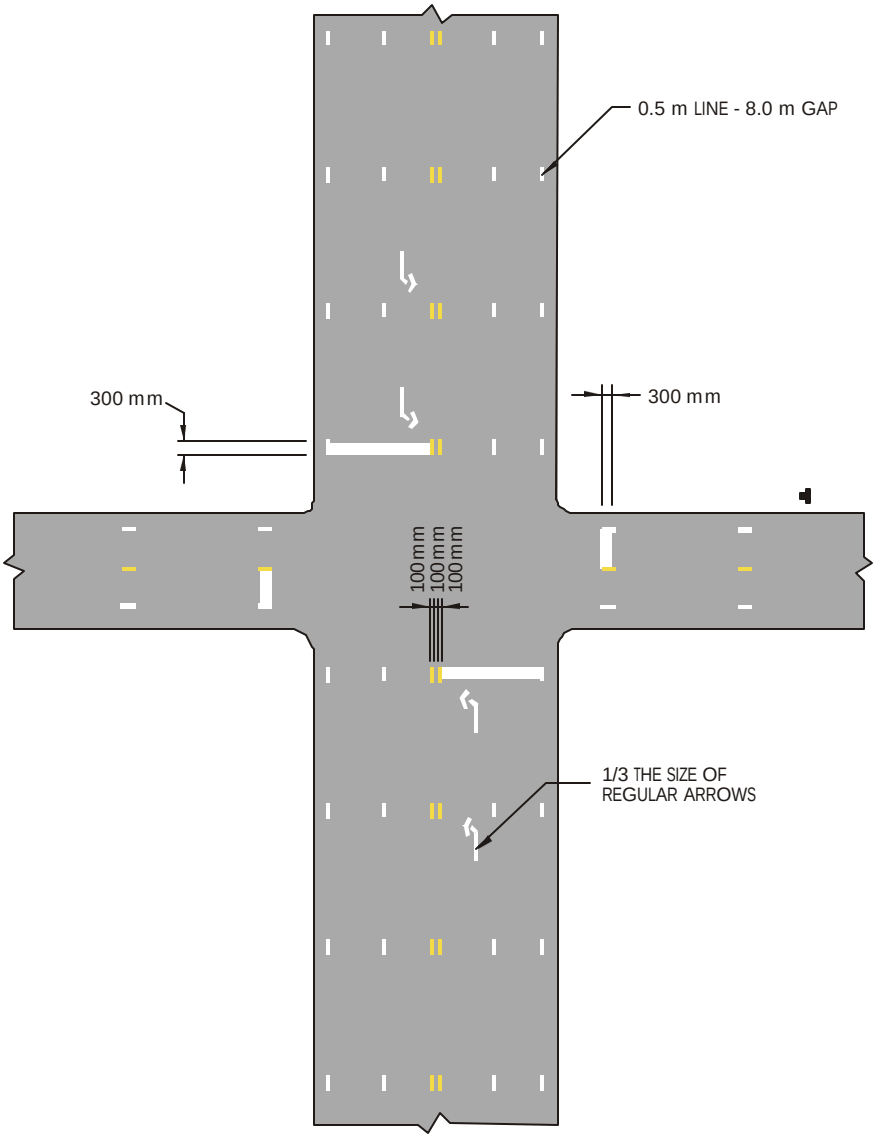
Fire Hall Markings



NOTE: THE MINIMUM DISTANCE FROM THE STOP BAR TO FIRE SIGNAL LIGHT IS 15 m. THE MAXIMUM DISTANCE IS 25 m. THE OPTIMUM DISTANCE IS 20 m.

Figure 7.44

Temporary/Detour Markings



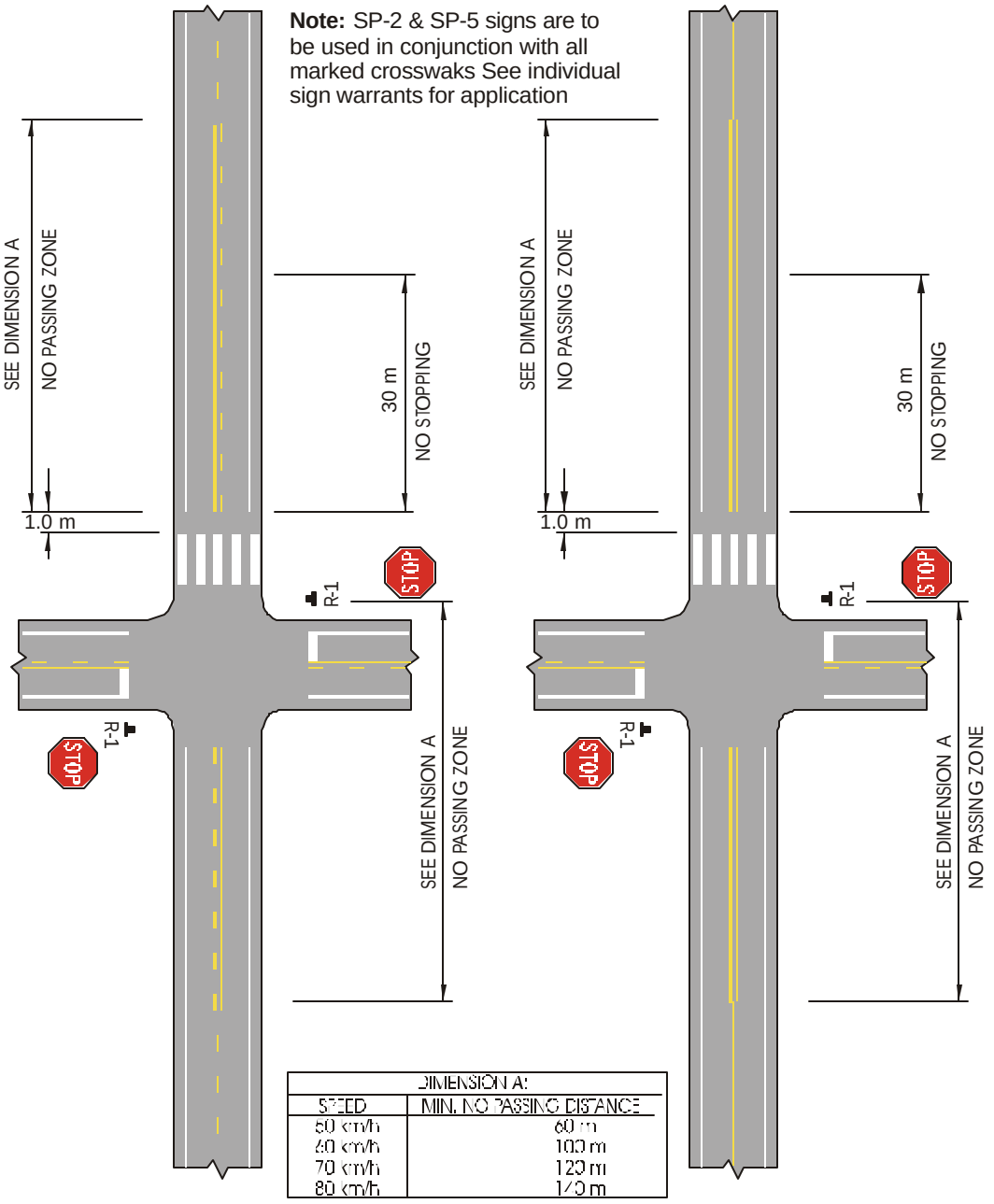
Notes:

1. Temporary Pavement marking tape shall be white or yellow (conforming to standard marking colours) and approved for Ministry use.

2. Temporary marking tape shall be reflective and easily removed from asphalt and smooth portland cement concrete surfaces

Figure 7.45

Crosswalk Markings



Notes:

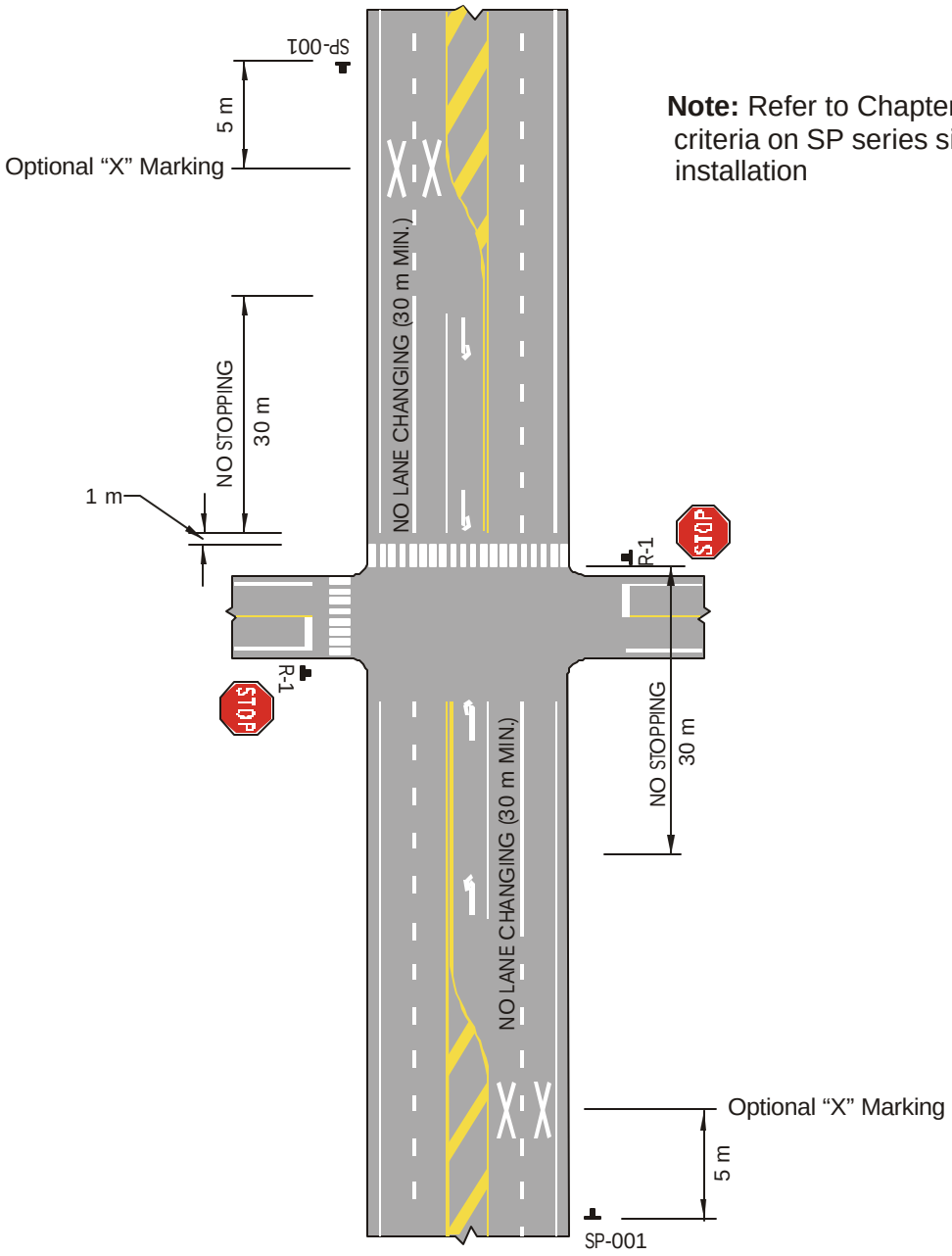
1. Zebra markings are to placed parallel to the directional dividing line.

2. If a zebra crosswalk is used at a stop controlled approach, a stop line shall be placed 1.0m in advance of the crosswalk

3. Refer to the current pedestrian crossing control manual for crosswalk warrants and other crossing types

Figure 7.46

School Crosswalk Markings



Note: Refer to Chapter 5 for criteria on SP series sign installation

Notes:

1. Zebra markings are to placed parallel to the directional dividing line.

2. If a zebra crosswalk is used at a stop controlled approach, a stop line shall be placed 1.0m in advance of the crosswalk

3. Refer to the current pedestrian crossing control manual for crosswalk warrants and other crossing types

APPENDIX

TABLE 1 - GUIDE FOR ADVANCE PLACEMENT OF SIGNS

SPEED LIMIT km/h	CONDITION A	CONDITION B	CONDITION C Deceleration to listed km/h						
			30	40	50	60	70	80	90
50	105	45	35	25					
60	135	70	65	55	40				
70	165	100	95	85	65	50			
80	200	130	130	120	105	90	70		
90	235	165	170	160	145	130	110	85	
100	270	210	215	205	190	175	155	130	105
110	305	255	265	255	240	225	205	180	150

Note: Distances are shown in metres, ±10m variation of these values allowed for flexibility in sign placement. (Source: U.S. M.U.T.C.D. TABLE II-1)

Condition A A condition where a driver is required to exercise judgment and considerable time is therefore required. For example a merge or lane change.

Condition B A condition where a driver will likely be required to stop. For example a STOP sign or pedestrian crossing.

Condition C A condition where a driver will likely be required to decelerate to a specified speed. For example a curve or hidden intersection.

The distances shown in the table contain an allowance for extra stopping distance required by a down grade of 6%. For speeds outside the table data may be extrapolated. Distances shown provide braking distance for Condition B and comfortable braking distance for Condition C.

REFERENCES

The following manuals and policy papers were used and referenced in the development of this manual:

Manual of Uniform Traffic Control Devices for Canada
Roads and Transportation Association of Canada
2323 St. Laurent Boulevard
Ottawa, Ontario K1G 4K6

Manual of Uniform Traffic Control Devices
Province of Ontario
Ministry of Transportation
Traffic Signing Section
Room 236, Central Building
1201 Wilson Avenue
Downsview, Ontario M3M 1J8

Traffic Manual
State of California
Department of Transportation
Traffic Operations
P.O. Box 942873
Sacremento, California 94273-0001

Richtlijnen voor het ontwerpen van autosnelwegen
hoofdstuk VI
(Netherlands Ministry of Transport Guide Sign Manual)

Cattle Drives on Highways
Province of British Columbia
Ministry of Transportation and Highways
Engineering Branch - Highway Safety Section
4B - 940 Blanshard Street
Victoria, B.C. V8W 3E6

Traffic Control Manual for Work on Roadways
Province of British Columbia
Ministry of Transportation and Highways
Engineering Branch - Traffic Section
4B - 940 Blanshard Street
Victoria, B.C. V8W 3E6

Pedestrian Crossing Control Manual for British Columbia

Province of British Columbia
Ministry of Transportation and Highways
Engineering Branch - Highway Safety Section
4B - 940 Blanshard Street
Victoria, B.C. V8W 3E6

H.O.V. Pavement Marking and Signing Practice Manual
Province of British Columbia
Ministry of Transportation and Highways
Engineering Branch - Traffic Section
4B - 940 Blanshard Street
Victoria, B.C. V8W 3E6

Traffic & Electrical Engineering Manual
Province of British Columbia
Ministry of Transportation and Highways
Engineering Branch - Traffic & Electrical Section
4B - 940 Blanshard Street
Victoria, B.C. V8W 3E6

Restricted Clearances Register
Province of British Columbia
Ministry of Transportation and Highways
Planning Branch
3B - 940 Blanshard Street
Victoria, B.C. V8W 3E6

DEFINITIONS

ACCELERATION LANE: An auxiliary lane that enables a vehicle entering a roadway to increase speed and merge with through traffic, as applied at channelized intersections, or as a speed change lane at interchanges.

ADVISORY SPEED: The speed, determined to the nearest 10 kilometres per hour, at which traffic may safely negotiate a potential hazard under ideal driving conditions.

APPROACH SPEED: The maximum safe speed that can be maintained over a short section of highway immediately in advance of a potentially hazardous location; taking into account pavement and shoulder width, horizontal and vertical alignment, sight distance, and other controlling factors. The approach speed does not necessarily coincide with the design speed.

AT GRADE INTERSECTION: A place where two or more roadways join or intersect in the same horizontal plane.

BIKE WAY or BIKE ROUTE: Any portion of a roadway, lane or path specifically designed for cycle traffic - either exclusively or alongside other vehicles.

BLANKET SPEED LIMIT: The maximum speed allowed on all roads within the boundaries of an established blanket speed limit. Such a speed limit does not apply to roads within the zone that have a different speed limit to the blanket, as indicated by erected Maximum Speed signs.

BLANKET SPEED ZONE: A defined geographical district or area outside an incorporated area (Water District, Fire Protection District, Community Planning Area, etc.) within which all roads are covered by a speed limit established by Gazette notice.

CHANNELIZATION: The separation of traffic flow into positive paths, by means of traffic marking or islands.

CONSTRUCTION AND MAINTENANCE SIGNS: A group of Regulatory and Warning signs used for the protection of the traveling public and workers in the vicinity of a work area located on or near the roadway.

CONTROLLED ACCESS HIGHWAY: A major highway along which the right of access to abutting property is controlled by the Ministry of Highways.

CONTROLLED INTERSECTION: An intersection where traffic approaching from any or all directions is regulated by some form of traffic-control device.

CROSSWALK: Any part of a roadway specifically intended for pedestrian crossing, and usually indicated so by signs, lines or other markings.

DECELERATION LANE: A speed change lane which enables traffic leaving a through roadway to reduce speed after leaving the through lane.

DIRECTIONAL DIVIDING LINE: A pavement marking used on two-way facilities to separate traffic moving in opposite directions.

DIRECTIONAL SIGN: A Guide sign indicating the direction to the destinations named.

DIVIDED HIGHWAY: A multi-lane highway consisting of roadways for opposing traffic, which are separated by an unpaved area or other physical barrier.

EXPRESSWAY: A divided highway for through traffic with two or more lanes in each direction of travel with access only by public road intersections and frequently with grade separations at major intersections.

FREEWAY: A divided primary highway for through traffic with two or more lanes in each direction of travel with access via interchanges only.

FRONTAGE ROAD: A road running adjacent and more or less parallel to a controlled access facility.

GORE: Location where edge of highway and edge of ramp meet each other. The gore may include or exclude curb and gutter. The gore nose is the gore edge which faces the oncoming traffic (refer to 1990 AASHTO "Green Book", page 969, Figure X-61).

GRADIENT or GRADE: The rate of rise or fall with respect to the horizontal distance; usually expressed as a percentage.

GUARDRAIL: A longitudinal barrier of the general form of concrete or of posts and rail.

GUIDE SIGN: A traffic sign used to direct traffic along a route or towards a destination.

OBJECT MARKER: A traffic sign mounted temporarily or permanently on an obstruction, within or adjacent to the roadway, to make the obstruction highly visible.

HIGHWAY: As defined in the Highway Act: includes all public streets, roads, ways, trails, lanes, bridges, trestles, ferry landings and approaches and any other public way.

HIGHWAY DELINEATOR: One of a series of short posts with reflective heads used to indicate horizontal alignment.

INFORMATIONAL SIGNS: A traffic sign used to convey information of interest to road users or non-driving essential information.

INTERCHANGE: A grade-separated intersection with one or more turning roadways (or ramps) for travel between the through roads.

INTERSECTION (at-grade): The general area where two or more roads join or cross, within which are included the roadway and roadside facilities for traffic movements.

INTERSECTION APPROACH: That part of an intersection leg used by traffic approaching the intersection.

INTERSECTION LEG: The section of any one of the roadways radiating from an intersection which is close to the intersection but outside the area of the intersection proper.

ISLAND: A defined area between traffic lanes for control of vehicle movements or for pedestrian refuge and the location of traffic-control devices.

LANE (traffic lane): A part of the traveled way intended for the movement of a single line of vehicles.

LANE EDGE LINE: A painted line marking the edge of the traveled roadway.

LANE LINE: A longitudinal pavement marking which separates two traffic lanes assigned to traffic moving in the same direction.

LANE-USE SIGNS: Signs erected in advance of an intersection to regulate traffic on an approach by assigning certain traffic movements to specific lanes. These signs should not be confused with Turn Control signs.

LEFT TURN LANE (left turn slot): A lane or slot reserved for left-turning vehicles and so designated by channelization pavement markings and/or Lane-use signs.

LOCAL: A street or road primarily for access to residences, businesses or other abutting property.

MARKER: See: Object Marker, Route Marker, and Temporary Marker.

MEDIAN: The area that laterally separates traffic lanes carrying traffic in opposite directions. A median is described as flush, raised or depressed, referring to the general elevation of the median relative to the adjacent edges of traffic lanes. The terms wide and narrow are often used to distinguish different types of median. A wide median generally refers to depressed medians sufficiently wide to drain the base and sub-base into a median drainage channel. Flush and raised medians are usually narrow medians.

MULTI-LANE HIGHWAY: A roadway with two or more traveled lanes carrying traffic in each direction.

NUMBER ONE LANE (NUMBER TWO LANE, etc.): On a multi-lane facility the traffic lanes are numbered outwards from the directional dividing line or median to the traveled roadway edge.

NUMBERED HIGHWAY (or NUMBERED ROUTE): A highway to which a number has been allotted for the purpose of identification throughout its entire length. See also—Route Marker.

OFF-RAMP: That part of an interchange connecting a deceleration lane to a crossroad.

ON-RAMP: That part of an interchange connecting a crossroad to an acceleration lane.

OVERHEAD SIGN: A traffic sign mounted with 5 metres of vertical clearance and preferably located over the lane or lanes to which the sign applies.

OVERSIZE SIGN: A traffic sign with greater proportionate dimensions than the minimums specified in this manual.

PARKING AND STOPPING SIGNS: Traffic signs of the Regulatory type which inform motorists of the Parking and Stopping regulations in effect on facilities where such signs are erected.

PLAYGROUND ZONE: A signed area in the vicinity of a playground where a mandatory 30 kilometre per hour maximum speed limit is in effect each day from dawn to dusk.

POSTED SPEED ZONE: A section of highway upon which the maximum speed limit is indicated by appropriate Regulatory signs.

PROVINCIAL HIGHWAY: Any public highway under the jurisdiction of the Ministry of Transportation and Highways.

REFLECTORIZATION: A method of incorporating light reflective material on the approach face of a traffic sign so that the sign face will reflect light during the hours of darkness while retaining the same colours as by day.

REGULATORY SIGN: A traffic sign advising motorists that certain action is required by them, disregard of which would constitute an offense under the Motor Vehicle Act.

RIGHT-OF-WAY: The area of land acquired for or devoted to the provision of a road or highway.

ROUTE MARKER: A guide sign bearing a route number which is erected along numbered highways.

RURAL: Pertains to an area of very low density land use (mainly agricultural land, park or crown land) and sparsely distributed trip generators and attractions. In rural locations, traffic interruptions due to intersections or driveway accesses are scarce and highway speeds are mainly controlled by the roadway alignment, weather, and the volume of through traffic. The term RURAL is used to help classify roads.

SAFE SPEED: See—Advisory Speed.

SCHOOL AND PEDESTRIAN SIGNS: A group of signs which consist of both Regulatory and Warning used to control vehicular and pedestrian movements wherever a high likelihood of the two may occur.

SCHOOL ZONE: A signed area in the vicinity of a school where a mandatory 30 kilometre per hour maximum speed zone is in effect every school day from 8 a.m. to 5 p.m.

SHOULDER: Areas of pavement, or gravel placed adjacent to through or auxiliary lanes. They are generally intended for emergency stopping and travel by emergency

vehicles only but can usually be used by cyclists. They also provide structural support for the pavement.

SIDEWALK: That portion of a highway or street adjacent to the traveled roadway which has been improved for the use of pedestrians.

SIGHT DISTANCE (at intersections): The distance along intersecting roads, resulting in a sight triangle, thereby providing a sight line for approaching vehicles. The intersection sight distance is adequate when a driver has an unobstructed view of the entire intersection and sufficient lengths of the intersecting roadway to avoid conflicts.

SIGN ASSEMBLY: Any traffic sign mounted and erected alone or in conjunction with any combination of associated tab signs.

SIGN GROUP: (1) Two or more associated sign assemblies mounted together on the same post. (2) A general reference term for distinguishing one category of signs from others (Regulatory Group, Warning Group, etc.).

SPEED CHANGE LANE: An auxiliary traffic lane used by traffic entering or leaving a freeway or expressway for the purposes of acceleration or deceleration respectively.

SPEED LIMIT: The maximum vehicular speed allowed within a given posted or unposted speed zone.

SPEED ZONE: A specific section of roadway upon which a maximum speed limit has been imposed. Such zones may either be posted or unposted.

STATUTORY SPEED LIMIT: A maximum speed limit in effect under the Motor Vehicle Act on all roads where signs showing the maximum allowable speed have not been erected. In organized areas (incorporated) , highways and streets have a statutory limit of 50 kilometres per hour. In unorganized (un-incorporated) areas, highways and roads have a statutory speed limit is 80 kilometres per hour.

STOP LINE OR BAR: Transverse pavement marking to indicate where vehicles are required to stop for a traffic control device.

STOPPING SIGHT DISTANCE: The distance required to bring a vehicle completely and safely to rest with normal braking and normal road conditions.

SUBURBAN: Areas of low density commercial or residential land used urban and rural land use. Typically, suburban land development is a ribbon of high trip generators and or residential accesses on arterials.

TAB SIGN: A traffic sign which is used only to supplement or clarify one or more signs of the same type. Tab signs may not be erected alone.

TEMPORARY MARKER: A small temporary white-on-red fully reflectorized sign used at, and in advance of, a minor temporary hazard which may require a reduction in speed by approaching motorists.

THROUGH ROADWAY: (1) The portion of roadway used by through traffic as opposed to the parts used by traffic which is stopping or turning. (2) A road at which vehicular traffic from intersecting roads is required to stop before crossing or entering.

THROUGH TRAFFIC: (1) Traffic using a through roadway. (2) Traffic proceeding through an area and not having an origin or destination therein.

TRAFFIC CONTROL DEVICE: A sign, signal, line, meter, marking, space, barrier or device, placed or erected by authority of the Ministry of Transportation and Highways or the council of a municipality or a person authorized by either of them to exercise that authority to place, mount, or erect such a device for the purpose of regulating, warning, or guiding traffic.

TRAFFIC SIGN: A device which may be erected beside or above a roadway for the purpose of regulating, warning, or guiding traffic.

TRAVELED WAY: That part of a roadway intended for vehicular use excluding shoulders. It may have a variety of surfaces but is most commonly hard surfaced with asphalt or concrete or gravel surfaced.

TRAVELED ROADWAY EDGE: A line, sometimes marked by an edge line, which divides the traveled roadway from the shoulder.

TURN CONTROL SIGNS: Traffic signs, generally erected at an intersection indicating by arrows the movement or movements all traffic on that approach must make. These signs should not be confused with lane-use signs.

TWO-LANE ROAD OR HIGHWAY: A road or highway that provides for one lane of through traffic in each direction.

TWO-WAY LEFT TURN LANE: The centre lane on some multi-lane sections of undivided highway which is designed to facilitate left turns from each direction.

UNPOSTED SPEED LIMIT: See—Statutory Speed Limit.

UNPOSTED SPEED ZONE: A section of highway upon which Maximum Speed signs are not erected and where a statutory speed limit is in effect.

URBAN AREA: Pertains to areas of medium to high density land use where municipalities share boundaries . Land in urban areas is subdivided in serviced lots requiring a medium to high level of both access and mobility. Traffic generated per unit area on urban land is significantly higher than on suburban or rural land.

VISION TRIANGLE: The open area in an intersection or rail crossing quadrant across which it is possible to see.

WARNING SIGN: A sign used to indicate conditions on or adjacent to a highway or street that are actually or potentially hazardous to traffic operations.

DriveSmartBC

Where better than average road users satisfy their curiosity

Stop Signs Are Not For Speed Control

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The neighbourhoods where we live are important to us. When we see problems like vehicles speeding past our homes or a volume of traffic that disturbs the peace and quiet we want to act to solve our problem. One of the first things that we demand is for the authorities to put up stop signs.

What Stop Signs Are Intended For

The stop sign is an effective traffic control devices when it is used in the right place and in the proper situation. The sign's job is to help road users to decide who has the right of way at an intersection.

What Stop Signs Are Not Intended For

Putting up a stop sign to arbitrarily interrupt through traffic on a street is a common misuse.

Instead, provincial guidelines should decide when a stop sign is necessary. The guidelines take into consideration variables such as the probability of vehicles arriving at an intersection at the same time, the length of time traffic must wait to enter, traffic delays, and the availability of safe crossing opportunities.

The Stop Sign as a Speed Control

Vehicle speeds are only slowed at the sign and drivers tend to accelerate from them, often reaching speeds higher than before the stop sign was installed. This attempt to make up for lost time is one reason that stop signs are not effective as a speed control.

Reducing Traffic Volumes

Drivers will find the path of least resistance. If they can find a route with fewer traffic controls, they will take it. In many cases, this simply pushes the traffic elsewhere in the neighbourhood. Your problem is solved but it now causes problems for others nearby.

Disobeying the Sign

Like speed limit signs, drivers will ignore a stop sign that they think is not necessary. If they rarely see other traffic present it's easy to decide that there is no need to stop. This could lead to an increase in collisions.

Pollution

Stops and starts at intersections will increase the noise and exhaust pollution levels around them.

Unintended Consequences

Are you ready to trade one problem for another?

Learn More

- **Traffic Calming E-Primer**
- **Citizen Led Traffic Calming**
- **Imposing a 30 km/h Speed Limit in Residential Areas**

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DriveSmartBC

Where better than average road users satisfy their curiosity

The Difficulty With Stop Signs

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One wouldn't think that stopping at a stop sign would be such a problem for drivers. It seems relatively simple, come to a complete stop, look both ways and then go if it is safe to do so. With the poor compliance rate, we should ask is the stop sign the best form of traffic control for intersections that are not controlled by traffic signals?

Let's examine what making a proper stop means and where it has to be done. You may be surprised to learn that the stop sign itself simply tells you what you must do, not where you have to do it.

The simplest case is one where there is nothing at the intersection other than the stop sign. Here one must stop before entering the intersection itself and in a position nearest to the crossroad where a driver has a clear view of traffic approaching on that crossroad.

Where there is a marked crosswalk along with the stop sign a driver must stop before entering the crosswalk. Doing so will protect against a collision if the driver has failed to notice any pedestrians present.

One failure of our current Motor Vehicle Act is not including unmarked crosswalks in this requirement. Not all unmarked crosswalks are preceeded by a marked stop line to provide some protection for pedestrians.

The stop sign with a marked stop line seems to be the most difficult. Stop lines never seem to be placed at a point where the driver has a good view to the left and right if they stop as required. Consequently, stop lines are often ignored completely. The proper thing to do here is to stop at the line, move ahead to a point where you can see properly, stop again and then proceed after looking both ways to insure it is safe to do so.

Death by Stop Sign is an article in Psychology Today authored by John Staddon. He singles out the stop sign saying:

> *Look at the familiar stop sign. It does two bad things: First, it makes you look at the stop sign rather than the traffic—it distracts. Second, it doesn't tell you what you need to know. It tells you to stop even when you can see*

> *perfectly well that there is no cross traffic. It shouts "don't trust your own judgment!"*

Dr. Staddon provides Britain as an example of how it should be done. Stop signs are a rare item beside their roads he says, you will find yield signs or their equivalent road markings instead. They have a lower collision rate than North America and yielding instead of stopping saves time and reduces pollution.

He also hints that the roundabout would be preferred over both stop and yield signs. These intersections can **reduce collisions by 37% and fatal collisions by 90%**.

So, until roundabouts become common in British Columbia, keep in mind that more than half of all collisions happen at intersections. Following proper stop sign etiquette places you in control in a high hazard area.

Reference Links:

- Section 186 MVA - Stopping at Intersections
- Stop Sign - Wikipedia
- Who Invented the Stop Sign?

Intersections | Stopping