

The new road classification system and other main changes in **NZS 4404**

A Roothing Perspective

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NZS 4404:2004

‘Land Development and Subdivision
Engineering’

Now superseded by -

NZS 4404:2010

‘Land Development and Subdivision
Infrastructure’



NZS 4404:2010 - Land Development and Subdivision Infrastructure

The PURPOSE of a road is to -

A) Provide a PLACE for:

- Human interaction
- Facilitating commerce and business
- Enabling access to buildings, lots, and public spaces
- Parking

The **PURPOSE** of a road is to -

B) Provide a LINK for:

- Pedestrians
- Cyclists
- Public transport
- Freight and goods vehicles
- Private motor vehicles
- Other modes which are not vehicles

The PURPOSE of a road is to -

C) Provide a CORRIDOR for:

- Stormwater treatment and conveyance
- Road lighting
- Landscaping and street furniture
- Utility services
- Signals, signs, and markings
- Safety, convenience and crime prevention

PURPOSE



**CLASSIFICATION
ASPECTS**

Place

Corridor

Link



Area Type

Land Use

Link context



'AREA TYPE' aspect components:

RURAL

SUBURBAN

URBAN

CENTRE

‘LAND USE’ aspect components:

LIVE & PLAY = Residential & Parks

MAKE, GROW & MOVE = Industrial, Agriculture
& Warehouses)

SHOP & TRADE = Retail & Services

WORK & LEARN = Offices & Schools

‘LINK CONTEXT’ aspect components:

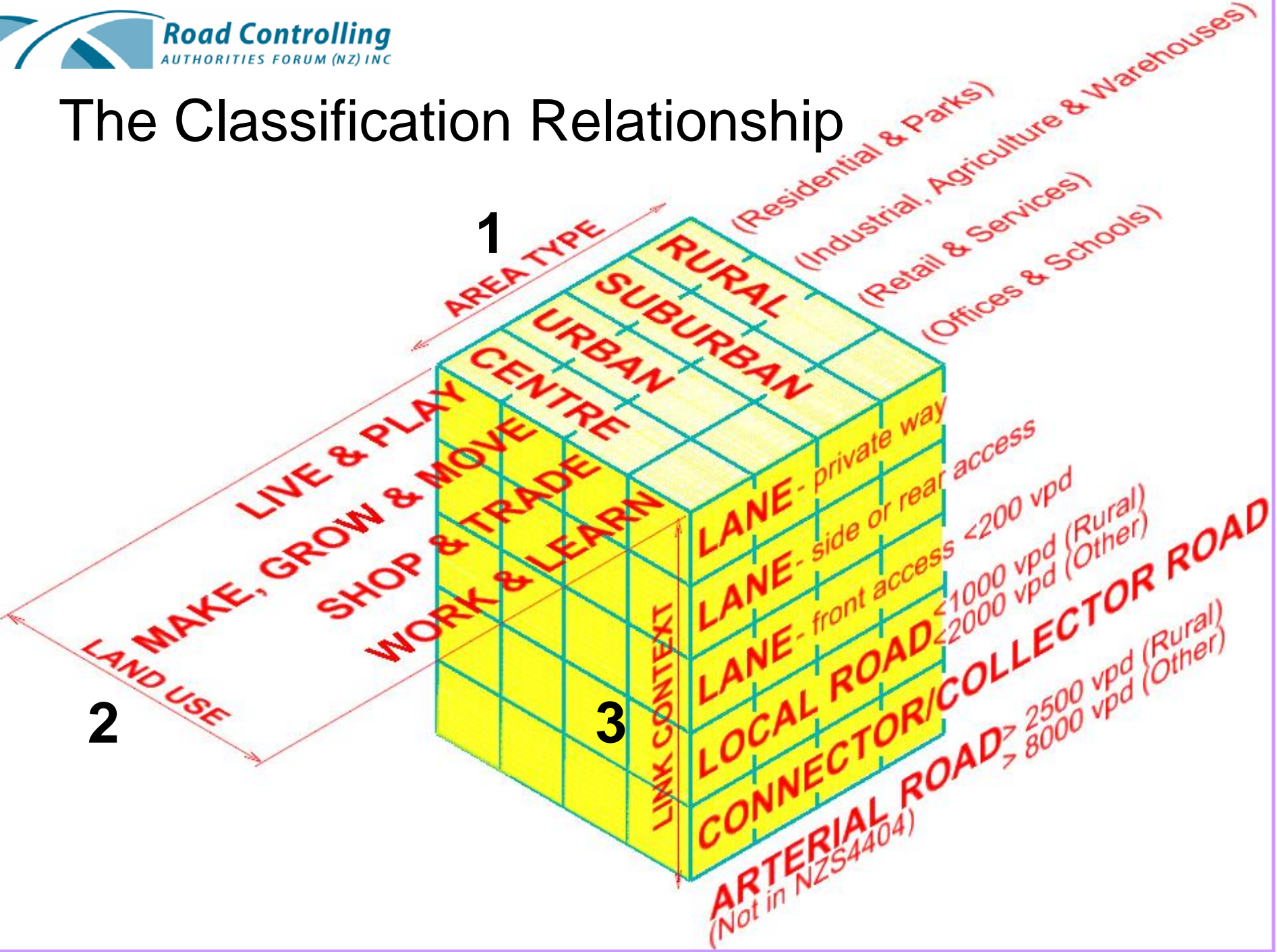
LANE Private ways
Side or rear access roads
Front access < 200vpd roads

LOCAL ROAD

CONNECTOR/COLLECTOR ROAD

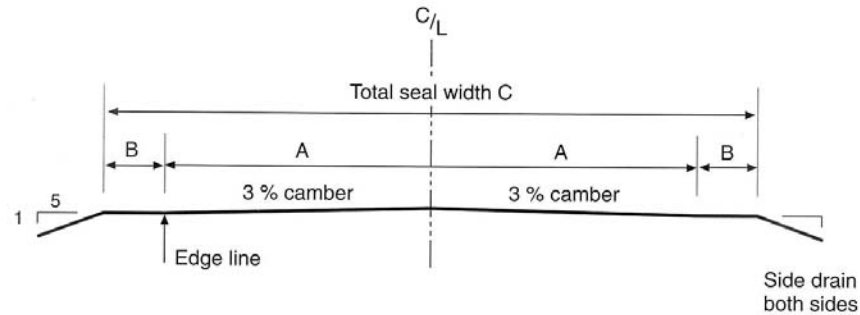
(Arterial roads are no longer included)

The Classification Relationship



NZS 4404:2004 – Rural roads (Table 3.2)

Table 3.2 – Road design standards – Rural (speed limit up to 100 km/h)



Typical cross section

(a) Road standards – Rural

Classification	Traffic volumes vehicles per day	Lane width (m) A ⁽¹⁾	Shoulder width ⁽²⁾ (m)		Minimum total seal width (m) C	Design speed ⁽³⁾ (km/h)		Maximum/minimum gradient ⁽⁴⁾	Minimum road reserve ⁽⁵⁾ (m)	Normal camber
			Total width B	Sealed part		Flat or rolling	Hilly			
Minor local	0 – 300	2.5	0.5	0.5	6.0	Up to 70	50	12.5 % 0.4 %	15.0	3 %
Sub-collector	300 – 700	3.0	1.0	0.5	7.0	70	50	12.5 % 0.4 %	15.0	3 %
Minor collector	700 – 1000	3.5	1.0	0.5	8.0	70	50	10 % 0.4 %	15.0	3 %
Major collector	1000 – 2500	3.5	1.0	0.5	8.0	Up to 100	70	10 % 0.4 %	20.0	3 %
Arterial ⁽⁶⁾	> 2500	3.5	1.5	1.0	9.0	100	70	10 % 0.4 %	20.0	3 %

NZS 4404:2004 – Urban roads (Table 3.1)

Table 3.1 – Road design standards – Urban (speed limit ≤ 70 km/h)

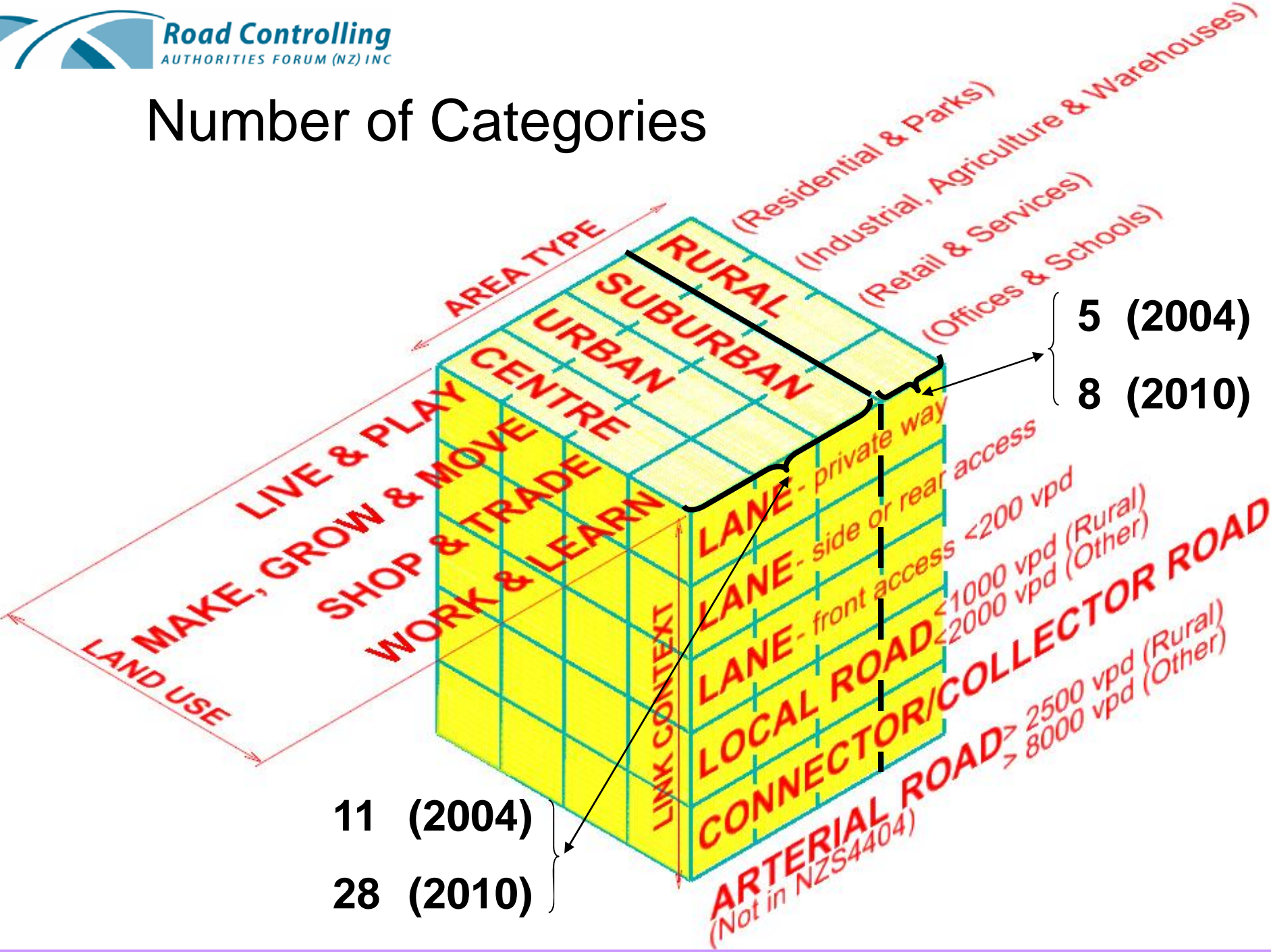
Class	Type	Area served	Traffic volumes vpd ⁽¹⁾	Design speed, (km/h)		Road reserve width, m	Minimum carriageway width (m)				Footpath (m)	Berm (m)	Max/min gradient	Normal camber	Max super-elevation	Notes
				Flat or rolling	Hilly		Parking ⁽²⁾	Traffic	Cycles ⁽³⁾	Total						
Local roads	Private way	1-3 lots 1-6 du ⁽¹⁾	NA	NA	NA	3.6 ⁽⁴⁾	–	1 x 2.75	–	2.75 ⁽⁴⁾	–	0.5+0.35	16 % max. 0.4 % min.	3 %	NA	Not public street ⁽⁴⁾
	Private way	4-6 lots 7-12 du	NA	NA	NA	6.0 ⁽⁴⁾	–	1 x 5.0	–	5.0 ⁽⁴⁾	–	2 x 0.5	16 % max. 0.4 % min.	3 %	NA	
	Cul de sac	up to 20 du	NA	NA	NA	11.0	1 x 2.5	1 x 3.5	–	6.0	1.4	0.5 + 3.1	12.5 % max. 0.4 % min.	3 %	6 %	No stopping on one side
	Residential	21-150 du	Up to 750	30	30	20	2 x 2.5	2 x 3.0	–	11.0	2 x 1.4	2 x 3.1	12.5 % max. 0.4 % min.	3 %	6 %	(5)
	Industrial	Up to 20 units	> 300	30	30	15.5	1 x 2.5	2 x 3.5	–	9.5	2 x 3.0	–	10 % max. 0.4 % min.	3 %	6 %	No stopping on one side
	Industrial/ Commercial service lane	–	NA	NA	NA	8.0	–	2 x 3.5	–	7.0	–	2 x 0.5	10 % max. 0.4 % min.	3 %	NA	(6)
	Commercial (Park precinct)	–	<2000	30	30	(7)	(7)	2 x 3.5	–	7.0	2 x 3.0	–	10 % max. 0.4 % min.	2 %	NA	(7)
Local distributor roads	Residential	<150 du	200 – 1000	40	40	21.0	2 x 2.5	2 x 3.5	–	12.0	2 x 1.4	2 x 3.1	12.5 % max. 0.4 % min.	3 %	8 %	
	Industrial/ Commercial	20 – 40 units	300 – 1000	40	40	18.0	2 x 2.5	2 x 3.5	–	12.0	2 x 3.0	–	10 % max. 0.4 % min.	3 %	6 %	(7)
Collector roads	Residential	150 – 450 du	1000 – 3000	50	40	23.0	2 x 2.5	2 x 3.5	2 x 1.0	14.0	2 x 1.4	2 x 3.1	10 % max. 0.4 % min.	3 %	8 %	
	Industrial/ Commercial	>40 units	>1000	50	40	20.0	2 x 2.5	2 x 3.5	2 x 1.0	14.0	2 x 3.0	–	10 % max. 0.4 % min.	3 %	6 %	(7)
Secondary (District) arterial		>450 du	3000 – 7000	50	50	24	2 x 2.5	2 x 3.5	2 x 1.5	15.0	2 x 1.4	2 x 3.1	10 % max. 0.4 % min.	3 %	8 %	
Primary (Regional) arterial		–	>7000	70	60	27	2 x 3.0	2 x 3.5 1 x 2.0	2 x 1.5	18.0	2 x 1.4	2 x 3.1	10 % max. 0.4 % min.	3 %	8 %	Painted median occupies 2 m traffic lane

NZS 4404:2010 – All roads (part of Table 3.2)

PLACE CONTEXT			DESIGN ENVIRONMENT				LINK CONTEXT					TYPICAL PLAN AND CROSS SECTION SEE APPENDIX E FOR LARGER VERSION OF FIGURES	FIGURE NUMBER
Area	Land use	Local attributes	Locality served	Target operating speed (km/h)	Min. road width (m)	Max. grade	Pedestrians	Passing, parking, loading, and shoulder	Cyclists	Movement lane (excluding shoulder)	Classification		
Notes	See 3.2.4, table 3.1 & 3.3.1.6	See table 3.1	See table 3.1	See 3.3.5	See 1.2.2, 3.3.1.9, & 3.4.16		See 3.3.11	See 3.3.6 & 3.3.1.4	See 3.3.1.5, 3.3.7, & 3.3.11.2	See 1.2.2, 3.3.1.1, 3.3.1.2, 3.3.1.3, 3.3.1.10, 3.3.11.3	See 3.2.4.2 & 3.3.1.6 (Typical max. volumes)		
Suburban	Live and play	Primary access to housing	Up to 800 du	50	20	10%	2.0 m each side	Parking is separate and recessed. See 3.3.6. Public transport is likely (see clause 3.3.1.4, 3.3.1.5)	Separate provision where local authority defined cycle route	2 x 4.2	Connector/collector (~ 8,000 vpd)		E13
	Shop and trade, work and learn	Side or rear service access	Suburban village, access to office and education, 1 - 20 lots	10	6	10%	Shared (in movement lane)	Recessed loading bays in accordance with 3.3.6	Shared (in movement lane)	3.5	Lane (~ 200 vpd)		E14
	Shop and trade, work and learn	Access to trade, office and education	Suburban village 1 - 200 lots	40	18	10%	3.0 m each side	Parking and loading bays both sides may be in the movement lane or recessed. See 3.3.6	Shared (in movement lane)	5.5 - 5.7	Local road (~ 2,000 vpd)		E15

Table 3.2 (continued)

Number of Categories



Other LINK CONTEXT Changes

- Connectivity is encouraged
(Cul-de-Sacs removed, and maximum walking distances to a Connector/Collector or Arterial road)
- Residential service lanes for 'side or rear access' included
- Wider accessway (footway) reserves.
5.5m previously 2.2m

Other LINK CONTEXT Changes

- No footpaths in Lanes (Shared vehicle/pedestrian areas)
- Wider footpaths in more busy road situations
- Narrow carriageways (movement lanes) are encouraged to achieve target operating speeds

Road width (m) comparison - example

	Movement lane (Carriageway)	Reserve	Classification
NZS 4404 2004	11.0	20	Residential, Local Road, 21 – 150 du
NZS 4404 2010	5.5 – 5.7	15	Suburban, Live & Play, Primary access to housing 1-100* du, Local road

This is a more extreme example.

* Refer Column 'Passing, Parking...Table 3.2

Narrower Movement Lanes (Carriageways)

Three widths are encouraged:

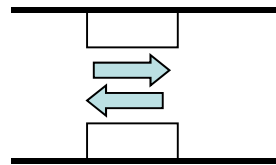
5.5m – 5.7m



7.2m – 7.5m



9.0m – 9.5m



Widening can be added. e.g. for Cycle lanes

Road width risks

Roadside parking capacity is less.
More off-street parking may be needed

Territorial Authorities need requirements to assure sufficient recessed parking

Swales are encouraged. This may require wider road reserve widths to properly accommodate these features

Refer sections: 3.3.6, Table 3.2,
3.3.1, 3.3.19.5, 4.3.7.6, 4.3.7.9

‘Design & Access Statement’ required at application stage) to assure:

- Road dimensions and layout
- Link and place functions
- Connectivity
- How target operating speeds achieved
- How LID/Stormwater needs achieved
- Affect on adjoining areas considered



NZS 4404:2010 - Land Development and Subdivision Infrastructure

