National Road Classification System

Bill Greenwood

September 2012

National Road Classification System

- **What is the NRCS?**
- **A whole of NZ road classification system that is understood and assists:**
  - safety
  - transport and land use integration,
  - Network management and optimisation
  - road maintenance and
  - benchmarking of Investment outcomes

National Road Classification System

The National road classification system incorporates the

State highway classification system

with

NZ Standard 4404 Land Development and Subdivision infrastructure

by

Classifying a *Route* by its *Function*

then identifies for each route type the

Form or **Customer levels of service** and

Context or **Road user & Place service levels**

National Road Classification System

The draft NRCS classifies ***Routes***;

Arterials (3 types - National, Major and Minor)

Collector

Roads/Streets

Lanes/shared spaces

in accordance with their ***Functions***;

Through traffic

Network connectivity

Frontage access

Freight, tourism and General traffic

Route Function Classification

Table A		Route descriptor					
		National Arterial	Major Arterial	Minor Arterial	Collector	Roads and streets	Lanes & shared-spaces
Route function	Link - Place context	Link function →				← Place function	
	Through traffic	Highest capacity routes which have the greatest through movement function	Provides high capacity through movement between and within regions and between key places within districts	Carries predominantly medium capacity through traffic movements between and within districts between places.	Collects traffic from local streets in order to connect with arterials	Primary role is to service adjacent property.	Primary role is to serve adjacent property minimal through traffic.
	Network connectivity	Connects regions and nationally significant; airports, ports and economic activity generators	Connects regions and principal sectors of the region and activity centers within a district	Connects major places within a district.	Connect two arterials, or access roads and streets with arterial links.	Connect to other roads, streets, lanes and Collectors	Primary connect to roads, streets and other lanes
	Frontage access	Provides little or no access to adjoining land	Provides controled access to adjoining land	Managed accesses but many also serve adjacent activities	May provide access to adjacent key activities. Significant access adjoining property	Access to adjoining local shops, trade units, residential and rural properties	Property frontage may be shared with movement lane
	Goods movement (Freight)	Provides highest capacity to or facilities that promote safe and efficient freight carriage	Provides quality access to or facilities that promote safe and efficient freight carriage	Provides access to or facilities that promote safe and efficient freight carriage where there is enduring demand		Provides for the transport of neighbourhood related freight	
	Economic outcomes (export receipts conveyed per annum)	Greater than $1,000,000,000	Between $120,000,000 and $1,000,000,000	Between $60,000,000 and $120,000,000	Between $5,000,000 and $60,000,000	Between $500,000 and $5,000,000	Between $0 and $500,000
	Tourism	Provides high service levels (North Island) and amenity (South Island) with reliable journey times for long distance tourist traffic	Provides access to tourist facilities in areas of high tourist demand such as rest stop and viewing points	Provides access to tourist facilities in areas of high tourist demand including rural rest stop and viewing points		Provides tourist facilities acess in areas of high tourist demand	
	General traffic	Traffic volumes generally over 20,000 vehicles per day	Traffic flows over 5,000 rural and between 20,000 to 40,000 urban vehicles per day	Traffic flows generally up to 5,000 rural and 8,000 to 25,000 urban vehicles per day	Traffic flows typically up to 2,000 rural and 8,000 urban vehicles per day	Traffic flows are generally up to 1,000 rural 2,000 urban vehicles per day	Traffic flows are generally up to 200 rural or urban vehicles per day

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Each route descriptor also has a

Form or **Customer levels of service** – classified by

Safety - Risk,
- Roads roadsides & Speed and
- Safe use

Journey time

Delay predictability

Frontage access and

Resilience & security

Form Levels of Service

	Customer level of service Table B	Route description					
		National Arterial	Major Arterial	Minor Arterial	Collector	Roads and streets	anes & shared-spaces
	Safety risk	Crash forces primarily managed through infrastructure and separation of vulnerable users	Crash forces managed through infrastructure, separation of vulnerable users or speed management	Crash forces managed through low cost treatments or speed management	Crash forces managed through low cost treatments or speed management	Crash forces managed through low cost treatments or speed management	Crash forces managed through infrastructure perceptual treatments.
	Safe roads, roadsides and speeds	Head on, run off road, intersection and other high severity crashes generally prevented	Road and roadside treatments to prevent crashes or reduce the impact speed of high severity crashes	Treatments to reduce the impact speed of high severity crashes	Treatments to reduce the impact speed of crashes especially those involving vulnerable users	Treatments to reduce the impact speed of crashes especially those involving vulnerable users	Treatments which prevent crashes involving vulnerable users
Level	**Safe use**	Centralised management primarily using technology (cameras and JTOCs) maximising efficiency within a safety framework.	Centralised management often using technology. Compliance management maximising efficiency within a safety framework	Slower driving speed required along some sections and at intersections . Compliance management achieving efficiency within a safety framework.	Slower driving speed and extra care generally required. Compliance management consistent with route safety objectives.	Slower driving speed and extra care generally required. Compliance management consistent with general safety objectives.	Very slow speeds and extra care always required. Compliance management consistent with personal security objectives.
of	**Journey time**	High speed travel environment	Generally moderate to fast travel time environment in urban and rural areas	Generally moderate travel time environment in urban areas. Moderate to fast speed in rural areas	Generally moderate travel time environment with short lengths of lowered speed in urban areas. Moderate to high speed in rural areas	Generally low speed environment in urban areas. Moderate speed in rural areas	Walking pace environment in urban areas. Low speed in rural areas
service	**Delay predictability**	Minimal delays to journey times achieved	Minimal delays during peak journey times achieved outside holiday seasons and events	May experience variable delays and reduced speeds depending on other activities on the network and conditions	May experience predictable significant delays depending on other activities on the network and conditions	May experience significant delays accessing higher level roads	Variable delays experienced
	Frontage access and parking	Limited friction from adjoining land and on road parking	Controlled side friction from adjoining land and parking	Managed parking and side friction from adjacent properties	Side friction from adjoining property and parking managed to suit context	Frontage form and parking used to reduce operating speeds	Unrestricted frontage access and parking used to provide context
	Resilience and security	Mitigate the risk to connectivity by providing robust infrastructure in Emergency response plans	Mitigate the risk to connectivity by providing robust infrastructure in Emergency response plans	Mitigate the risk to connectivity by robust infrastructure or alternative routes as the route critical demand requires	Vehicle access available for foreseeable events	Emergency vehicle access available for foreseeable events	Emergency vehicle access normally available

National Road Classification System

A route is also related to its

Context or **Road user & place service levels** within the whole road network

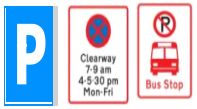
Road user service levels are;

Public transport
Freight
General traffic
Cycles
Pedestrians crossing and

Place service levels are;

Parking, Loading and stopping
Walking
Amenity and utilities

Road User and Place Service levels

Context		Road user movement			movement & place			Place	
	Table C	Public Transport	Freight	General traffic	Cycle	Pedestrians crossing	Parking, loading and stopping	Walking	Amenity and utilities
Service Levels									
	A	No trip delay, All day frequent service, Always runs to timetable may be on separate lanes	No delays or trip variability may be on separate lanes	No delays or trip variability may be on separate lanes	Separate cycle path. Minimal delays	Crossing regularly available. 40km/h operating speed. Minimal delays	Adequate parking, loading and stopping facilities	Quality pedestrian facilities in pedestrian friendly speed environment	Quality furniture, hard and soft landscaping both sides in pedestrian friendly speed environment. Accessible utilities
	B	No route delay, Peak period frequent service, Always runs to timetable may be on shared HOV lane	No delays or trip variability may be on shared HOV lane	No delays or trip variability.	Separation lane with minimal delays, less than 45km/h operating speed	Crossing available in required locations. Less than 45km/h operating speed. Minimal delays	Parking and stopping restrictions generally provided to meet demand	Pedestrian facilities provide to meet demand.Less than 45km/h operating speed	Soft & hard landscape both sides in pedestrian friendly speed environment. Accessible utilities
	C	Some route delay, 85% runs to timetable, Peak period frequent service and separate lane	Some route delays minimal trip variability. Share HOV lane	Some route delays minimal trip variability. Shared lanes	Separate on road cycle lane. Greater than 45km/h operating speed	Crossing available in managed locations. Average peak period crossing delay 45sec	Parking and stopping restrictions during business hours or to assist travel times	Formed and sealed footpaths each side of road. Less than 45km/h operating speed	Hard landscape with minimal planting both sides. Accessible utilities
	D	Off peak runs to timetable, Shared facilities	Peak stop at every intersection. Shared lanes	Peak stop at every intersection. Shared lanes	Separate on road cycle lane. Less than 60km/h operating speed	Controled crossings available in required locations. Average peak period crossing delay 45sec. May be over 50km/h operating speed.	Time limit parking and stopping. Peak period clearways	Formed and sealed footpath one side of road	Hard landscape both sides. Accessible utilities
	E	Peak stop at every intersection. Shared lanes	Peak stop at every intersection. Shared lanes	Peak stop at every intersection. Shared lanes	Bicycle share wide movement lane. Greater than 60km/h operating speed	Crossing generally limited to controled locations. Greater than 50km/h operating speed.	Loading and stopping, off-peak only	Formed footpath one side of road	Hard landscape one side. Utilities may be in footpath or movement lane
	F	No separate facility takes at least 5 minutes to clear intersection during peak periods	No separate facility takes at least at least 5 minutes to clear intersection	Shared movement lane. Takes at least 5 minutes to clear intersection	Bicycle share movement lane. Greater than 60km/h operating speed	Crossing limited to controled locations. Average peak period crossing delay 120sec	None permitted	No footpaths	No amenity strip. Utilities in movement lane

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Where to from here?

- Improvements from RCAs, NZTA TMLG & RCA Forum reality checks and update meetings included in NRCS by Working group
- Full sector consultation October/November
- NRCS included as a sector guideline in Register of network S&G December 2012
- NRCS will inform and continue to be informed by linked projects