

Traffic control devices manual

Part 10

Motorways and Expressways

MANUAL OF TRAFFIC SIGNS AND MARKINGS

Part III: MOTORWAYS AND EXPRESSWAYS

February 2010

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ISBN



IMPORTANT NOTES FOR THE READER

DOCUMENT STATUS

This document has the status of a Standard, as defined in New Zealand Transport Agency's Standards and Guidelines Manual.

DISCLAIMER

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PREFACE TO THIS ISSUE: February 2010

This manual is the third part of the New Zealand Transport Agency Manual of Traffic Signs and Markings (MOTSAM). It sets out the policy and location requirements for the signing, marking and delineation of motorways and expressways and gives details for signs and markings in typical situations and guidance for solving solutions to signing and marking situations not specifically covered.

The manual must be used in conjunction with MOTSAM Part I: *Traffic Signs* and MOTSAM Part II: *Markings*. Its use is mandatory for all state highway motorway and expressway work and recommended for local authorities, to ensure consistency in the signing, marking and delineation of New Zealand's motorways and expressways.

The signs in this manual have been drawn using AutoCAD but DO NOT SCALE OFF THE DRAWINGS.

Unless stated otherwise, details and dimensions given are recommended minimums and should be increased when appropriate.

Please send your comments and suggestions to:

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IMPLEMENTATION STATEMENT:

June 2009

This manual applies to all new and replacement signs and markings on State Highway motorways and expressways.

There is no intent to initiate a retrofit program for existing installations.

ARRANGEMENT OF THE MANUAL

This part of the Manual of Traffic Signs and Markings (MOTSAM) follows essentially the same layout and arrangement as the previous parts, Part I: *Traffic Signs* and Part II: *Markings*.

Part III: *Motorways and Expressways*, is publicly available, but only as downloadable PDF format files from the New Zealand Transport Agency website.

PART III: *Motorways and Expressways*, is subdivided into the following sections:

- SECTION 0: TITLE, CONTENTS AND GLOSSARY OF TERMS
- SECTION 1: INTRODUCTION
- SECTION 2: INTERCHANGES
- SECTION 3: ADVANCE EXIT, EXIT DIRECTION AND EXIT SIGNS
- SECTION 4: SUPPLEMENTARY DESTINATION SIGNS
- SECTION 5: CONFIRMATION AND INTERCHANGE SEQUENCE SIGNS
- SECTION 6: MOTORWAY/EXPRESSWAY/TOLL ROAD BEGINS/ENDS SIGNS
- SECTION 7: RAMP TERMINAL SIGNS
- SECTION 8: OVERBRIDGE NAME SIGNS
- SECTION 9: MOTORIST SERVICE SIGNS
- SECTION 10: TOURIST SIGNS
- SECTION 11: MISCELLANEOUS SIGNS
- SECTION 12: ROAD MARKINGS AND DELINEATION (Updated February 2010)
- SECTION 13: APPENDIX A: LIST OF SIGNS

Every page heading indicates the specific part, section title, page number and issue date. Page numbers within each section are sequential and are prefixed by the respective section number.

Each section has a table of contents which indicates the current content and the issue date of all pages. It should also be noted that there are references in this part of the manual to signs and markings described in MOTSAM Parts I and II and that they are totally unrelated to those given in the Land Transport Rule: *Traffic Control Devices 2004, Schedule 1: Signs*.

GLOSSARY OF TERMS

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G1. GENERAL

The following Terms and Definitions apply to the Manual of Traffic Signs and Markings - Part 3: Motorways and Expressways. The Glossary has been compiled from:

Australian Standards:	AS 1742.2, AS 1742.8, AS 1348.1, AS 1348.2.
U.S. Department of Transportation Federal Highway Administration (FHWA):	Manual on Uniform Traffic Control Devices (MUTCD 2003 Edition, including Revision 1 dated November 2004 and Revision 2 dated December 2007)

G2. TERMS AND DEFINITIONS (see also Traffic Control Devices Manual: Definitions)

TERM	DEFINITION
24 x 7	24 hours a day seven days a week.
85th percentile	The value at which 85% of the sample is included. the 85th percentile. In speed sample analysis, 85% of the vehicles surveyed will travel at or below the 85th percentile speed.
AADT	See annual average daily traffic.
annual average daily traffic	The total volume of traffic passing a roadside observation point over the period of a calendar year, divided by the number of days in that year (365 or 366 days). Measured in vehicles per day (vpd).
ASTM	Abbreviation for American Society for Testing and Materials.
ATMS	Abbreviation for Advanced Traffic Management Systems.
ATP	See audio tactile profile.
audio tactile profile	An optional component of pavement marking which has raised ribs orientated perpendicular to the longitudinal direction and are closely spaced at regular intervals along or adjacent to the line. They provide a noise (audio) and vibratory (tactile) warning when driven over.
auxiliary lane	The portion of carriageway adjoining the through traffic lanes, used for speed change, weaving, climbing, passing, or for other purposes supplementary to through traffic movement.
AWS	Automatic warning sign.
bus lane	A lane reserved by a marking or sign installed at the start of the lane and at each point at which the lane resumes after an intersection, for the use of: <ul style="list-style-type: none"> a. buses b. cycles and motorcycles, unless either or both are specifically excluded by the signs. <p>Note: Cycles are specifically excluded from motorways by the placement of RG-24 signs at the start of all motorway on-ramps and all motorways.</p>
carriageway	That portion of a road or bridge devoted particularly to the use of vehicles, inclusive of shoulders and auxiliary lanes. Divided roads are considered to have two carriageways. This has the same meaning as 'roadway' used in the TCD Rule and Road User Rule.
continuity line	A longitudinal broken line of distinctive pattern which may be used to indicate the edge of that portion of the carriageway assigned to through traffic and which is intended to be crossed by traffic turning at an intersection, or entering or exiting an auxiliary lane at its start or finish, or entering or exiting a motorway or expressway at an entrance or exit respectively.
delineation	A treatment that enhances the selection of the appropriate path and speed or position to allow a movement to be carried out safely and efficiently. It could include line marking, raised pavement markers, traffic cones, post-mounted reflectors, chevron signs, etc.

GLOSSARY OF TERMS

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TERM	DEFINITION
delineator	A device, other than a simple post, mounted on the road surface or at the side of the road in a series to indicate the alignment of the road, especially at night or in adverse weather. The device may be retroreflective.
diverge	The area at a bifurcation of two carriageways.
diverging	Division of a single stream of traffic into separate streams.
divided road	A road having a separate carriageway or roadway for each direction of travel.
entrance	The paved area adjacent to the through lanes of a motorway or expressway that is intended for vehicles entering and merging from a local road via an on-ramp.
exit	The paved area from the commencement of the exit taper that is adjacent to the through lanes and used by vehicles exiting a motorway or expressway en route to the off-ramp, which connects with the local road.
exit nose	A kerbed concrete island located at the exit to a motorway or expressway that separates the ramp from the through route.
expressway	A road mainly for through traffic, usually dual carriageway, with full or partial control of access. Intersections are generally grade separated. <i>See also motorway.</i>
gore area	The paved triangular area between the through lanes, an exit and the exit nose which is defined by two wide solid white lines that guide traffic exiting a motorway or expressway.
guide sign	A sign that shows route designations, destinations, directions, distances, services, points of interest, or other geographical, recreational, or cultural information.
high performance long life	Pavement markings that should be used on smooth surfaced roads for improved skid resistance and wearing properties and better delineation in wet conditions.
HPLL	See high performance long life.
information centre	An unattended roadside facility or an accredited attended tourist information centre.
interchange	A grade separation of two or more roads with one or more interconnecting carriageways.
interchange sequence sign	An overhead mounted sign erected in an urban motorway or expressway median, usually approximately midway between interchanges, which shows the next two or three interchanges by name and route number and the distances to them, to the nearest 0.1 kilometre. ISS's are installed in a series and they are generally supplemental to Advance Exit signs but an ISS may replace the first Advance Exit sign where interchanges are closely spaced.
intelligent Transport Systems	Refers to information and communications technology added to infrastructure and vehicles in an effort to manage opposing needs, such as vehicles, loads, and routes to improve safety and reduce vehicle wear, journey times, and fuel consumption.
ISS	See interchange sequence sign.
ITS	See intelligent transport systems.
lane	<ol style="list-style-type: none"> a. A longitudinal strip of roadway that is intended for the passage of vehicles or a specific class of vehicle that is separated from other parts of the roadway by a longitudinal line or lines of paint or raised studs; and b. includes: <ol style="list-style-type: none"> i. a cycle lane ii. a lane for the use of vehicular traffic that is at least 2.5 m wide iii. a lane of a two-way road divided by a centre-line. <p>Clearly (b) (i) and (iii) do not apply on motorways.</p>

GLOSSARY OF TERMS

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TERM	DEFINITION
lane drop	A situation where one lane (usually the left hand lane) of a one-way road diverges from the main route. The continuation of the road, therefore, has a lesser number of lanes than it had on the approach to the lane drop.
lane gain	A situation where an additional lane is added to a section of a one-way road, usually on the left hand side of the main route. The continuation of the road, therefore, has a greater number of lanes than it had on the approach to the lane gain.
local road	A road or street primarily used for access to abutting properties and off which access is gained to motorway on-ramps and which motorway off-ramps exit onto.
loop height	Used to specify the Modified Series E lower case letter height, excluding any ascender or descender. It is typically 75% of the initial upper case letter height. The ascenders and descenders are 40% of the loop height. As a general rule the loop height of the units of measurement 'kg', 'km' and 'km/hr' are 50% of the height of the adjacent numerals, while for 'm', this is 67%.
Location referencing management system	NZTA's system for managing location reference points on state highways.
LRMS	See location referencing management system.
LTSA	Abbreviation for Land Transport Safety Authority, which since 1 st August 2008 was amalgamated into the New Zealand Transport Agency.
marking	A line, symbol, pattern, message, numeral, pavement marker or other device set in the roadway or applied or attached to the road surface.
may	Indicates an option (non-mandatory and no recommendation).
median	A strip of land that may be part of a road that separates vehicles travelling in opposite directions.
merge	The area at a junction of two carriageways other than an entrance.
merging	The converging of separate streams of traffic into a single stream.
motorway	Means a motorway declared as such by the Governor-General in Council under section 138 of the Public Works Act 1981 or under section 71 of the Government Roadway Powers Act 1989 and includes all bridges, drains, culverts, or other structures or works that form a part of any motorway so declared but does not include any local road, accessway or service lane (or the supports of any such road, way or lane) that crosses over or under a motorway on a different level.
MOTSAM	NZTA's <i>Manual of Traffic Signs and Markings</i> .
must	See shall .
MUTCD	US Department of Transportation, Federal Highway Administration <i>Manual of Uniform Traffic Control Devices</i> .
NZTA	New Zealand Transport Agency, a Crown entity established on 1 st August 2008.
O.D.	Outside Diameter.
off ramp	A carriageway to allow vehicles to leave a motorway or expressway, specifically the section of carriageway between a motorway or expressway exit and its intersection with the local road. Also commonly referred to as an 'exit ramp'.
on ramp	A carriageway to allow vehicles to join an expressway or motorway, specifically the section of carriageway between the local road intersection and the motorway or expressway entrance. Also known as an 'entry ramp'.

GLOSSARY OF TERMS

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TERM	DEFINITION
pavement markings	Surface markings, raised pavement markers, traffic domes and the like placed on the pavement for the control and guidance of traffic. Also commonly called road markings.
raised pavement marker	A device used to supplement or replace traffic lines on the road surface. It may be retroreflective.
raised reflective pavement marker	Raised pavement marker with reflectors, fixed in the carriageway.
ramp terminal	The intersection between a local road and a motorway or expressway on-ramp or off-ramp.
RCA	See road controlling authority.
Retroreflectivity	A property of a surface that allows a large portion of the light coming from a point source to be returned directly back to a point near its origin.
road controlling authority	In relation to a road: <ul style="list-style-type: none"> a. means the authority, body or person having control of the road; and b. includes a person acting under and within the terms of a delegation or authorisation given by the controlling authority.
RPM	See raised pavement marker.
RRPM	See raised reflective pavement marker.
RSMA	Road Safety Manufacturers Association.
SDS	See supplementary destination sign.
service centre	A facility with access to and from an adjacent expressway or motorway that provides services and amenities to road users.
SHRM	Abbreviation for State Highway Route Marker.
shall	Indicates that a statement is mandatory.
should	Indicates a recommendation (non-mandatory).
shoulder	The portion of the carriageway beyond the traffic lanes that is contiguous and flush with the surface of the pavement.
sign legend	A word message, logo or symbol design that is intended to convey a specific meaning.
sign panel	A separate panel or piece of material containing a word or symbol legend that is affixed to the face of a sign.
supplementary destination sign	A sign, usually ground mounted, that may be used to provide information regarding destinations accessible from an interchange, other than places shown on the standard interchange signing.
TCD	See traffic control device
Territorial local authority	A district council, city council or county council (as defined by the Local Government Act 2002).
through lane	A lane provided for the use of vehicles proceeding straight ahead.
TLA	See territorial local authority.
toll road	Road or part of a road that is subject to tolling under a road tolling scheme pursuant to the Land Transport Management Act 2003.

GLOSSARY OF TERMS

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TERM	DEFINITION
tourist attraction	The broad definition for signing purposes is a permanently established destination or facility that attracts or is used by visitors to an area, and which is open to the public without prior booking during its normal opening hours.
tourist feature	A site visited by tourists such as a scenic lookout, historical marker, or geographical feature.
touring route	A significant continuous length of state highway(s) and/or local road(s) that is being marketed by a regional tourist organisation(s) or jointly promoted by territorial authorities, to attract tourists.
tourist drive	A route that has been selected by a regional or local authority for the particular scenic, cultural or historic attractions it offers. A tourist drive can be located in either a rural or urban area and may be in the form of a circuit leading back to the vicinity from which it started, an alternative scenic route to a section of a regular and more direct route or a local road to a location of tourist interest.
traffic control device	A device used on a road for the purpose of traffic control; and includes a: <ul style="list-style-type: none"> a. sign, signal or notice; or b. traffic calming device; or c. marking or road surface treatment.
traffic instruction	Instructions frequently used in conjunction with directions on motorway and expressway signs to provide preparatory warnings or manoeuvring instructions necessary to effect safe and efficient turning or diverging to reach the named direction, e.g. <i>EXIT 1 km, LEFT LANE, THIS EXIT</i> .
traffic lane	A portion of the carriageway allotted for the use of a single line of vehicles.
traffic sign	A board, plate, screen or other device, whether or not illuminated, displaying words, figures, symbols or other material intended to instruct, advise, inform or guide traffic on a road; and includes a 'children crossing' flag, a hand-held Stop sign, a parking control sign and variable message signs; but does not include a traffic signal.
Transit NZ	Abbreviation for Transit New Zealand, which since 1 st August 2008 was amalgamated into the New Zealand Transport Agency.
transit lane	A lane reserved for the use of the following (unless specifically excluded by a sign installed at the start of the lane) <ul style="list-style-type: none"> (a) passenger service vehicles (b) motor vehicles carrying not less than the number of persons (including the driver) specified on the sign, (c) cycles (d) motorcycles (e) mopeds.
trap lane	A general traffic lane that becomes a lane dedicated to a specific manoeuvre with no alternative manoeuvre(s) possible for traffic in that lane, e.g. a lane drop at a motorway exit, an auxiliary slow vehicle lane etc. <i>NOTE: Motorway entrances and merges, passing lane terminations and right turn bays are not trap lane situations.</i>
URM	Urban route marker.
VMS	Variable message sign.