Contents

Section 10: Transport

Section 10 Appendices

Section 10: Transport

10.1 Introduction

The transport systems of the Ashburton District provide for the movement of people and goods throughout the District. These systems - road, rail, pedestrian networks, cycling networks, and, to some extent, air - contribute to the social and economic functioning of the District by enabling travel between home, work, educational, recreational, cultural and business activities, as well as routes for visitors to or through the District. Since the establishment of the majority of these transportation facilities and services, a greater awareness has developed of their global, regional and local impacts.

The principal transportation system available in the District is the roading network provided by the Council and the New Zealand Transport Agency (NZTA) in the case of the State Highways. The Plains area is traversed by a complex system of sealed roads and highways, whilst the High Country is served primarily by way of two all-weather roads.

State Highway 1 is the District's major arterial road from Rakaia, through Ashburton (Kapuka) on East, West and Archibald Streets, to the Rangitata River near Ealing. State Highway 77 traverses the District from the Rakaia Gorge Bridge to Ashburton (Kapuka) via Methven. A network of other principal roads also traverses the District connecting the main settlements and main access bridges at the district boundaries.

The Main South Railway is the only remaining railway line in the District, running parallel to State Highway 1. The District also has one public airfield - Ashburton Aerodrome - to the immediate east of Ashburton (Kapuka).

10.2 Issues

10.2.1 Sustainability

The sustainability of the District's transport system can be adversely affected by the inappropriate location, nature and design of land use activities and the mode of transport used.

Similarly to much of New Zealand, a more sustainable transport system needs to be developed in the District for the long term which has the flexibility to adjust to social, economic and technological changes on both a local and global scale. This could mean the use of alternative fuels or types of transport in the longer term, and the minimisation of energy use in the short term, which is partly achievable through the promotion and increased use of modes such as walking and cycling, and planning for the future potential of public transport. The consolidated pattern and density of urban development can have an influence on transport demands. A compact urban area with increased densities around focal points can reduce the need for and length of trips by private motor vehicles. The location of employment in relation to where people live can also have an effect on trip generation and the type of transport used. It is important to ensure that the decisions made with regard to urban growth do not compromise the ability for public transport to service the area in the future.

As discussed in the Utilities, Energy and Designations section, globally there is a concern over the increasing use of non-renewable fossil fuels by all forms of transportation. Yet it appears that the demand for fuel for transportation will continue to increase into the medium-term, as independent mobility remains a major component of transportation. This mobility is often necessary simply to ensure a basic level of accessibility, especially in rural areas. An increase in resource development, such as dairying, is also likely to give rise to increases in heavy traffic in various parts of the District.

Of concern is the contribution of fossil fuel use to the emission of greenhouse gases, in particular carbon dioxide. Transportation fuels release into the environment substances such as carbon, as well as creating visual emissions. It is possible that international policies will result in countries seeking to reduce their production of greenhouse gases by reducing fossil fuel usage for transportation.

Options available to lower fossil fuel usage include increased use of public transport, such as rail and bus transport for passengers and rail for freight haulage. While the Council can be supportive of moves towards development of more effective public transport, they are not in a position to take a lead on this matter except perhaps within Ashburton (Kapuka).

It is unavoidable that conflicts will occur in striving to achieve the basic concepts of this issue. These may necessitate trade-offs between different objectives to achieve an acceptable balance. Initially safety and efficiency will be the dominant factors, with the long term aim being sustainability. Eventually, individuals travel patterns and attitudes towards the choice of transport mode may need to change to minimise energy use and move towards a sustainable transport system.

10.2.2 Efficiency

The efficient use of the District's roads and other transport infrastructure and the efficient use of fossil fuels for transport can be adversely affected by the inappropriate location, nature and design of land use activities, their vehicle access and crossings, parking and servicing.

An approach for maintaining and improving transport efficiency that has been adopted by the Council is a road hierarchy with interrelated land use policies. By setting aside certain roads with a priority for through traffic it is possible to reduce travel time involved in commuting and thus the amount of fuel used. Relationships between land uses, particularly between home and workplace/shopping centre, can influence the amount of fuel used. A concentrated pattern of urban development rather than a dispersed one can reduce vehicle kilometres travelled, vehicle numbers, the mean speed of vehicles, the mean distance travelled, all of which contribute to reduce fuel usage. Accordingly, land use policies can have a real effect in helping to minimise transport demand, energy use and emission effects.

In a district such as Ashburton, the gains to be made in reduced potential fuel usage while unlikely to be large, because of its small population as compared to cities such as Christchurch, are still worth pursuing. In the rural areas the possibilities for improved fuel efficiency are limited, and intensification of farming practices may lead to increases in fuel usage.

Efficient use of the road resource and energy resources can also be enhanced by retaining the standard of roads and a roading hierarchy throughout the District. Part of maintaining the standard of arterial routes, such as the State Highways, involves limiting vehicle access and vehicle crossings

onto these roads to enable through traffic to travel relatively unimpeded and safely on these roads. The extent to which vehicle access and vehicle crossings are permitted onto State Highways is the responsibility of both NZTA and the Ashburton District Council, and generally varies between rural and urban areas. Parts of State Highway 1 within the District are declared Limited Access Roads onto which vehicle access and vehicle crossings can only be gained by existing authorised crossing points or by specific approval from NZTA. The District Council has traditionally used the District Plan to control the number, type and location of all vehicle access points and vehicle crossings onto all roads within the District, particularly for activities which generate high numbers of vehicle movements.

Efficiencies in the provision of pedestrian links and cycle ways are also desirable as a means of encouraging these alternative forms of transport as an alternative to powered vehicle use, and these options should be examined at the time of subdivision and road redevelopment.

The Main South Railway is an important strategic transport link, particularly for the movement of freight into and out of the District. The efficient operation of the Main South Railway can be affected by road/rail level crossings. The New Zealand Railways Corporation has an objective of rationalising existing and minimising new level crossings so as to maintain the efficient operation of the rail network.

10.2.3 Safety and Accessibility

The safety and convenience of pedestrians, cyclists, road, and rail users can be adversely affected by the inappropriate location, nature and design of land use activities, their vehicle access and vehicle crossings, parking and servicing.

To enable people to carry out their existing and likely future activities it is necessary to provide for a basic level of accessibility within and through the District. This level of accessibility is particularly important to people living in the country areas as many commercial, educational, health, and work needs are located in towns some distance away. Within most parts of the Ashburton District this accessibility will be assured with the maintenance of the current road system, providing fossil fuel remains an economic form of fuel for motor vehicles, or an alternative that retains a high degree of individual vehicle based mobility.

Access to transport networks, in particular roads and the railway is vital to the economic wellbeing and growth in the Ashburton District. Without such networks it would not be feasible to transport people, materials and produce both in and out of the District, thus making it impossible for the District ‘to do business’ with the rest of the Country and importantly, access links to export markets. The provision and maintenance of transport networks is therefore of great importance to the future of the District.

Accessibility is also important for the viability and vitality of business activities within Ashburton (Kapuka) and the smaller towns. Accessibility to various activities can be provided not only by an efficient road system, but also by provision of pedestrian ways, cycle routes and adequate public car parking and cycle parking, and, where appropriate, adequate bus stops and shelters.

Because of the potential conflicts between motor vehicles and between vehicles, and pedestrians/cyclists, it is particularly important to design and locate roads, and off road routes, in a

way which encourages safe and predictable movement by all users. In addition activities located alongside roads should be controlled to ensure the effects of these uses, such as the generation of traffic, do not cause significant conflict with through traffic. Vehicle access points and vehicle crossings need to be limited in areas of higher speed restrictions, such as rural areas or on roads where through traffic has priority, particularly State Highways 1 and 77.

There is also the potential for conflict for trains, vehicles, cyclists, and pedestrians at railway level crossings. In particular there is the potential for the location of vehicle access ways adjacent to the rail corridor to result in the queuing of vehicles within the frontage road and across the rail corridor compromising road and rail safety. Similarly obstructions located adjacent to railway level crossings may affect sightlines for road users and train operators thereby affecting safety.

Visual distractions or impediments to vehicle drivers, particularly in areas of higher speeds or vehicle numbers, can reduce the safety of vehicles, cyclists and pedestrians. These conflicts can be avoided or mitigated by the control of activities alongside roads, such as advertising signs, aerial activities, glare and light overspill on to roads. Trees inappropriately located close to roads can shade road surfaces from sun in winter and prevent ice from melting, causing dangerous driving conditions.

Works can be carried out to locate or move obstacles such as power poles away from intersections and widen and improve approaches to schools. Works can be carried out on local streets which inhibit through traffic and so reduce the possibility of traffic crashes, especially those involving vehicles and pedestrians/cyclists. The adequacy of crossings, route markings and signage can also affect the attractiveness of walking and cycling as an alternative to driving.

10.2.4 Environmental Effects of Transport

Motorised transport can adversely affect the amenities of areas of the District, as a result of effects such as noise, emissions, loss of visual amenity, privacy, and accessibility.

Motorised transport has obvious advantages to the community in convenience and mobility. However, there are numerous environmental effects of the operation of transportation systems throughout the District. Some of these impacts are of global significance, such as the emission of greenhouse gases associated with vehicle emissions. Other impacts are of more local significance, such as decreased accessibility to some areas because of the increased numbers of motor vehicles using roads. Other impacts affect residents or workers in an area, such as the noise and fumes associated with traffic visiting or passing through an area. To some extent the latter type of impact can be restricted to known locations by developing and encouraging the use of a road hierarchy which directs the majority of through traffic away from residential areas, and in some cases could also divert heavy and/or through traffic away from commercial areas. Road traffic noise on State Highways and other roads is not controlled by the provisions of this District Plan. However, NZTA, the controlling authority of the nation's State Highways, has developed Guidelines for the Management of Road Traffic Noise. These are applicable to State Highway improvements which may affect noise sensitive activities in residential zones, and are set out in Appendix 6 of the NZTA's Planning Policy Manual.

The promotion and use of public transport can reduce private vehicle use thereby achieving a reduction in vehicle emissions and vehicle congestion. With regard to noise and fume emissions, the

initiative to require or encourage more fuel efficient and quieter vehicles most effectively lies with national or regional government, for example by the introduction of mandatory vehicle emission performance testing as part of warrant of fitness tests. The transport industry and vehicle manufacturers also have an obvious role to play in demanding and developing improved engine design to improve fuel efficiency and limit emissions, both air and noise.

10.3 Objectives and Policies

Objective 10.1: Transport Sustainability

To maintain and enhance the sustainability of the District's transport system.

Policy 10.1A

To mitigate the adverse effects of vehicle and fossil fuel usage by reducing potential travel times to home, work, community and business places, primarily through encouraging infill, intensification within the core area of Ashburton, and consolidated development of the District's towns. Provision for some essential services within residential and commercial areas will also assist to reduce travel times and distances e.g. Business A zones within residential areas.

Policy 10.1B

To consider opportunities for encouraging and developing greater use of public transportation facilities.

Policy 10.1C

To support/advocate for the maintenance of rail corridors for future public transport and / or alternative transport uses such as cycling should they no longer be required for rail transport.

Policy 10.1D

To encourage the use of rail as a sustainable form of transportation, and to support the development of a rail operational facility as part of the Ashburton Business Estate.

Policy 10.1E

To encourage and enable the use of walking and cycling as sustainable forms of transportation.

Policy 10.1F

To give effect to any relevant RMA national and regional policy statements, and take into account any other relevant national, regional and Ashburton district policy in Council policy development and decision making.

Explanation and Reasons

It is necessary to provide where possible for minimum time of travel between work and home to assist in reducing reliance on fossil fuel transport. This can be achieved in part by permitting working at home and by directing new residential use into areas close to the business centre of Ashburton (Kapuka) and into areas in the general proximity of the main towns. The use of walking and cycling,

public transportation and rail opportunities can assist in the overall sustainability of the transportation network.

Objective 10.2: Transport Efficiency

The efficient use of the District's existing and future transport infrastructure and of fossil fuel usage associated with transportation.

Policy 10.2A

To provide for the efficiency of the transport network by implementing a policy of consolidation to avoid sprawl and unnecessary extension of urban areas.

Policy 10.2B

To promote the efficient use of all roads within the District by adopting and applying a road hierarchy, with associated standards for design, vehicle access and vehicle crossings, based on the intended function of each road.

Policy 10.2C

To protect the efficiency of through traffic on State Highways 1 and 77, and their primary role as a carrier of through traffic, by strictly limiting vehicle access and vehicle crossings for high traffic generating activities.

Policy 10.2D

To promote the efficiency of the Main South Railway and the primary role of the rail network, by rationalising existing and minimising new level crossings, and controlling direct access over the railway via level crossings to subdivision and land use activities, where there is no alternative road access provided.

Policy 10.2E

To limit road congestion and loss of efficiency of adjacent roads, by ensuring off-street loading is provided for activities and by managing adverse effects on roads from land use activities and subdivision development.

Policy 10.2F

To work cooperatively with NZTA to ensure the continued, efficient functioning of State Highways 1 and 77.

Explanation and Reasons

Efficient use of the existing road and rail infrastructure is desired to maximise the returns to the nation and the community on its investment in this infrastructure. This requires the up-grading of road intersections to both the local and State Highway road networks as part of any rezoning for or subdivision of new areas of development. Similarly it requires consideration as to the appropriateness of new and increased use of direct access via a railway level crossing to service subdivision and land use activities where there is no alternative access provided. It is also important

that vehicle access and vehicle crossings are adequately controlled to protect the efficiency of the roading network.

Like those set out in the zone sections, this objective and policies seek the consolidation of urban areas. Consolidation is an important aspect of the development of the settlements as it focuses residential development around the areas which generally have the employment, community and infrastructural services able to sustain a growing population, and which are able to be adequately serviced with formed and sealed roading, footpaths, reticulated water supply and sewage treatment and disposal.

As an overriding goal for the District, it is proposed to continue the policy of avoiding disjointed development and promote the concentration of residential activity in and around urban areas, as opposed to enabling residential activity to be dispersed throughout the rural areas. This policy base, together with that set out in the Residential section, seeks to provide opportunities for the use of shared transport and maintain the future potential for public transport, in Ashburton (Kapuka) particularly, along with providing for the efficient use of energy, services and infrastructure by containing the outward spread of urban areas, and concentrating low density residential development around the urban areas.

Objective 10.3: Transport Safety and Accessibility

The maintenance and improvement of the safety and ease of pedestrian, cyclist and vehicle movement throughout the District.

Policy 10.3A

To maintain and, where necessary, improve safety and accessibility of the transport network within the District by adopting and applying a road hierarchy, with associated standards for design based on the intended function of each road, and including controls on trees.

Policy 10.3B

To preserve road safety and accessibility by ensuring that standards of road design, vehicle access, vehicle crossings, loading, manoeuvring, parking for people with limited mobility and cycle parking are related to the intended use of each site and the relationship to the adjoining road classification, and that visual distractions that may affect the safety of road users are avoided or mitigated e.g. lighting and advertising.

Policy 10.3C

To maintain and upgrade the existing roads in the District and provide for new roads and related facilities where these are important.

Policy 10.3D

To integrate land use and transport by ensuring all substantial new developments provide access and linkages in accordance with an outline development plan or similar, and that as well as new roads, safe and attractive pedestrian and cycle routes are provided.

Policy 10.3E

To ensure that the number, location and design of vehicle crossings and the intensity and nature of activities along roads is compatible with road capacity and function, in order to ensure vehicle, cyclist and pedestrian safety, and to strictly limit the establishment of high traffic generating activities with vehicle crossings to State Highways 1 and 77.

Policy 10.3F

To ensure that convenient and accessible car parking for people with limited mobility and cycle parking is available for both staff and visitors for all activities.

Policy 10.3G

To ensure that on-site parking is designed and managed safely and efficiently, where it is provided.

Policy 10.3H

To ensure that high traffic generating activities promote opportunities for safe and efficient travel other than by private motor vehicle.

Policy 10.3I

To require loading facilities appropriate for the vehicles servicing land use activities.

Policy 10.3J

To consider, where practicable, opportunities for effective public transport, particularly for people without access to cars, and where appropriate to provide public transport infrastructure.

Policy 10.3K

To encourage the development of pedestrian areas, walking tracks, and cycle ways, especially on the approaches to all schools, to improve amenity and accessibility for residents.

Policy 10.3L

To encourage community groups to become involved in improving the road safety culture of the District.

Policy 10.3M

To preserve road and rail safety by ensuring that level crossing sightlines are maintained and the potential for traffic queuing across the rail corridor as a consequence of the location of adjacent vehicle accessways is avoided or mitigated.

Explanation and Reasons

The safety and ease of movement of pedestrians, cyclists, motorists, and rail users within and through the District is required for the social and economic wellbeing of the people of the District and for visitors to the area. It is very important that provision and maintenance of transport routes and of adjacent land use activities be such that the safety of motorists, cyclists, pedestrians, and railway operators and passengers is provided for.

Policy 3H refers to public transport which may be provided by the Council or a private operator. Public transport is not confined to extensive bus routes serviced by large buses. It can also be a minibus that collects and drives people to a specified place of work, taxis and private services that run between towns. All public transport requires associated infrastructure such as bus shelters and taxi ranks. This policy intends to provide for these types of associated infrastructure requirements whether needed by the public or private sector.

Objective 10.4: Environmental Effects of Transport

To provide for a transport network that avoids adverse effects on the surrounding environment.

Policy 10.4A

To assist in preserving the amenities of particular areas, particularly residential areas and pedestrian-oriented business areas, by adopting a road classification system which recognises the amenities of particular areas and to which appropriate activities will be related.

Policy 10.4B

To ensure adequate car parking for people with limited mobility, cycle parking and loading provision is made in association with activities, which is sufficient to cater for normal generation demand.

Policy 10.4C

Where public carparking is provided in the central commercial area of Ashburton town, it should be conveniently located, avoid disruption to commercial frontages and support good urban design outcomes.

Policy 10.4D

To adopt techniques to discourage traffic in areas where it would have adverse environmental effects.

Policy 10.4E

Avoid, where reasonably practicable, or else mitigate the adverse effects of high traffic generating activities on the transport network and the amenity of the environment.

Policy 10.4F

Promote positive transport effects from high traffic generating activities including the provision for multi modal transport, travel demand management, infrastructure upgrades, and low emission transport.

Policy 10.4G

To avoid adverse amenity impacts by ensuring that new roads are designed to, at least, minimum standards and visually complement the character of any surrounding area.

Policy 10.4H

To incorporate tree and landscape plantings within roading networks wherever practicable, taking into account the primary purpose of the road corridors is the safe and efficient movement of traffic, and the conveyance of utilities.

Policy 10.4I

To encourage roading design that enhances the quality of design and the visual experience. These could include a range of carriageway widths, different surface materials, grass berms and protection of existing mature trees.

Policy 10.4J

To avoid the adverse effects of land transport activities on sensitive areas, natural and physical resources, amenity and landscape values.

Policy 10.4K

To preserve the open nature of the High Country landscape by encouraging the location of roads, car-parks and tracks along the edges of existing landforms and vegetation patterns.

Explanation and Reasons

Impacts of traffic passing through or visiting an area can, to a certain extent, be controlled by developing and encouraging the use of a road hierarchy which directs the majority of such traffic on to particular routes, away from the majority of residential areas, and, where possible, diverts through traffic away from commercial areas. The hierarchy can be reinforced by traffic management measures outside the District Plan which discourage the use of residential streets, other than by those vehicles that have no alternative. The development of safe, pleasant and convenient pedestrian and cycle links can assist in reducing vehicle usage and improve the amenity around a settlement. Consideration must also be given to the effects of roads and transport activities on the natural environment through which they pass.

Traffic associated with non-residential development has the potential to affect the residential amenity of the immediate area. Limited non-residential land uses are permitted in residential zones. An integrated approach to transport and land-use means locating any other non-residential activity where the effect of traffic generated can be absorbed by the surroundings.

The road environment is an important, highly visible and extensive area of public open space within the District. The way that the roads and their immediate surrounds are developed - their alignment, layout and associated plantings - are significant in maintaining and improving the amenity of both residential and business areas.

There are many ways to reduce the local impact of transport and traffic, including reducing the amount of traffic on roads, improving pedestrian and cycle access, encouraging the use of public transport, walking and cycling, and encouraging development forms which make other forms of transport more attractive. The adoption of policies directed at the above outcomes should also help conserve energy and provide for a more sustainable transport environment.

10.4 Anticipated Environmental Results

- Safe, efficient and accessible transport systems.
- Minimal adverse effects on the environment from transportation.
- Efficiency in the use of fossil fuels and in traffic flow on the District's roads.
- Construction of any new road, accessways and parking areas to appropriate use and safety standards.
- Increased use of alternative forms of transport, rather than private cars.
- Improvement to pedestrian and cyclist safety and accessibility throughout Ashburton (Kapuka) town.

10.5 Methods of Implementation

Through the District Plan

- The inclusion of rules to:

  - define a roading hierarchy with associated standards for road design, vehicle access and vehicle crossings;
  - control vehicle access and vehicle crossings onto State Highway 1;
  - set performance standards for property vehicle access and vehicle crossings, parking and loading;
  - provide for rail operations as part of the Ashburton Business Estate;
  - provide for pedestrian and cycle way connections to any new subdivisions;
  - protect the efficiency of the rail network and maintain road and rail safety at railway level crossings;
  - require high traffic generating activities to consider design of the activity and the
  - effectiveness of the methods proposed to manage expected increases in traffic generation and to encourage the use of walking, cycling, and public transport.

- The inclusion of rules specifying performance standards for road construction, based on the road's intended function within the roading hierarchy.
- Through the use of rules requiring intersections and roads associated with new development and subdivision to be up-graded or designed in such a way as to avoid adverse effects on the surrounding environment.
- Consolidation of existing settlements through the clear definition of the extent of Ashburton (Kapuka) town and other settlements through zoning provisions.
- The use of zoning provisions to define appropriate areas for different types of activities, in relation to their proximity to major through routes.
- Collect fair and reasonable contributions from benefiting landowners for the provision of public car-parking in the central commercial area of Ashburton (Kapuka) following the adoption of a Parking Plan.

Outside the District Plan

- Continue to employ a Road Safety Coordinator to work closely with the Ashburton District Road Safety Council.

- The provision of works and services, such as cycleways, landscaping and use of roadside trees to address CO2 emissions.
- The provision of information and promotional material, such as promotion of cycling.
- Council's own practice in managing its vehicle fleet.
- Through the development and implementation of key community and council strategies such as community outcomes, cycling and walking strategy, physical activity strategy, parking strategy, and regional transport strategy.
- To continue to develop and maintain roads in accordance with Government policy such as the Land Transport Act 1998, relevant national policy statements, national environmental standards and other relevant statutory documents.

Through the Council's LTP process

- Continue to maintain and progressively upgrade the roading network throughout the District, to improve traffic safety, efficiency and accessibility.
- Investigate the need for and, where appropriate, develop additional pedestrian areas, walking tracks and cycleways within the District's main towns.
- Minimise congestion through having traffic flow at optimal levels, reducing travel times and pollution.
- Consider how to provide for adequate public car-parking in close proximity to the central commercial area of Ashburton (Kapuka).

10.6 Reasons for Rules

10.6.1 Parking and Loading Space Requirements and Design

Where an activity establishes on a site, there is change of activity, or buildings are altered, the developer is required to supply off-street parking for people with limited mobility. Cycle parking is also required, except for visitor parking in the Business A Zone, where public cycle parking is generally available. On-site loading facilities are also required for activities in the business zones where the movement of goods is likely to occur.

The provision of off-street loading for each activity minimises adverse effects on the safety and efficiency of the road.

Off-street mobility parking improves accessibility and safety for people with mobility impairments. It is expected that only permit holders will use these car parks, in accordance with New Zealand's official mobility parking permit scheme. The users of this scheme include people with disabilities, medical conditions and the elderly who may be in wheelchairs, or have severely restricted ability to walk distances.

The provision of off-street cycle parking which is convenient, accessible and secure encourages the use of an active and sustainable mode of transport. Requiring covered parking for long term cycle parking (i.e. for staff or students) provides rain and UV protection for bikes. Cycle parking will also be considered to provide facilities for parking and storage of electric scooters.

Controls over the surfacing of parking and loading areas have been included to protect the amenity of surrounding properties and public places from noise and dust nuisance. The controls are also intended to avoid deterioration of road and footpath surfaces or vehicle and pedestrian safety through loose surfacing material being carried onto footpaths, roads or service lanes.

Landscape treatments and plantings within large car-park areas can assist in the remedying and mitigation of adverse effects of car-park areas by softening the visual impact and glare, providing some visual relief from large expanses of seal, providing screening from adjoining properties, and providing shade for vehicles in hot weather.

10.6.2 On-Site Manoeuvring

The design of the parking and loading areas are based on 90-percentile design vehicles. The dimensions of these vehicles and their associated turning circle requirements are such that 90 percent of the vehicles in New Zealand comply with their requirements.

Critical manoeuvre areas have been calculated to allow 99 percent of vehicles to use them. These areas are typically bounded by immovable objects such as walls and columns and it is therefore important to provide the space to allow vehicles to manoeuvre easily.

On-site manoeuvring is required for all sites on arterial roads, shared access and where a large number of vehicle movements onto and off a site are expected. This helps to protect the efficiency and safety of the roads by minimising the number of vehicles required to reverse onto or off a site, which can be the cause of accidents at accesses. Arterial, principal and collector roads have the most protection applied to them as their function is to carry the largest volumes of traffic at the highest level of efficiency.

10.6.3 Queuing Length

A queuing space length is required at the entrance to car parking and loading areas to provide an area off the street for cars to queue while waiting for manoeuvring vehicles or for a parking space. This protects the safety and efficiency of the frontage road from the effects of vehicles requiring queuing on the street and potentially blocking traffic lanes/footpaths.

10.6.4 Roading, Access, Vehicle Crossings and Intersections

The rules specifying widths for roads, minimum sight and separation distances are to ensure that all new roads and accesses are created with the capacity to provide accessibility for residents of the area and link up with the adjoining road transport network safely and efficiently, avoiding congestion, and providing for on-street parking and pedestrian/cycle movement.

The rules specifying the development standards for level crossing safety are to minimise the risk of conflict between road and rail users. These standards specify the minimum sightline and separation distances for level crossings and ensure new land use development or roads and accessways provide for the safe and efficient operation of the rail network.

The rules regulating High Traffic Generating Activities are to ensure significant developments avoid or mitigate adverse effects on the transport network, promote opportunities for travel other than by private motor vehicle, and recognise positive transport effects.

Guidance on preparing an Integrated Transport Assessment to address the matters in 10.10.1 is available from New Zealand Transport Agency Research Report No. 422 'Integrated Transport Assessment Guidelines', Abley et al, November 2010.

The rules for private vehicular access are to ensure the accesses can adequately cater for likely anticipated volumes of traffic. Provision for turning areas and passing bays also relate to the likely number of users and have the purpose of avoiding hazardous and inconvenient reverse manoeuvres. Footpaths are required to promote pedestrian safety. Where more than 6 residential units are likely to be served, a road is considered necessary to ensure safe and efficient vehicle movement. Corner roundings are required to facilitate pedestrian movement and safety.

Road upgrading costs have the purpose of ensuring that costs of providing roads of an acceptable standard is apportioned in accordance with the demands placed on those roads by development of subdivisions. Point strips can ensure that contributions to road transport networking will be made in the future as required.

Adequate design and construction standards are needed for vehicle crossings on to arterial roads in the District, in order to ensure that vehicles can enter and leave a site at all times in a safe and convenient manner without causing any adverse effects on the safe and efficient operation of the adjoining road. In all situations, vehicle crossings shall be designed and constructed to a standard that will accommodate the maximum number, size and weight of vehicles intended to visit the site, so that the road berm and footpaths are not damaged by heavy traffic or the number of vehicles visiting the site. The construction and ongoing maintenance costs will be borne by the site owner/occupier.

In order to simplify the driving task by reducing potential conflict points and areas of distraction, there is a requirement to locate vehicle crossings and intersections at varying distances from each other depending on the function of the road. Arterial roads typically carry the highest traffic volumes at higher operating speeds. Distances therefore need to be greater on these roads to allow for driver reaction times and also for longer queuing distances at intersections. It also reduces confusion for drivers who may not otherwise be able to tell whether an indicating vehicle is intending to turn at one driveway or another or at one intersection or another. Similarly, principal and collector roads carry higher traffic volumes at higher operating speeds than local roads and distances of vehicle crossings and intersections from each other are accordingly required to be greater on these roads.

Parts of State Highway 1, between Ashburton (Kapuka) and Hinds (Hekeao) are declared Limited Access Roads in accordance with Section 88 of the Transit New Zealand Act 1989. As a principle function of State Highway 1 is to provide for the through movement of vehicles in a safe and efficient manner, NZTA endeavours to reduce and rationalise the number of accesses onto this road. The objective of this control is to protect and maintain the safety and high level of traffic service on these important routes, which may otherwise be adversely affected by traffic generated by adjacent property.

Similarly the Main South Railway principally functions to provide for the movement of rail freight within and through the District. The New Zealand Railways Corporation aims to reduce and

rationalise the number of level crossings throughout the District to maintain the safe and efficient operation of the railway.

Therefore, limitations are required on the number of vehicle crossings to facilitate the intended function of the road hierarchy. High speed arterial roads are intended to function primarily as through roads, with minimal property access, requiring the greatest level of access restriction. Conversely local roads are intended to provide direct property access and have the least restriction on the number of access points.

Adequate visibility distances are required from vehicle crossings and at intersections to ensure that vehicle movements are as safe and convenient as possible at all times, and without causing any undue adverse effect on the safe and efficient operation of the road. The required visibility distances will increase with increasing vehicle speed on the adjoining road and associated increased stopping distances.

10.6.5 Vehicle Oriented Commercial Activities

It is necessary that vehicles entering and exiting major commercial facilities can do so without adversely affecting the safety and efficiency of traffic along the adjoining roadway. Crossings should be located so that they do not cause a confusion of priorities and result in unexpected or complex manoeuvres resulting in driver confusion or distraction near intersections. Visibility distances from crossings also need to provide for safe vehicle movements with minimal interference to other road users.

10.6.6 Tree Planting – Shading and Intersection Visibility

Existing or future trees have the potential to cause shading or block visibility in ways that could lead to significant safety concerns. Where trees cause shading onto roadways in the winter the potential for icing increases and can lead to road safety incidents. Where trees are planted too close to intersections they can block visibility for motorists and reduce the safety for all road transport network users.

10.7 Rules – Transport

10.7.1 Permitted Activities

Any activity, which complies with all of the following Site Standards below and all relevant Zone and District-Wide Rules, shall be a permitted activity.

10.7.2 Restricted Discretionary Activities

a) Any activity, which does not comply with any one or more of the following Site Standards, shall be a restricted discretionary activity, with the exercise of the Council's discretion being restricted to the matter(s) specified in the applicable assessment matters in 10.10.

b) Any Activity which complies with all of the relevant Site and Zone Standards, shall where the Site Standards specify, be a Restricted Discretionary Activity with the exercise of the Council's discretion being restricted to the matter(s) specified in the applicable assessment matters in 10.10.

10.7.3 Notification / Consultation / Notes

Resource consents in relation to the following matters shall not be publicly notified:

Size of Parking Spaces	Site Standard 10.8.4
Residential Parking Spaces	Site Standard 10.8.5
Cycle Parking	Site Standard 10.8.6
On-site Manoeuvring	Site Standard 10.8.7
Surface of Parking and Loading Areas	Site Standard 10.8.10

Consultation with the New Zealand Transport Agency (NZTA) will be important in the assessment of resource consent applications in relation to the following standards:

State Highway Access	Site Standard 10.9.9

Consultation with the New Zealand Railways Corporation (NZRC) will be important in the assessment of resource consent applications in relation to the following standards:

Direct Access via Railway Level Crossings	Site Standard 10.9.13
Railway Level Crossings – Vehicle Accessway Location and Minimum Sight Distances	Site Standard10.9.14

Notes:

- In addition to compliance with the Transport Rules set out in this section, District-Wide Rules may also apply. If any one or more of the District-Wide Rules apply, the activity may require consent in respect of those rules.
- Prior to commencing any works on any State Highway, approval must be obtained from the New Zealand Transport Agency to work on the transport network.

- Prior to commencing any works on any railway premises, approval must be obtained from the New Zealand Railways Corporation to work on the rail network.
- The Roading Hierarchy is set out in Appendix 10-1.
- Reference should also be made to applicable Zone Rules which may restrict vehicle access and vehicle crossings on some arterial roads.
- Further information on parking design and layouts can be found in NZS4121: 2001 Design for access and mobility: Buildings and associated facilities and AS/NZS2890.1: 2004 Parking Facilities – off street car parking.

10.8 Site Standards – Parking and Loading

10.8.1 High Traffic Generating Activities

a) Any new subdivision or land use activity, or expansion of an existing activity, that exceeds the thresholds set out Table 10-1 shall be classified as a High Traffic Generator and a restricted discretionary activity.

b) A Basic Integrated Transport Assessment shall be undertaken for activities that exceed the threshold for a Basic Assessment in Table 10-1 below. The relevant assessment matters shall be restricted to those set out in 10.10.1 a. to c. (Safety and efficiency, Design and Layout, and ITA requirements).

c) A Full Integrated Transport Assessment shall be undertaken for activities that exceed the threshold for a Full Assessment in Table 10-1 below. The relevant assessment matters shall be restricted to those set out in 10.10.1 a. to e. (Safety and efficiency, Design and layout, ITA requirements, Heavy vehicles, and Network effects).

d) Where an Integrated Transport Assessment has already been approved for the site as part of a granted resource consent, then these rules do not apply to any development that is within scope of that Integrated Transport Assessment and in accordance with the resource consent, unless the resource consent has lapsed.

Table 10-1: Thresholds for High Traffic Generating Activities

Activity	Basic Assessment required	Full Assessment required
Education: Preschools	40 children	90 children
Education: Schools	70 students	170 students
Education: Tertiary	250 FTE students	750 FTE students
Industrial	5,000m^2 GFA	12,000m^2 GFA
Warehousing and distribution	6,500m^2 GFA	25,000m^2 GFA

Health Care Facilities	300m^2 GFA	1,200m^2 GFA
Office	2,000m^2 GFA	4,800m^2 GFA
Residential (excluding retirement homes)	50 residential sites/units	120 residential sites/units
Retail – Shops and supermarkets	250m^2 GFA	900m^2 GFA
Retail – Large format and bulk goods (excluding trade retail and trade supply activities)	550m^2 GFA	2,200m^2 GFA
Service stations	2 filling points	6 filling points
Mixed use or other activities not otherwise listed in this table	50 vehicles per peak hour. 'Peak hour' means any hour when the greatest number of vehicle movements occurs.	120 vehicles per peak hour

10.8.2 Car Parking Spaces in the Business A Zone

a) In the Business A Zone of Ashburton where on-site car parking for the convenience of persons working or living on-site is proposed, it shall be provided to the rear of any building(s) on the site and all required loading spaces shall be provided at the rear of building(s) on the site.

10.8.3 Mobility Parking Spaces

a) The minimum number of mobility parking spaces provided shall be as specified in Table 10-2:

Table 10-2: Mobility Parking Provision

Applicable to	Total number of standard car parking spaces provided on site	Minimum number of mobility parking spaces required
A) Any activity where standard car parking spaces are provided (except for: a. residential activities; or b. visitor accommodation for up to 10 guests); or B) Any activity containing buildings with a GFA of more than 2,500m^2.	1-20 spaces	1 space
	21-50 spaces	2 spaces
	Every additional 50 spaces, or part thereof	1 space

Note for Table 10-2: Mobility Parking Provision: Mobility parking spaces are required for all buildings with a GFA greater than 2,500m2. If no other car parking spaces are provided, then the amount of mobility parking spaces required shall be calculated by determining how many mobility parking spaces would be required if one standard parking space per 100m2 of GFA were provided.

b) Mobility parking spaces shall be:

- on the same site as the activity;
- located as close as practicable via the most direct route to the accessible entrance to the activity with which they are associated;
- on a level surface;
- clearly marked; and
- designed & constructed in accordance with NZS 4121: 2001 Design for access and mobility: Buildings and associated facilities.

10.8.4 Size of Parking Spaces

a) All parking spaces, other than for residential units, shall be designed to accommodate a 90 percentile design motor car (refer Appendix 10-2) and shall be laid out in accordance with the minimum dimensions specified within Table 10-3 below and as illustrated within Appendix 10-2:

Table 10-3: Minimum Parking Space Dimensions

Type of User	Parking Angle	Stall Width	Aisle Width	Stall Depth[5]
Class 1 [1]	90°	2.5	6.2	5.0
Class 2 [2]	90°	2.6	7.0	5.0
Mobility Parking	90°	3.6	6.2	5.0
All	0° (parallel)	2.1	3.3[3] 6.5[4]	6.1
All	30°	2.5	3.5	4.4
All	45°	2.6	4.2	5.2
All	60°	2.6	5.1	5.7

Notes for Table 10-3:

1. Class 1: medium to long term parking including areas such as employee and commuter parking, long-term town centre parking, sporting facilities, entertainment centres and hotels and motels.

2. Class 2: short term, high turnover parking at retail / commercial activities and where goods can be expected to be loaded into vehicles.

3. One-way aisle only.

4. Two-way aisle.

5. Stall depth may be reduced by 600mm where there is sufficient overhang space in front of the space, provided such space is not required for another parking space, pedestrian path or similar purpose.

6. Spaces adjacent to walls or columns shall be 300mm wider than specified within Table 10-3.

7. All dimensions are in metres.

10.8.5 Residential Parking Spaces

a) Where residential car parking spaces are provided within a garage, the minimum internal dimensions shall be as set out in Table 10-4:

Table 10-4: Residential Parking Space Dimensions

	Width	Depth
Single	3.1m	5.5m
Double	5.6m	5.6m

b) The minimum width of the entrance to a single garage shall be no less that 2.4 m.

10.8.6 Cycle Parking

a) All developments in the Business A Zone are to provide long term cycle parking on the same site as the activity to at least the minimum numbers specified in Table 10-5.

b) In other zones, all developments other than farming activities are to provide Visitor and Long Term cycle parking on the same site as the activity to at least the minimum numbers specified in Table 10-5.

c) Where the calculation of the number of cycle parks results in a fractional number, any fraction under one half shall be disregarded and any fraction of one half or more shall be counted as one space.

d) Where a land use corresponds with two or more similar activities in Table 10-5, the activity with the higher cycle parking rate shall apply. Where there are two or more separate activities on a site, the total requirement for the site shall be the sum of the cycle parking requirements for each activity.

e) All required visitor cycle parking shall be provided as follows:

- in cycle stands and laid out in accordance with Appendix 10-3 and securely anchored to an immovable object;
- on the same site and conveniently located to the activity it serves;
- clearly visible to cyclists entering the site or appropriately signposted; and
- well lit.

f) All required long term cycle parking shall be provided as follows:

- provided in cycle stands and laid out in accordance with Appendix 10-3;
- on the same site as the activity;
- well lit and covered;
- located in a secure area, unless located in an area where access by the general public is generally excluded; and
- where a cycle stand is provided, it shall be laid out in accordance with Appendix 10-3.

Table 10-5: Minimum Cycle Parks Required

Activity	Visitor Cycle Parks (for the use of customers / visitors)	Long Term Cycle Parks (for the use of staff / students and residents)
Offices	2 cycle parks for the first 500m^2 GFA, and 1 space for every 750m^2 GFA thereafter	1 per 150m^2 GFA
Industrial Activities and Service Activities	Nil	1 per 1,000m^2 GFA
Food and Beverage Outlets	1 per 300m^2 PFA	1 per 100m^2 PFA (2 minimum)
Commercial activities involving retail sales in the Rural Zone	Nil	Nil
Other retail or commercial activities	1 per 500m^2 GFA	1 per 500m^2 GFA
Hospitals and Care Homes	1 per 30 beds	1 per 15 beds
Other Health Care Service	<100m^2 GFA: Nil ≥100m2 GFA: 1 per 100m^2 GFA	<200m^2 GFA: Nil ≥200m^2 GFA: 1 space per 200m^2 GFA
Day Care facilities	2 spaces per centre	1 per 5 FTE staff
Educational Facilities – primary and secondary	1 space per 50 students	Students: 1 cycle or scooter park per 5 pupils, and Staff: 1 cycle park per 5 FTE employees
Educational Facilities – tertiary	1 space per 100 FTE students	1 space per 5 FTE students, and 1 space per 5 FTE employees

(Continues below)

Activity	Visitor Cycle Parks (for the use of customers / visitors)	Long Term Cycle Parks (for the use of staff / students and residents)
Recreational Activities	Sports fields: 3 per field	1 per field
	Swimming pools: 1 per 10m^2 pool area	1 space per 500m^2 pool area
	Netball / basketball courts: 3 per court	1 space per 500m^2 of PFA
	Tennis courts: 1 space per court	
	Gymnasium and dance studios: 1 / 50m^2 GFA	
	Other recreation facilities, if not specified above: 1 per 50m^2 of PFA (Note: Reserves and Recreation Activities in the Aquatic Park Zone are excluded.)	10% of visitor requirement
Meeting Places / Entertainment Facilities	Cinemas and theatres: 1 per 30 seats Other meeting places / entertainment facilities: 1 per 50m^2 PFA	10% of visitor requirement Other meeting places / entertainment facilities: 10% of visitor requirement
Other community activities or places of assembly (not specified above)	1 per 200m^2 of PFA	1 per 500m^2 PFA
Boarding houses and visitor accommodation	1 space per 10 beds	1 space per 3 beds
Residential developments of 20 or more units	1 per 20 units	1 per unit without a dedicated garage
Retirement Units	1 per 10 units, for developments with 10 or more units	1 space per 5 FTE employees

10.8.7 On-site Manoeuvring

a) The manoeuvring area from the road transport network boundary to any parking space shall be designed to accommodate a 90 percentile car (refer Appendix 10-4).

b) Onsite manoeuvring for a 90 percentile car (refer Appendix 10-4) shall be provided to ensure that no vehicle is required to reverse either onto or off a site where:

- any activity has vehicle access and/or vehicle crossings to an arterial road;
- any activity provides 4 or more parking spaces having vehicle access and/or vehicle crossings onto a principal or collector road;
- any activity provides 10 or more parking spaces;
- three or more residential units share a common vehicle access.

10.8.8 Loading Space Provisions

a) Every site in the Business Zones and in the Commercial Area of the Aquatic Park Zone, except for the Business A Zone, shall provide one loading space and associated manoeuvring area.

10.8.9 Loading Areas

a) Every loading space provided shall be of a useable shape and in accordance with the following minimum dimensions:

- 9m deep
- 3.5m wide
- 4.5m high

Except for: activities not involving the trading of goods (e.g. offices), where the gross floor area is less than 1500m², and on street space is available for occasional servicing by larger vehicles, then loading space dimensions shall be in accordance with the following minimum dimensions:

- 6.4m deep
- 3.5m wide
- 3.5m high

b) The manoeuvring area from the road boundary to any loading space shall be designed to accommodate a 90 percentile two axle truck (refer Appendix 10-5).

c) Onsite manoeuvring for a 90 percentile two axle truck shall be provided to ensure that no truck is required to reverse onto or off a site where any development provides loading areas or trade vehicle storage having vehicle access and/or a vehicle crossing onto an arterial, principal or a collector road.

d) If parking or servicing by a large heavy vehicle, such as an articulated truck, is anticipated to occur on a site, then both b) and c) from above apply for the manoeuvring requirements of the vehicle.

e) All loading spaces/areas shall be provided in a location that does not impede any through traffic, or manoeuvring areas, or any pedestrian or cycle access.

10.8.10 Surface of Parking and Loading Areas

a) The surface of all parking, loading and trade vehicle storage areas in the Residential Zone, Business A, B, and C Zones, and the Aquatic Park Zone (except parking areas within the Recreational Area of the Aquatic Park Zone), shall be formed to provide an all weather surface.

b) The first 3m of all such areas (as measured from the road boundary) shall be formed and sealed for the full width of the vehicle crossing, to ensure that material such as mud, stone chips or gravel is not carried onto any footpath, road transport network or service lane.

c) Parking and loading areas in the Recreational Area of the Aquatic Park Zone shall be formed and oversown with grass so as to maintain the character and appearance of the surrounding recreational area.

10.8.11 Tree Planting within Car Parking Areas

a) Where a car parking area has central parking rows, which do not abut a site boundary or building, trees shall be planted at least 7.5m apart adjacent to the central car parking spaces. The trees shall be protected from damage by vehicles.

10.8.12 Queuing Requirements

a) Where car parking is provided within a site, a minimum queuing length shall be provided in accordance with Table 10-6 below for vehicles entering the site:

Table 10-6: Queuing Length

Car Parking Spaces Provided	Queuing Length (m)
less than 20	6
21-50	12
51-75	18
76-100	24
100+	30

b) The required queuing length shall be measured from the road boundary at the car park entrance to the nearest vehicle control point or the point where entering cars could conflict with vehicles already on the site.

c) Where more than one vehicle crossing is provided to a site, the required queuing length may be assessed for each access point individually, with each parking space allocated to the nearest entry vehicle crossing for the purpose of the assessment.

d) Where the following facilities are provided within a site, minimum queuing spaces shall be provided in accordance with Table 10-7 below:

Table 10-7: Queuing Spaces

Activity	Queuing Spaces
Drive through facilities (excluding service stations)	5 queuing spaces per booth or facility

10.9 Site Standards – Accessibility and Safety

10.9.1 Roading, Access and Vehicle Crossings

All new roads shall be laid out and vested in the Council, in accordance with Standard NZS4404:2010, other than as specified below:

Table 10-8: New Road Standards

Road Hierarchy	Typical Daily Traffic Volumes (vpd)	Road Width (metres)		Carriageway Width (metres)		Footpath
		Min	Max	Min	Max	
Arterial – urban	>5,000	27	-	15	-	Both Sides
Arterial – rural	>1,000	20	-	8	-	-

a) Where a new road transport network is proposed that is located in a manner that makes it capable of being extended in the future to service additional land, the future potential daily traffic volume for the extended road shall be used to determine the minimum and maximum widths required in Table 10- above. This determination shall be based on the greater of the actual number of allotments served or the potential number of allotments that could be served as a permitted or controlled activity.

b) The carriageway of all new road transport networks laid out and vested in accordance with a) above shall be formed and sealed.

c) Footpaths shall be constructed as a sealed strip of 1.5m width within the berm.

d) All areas of berms not sealed in footpath are to be formed in grass.

e) Cul-de-sac shall be constructed with turning heads of the following radii, measured from the centre of the turning head to the kerb face:

- Residential zones and the Residential and Rural-Residential Areas of the Aquatic Park Zone – 9.5m
- All other zones – 15m

f) If the corner lot is included in any subdivision, the corner at the road intersection shall be splayed with a diagonal line reducing each boundary by at least 4 metres from the corner, except that in a Business or Rural Zone or if the highest speed limit on either frontage road is greater than 50km/h, then the diagonal line reducing each boundary shall be at least 6 metres from the corner. The corner rounding or splay shall be vested in the Council.

g) Within any new subdivision, provision shall be made for pedestrian and cycle access links, to a level appropriate to the scale and location of the development.

h) Where a subdivision adjoins land not yet subdivided, provision shall be made for pedestrian, cyclist and vehicle access linkages between the areas, including vesting of land for future road transport network reserves for the purpose of facilitating connections to future roading extensions to serve surrounding land, or planned road links that may need to pass through the subdivision.

10.9.2 Vehicular Access

a) All vehicular access to fee simple title allotments, cross leases, unit titles or leased premises shall be in accordance with the standards set out in Table 10-9 below. This rule shall not apply to vehicle crossings directly on to individual sites, which do not involve an access (refer to the definition of "access"). The following standards in Table 10-9 are minimum standards:

Table 10-9: Vehicular Access

Zone	Potential No of Sites	Length (m)	Legal Width (m)	Carriage-way Width (m)	Turning Area	Passing Bay	Foot-paths
Residential and Aquatic Park	1-2	All	3.5	3.0	Optional	Optional	Optional
Residential and Aquatic Park	3-6	0-50	4.0	3.5	Required	Required	Optional
Residential and Aquatic Park	3-6	50+	4.5	4.0	Required	Required	Required
Rural	Any	All	10.0	4.0	Optional	Optional	Optional
All Other Zones	Any	All	8.0	7.0	Required	Optional	Optional

b) The minimum height clearance for all vehicular accesses shall be 4.5m.

c) Access to allotments with the potential to accommodate more than 6 residential units shall be provided by way of a road and not by a private way or access lot.

d) All vehicle crossings from sealed roads to vehicular accesses shall be sealed for the full berm width of the adjoining road. In the case of the Rural A, B and C Zones, if the access slopes up from the road, the crossing shall be sealed to a minimum distance of 10m from the edge of the carriageway.

e) Where an allotment being created by subdivision or a new land use activity establishes on an existing site that has frontage to a state highway as well as to another road, vehicle access and vehicle crossings to the allotment shall be from the other road transport network, rather than the State Highway.

f) No activity in the lower density area of the Residential C Zone as shown on the Lochhead Outline Development Plan shall have a vehicle access or vehicle crossing to State Highway 77.

Note: For the purposes of this rule, an access shall be taken to slope up from the road if the access has an average gradient of 1:20 or steeper within 10m of the edge of the carriageway.

10.9.3 Distances of Vehicle Crossings from Intersections

a) No part of any vehicle crossing shall be located closer to the intersection of any roads than the minimum distances specified in Table 10-10 below:

Table 10-10: Minimum Distance of Vehicle Crossings from Intersections

Frontage Road	Intersecting Road Type (distances in metres)					
	Urban			Rural		
	Arterial	Principal / Collector	Local	Arterial	Principal / Collector	Local
Arterial	30	30	30	200	200	200
Principal / Collector	20	20	15	60	50	50
Local	20	15	10	60	50	50

b) Distances shall be measured from the point at which the legal boundary lines of the two road frontages intersect.

c) Where the boundaries of the site do not allow the provision of any vehicle crossing whatsoever in conformity with the above distances, a single vehicle crossing may be constructed provided it is located in the position which most nearly complies with the provisions of these rules.

10.9.4 Spacing Between Vehicle Crossings

a) On Principal and Arterial Roads where the legal speed limit is 100km/hr, the minimum spacing between successive vehicle crossings (regardless of the side of the road on which

they are located) shall not be less than 200m. This rule shall not apply to vehicle crossings to farming activities, which do not provide access or a driveway to buildings (other than haysheds).

b) On Principal and Arterial Roads where the legal speed limit is less than 100km/hr, the minimum spacing between successive vehicle crossings (either single or combined) on the same side of the road, shall not be less than 15m. This rule shall not apply to vehicle crossings which serve residential activities only.

c) The separation distances shall be measured from the centre of one vehicle crossing to the centre of the succeeding vehicle crossing, parallel to the centreline of the transport network.

d) Where the boundaries of the site do not allow the provision of any vehicle crossing whatsoever in conformity with the above distances a single vehicle crossing may be constructed in the position which most nearly complies with the provisions of this rule.

10.9.5 Maximum Number of Vehicle Crossings

a) The maximum number of vehicle crossings to a site per road frontage shall be in accordance with Table 10-11 below:

Table 10-11: Maximum Number of Vehicle Crossings

Road Hierarchy	Legal Speed Limit for Road (km/hr)	Frontage Length (m)			
		0-20	21-60	61-100	101+
Local & Collector	Any	1	2	2	3
Principal & Arterial	<100	1	1	2	2
Principal & Arterial	100	1	1	1	1

10.9.6 Sight Distances from Vehicle Crossings

a) Unobstructed sight distances shall be available from all vehicle crossings, in accordance with the minimum sight distances specified in Table 10-12 below:

Table 10-12: Minimum Sight Distances from Vehicle Crossings

Legal Speed Limit for Road (km/hr)	Minimum Sight Distance (m)
0-50	45
51-60	65
61-70	85
71-80	105
81-100	160

b) All sight distance measurements shall be undertaken in accordance with the diagram in Appendix 10-6.

10.9.7 Design and Construction of Vehicle Crossings onto Arterial Roads

a) The length of any vehicle crossing shall be in accordance with dimensions set out in Table 10-13 below:

Table 10-13: Vehicle Crossing Length

	Minimum	Maximum
Residential	3m	7.5m
Other	4m	9m

b) The vehicle crossing length shall be measured along the property boundary.

c) All vehicle crossings on to arterial and principal roads where the speed limit exceeds 50km/hr shall be designed and constructed in accordance with the diagrams included in Appendices 10-7 – 10-8, except for vehicle crossings to farming activities in Rural Zones; this standard shall only apply where a vehicle crossing provides access or a driveway to building(s).

10.9.8 Vehicle Oriented Commercial Activities

a) Notwithstanding rules 10.9.3-10.9.6 above, all:

- service stations;
- truck stops;
- commercial activities (or groups of retail activities using common vehicle crossings) containing a total gross floor area of more than 500m²;

shall comply with the following additional rules:

- No part of any vehicle crossing on to an arterial road shall be located closer than:
  - 60m to the departure side of any intersection; or
  - 30m to the approach side of any intersection.
- Distance shall be measured from the point at which the legal boundary lines of the two road frontages intersect.

- Unobstructed sight distances shall be available from all vehicle crossings, in accordance with the minimum sight distances specified in Table 10-14 below:

Table 10-14: Minimum Sight Distances for Vehicle Oriented Commercial Activities

Legal Speed Limit for Road (km/hr)	Minimum Sight Distance (m)
0-50	110
51-60	140
61-70	170
71-80	200
81-100	280

- Where the legal road speed limit is 50km/hr, the above rule shall only apply to Arterial and Principal roads.
- All sight distance measurements shall be undertaken in accordance with the relevant diagram in Appendix 10-6.

10.9.9 State Highway Access

a) Any new subdivision or land use activity that would require direct access to a state highway at a location where there is currently no such direct access, or would require any alteration to, or increase in the use of an existing direct access to such a state highway, shall be a restricted discretionary activity.

10.9.10 Minimum Sight Distances from Intersections

a) Unobstructed sight distances shall be available from all intersections, in accordance with the minimum sight distances specified in Table 10-15 below:

Table 10-15: Minimum Sight Distances from Intersections

Legal Speed Limit for Road (km/h)	Minimum Sight Distance (m)
0-50	110
51-60	140
61-70	170
71-80	200
81-100	280

b) All sight distance measurements shall be undertaken in accordance with the relevant diagram in Appendix 10-6.

10.9.11 Spacing between Intersections

a) All intersections shall be designed and located such that the minimum spacing between successive intersections is not less than the minimum distance specified in Table 10-16 below:

Table 10-16: Minimum Spacing Between Intersections

Legal Speed Limit for Road (km/h)	Minimum Distance (m)
0-50	125
51-60	160
61-70	220
71-80	550
81-100	800

b) The distance shall be measured from the centre of one intersection to the centre of the succeeding intersection, parallel to the centreline of the road.

c) In Rural Zones where the legal speed limit for the road is 100km/hr, the above standard shall apply regardless of the side of the road on which the intersections are located.

d) On roads in other zones, the above standard shall apply to intersections on the same side of the road only.

10.9.12 Tree Planting – Shading and Intersection Visibility

a) No tree shall be allowed to grow such that it shades the carriageway of a road throughout the hours of 10am and 2pm on the shortest day of the year.

b) No tree shall be planted within 30m of a road intersection, measured to the point at which the legal boundary lines of the two road frontages intersect.

10.9.13 Direct Access via Railway Level Crossings

a) Any new subdivision or land use activity that would require direct access over a railway level crossing at a location where there is currently no such direct access, and where no alternative access is provided, or would require any alteration to or increase in use of an existing direct access over a railway level crossing, shall be a restricted discretionary activity.

b) Any new accessway shall be located a minimum of 30 metres from a road/rail level crossing. The 30 metres shall be measured from the closest rail track to the edge of seal on the proposed accessway.

10.9.14 Railway Level Crossings – Vehicle Accessway Location and Minimum Sight Distances

a) Any new vehicle accessway onto a road shall be located a minimum of 30 metres from a railway level crossing, measured from the closest railway track to the edge of seal of the proposed accessway.

b) No obstruction shall be located such that it fails to comply with the railway level crossing approach sight triangles determined in accordance with Appendix 10-9.

Notes:

- The above controls apply to established level crossings. Sightlines are also a factor in the development of the design of new level crossings: however further technical assessment against rail and road design standards, and formal statutory approvals under the Railways Act 2005, are also required from the railway operator (Kiwirail).
- The rail operator (Kiwirail) also has the authority to require the removal of vegetation, walls, fences, and other obstructions from these sightlines under Section 77 of the Railways Act 2005. The inclusion of the above sightline control standard ensures that development and road/rail safety standards are well integrated, and reduce the (later) risk of a landowner being required to remove obstructions.

10.10 Assessment Matters

In considering resource consents for land use activities the Council shall apply the relevant Assessment Matters set out below.

10.10.1 High Traffic Generating Activities

a) Whether the provision of access and on-site manoeuvring areas associated with the activity, including vehicle loading and servicing deliveries, affects the safety, efficiency, accessibility (including for people with limited mobility) of the site, and the land transport network (including considering the network classification of the frontage road).

b) Whether the design and layout of the proposed activity promotes opportunities for travel other than private cars, including by providing safe and convenient access for travel using more active modes.

c) Whether the ITA has been prepared by a suitably qualified and experienced transport specialist.

d) Whether there are any effects from the anticipated trip generation and how they are to be mitigated where activities will generate more than 250hvm/d.

e) Having particular regard to the level of additional traffic generated by the activity, whether measures are proposed to adequately mitigate the actual or potential effects from the anticipated trip generation (for all transport modes) from the proposed activity, including

consideration of cumulative effects with other activities in the vicinity, proposed infrastructure, and construction work associated with the activity.

10.10.2 Parking and Loading Space Requirements and Design, and On-Site Manoeuvring

a) Whether it is physically practicable to provide the parking or loading spaces on the site, in terms of the existing location of buildings, access or driveways to the road, topography and utility location.

b) Whether there is an adequate alternative supply of the required off-street loading spaces in the immediate vicinity. (In such a situation the Council may require the use of alternative loading spaces to be secured in some manner.)

c) Whether there is a public carpark or other convenient mobility parking solution in the immediate vicinity that has available parking for people with limited mobility, and is easily accessible to the site. (In such a situation the Council may require the alternative mobility parking spaces to be secured in some manner.)

d) Whether a demonstrably less than normal incidence of parking for people with limited mobility, or loading will be generated by the proposal.

e) Whether an adverse effect on the character and amenity of the surrounding area will occur as a result of not providing the required loading space/s on the site.

f) The extent to which the safety and efficiency of the surrounding roading network, would be adversely affected by loading vehicles parking or manoeuvring on the road/s.

g) Any cumulative effect of the lack of on-site parking for people with limited mobility, cycle parking and loading spaces in conjunction with other activities in the vicinity, especially those also not providing the required number of spaces.

h) The extent to which the safety of pedestrians, both on and off the site will be affected.

i) The extent to which alternative and convenient cycle parking is available within the vicinity of the site.

j) The extent to which the nature of the activity has less demand for cycle parking than anticipated by the Plan requirements.

k) Any potential adverse effects on the safety and security of people and vehicles using the facility.

l) The extent to which there will be any adverse effect on the safety and efficiency of the frontage road.

m) The extent to which any reduction in the design characteristics will result in the parking and loading area and/or access/driveways and manoeuvring areas being impractical, inconvenient or unsafe to be used by vehicles, cyclists or pedestrians.

n) Whether the proposed surfacing could cause adverse effects on adjacent roads or neighbouring properties.

o) The extent to which planting is unnecessary or inappropriate due to the nature and location of the car-park, the nature of any fencing around the car-park, or the nature and amount of planting on adjoining sites in the vicinity.

10.10.3 Queuing Length

a) The extent to which conflicts between vehicles will be created by vehicles queuing across the vehicle crossing; confusion between vehicles turning at the crossing or the intersection; or inadequate rate of driver assimilation of data, thereby adversely affecting the safety of the road.

b) Whether the hours of operation of activities on the site coincide with the peak flows and vehicle queues on the road.

10.10.4 Roading, Access, Vehicle Crossings and Intersections

a) The extent to which the safety and efficiency of the adjoining road/s would be compromised by vehicle crossings or intersections being located closer together, or with a lesser unobstructed sight distance or intersection visibility, than is permitted by the Plan.

b) Whether the speed and volume of vehicles on the road will increase the adverse effects of the use of the vehicle crossing on the safety of road users.

c) Whether safety and efficiency would be enhanced by the provision of acceleration and deceleration lanes.

d) Whether the geometry of the road will mitigate the adverse effects of the vehicle crossing.

e) The extent to which the safety and efficiency of the frontage road would be affected by the creation of additional vehicle crossings.

f) The potential for cumulative effects on the safety and efficiency of the frontage road resulting from new vehicle crossings in addition to existing crossings in the vicinity.

g) The degree to which the location of the intersection, in combination with the position of any proposed or existing vehicular accesses or roads, will affect visibility and thereby, the safe and efficient movement of traffic using the intersection and along the adjoining road taking into account the following matters:

- the numbers and types of manoeuvres anticipated to be undertaken;
- forms of controls at the intersection;
- functions of the intersecting roads;
- the speed and volumes of traffic using the road;
- the physical features of the road i.e. number of lanes, need for acceleration and deceleration lanes, extent of visibility.

h) The degree of compatibility and consistency with the Planning Maps and any Outline Development Plan/s including: Road Hierarchy, location of roads, designations, and location and provision of walkways and cycleways.

i) In the case of access to any subdivision in the Business E Zone (Ashburton Business Estate), the effects of the traffic generated by a subdivision on the Works Road/State Highway 1 and Northpark Road / State Highway 1 intersections and the need for a financial contribution toward the intersections to mitigate the effects of subdivision.

j) The need to provide access for Takata Whenua to waahi tapu and waahi taoka.

k) The need for construction standards and ongoing maintenance for private vehicular access, and entry to individual allotments, whilst ensuring practicality, convenience and safety.

l) Any need to require provision be made in a subdivision for the vesting of road reserves for the purpose of facilitating connections to future roading extensions to serve surrounding land, or planned road links that may need to pass through the subdivision and the practicality of creating such easements during the time of subdivision application in order to facilitate later development.

m) Any need to require subdividers to enter into agreements that will enable the Council to require the future owners to form and vest roads when other land becomes available.

n) The need for, and practicality of, providing vehicular access and vehicle crossings to all allotments.

o) The degree to which proposed new roads make adequate provision for vehicle movements, car-parking and property accessibility.

p) The provisions of the roading hierarchy, the account taken of pedestrian movement, provision of space for cyclists, amenity values of the street, opportunities for tree planting in the open space of the road to enhance the character and identity of the neighbourhood.

q) The need to provide pedestrian access way facilities and/or cycleways in circumstances where the roading network does not provide sufficient or direct route/s through the locality and to facilities in the vicinity.

r) The need to provide alternative access for car-parking and vehicle loading in Business Zones and in the Commercial Area of the Aquatic Park Zone by way of vested service lanes at the rear of properties, having regard to performance standards for activities within such zones.

s) Any impact of roading and access on water bodies, ecosystems, drainage patterns or the amenities of adjoining properties, including the ability to mitigate such effects through street planting.

t) Whether a proposed subdivision has frontage to any existing road(s) that are not constructed to the standards set out in the rule and/or whether road widening is required, and if so, whether the land uses that will be established on the proposed allotments will

increase the use of that road(s) to the extent that forming or upgrading the existing road(s) is required. Accordingly, whether there is any need for the applicant to pay to the Council a financial contribution towards the forming or upgrading of the road(s) (including carriageway formation and widening, berm formation, and the provision of footpaths, kerb and channel). Such financial contribution shall not exceed the extent to which the road(s) serves or is intended to serve the subdivision and, where the road(s) are adjacent to the subdivision, shall not exceed half the cost of the formation or upgrading works.

u) Where any proposed subdivision in any zone has frontage to any existing road(s) that have been formed or upgraded by the Council within the previous 5 years, using financial contributions from an adjoining landowner paid to the Council in accordance with the clause above; the need for the benefiting applicant to pay to the Council a fair financial contribution towards the costs that have been incurred by the Council in forming or upgrading the frontage road(s). Such financial contribution shall not exceed the amounts specified above.

v) Whether adequate sightlines are available from alternative exits or vehicle crossings.

w) The extent to which the safety and efficiency of the intersecting roads would be compromised by a lesser unobstructed sight distance than is permitted in the Plan.

x) The effect of any new intersections or accesses created by the subdivision on traffic safety and efficiency, including the availability of adequate, unobstructed sight distances from intersections and adequate spacing between intersections.

y) In relation to new or altered access to a state highway, consideration of the nature of use, location, design and number of access points proposed.

z) In relation to a new subdivision or land use activity that would require direct access via a railway level crossing or would require any alteration to or increase in the use of an existing direct access over a railway level crossing, where there is no alternative access provided:

- the potential for adverse effects on the safety and efficiency of the road and railway resulting from the nature, use, location, and design of direct access to a subdivision or land use activity; and

- the ability to obtain alternative legal access to the site

aa) In relation to new vehicle access ways within 30 metres of a railway level crossing, whether vehicles can safely and efficiently enter and exit a site without resulting in the queuing of vehicles blocking the railway corridor

bb) In relation to non-compliance with railway level crossing sightlines, the extent to which the nature, location, scale, and height of any obstruction will obstruct visibility along the railway and adversely affect road and rail safety, having regard to the geometry and orientation of the intersection and the speed and volume of traffic on the road.

10.10.5 Vehicle Oriented Commercial Activities

a) The degree to which the location of the site, in combination with the position of any proposed and existing vehicle crossings and the actual or potential vehicle operation, will affect the safe and efficient movement of traffic onto and off the site and along the adjoining road taking into account the following matters:

- the numbers and types of manoeuvres anticipated to be undertaken at adjacent intersections;
- the forms of control at adjacent intersections;
- the functions of the frontage road and any intersecting roads;
- the speed and volumes of through traffic;
- the physical features of the roadway, i.e. number of lanes, visibility;
- whether the access will be on an upstream or downstream side of the intersection.

b) The ability for vehicles to queue or be serviced on site without affecting the safe movement of vehicles or pedestrians along the adjoining road or footpath or the movement of vehicles and pedestrians using the onsite facilities.

c) The degree to which tankers and other heavy vehicles may enter and exit the site without excessive manoeuvring or disruption to vehicles on the site or the safe movement of vehicles along the adjoining road.

10.10.6 Tree Planting – Shading and Intersection Visibility

a) The extent to which the location, orientation, species and maximum proposed tree(s) will result in shading of the carriageway and a potential for icing which could endanger the safety of motorists.

b) The extent to which tree location, species, maximum height and spread of the proposed tree will obstruct visibility from the intersection of approaching traffic, and adversely affect road safety having regard to the geometry and orientation of the intersection and the speed and volume of vehicles on the road.

c) The extent to which the topography or other existing features are already preventing the direct access of sunlight onto the road.

d) Whether the vegetation existed at the time of notification of the Plan and if so the extent to which the vegetation scale has altered.

Section 10 Appendices

Appendix 10-1: Roading Hierarchy

Arterial Roads

Road ID	Road Name	Part of Road	Start m	End m
31	ARUNDEL RAKAIA GORGE ROAD	From RANGITATA BRIDGE (STH ABUT) to STATE HIGHWAY 77	0	57112
183	EAST STREET ROTARY	From EAST STREET (SOUTH INT) to EAST STREET (SOUTH INT)	0	70

Principal Roads

Road ID	Road Name	Part of Road	Start m	End m
40	BACK TRACK	From BARKERS ROAD EASTBOUND to RAKAIA BARRHILL METHVEN ROAD	1969	2283
48	BARKERS ROAD	From HALL STREET to BARKERS ROAD EASTBOUND	187	2563
5081	BARKERS ROAD EASTBOUND	From BARKERS ROAD to BACK TRACK	0	354
53	BEACH ROAD	From CHALMERS AVENUE ROTARY SOUTH to TREVORS ROAD (ASHBURTON)	0	711
5069	BEACH ROAD EAST	From TREVORS ROAD (ASHBURTON) to RIVER ROAD	0	4436
61	BELT ROAD	From HARRISON STREET ROTARY to RACECOURSE ROAD	0	1159
77	BREMNERS ROAD	From EAST STREET to SEAFIELD ROAD	0	191
78	BRIDGE STREET (ASHBURTON)	From CHALMERS AVENUE ROTARY NORTH to SEAFIELD ROAD	0	1113
108	CASS STREET	From MONA SQUARE (NORTH INT) to WILLS STREET EAST	521	1196
713	CHALMERS AVENUE EAST	From CHALMERS AVENUE ROTARY NORTH to SOUTH STREET	0	1576
5052	CHALMERS AVENUE ROTARY NORTH	From CHALMERS AVENUE EAST to CHALMERS AVENUE EAST	0	70
5055	CHALMERS AVENUE ROTARY SOUTH	From CHALMERS AVENUE EAST (NORTH INT) to CHALMERS AVENUE EAST	0	90
112	CHALMERS AVENUE WEST	From SOUTH STREET to CHALMERS AVENUE ROTARY NORTH	0	1578
144	CRACROFT MARONAN ROAD	From MARONAN ROAD to TREVORS ROAD (CAREW)	0	3653
711	DOBSON STREET WEST	From KERMODE STREET WEST to ROBINSON STREET (ASHBURTON)	0	660
182	EAST STREET	From STATE HIGHWAY 1 (SOUTH INT) to STATE HIGHWAY 1 (NORTH INT)	0	2424
736	ELIZABETH AVENUE 01 WEST	From WEST TOWN BELT WEST to ELIZABETH AVENUE 02 ROTARY WEST	0	457
737	ELIZABETH AVENUE 02 ROTARY WEST	From ELIZABETH AVENUE 01 WEST to ELIZABETH AVENUE 01 WEST	0	120
509	ELIZABETH AVENUE 03 RAILWAY	From ELIZABETH AVENUE 02 ROTARY WEST to ELIZABETH AVENUE 04 ROTARY EAST	0	79
5041	ELIZABETH AVENUE 04 ROTARY EAST	From ELIZABETH AVENUE 03 RAILWAY to ELIZABETH AVENUE 03 RAILWAY	0	71
527	ELIZABETH AVENUE 05 NORTH	From ELIZABETH AVENUE 04 ROTARY EAST to STATE HIGHWAY 1	0	159
547	ELIZABETH AVENUE 06 SOUTH	From ELIZABETH AVENUE 04 ROTARY EAST to STATE HIGHWAY 1	0	159

Principal Roads

Road ID	Road Name	Part of Road	Start m	End m
208	FOREST DRIVE	From STATE HIGHWAY 77 to PUDDING HILL ROAD (MT HARDING RD RHS)	0	1389
5008	GRAHAM STREET	From STATE HIGHWAY 1 to GROVE STREET	0	483
232	GRAHAMS ROAD	From GROVE STREET to BOUNDARY ROAD	0	3580
258	HARRISON STREET	From HARRISON STREET ROTARY to FARM ROAD	0	1567
5053	HARRISON STREET ROTARY	From HARRISON STREET to HARRISON STREET	0	66
263	HAVELOCK STREET	From WALKER STREET to CHALMERS AVENUE EAST	113	1710
5054	HAVELOCK STREET ROTARY	From HAVELOCK STREET (NW INT) to HAVELOCK STREET (NW INT)	0	56
278	HINDS ARUNDEL ROAD	From WITHELLS ROAD (NORTH INT) to ARUNDEL RAKAIA GORGE ROAD	20088	20863
328	LAGMHOR ROAD	From STATE HIGHWAY 1 to TINWALD WESTERFIELD MAYFIELD ROAD	0	730
371	MARONAN ROAD	From STATE HIGHWAY 1 to CRACROFT MARONAN ROAD	0	18202
378	MAYFIELD VALETTA ROAD	From TINWALD WESTERFIELD MAYFIELD ROAD to TRAMWAY ROAD	0	11001
419	MOORE STREET	From STATE HIGHWAY 1 to CHALMERS AVENUE ROTARY SOUTH	0	759
722	OAK GROVE EAST	From HARRISON STREET ROTARY to STATE HIGHWAY 77	0	835
445	OAK GROVE WEST	From STATE HIGHWAY 77 to HARRISON STREET ROTARY	0	821
490	RACECOURSE ROAD	From STATE HIGHWAY 1 to STATE HIGHWAY 77	0	4794
491	RAILWAY TERRACE EAST	From ELIZABETH AVENUE 04 ROTARY EAST to SOUTH TOWN BELT	526	949
493	RAKAIA BARRHILL METHVEN ROAD	From WEST TOWN BELT WEST to BACK TRACK	0	33621
536	SEAFIELD ROAD	From BREMNERS ROAD to CHRISTYS ROAD (EAST INT)	0	11818
551	SMALLBONE DRIVE	From STATE HIGHWAY 77 to ROBINSON STREET (ASHBURTON)	0	410
558	SOUTH STREET	From STATE HIGHWAY 1 to CHALMERS AVENUE EAST	0	688
570	STRANGES ROAD	From BOUNDARY ROAD to LAKE HOOD DRIVE	0	1001
591	THOMPSONS TRACK	From SOUTH TOWN BELT to TRAMWAY ROAD	0	39631
596	TINWALD WESTERFIELD MAYFIELD ROAD	From LAGMHOR ROAD to ARUNDEL RAKAIA GORGE ROAD	0	27355
721	WALNUT AVENUE	From HARRISON STREET ROTARY to SH 1 WALNUT AVENUE ROTARY	0	958
715	WALNUT AVENUE NORTH	From SH 1 WALNUT AVENUE ROTARY to CHALMERS AVENUE ROTARY NORTH	0	758
622	WALNUT AVENUE SOUTH	From CHALMERS AVENUE ROTARY NORTH to SH 1 WALNUT AVENUE ROTARY	0	759

Collector Roads

Road ID	Road Name	Part of Road	Start m	End m
4	ACTON ROAD	From MICHAEL STREET EAST to CORBETTS ROAD NORTH	0	19696
7	AGNES STREET	From STATE HIGHWAY 1 to THOMSON STREET	0	241
8	AITKEN STREET	From EAST STREET to CHALMERS AVENUE EAST	0	704

Collector Roads

Road ID	Road Name	Part of Road	Start m	End m
10	ALBERT STREET	From CHALMERS AVENUE ROTARY NORTH to WAKANUI ROAD	0	1373
17	ALINGTON STREET	From MCMILLAN STREET ROTARY to MORGAN STREET	0	368
19	ALLENS ROAD	From STATE HIGHWAY 77 to RACECOURSE ROAD	0	1733
20	ALLISON STREET	From HARRISON STREET to ELIZABETH STREET	0	383
26	ANDREW STREET	From STATE HIGHWAY 77 to HARRISON STREET	0	462
34	ASHBURTON GORGE ROAD	From ARUNDEL RAKAIA GORGE ROAD to HAKATERE HERON ROAD	0	23869
37	ASHBURTON STAVELEY ROAD	From STATE HIGHWAY 77 to ARUNDEL RAKAIA GORGE ROAD	0	34509
48	BARKERS ROAD	From MACKIE STREET to HALL STREET	151	187
51	BATHURST STREET	From HARRISON STREET to MIDDLE ROAD	0	419
5069	BEACH ROAD EAST	From RIVER ROAD to WAKANUI SCHOOL ROAD	4436	8477
77	BREMNERS ROAD	From SEAFIELD ROAD to NORTHPARK ROAD	191	1905
78	BRIDGE STREET (ASHBURTON)	From SEAFIELD ROAD to GLASSWORKS ROAD	1113	2002
82	BRUCEFIELD AVENUE	From PRINCES STREET to END (SHOWGROUNDS)	0	644
95	BURNETT STREET EAST	From EAST STREET to WILLIAM STREET	0	465
717	BURNETT STREET WEST	From PARK STREET to STATE HIGHWAY 1	461	684
449	BURROWES ROAD	From ROLLESTON STREET EAST to ELIZABETH AVENUE	128	260
100	CAMERON STREET EAST (ASHBURTON)	From EAST STREET to CASS STREET	0	224
107	CARTERS TERRACE	From STATE HIGHWAY 1 to GROVE STREET	0	489
108	CASS STREET	From SOUTH STREET to MONA SQUARE (SOUTH INT)	117	308
108	CASS STREET	From WILLS STREET EAST to WALNUT AVENUE NORTH	1196	1827
109	CATHERINE STREET	From STATE HIGHWAY 1 to MCMURDO STREET	0	121
111	CAVENDISH STREET	From HARRISON STREET to MIDDLE ROAD	0	345
113	CHAPMAN STREET (METHVEN)	From MCMILLAN STREET ROTARY to MORGAN STREET	0	322
118	CHERTSEY KYLE ROAD	From STATE HIGHWAY 1 to CHERTSEY LINE ROAD	0	131
118	CHERTSEY KYLE ROAD	From PENDARVES RAKAIA ROAD to MCCRORYS RD (L) CHRISTYS RD (R)	10185	10253
122	CHRISTYS ROAD	From BEACH ROAD EAST to CHERTSEY KYLE ROAD	0	15942
5010	COLDSTREAM ROAD	From STATE HIGHWAY 1 to EALING ROAD	0	14992
135	COMPANY ROAD	From SEAFIELD ROAD to FAIRFIELD ROAD	0	4482
136	COMPTON STREET	From MELCOMBE STREET to GEORGE STREET	0	118
146	CREEK ROAD	From WALNUT AVENUE to RACECOURSE ROAD	0	1168
148	CROSS STREET	From STATE HIGHWAY 77 to HARRISON STREET	0	730
5009	DELAMAINE STREET	From STATE HIGHWAY 1 to HINDS ARUNDEL RD	0	373
163	DOBSON STREET EAST	From STATE HIGHWAY 1 to CHALMERS AVENUE EAST	0	713
179	EALING ROAD	From STATE HIGHWAY 1 to COLDSTREAM ROAD	0	14226
512	ELIZABETH AVENUE 07 EAST	From STATE HIGHWAY 1 to BURROWES ROAD	0	475
188	ELIZABETH STREET	From GRIGG STREET (ASHBURTON) to ALLENS ROAD	0	1071
189	EMERSONS ROAD	From COLDSTREAM ROAD to PYES ROAD	0	4292

Collector Roads

Road ID	Road Name	Part of Road	Start m	End m
193	FAIRFIELD ROAD	From SILVER FERN FARMS ACCESS [PRIVATE] to SINGLETREE ROAD	0	3140
777	FAIRFIELD ROAD WEST	From STATE HIGHWAY 1 to SILVER FERN FARMS ACCESS [PRIVATE]	0	819
195	FARM ROAD	From STATE HIGHWAY 77 to RACECOURSE ROAD	0	1388
204	FITZGERALD ROAD	From BONNINGTONS ROAD to RIVER ROAD	0	3668
207	FORDS ROAD	From THOMSON STREET to BOUNDARY ROAD	0	4913
209	FORKS ROAD	From ASHBURTON STAVELEY ROAD to ARUNDEL RAKAIA GORGE ROAD	0	10942
214	FRASERS ROAD	From TINWALD WESTERFIELD MAYFIELD ROAD to MARONAN VALETTA ROAD	0	21414
227	GLASSWORKS ROAD	From BREMNERS ROAD to COMPANY ROAD	0	1127
232	GRAHAMS ROAD	From STRANGES ROAD to LONGBEACH ROAD	3719	21068
723	GRIGG STREET (ASHBURTON)	From BURNETT STREET to ELIZABETH STREET	0	606
243	GROVE STREET	From CARTERS TERRACE to CATHERINE STREET	0	1759
251	HALL STREET	From STATE HIGHWAY 77 to BARKERS ROAD	0	118
253	HANRAHAN STREET	From BELT ROAD to TURTON STREET	0	803
261	HASSAL STREET	From STATE HIGHWAY 1 to THOMSON STREET	0	309
270	HEPBURNS ROAD	From RACECOURSE ROAD to WINCHMORE DROMORE ROAD	0	8370
278	HINDS ARUNDEL ROAD	From DELAMAINE STREET to WITHELLS ROAD (SOUTH INT)	0	20064
292	ISLEWORTH ROAD	From STATE HIGHWAY 1 to PYES ROAD	0	12733
302	JANE STREET	From STATE HIGHWAY 1 to MCMURDO STREET	0	121
5065	JB CULLEN DRIVE	From NORTHPARK ROAD to WORKS ROAD (RAILWAY CROSSING)	0	2015
756	JB CULLEN DRIVE ROTARY	From JB CULLEN DRIVE (SW INT) to JB CULLEN DRIVE (SW INT)	0	96
306	JOHNSTONE STREET (TINWALD)	From STATE HIGHWAY 1 to MCMURDO STREET	0	122
317	KERMODE STREET EAST	From EAST STREET to MONA SQUARE	0	163
716	KERMODE STREET WEST	From STATE HIGHWAY 77 to STATE HIGHWAY 1	0	470
767	KERMODE STREET WEST ROTARY	From KERMODE ST WEST (NORTH INT) to KERMODE ST WEST (NORTH INT)	0	36
320	KING STREET (ASHBURTON)	From EAST STREET to BRUCEFIELD AVENUE	0	343
323	KITCHENER STREET	From BRUCEFIELD AVENUE to BRIDGE STREET	0	295
5085	LAKE HOOD DRIVE	From STRANGES ROAD to BRIDGE (WEST ABUT)	0	1989
803	LAKE HOOD DRIVE ROTARY	From LAKE HOOD DRIVE (NORTH INT) to LAKE HOOD DRIVE (NORTH INT)	0	76
333	LAURISTON BARRHILL ROAD	From LINE ROAD to RAKAIA BARRHILL METHVEN ROAD	0	8830
344	LINE ROAD	From METHVEN CHERTSEY ROAD to THOMPSONS TRACK	0	17500
345	LISMORE MAYFIELD ROAD	From ARUNDEL RAKAIA GORGE ROAD to CRACROFT MARONAN ROAD	0	12406
349	LONGBEACH ROAD	From STATE HIGHWAY 1 to GRAHAMS ROAD	0	15064
359	MACKIE STREET (METHVEN)	From BARKERS ROAD to METHVEN CHERTSEY ROAD	0	340
360	MACKIE STREET (RAKAIA)	From ELIZABETH AVENUE 02 ROTARY WEST to RAKAIA TERRACE (AT CORNER)	0	580
5079	MAGNOLIA DRIVE	From BRIDGE STREET to BRAEBROOK DRIVE (AT CORNER)	0	580

Collector Roads

Road ID	Road Name	Part of Road	Start m	End m
367	MANCHESTER STREET	From STATE HIGHWAY 1 to MCMURDO STREET	0	121
370	MARONAN EALING ROAD	From WITHELLS ROAD to MCDOUGALLS ROAD	0	15213
372	MARONAN VALETTA ROAD	From MARONAN ROAD to VALETTA WESTERFIELD ROAD	0	19962
377	MAYFIELD KLONDYKE ROAD	From ARUNDEL RAKAIA GORGE ROAD to HINDS GORGE ROAD	0	7218
384	MCCRORYS ROAD	From CHERTSEY KYLE ROAD to ACTON ROAD	0	13482
106	MCDOUGALLS ROAD	From CRACROFT MARONAN ROAD to MARONAN EALING ROAD	0	25
395	MCLENNANS BUSH ROAD	From STATE HIGHWAY 77 to ROSEHILL ROAD	0	2432
397	MCMILLAN STREET	From SOUTH BELT to FOREST DRIVE	0	436
753	MCMILLAN STREET ROTARY	From MCMILLAN STREET (SOUTH INT) to MCMILLAN STREET (SOUTH INT)	0	82
399	MCNALLY STREET	From RANGE STREET to END OF LEGAL ROAD	0	296
402	MELCOMBE STREET	From BUCKLEYS TERRACE to MARONAN ROAD	0	2268
698	MELCOMBE STREET RAIL CROSSING NORTH	From STATE HIGHWAY 1 to MELCOMBE STREET	0	90
697	MELCOMBE STREET RAIL CROSSING SOUTH	From STATE HIGHWAY 1 to MELCOMBE STREET	0	61
186	METHVEN CHERTSEY ROAD	From STATE HIGHWAY 77 to LINE ROAD	0	644
405	MICHAEL STREET EAST	From RAILWAY TERRACE EAST to ACTON ROAD	0	718
406	MIDDLE ROAD	From CREEK ROAD to BATHURST STREET	0	1556
412	MILTON ROAD SOUTH	From SEAFIELD ROAD to END OF LEGAL ROAD	0	4160
414	MITCHAM ROAD	From STATE HIGHWAY 1 to RAKAIA BARRHILL METHVEN ROAD	0	24376
416	MONA SQUARE	From CASS STREET (SW INT) to CASS STREET (NE INT)	0	212
422	MORGAN STREET (METHVEN)	From FOREST DRIVE to SOUTH BELT	0	521
427	MOUNT HUTT STATION ROAD	From STATE HIGHWAY 77 (SOUTH INT) to STATE HIGHWAY 77 (NORTH INT)	1990	10952
432	NELSON STREET	From CHALMERS AVENUE EAST to TREVORS ROAD	0	716
436	NIXON STREET	From MELCOMBE STREET to TARBOTTONS ROAD	0	486
439	NORTHPARK ROAD	From STATE HIGHWAY 1 to JB CULLEN DRIVE	0	330
462	PARK STREET	From KERMODE STREET WEST to WILLS STREET WEST	0	717
467	PENDARVES RAKAIA ROAD	From STATE HIGHWAY 1 to CHERTSEY KYLE ROAD	0	12364
469	PETER STREET WEST	From EAST STREET to WILLIAM STREET	0	462
480	POPLAR ROAD	From LONGBEACH ROAD to COLDSTREAM ROAD	0	12826
484	PRINCES STREET	From EAST STREET to BRIDGE STREET	0	709
485	PUDDING HILL ROAD	From FOREST DRIVE (MT HARDING RD RHS) to ARUNDEL RAKAIA GORGE ROAD	0	8591
488	QUEENS DRIVE	From STATE HIGHWAY 1 to CREEK ROAD	0	581
491	RAILWAY TERRACE EAST	From MICHAEL STREET EAST to ELIZABETH AVENUE 04 ROTARY EAST	219	477
492	RAILWAY TERRACE WEST	From ELIZABETH AVENUE 02 ROTARY WEST to SOUTH TOWN BELT	609	1000
511	RIVER ROAD	From FITZGERALD ROAD to HAKATERE DRIVE	10286	11911
515	ROBINSON STREET (ASHBURTON)	From START OF ROAD to RANGE STREET	0	824

Collector Roads

Road ID	Road Name	Part of Road	Start m	End m
519	ROLLESTON STREET EAST	From BURROWES ROAD to MICHAEL STREET EAST	623	787
524	RULES ROAD	From CHERTSEY ROAD to PENDARVES RAKAIA ROAD	0	5911
526	RUSSELL AVENUE	From RACECOURSE ROAD to SAUNDERS ROAD	0	375
531	SAUNDERS ROAD	From STATE HIGHWAY 1 to CREEK ROAD	0	550
546	SHORT STREET	From PARK STREET to BURNETT STREET	0	439
550	SINGLETREE ROAD	From SEAFIELD ROAD to CHERTSEY ROAD	0	8862
554	SMITHFIELD ROAD	From SEAFIELD ROAD to MILTON ROAD SOUTH	0	2302
557	SOUTH BELT	From STATE HIGHWAY 77 to MORGAN STREET	0	640
559	SOUTH TOWN BELT	From HARDYS ROAD to STATE HIGHWAY 1	0	750
573	SUFFOLK STREET	From WILLOW STREET to TREVORS ROAD	0	459
724	TANCRED STREET EAST (ASHBURTON)	From EAST STREET to CHALMERS AVENUE EAST	0	705
579	TANCRED STREET WEST (ASHBURTON)	From PARK STREET to STATE HIGHWAY 1	0	223
587	THE MALL	From MCMILLAN STREET ROTARY to STATE HIGHWAY 77	0	125
592	THOMSON STREET	From CARTERS TERRACE to HASSAL STREET	0	2155
598	TRAMWAY ROAD	From THOMPSONS TRACK to ARUNDEL RAKAIA GORGE ROAD	0	10493
599	TREVORS ROAD (ASHBURTON)	From ALBERT STREET to BEACH ROAD EAST	0	1208
600	TREVORS ROAD (CAREW)	From CRACROFT MARONAN ROAD to HINDS ARUNDEL ROAD	0	11385
603	TUCKER STREET	From BELT ROAD to TURTON STREET	0	619
604	TURTON STREET	From MIDDLE ROAD to ALLENS ROAD	0	367
609	VALETTA WESTERFIELD ROAD	From TINWALD WESTERFIELD MAYFIELD ROAD to MAYFIELD VALETTA ROAD	0	12447
611	VICTORIA STREET	From CAMERON ST EAST to CHALMERS AVENUE EAST	0	723
615	WAKANUI ROAD	From CHALMERS AVENUE EAST to BEACH ROAD EAST	0	7283
620	WALKER STREET	From STATE HIGHWAY 77 to ELIZABETH STREET	0	564
628	WELLINGTON STREET	From CHALMERS AVENUE EAST to TREVORS ROAD (ASHBURTON)	0	718
636	WILKIN STREET	From STATE HIGHWAY 1 to GROVE STREET	0	485
637	WILLIAM STREET (ASHBURTON)	From PRINCES STREET to THE TERRACE	0	1937
643	WILLS STREET EAST	From EAST STREET to CHALMERS AVENUE EAST	0	722
710	WILLS STREET WEST	From OAK GROVE WEST to STATE HIGHWAY 1	0	988
644	WILSONS ROAD	From BEACH ROAD EAST to BONNINGTONS ROAD	0	7040
646	WINCHMORE LAURISTON ROAD	From STATE HIGHWAY 77 to LINE ROAD	0	10800
656	WITHELLS ROAD	From STATE HIGHWAY 1 to MARONAN EALING ROAD	0	267
656	WITHELLS ROAD	From HINDS ARUNDEL ROAD (SOUTH INT) to HINDS ARUNDEL ROAD (NORTH INT)	11566	11591
662	WORKS ROAD	From STATE HIGHWAY 1 to JB CULLEN DRIVE (RAILWAY CROSSING)	0	385

Local Roads

All other Ashburton District Council Roads (formed or unformed).

The following roads are owned and managed by the New Zealand Transport Agency, but are included for clarity.

State Highways

Road ID	Road Name	Part of Road	Start m	End m
10401	SH 1 RS 401 RAKAIA TO CHERTSEY [BRIDGE STREET]	From RAKAIA TERRACE to SOUTH TOWN BELT	376	1268
10401	SH 1 RS 401 RAKAIA TO CHERTSEY [RAKAIA HIGHWAY]	From RAKAIA RIVER BRIDGE (SOUTH ABUT) to RAKAIA TERRACE	0	376
10401	SH 1 RS 401 RAKAIA TO CHERTSEY [RAKAIA HIGHWAY]	From SOUTH TOWN BELT to SH 1 RS 416	1268	14667
10416	SH 1 RS 416A CHERTSEY TO ASHBURTON [RAKAIA HIGHWAY]	From RS 416 SIGN to RACECOURSE ROAD	0	12071
10416	SH 1 RS 416A CHERTSEY TO ASHBURTON [WEST STREET]	From RACECOURSE ROAD to SH 1 WALNUT AVENUE ROTARY (NORTH INT)	12071	13222
10428	SH 1 RS 416B WALNUT AVENUE ROTARY [WEST STREET ROUNDABOUT]	From STATE HIGHWAY 1 (NORTH INT) to STATE HIGHWAY 1 (NORTH INT)	0	78
10429	SH 1 RS 416C ASHBURTON [WEST STREET]	From SH 1 WALNUT AVENUE ROTARY (SOUTH INT) to STATE HIGHWAY 77 (MOORE STREET)	13273	14470
10430	SH 1 RS 430 ASHBURTON TO HINDS [ARCHIBALD STREET]	From ASHBURTON RIVER (BRDG SOUTH ABUT) to SPEED RSTRN 70:100 ASHBURTON	953	3650
10430	SH 1 RS 430 ASHBURTON TO HINDS [ASHBURTON RIVER BRIDGE]	From ASHBURTON RIVER (BRDG NORTH ABUT) to ASHBURTON RIVER (BRDG SOUTH ABUT)	597	953
10430	SH 1 RS 430 ASHBURTON TO HINDS [EAST STREET]	From STATE HIGHWAY 77 to ASHBURTON RIVER (BRDG NORTH ABUT)	0	597
10430	SH 1 RS 430 ASHBURTON TO HINDS [HINDS HIGHWAY]	From SPEED RSTRN 70:100 ASHBURTON to HINDS RIVER (BRDG NORTH ABUT)	3650	16510
10447	SH 1 RS 447 HINDS TO RANGITATA [HINDS HIGHWAY]	From HINDS RIVER (BRDG SOUTH ABUT) to SPEED RSTRN 100:70 HINDS	85	368
10447	SH 1 RS 447 HINDS TO RANGITATA [HINDS RIVER BRIDGE]	From HINDS RIVER (BRDG NORTH ABUT) to HINDS RIVER (BRDG SOUTH ABUT)	0	85
10447	SH 1 RS 447 HINDS TO RANGITATA [PETERS STREET]	From SPEED RSTRN 100:70 HINDS to SPEED RSTRN 70:100 HINDS	368	1680
10447	SH 1 RS 447 HINDS TO RANGITATA [RANGITATA HIGHWAY]	From SPEED RSTRN 70:100 HINDS to RANGITATA RVR BRDG NTH BRNCH (NTH ABUT)	1680	15225
77000	SH 77 RS 0 ASHBURTON TO BRAEMAR [ALFORD FOREST ROAD]	From OAK GROVE WEST to SPEED RSTRN 50:100 ASHBURTON	1116	3005
77000	SH 77 RS 0 ASHBURTON TO BRAEMAR [ASHBURTON RAKAIA GORGE ROAD]	From SPEED RSTRN 50:100 ASHBURTON to BRAEMAR LAURISTON ROAD	3005	16930
77000	SH 77 RS 0 ASHBURTON TO BRAEMAR [MOORE STREET]	From STATE HIGHWAY 1 (WEST STREET) to SMALLBONE DRIVE	0	484
77000	SH 77 RS 0 ASHBURTON TO BRAEMAR [RIVER TERRACE]	From SMALLBONE DRIVE to OAK GROVE WEST	484	1116
77017	SH 77 RS 17 BRAEMAR TO METHVEN [ASHBURTON RAKAIA GORGE ROAD]	From BRAEMAR LAURISTON ROAD to SPEED RSTRN 100:50 METHVEN	0	15960
77017	SH 77 RS 17 BRAEMAR TO METHVEN [MAIN STREET]	From SPEED RSTRN 100:50 METHVEN to SH 77 RS 33	15960	16830

77033	SH 77 RS 33 METHVEN TO MT HUTT [MAIN STREET]	From SH 77 RS 33 to SPEED RSTRN 50:100 METHVEN	0	860
77033	SH 77 RS 33 METHVEN TO MT HUTT [MT HUTT STATION ROAD]	From SPEED RSTRN 50:100 METHVEN to HOLMES ROAD	860	1266
77033	SH 77 RS 33 METHVEN TO MT HUTT [MT HUTT STATION ROAD]	From HOLMES ROAD to MOUNT HUTT STATION ROAD	1266	2773
77033	SH 77 RS 33 METHVEN TO MT HUTT [WAIMARAMA ROAD]	From MOUNT HUTT STATION ROAD to SH 77 RS 43	2773	9760
77043	SH 77 RS 43 MT HUTT TO RAKAIA GORGE [ARUNDEL RAKAIA GORGE ROAD]	From SH 77 RS 43 to RAKAIA GORGE BRIDGE NO.1 (SW ABUT)	0	9959

Description of Roading Hierarchy

Typical Total Daily Traffic Flows

Road Hierarchy	Location	Vehicles per day
Arterial	urban	>5000
Arterial	rural	>1000
Principal	urban	1000 to 6000
Principal	rural	500 to 1500
Collector	urban	200 to 2000
Collector	rural	150 to 800
Local	urban	<250
Local	rural	<200

For the purposes of calculating Typical Total Daily Traffic Flows (VPD) on local roads, the minimum vacant allotment size for the respective zone shall determine the number of household units, which in turn will be deemed to generate 10 vehicle movements per day.

Explanation and Reasons for Hierarchy

The Council has established the hierarchy of roads to classify each road by the balance of its planned traffic functions and its use as access for adjacent land uses. The highest classified roads (Arterials) provide for predominantly through traffic function and these are consistent with the State Highway network through the District. The lowest classification (Local) roads provide for primary access to adjacent land and properties and through traffic use is discouraged. In this way the hierarchical network provides for the efficient and safe movement of people and goods while reducing the conflicts arising between traffic requirements and the surrounding environment.

Overall, the various types of road combine to form a complementary network. Consistency of standards for upgrading and new additions to this network are important to ensure all components continue to operate effectively together, to maintain safety standards and amenity values for residential areas. The programme of works for upgrading and additions to the road network will be implemented through the Annual Plan.

The function of each road classification within the hierarchy is as follows:

Arterial Roads

Arterial roads are the dominant elements of the roading network connecting the major localities of the region, both within and beyond the main urban area and link to the most important external localities. Some arterials, particularly parts of the State Highways, serve an important by-pass function within the townships, directing traffic through the District to areas beyond. Arterial roads cater especially for longer trips and generally link to other arterial roads and collector roads. They will be constructed and managed to minimise their local access function.

Principal Roads

Principal roads provide the connections between arterial roads and inter-connect the major rural, suburban, commercial and industrial areas. They may also define the boundaries of neighbourhood areas, along with arterial roads. Generally, these roads cater for trips of intermediate length. They will generally connect to arterial roads and to collector roads. Some of these roads are essential routes to more remote parts of the region and to recreation facilities such as ski-fields and parks.

Collector Roads

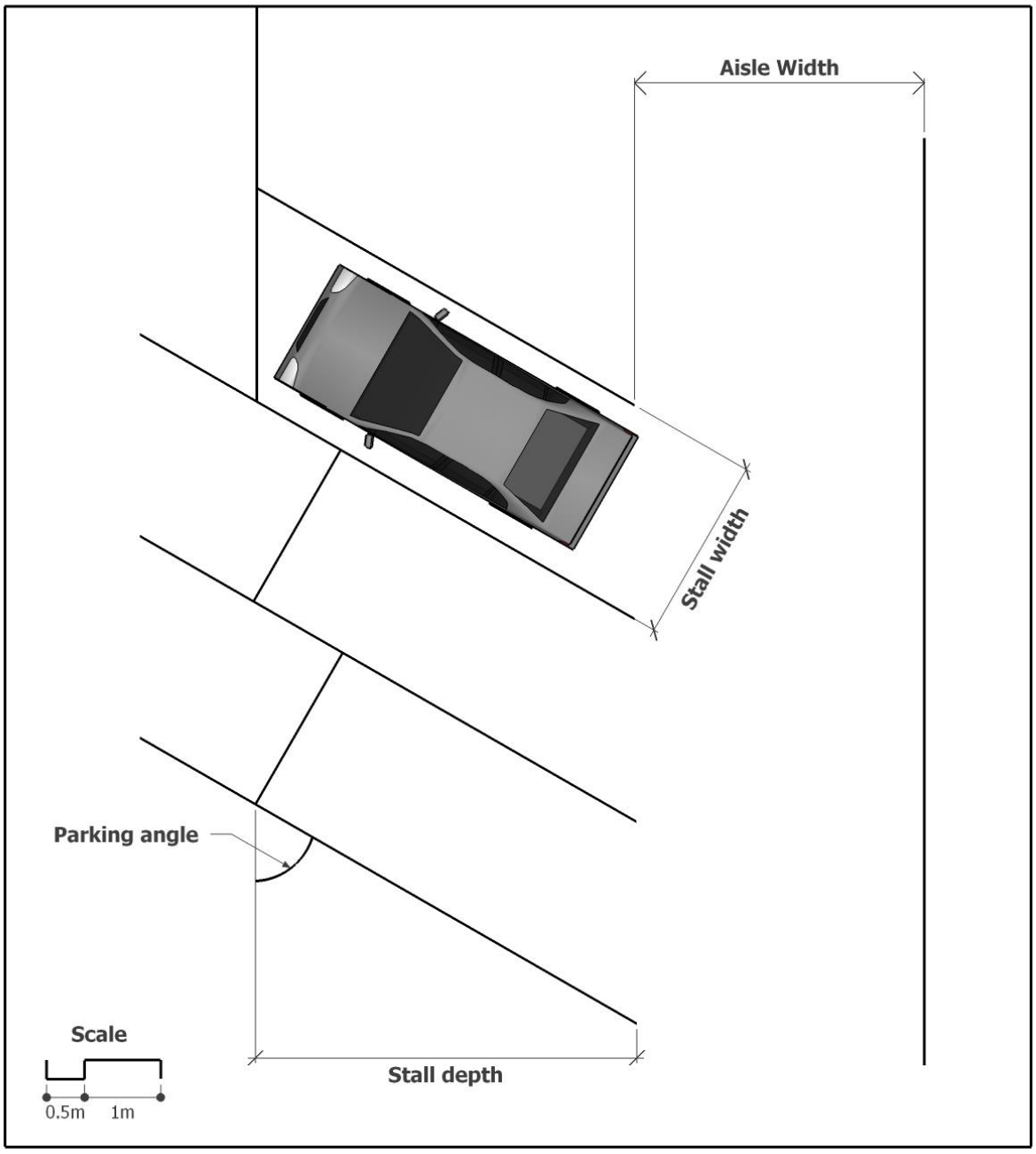
Collector roads distribute and collect local traffic within and between neighbourhoods and link rural communities. They link to the arterial network and act as local spine roads within neighbourhoods. Their traffic movement function must be balanced against the property access function which they provide.

Local Roads

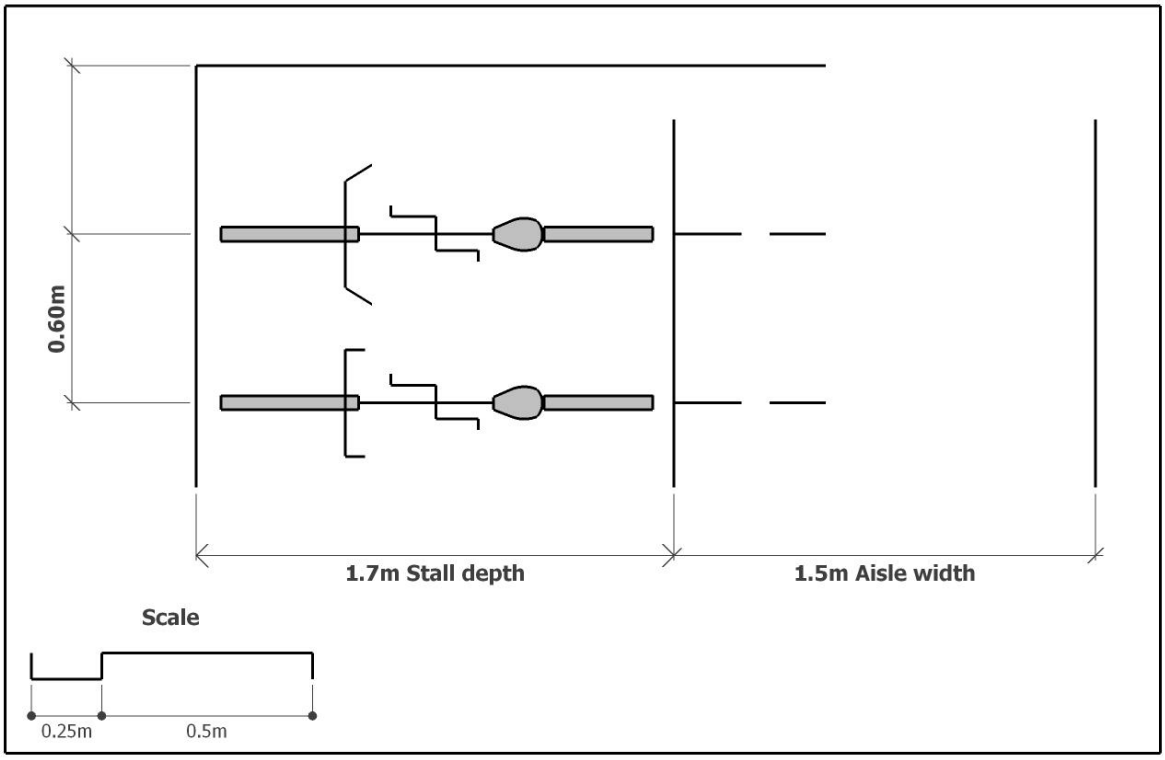
Local roads make up the balance of rural and urban roads across the District and form the neighbourhood areas between the traffic corridors formed by roads of higher classification. These roads may also act as cycle routes and provide areas of open space. They may also function as pedestrian malls or parking precincts by the banning of through traffic.

Ongoing roading improvements on all roads will eventually provide continuity of travel with roads of similar function having similar design and access controls. By emphasising traffic functions in Arterial and Principal roads the amenity values of residential areas on lower classified roads can be protected from adverse through-traffic effects by the adoption of various traffic management measures. This allows local roads in residential areas to act not only as access routes to properties, but also to provide areas for landscape planting. In some cases, local roads may be narrowed when reconstructed to better reflect the function of the road. Where this occurs excess land may be used for landscape planting or legally stopped and sold to adjacent land owners.

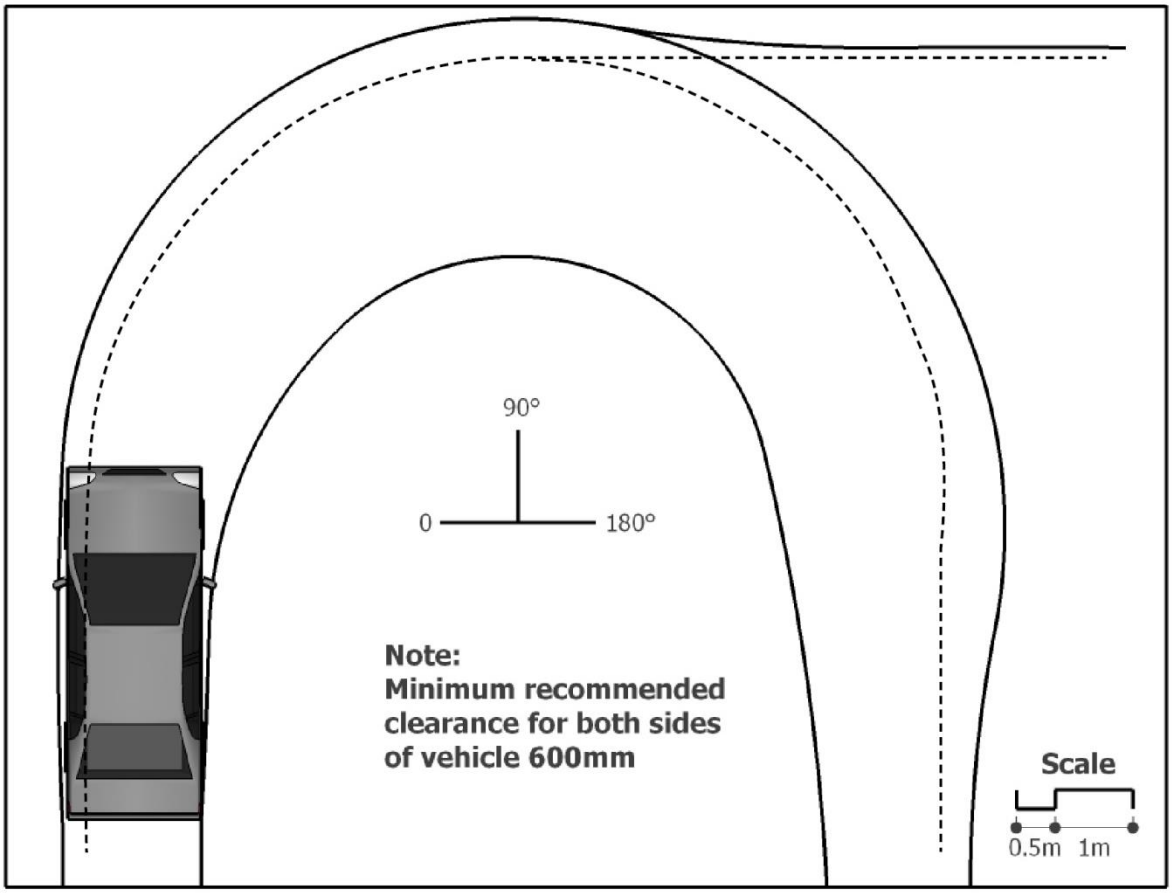
Appendix 10-2: Car Parking Space Layouts

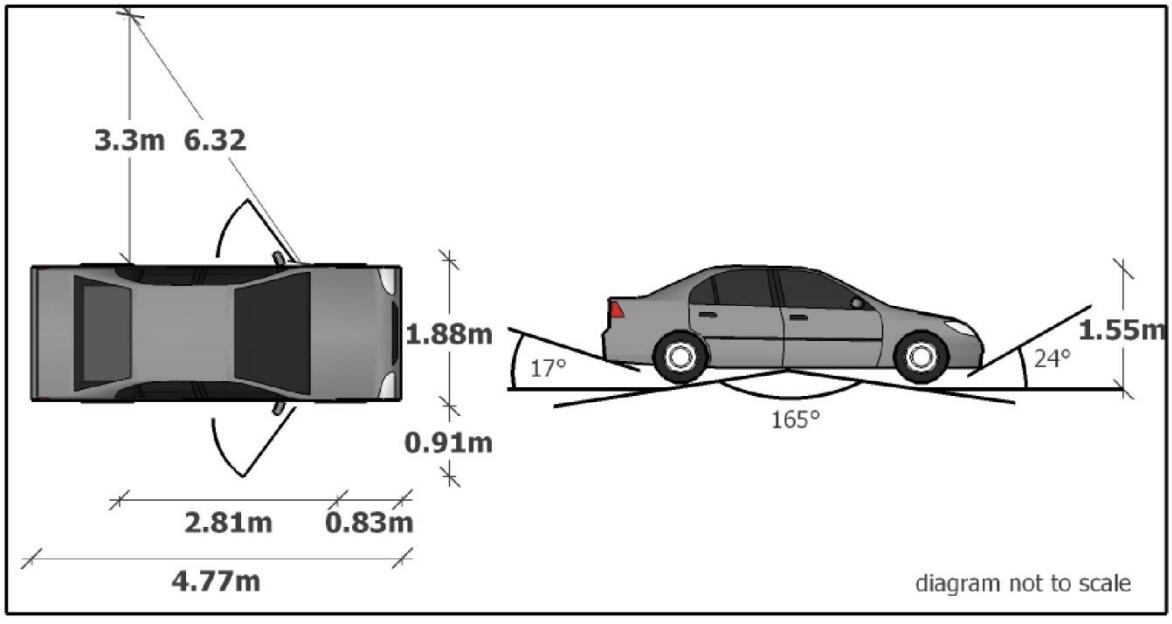


Appendix 10-3: Cycle Parking Space Layouts

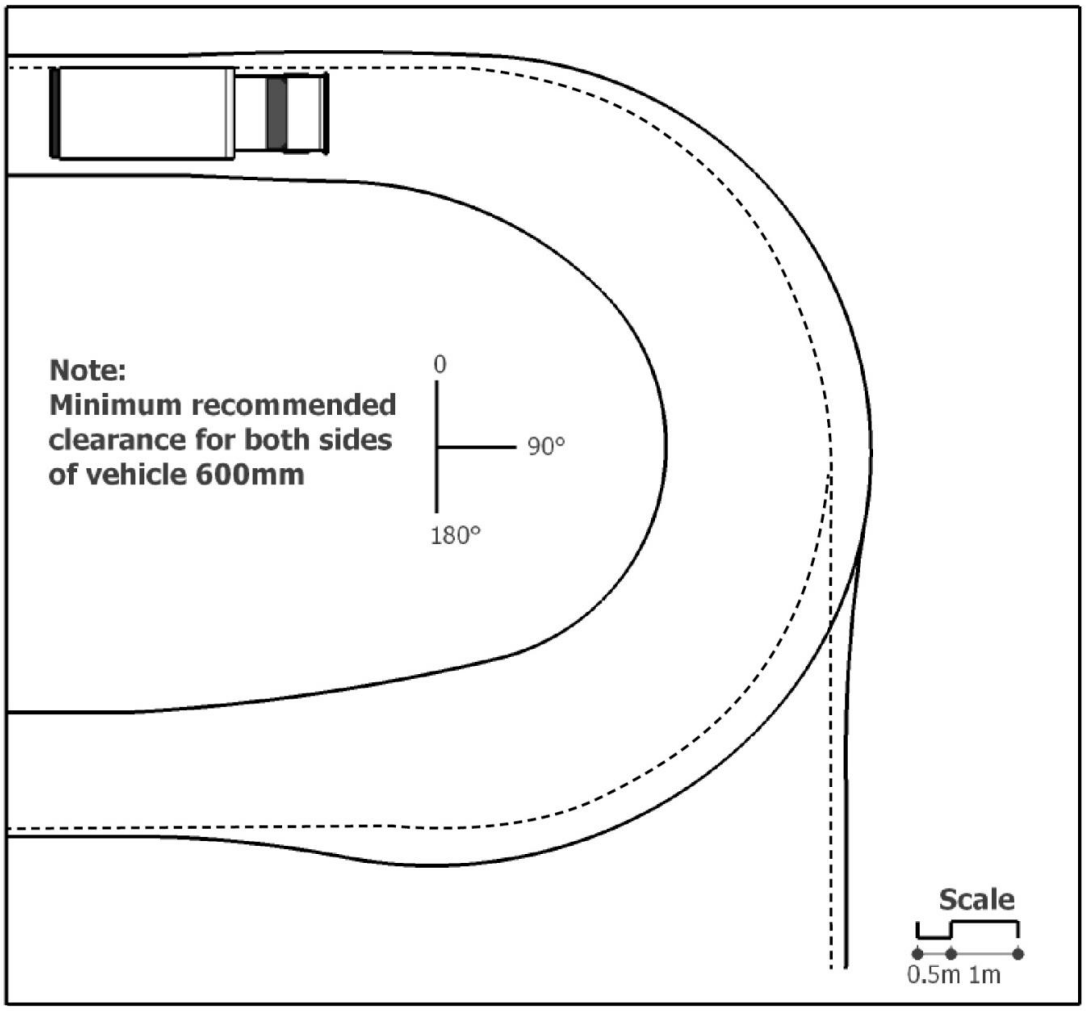


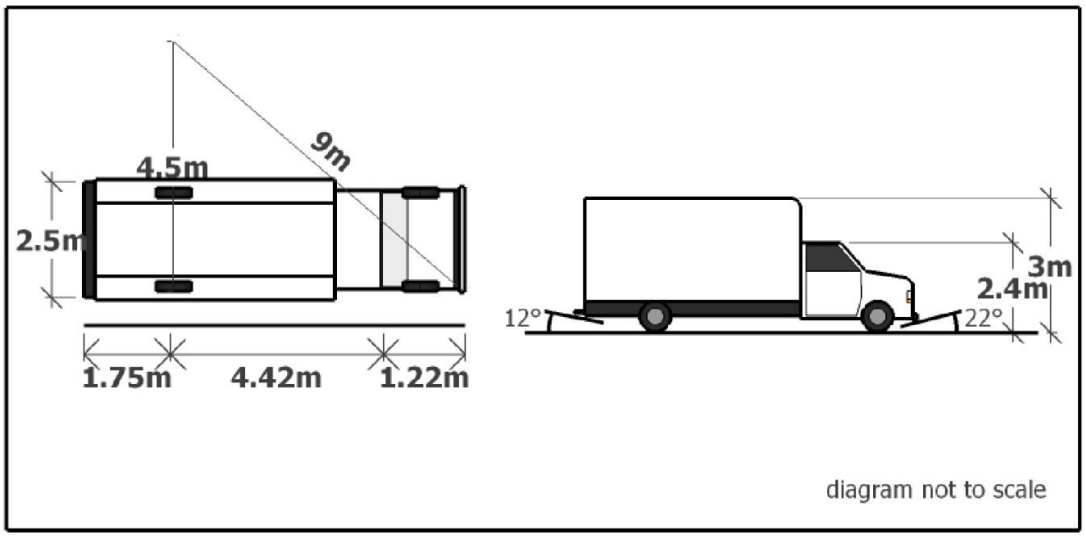
Appendix 10-4: 90 Percentile Design Motor Car



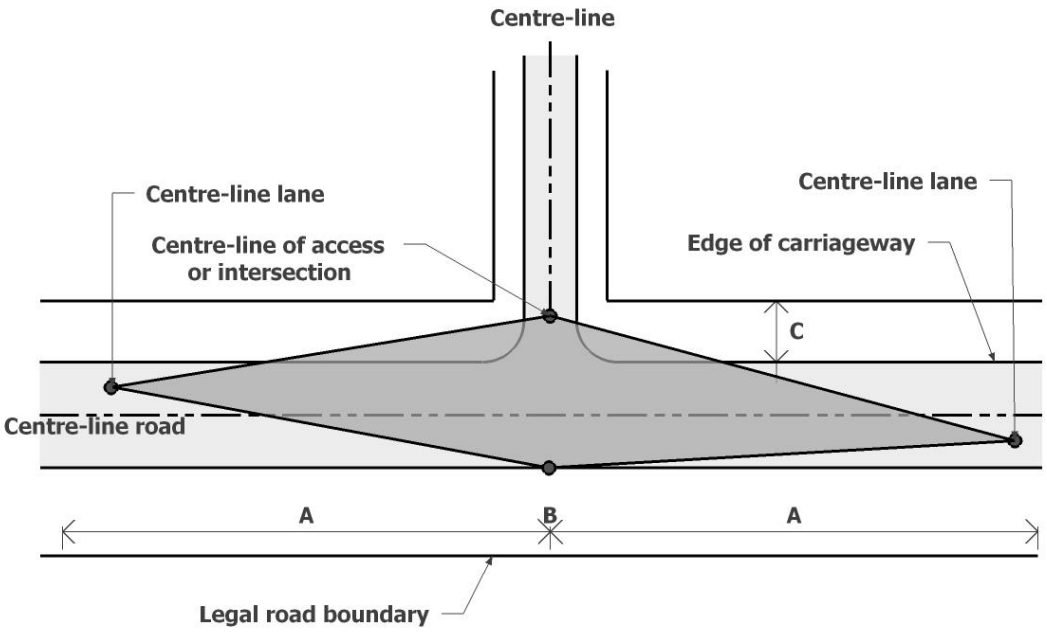


Appendix 10-5: 90 Percentile Design Two Axled Truck





Appendix 10-6: Sight Distance Measurement Diagram

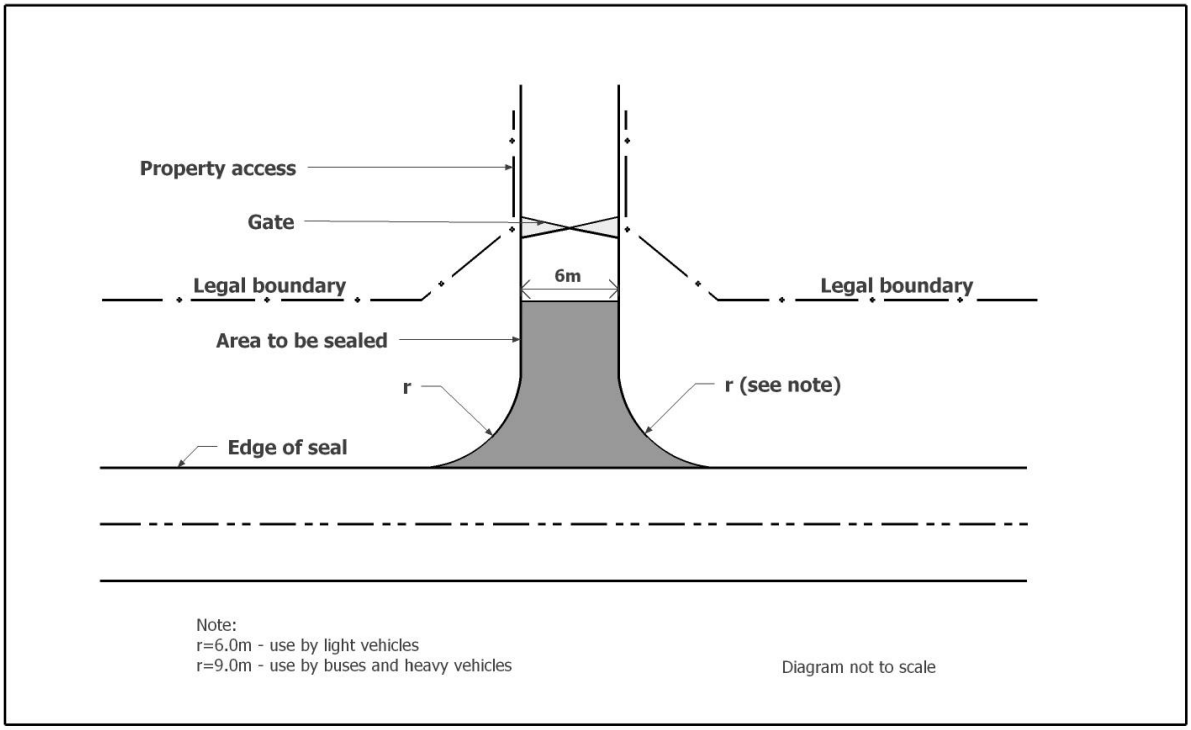


A) Sight distance
B) Edge of carriageway
C) 3.5m from edge of carriageway

diagram not to scale

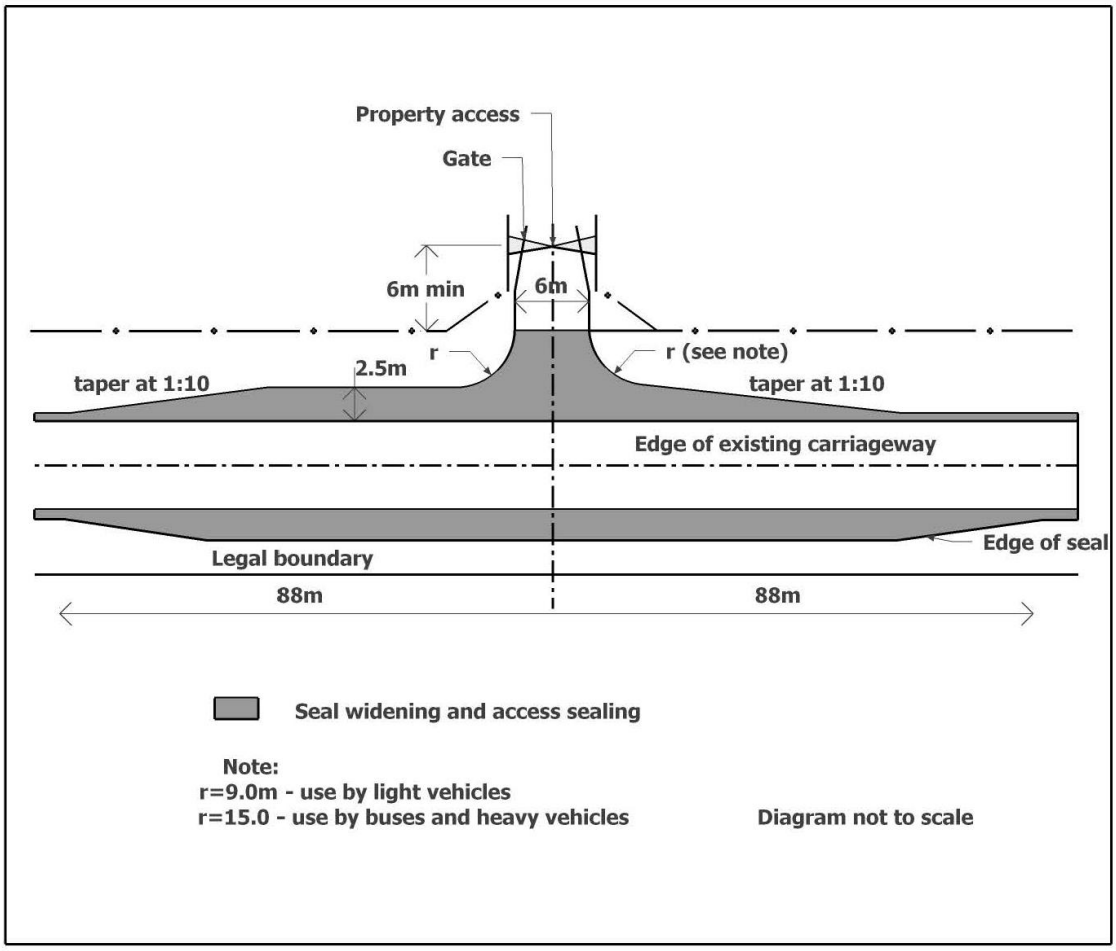
Note:
Sight distances shall be measured to and from a height of 1.15 metres above the existing road surface and the proposed surface level of the access or intersection

Appendix 10-7: Standards for the Design and Construction of Vehicle Crossings on Arterial and Principal Roads (Speeds >50km/Hr): Vehicle crossings where traffic levels are less than 30 equivalent car trips per day



Note: for the purposes of calculating equivalent car trips per day, one truck trip equates to 3 car trips and one truck and trailer combination trip equates to 5 car trips.

Appendix 10-8: Standards for the Design and Construction of Vehicle Crossings on Arterial and Principal Roads (Speeds >50km/Hr): Vehicle crossings where traffic levels are 30 or more equivalent car trips per day



Notes:

- For the purposes of calculating equivalent car trips per day, one truck trip equates to 3 car trips and one truck and trailer combination trip equates to 5 car trips.
- Specific design of the access is required if the access serves more than 6 residential lots (Rule 10.9.2(c)) or is a Vehicle Oriented Commercial Activity (Rule 10.9.8)

Appendix 10-9: Railway Level Crossing Requirements

Developments near Existing Level Crossings

Maintaining the sight triangle requirements set out in this Appendix is important to maintain clear visibility around level crossings to reduce the risk of collisions.

The requirements set out in clause 1.1 below apply only to level crossings without alarms and boom gates, while the requirements set out in clause 1.2 below apply to all level crossings.

All the requirements set out in this Appendix apply during both the construction and operation stages of any land use or development.

1.1 Approach Sight Triangles at Level Crossings without Alarms and Boom Gates

A road vehicle driver when approaching a level crossing with signs and without alarms and boom gates needs to be able to either:

- see a train and stop before the crossing; or to
- continue at the approach speed and cross the level crossing safely.

The required sight triangles to achieve this are shown diagrammatically in Figure 1. Distances A and B are dependent on the vehicle approach speed and are determined from Table 1 for a level crossing with a single set of rail tracks.

No new visual obstructions are permitted within the approach sight triangles, irrespective of whether any visual obstructions already exist.

Figure 10-1: Approach Sight Triangles For Level Crossings

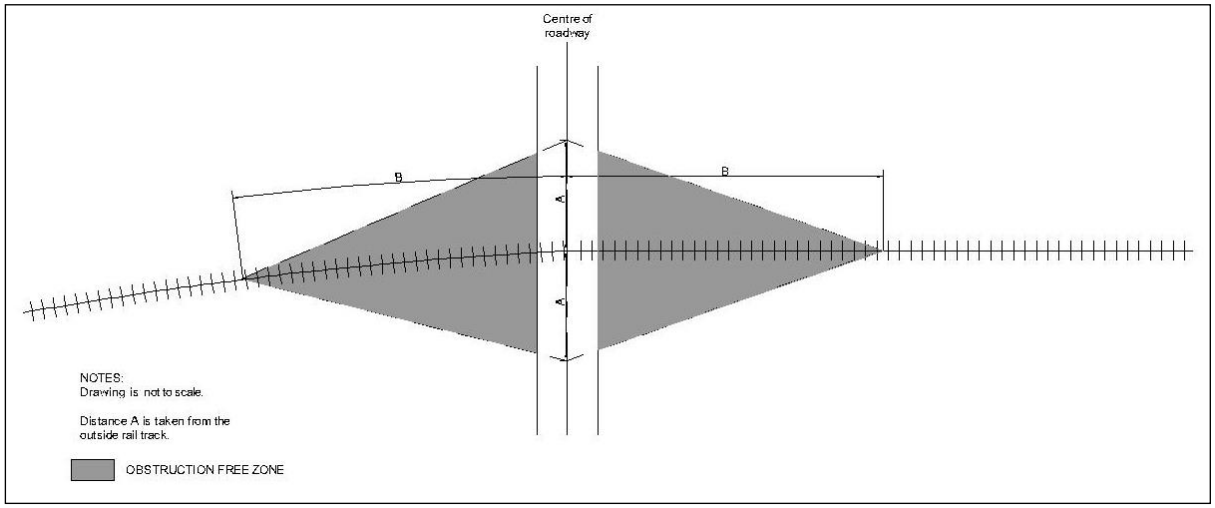


Table 10-1: Required Approach Sight Distances For Figure 1

Vehicle approach speed (kph)[1]	Approach distance A (m)	Required approach visibility along tracks B (m)		
		Signs only	Alarms only	Alarms and boom gates
20	31	318	Not applicable	
30	50	282	Not applicable	
40	73	274	Not applicable	
50	100	278	Not applicable	
60	130	287	Not applicable	
70	164	300	Not applicable	
80	208	314	Not applicable	
90	251	330	Not applicable	
100	298	357	Not applicable	
110	350	376	Not applicable	

1.2 Restart Sight Triangles for all Level Crossings

A road vehicle driver when stopped at the level crossing needs to be able to 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.

The required sight triangles to achieve this are shown diagrammatically in Figure 2. The restart sight triangle is measured 5 m back from the outside rail and distance C is specified in Table 2 for a level crossing with a single set of rail tracks.

No new visual obstructions are permitted within the restart sight triangles, irrespective of whether any visual obstructions already exist.

Figure 10-2: Restart Sight Triangles for Level Crossings

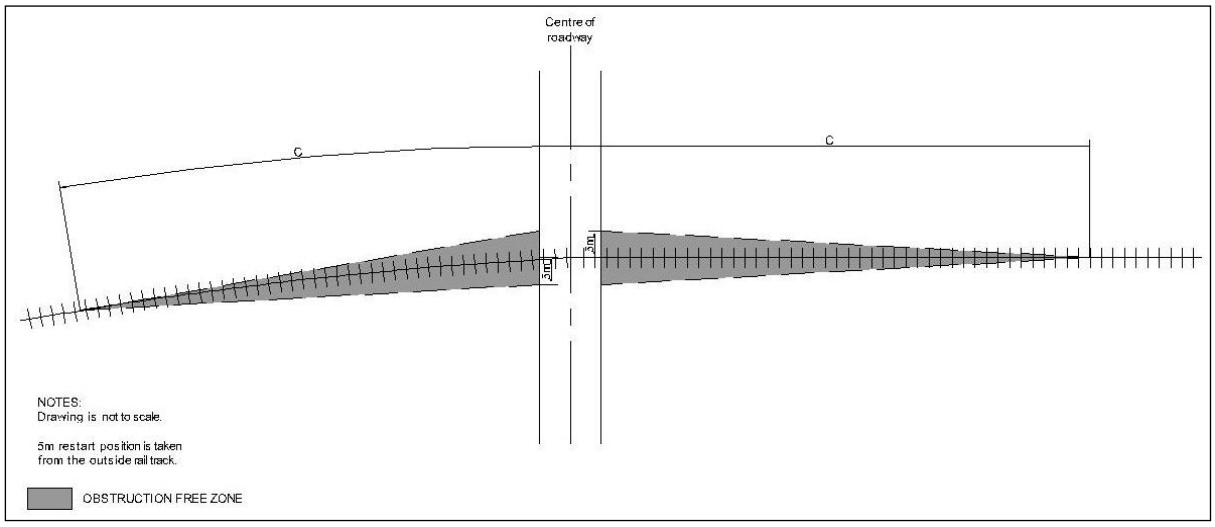


Table 10-2: Required Restart Sight Distances For Level Crossings

Required approach visibility along tracks C (m)		
Signs only	**Alarms only**	**Alarms and boom gates**
677 m	677 m	60 m

Notes:

1. The 85th percentile free-flow vehicle speed of the road shall be adopted. Where this is not known, the signposted road speed + 10% shall be used.

2. Table 1 is based on the sighting distance formula used in NZTA Traffic Control Devices Manual 2008, Part 9 Level Crossings and in the Australian Level Crossing Assessment Model (ALCAM). Distances are conservative and are derived from:

   - A train speed of 110 kph and a single set of rail tracks
   - A fall of 8 % on the approach to the level crossing and a rise of 8 % at the level crossing
   - 25 m design truck
   - 90° angle between road and rail
   - Other parameters as specified in NZTA's Traffic Control Devices Manual 2008, Part 9 Level Crossings – Appendix B

3. Tables 1 and 2 apply to a single set of rail tracks only. For each additional set of tracks add 25 m to distance B, and 50 m to distance C.

4. Speed restrictions are not used in New Zealand around level crossings.