TRPT – Transportation **[000086]**

Rules

TRPT-R1	Vehicle access for all activities **[000086]** **{000073, 000036, 000051, 000063}**	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) All activities must comply with the following vehicle access standards: (i) The site has legal physical access to a formed road that is maintained by a road controlling authority; (ii) The site has a vehicle access that is constructed to comply with the relevant requirements of Table 1 – Separation distances, Figure 6 – Separation distances, Table 2 – Minimum sight distances and Figure 8 – Minimum sight distances, Tables 12 and 13 except: (1) Rule TRPT-R1(1)(a)(ii) does not apply where the separation distance requirements of Table 1 – Separation distances and Figure 6 – Separation distances cannot be achieved on a site's road frontage due to existing vehicle accesses on adjacent sites; (iii) No new vehicle access shall be created from Newell Road (south of Birchwood Lane); (iv) No access, access leg or right-of-way shall run parallel to any road within 30m of the road, except: (1) Rule TRPT-R1(1)(a)(iv) does not apply to farm races, or unsealed internal rural accesses in sites within the Rangitahi Peninsula Structure Plan Area and Opotoru Road; (v) On a site with legal access to two roads, the activity only	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Traffic generation by the activities to be served by the access; (b) Location, design, construction and materials of the vehicle access; (c) Safety for all users of the access and/or intersecting road including but not limited to vehicle occupants or riders and pedestrians; (d) Road network safety and efficiency; (e) Mitigation to address safety and/or efficiency, including access clearance requirements for firefighting purposes; (f) The foreseeable needs for access by emergency services and their vehicles; (g) The extent to which the safety and efficiency of rail and road operations will be adversely affected, including: (h) The outcome of any consultation with KiwiRail; NZTA; Waikato District Council, as the rail or road controlling authority; and (i) Any characteristics of the proposed use that will make compliance unnecessary; and (i) Management of effects on the values of the Identified Area.

	accesses the road with the lower classification in the road hierarchy in Table 4 – Functions of roads within the Road Hierarchy and Table 5 – Road Hierarchy list (where the roads have the same classification, access is only to the road with the lower average daily traffic movements) except in the KLZ – Kimihia Lakes zone where this rule does not apply; (vi) New vehicle accesses/entrances are not to be constructed to any site from the following roads: (1) Main Street, Huntly; (2) Jesmond Street, Ngaruawahia; (3) Bow Street, Raglan (James Street to Cliff Street); (4) George Street, Tuakau (Gibson Road to Liverpool Street); (5) Great South Road, Pokeno (Selby Street to Market Street); and (6) Main Street, Te Kauwhata (Saleyard Road to Baird Avenue); and (vii) No new vehicle access shall be created within 30 metres of a railway level crossing; (viii) All existing and new accesses and roads that cross an operational rail network via a level crossing must be maintained in accordance with the sight line triangles provided in Table 14 – Required restart sight distances for Figure 18; and (ix) New vehicle access shall not be located within an Identified Area, with the exception of a Significant Natural Area **[000086]** which is addressed in the ECO – Ecosystems and	

	indigenous biodiversity chapter. Advice note: Any new vehicle access (or additional land use utilising an existing vehicle entrance) on a highway will require the approval of the NZTA, as the road controlling authority, and on a limited access road will require the approval of the road controlling authority.	
TRPT-R2	On-site parking and loading **[000086] {000073, 000036, 000051, 000063}**	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) All activities must comply with the following on-site parking and loading standards: (i) The loading space requirements, manoeuvring and parking space dimensions in Table 6 – Required loading bays, and Table 9 – Car manoeuvring and parking space dimensions, noting: (1) When calculating the requirements for loading on the basis of the prescribed floor area, the area for parking, loading and manoeuvring shall be excluded; (2) If the calculation results in a fraction, then that figure shall be rounded to the nearest whole number; (3) 90 percentile car dimensions in Figure 9 – 90th Percentile car tracking curve minimum radius apply; (4) The requirements of Table 6 – Required loading bays do not apply to residential and rural activities; (5) Accessible parking spaces must comply with the New Zealand Building Code D1/AS1 New Zealand Standard for	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The area, type, location and marking of parking spaces; (b) The area, design, gradient, stormwater management, construction and materials of parking and loading spaces, (c) Accessibility of parking areas from on-site activities; (d) Safety for all users of the access and/or intersecting road including but not limited to vehicle occupants, vehicle riders and pedestrians; (e) Mitigation to address amenity and connectivity. (f) The foreseeable needs for access by emergency services and their vehicles; and (g) Management of effects on the values of the Identified Area.

	Design for Access and Mobility – Buildings and Associated Facilities (NZS: 4121-2001) and Table 7 – Accessible parking spaces; and (ii) On-site bicycle space requirements in Table 8 – Required bicycle spaces, except: (1) The requirements of Table 8 – Required bicycle spaces do not apply to residential and rural activities; (iii) Where parking is provided any on-site car parking spaces for non-residential activities within the GRZ – General residential zone and MRZ – Medium density residential zone must be set back at least 3m from the road boundary of the site and screened by planting or fencing from being viewed from the road; (iv) On-site car parking spaces (where provided) and loading bays comply with the requirements of Table 9 – Car manoeuvring and parking space dimensions and Figure 9 – 90th Percentile car tracking curve minimum radius and be located on the same site as the activity; (v) On-site car parking spaces and loading bays are to be sealed if five or more parking spaces are provided; (vi) On-site car parking spaces and loading bays are to be permanently marked if five or more parking spaces are provided; (vii) On-site car parking spaces and loading bays are not to be located on any shared access or residential living court; (viii) Vehicles occupying any on-site car parking or loading	

	spaces must have ready access to the road (or relevant access or right of way) at all times, without needing to move any other vehicle occupying other on-site car parking or loading spaces; (ix) Loading bays are not required on sites with sole frontages to the following: (1) Main Street, Huntly; (2) Jesmond Street, Ngaruawahia; (3) Bow Street, Raglan (James Street to Cliff Street); (4) George Street, Tuakau (Gibson Road to Liverpool Street); (5) Great South Road, Pokeno (Selby Street to Market Street); or (6) Main Street, Te Kauwhata (Saleyard Road to Baird Avenue); and (x) New on-site parking and loading bays shall not be located within an Identified Area, with the exception of a Significant Natural Area **[000086]** which is addressed in the ECO – Ecosystems and indigenous biodiversity chapter.	
TRPT-R3	On-site manoeuvring and queuing **[000086]** **{000073, 000036, 000051, 000063}**	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) All activities must comply with the following on-site manoeuvring and queuing standards: (i) On-site manoeuvring space shall be provided to ensure that no vehicle is required to reverse onto from or to a road except; (1) Rule TRPT-R3(1)(a)(i) does not apply to Local Roads within the GRZ – General residential zone,	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Location, area, design, construction and materials of the manoeuvring and queuing space; (b) Type and frequency of use; (c) The design of features intended to ensure safety for all users of the access site, and/or intersecting road including but not limited to vehicle occupants, vehicle riders and pedestrians;

	MRZ – Medium density residential zone, LLRZ – Large lot residential zone and SETZ – Settlement zone with a posted speed limit of less than 60 km/h; (ii) A 90th percentile car, as defined in Figure 9 – 90th Percentile car tracking curve minimum radius, can enter and exit all parking spaces without making more than one reverse movement, excluding spaces required for a dwelling; (iii) On-site manoeuvring space for any heavy vehicle shall comply with the tracking curve (relevant for the type of activities to be carried out on the site and the largest combination standard configuration heavy vehicle permitted on the road(s) to which the site has frontage trucks to be used) (iv) On-site manoeuvring space shall be formed; (v) On-site queuing space shall be provided in accordance with Table 10 – Queuing space for vehicles entering and exiting any on-site car parking, loading or manoeuvring space, where: (1) Length is measured from the road boundary where vehicles first enter the site; and (2) On-site queuing above must not encroach into the required on-site manoeuvring area; (vi) On-site manoeuvring and queuing spaces are not required on sites with vehicle accesses/entrances to the following: (1) Main Street, Huntly; (2) Jesmond Street, Ngaruawahia;	(d) Road network safety and efficiency; and (e) Management of effects on the values of the Identified Area.

	(3) Bow Street, Raglan (James Street to Cliff Street); (4) George Street, Tuakau (Gibson Road to Liverpool Street); (5) Great South Road, Pokeno (Selby Street to Market Street); (6) Main Street, Te Kauwhata (Saleyard Road to Baird Avenue); and (vii) New on-site manoeuvring shall not be located within an Identified Area, with the exception of a Significant Natural Area **[000086]** which is addressed in the ECO – Ecosystems and indigenous biodiversity chapter.	
TRPT-R4	Traffic generation **[000086, 000087]**	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) Where any site gains access from an arterial or regional arterial (including state highway) road, there is a maximum of 50 Equivalent Car Movements (ECM) per day. Note: ECM – 1 car movement is equivalent to 1 car movement / 1 truck movement is equivalent to 3 car movements / 1 truck and trailer movement is equivalent to 5 car movements. Any other site must comply with the following traffic generation conditions standards: (i) Within the GRZ – General residential zone, MRZ – Medium density residential zone, or RLZ – Rural lifestyle zone there is a maximum of 100 vehicle movements per site per day, and no more than 15% of these vehicle movements are heavy vehicle movements; or	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The trip characteristics of associated with the proposed activity; (b) The design of features intended to ensure safety for all users of the access site, and/or intersecting road including but not limited to vehicle occupants, vehicle riders and pedestrians; (c) Land transport network safety and efficiency, particularly at peak traffic times (of both the activity and road network); and (d) Mitigation to address adverse effects, such as: (i) Travel planning; (ii) Providing alternatives to private vehicle trips; including accessibility to public transport; (iii) Staging development; and (iv) Contributing to improvements to the road network.

	(ii) Within the RPZ – Rangitahi Peninsula zone there is a maximum of 200 vehicle movements per site per day, and no more than 5% of these vehicle movements are heavy vehicle movements; or (iii) Within the BTZ – Business Tamahere zone, COMZ – Commercial zone, TCZ – Town centre zone or LCZ – Local centre zone there is a maximum of 300 vehicle movements per site per day, and no more than 15% of these vehicle movements are heavy vehicle movements; or (iv) Within the GRUZ – General rural zone: (1) There is maximum 200 vehicle movements per site per day and no more than 15% of these vehicle movements are heavy vehicle movements; (2) For activities directly associated with horticulture harvesting, a maximum of 300 vehicle movements per site per day for up to a month, once in a 12-month period and no more than 33% of these vehicle movements are heavy vehicle movements; or (3) Within the Agricultural Research Centres identified on the planning maps as a specific controls there is maximum 3000 vehicle movements per site per day; or (v) Within the GIZ – General industrial zone and HIZ – Heavy industrial zone (excluding the Huntly Power Station and Huntly Quarry site): (1) Maximum 250 vehicle movements per site per day and no more than	

	15% of these vehicle movements are heavy vehicle movements; or (vi) From the Huntly Power Station site as shown as the HIZ – Heavy industrial zone on the planning maps: (1) All vehicle movements generated from all activities on the site combined (including those movements which were lawfully established prior to 5 December 2012), there is a maximum 750 vehicle movements per site per day; and (2) Maximum 300 of these vehicle movements are heavy vehicle movements; or (vii) From the Huntly Quarry site: (1) All vehicle movements generated from all activities on the site combined (excluding those movements which were lawfully established prior to 5 December 2012), there is maximum 350 vehicle movements per site per day; and (2) No more than 150 of these vehicle movements are heavy vehicle movements, increasing to 200 once the Huntly Bypass section of the Waikato Expressway is open for public use. Or (viii) Within PREC27 and PREC28 of the TKAZ – Te Kowhai airpark zone there is a maximum 250 vehicle movements per site per day and no more than 15% of these vehicle movements are heavy vehicle movements; or (ix) Within PREC29 and PREC30 of the TKAZ – Te Kowhai airpark zone there is a maximum of 30 vehicle	

	movements per site per day and no more than 4 of these vehicle movements are heavy vehicle movements except: (x) Movement restrictions do not apply if the activity is an event or promotion (including temporary events) in PREC29 or a community facility in PREC29; or (xi) From the Horotiu Industrial Park does not exceed 15.4 trips/ha gross land area/peak hour; (xii) Within the KLZ – Kimihia Lakes zone there is a maximum of 850 vehicle movements per hour and no more than 15% of these vehicle movements are heavy vehicle movements Advice Note: Where the likely vehicle movement rates or the actual generation rates of the actual activity are unknown, Table 11 – Vehicle movement rates provides indicative traffic generation rates for various activities.	
TRPT-R5	Operation, maintenance and minor upgrading of existing public roads, State Highways and associated road network activities **[000086]**	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) Operation, maintenance and minor upgrading of existing public roads, State Highways, rail corridors and associated rail network and road network activities must comply with the following standards: (i) The works occur within the road reserve or railway corridor; (ii) Works within the road or railway corridor must be for the purpose of: (1) Maintaining or improving effectiveness or efficiency consistent with the function of the existing	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Adverse effects on amenity values, including construction effects such as vibration and noise; (b) Adverse operational effects, particularly on residential or other sensitive land uses, including effects of vibration, noise, glare and vehicle emissions; (c) Severance and changes to drainage patterns; (d) The benefits provided by the activity, including safety and efficiency of the road network;

	public road or railway corridor; or (2) Maintaining or improving safety for road users or adjacent properties; and (iii) Lighting shall be designed and located to comply with the Australia New Zealand Roading Lighting Standard 1158, (series) – Lighting for Roads and Public Spaces: 2005; and (iv) Any earthworks must comply with Rule AINF-R8.	(e) Management of sediment and dust, including the staging of works; (f) The volume, extent and depth of the earthworks activities; and (g) The location of the earthworks activities, taking into account any effects on the values, qualities and characteristics of the site.
TRPT-R6	New public roads, including where the road has been identified on the planning maps as an indicative road, and associated road network activities **[000086]**	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) New public roads, including where the road has been identified on the planning maps as an indicative road, and associated road network activities must comply with the following standards: (i) The public road is located within road or unformed road as shown on the planning maps; (ii) The public road is not located within an Identified Area; (iii) The design requirements of Tables 12 or 13 based on their function within the Road Hierarchy as set out in Table 4 – Functions of roads within the Road Hierarchy, except: (1) Any National routes or Regional arterial roads shall be subject to Rule TRPT-R6(2); (2) The specified minimum Road/right of way reserve widths in Tables 12 or 13 do not include any additional width required for a turning head; (3) Any private access, right of way or access allotment over 70m in	**(2) Activity status: RDIS** **Where:** (a) New public roads, including where the road has been identified on the planning maps as an indicative road, and associated road network activities that (i) Are not located within an Identified Area; and (ii) Do not comply with one or more of the standards of Rule TRPT-R6(1) **Council's discretion is restricted to the following matters:** (b) Adverse effects on amenity values, including construction effects such as vibration and noise; (c) Adverse operational effects, particularly on residential or other sensitive land uses, including effects of vibration, noise, glare and vehicle emissions; (d) Severance and changes to drainage patterns; (e) The benefits provided by the activity, including safety and efficiency of the road network; (f) Management of sediment and dust, including the staging of works;

	length must be constructed to be in accordance with the highest dimensions required for an access allotment in Tables 12 or 13; and (4) The requirements of Tables 12 or 13 shall not apply to taxiways within the TKAZ – Te Kowhai airpark zone; (iv) Within road or unformed road located within the Tamahere RLZ – Rural lifestyle zone, all roads must: (v) Comply with the minimum widths specified in Figure 12; and (vi) Have swale drains on both sides of the carriageway capable of collecting all road runoff and overland flow towards the road or right of way from a 20% Annual Exceedance Probability event; and (vii) In areas of poorly-drained soils, either the stormwater is to be directed to areas with higher infiltration, or infiltration systems are to be constructed. (viii) Within road or unformed road located within the RPZ – Rangitahi peninsula zone, the relevant access and road requirements of the Rangitahi Structure Plan take priority over the standards in Table 12 or 13 in the event of any conflict; (ix) The road connection between Wayside Road and Travers Road comprising the extension of Bragato Way, Te Kauwhata: (x) All roads and vehicle accesses shall be constructed in accordance with Table 12 and Figures 14, 15 and 16; and	(g) The volume, extent and depth of the earthworks activities; and (h) The location of the earthworks activities, taking into account any effects on the values, qualities and characteristics of the site **(3) Activity status: DIS** **Where:** (a) New public roads, including where the road has been identified on the planning maps as an Indicative road, and associated road network activities that are located within an Identified Area

	(xi) Stormwater collection must be through grassed swales prior to reaching reticulated systems; and (xii) Any earthworks must comply with Rule AINF-R8. Advice note: Where the standards of Table 12 or 13 do not specify a specific dimension and instead state this aspect is subject to a specific design; this aspect of the road is considered to be exempt when determining a permitted activity under Rule TRPT-R6(1). The design of that specific aspect of the road is therefore subject to a separate certification process by the relevant road controlling authority.	
TRPT-R7	Access and new roads in the TKAZ – Te Kowhai airpark zone **[000086]**	
TKAZ – Te Kowhai airpark zone	**(1) Activity status: PER** **Activity-specific standards:** (a) Airpark roads which are to be vested in Council must comply with the following conditions standards: (i) The design requirements of Table 12 or 13, based on their function within the Road Hierarchy as set out in Table 4 – Functions of roads within the Road Hierarchy, except: (1) The requirements of Table 12 or 13 shall not apply to taxiways within Te Kowhai airpark. (ii) Road alignment and the taxiway network within the TKAZ – Te Kowhai airpark zone shall be in general accordance with APP10 – Te Kowhai Aerodrome. (iii) The western boundary of the TKAZ – Te Kowhai airpark zone shall provide for future connectivity options (vehicular and / or pedestrian) in general accordance with the location	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) The extent to which the Te Kowhai airpark zone Framework Plan is not complied with; (b) The extent to which connectivity can safely and practically be achieved between Te Kowhai aerodrome and Te Kowhai village; (c) Adverse effects on amenity values, including construction effects such as vibration and noise; (d) Adverse operational effects, particularly on residential or other sensitive land uses, including effects of vibration, noise, glare and vehicle emissions; (e) Severance and changes to drainage patterns; (f) The benefits provided by the activity, including safety and efficiency of the road network; (g) Management of sediment and dust, including the staging of works;

	identified in APP10 – Te Kowhai Aerodrome. (iv) Any earthworks must comply with Rule AINF-R8.	(h) The volume, extent and depth of the earthworks activities; (i) The location of the earthworks activities, taking into account any effects on the values, qualities and characteristics of the site or area; and (j) adverse effects on the safety and efficiency of the land transport network.
TRPT-R8	Off-road pedestrian walkways and cycleways, being sections of the public walkway and cycleway network that are not located within the road network **[000086]**	
All zones	**(1) Activity status: PER** **Activity-specific standards:** (a) Off-road pedestrian walkways and/or cycleways, that comply with all of the following standards: (i) Have a minimum 2.0m width or 2.5m where alongside an arterial road or forming a shared path; (ii) Are formed; (iii) Any earthworks must comply with Rule AINF-R8; and (iv) Are not located within an Identified Area.	**(2) Activity status where compliance not achieved: RDIS** **Council's discretion is restricted to the following matters:** (a) Design, construction and materials; (b) Safety for cyclists and pedestrians; (c) Connectivity with other off-road pedestrian and cycle facilities and the road network; and (d) Visual and amenity effects; and (e) The location of the earthworks activities, taking into account any effects on the values, qualities and characteristics of the site or area
TRPT-R9	Stock underpasses located within: (a) Road and unformed road; (b) GRUZ – General rural zone **[000086]**	
GRUZ – General rural zone, road and unformed road	**(1) Activity status: PER** **Activity-specific standards:** (a) Stock underpasses in the GRUZ – General rural zone located in the road and unformed road that comply with all of the following standards: (i) Any earthworks must comply with Rule AINF-R8; and (ii) Are not located within an Identified Area.	**(2) Activity status: DIS** **Where:** (a) Stock underpasses not provided for under Rule TRPT-R9(1)
TRPT-R10	Esplanade reserves and strips where a road is stopped **[000086]**	
All zones	**(1) Activity status: PER** **Activity-specific standards:**	**(2) Activity status where compliance not achieved: DIS**

	(a) Where land comprising a stopped road or any part of a stopped road adjoins: (i) The mark of mean high water springs of the sea; or (ii) The bank of any river with an average width of 3m or more; or (iii) The margin of any lake with an area of 8 hectares or more Section 345(3) of the Local Government Act 1974 and section 118 of the Public Works Act 1981 will apply only where the land comprising the stopped road or part of the stopped road is identified: (iv) In APP7 – Esplanade priority areas; or (v) On the planning maps as requiring an esplanade reserve, esplanade strip or access strip to be set aside.	
TRPT-R11	Buildings and structures within a road/rail level crossing sight triangle **[000086]**	
All zones	**(1) Activity status: RDIS** **Activity-specific standards:** Nil. **Council's discretion is restricted to the following matters:** (a) The extent to which the safety and efficiency of rail and road operations will be adversely affected; (b) The outcome of any consultation with KiwiRail; and (c) Any characteristics of the proposed use that will make compliance unnecessary.	**(2) Activity status where compliance not achieved: n/a**

Table 1 – Separation distances

<table>
<tr><th colspan="10">Separation distance of an access onto a road from an intersection or between accesses</th></tr>
<tr><th rowspan="2">Posted speed</th><th rowspan="2">Design speed</th><th colspan="8">Distance (m)</th></tr>
<tr><td></td><td></td><td colspan="2">P</td><td colspan="2">K</td><td colspan="2">M</td><td colspan="2">N</td></tr>
<tr><td></td><td></td><td>National Regional Arterial and Arterial</td><td>Collector Road and Local Road</td><td>National Regional Arterial and Arterial</td><td>Collector Road and Local Road</td><td>National Regional Arterial and Arterial</td><td>Collector Road and Local Road</td><td>National Regional Arterial and Arterial</td><td>Collector Road and Local Road</td></tr>
<tr><td>100 km/h</td><td>110 km/h</td><td>800</td><td>500</td><td>500</td><td>100</td><td colspan="2" rowspan="2">60</td><td>200</td><td>100</td></tr>
<tr><td>80 km/h</td><td>100 km/h</td><td>550</td><td>305</td><td>305</td><td>80</td><td>100</td><td>80</td></tr>
<tr><td>70 km/h</td><td>80 km/h</td><td>220</td><td>200</td><td>220</td><td rowspan="3">30</td><td colspan="2">45</td><td>40</td><td>30</td></tr>
<tr><td>60 km/h</td><td>70 km/h</td><td></td><td></td><td></td><td colspan="2">20</td><td colspan="2">20</td></tr>
<tr><td>50 km/h or less</td><td>60 km/h</td><td></td><td></td><td></td><td colspan="2">20</td><td colspan="2">15</td></tr>
</table>

Advice note: The references P, K, M and N are illustrated in Figure 6 – Separation distances

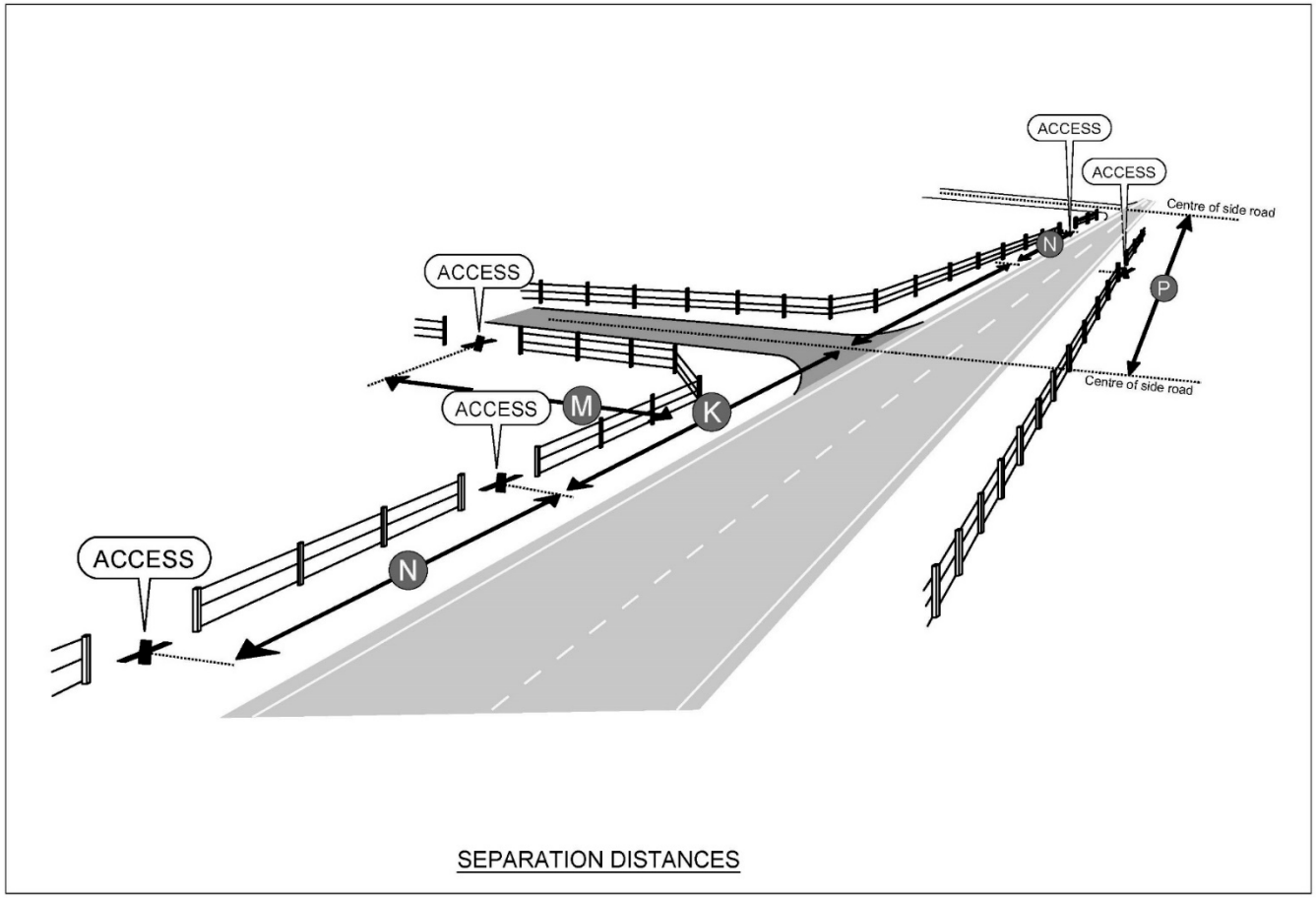


Figure 6 – Separation distances

Table 2 – Minimum sight distances

Design speed (km/h)	From a vehicle entrance generating up to and including 40 vehicle movements per day	From a vehicle entrance generating more than 40 vehicle movements per day	
		Rural areas	Urban areas
40	65m	75m	65m
50	90m	100m	90m
60	115m	125m	115m
70	140m	150m	140m
80	180m	180m	170m
90	215m	215m	-
100	250m	250m	-
110	290m	290m	-

Advice notes:

(1) Sight distances are measured as illustrated in Figure 8 – Minimum sight distances

(2) Urban areas being those with a posted speed limit of 70 km/h or below.

Table 3 – Road centreline radius

Road centreline Radius	Approx. design speed
0 – 45m	50 km/h
45 – 60m	60 km/h
60 – 80m	65 km/h
80 – 100m	70 km/h
100 – 120m	75 km/h
120 – 150m	80 km/h

150 – 200m	85 km/h
200 – 300m	95 km/h
300 – 400m	100 km/h
>400m	110km/h

Advice note: curve radius can be determined using the following formula in Figure 7 – Curve radius formula.

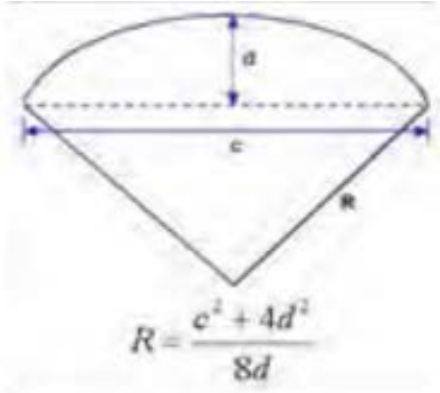


Figure 7 – Curve radius formula

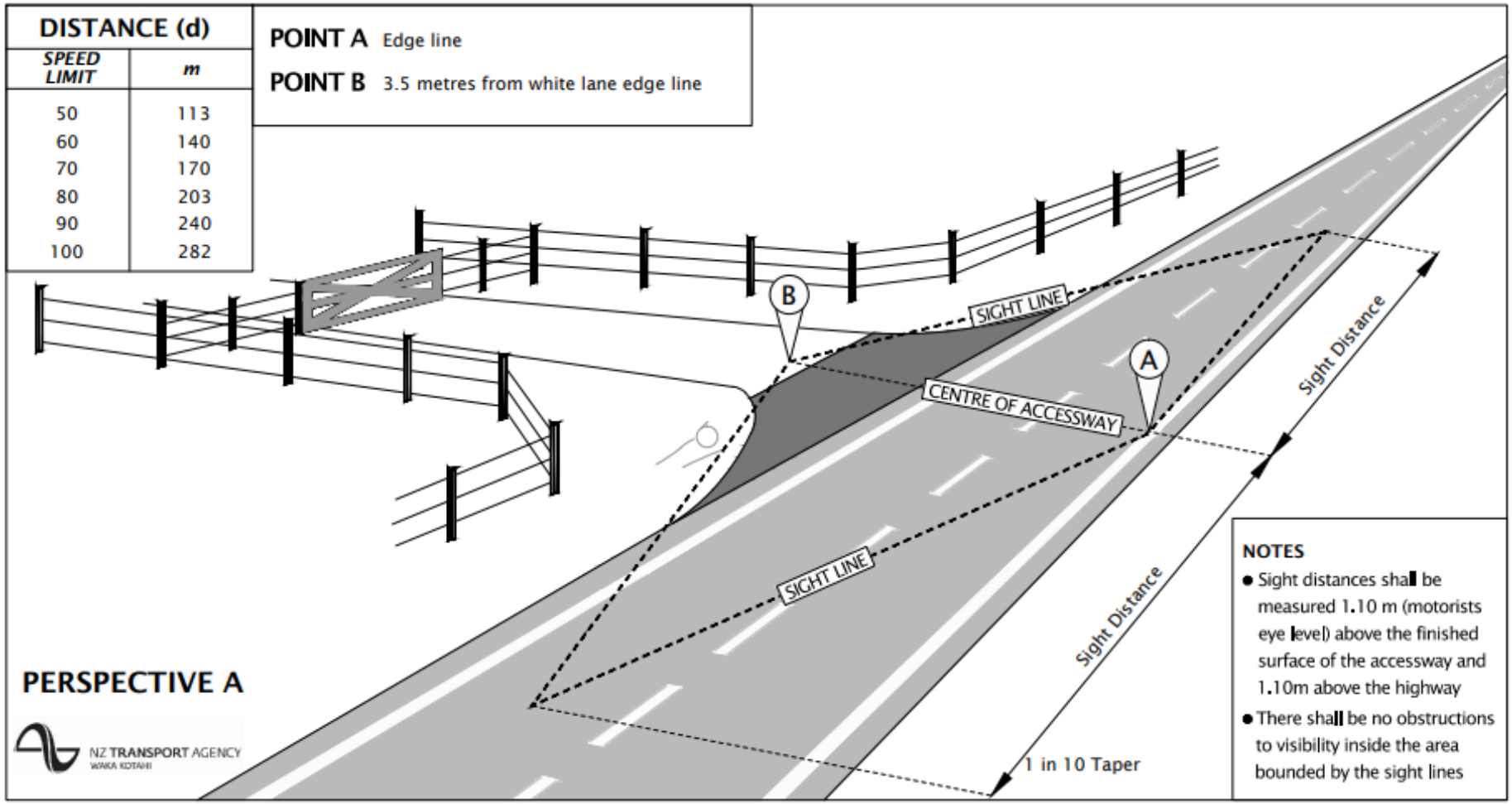


Figure 8 – Minimum sight distances

Table 4 – Functions of roads within the Road Hierarchy

Category	Function
National routes	Motorways, expressways and state highways that: • form a strategic network of national importance • provide for the collection and distribution of goods significant to the national economy • the through traffic function predominates.
Regional arterial roads: • state highways not included in National Routes category • roads giving access to important tourist areas or centres of large populations • roads linking different transport modes • roads providing significant intra-urban links.	State highways and roads that: • form a strategic network of regional importance • provide for the collection and distribution of goods significant to the regional economy • rural roads that typically provide for more than 6,000 vehicle movements per day (vmpd) • include rest areas • the through-traffic function predominates.
Arterial roads: • links between residential, commercial, industrial or recreational land use activities • provide alternative links between centres of population or are significant for the movement of goods or produce within the district.	Roads that: • form a strategic network of district importance • provide for the collection and distribution of goods significant to the district's economy • rural roads that typically provide for less than 6,000 vehicle movements per day (vmpd) • the through traffic function needs to be balanced against the property access function.
Collector roads: • provide links between local roads and arterials.	Roads that: • provide locally-preferred routes between or within areas of population or activities • provide alternative routes to arterials • are sealed and are of road geometry aligned with operational safety standards required for the traffic volumes on each section

	the through traffic function needs to be balanced against the property access function.
Local roads	Roads whose primary function is property access.
Cul-de-sacs and no-exit roads	Roads that do not provide a vehicular thoroughfare between roads, and whose primary function is property access.

Advice note: Corridor widths, road standards and the location of structures and services will vary for each road category, in accordance with Tables 12 and 13.

Table 5 – Road Hierarchy list

National Routes		
Road Name	*Start*	*Finish*
State Highway 1	North district boundary	Hamilton City boundary
State Highway 1	Hamilton City boundary	South district boundary
State Highway 2	State Highway 1	East district boundary
State Highway 26	Hamilton City boundary	East district boundary

Regional Arterial		
Road Name	*Start*	*Finish*
State Highway 1B (Gordonton Road)	State Highway 1	Taylor Road
State Highway 1B (Taylor Road)	Gordonton Road	Puketaha Road
State Highway 1B (Puketaha Road)	Taylor Road	Telephone Road
State Highway 1B (Telephone Rd)	Puketaha Road	Holland Road
State Highway 1B (Marshmeadow Road)	Holland Road	State Highway 26
State Highway 1B (Hoeka Road)	State Highway 26	Tauwhare Road

Regional Arterial		
Road Name	*Start*	*Finish*
State Highway 1B (Marychurch Road)	Tauwhare Road	Southeast district boundary
Gordonton Road	Taylor Road	Hamilton City boundary
State Highway 23	Hamilton City boundary	Manukau Road, Raglan
State Highway 21 (Airport Road)	Tamahere interchange	West district boundary
State Highway 39 (Koura Drive)	State Highway 1	State Highway 39 (Limmer Road)
State Highway 39 (Te Kowhai Road)	State Highway 39 (Koura Drive)	State Highway 39 (Limmer Road)
State Highway 39 (Limmer Road)	State Highway 39 (Limmer Road)	State Highway 39 (Horotiu Road)
State Highway 39 (Horotiu Road)	State Highway 39 (Limmer Road)	State Highway 39 (Whatawhata Road)
State Highway 39 (Kakaramea Road)	State Highway 23	South district boundary
Great South Road	Gordonton Road	State Highway 1 (Waikato Expressway)

Arterial		
Road Name	*Start*	*Finish*
Buckland Road	Tuakau Road	George Street
George Street (Tuakau)	Buckland Road	Whangarata Road
Glen Murray Road	Te Ohaki Road	Marshall Road
Gordonton Road	Borman Road/Hamilton City boundary	State Highway 1B/Taylor Road
Great South Road	Gordonton Road	State Highway 1 (Waikato Expressway)

Arterial		
Road Name	*Start*	*Finish*
Hetherington Road	Te Ohaki Road	State Highway 22
Holland Road	Ruakura Road	Waverley Road
Horotiu Bridge Road	River Road	Great South Road
Horotiu Road	Ngaruawahia Road	State Highway 39
Ngaruawahia Road	Havelock Road	Horotiu Road
Okaeria Road	Cozen Road	State Highway 2
Piako Road	State Highway 1B	Valintine Road
Puketaha Road	Gordonton Road	Piako Road
River Road (Ngaruawahia)	Kay Road	Great South Road
River Road (Tuakau)	Whangarata Road	Tuakau Bridge
Ruakura Road	State Highway 26	District boundary
Tahuna Road	Ohinewai South Road	District boundary
Tauwhare Road	State Highway 21	State Highway 26
Te Kauwhata Road	State Highway 1	Mahi Road
Victoria Road	Tauwhare Road	Bellevue Road
Waerenga Road	Wira Street	Cozen Road
Waverley Road	Holland Road	Piako Road
Whatawhata Avenue	Ellery Street	Havelock Road
Whitikahu Road	State Highway 1B	Orini Road

Collector		
Road Name	*Start*	*Finish*
Aka Aka Road	Waiuku Road	Otaua Road
Bankier Road	Horsham Downs Road	State Highway 1B/Gordonton Road
Dean Road	Great South Road	State Highway 1
George Street (Tuakau)	Dominion Road	Buckland Road
Great South Road (Huntly)	State Highway 1	Rayner Road
Great South Road (Pokeno)	State Highway 1	State Highway 1
Hakanoa Street	Onslow Street	Fletcher Street
Harris Street	Rotowaro Road	Te Ohaki Road
Harrisville Road	Mill Road	Dominion Road
State Highway 22	Tuakau Bridge	Hetherington Road
Horace Russell Road	Riverbank Road	State Highway 1
Kaiaua Road	Mangatangi Road	District boundary
Lake Road	River Road	State Highway 1B
Lyons Road	Mangatawhiri Road	Paparimu Road
Mangatangi Road	Mangatawhiri Road	Kaiaua Road
Mangatawhiri Road	State Highway 2	Mangatangi Road
Matangi Road	District boundary	Tauwhare Road
Mercer Ferry Road	Riverbank Road	Murray Road
Mile Bush Road	State Highway 22	Murray Road
Newell Road	State Highway 1	Devine Road
Onewhero-Tuakau Bridge Road	State Highway 22	Speed restriction
Onslow Street	Cul-de-sac west end	William Street

Collector		
Road Name	*Start*	*Finish*
Otaua Road	Aka Aka Road	Waiuku-Otaua Road
Paparimu Road	Lyons Road	District boundary
Platt Road	State Highway 26	Tauwhare Road
Pokeno Road	Great South Road	Ridge Road
Rawiri Road	Mangatangi Road	State Highway 2
Rayner Road	Main Street	William Street
Rotowaro Road	Harris Street	Waingaro Road
State Highway 22	Tuakau Bridge	Hetherington Road
Tainui Bridge Road	State Highway 1	Harris Street
Te Mata Road	State Highway 23	Ruapuke Road
Te Pahu Road	State Highway 23	District boundary
Tuakau Bridge-Port Waikato Road	State Highway 22	Maunsell Road
Waingaro Road	Great South Road	Ohautira Road
Wainui Road	Bow Street	Whaanga Road
Wainui Road/Bankart Street	Wainui Road (north)	Wainui Road (north)
Waiuku-Otaua Road	Otaua Road	Misa Road
Wallis Street	Bow Street	End of kerb and channel
Whangarata Road	River Road	Ridge Road
William Street	Rayner Road	Onslow Street

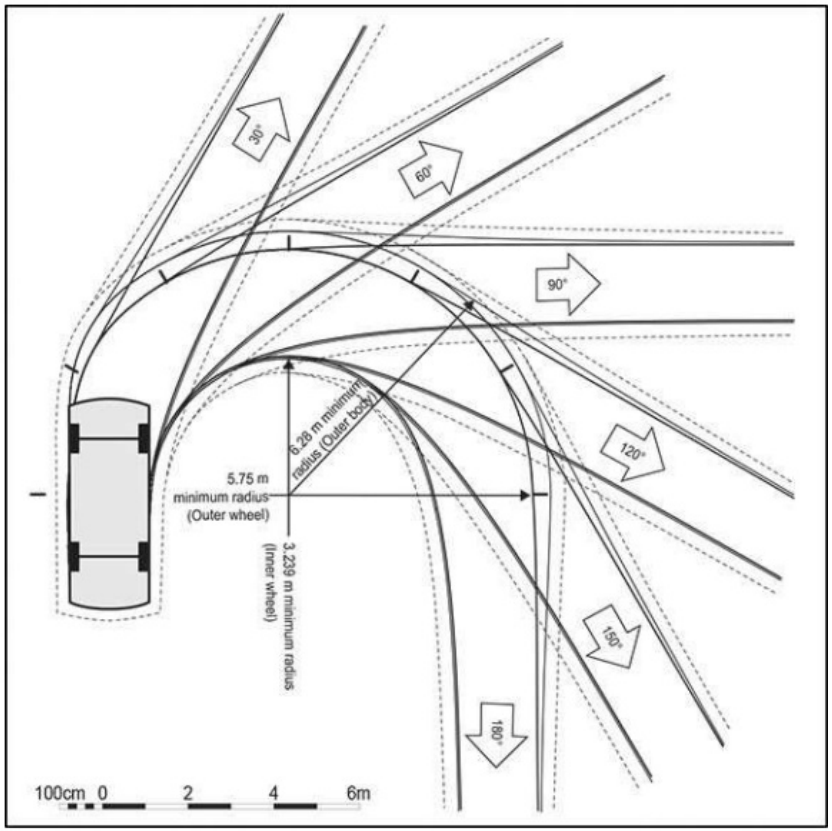
Table 6 – Required loading bays

Activity	Minimum Required Loading Bays
Bulk retail and car yards	1 heavy goods vehicle
Early childhood education and day care facility	Nil
Clubrooms at sports facilities	1 heavy goods vehicle
Community facilities, conference facilities and place of assembly	1 heavy goods vehicle
Marae complex	1 heavy goods vehicle
Papakaainga building	Nil
Dairies, takeaway food, bottle stores	1 heavy goods vehicle, except that in the RPZ – Rangitahi Peninsula zone 1 heavy goods vehicle per 1000m² of GFA of Rangitahi commercial activity is required
Minor residential unit	Nil
Residential unit	Nil
Retirement village	Nil
Te Kauwhata Lakeside Retirement Village Retirement villages located within the Lakeside Te Kauwhata Precinct	Nil
Multi-unit development	Nil
Boarding houses / boarding establishments	Nil
Emergency service facilities	Nil
Garden centres	1 heavy goods vehicle
Health facility, veterinary and personal services	Nil
Home businesses	Nil
Hospitality services (e.g. cafés, taverns)	1 heavy goods vehicle, except that in the RPZ – Rangitahi Peninsula zone 1 heavy goods vehicle per 1000m² GFA of Rangitahi commercial activity is required.
Housing for the elderly/ residential care	Nil

Activity	**Minimum Required Loading Bays**
Indoor sports facilities	Nil
Industrial activity	1 heavy goods vehicle
Infrastructure sites and activities	Nil
Office	Nil
Outdoor sports field	Nil
Hospital or care facilities associated with retirement village	1 heavy goods vehicle
Retail activity	Nil
School	1 bus space per 200 students where school bus services are provided
Service stations	Nil
Supermarket activity	Under 2500m² GFA – 1 heavy goods vehicle Over 2500m² GFA – 2 heavy goods vehicles
Tertiary education facilities	1 heavy goods vehicle
Visitor accommodation	1 heavy goods vehicle

B85 Vehicle (Realistic min radius) (2004)

Overall length	4.910m
Overall width	1.870m
Overall body height	1.421m
Min body ground clearance	0.159m
Track width	1.770m
Lock to lock time	4.00sec
Curb to curb turning radius	5.750m



Note 1

The dotted line about the vehicle depicts a 300mm clearance about the vehicle.

Figure 9 – 90th Percentile car tracking curve minimum radius

Table 7 – Accessible parking spaces

Parking spaces are to be provided for people with disabilities and accessible routes from the parking spaces to the associated activity or road as required by the New Zealand Building Code D1/AS1. The dimensions and accessible route requirements are detailed in the New Zealand Building Code D1/AS1 New Zealand Standard for Design for Access and Mobility – Buildings and Associated Facilities (NZS: 4121- 2001).

Table 8 – Required bicycle spaces

Activity	**Required number of bicycle spaces**
Bulk retail and car yards	GFA less than or equal to 1,500 m^2 = No bicycle space required; For GFA greater than 1,500 m^2 = 1 bicycle space for every 1,500m^2 GFA or part thereof
Early Childhood Education and day care facility	Less than or equal to 4 classroom equivalents = No bicycle space required; Greater than 4 classroom equivalents = 1 bicycle space for every 4 classroom equivalents or part thereof
Clubrooms and sports facilities	GFA less than or equal to 3,500 m^2 = No bicycle space required; For GFA greater than 3,500 m^2 = 1 bicycle space for every 3,500 m^2 GFA or part thereof
Community facilities, conference facilities and place of assembly	GFA less than or equal to 1,500 m^2 = No bicycle space required; For GFA greater than 1,500 m^2 = 1 bicycle space for every 1,500m^2 GFA or part thereof
Marae complex	GFA less than or equal to 1,500 m^2 = No bicycle space required; For GFA greater than 1,500 m^2 = 1 bicycle space for every 1,500m^2 GFA or part thereof
Papakaainga building	GFA less than or equal to 3,000 m^2 = No bicycle space required; For GFA greater than 3,000 m^2 = 1 bicycle space for every 3,000 m^2 GFA or part thereof
Dairies, takeaway food, bottle stores	GFA less than or equal to 3,000 m^2 = No bicycle space required; For GFA greater than 3,000 m^2 = 1 bicycle space for every 3,000 m^2 GFA or part thereof

Activity	**Required number of bicycle spaces**
	Except that in the RPZ – Rangitahi Peninsula zone the following applies: GFA less than or equal to 5,000 m^2 = No bicycle space required; For GFA greater than 5,000 m^2 = 1 bicycle space for every 5,000 m^2 GFA or part thereof
Minor residential unit	Less than or equal to 10 minor residential units = No bicycle space required; For greater than 10 minor residential units = 1 bicycle space for every 10 minor residential units or part thereof
Residential unit	Less than or equal to 10 residential units = No bicycle space required; For greater than 10 residential units = 1 bicycle space for every 10 residential units or part thereof
Retirement village	Less than or equal to 10 residential units = No bicycle space required; For greater than 10 residential units = 1 bicycle space for every 10 residential units or part thereof
Multi-unit development	Less than or equal to 10 residential units = No bicycle space required; For greater than 10 residential units = 1 bicycle space for every 10 residential units or part thereof
Boarding houses / boarding establishments	Less than or equal to 30 units = No bicycle space required; For greater than 30 units = 1 bicycle space for every 30 units or part thereof
Emergency service facilities	Less than or equal to 10 on-duty staff = No bicycle space required; For greater than 10 on-duty staff = 1 bicycle space for every 10 on-duty staff or part thereof
Garden centres	GFA less than or equal to 1,000 m^2 = No bicycle space required; For GFA greater than 1,000 m^2 = 1 bicycle space for every 1,000m^2 GFA or part thereof
Health facility, veterinary and personal services	Less than or equal to 4 on-duty staff = No bicycle space required; For greater than 4 on-duty staff = 1 bicycle space for every 4 on-duty staff or part thereof
Home occupations	In addition to residential requirements: Less than or equal to 10 employees = No bicycle space required; For greater than 10 employees = 1 bicycle space for every 10 employees or part thereof

Activity	**Required number of bicycle spaces**
Hospitality services (e.g. cafés, taverns)	Net public floor area less than or equal to 100 m^2 = No bicycle space required; Net public floor area greater than 100 m^2 = 1 bicycle space for every 100m^2 net public floor area or part thereof Except that in the RPZ – Rangitahi Peninsula zone the following applies: Net public floor area less than or equal to 150 m^2 = No bicycle space required; Net public floor area greater than 150 m^2 = 1 bicycle space for every 150m^2 net public floor area or part thereof
Housing for the elderly / residential care	Less than or equal to 40 occupants = No bicycle space required; For greater than 40 occupants = 1 bicycle space for every 40 occupants or part thereof
Indoor sports facilities	Less than or equal to 40 persons provided for in the design = No bicycle space required; For greater than 40 persons provided for in the design = 1 bicycle space for every 40 persons provided for in the design or part thereof
Industrial activity	GFA less than or equal to 1,000 m^2 = No bicycle space required; For GFA greater than 1,000 m^2 = 1 bicycle space for every 1,000m^2 GFA or part thereof
Infrastructure sites and activities	Less than or equal to 10 on-duty staff = No bicycle space required; For greater than 10 on-duty staff = 1 bicycle space for every 10 on-duty staff or part thereof
Office	GFA less than or equal to 350 m^2 = No bicycle space required; For GFA greater than 350 m^2 = 1 bicycle space for every 350m^2 GFA or part thereof
Outdoor sports field	Less than or equal to 6,600 m^2 of sports field = No bicycle space required; Greater than 6,600 m^2 of sports field = 1 bicycle space for every 6,600 m^2 of sports field or part thereof
Hospital or care facilities associated with retirement village	Less than or equal to 20 full-time staff equivalents = No bicycle space required; For greater than 20 full-time staff equivalents = 1 bicycle space for every 20 full-time staff equivalents or part thereof
Retail activity	GFA (including indoor and outdoor retail area) less than or equal to 300 m^2 = No bicycle space required;

Activity	**Required number of bicycle spaces**
	For GFA (including indoor and outdoor retail area) greater than 300 m^2 = 1 bicycle space for every 300 m^2 GFA (including indoor and outdoor retail area) or part thereof
School	Less than or equal to 10 full-time staff equivalents = No bicycle space required; For greater than 10 full-time staff equivalents = 1 bicycle space for every 10 full-time staff equivalents or part thereof
Service stations	GFA (excluding car washes and canopies over petrol pumps) less than or equal to 450 m^2 = No bicycle space required; For GFA (excluding car washes and canopies over petrol pumps) greater than 450 m^2 = 1 bicycle space for every 450m^2 GFA (excluding car washes and canopies over petrol pumps) or part thereof
Supermarket activity	GFA less than or equal to 250 m^2 = No bicycle space required; For GFA greater than > 250 m^2 = 1 bicycle space for every 250m^2 or part thereof
Tertiary education facilities	Less than or equal to 10 full-time staff equivalents = No bicycle space required; For greater than 10 full-time staff equivalents = 1 bicycle space for every 10 full-time staff equivalents or part thereof
Visitor accommodation	Less than or equal to 40 persons to be accommodated = No bicycle space required; For greater than 40 persons to be accommodated = 1 bicycle space for every 40 persons to be accommodated or part thereof

Table 9 – Car manoeuvring and parking space dimensions

Type of parking		Stall width (a)	Stall depth		Aisle width (d)	Total depth (c)	
Parking angle	Type		From wall (b)	From kerb (c)		One row	Two rows
		All measurements are in metres					
0°	Parallel	2.5	See Note 1		3.5	5.9	8.3
30°	Nose in	2.5	4.2	4.0	3.5	7.7	11.9
45°	Nose in	2.5	4.9	4.5	3.5	8.4	13.3
60°	Nose in	2.5 2.6 2.7	5.4	4.9	4.1 3.5 3.5	9.5 8.9 8.9	14.9 14.3 14.3
75°	Nose in	2.5 2.6 2.7	5.4	4.9	6.3 5.2 4.6	11.7 10.6 10.0	17.1 16.0 15.4
90°	Nose in	2.5 2.6 2.7	5.1	4.6	7.7 7.0 6.8	12.8 12.1 11.9	17.9 17.2 17.0

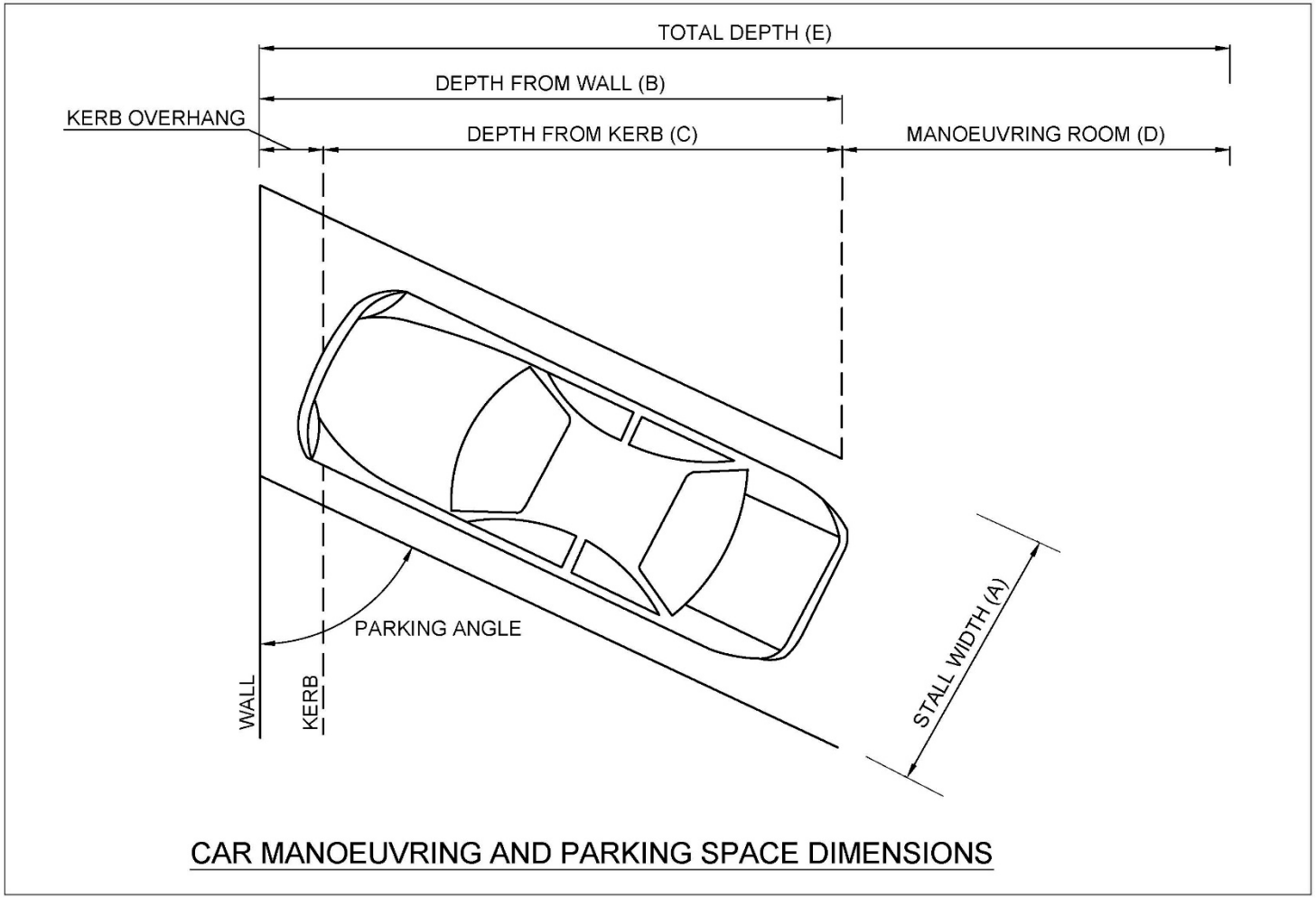


Figure 10 – Car manoeuvring and parking space dimensions

Table 10 – Queuing space

Number of parking spaces	Minimum queuing length at each vehicle entrance
Less than 3	No queuing space required.
Residential activities	
3 – 20	5.5m
21 – 50	10.5m
51 – 100	15.5m
101 – 150	20.5m
151 or over	25.5m
Drive-through facilities with access from an arterial road	50m

Table 11 – Vehicle movement rates

Activity	Indicative daily vehicle movements*
Bulk retail and car yards	45 per 100m^2 gross floor area (GFA)
Early childhood education and day care facility	4 per child the facility is designed to accommodate
Dairies, bottle stores	100 per 100m^2 GFA
Takeaway food	360 per 100m^2 GFA
Residential units	10 per residential unit
Garden centres	100 per 100m^2 GFA
Health facility veterinary, and personal services	79.4 per professional the facility is designed to accommodate
Hospitality services (e.g. cafés, bars)	90 per 100m^2 GFA

Activity	**Indicative daily vehicle movements***
Housing for the elderly/residential care	2 per resident the facility is designed to accommodate
Industrial activities	Manufacturing 30 per 100m^2 GFA Warehouse 2.4 per 100m^2 GFA
Offices	25 per 100m^2 GFA
Hospital	15 per patient bed the facility is designed to accommodate
Retail activity	130 per 100m^2 GFA
School	2 per student the primary school is designed to accommodate, or 1 per student the secondary school is designed to accommodate
Service stations	700 per 100m^2 GFA
Supermarket activity	130 per 100m^2 GFA
Tertiary education facilities	2 per student the facility is designed to accommodate
Visitor accommodation	3 per bed the facility is designed to accommodate

*Advice note: * Based on Trips and parking related to land use - NZ Transport Agency research report 453, November 2011*

Table 12 – Access and road standards (GRZ – General residential zone, MRZ – Medium density residential zone, LLRZ – Large lot residential zone, SETZ – Settlement zone, LCZ – Local centre zone, COMZ – Commercial zone, TCZ – Town centre zone, GIZ – General industrial zone, HIZ – Heavy industrial zone, TKAZ – Te Kowhai Airpark zone, RPZ – Rangitahi Peninsula zone and MSRZ – Motorsport and recreation zone) [ENV-2022-AKL-000086]

	General				Seal Width				Berms		General	
Road Type	**Number of Allotments or Activities**	**Design Speed (km/h)**	**Design Vehicle (RTS 18 Vehicle)**	***Minimum Road/ROW Reserve Width (m)**	**Minimum Trafficable Carriageway (m)**	**Minimum Median Provision (m)**	**Parking Provision**	**Minimum Total Seal Width (m) Does not include concrete kerb width**	**Minimum Services (m)**	**Minimum Footpath / Shared path (m)**	**Kerb and Channel / Water-table**	**Turning Area for no exit roads (RTS 18 Vehicle)**
Access and road standards (GRZ – General residential zone, MRZ – Medium density residential zone, LLRZ – Large lot residential zone, SETZ – Settlement zone, LCZ – Local centre zone, COMZ – Commercial zone, TCZ – Town centre zone, GIZ – General industrial zone and HIZ – Heavy industrial zone)												
Access leg to an allotment (GRZ – General residential zone, MRZ – Medium density residential zone, LLRZ – Large lot residential zone, SETZ – Settlement zone)	1	N/A	8m Rigid	4	N/A							
Access leg to an allotment (LCZ – Local centre zone, COMZ – Commercial zone, TCZ – Town centre zone, GIZ – General industrial zone and HIZ – Heavy industrial zone)	1	N/A		6	N/A							
Private access, including ROWs and access allotments (GRZ – General residential zone, MRZ – Medium density residential zone, LLRZ – Large lot residential zone, SETZ – Settlement zone)	2 to 4	N/A		8	5	N/A	N/A	4	Unsealed 1.2m on at least one side	N/A	Nib on one side, mountable on other	Subject to specific design that has been certified
Private access, including ROWs and access allotments (LCZ – Local centre zone, COMZ – Commercial zone, TCZ – Town centre zone, GIZ – General industrial zone and HIZ – Heavy industrial zone)	2 to 8	N/A		10	6		N/A	6			Mountable	Subject to specific design that has been certified
Access allotment (GRZ – General residential zone, MRZ – Medium density residential zone, LLRZ – Large lot residential zone, SETZ – Settlement zone)	5 to 8	N/A		8	5		Optional	5			Mountable	Yes
Service Lane (LCZ – Local centre zone, COMZ – Commercial zone, TCZ – Town centre zone, GIZ – General industrial zone and HIZ – Heavy industrial zone)	N/A	N/A	Subject to specific design that has been certified	8	6		No parking	6	Subject to specific design that has been certified	Optional	Non-mountable	Subject to specific design that has been certified
Local Road (GRZ – General residential zone, MRZ – Medium density residential zone, LLRZ – Large lot	>8	50	8m Rigid	20	6	None	1m on each side	8		1.8m on each side		8m Rigid

residential zone, SETZ – Settlement zone)												
Local Road (LCZ – Local centre zone, COMZ – Commercial zone, TCZ – Town centre zone, GIZ – General industrial zone and HIZ – Heavy industrial zone)			19m Semi		9		Optional	9				19m Semi
Collector Road (GRZ – General residential zone, MRZ – Medium density residential zone, LLRZ – Large lot residential zone, SETZ – Settlement zone)	>100	50	8m Rigid	22	6	Subject to specific design that has been certified	2.5m on each side	11		1.8m on each side		8m Rigid
Collector Road (LCZ – Local centre zone, COMZ – Commercial zone, TCZ – Town centre zone, GIZ – General industrial zone and HIZ – Heavy industrial zone)			19m Semi		7			12				19m Semi
Arterial Road (GRZ – General residential zone, MRZ – Medium density residential zone, LLRZ – Large lot residential zone, SETZ – Settlement zone)	N/A	60	19m Semi	30	10	3	Recessed 2.5m on each side	13		1.8m on each side		N/A
Arterial Road (LCZ – Local centre zone, COMZ – Commercial zone, TCZ – Town centre zone, GIZ – General industrial zone and HIZ – Heavy industrial zone)												
Local roads in Lorenzen Bay Structure Plan Area	>8	50-80 (max)	N/A	17 (Complies with Figure 13)	6		2.5 metres on alternative sides	11	Subject to specific design that has been certified	1.5 metres on one side of the road	Subject to specific design that has been certified	Yes
Roads in Te Kauwhata Structure Plan area	>1	50-80 (max)	N/A	20	Refer to Figures 14 -16 (cross-sections)							

Advice notes:

The Regional Infrastructure Technical Specifications May 2018 contains further details on road width/design requirements.

Figure 11 illustrates the various parts of the road (seal width, berm etc.) defined in Tables 12 and 13.

**Accesses shall have a minimum height clearance of 4.0m and a maximum gradient of 1 in 5 (with minimum 4.0m transition ramps of 1 in 8) except where the access terminates less than 135m from the nearest road that has reticulated water supply (included hydrants).*

Table 13 – Access and road standards (GRUZ – General rural zone and RLZ – Rural lifestyle zone)

	General				**Seal Width**				**Berms**		**General**	
Road Type	**Number of Allotments or Activities**	**Design Speed (km/h)**	**Design Vehicle (RTS 18 Vehicle)**	***Minimum Road/ROW Reserve Width (m)**	**Minimum Trafficable Carriageway (m)**	**Minimum Median Provision (m)**	Parking Provision	Minimum Total Seal Width (m) Does not include concrete kerb width	**Minimum Services (m)**	**Minimum Footpath / Shared path (m)**	**Kerb and Channel / Water-table**	**Turning area for no exit roads (RTS 18 Vehicle)**
GRUZ – General rural zone and RLZ – Rural lifestyle zone												
Access leg to an allotment	1	N/A	8m Rigid	6	N/A							
Private access, including ROWs and access allotments	2 to 3	N/A		6	3	N/A	N/A	3	Subject to specific design that has been certified	N/A	Optional	Subject to specific design that has been certified
Access allotment	4 to 8	N/A		10	5			5				Yes
Local	>8	Subject to specific design	Subject to specific design that has been certified	20	6	No		6		Subject to specific design that has been certified	RLZ – Rural lifestyle zone - nibs along seal edge. All others to specific design that has been certified.	8m Rigid
Collector <1000 adt	>100		19m Semi	20	7	Subject to specific design that has been certified		8.5				
Collector >1000 adt or Arterial	N/A	110		20	7			10				N/A

*Advice note: *Accesses shall have a minimum height clearance of 4.0m and a maximum gradient of 1 in 5 (with minimum 4.0m transition ramps of 1 in 8)*

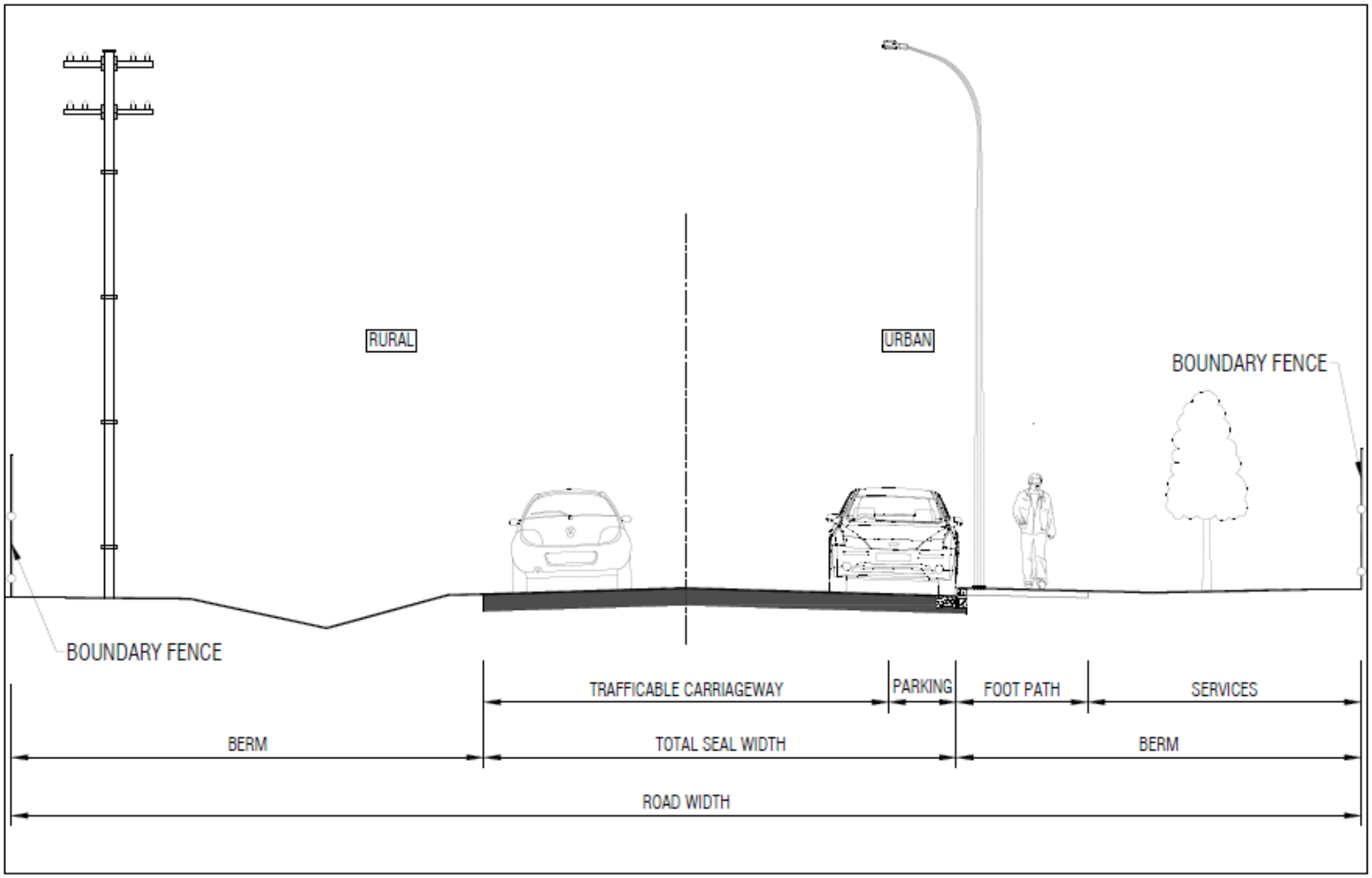
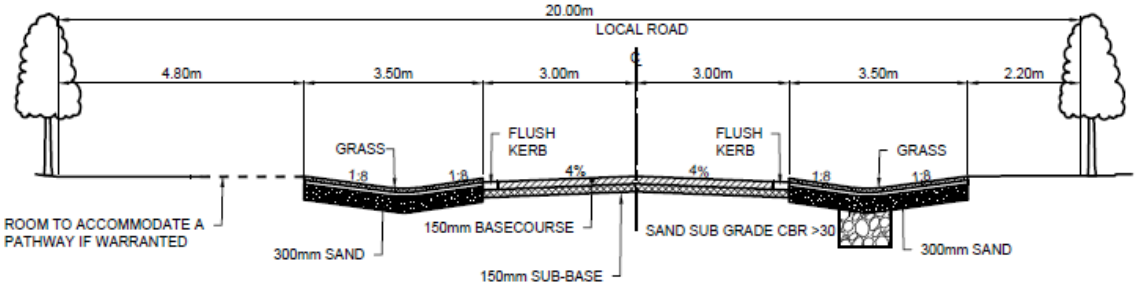
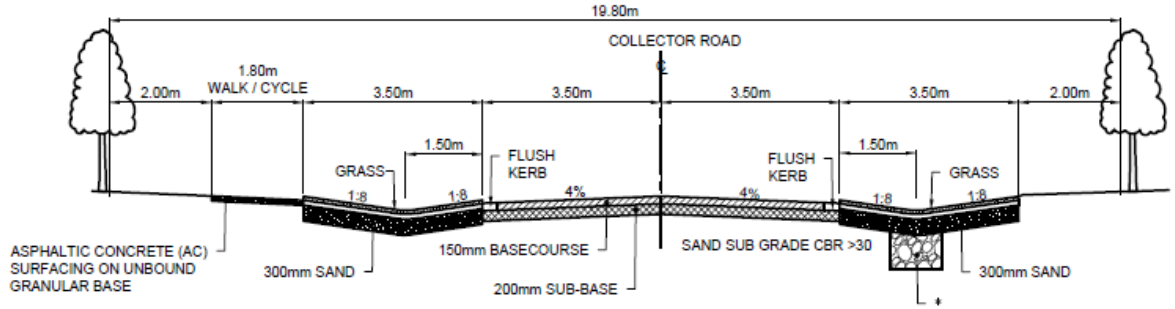


Figure 11 – Attachment to Tables 12 and 13

Advice note: The purpose of Figure 11 is to define the various aspects of the road as set out in Tables 12 and 13. Figure 11 is not intended to prescribe a preferred road layout.



CROSS SECTION OF LOCAL ROAD - TAMAHERE COUNTRY LIVING ZONE
SCALE : 1:50



CROSS SECTION OF COLLECTOR ROAD - TAMAHERE COUNTRY LIVING ZONE
SCALE : 1:50

Figure 12 – Tamahere RLZ – Rural lifestyle zone – road cross sections

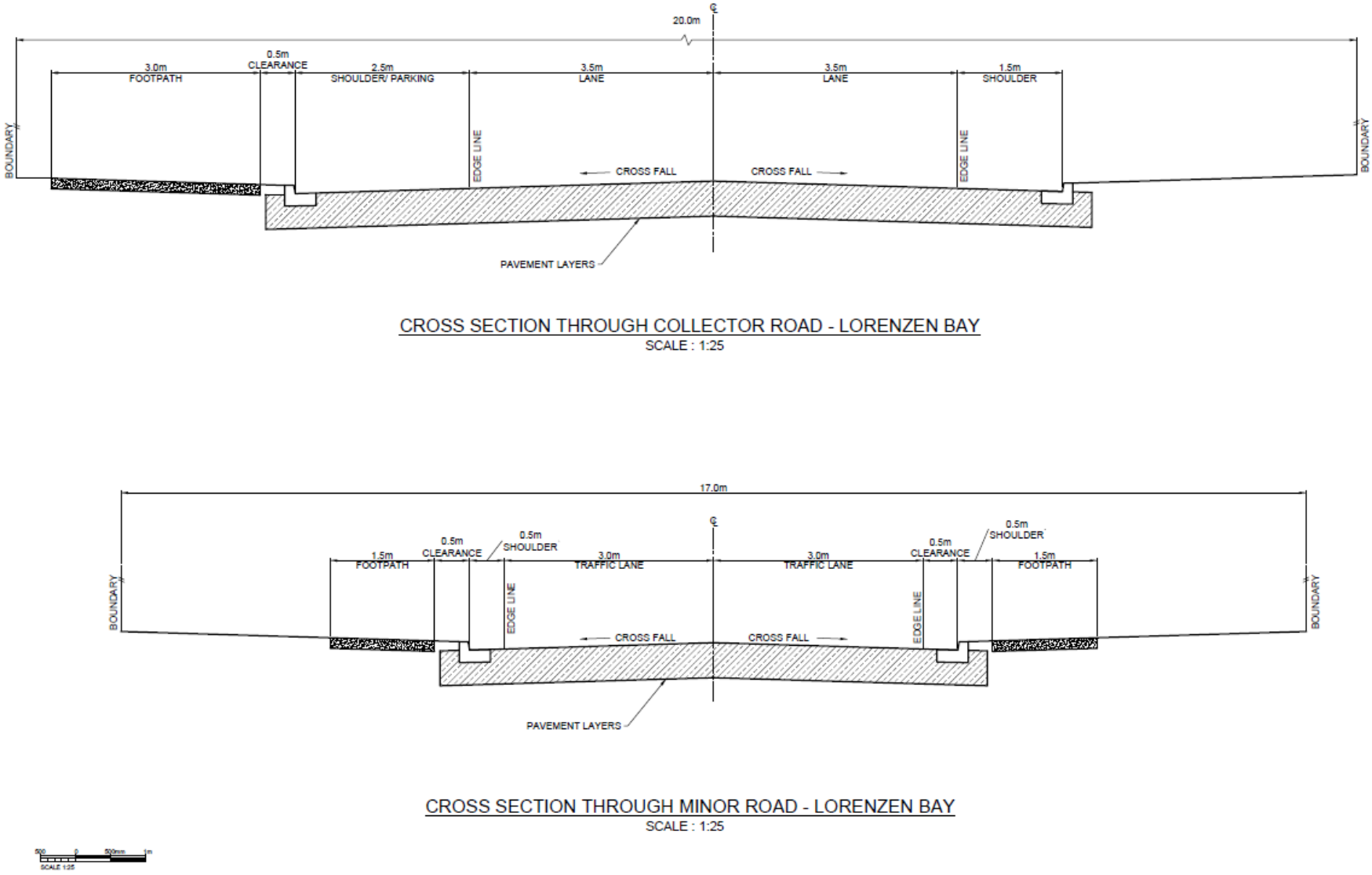


Figure 13 – Lorenzen Bay Structure Plan - road cross sections

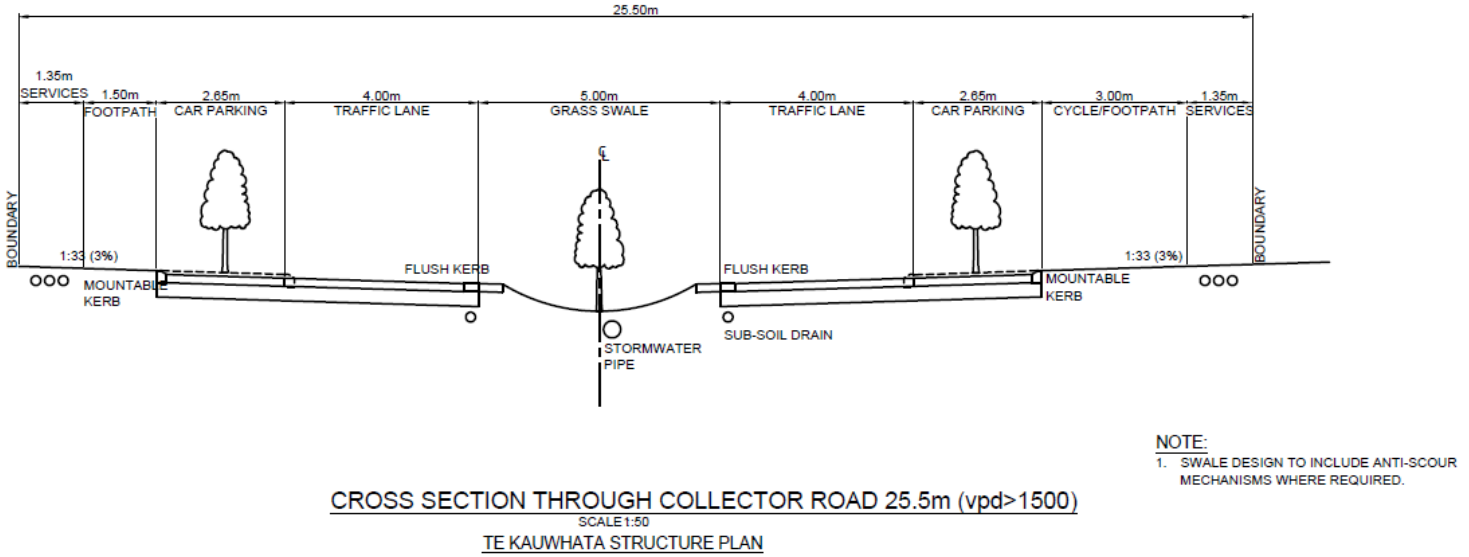
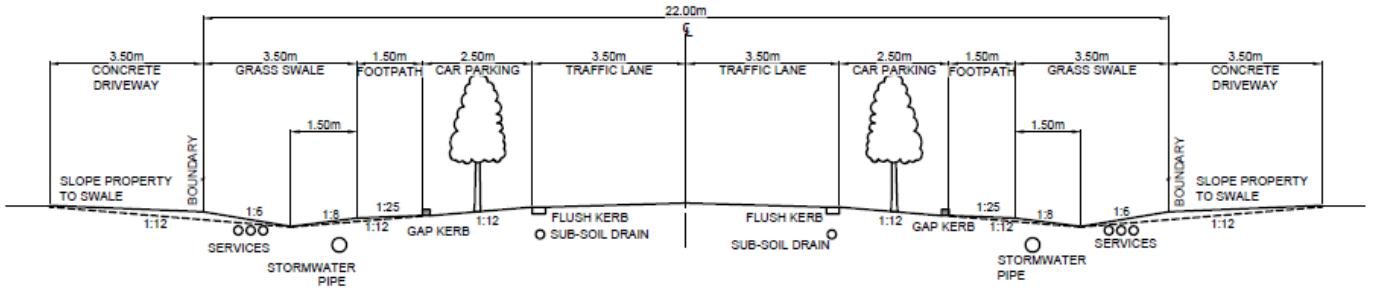
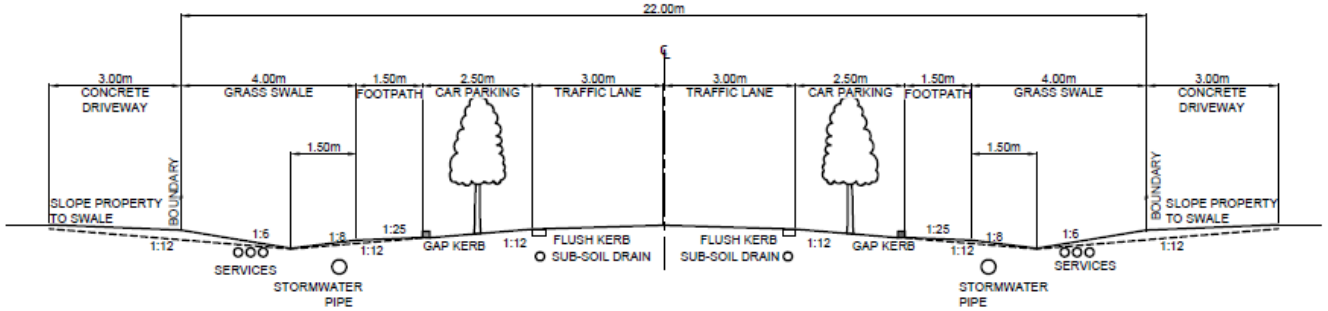


Figure 14 – Te Kauwhata Structure Plan – road cross sections – collector roads



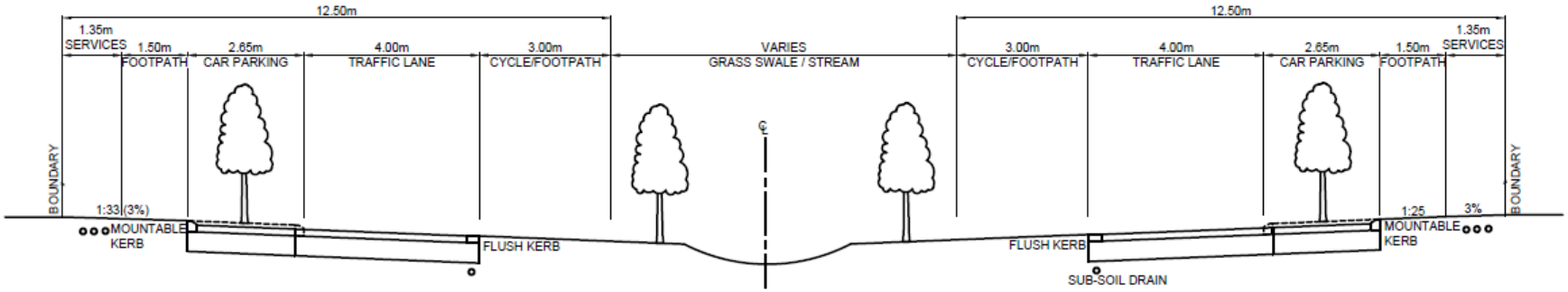
CROSS SECTION THROUGH LOCAL ROAD A (500<vpd<1500)
SCALE : 1:50
TE KAUWHATA STRUCTURE PLAN

NOTE:
1. SWALE DESIGN TO INCLUDE ANTI-SCOUR MECHANISMS WHERE REQUIRED.



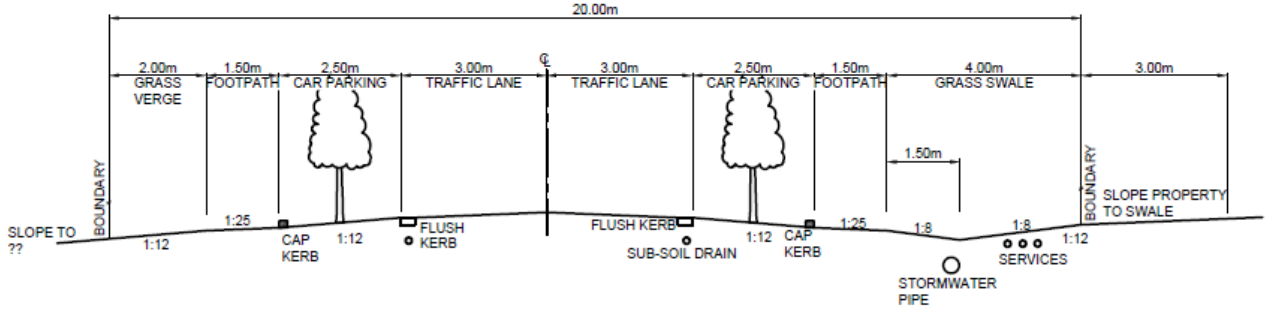
CROSS SECTION THROUGH LOCAL ROAD B (vpd<500)
SCALE : 1:50
TE KAUWHATA STRUCTURE PLAN

Figure 15 – Te Kauwhata Structure Plan – road cross sections – local roads



CROSS SECTION THROUGH GREENWAY CORRIDOR 25m
SCALE : 1:50
TE KAUWHATA STRUCTURE PLAN

NOTE:
SWALE DESIGN TO INCLUDE ANTI-SCOUR MECHANISMS WHERE REQUIRED



CROSS SECTION THROUGH WHANGAMARINO MARGIN (vpd<500)
SCALE : 1:50
TE KAUWHATA STRUCTURE PLAN

Figure 16 – Te Kauwhata Structure Plan – road cross sections – greenway corridor and Whangamarino margin roads

Railway Level Crossing Sight Explanations

Developments near Existing Level Crossings

It is important to maintain clear visibility around level crossings to reduce the risk of collisions. All the conditions set out in this standard apply during both the construction and operation stages of any development.

Approach sight triangles at level crossings with Give Way signs.

On sites adjacent to rail level crossings controlled by Give Way signs, no building, structure or planting shall be located within the shaded areas shown in Figure 17. These are defined by a sight triangle taken 30 metres from the outside rail and 320 metres along the railway track.

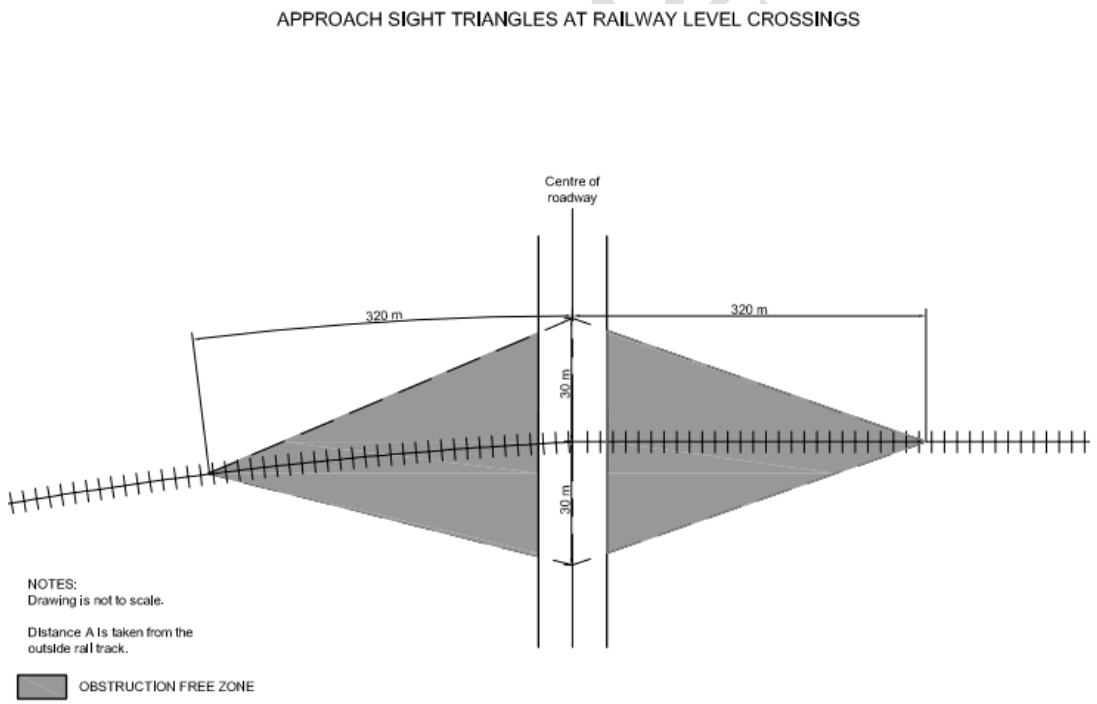


Figure 17 – Approach sight triangles for level crossings with "Give Way" signs

Advice notes: The approach sight triangles ensure that clear visibility is achieved around rail level crossings with Give Way signs so that a driver approaching a rail level can either:

- *See a train and stop before the crossing: or*

- *Continue at the approach speed and cross the level crossing safely.*

Of particular concern are developments that include shelter belts, tree planting, or series of building extensions. These standards apply irrespective of whether any visual obstructions already exist.

No approach sight triangles apply for level crossings fitted with alarms and/or barrier arms. However, care should be taken to avoid developments that have the potential to obscure visibility of these alarm masts. This is particularly important where there is a curve in the road on the approach to the level crossing, or where the property boundary is close to the edge of the road surface and there is the potential for vegetation growth.

Restart sight triangles at level crossings

On sites adjacent to all rail level crossings, no building, structure or planting shall be located within the shaded areas shown in Figure 18. These are defined by a sight triangle taken 5 metres from the outside rail and distance A along the railway track. Distance A depends on the type of control (Table 14).

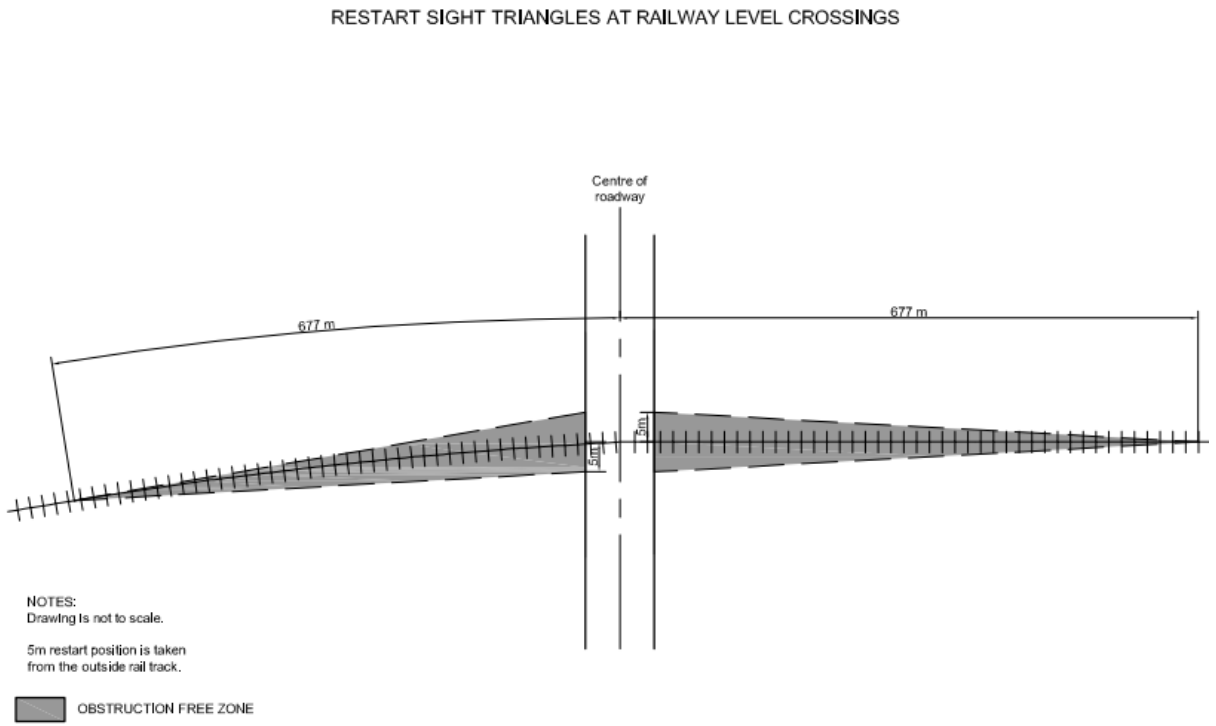


Figure 18 – Restart sight triangles for all level crossings (except those fitted with train activities barriers)

Table 14 – Required restart sight distances for Figure 18

Required approach visibility along tracks A (m)		
Signs only	Alarms only	Alarms and barriers
677 m	677 m	60m

Refer to next page for advice notes.

Advice notes:

The restart sight line triangles ensure that a road vehicle driver stopped at a level crossing can see far enough along the railway to be able to start off, cross and clear the level crossing safely before the arrival of any previously unseen train. Of particular concern are developments that include shelter belts, tree planting or series of building extensions. These standards apply irrespective of whether any visual obstructions already exist.

Figures 17 and 18 show a single set of rail tracks only. For each additional set of tracks add 25 m to the along−track distance in Figure 1, and 50 m to the along− track distance in Figure 18.

All figures are based on the sighting distance formula used in NZTA Traffic Control Devices Manual 2008, Part 9 Level Crossings. The formulae in this document are performance based; however, the rule contains fixed parameters to enable easy application of the standard. Approach and restart distances are derived from a:

- *Train speed of 110 km/h*
- *Vehicle approach speed of 20 km/h*
- *Fall of 8 % on the approach to the level crossing and a rise of 8 % at the level crossing*
- *25 m design truck length*
- *90° angle between road and rail*