7. DISTRICT PLAN PROVISIONS

7.1 Objectives

Proposed change number 1 (PC1) to the Regional Policy Statement (RPS), Chapter 12A, addresses the development of the Greater Christchurch area for the years 2007-2041 with specific emphasis on the period to 2026. Chapter 12A sets out the sub-regional land use distribution for Greater Christchurch and identifies specific areas for urban development. The selection of these areas has taken into account the need to ensure that the transport network remains effective and efficient.

The RPS (PC1) sets out several objectives to meet the strategic vision for 2041 described in the Urban Development Strategy for Greater Christchurch for enhanced lifestyles, enhanced environments, prosperous economies and managed growth. Objective 1 addresses urban consolidation within the Greater Christchurch area and aims to achieve sustainable and self-sufficient growth in areas such as Prebbleton. Objective 7 considers the integration of transport infrastructure and land use with goals of reducing network congestion and dependency on private motor vehicles. Objective 8 aims to protect the strategic roading infrastructure by managing patterns of urban development.

7.2 Policies

Policies 9 and 10 of the RPS are directly relevant to transport and are replicated below.

> *Policy 9: Transport Effectiveness, (a) Development of Greenfield development areas, intensification areas and key activity centres shall avoid overloading the existing transport network infrastructure, particularly strategic roads, and avoid detracting from the primary through traffic function of state highways and arterial roads; (b) The Canterbury Regional Council, territorial authorities and transport infrastructure providers shall ensure that the land transport networks within Greater Christchurch provide for the safe, sustainable integrated movement of goods and people both within the sub-region and to and from locations outside the sub-region.*
>
> *Policy 10: Strategic Transport Infrastructure and Reverse Sensitivity, Ensure urban activities do not adversely effect the operations and thus viability of strategic transport infrastructure, including: (a) Christchurch International Airport, (b) Port of Lyttelton, (c) Strategic land transport network, (d) Rangiora airfield.*

7.3 Rules

The following transport related requirements relevant to the Plan Change Proposal have been copied from the Selwyn District Plan. There is no reason why full compliance with these rules cannot be achieved within the Plan Change area.

7.3.1 Number of Parking Spaces

A minimum of two spaces shall be provided for each residential dwelling.

7.3.2 *Parking Spaces for Residential Activities*

- Garagable parking spaces for any residential activity in any zone shall have the following minimum internal dimensions:

	WIDTH	DEPTH
Single	3.1m	5.5m
Double	5.6m	5.5m

- The minimum width of the entrance to a garage shall be 2.4m.
- Any other parking space for any residential activity shall have the minimum dimensions: width 2.4m, depth 5m.

7.3.3 *Maximum Gradients for Access*

- The maximum average gradient of any access shall be 1 in 6.
- The maximum gradient shall be 1 in 4 on any straight section and 1 in 6 around curves, the gradient being measured on the inside line of the curve.
- The maximum change in gradient without a transition shall be 8°.

7.3.4 *On-site Manoeuvring*

Vehicles shall not be required to undertake more than one reverse manoeuvre when manoeuvring out of any required parking or loading space.

7.3.5 *Private Vehicular Access*

The minimum legal width of an access to a site with 1 or 2 lots in a living zone shall be 3.5m with a carriageway width of 3m.

7.3.6 *Distance of Vehicular Crossing from Intersections*

No part of any vehicle crossing shall be located closer than 10m from the nearest intersection.

7.3.7 *Minimum Sight Distances*

The minimum sight distance for intersections within Living Zones where the posted speed limit is 50km/h shall be greater than 45m.

7.3.8 *Vehicle Crossing Design*

- The maximum number of crossing per site shall be 1.
- The distance between crossings on the same side of the road shall be less than 1m or greater than 7m.
- The minimum width of a crossing for residential activity shall be 3.5m.
- The maximum width of a crossing for residential activity shall be 6m.

7.3.9 Road Standards

The new roads within the Plan Change Area will be classified as local roads or cul-de-sacs for which the following requirements are applicable.

- The legal width of new local roads shall be between 15m and 20m for local roads and 14m to 20m for cul-de-sacs.
- The carriageway width of new local roads shall be between 8m and 8.5m and 8m for cul-de-sacs.
- Kerb and channel shall be provided on both sides of new local roads and cul-de-sacs.
- A footpath shall be provided on at least one side of new local roads and cul-de-sacs.
- Any footpath shall be constructed as a sealed strip of 1.5m width within the berm.
- All areas of berms not sealed in footpath are to be formed in grass.
- Any cul-de-sac shall be constructed with a turning head having a minimum radius of 11m measured from kerb to kerb.

7.3.10 Road Intersection Spacing

The minimum distance between intersections on roads with a posted speed limit of 50km/h shall be 125m.

The design of the Plan Change area will endeavour to achieve this separation however it will also give consideration to where connections to the existing network are available, for example into Warratah Park, and to providing a layout that provides the best possible accessibility for pedestrians, cyclists and road users. These issues can be dealt with at detailed design stage.

8. TRIP GENERATION AND DISTRIBUTION

8.1 Existing Trip Generation

Cairnbrae Drive is a cul-de-sac that provides access to 37 lots. 48 turning movements per hour were recorded at the intersection of Cairnbrae Drive and Springs Road during the morning peak period and 37 turning movements during the evening peak. This gives a peak trip generation rate for dwellings in Cairnbrae Drive of 1.3vph/unit in the morning and 1.0vph/unit in the evening.

It is estimated that a total of 85 of the proposed new dwellings will use Charles Street, William Street and Norris Street for journeys between home and Springs Road or Blakes Road. The maximum number of turning movements per hour recorded at the Norris/Blakes, Charles/Springs and William/Springs intersections was 125 vph during the morning peak period and 88 vph during the evening peak period. This gives a peak trip generation rate per unit of 1.5vph/unit in the morning and 1.0vph/unit in the evening.

Combining the trip generation rates for Cairnbrae Drive, Charles Street, William Street and Norris Street gives a peak trip generation rate of 1.4vph/unit in the morning and 1.0vph/unit in the evening.

8.2 Expected Trip Generation

The Plan Change proposal will enable approximately 212 new residential dwellings to be constructed west of existing residential roads. It is expected that the trip generation rates will be very similar to those observed for the existing properties nearby. Therefore rate of 1.4vph/unit during the morning peak period and 1.0vph/unit during the evening peak period has been used in the analysis of the Plan Change.

8.3 Existing Trip Distribution

The survey data for the Cairnbrae Drive intersection with Springs Road recorded 33 vehicles exiting from Cairnbrae Drive during the morning peak hour with the majority (88%) turning left towards Christchurch and the remainder turning right towards Lincoln. A total of 15 vehicles turned into Cairnbrae Drive during the same period, nine from the north and six from the south. During the evening peak hour, 17 vehicles exited from Cairnbrae Drive with 15 heading north towards Christchurch while 20 vehicles entered Cairnbrae Drive with 17 coming from the north.

A total of 71 trips originated from residences on Charles Street, William Street and Norris Street during the morning peak period of which 12 (17%) headed towards Shands Road along Blakes Road, 46 (65%) headed towards Christchurch and the remainder (18%) went south towards Lincoln. 54 trips ended on these residential streets in the morning peak hour of which 25% originated south of Prebbleton, 15% originated west of Prebbleton and the remaining 60% will have originated from north of Prebbleton.

In the evening peak hour, 37 vehicles were recorded departing from Charles Street, William Street and Norris Street with 24% heading towards Shands Road, 43% heading south towards Lincoln and the remainder heading north towards Christchurch. A total of 51 trips ended on these streets during the evening peak hour of which 25% originated south of Prebbleton, 35% originated west of Prebbleton and the remaining 40% originated north of Prebbleton.

Based on turn counts for Cairnbrae Drive, Charles Street, William Street and Norris Street, outbound trips accounted for 60% of all trips during the morning peak period while in the evening, outbound trips accounted for only 43% of the total.

8.4 Expected Trip Distribution

The area of land affected by the Plan Change proposal has been considered as two separate areas, a northern area of 10.39Ha and a southern area of 8.4515Ha. Assuming that the 212 new dwellings are distributed uniformly across the two areas, there will be 91 dwellings in the southern area and 121 dwellings in the northern area. If the new road through the Plan Change area begins at the current limit of Cairnbrae Drive and links with Blakes Road and William Street then it is possible to make some reasonable assumptions about the routes that vehicles will take to different destinations.

The majority of trips between the southern lot and destinations north and south of Prebbleton, e.g. Christchurch and Lincoln respectively, will use Cairnbrae Drive to get onto Springs Road. A small proportion of trips will travel through the Plan Change area to access Blakes Road and destinations west of Prebbleton. It is very likely that some of the existing trips to and from Cairnbrae Drive will also take advantage of the new road to avoid travelling through the centre of Prebbleton

The pattern of trips for dwellings in the northern part of the Plan Change area is more complex because there is more route choice. In practice though, it is reasonable to assume that trips to and from the south of Prebbleton will use Cairnbrae Drive to access Springs Road. Based on the existing travel patterns, it is estimated that 70% of trips to and from the north of Prebbleton will use Blakes Road while the remaining 30% will use William Street.

In the future, there may also be some use of the connection to Warratah Park, off Cairnbrae Drive. This could change the traffic distribution slightly, however to undertake a worst case assessment on the existing intersections on Springs Road, this connection has been ignored for the purpose of this traffic assessment.

Figure 8 shows the estimated increases in turning movements at intersections close to the Plan Change area for the morning peak period.

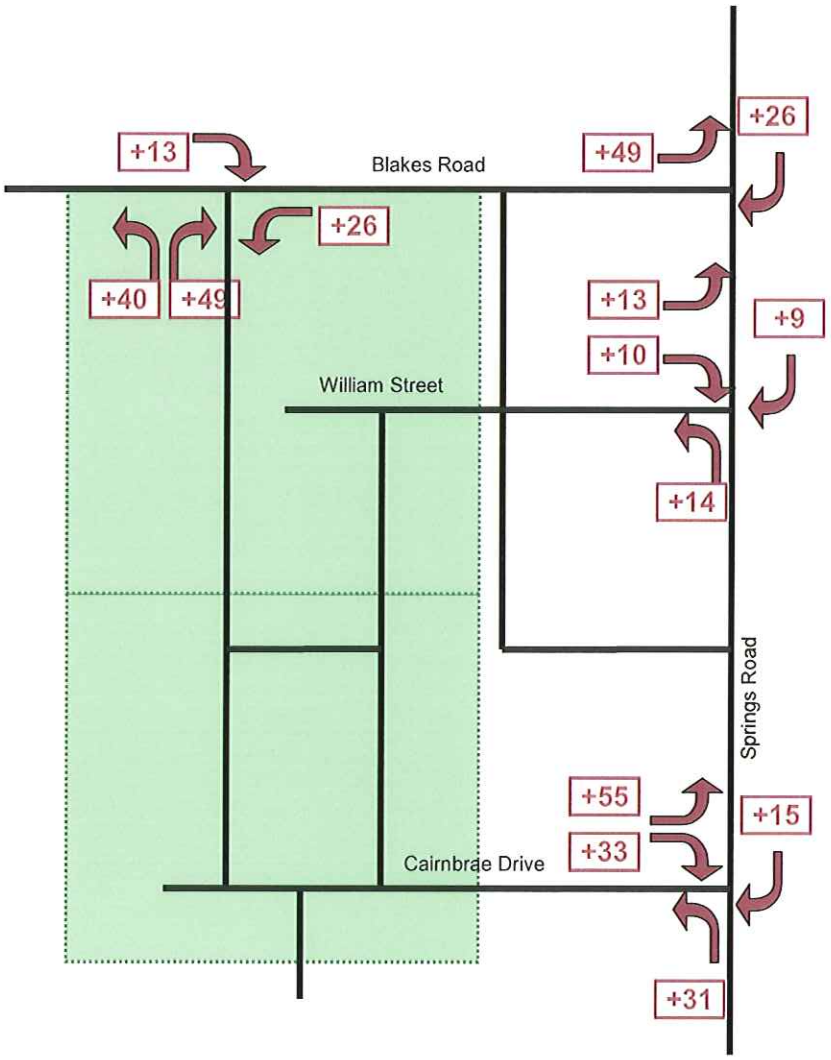

Figure 8: Predicted Changes in Traffic Distribution

8.5 Future Network Changes

The predicted changes in traffic distribution have been based on an assessment of the currently envisaged form of the road network within the Plan Change area and the existing patterns of traffic movements observed in Prebbleton.

It has been described above that the CRETS transport strategy includes changes to the road network and hierarchy in Prebbleton. Such changes could alter the expected distribution of traffic generation by the Plan Change area. Springs Road will remain as the primary route for travel between Prebbleton and its surrounds, as described in CRETS. Changes to the hierarchy for Blakes Road, Tosswill Road and Birchs Road mean that these roads could become attractive as connections to other routes such as Shands Road or the new Ellesmere Road district arterial.

These wider area traffic patterns have been addressed as part of the CRETS study which has considered residential growth in Prebbleton from 503 households in 2001 to 2,000 households in 2021.

The analysis presented in Section 11 of this report specifically assesses the intersections which provide for movement between the Plan Change area and its frontage roads, Springs Road and Blakes Road. With Blakes Road becoming a collector road more traffic could be drawn to this route rather than Springs Road. If and by how much these patterns change depends on land use development in the wider area and their timing.

Communications with Selwyn District Council have also indicated that other residential development are being pursued by other applicants in Prebbleton. One such proposed development, the Prebbleton Central subdivision will be accessed from Springs Road and Tosswill Road. The subdivision is proposed to connect to Springs Road at the Blakes Road intersection and will upgrade this intersection from priority control to a roundabout.

This upgrade will increase the capacity of the Blakes Road/Springs Road intersection. It could also draw more traffic to this intersection from other priority controlled intersections along Springs Road if it provides a better level of service. Should any critical movements, for example right turns onto Springs Road during the morning peak period, become difficult residents of the Plan Change area would possibly re-route and use the roundabout and equilibrium between the delays at various access locations along Springs Road would be reached.

Section 11 of this report addresses the performance of the intersections in the vicinity of the Plan Change area using the surveyed traffic volumes with the expected Plan Change area volumes added. It is acknowledged that the exact distribution of these traffic volumes may change following proposed changes to the surrounding transportation network. However, following a review of CRETS it is considered the impacts of the proposed development have already been assessed and described on the wider network and in a local sense, the impacts of the development will be no worse than the 2007 assessment presented in Section 11.