

# Remarkables Ski Area Expansion

## Integrated Transport Assessment

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## Remarkables Ski Area Expansion

# Revision Record

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This report has been prepared in compliance with the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2023 as if it was expert evidence presented in proceedings before the Environment Court. Unless stated otherwise, this report is within Chris' area of expertise and does not omit consideration of material facts known to him that might alter or detract from the opinions expressed in this report.

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<sup>1</sup> Hastings, Central Hawke's Bay, Gisborne, Palmerston North, Whanganui, Carterton, Upper Hutt, Tasman, Nelson, Buller, Waimakariri, Christchurch, Ashburton, Timaru, Clutha, Queenstown Lakes, Invercargill.



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- Appendix B Transport Standards Assessment**
- Appendix C NZSki Parking Strategy**
- Appendix D NZSki SH6 Intersection Strategy**



## **Executive Summary**

NZSki operates the Remarkables Ski Area within the Rastus Burn valley approximately 24 km south of Queenstown by road. Since the Remarkables Ski Area continues to experience strong demand for growth from both domestic and international visitors, NZSki is developing a long-term programme of infrastructure investment to ensure that it can maintain safe, efficient, and sustainable operations with the forecast levels of increased demand. The development programme includes improvements to the existing Rastus Burn Ski Area and the progressive development of the Doolans Expansion Project.

The development will be staged but has an ultimate aim of providing sufficient transport infrastructure to accommodate 6,000 visitors per day compared with 3,500 to 4,000 visitors per day on the busier days in the 2025 ski season. From a transport perspective, the programme of works will require:

- Provision of safe and resilient transport access from State Highway 6 (SH6) to the Rastus Burn Base Area.
- Provision of a 'park and ride' facility close to SH6.
- Promotion of travel mode shift from private vehicle travel to buses and shuttles.
- Improving parking, pedestrian circulation and the visitor arrival experience at both the Rastus Burn Base Area and at the SH6 base area.

This report provides a description of existing travel patterns at the Remarkables Ski Area and the expected changes in the transport environment as residential development increases at Homestead Bay, Jacks Point and Hanley Farm to the south of the Remarkables Ski Field Access Road. This provides the basis of the assessment for required changes to the SH6 / Remarkables Ski Field Access Road intersection to safely accommodate forecast demands and the level of infrastructure required to support the travel mode shift from private vehicle to buses.

The detailed analysis of the Remarkables Ski Field Access Road intersection performance indicates that the existing intersection is already operating at close to its capacity on busier days of the ski season during the afternoon peak departure period, particularly on weekdays, even with the temporary traffic management plan measures that direct all departing traffic to turn left. With the ongoing high level of traffic growth on SH6 associated with the ongoing development to the south, capacity at the intersection will reduce and even with no changes to the existing level of traffic generation at the Remarkables Ski Area, changes to the temporary traffic management plan to increase the intersection capacity to accommodate departure movements are desirable to reduce delays for departing visitors.

NZSki is proposing to implement measures to increase the travel mode share for buses which will reduce movement volumes in the short term. In the medium to long term however, there will be increases in vehicle movement demands associated with the ski area due to the greater visitor numbers being catered for.

Even with greater use of buses, the growth in state highway volumes will ultimately require intersection improvements to increase capacity and safety. This is anticipated in the Te Tapuae Southern Corridor Structure Plan and will logically form part of wider corridor considerations to support the growth in development throughout the corridor. As these long-term upgrades relate to a corridor wide transport solution, delivery and funding of corridor-wide infrastructure sits outside the scope of this application.

Overall, it has been concluded that the long term plans for expansion of the ski area can be supported from a transport perspective with the following mitigation measures recommended:



### **Enabling Mode Shift**

1. Utilise and progressively expand the SH6 base area parking facilities to accommodate a park-and-ride facility with sufficient bus stops to accommodate peak bus arrival and departures at 5 minute intervals.
2. Promote carpooling facilities within a dedicated parking area close to SH6 to support higher vehicle occupancy levels in the upper car parks.
3. Increase NZSki bus services from Queenstown and Frankton to support mode shift.
4. Establish new NZSki bus services from residential areas to the south, indicatively from Homestead Bay via Jack's Point and Hanley Farm.

### **Managing Operational Effects**

5. Operate a temporary traffic management plan in the ski season that restricts departure movements from the Remarkables Ski Field Access Road to SH6 to left turns only unless an alternative management plan is approved by NZTA.
6. Implement parking management measures that increase average vehicle occupancy rates of the upper car parks.

### **Managing Safety Effects**

7. Implementation of safety improvements at the SH6 intersection such as forming a splitter island to prevent right turn out movements, widening the sealed shoulders in accordance with the District Plan transport standards (equivalent to Diagram E of the NZTA Planning Policy Manual) or provision of a right turn bay.

#### NOTES:

- a. Any alterations to the carriageway will be subject to the NZTA design approval and implementation processes.
- b. The timing and need for implementation of improvements should be informed by the decisions and timing for the wider network improvements proposed under the Te Tapuae Southern Corridor Structure Plan.



## Acronyms and Abbreviations

Acronym / Abbreviation	Full Name
NZTA	NZ Transport Agency
PPM	Planning Policy Manual
QLDC	Queenstown Lakes District Council
SH6	State Highway 6
TMP	Traffic Management Plan
TTSCSP	Te Tapuae Southern Corridor Structure Plan
vpd	Vehicle movements per day
vph	Vehicle movements per hour



## Glossary

Term	Definition
Level of Service	Level of Service is a qualitative stratification of numerical performance measures to provide a simplified system to present road users' perceptions of the quality of service of a road or intersection.
LOS A	A condition of free-flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to manoeuvre within the traffic stream is extremely high, and the general level of comfort and convenience provided is excellent.
LOS B	In the zone of stable flow where drivers still have reasonable freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is a little less than with level of service A.
LOS C	In the zone of stable flow but most drivers are restricted to some extent in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience declines noticeably at this level.
LOS D	Close to the limit of stable flow and approaching unstable flow. All drivers are severely restricted in their freedom to select their desired speed and to manoeuvre within the traffic stream. The general level of comfort and convenience is poor, and small increases in traffic flow will generally cause operational problems.
LOS E	Traffic volumes are at or close to capacity, and there is virtually no freedom to select desired speeds or to manoeuvre within the traffic stream. Flow is unstable and minor disturbances within the traffic stream will cause breakdown.
LOS F	In the zone of forced flow, where the amount of traffic approaching the point under consideration exceeds that which can pass it. Flow breakdown occurs, and queuing and delays result.



# Project Context



# 1 Introduction

## 1.1 Project Overview

Located approximately 24 km from downtown Queenstown, the Remarkables Ski Area is a popular destination for New Zealanders and international visitors alike. Currently designed to accommodate a maximum of approximately 4,000 skiers per day, demand has regularly exceeded capacity in recent years.

The primary objective of the Remarkables Ski Area Expansion Project (**‘the Project’**) is to provide a world class multi-valley ski area that will attract local and international visitors and cater to both the existing and future visitor demands for ski tourism in the district and region.

To achieve the objective, the Project seeks to upgrade the existing infrastructure within the Remarkables Ski Area and expand the skiable terrain available through an expansion into the adjacent Doolans Basin. The Doolans Basin will be accessed via a newly established gondola and ski trails.

At the completion of the Project, the expanded ski field will accommodate up to 6,000 skiers per day. This growth is anticipated to occur over two stages, as shown in Table 1-1. Stage 1 represents when the “Install” stage of the Project of the Project is complete, with Stage 2 representing the completion of the “Expand” stage. More detail is provided in the Project Description of the substantive application.

*Table 1-1: Expected Population Staging for the Proposed Expansion*

Location	Current Occupancy	Development Stage 1	Development Stage 2
Site Wide	3,500 people / day (ave) 4,000 people / day (max)	4,500 people / day	6,000 people / day
Rastus Burn	3,500 people / day	3,500 people / day	3,500 people / day
Doolans Basin	n/a	1,000 people / day	2,500 people / day

The Project also has also been designed to improve the overall resilience of the ski area to the effects of climate change and increasingly variable weather patterns. The Doolans Basin is located at a higher elevation than the existing Remarkables Ski Area and is also located on a south facing slope. The Doolans Basin therefore has a heightened ability to retain snow, improving its longer-term resilience to the potential effects of climate change.

## 1.2 Project Summary

The Project is located within the Rastus Burn and Doolans Basin, within the wider Remarkables Ranges. The Project site comprises a footprint of approximately 568 hectares and broadly falls within one of two distinct areas:

1. The existing Remarkables Ski Area and lower Remarkables: Comprising the existing ski area in the Rastus Burn and the associated Remarkable Ski Area Access Road.



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2. The Doolans Basin Ski Expansion Area is an expansion of the existing ski field into the adjacent Doolans Basin.

An overall site location plan is shown in Figure 1-1 with the key works occurring within each area summarised in the following sections.

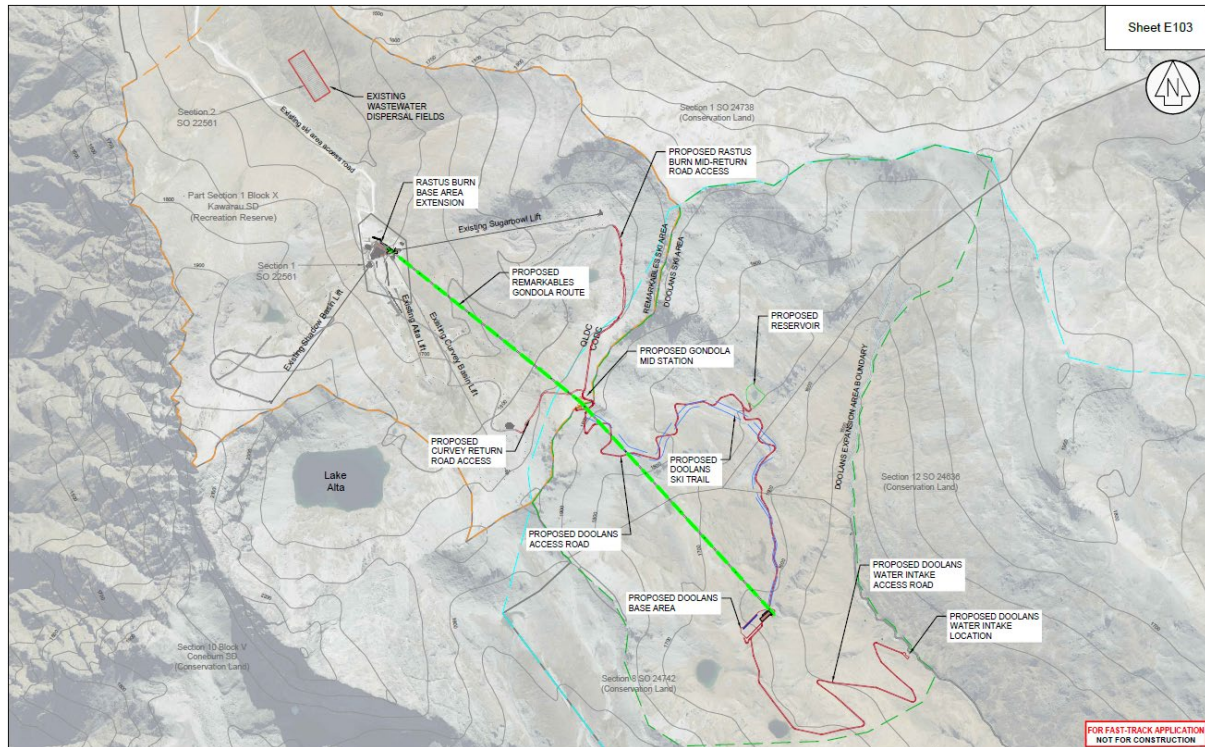


Figure 1-1: General arrangement of Remarkables Ski Area and Doolans Basin Expansion Area  
(Source: Southern Land Drawing Sheet E103)

### 1.3 Existing Remarkables Ski Area and Lower Remarkables Upgrades

The key project works proposed within the existing Remarkables Ski Area and the Lower Remarkables include:

- Upgrades to existing infrastructure services and associated structures including upgrades to mains power supply, infield power distribution, water, wastewater, stormwater, communications, and snowmaking.
- Upgrades to existing Lower Remarkables car park area (SH6 car park), including marking of car parks and provision of additional bus / shuttle and ride sharing facilities.
- Expansion of the existing Rastus Burn Base Building and reconfiguration of the arrival surrounds.
- Construction and use of the new Doolans Gondola providing access into the Doolans Basin, including construction of the new Base Station adjacent to the Rastus Burn Base Building and construction of gondola towers, cables and associated infrastructure up to the new Helicopter Ridge Midstation.



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- Upgrades to existing and establishment of new access roads and ski trails to provide vehicular access and ski return trails to and from the Doolans Basin.
- Installation of new operational controls to maintain the health and safety of ski field users. Such controls include wayfinding signage, barriers/gates, permanent safety fencing/netting, snow fences, avalanche control, boundary markers.

Refer to the full project description contained in the substantive application for further details and plans relating to the above.

### 1.4 Establishment of the Doolans Basin Ski Expansion Area

The key project works proposed within the Doolans Basin include:

- Establishment and use of the new Doolans Gondola from the Rastus Burn Base Building into the Doolans Basin. The new gondola includes the new Base Station directly adjacent to the existing Rastus Burn Base Building (as noted in Section 3.2.1 and further described in Section 3.3), the new Helicopter Ridge Midstation (with a patrol hut), and the new Doolans Return Station directly adjacent (and connected) to the proposed Doolans Cabin Building. It also includes construction of gondola towers, cables and associated infrastructure.
- Establishment and use of a new multi-purpose Doolans Cabin Building, designed to accommodate gondola cabin parking, integrated cabin maintenance, storage, bathroom facilities, café facilities and emergency shelter space.
- Establishment and use of ski trails and access roads between the gondola midstation, the Doolans Cabin Building and associated infrastructure. Where practicable, ski trails and access roads will be co-located to minimise the level of ground disturbance.
- Construction of a learners snowsports area adjacent to the Doolans Cabin Building with a covered passenger conveyor lift, supported by snowmaking infrastructure.
- Establishment of supporting services and facilities in the Doolans Basin, including power, water, wastewater, stormwater, communications and snowmaking facilities.
- Installation of new operational controls to maintain the health and safety of ski field users. Such controls include wayfinding signage, barriers/gates, permanent safety fencing/netting, snow fences, avalanche control, boundary markers.

Refer to the full project description contained in the substantive application for further details and plans relating to the above.

### 1.5 Integrated Transport Assessment

Since expansion of the Remarkables Ski Area will increase travel demands and vehicle movements on the transport network, this report provides an assessment of the potential effects on the transport network of the long term development plans and identifies appropriate mitigation measures.

From a transport perspective, the programme of works include:

- Supporting growth in visitor demands from 3,500 persons per day currently to 4,500 persons per day with the Stage 1 development and 6,000 persons per day with Stage 2.
- Providing safe and resilient transport access from State Highway 6 (SH6) to the mountain base area.



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- Providing an expanded 'park and ride' facility close to SH6.
- Promoting mode shift from private vehicle travel to buses and shuttles.
- Improving parking, pedestrian circulation and the visitor arrival experience at both the mountain base area and at the SH6 transit hub.

This Integrated Transport Assessment (ITA) report has been structured to provide:

- Site Context
- Existing Transport Environment
  - State Highway 6 (SH6)
  - Remarkables Ski Field Access Road
  - Public Transport
- SH6 Southern Corridor
  - Te Tapuae Southern Corridor Structure Plan
- Project Description
  - Design Scenarios
  - Expected Travel Demands
- Transport Effects
  - State Highway Intersection
  - Parking
  - Buses and Car Park Shuttles
  - Construction
- Statutory Assessment
  - District Plan

The geographic scope of the assessment focuses on detailed consideration of the SH6 / Remarkables Ski Field Access Road intersection. It also considers wider landuse and transport changes that will influence changes in travel patterns on the SH6 Southern Corridor, generally from the Kawarau River to the Coneburn roundabout.



## 2 Project Location

Figure 2-1 shows the location of the Remarkables Ski Area (1) with respect to the state highway network and nearby residential areas. The bottom of the Remarkables Ski Field Access Road is about 10 km by road from central Queenstown and less than 4 km from Frankton and Queenstown Airport. Jack's Point and Hanley Farm are located about 5 km and 4 km to the south respectively. Homestead Bay is located to the south of Jack's Point. The Coneburn industrial zone is about 1 km south of the access road. The Remarkables Ski Field Access Road is about 13 km long from its intersection with SH6 to the Rastus Burn Base Area.



Figure 2-1: Remarkables Ski Area location – wide area context



# Existing Environment



## 3 State Highway 6

### 3.1 Road Formation

SH6 is the primary strategic road within the Queenstown Lakes district and links all the major settlements within the Wakatipu Basin. The highway has been formed as a two-lane road south of the Kawarau River with 3.5 m wide traffic lanes and 0.5 m wide sealed shoulders. The sign posted speed limit is 100 km/h.

South of the Kawarau River, SH6 Kingston Road comprises a series of generally straight sections of road linked with two small radius curves, one with a signposted advisory speed of 55 km/h and one with an advisory speed of 65 km/h. The highway has a gently undulating vertical alignment.

The Remarkables Ski Field Access Road meets SH6 on a straight section of the highway about 300 m south of Boyd Road (Figure 3-1). The Coneburn roundabout is about 1.2 km to the south.



Figure 3-1: Remarkables Ski Area local area context



## Remarkables Ski Area Expansion 3 State Highway 6

Although the signposted speed limit on SH6 is 100 km/h, the small radius curves and Coneburn roundabout results in mean operating speeds on SH6 between the roundabout and Boyd Road that are reported<sup>2</sup> to be 70 to 75 km/h.

### 3.2 Intersections

#### 3.2.1 SH6 / Peninsula Road

Peninsula Road provides access to Kelvin Heights and meets SH6 at a give-way controlled intersection about 1.6 km north of the Remarkables Ski Field Access Road. Figure 3-1 shows that the intersection has been formed with a right turn bay and auxiliary left turn on SH6.



Figure 3-2: SH6 / Peninsula Road (Source: QLDC Maps)

#### 3.2.2 SH6 / Boyd Road

Boyd Road is classified as a local road and meets SH6 about 300 m north of the Remarkables Ski Field Access Road on the outside of a 100 m radius curve with an advisory speed of 65 km/h. Figure 3-3 shows that Boyd Road has two approaches, one to the western approach of SH6 and one to the southern approach. Both approaches are controlled by give-way signs.

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<sup>2</sup> Te Paparanga Āmiki reports a mean operating speed of 72 km/h on SH6 between Coneburn and Peninsula Road.



## Remarkables Ski Area Expansion 3 State Highway 6



Figure 3-3: SH6 / Boyd Road (Source: QLDC Maps)

There is a private driveway to 247A Kingston Road about 70 m south of the south section of Boyd Road (about 225 m north of the Remarkables Ski Field Access Road intersection). The access has been formed to a basic standard with no localised seal widening of the shoulders.

### 3.2.3 SH6 / Remarkables Ski Field Access Road

The Remarkables Ski Field Access Road is a private road that meets SH6 at a give-way controlled intersection (Figure 3-4). The intersection includes a widened shoulder on the SH6 northern approach which will allow left turning vehicles to decelerate partially out of the southbound traffic lane. There is some widening of the western shoulder, but the sealed part of the widening is not sufficient to allow a northbound vehicle to comfortably pass a vehicle that stops within the carriageway to turn right into the access road.

The straight alignment of the highway in this location means that the available sight distances are very good, about 250 m to the north and 300 m to the south (Photograph 3-1 and Photograph 3-2).

A shared vehicle crossing to 247 and 249 Kingston Highway has been formed 30 m to the north of the Remarkables Ski Field Access Road intersection (Figure 3-4).



**Remarkables Ski Area Expansion  
3 State Highway 6**



*Figure 3-4: SH6 / Remarkables Ski Field Access Road (Source: QLDC Maps)*



*Photograph 3-1: SH6 / Remarkables Ski Field Access Road – Sight line to the north (Source: Stantec)*





*Photograph 3-2: SH6 / Remarkables Ski Field Access Road – Sight line to the south (Source: Stantec)*

### **3.2.4 SH6 / Stoney Creek Lane**

Stoney Creek Lane is a private road that provides access to lifestyle properties and small scale, rural industrial type activities. The lane meets SH6 about 300 m south of the Remarkables Ski Field Access Road at an uncontrolled priority intersection that has been formed in general accordance with the NZTA Planning Policy Manual (PPM) Diagram E standards.

### **3.2.5 SH6 / Coneburn**

The Coneburn Industrial Zone is located east of SH6 and south of Stoney Creek Lane. The Park Ridge residential subdivision is being developed on the western side of SH6. Access to the Coneburn Industrial Zone and Park Ridge residential subdivision is from a single lane roundabout about 1.2 km south the Remarkables Ski Field Access Road intersection.

## **3.3 Traffic Volumes**

### **3.3.1 State Highway 6**

Figure 3-5 shows the average daily traffic volumes recorded by NZTA on SH6 at their count sites south of Peninsula Road (00600999) about 1 km north of the Remarkables Ski Field Access Road and the count site south of the Remarkables Ski Field Access Road (00601000). Both count sites show similar patterns on growth over the 2018 to 2025 period. Both data sets show a reduction in daily volumes from 2019 to 2020 which reflects the effects of COVID19 but have increased rapidly



### Remarkables Ski Area Expansion 3 State Highway 6

since 2020. In the most recent five-year period, the daily traffic volumes have increased from about 9,000 vehicle movements per day (vpd) in 2021 north of the Remarkables Ski Field Access Road to about 17,700 vpd in 2025 which represents a high recent annual growth rate of about 2,200 vpd per annum (about 13 percent per annum). This reflects the high level of residential development to the south in recent years. QLDC has reported a development rate of about 350 dwellings per year in recent years<sup>3</sup>. This suggests that the average household traffic generation rate on SH6 at the ski field access is about 6 vpd per household.

The small difference between the two counts suggests that there are no significant traffic generating activities between the two counts when averages are calculated across a year.

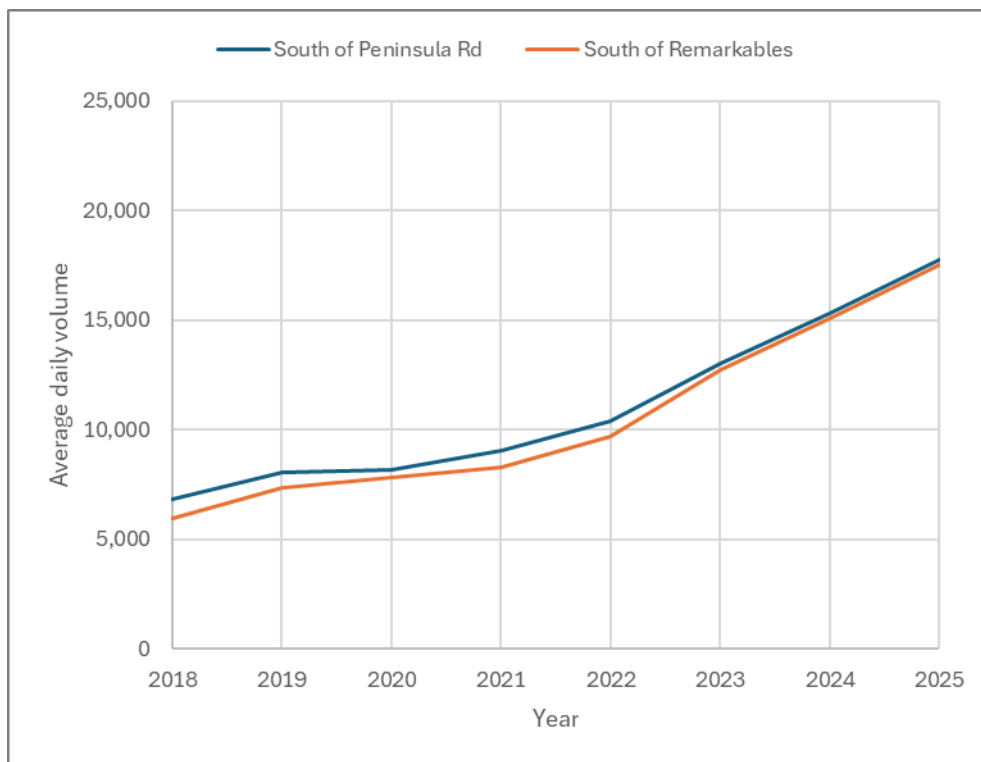


Figure 3-5: Daily Traffic Volumes on SH6 2018 – 2025 (Source: NZTA Traffic Monitoring System (TMS))

Figure 3-6 shows the 90<sup>th</sup> and 98<sup>th</sup> percentile daily traffic volumes in relation to the average volumes recorded on SH6 south of Peninsula Road (00600999). These reflect daily volumes in the busiest five weeks and two weeks of the year respectively and indicates that traffic volumes can be 2,000 to 3,000 vpd higher than on an average day.

<sup>3</sup> Te Tapuae Southern Corridor Structure Plan



### Remarkables Ski Area Expansion 3 State Highway 6

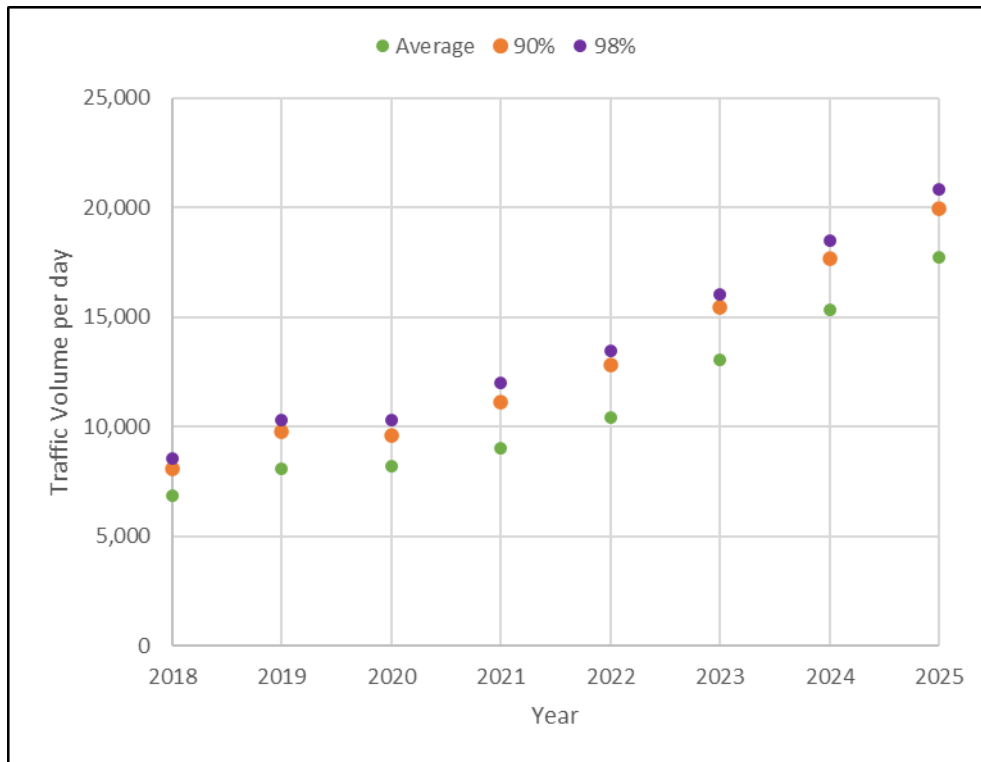


Figure 3-6: Daily traffic volumes on SH6 south of Peninsula Road (Source: NZTA TMS)

Figure 3-7 shows the seasonal variation in daily volumes on a week by week basis in 2025 at the count sites to the north and south of the Remarkables Ski Field Access Road. The volumes to the north of the access road were about 300 vpd higher than to the south from January to June and October to December. During the 2025 ski season, the volumes recorded south of the Remarkables Ski Field Access Road were higher than to the north which reflects the traffic management measures at the intersection which encourage all departing traffic to turn left, much of which will then u-turn at the Coneburn roundabout before travelling north past the site again.



### Remarkables Ski Area Expansion 3 State Highway 6

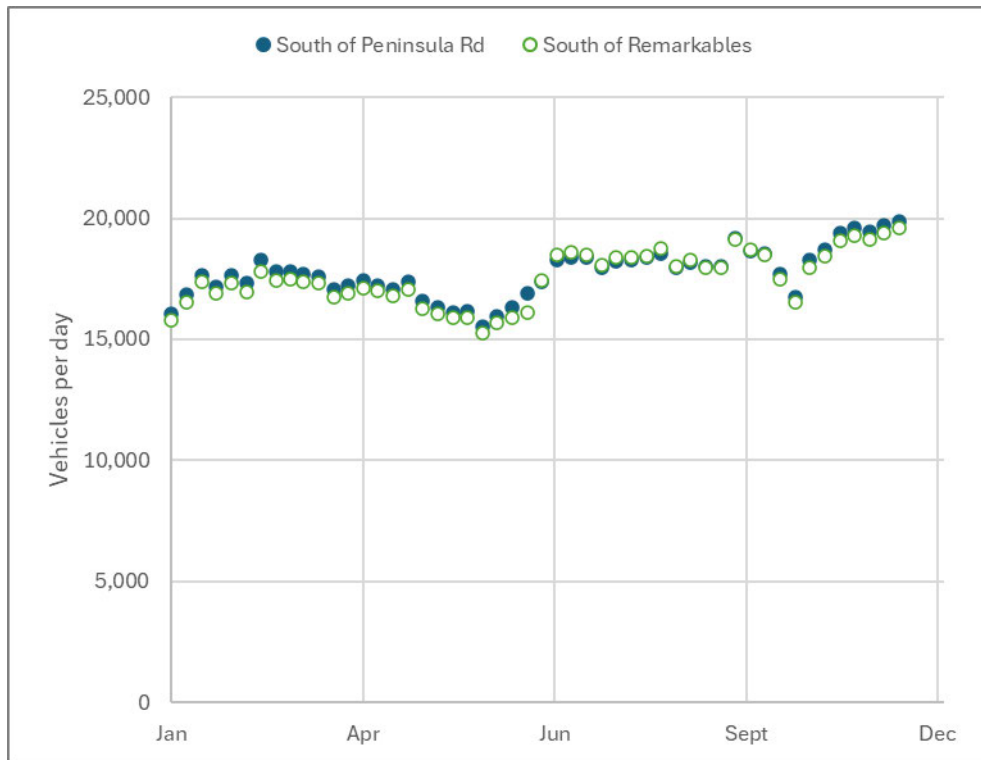


Figure 3-7: Seasonal variation in weekly volumes – 2025 (Source: NZTA TMS)

Figure 3-8 shows the day to day variation in daily traffic volumes recorded on SH6 in 2025. Traffic volumes of 18,000 to 19,000 vpd were recorded on weekdays from mid-January to early April before falling to about 17,000 vpd during May. The weekend volumes over that period were about 3,000 vpd lower than on weekdays. In June, the traffic volume rose to over 19,000 vpd which reflects the increased activity associated with the Remarkables Ski Area. There was a small dip in traffic volumes at the end of the ski season before they rose again to above 20,000 vpd from mid-November. The lowest volumes were recorded over the Christmas to New Year period.



### Remarkables Ski Area Expansion 3 State Highway 6

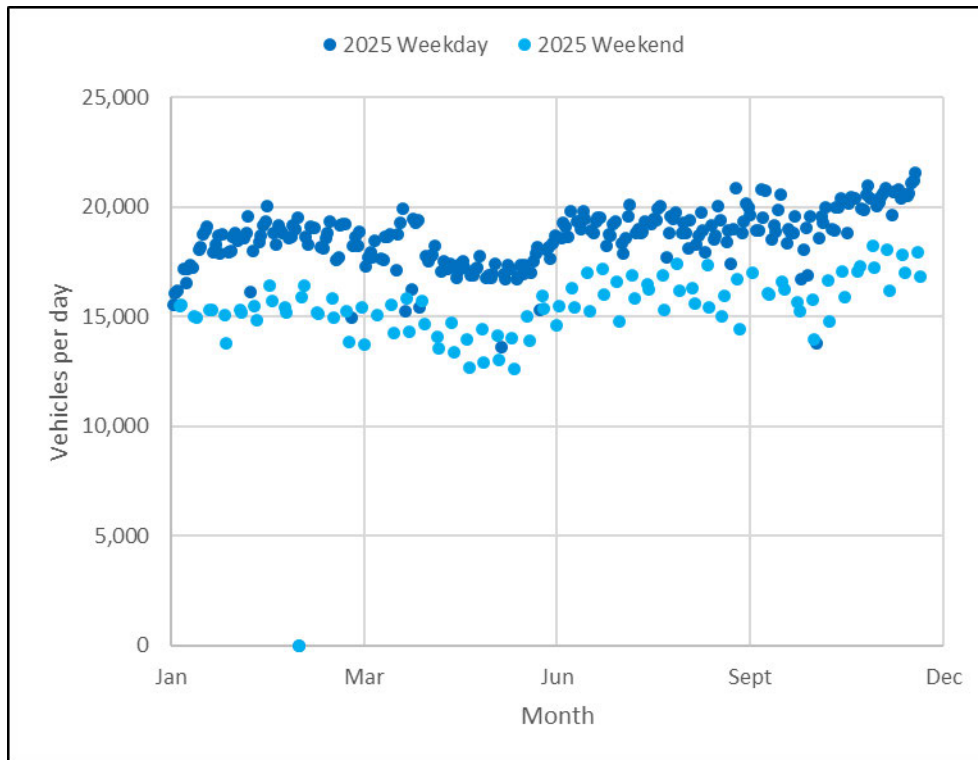


Figure 3-8: Daily traffic volumes on SH6 south of Peninsula Road 2025 (Source: NZTA TMS)

Figure 3-9 shows the hourly variation in traffic volumes at the count sites to the north and south of the Remarkables Ski Field Access Road in August 2025. Although the hourly variation at both sites generally reflects workplace travel patterns with a morning peak from 8:00 AM to 9:00 AM and afternoon peak from 4:00 PM to 5:00PM, the differences in the hourly volumes are indicative of the influence of the ski field. During the morning peak hour, traffic volumes north of the Remarkables Ski Field Access Road are 200 to 300 vehicles per hour (vph) higher than to the south.

Based on the hourly flows shown in Figure 3-9, this suggests that peak arrival rates at the Remarkables Ski Field Access Road can reach 300 vph. In the afternoon, traffic volumes south of the Remarkables Ski Field Access Road are almost 300 vph higher than to the north. This is attributed to the traffic management that was implemented in 2025 during the peak afternoon departure period from the Remarkables Ski Area which required visitors to turn left initially and then u-turn at the Coneburn roundabout.

Overall, the analysis of traffic volumes suggests that in August 2025, the Remarkables Ski Area generated on average about 1,500 vpd on SH6 north of the Remarkables Ski Field Access Road intersection and about 250 vpd to the south. That represents about 9 percent of all movements on SH6 to the north and about 1 percent of all movements to the south.



**Remarkables Ski Area Expansion  
3 State Highway 6**

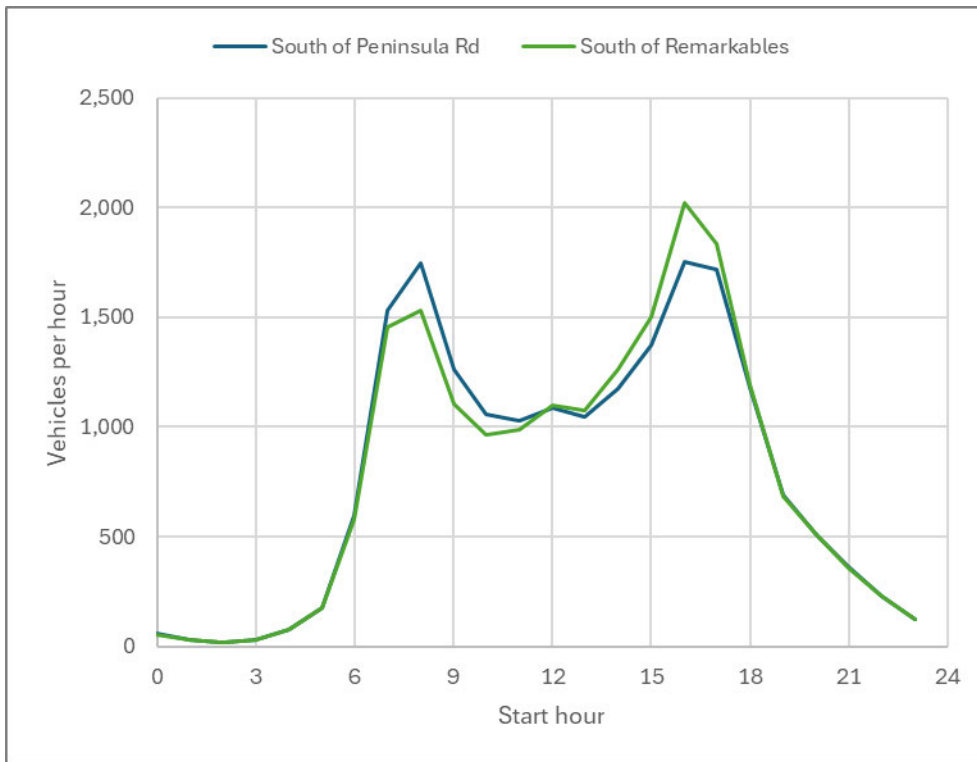


Figure 3-9: Hourly variation in traffic volumes - August 2025 (Source: NZTA TMS)

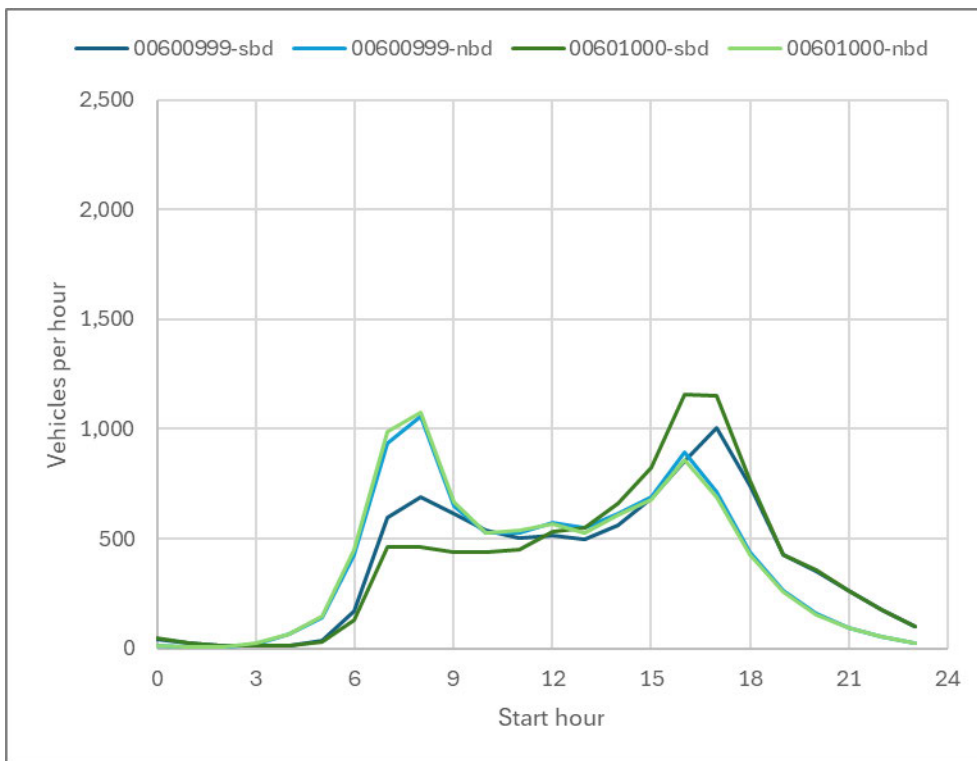


Figure 3-10: Hourly volumes by direction - August 2025 (Source: NZTA TMS)



### 3.4 Road Safety Record

The NZTA Crash Analysis System has been used to review the road safety record of SH6 within 1 km of the Remarkables Ski Field Access Road. In the five year period 2021 to 2025, 16 crashes have been reported on the highway with one crash causing serious injury and five resulting in minor injuries. Figure 3-11 shows that none of the injury crashes occurred at the ski field access.

The serious injury crash involved a rear end collision close to the driveway to 329 Kingston Highway south of Stoney Creek Lane when a driver did not notice that the vehicle in front had stopped within the carriageway prior to turning right.

One minor injury crash was reported close to the Boyd Road intersection when a driver was distracted by dropping their mobile phone and collided with queuing traffic. Four minor injury crashes were reported west of Boyd Road with these all being caused by different factors including: wildlife, burst tyre, crossing the centre line and inattention.

Two non-injury crashes have been reported within 50 m of the SH6 / Remarkables Ski Field Access Road intersection with both of these happening outside the ski season. One crash involved a brake failure with the vehicle crossing the highway whilst exiting the Remarkables Ski Field Access Road and hitting the fence on the opposite side of the highway. The other crash happened at night and was caused by an animal on the highway.

The other non-injury crashes reported are distributed along the highway with the most common types of crash being caused by queuing or slow-moving vehicles.

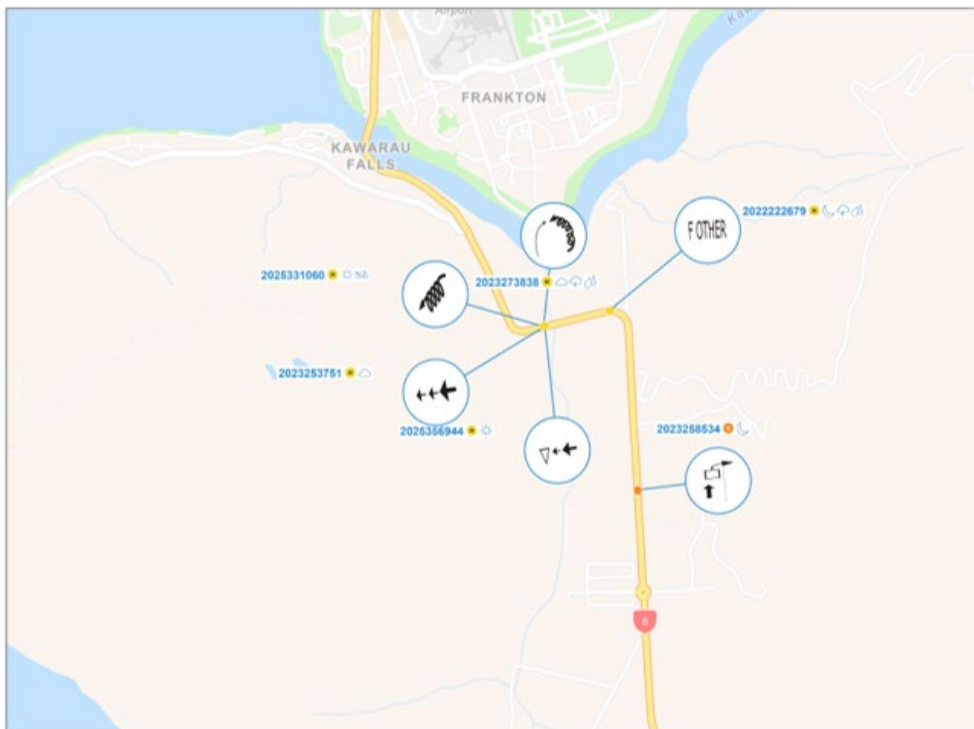


Figure 3-11: Injury crash locations on SH6, 2021 to 2025 (Source: NZTA Crash Analysis System)



### 3.5 Safe System Commentary

SH6 has a generally straight alignment either side of the Remarkables Ski Field Access Road with a gently undulating vertical alignment. The highway has a 100 m radius curve north of the access road which is inconsistent with the speed environment and has a 65 km/h advisory speed.

The road shoulders are narrow for the speed environment and there are roadside hazards (large trees) close to the carriageway with the potential to cause serious or fatal injuries in the event that vehicle leaves the carriageway. The highway does not include any specific treatment that would physically prevent head-on crashes but does include a painted yellow, no-passing line. The narrow shoulders mean that there is little space available for any cyclists using the highway.

A contributor to safety risk along this section of SH6 is the number of private driveways. Over the 1.5 km length of highway between the Coneburn roundabout and Boyd Road there are seven driveways on the eastern side of the highway including the Remarkables Ski Field Access Road and one on the western side of the highway. This represents a moderate to high density of accesses for a rural highway reflective of the proximity to urban areas. The treatment provided at the driveways is inconsistent with some having wide shoulders opposite the driveways and some having little or no widening. That will generally relate to the activity levels serviced, and when accesses were initially formed. Although there is some widening at the Remarkables Ski Field Access Road intersection, it is not sufficient to allow a northbound vehicle to pass around a vehicle that stops in the carriageway on a full sealed surface, creating some loss of control risk.

The section of highway between the Coneburn roundabout and Peninsula Road has a 'High Moderate' rating for roadside hazards in the NZTA Megamaps tool. However, it is noted that the access density close to the Remarkables Ski Field Access Road is higher than reported and the sealed shoulders are generally less than 0.5 m wide which is narrower than the 1 m to 2 m suggested in Megamaps. Both of these factors would increase the rating score compared with its reported rating. The Infrastructure Risk Rating is 'Low-Medium' in the NZTA Megamaps tool.

The highway has a medium collective risk rating between the Coneburn roundabout and Peninsula Road (Figure 3-11) which reflects the number and nature of crashes being reported.



# Remarkables Ski Area Expansion 3 State Highway 6

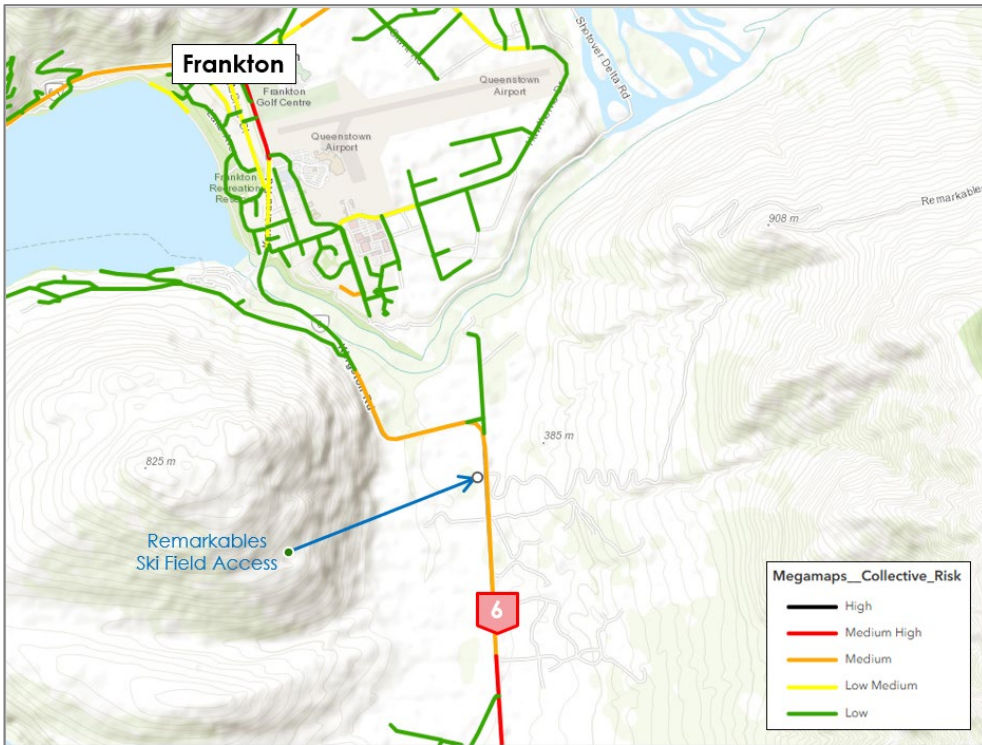


Figure 3-12: SH6 Collective Risk (Source: NZTA)



## 4 Remarkables Ski Area

### 4.1 Remarkables Ski Field Access Road

The Remarkables Ski Field Access Road is approximately 13 km long with about 9 km of this being sealed and the upper 4 km being gravelled. The sealed section provides two marked lanes that generally include edge lines (Photograph 4-1 and Photograph 4-2). The gravelled section of road provides ample width for two way vehicle movement (Photograph 4-3 and Photograph 4-4). The lower section of road has a number of widened shoulder areas which allow slow vehicles to pull over so that faster vehicles can pass. These areas are also used informally as stopping points for tourists during the summer.

The access road has a winding alignment with many small radius curves that ascends from an elevation of about 330 m at the SH6 intersection to 1,600 m at the Rastus Burn Base Area car park. Although the average gradient along the road is about 1 in 12, there are short sections with moderate to steep gradients. Roadside barriers have been installed along much of the road to protect vehicles from running off the road in a loss of control situation.



Photograph 4-1: Small radius curve on Remarkables Ski Field Access Road (Source: Stantec)



**Remarkables Ski Area Expansion**  
**4 Remarkables Ski Area**



*Photograph 4-2: Typical view of Remarkables Ski Field Access Road (Source: Stantec)*



*Photograph 4-3: Typical gravelled section of Remarkables Ski Field Access Road (Source: Stantec)*





*Photograph 4-4: Typical gravelled section of Remarkables Ski Field Access Road (Source: Stantec)*

## 4.2 Parking Facilities

Figure 4-1 shows the locations of car parking facilities at the Remarkables Ski Field. There are currently six parking areas. Car parks 1, 2 and 3 are close to the Rastus Burn Base Area with car park 4 being about 1.5 km lower down the Remarkables Ski Field Access Road. Car park 5 is located about 11 km from the Rastus Burn Base Area and is only used on days with very high parking demands. NZSki does not permit visitors to walk on the Remarkables Ski Field Access Road below car park 3 for safety reason and provides a shuttle service for visitors to travel between the Rastus Burn Base Area and car parks 4 and 5.

A large parking area has been developed close to SH6 (Car Park A) which acts as a transit facility to support 'park and ride' activity in conjunction with the NZSki bus services during the ski season. During the summer, it comprises two parking areas, one in advance of a barrier which controls access to the Remarkables Ski Field Access Road and one parking area beyond the barrier. The two car parks have capacity for about 90 and 200 spaces respectively. During the ski season, there are no barrier controls or controls on parking.



# Remarkables Ski Area Expansion

## 4 Remarkables Ski Area

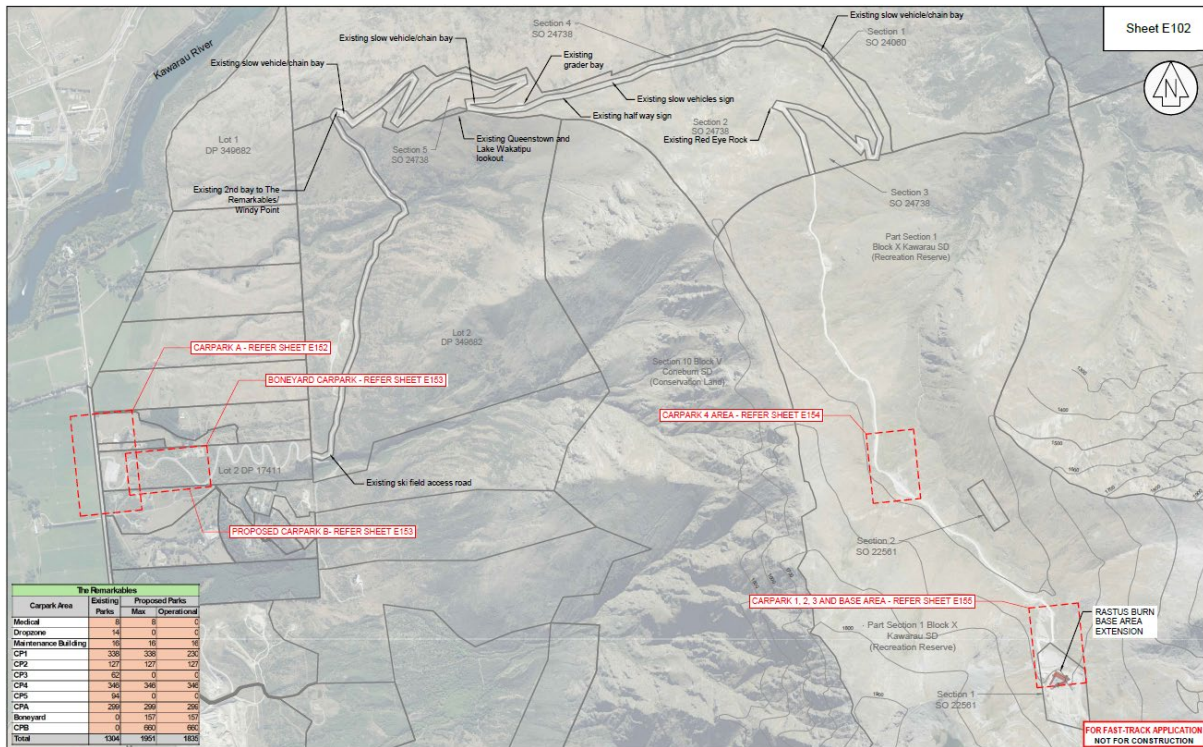


Figure 4-1: Remarkables Ski Area Car Parks (Source: Southern Land Drawing Sheet E102)

Table 4-1 shows the indicative capacity of the car parks based on industry standard parking bay dimensions.

Table 4-1: Ski area public car parks and indicative capacity (Source: NZSki)

Car Park	Capacity
1	338
2	127
3	62
4	346
5	94
A	299
<b>TOTAL</b>	<b>1,266</b>

In practice, the use of parking attendants to control parking typically results in more closely packed vehicles and narrower movement aisles than industry standards as shown in Figure 4-1 and Figure 4-2 and can increase the practical operating capacity by about 10 percent.



## Remarkables Ski Area Expansion

### 4 Remarkables Ski Area



Figure 4-2: Aerial view of Car Park 1 – 2025 (Source: NZSki)



Figure 4-3: Aerial view of Car Park 2 – 2025 (Source: NZSki)

The car parks are managed by the NZSki operations centre using traffic marshals, radio communication, and dynamic signage to direct vehicles to available spaces and manage flow along the access road. This responsive approach minimises queuing and maintains circulation within the Rastus Burn Base Area during peak arrival periods.

A tiered parking strategy is implemented to minimise the potential for congestion at the Rastus Burn Base Area:

- A busy day strategy, prioritising use of car park 1 for high occupancy vehicles, that is, three or more people, particularly on days when high visitor demands are anticipated, for example, during school holidays or ‘powder’ days.
- Lower elevation carparks cater for early arrivals and bus staging.



## Remarkables Ski Area Expansion

### 4 Remarkables Ski Area

- Mid and upper level carparks serve later arrivals, staff, and operational vehicles.
- Rastus Burn Base Area parking provides short-stay, accessible, and priority spaces closest to guest facilities.

On busy days, NZSki operates shuttles between the lower-elevation car parks, normally only car park 4 but also car park 5 if required, with the Rastus Burn Base Area, maintaining high-frequency service during morning arrivals and afternoon departures. Headways and fleet size are adjusted daily to align with demand, weather, and road conditions. On days of high visitor demand in 2025, some vehicles were parked along the access road under marshal control as well as in car park 4 as shown in Figure 4-4. It is understood that NZSki proposes to update its operational procedures to avoid the need for this in the future.



Figure 4-4: Parking along access road (Source: NZSki)

## 4.3 Traffic Generation

### 4.3.1 Ski Area Visitor Numbers

Figure 4-5 shows the average, 90<sup>th</sup> percentile and maximum numbers of daily visitors to the Remarkables Ski Area recorded by NZSki since 2018. The lower volumes recorded in 2020 and 2021 is attributed to the effects of the COVID19 pandemic. In the most recent four years, the average daily number of visitors has been about 2,300 with a 90<sup>th</sup> percentile level of 3,500. The maximum number of visitors varies year to year but in the last four years, there were five days with more than 4,000 visitors, three in 2023 but none in 2025. In 2025, visitor numbers exceeded 3,500 on 14 days, six on weekdays and eight at weekends. Over the three year period 2023 to 2025, visitor numbers exceeded 3,500 on 34 days with 20 being weekdays.



**Remarkables Ski Area Expansion**  
**4 Remarkables Ski Area**



Figure 4-5: Remarkables Ski Area Visitor Numbers (Source: NZSki)

### 4.3.2 Parking Demands

NZSki has provided details of the observed car park occupancy rates in recent years. Table 4-2 shows the reported occupancy rates in 2025 and indicates that car parks 1 and 2 were operating at or over capacity on the busier days of the season (shown in red text), as marshals are able to maximise utilisation of the available space. Car parks 3, 4 and 5 operated at 30 to 65% occupancy levels on average but car parks 3 and 4 were over capacity on the busiest days. Occupancy data was not recorded for car park A beside SH6, but it is understood that this was underutilised.

Table 4-2: Ski area car parks and occupancy levels in 2025 (Source: NZSki)

Car Park	Capacity	Average Occupancy (Cars)	90 <sup>th</sup> Percentile Occupancy (Cars)	Maximum Occupancy (Cars)
1	338	321	351	371
2	127	122	140	160
3	62	21	45	63
4	346	210	383	459
5	94	43	47	48
TOTAL	967	717	966	1,101



## Remarkables Ski Area Expansion

### 4 Remarkables Ski Area

Overall, the parking demand data indicates that the upper car parks have sufficient capacity to meet the 90<sup>th</sup> existing percentile demands but not sufficient to meet demands on the busiest days of the season, that is, days with more than 3,500 visitors.

#### 4.3.3 Travel Mode Share

The information provided by NZSki on passenger numbers on the NZSki bus services, number of charter buses and total visitor numbers has been used to determine the typical mode share for different travel options. Although no surveys of the numbers of visitors being dropped off in the morning or picked up by private vehicle have been completed, the vehicle movement counts at the highway suggest that this is likely to account for a small proportion of private vehicle movements on the access road. For the purposes of this assessment, it has been estimated that the pick-up / drop-off (PUDO) travel mode accounts for about 4% of the travel mode share, that is 100 to 150 people. Table 4-3 shows the number of visitors by travel mode. It indicates that on busier days, more visitors choose to travel by private vehicle.

Table 4-3: Average visitor numbers by travel mode in 2025 (Source: NZSki)

Visitor Numbers	Private Vehicle	PUDO <sup>4</sup>	Charter Bus	Ski Bus Queenstown / Frankton	Ski Bus (SH6 Transit)	Daily Average	Days
2,000 – 2,500	1,503	90	182	454	59	2,251	24
2,500 – 3,000	1,717	109	205	645	53	2,2724	18
3,000 – 3,500	2,198	130	228	642	61	3,250	18
> 3,500	2,594	149	251	660	72	3,715	14

Table 4-4 shows that private vehicle travel including PUDO typically accounted for over 70% of the travel mode share in 2025 with the NZSki bus accounting for about 20% to 23% of the travel mode.

Table 4-4: Travel Mode Share in 2025 (Source: NZSki)

Visitor Numbers	Private Vehicle	PUDO	Charter Bus	Ski Bus (Queenstown & Frankton)	Ski Bus (SH6 Transit)
2,000 – 2,500	66.8%	4.0%	8.1%	20.2%	2.6%
2,500 – 3,000	63.1%	4.0%	7.5%	23.7%	2.0%
3,000 – 3,500	67.6%	4.0%	7.0%	19.8%	1.9%
> 3,500	69.8%	4.0%	6.7%	17.8%	1.9%

<sup>4</sup> Estimated figures based on 4% of daily visitors travelling by private vehicle are PUDO



### 4.3.4 Ski Area Vehicle Movements

Figure 4-5 includes the results of the analysis of directional traffic volumes north and south of the SH6 / Remarkables Ski Field Access Road intersection to provide an indication of the traffic generation of the ski area in the 2025 ski season. It shows that there were wide variations in daily activity which reflects changes in weather and ski field conditions.

Over the four month long ski season in 2025, 14 June to 12 October, the estimated average number of vehicle arrivals per day derived from the SH6 volume information was about 720 with a 90<sup>th</sup> percentile arrival volume of 1,130. The 90<sup>th</sup> percentile arrival volume was exceeded on 12 days and reflects the number of days on which visitor numbers exceeded 3,500.

Figure 4-6 shows the indicative arrival and departure patterns based on the count information recorded on SH6 over a one week period in early July 2025 during the school holiday period. The peak period of arrivals was 7:00 AM to 9:00 AM with a peak hourly flow of about 320 vph. About 50% of all arrivals occurred within a two hour period and 30 to 35% within the busiest hour. The peak period for departures occurs from mid-afternoon, after 3:30 PM, with a peak hourly flow of about 300 vph on weekdays and over 400 vph at the weekend.

The average flows during the school holiday period were above the daily average for the whole ski season but included days which were above the 90<sup>th</sup> percentile levels of 367 vph for arrivals and 375 vph for departures.

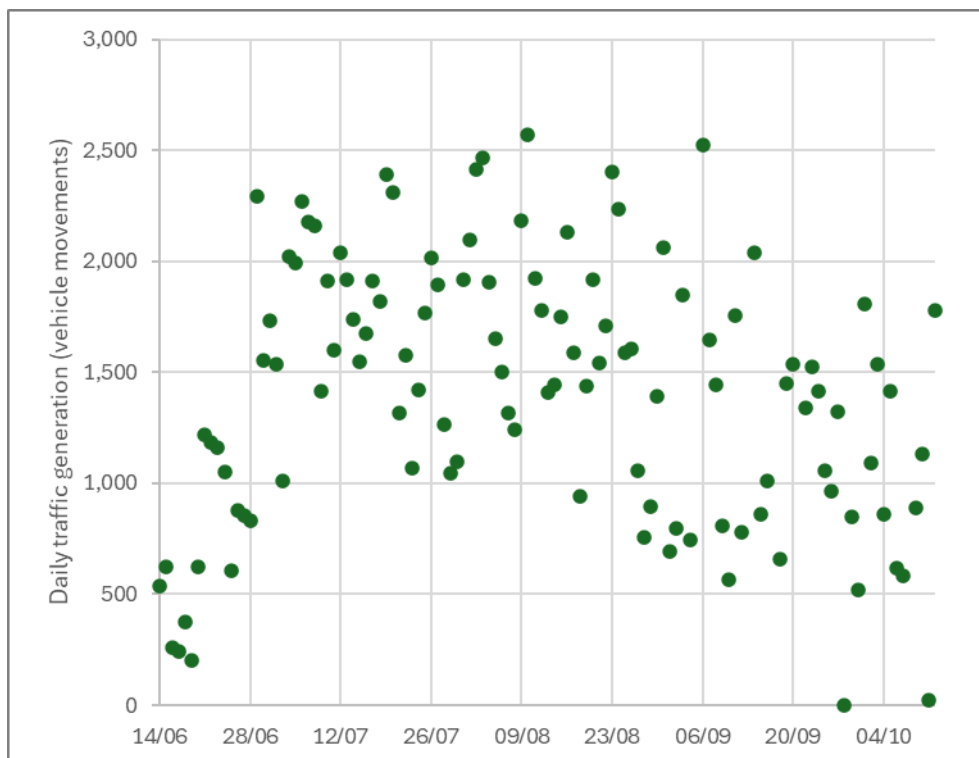


Figure 4-6: Indicative daily traffic generation of Remarkables ski area - 2025 ski season (Source: NZTA TMS)



## Remarkables Ski Area Expansion 4 Remarkables Ski Area

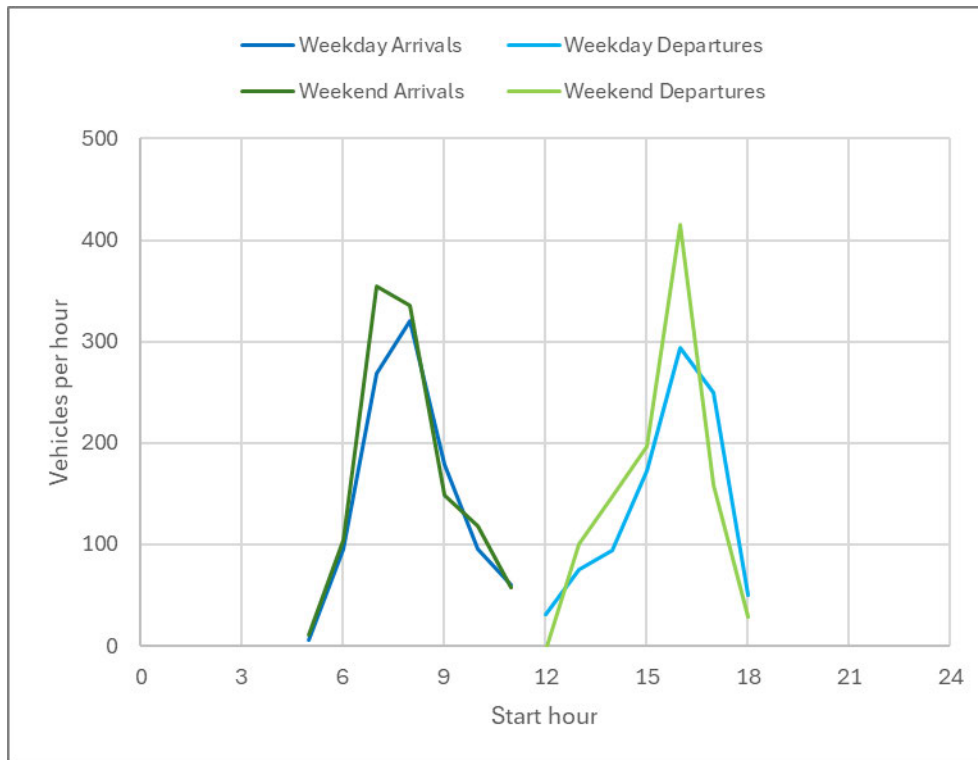


Figure 4-7: Indicative arrival and departure patterns - July 2025 (Source: NZTA TMS)

Figure 4-8 provides a comparison of the indicative number of the Remarkables Ski Area arrival movements derived from the SH6 count data with the parking demand occupancy rates reported by NZSki. Over the 2025 ski season, the number of arrivals estimated from the SH6 flows was about 25% higher than would be generated by the parking demand only. It is likely that this reflects vehicle movements at the ski field being generated by PUDO type activity.



## Remarkables Ski Area Expansion

### 4 Remarkables Ski Area

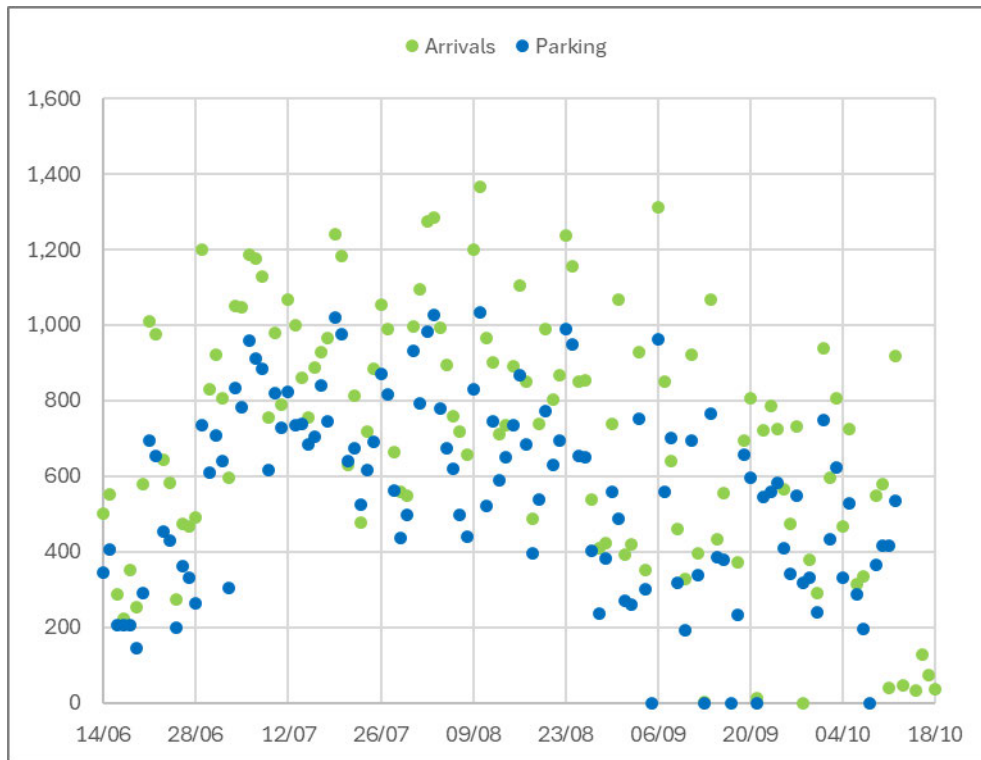


Figure 4-8: Comparison of indicative arrivals and parking demands (Data Sources: NZSki and NZTA TMS)

#### 4.3.5 SH6 Intersection Operation

Since two-way volumes on SH6 are already high during the peak departure period from the Remarkables Ski Area, typically over 1,700 vph on weekdays, right turn movements into SH6 from any driveways or side roads such as the Remarkables Ski Field Access Road intersection are highly constrained and subject to long delays. During the 2025 winter ski season, drivers were directed to turn left from the ski field access, and then u-turn at the Coneburn roundabout. Even with turns being restricted to left only, departing drivers still have to find gaps in passing SH6 traffic. This can result in long delays if the departure demands approach the left turn capacity of the intersection. Queue lengths on the Remarkables Ski Field Access Road were reported to extend through the SH6 car park during the peak departure period on the busier days of the season and indicates that the intersection was operating at or over its capacity on those days.

During the summer months, traffic volumes of 100 vpd to 200 vpd are more typical and involves sightseers and trampers to Lake Alta. Right turns from the Remarkables Ski Field Access Road remain constrained because of the high highway volumes particularly in peak periods but the low level of demand means that any queues are short.

#### 4.4 Road Safety Record

Figure 4-9 shows the locations of all reported crashes on the Remarkables Ski Field Access Road in the five year period 2021 to 2025. One crash caused serious injury to a van driver descending the



## Remarkables Ski Area Expansion

### 4 Remarkables Ski Area

road in June when they lost control on a curve and slid into a bank. Two minor injury crashes were reported during winter ski season and involved single vehicles only when the drivers have lost control travelling downhill in slippery conditions. Two other non-injury crashes occurred outside the ski season with one attributed to excess alcohol and the other to driver inexperience on a gravel road.

Two crashes were reported at or close to the SH6 intersection. One involved a collision with a wild animal and the other was caused by a brake failure with the vehicle crossing the highway before hitting the fence.



Figure 4-9: Crash locations on Remarkables Ski Field Access Road ,2021-25 (Source: NZTA CAS)

## 4.5 Safe System Commentary

The access road has been formed to accommodate two-way vehicle movement but the mountainous environment means that there are hazards on both sides of the road. Safety barriers have been installed along much of the road to prevent vehicles from leaving the road. These barriers reduce the likelihood of vehicles leaving the road with steep exposure that could otherwise contribute to serious or fatal injuries.

The primary hazards are the steep gradients and the loose gravelled surface on the upper sections of the road. Since the road attracts a wide range of visitors with differing skill levels and with many not accustomed to driving on this type of road under winter conditions, it is likely that some drivers adopt inappropriate speeds for the conditions contributing to loss of control. This is managed with specific Remarkables Ski Field Access Road speed limits.



## 5 Bus Services

### 5.1 Public Transport Services

Figure 5-1 shows the section of the public transport network operated by Orbus between Queenstown and Jacks Point. There are transport hubs on Stanley Street in Queenstown and at Frankton Corner to allow passengers to transfer between services.

The Route 4 service which operates between Arrowtown and Jacks Point via Frankton, Queenstown and Arthurs Point is the only service that passes the Remarkables Ski Field Access Road. The service operates hourly during the day but does not include any stops close to the Remarkables Ski Field Access Road.



Figure 5-1: Public Transport Network (Source: Orbus)

### 5.2 NZSki Bus Services

NZSki operates buses with a 44 person capacity between Queenstown and its ski areas at Coronet Peak and Remarkables. Buses depart from Queenstown to the Remarkables Ski Area at 30 minute intervals from 7:30 AM to 9:00 AM and one later bus at 10:00 AM. Buses from Frankton depart at 30 minute intervals from 7:45 AM until 11:15 AM. Buses start to return from the Remarkables Ski Area



## Remarkables Ski Area Expansion 5 Bus Services

from 1:30 PM. All buses stop at the SH6 base area car park area at the bottom of the Remarkables Ski Field Access Road.

The 2025 cost of a one-day return ticket on the ski bus was \$49 for an adult and \$39 for a child.



Figure 5-2: NZSki Bus Service (Source: NZSki)

Table 5-1 provides a summary of the usage of the NZSki bus based on the booked boarding locations. For the purpose of the table, the Queenstown column includes all boarding locations from the central Queenstown and along Frankton Road prior to the Frankton Hub. Based on the ticket booking analysis for 2025, 75 to 80 percent of bus users boarded between Queenstown and the Frankton Hub, predominantly at Duke Street in central Queenstown. A further 10 to 15 percent boarded in Frankton, primarily at the Frankton Hub. About 10 percent of users boarded at the Remarkables Park and Ride beside the SH6 intersection at the base of the Remarkables Ski Field Access Road.



## Remarkables Ski Area Expansion 5 Bus Services

NZSki has indicated that some of the services from Queenstown effectively operate as express-type services because the buses are filled at Queenstown and have no spare capacity for passenger pick-up along Frankton Road or at the Frankton Hub.

Table 5-1: NZSki Bus daily usage statistics in 2025 (Source: NZSki)

	Queenstown	Frankton	SH6 Car Park	Total <sup>5</sup>
Average	441	66	55	532
90 <sup>th</sup> percentile	590	122	90	765
Maximum	609	133	170	855

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<sup>5</sup> The totals shown does not reflect a simple summation across the row due to day to day variations in the number of people boarding in different locations.



# Southern Corridor



## 6 Te Tapuae Southern Corridor Structure Plan

### 6.1 Overview

Te Tapuae Southern Corridor covers approximately 1,300 ha of land south of Kawarau River and includes the residential areas of Hanley’s Farm, Jack’s Point, and Homestead Bay (Figure 7-1). It represents a primary growth area for the district with an anticipated total development potential for over 9,000 houses.

QLDC has developed the Te Tapuae Southern Corridor Structure Plan (TTSCSP) to provide a framework for managing infrastructure development to support the community needs. The TTSCSP was adopted by Council in September 2025. Council initiated Plan Changes are anticipated in the future to achieve the objectives of the Structure Plan but have not yet occurred.

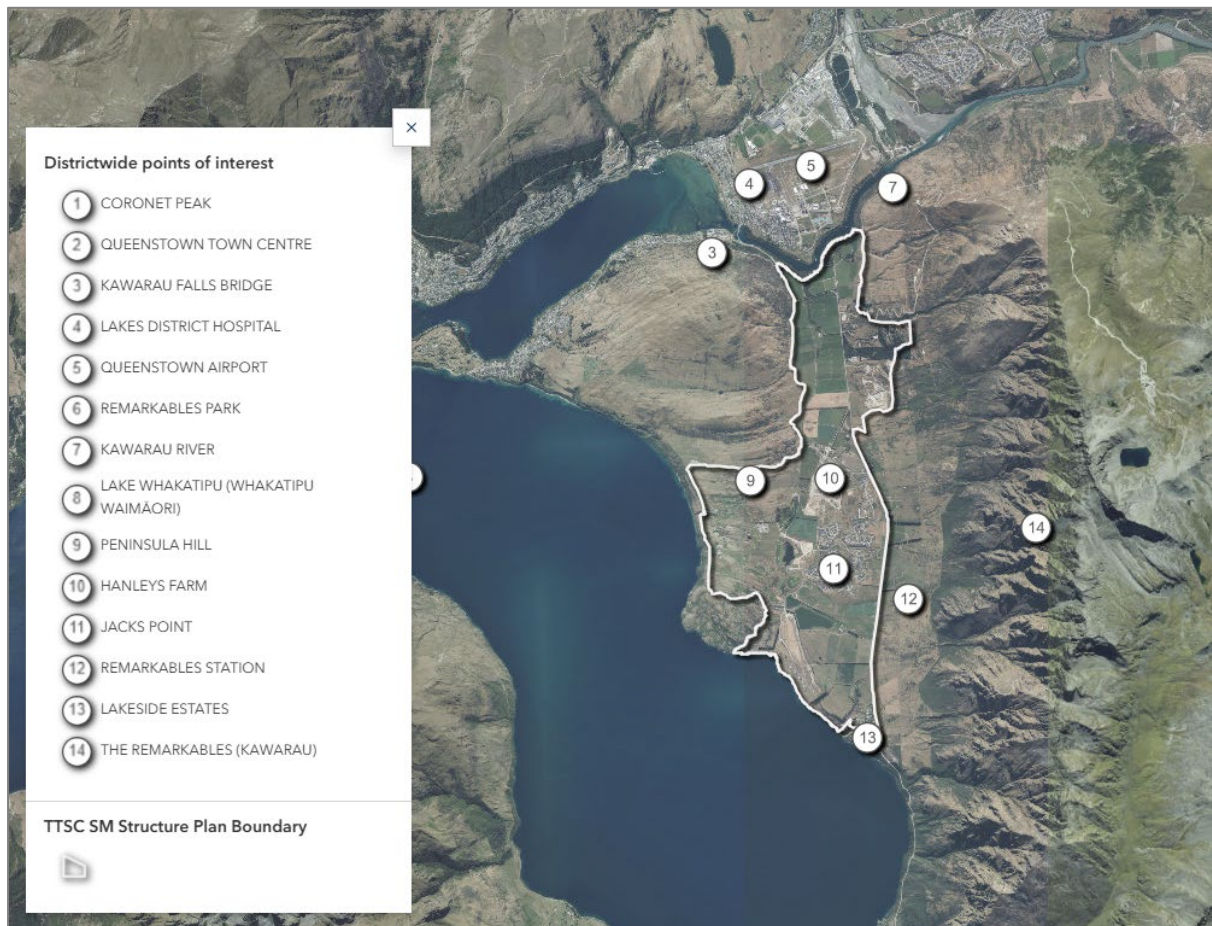


Figure 6-1: Te Tapuae Southern Corridor Structure Plan Area (Source: QLDC)

### 6.2 Objectives

The TTSCSP includes the following objectives:



## Remarkables Ski Area Expansion 6 Te Tapuae Southern Corridor Structure Plan

1. Consolidated growth and more housing choice
2. Public transport, walking and cycling is the preferred option for daily travel:
  - a. Strive for a reduce in greenhouse gas emissions.
  - b. Evaluate and enhance the overall transport network.
  - c. Reduce reliance on cars by providing alternate means of transport.
3. Well designed neighbourhoods that provide for everyday needs
4. Ensure the provision of efficient and effective infrastructure within Te Tapuae Southern Corridor (including stormwater, water supply, wastewater and transportation).
  - a. A diverse economy where everyone can thrive and a sustainable tourism system.
  - b. Develop functional and well-designed commercial centres that enhance self-sufficiency in the area.
  - c. Encourage industrial activities that contribute to economic growth.
  - d. Create a destination that meets the needs of residents and visitors.

From a transport perspective, the objectives recognise a need to improve the network but with the aim of reducing reliance on private cars and providing for other travel modes.

### 6.3 SH6 Travel Demands

The TTSCSP reports that there were about 1,800 households along the corridor in 2023 and that new dwellings are being developed at a rate of about 350 per annum. Historically, suburban household traffic generation rates in the range 8 to 10 vpd per dwelling were common. Based on the number of dwellings being constructed each year and growth in traffic volumes on SH6, development along the southern corridor is adding to traffic volumes on SH6 south of the Remarkables Ski Field Access Road intersection at a rate of 6 vpd per household.

In the longer term, it is expected that more trips will become local in nature as new facilities and infrastructure are established. This means that average traffic generation rate per household accessing the highway will reduce. Based on the long term plans to promote greater use of public transport, an average daily traffic generation rate of 6 vpd per household has been adopted to establish baseline future year volumes on SH6 for the period 2025 to 2035. The forecast unconstrained directional volumes in Table 7-1 for the morning and afternoon ski season peak periods have been based on flows in June 2025 prior to the start of the ski season.

*Table 7-1: Forecast unconstrained traffic volumes on SH6 passing the Remarkables Ski Field access*

Year	Daily	AM Peak		PM Peak	
		Northbound	Southbound	Northbound	Southbound
2025	17,700	900	400	600	800
2028	24,000	1,220	540	815	1,085
2035	38,700	1,970	875	1,310	1,750

### 6.4 Transport Infrastructure

The TTSCSP proposal to service the Corridor revolves around reducing the number of single occupancy vehicles (cars) using Kawarau Falls Bridge because without action, the travel demands



## Remarkables Ski Area Expansion 6 Te Tapuae Southern Corridor Structure Plan

from Te Tapuae Southern Corridor (including Kelvin Heights and Kingston) north across the Kawarau Bridge are forecast to exceed the capacity of the current road and public transport services. The TTSCSP indicates that this could be as soon as 2027.

A reduction in vehicle volumes is proposed through a combination of providing alternative higher capacity and sustainable transport modes, providing more jobs and services in the Corridor so it becomes more self-sufficient, and implementing a Travel Demand Management (TDM) programme.

The TTSCSP includes the following staging plan for transport network improvements.

### Short term actions and triggers (0 to 3 years)

- Construction of new roundabouts on the SH6 to serve the new Homestead Bay East development and conversion of the SH6/Jack Hanley Drive and the SH6/Remarkables Ski Field Access Road intersections into roundabouts.
- Establishment of a connecting internal road for the undeveloped southern area - from Homestead Bay Road to SH6.
- State Highway 6/6A Frankton intersection upgrades completed.
- Delivery of a separated cycle connection from Te Tapuae Southern Corridor to Te Kirikiri Frankton via old Kawarau Bridge (A7 route) and commencement of internal walking and cycling network.
- Implementation of the 2027 Public Transport Business Case (PTBC), designed to enable 300 people to cross the Kawarau Bridge during the morning peak every 15 minutes.
- Initiate coordinated planning, consenting, financing, and development processes, alongside establishing regulatory agreements, for the proposed offline high-capacity transit system. This will also incorporate a comprehensive review of public transport bus routes.
- Begin developments to corridor services and facilities, including 33,000 m<sup>2</sup> of retail space, 16.5 hectares of commercial land, and 27.7 hectares of industrial land at Coneburn.
- Complete the implementation of TDM Tranche 1, focused on soft behavioural initiatives, and begin rolling out TDM Tranche 2, which introduces infrastructure-based improvements.

The “next steps – first three years” section of the TTSCSP addresses implementation of the first three years of provision on transport infrastructure and indicates that this will be led by QLDC, ORC, and NZTA (Action 7).

### Medium term actions and triggers (3 to 10 years)

- Conversion of the SH6 / Māori Jack Road intersection into a roundabout.
- Initial phase of the offline transit connection to Jacks Point Town Centre by 2028, accommodating an estimated 2,000 passengers per hour, with plans to boost capacity to 2,400 passengers per hour by 2033.
- Implement new internal public transport bus route to support an offline high-capacity system and existing/proposed bus services across to Te Kirikiri Frankton.
- Completion of internal walking and cycling network connections to support access to offline transit stations and public transport (bus) stops.
- Complete implementation of TDM tranche 2 – infrastructure (hard measures i.e., bus lanes and priority).



## Remarkables Ski Area Expansion

### 6 Te Tapuae Southern Corridor Structure Plan

- Implementation of TDM tranche 3 – policy (regulatory and planning tools), potentially including time of use charging on Kawarau Bridge - aligned with increase in public transport and/or offline system delivery.
- By 2033, consistent with the Public Transport Business Case (PTBC), aim to increase the number of people crossing the Kawarau Bridge by public transport to 440 during the morning peak period.
- Ongoing development within the corridor to support self-sufficiency within the corridor via additional services and amenities, including 33,000 m<sup>2</sup> of retail space at the town centre, 16.5 hectares of mixed-use commercial land at the town centre, 27.7 hectares of industrial land at Coneburn, as well as limited retail associated with industrial activities and 5 hectares of commercial land at the local centre from 2035 onwards.
- Delivery of a secondary school within the corridor by 2035. This is subject to further investigations by the Ministry of Education.
- Implement Park and Ride at offline high-capacity transit stations adjacent to SH6 to capture traffic from the south with a destination north of Kawarau River.

#### Long term actions and triggers (10+ years)

- Expand the offline transit system to reach Homestead Bay, ensuring this extension aligns with development timelines and maintains a continuous operational capacity of 2,400 passengers per hour.
- Ensure all TDM tranches are fully implemented by 2040, establishing a robust combination of behavioural, infrastructure, and regulatory measures.
- By 2040, as outlined in the PTBC, the goal is to increase the number of people crossing the Kawarau Bridge by public transport to 1,033 during the morning peak. Achieving this will require services running every six minutes.
- By 2053, as set out in the PTBC, the goal is to have 1,637 people crossing the Kawarau Bridge by public transport during the morning peak. Achieving this will require 16 high-capacity buses (each accommodating 110 passengers) running every 3 to 4 minutes.
- Complete the comprehensive land use programme across town centres, local centres, and industrial zones, including the delivery of 33,000 m<sup>2</sup> of retail space, 16.5 hectares allocated to mixed-use commercial development, and 27.7 hectares dedicated to industrial land at Coneburn.

## 6.5 Ski Area Support Activities

The TTSCSP includes an area to support the activities of the Remarkables Ski Area at the northern end of the Te Tapuae Southern Corridor, between the proposed Business Mixed Use area and QEII Covenant Land. Its purpose is to enable the continued development of the Remarkables ski Area as a year-round destination for skiing, tourism and recreational activities.

Figure 7-2 shows the proposed land-use zones at the northern end of the Te Tapuae Southern Corridor close to the Remarkables Ski Field Access Road. A Business Mixed Use Zone and Special Purpose Zone are proposed east of SH6 straddling the Remarkables Ski Field Access Road. The land to the west of SH6 and to the north of the Ski Area Support Activities overlay is subject to a QEII Covenant.



## Remarkables Ski Area Expansion 6 Te Tapuae Southern Corridor Structure Plan

The Ski Area Support Activities overlay area extends south from the Remarkables Ski Field Access Road to Woolshed Road and comprises a mix of industrial, business mixed use, open space and rural land.

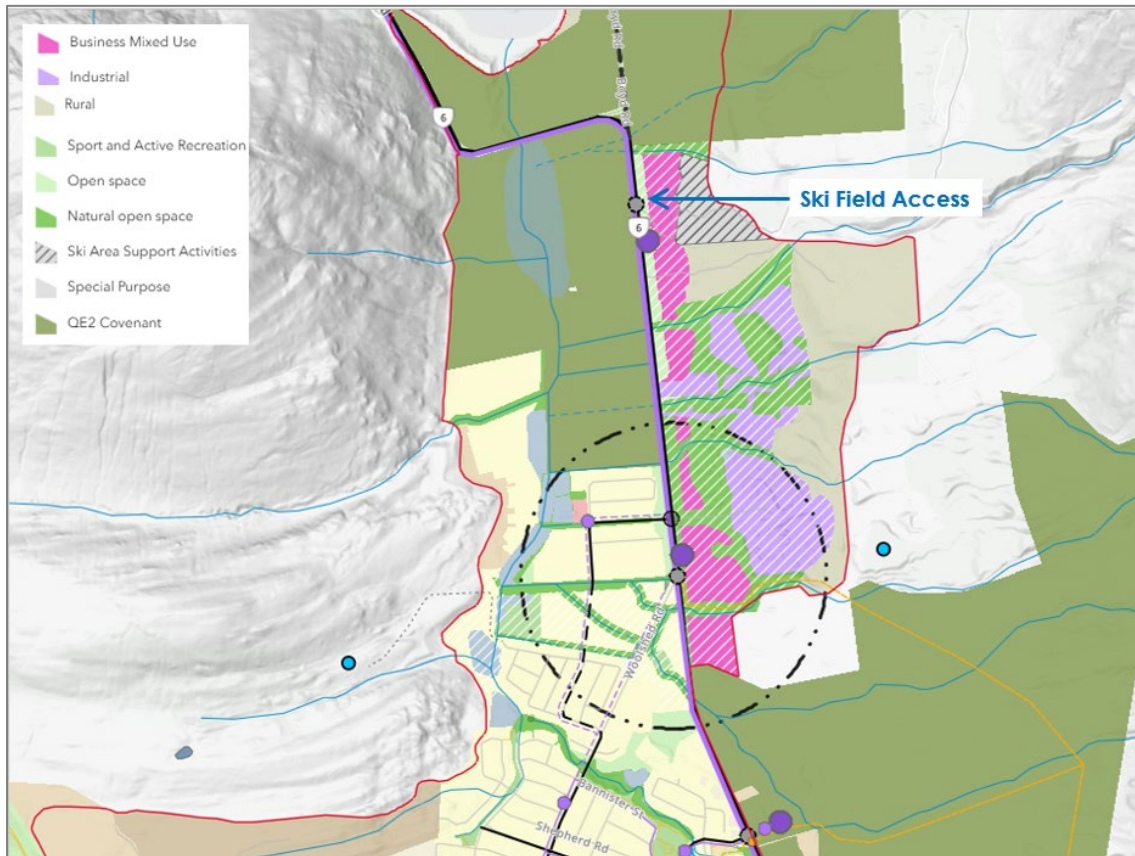


Figure 6-2: Te Tapuae Southern Corridor Structure Plan land use zones (Source: QLDC)



# Project Description



## 7 Remarkables Ski Area Expansion Project

### 7.1 Overview

The primary objective of the Remarkables Ski Area Expansion Project is to provide a world class multi-valley ski area that will attract local and international visitors and cater to both the existing and future visitor demands for ski tourism in the district and region.

To achieve the objective, the Project seeks to upgrade the existing infrastructure within the Remarkables Ski Area and expand the skiable terrain available through an expansion into the adjacent Doolans Basin. The Doolans Basin will be accessed via a newly established gondola and ski trails.

At the completion of the Project, the expanded ski area will accommodate up to 6,000 skiers per day. This growth is anticipated to occur over two stages, as shown in Table 7-1. Stage 1 represents when the “Install” stage of the Project is complete, with Stage 2 representing the completion of the “Expand” stage. More detail is provided in the Project Description of the substantive application.

Table 7-1: Expected Population Staging for the Proposed Expansion (Source: NZSki)

Location	Current Occupancy	Development Stage 1	Development Stage 2
Site Wide	3,500 people / day (ave) 4,000 people / day (max)	4,500 people / day	6,000 people / day
Rastus Burn	3,500 people / day	3,500 people / day	3,500 people / day
Doolans Basin	n/a	1,000 people / day	2,500 people / day

The Project also has also been designed to improve the overall resilience of the ski area to the effects of climate change and increasingly variable weather patterns. The Doolans Basin is located at a higher elevation than the existing Remarkables Ski Area and is also located on a south facing slope. The Doolans Basin therefore has a heightened ability to retain snow, improving its longer-term resilience to the potential effects of climate change.

### 7.2 Infrastructure Design Scenarios

Since visitor volumes vary both seasonally and daily in response to weather, snow conditions, school holidays and regional tourism patterns, NZSki have developed three design scenarios for the purpose of assessing infrastructure requirements which are summarised in Table 7-2. The Baseline scenario with 3,500 visitors represents a 90<sup>th</sup> percentile demand day based on visitor numbers recorded in 2025.



**Remarkables Ski Area Expansion**  
**7 Remarkables Ski Area Expansion Project**

*Table 7-2: NZSki Design Scenarios*

<b>Scenario</b>	<b>Description</b>	<b>Indicative visitors per day</b>
Baseline	Current Rastus Burn operations Existing car park arrangements and management Existing SH6 intersection configuration and TMP	~ 3,500
Stage 1	New base building Upgraded utilities Improved parking and shuttle systems	~ 4,500
Stage 2	New lift systems (gondola) Extended ski terrain Upgraded utilities Enhanced parking and shuttle systems	~ 6,000

The Project will involve alterations to the parking provisions at the ski area. It is anticipated that the capacity of car park 1 will be reduced to provide more space for buses and that car park 3 will be closed to provide space for power and waste water infrastructure. New parking areas will be developed at the base of the Remarkables Ski Field Access Road close to car park A. Table 7-3 provides a summary of the existing and future visitor parking capacity. The capacity of the upper car parks will be reduced by about 160 spaces which will be balanced by increasing the lower car park capacity by about 700 spaces.

*Table 7-3: Ski area public car parks and indicative capacity (Source: NZSki)*

<b>Location</b>	<b>Car Park</b>	<b>Existing Capacity</b>	<b>Future Capacity</b>
Upper	1	338	230
	2	127	127
	3	62	0
	4	346	346
<b>TOTAL</b>		<b>873</b>	<b>703</b>
Lower	5	94	0
	A	299	299
	B	0	660
	Boneyard	0	157
<b>TOTAL</b>		<b>393</b>	<b>1,116</b>
<b>COMBINED</b>		<b>1,360</b>	<b>1,819</b>

For the purposes of establishing potential parking demands, NZSki have also provided information on target mode share and their targets for private vehicle occupancy rates for each design scenario. Table 7-4 provides a comparison of the mode share targets with those recorded in 2025 to provide a design reference.



## Remarkables Ski Area Expansion

### 7 Remarkables Ski Area Expansion Project

Since the analysis of visitor travel demands in 2025 (Table 4-4) indicates that the private vehicle travel mode share on days with 3,500 visitors was over 70%, the NZSki Baseline scenario primarily involves achieving a mode shift from private vehicles to buses. Since parking demands at the Remarkables Ski Area will be sensitive to vehicle occupancy levels, NZSki is proposing changes to their operational management measures to implement controls such as minimum vehicle occupancy rates to increase average occupancy levels of private vehicles in conjunction with increased bus services.

Table 7-4: NZSki Mode Share and vehicle occupancy (Source: NZSki)

Scenario	Visitors	Bus / Shuttle mode share	Private Vehicle mode share	Average car occupancy
2025	3,500	26%	74%	2.6
Baseline	3,500	35%	65%	2.7
Stage 1	4,500	40%	60%	2.8
Stage 2	6,000	50%	50%	2.9

For the purposes of this assessment, NZSki have provided their forecast growth in passenger numbers for key locations because this will influence the future operating requirements for their bus service. The forecast growth anticipates a 50% increase in patronage from Queenstown, trebling of patronage from Frankton and the introduction of a new service for the Southern Corridor. The greatest increase in passenger numbers is associated with the establishment of the SH6 transit station and anticipates growth from less than 100 passengers per day on average to 1,400 passengers per day in the Stage 2 design scenario.

Table 7-5: Indicative passenger by boarding location (Source: NZSki)

Scenario	Queenstown	Frankton	SH6 Transit	Southern Corridor	Charter	Total
2025	600	100	75	0	175	950
Baseline	700	150	150	0	175	1,175
Stage 1	800	200	500	100	200	1,800
Stage 2	900	300	1,400	200	200	3,000

Achieving the mode shift targets outlined in the baseline design scenario could take several years but will form a focus of NZSki operations in the short term. The anticipated growth in visitor numbers in the Stage 1 and Stage 2 design scenarios represent medium and long term aims. The Stage 2 design demands would not be expected before all Stage 2 works are complete.



## 8 Visitor Travel Demands

### 8.1 Vehicle Occupancy Rates

Based on the analysis of visitor numbers, bus passenger numbers and parked vehicles during the 2025 ski season, the average vehicle occupancy was about 2.6 people per vehicle. Table 8-1 shows a range of scenarios with different distributions for two, three and four person occupancy rates. It suggests the average vehicle occupancy of 2.6 people in 2025 was likely to reflect 50 to 60 percent of vehicles having two occupants only with 10 to 20 percent of vehicles having four people.

Achieving an average vehicle occupancy rate of 2.9 people in the future will require implementation of measures to reduce the number of vehicles with only two occupants from about 60 percent to 40 percent or less.

Table 8-1: Indicative Vehicle Occupancy Distributions

Vehicle Occupancy	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
2	60%	50%	55%	50%	40%
3	20%	40%	20%	20%	30%
4	20%	10%	25%	30%	30%
Average	2.6	2.6	2.7	2.8	2.9

### 8.2 2025 Reference Scenario

Figure 8-1 provides a schematic showing the indicative daily movement demands generated by the Remarkables Ski Area on a day with 3,500 visitors with the 2025 mode share distribution, that is 70% of visitors travelling by private vehicle and average vehicle occupancy of 2.6 people. Figure 8-2 shows the daily arrival and departure patterns under this scenario with Figure 8-3 showing the indicative peak hour turning demands at the SH6 intersection noting that in 2025, all right exit demands in the PM peak were directed to turn left towards Coneburn with a U-turn made at the roundabout. In this reference scenario, there is a parking demand for private vehicles of over 900 at the Rastus Burn Base Area and about 50 at the SH6 car park. On busier days, the parking demands did overflow from the upper car parks and car park 5 was used. When this was necessary, NZSki provided shuttles between car park 5 and Rastus Burn Base Area.

Since the peak hourly arrival volume represented about 30% of the daily arrivals, the peak arrival rate was about 330 vph. Based on the analysis of SH6 traffic flows from 2025, about 15% of this traffic approached from the south and generated a right turn demand at the ski field access road of about 50 vph.

The peak hourly departure volume represented about 35% of the total departures, that is about 380 vph.



**Remarkables Ski Area Expansion  
8 Visitor Travel Demands**

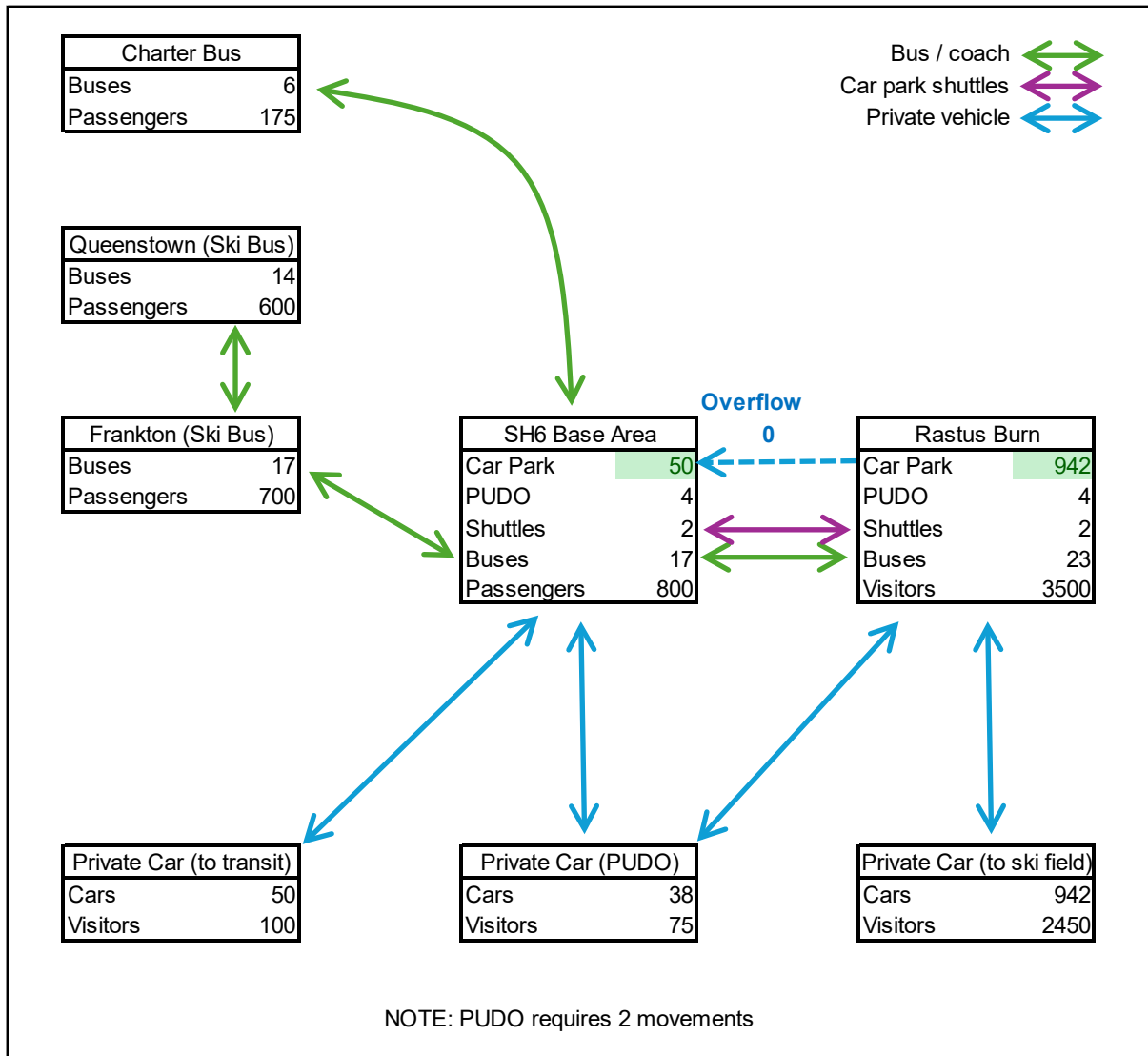


Figure 8-1: 2025 Reference Scenario Daily Travel Demands



**Remarkables Ski Area Expansion  
8 Visitor Travel Demands**

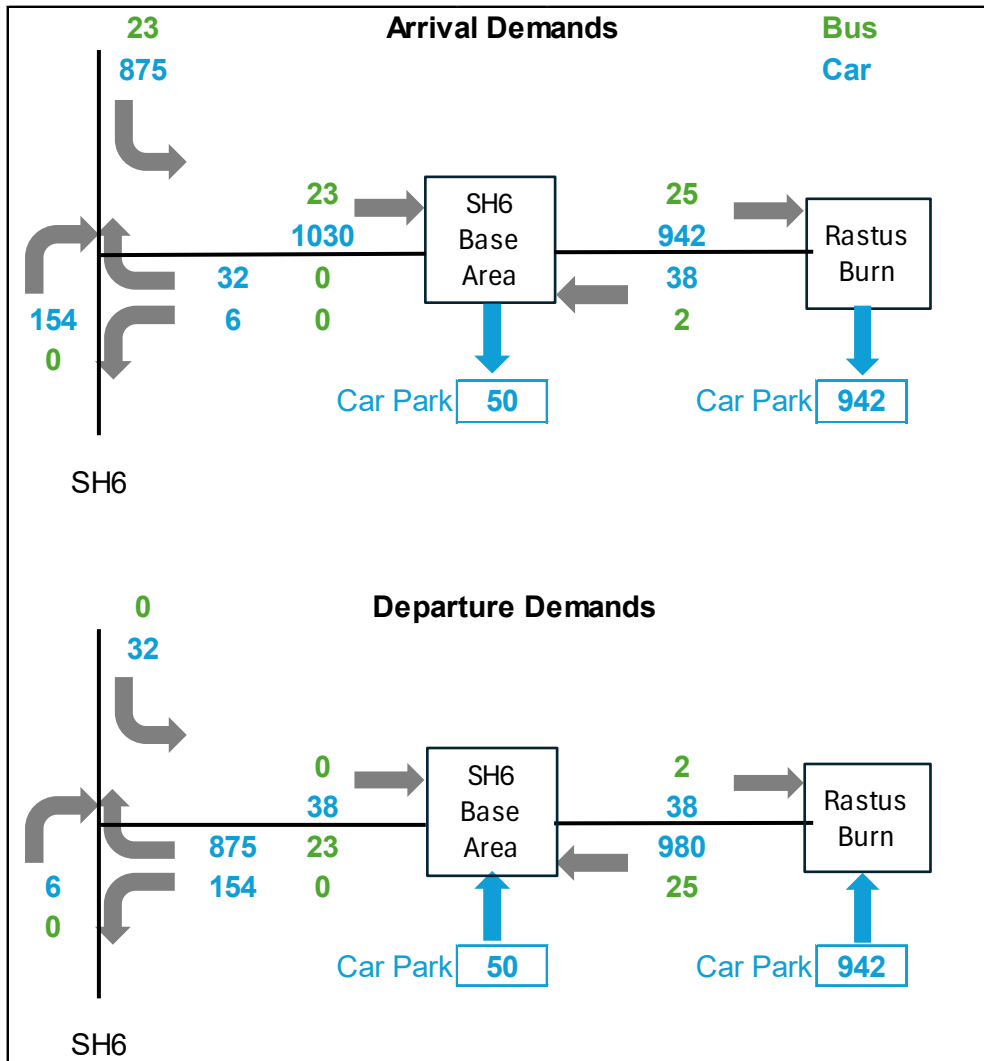


Figure 8-2: 2025 Reference Scenario – Daily Arrival and Departure Patterns



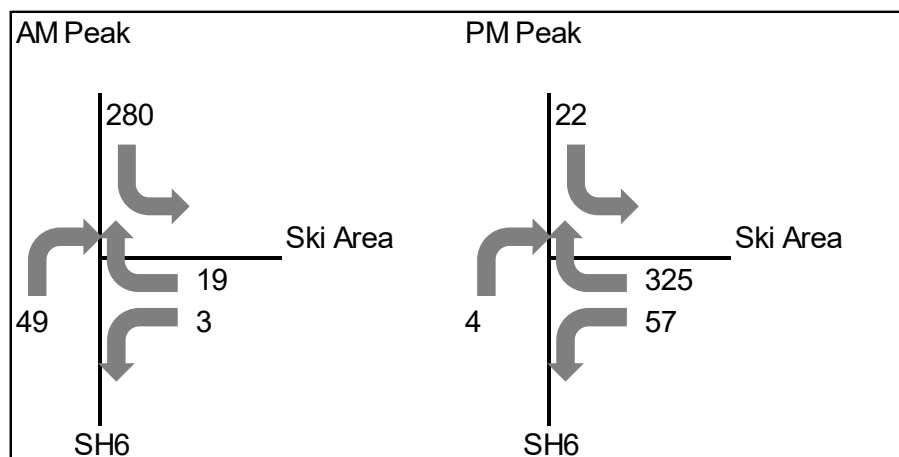


Figure 8-3: 2025 Reference Scenario - Peak hour movement demands<sup>6</sup>

### 8.3 Baseline Design Scenario Travel Demands

Figure 8-4 shows the indicative daily movement demands generated by the Remarkables Ski Area on a day with 3,500 visitors with the NZSki Baseline design scenario travel mode share distribution, that is 65% of visitors travelling by private vehicle. This scenario has been based on an average vehicle occupancy of 2.7 people compared with 2.6 in 2025 and increased use of the NZSki shuttles from car park A beside SH6. The combined effect is that the total parking demands could slightly reduce compared with 2025 demands but there will be increased usage of the SH6 base area car park (Figure 8-5). This will require some additional capacity on buses to be provided, either on the NZSki bus or with extra car park shuttles to transport visitors to the Rastus Burn Base Area.

The peak hour arrival volumes and departure volumes are expected to be similar to or marginally lower than those in 2025 due to the effects of promoting higher vehicle occupancy (Figure 8-6).

<sup>6</sup> In 2025, the TMP prevented right exit movements in the PM peak and all vehicles were required to turn left towards the South.



**Remarkables Ski Area Expansion  
8 Visitor Travel Demands**

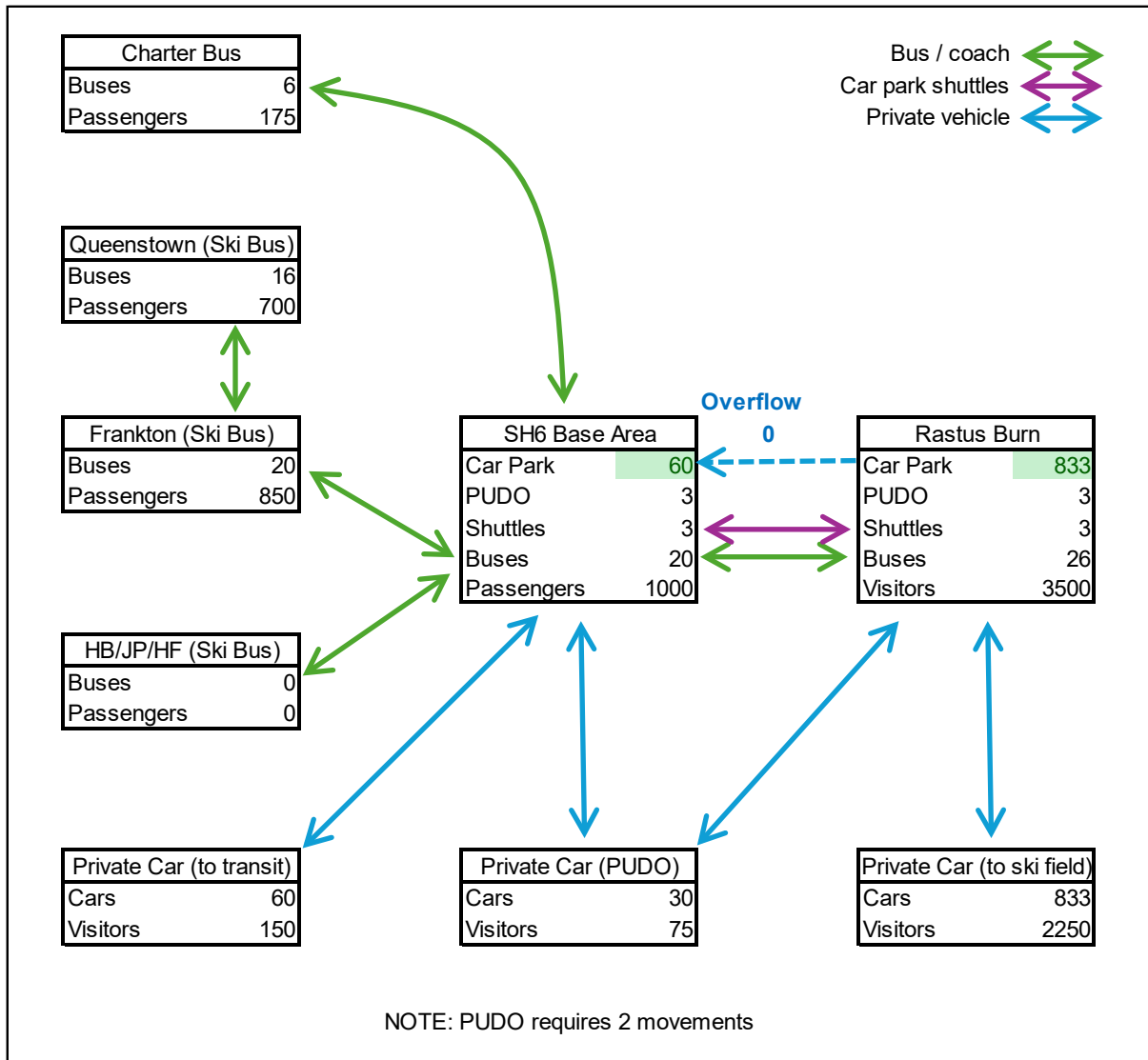


Figure 8-4: Baseline Scenario Daily Travel Demands



**Remarkables Ski Area Expansion  
8 Visitor Travel Demands**

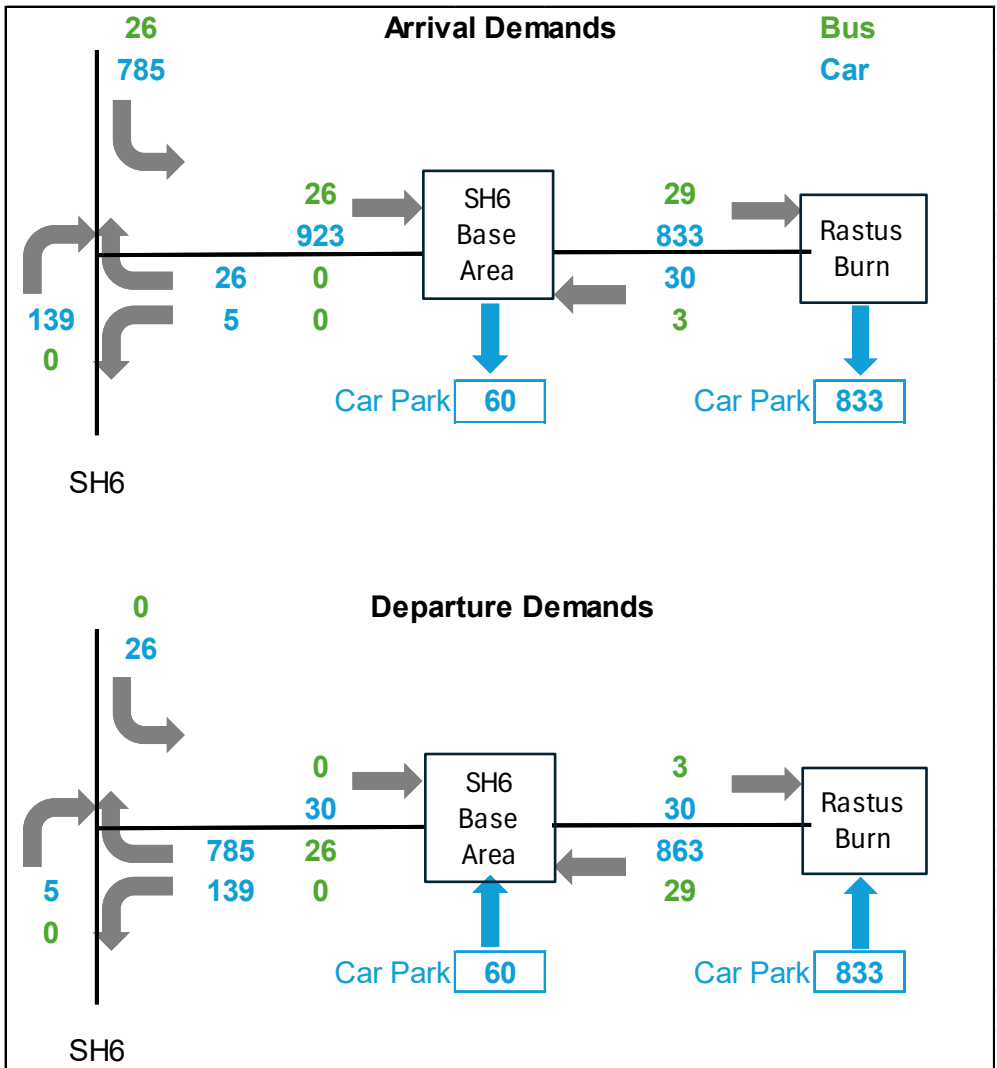


Figure 8-5: Baseline Scenario – Daily Arrival and Departure movement patterns

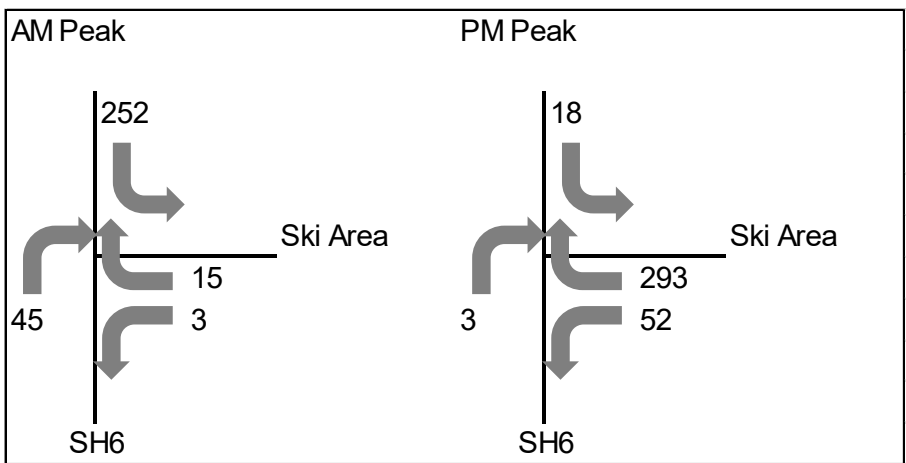


Figure 8-6: Baseline design scenario - peak hour movement demands



## 8.4 Stage 1 Design Scenario Travel Demands

Figure 9-7 shows the expected travel demands in the NZSki Stage 1 design scenario. While this scenario allows for some small increases in visitor numbers travelling by bus from Queenstown and Frankton, the primary change involves increasing the use of the SH6 base area car park as a 'park and ride' type facility and the introduction of a new NZSki bus service for the Southern Corridor, likely to be from Homestead Bay via Jack's Point and Hanley Farm.

In this scenario, the car parks 1 to 4 will be operating at capacity with the SH6 car park having about 50% occupancy.

The increased bus patronage from Queenstown, Frankton and Southern Corridor will require at least 27 NZSki buses at full occupancy (44 people) to travel to the ski field to meet the demands (Figure 8-8). Visitors using the SH6 car park will create a movement demand for at least 11 NZSki shuttles based on 44 person occupancy over the morning arrivals period and likely peak demand of three to four per hour.



## Remarkables Ski Area Expansion 8 Visitor Travel Demands

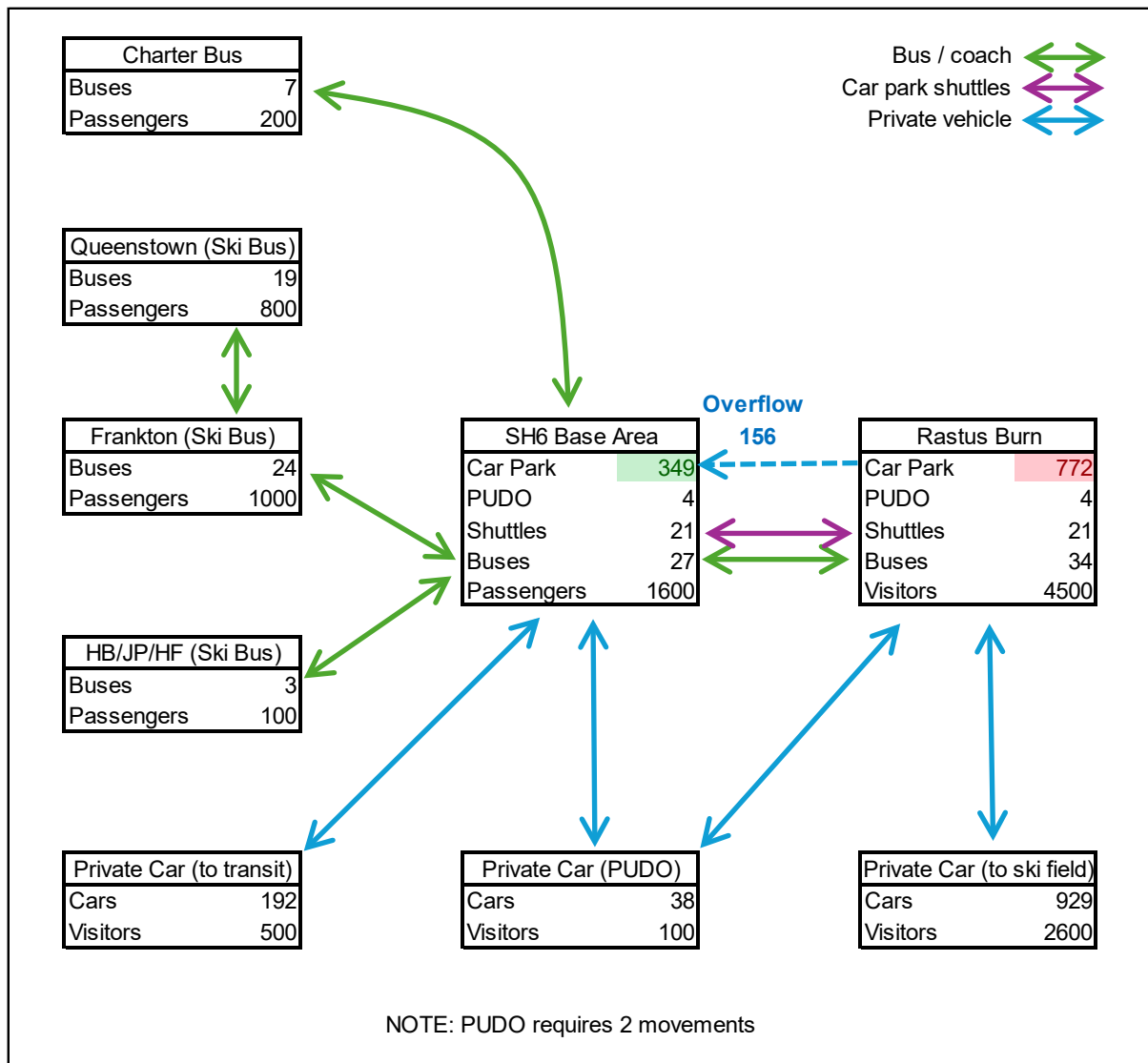


Figure 8-7: Stage 1 Travel Demand Scenario

The peak hour arrival volume at the Remarkables Ski Field Access Road is expected to comprise about 360 private vehicles inclusive of buses and charter coaches (Figure 8-9). As the residential development on the Te Tapuae Southern Corridor progresses, it is likely that there will be an increased travel demand from the south. Right turn demands are expected to be about 60 vph.

The peak hour departure volume from the Remarkables Ski Area is expected to be about 430 vph under this design scenario.



**Remarkables Ski Area Expansion  
8 Visitor Travel Demands**

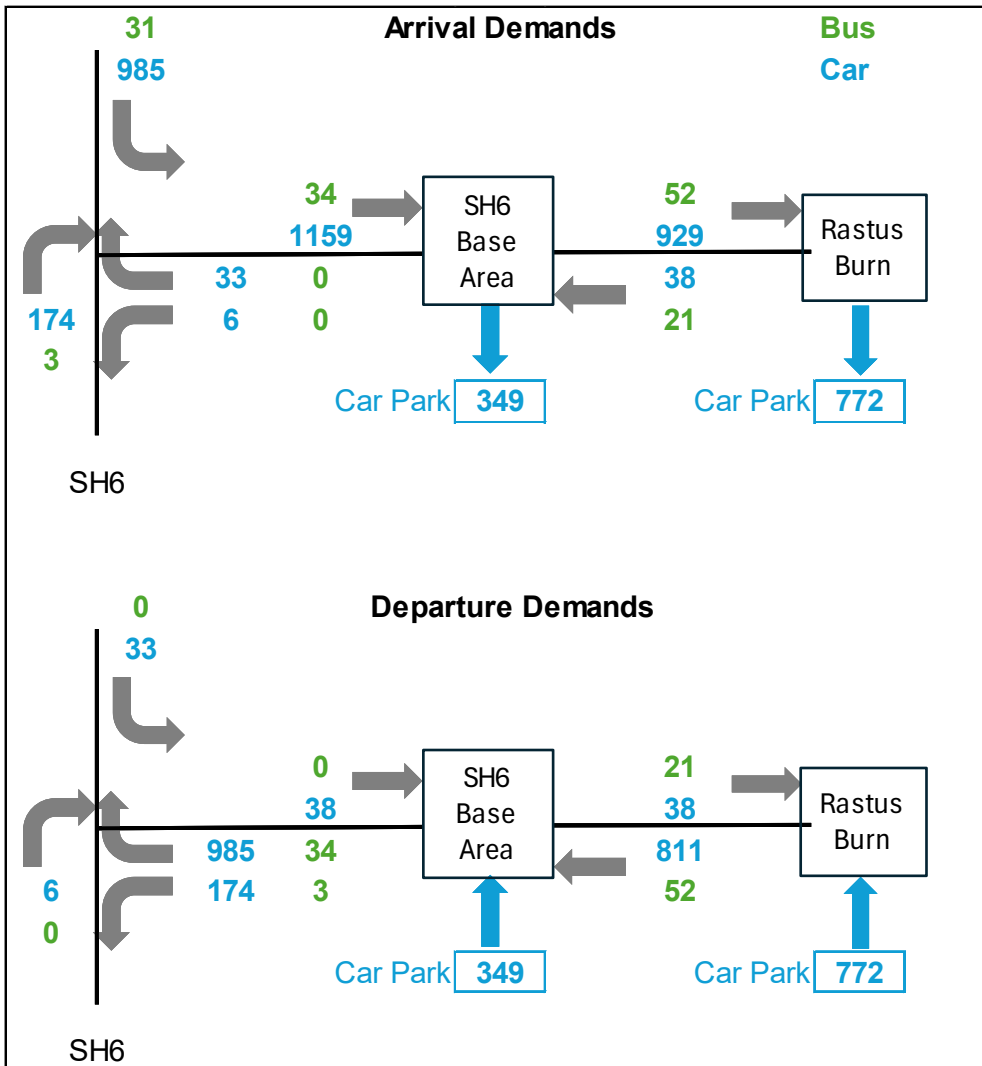


Figure 8-8: Stage 1 design scenario – daily overall movement patterns

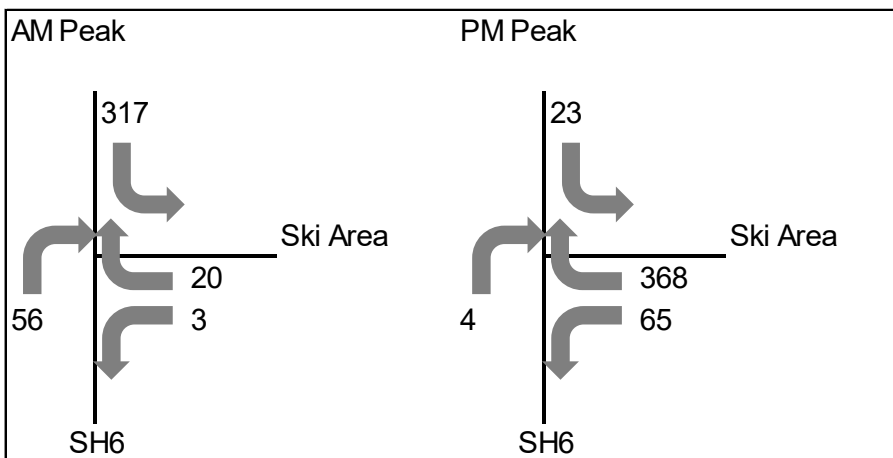


Figure 8-9: Stage 1 design Scenario - peak hour movement demands



## **8.5 Stage 2 Design Scenario Travel Demands**

As with the Stage 1 design scenario, the NZSki Stage 2 Design Scenario involves greater use of buses with the provision of more NZSki bus services from Queenstown, Frankton and the South (Figure 8-10). In particular, NZSki want to promote much greater use of the SH6 base area for parking to reduce vehicle demands on the Remarkables Ski Area Access Road and parking demands at the upper car parks. Under this design scenario, NZSki aim to have about 1,400 people boarding shuttles at the SH6 base area to complete their travel to the Rastus Burn Base Area. Accommodating this level of demand will require a dedicated transit facility to support the mode shift between private car and buses. A total arrival demand of 1,400 people is likely to generate a transfer demand of 900 to 1,000 people over the two hour peak period.

The transport of bus passengers from Queenstown, Frankton and Southern Corridor will require at least 33 buses based on 44 person occupancy with 20 to 25 of these being within the peak two hour arrival and departure periods. The transit facility at the SH6 car park would be expected to generate a similar level of travel demand, that is, a bus departure rate of one every five minutes.

Since access to the upper car parks by private vehicles is likely to be restricted to vehicles with a minimum occupancy of at least three and likely four for this scenario, there could be a parking demand for over 500 vehicles at the SH6 car park. Even with the minimum occupancy requirements, there is likely to be some overflow from the upper car parks to the SH6 base area car parks under this design scenario. As this level of parking demand will far exceed the current capacity of car park A, NZSki have identified land to accommodate an expansion to the SH6 base area car parks, Boneyard and car park B.

The peak hour arrival flows at the Remarkables Ski Field Access Road in the morning are expected to reach about 510 vph including buses with about 80 vph approaching from the south (Figure 8-12). The peak departure volumes in the afternoon are expected to be about 590 vph inclusive of buses.



**Remarkables Ski Area Expansion  
8 Visitor Travel Demands**

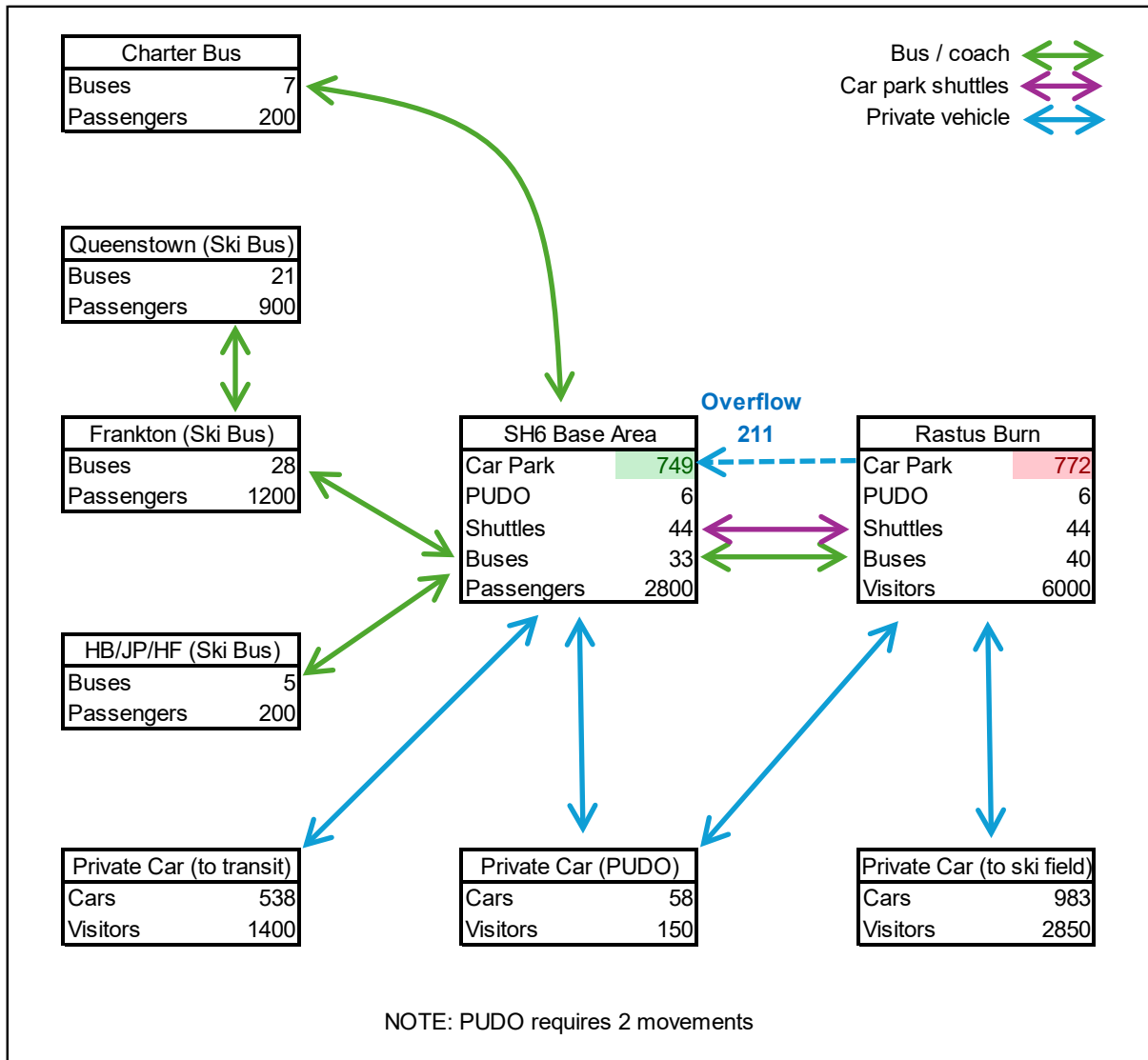


Figure 8-10: Stage 2 travel demand scenario



**Remarkables Ski Area Expansion  
8 Visitor Travel Demands**

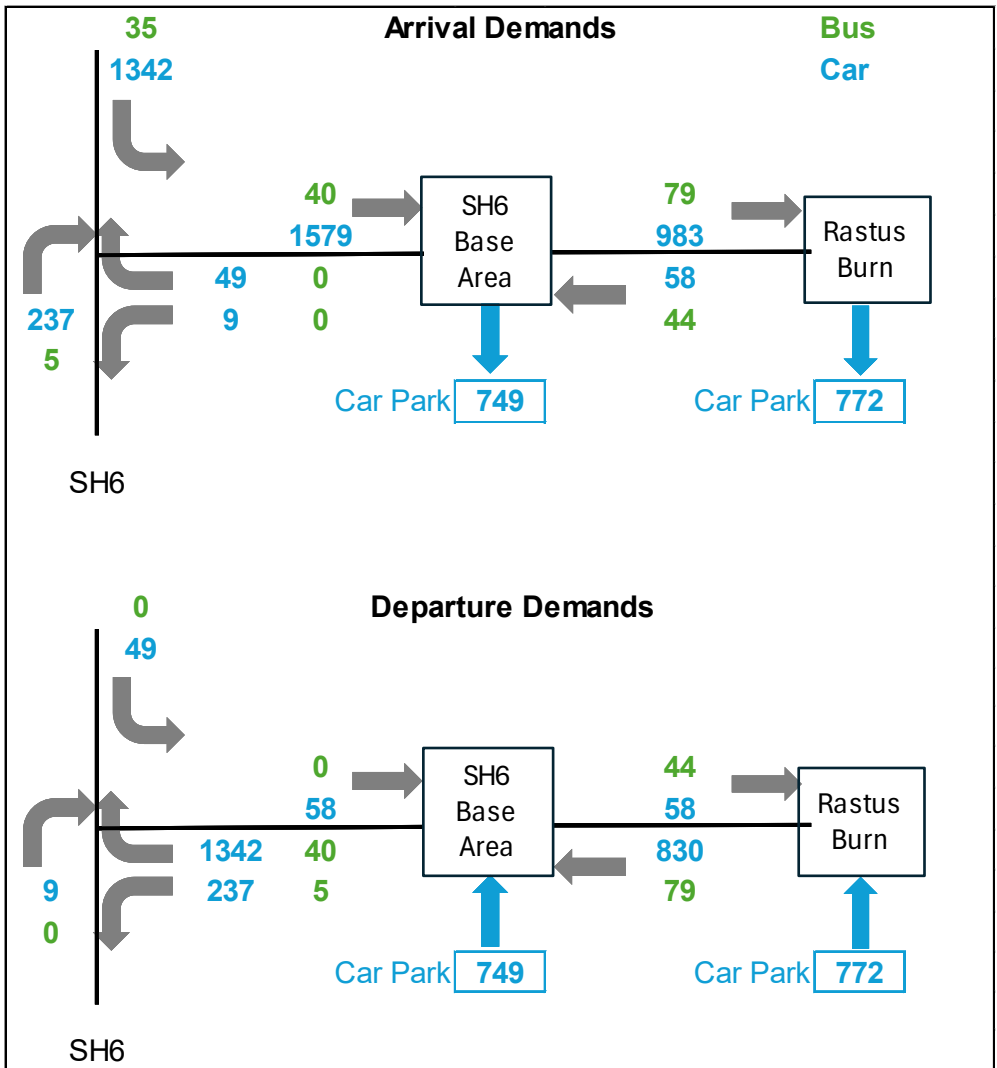


Figure 8-11: Stage 2 Design Scenario - Arrival and departure travel patterns

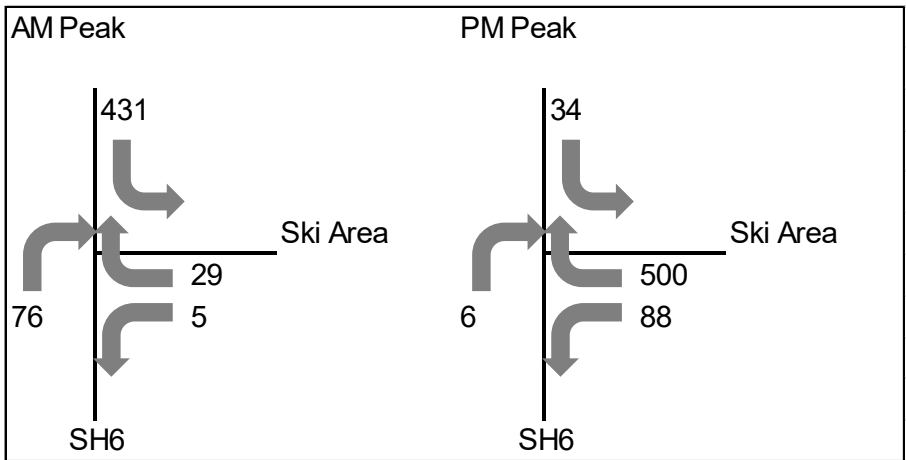


Figure 8-12: Stage 2 design scenario - peak hour movement demands



## 8.6 Summary of Visitor Travel Demand

Table 8-2 provides a summary of the expected parking demands with Table 8-3 showing the expected travel mode distribution by design scenario. While the travel mode shift targets proposed by NZSki will reduce vehicle numbers in the Baseline scenario compared with 2025, the anticipated long term growth in visitor numbers will increase vehicle demands and also contribute to higher movement volumes at the SH6 intersection.

*Table 8-2 Summary of expected parking demands*

Location	2025 Reference	Baseline	Stage 1	Stage 2
Upper car parks	942	833	772	772
Lower car parks	50	60	349	749
<b>TOTAL</b>	<b>992</b>	<b>893</b>	<b>1,111</b>	<b>1,521</b>

*Table 8-3 Summary of visitor expected travel mode patterns*

Mode	2025 Reference	Baseline	Stage 1	Stage 2
NZSki Queenstown bus	600	700	800	900
NZSki Frankton bus	100	150	200	300
NZSki South bus	0	0	100	200
Charter Bus	175	175	200	200
SH6 car park shuttle	100	150	500	1,400
Private vehicle	2,450	2,250	2,600	2,850
PUDO	75	75	100	150
<b>TOTAL</b>	<b>3,500</b>	<b>3,500</b>	<b>4,500</b>	<b>6,000</b>



# Transport Effects



## 9 State Highway Access

### 9.1 Intersection Performance

#### 9.1.1 Existing Conditions

Although high visitor days to the Remarkables Ski Area can occur on any day of the week, traffic effects on the highway are typically greater on a weekday than at the weekend because of the higher hourly traffic volumes on the highway. In the most recent three year period, 60% of days (21 out of 30 days) with more than 3,500 visitors have been weekdays. Figure 9-1 shows southbound traffic volumes on SH6 north of the Remarkables Ski Field Access Road intersection from 2018 to 2025 during the peak departure period from the Remarkables Ski Area, 4:00 PM to 5:00 PM. On weekdays, the southbound volume has risen from 460 vph in 2022 to 840 vph in 2025, that is about 125 vph per year on average. The growth rate at the weekend has been lower and has risen from 360 vph in 2022 to 650 in 2025. Based on recent growth patterns, southbound traffic volumes at the weekend will exceed the 2025 weekday volumes in less than two years. Southbound volumes on weekdays during the afternoon peak period will exceed 1,000 vph within two years.

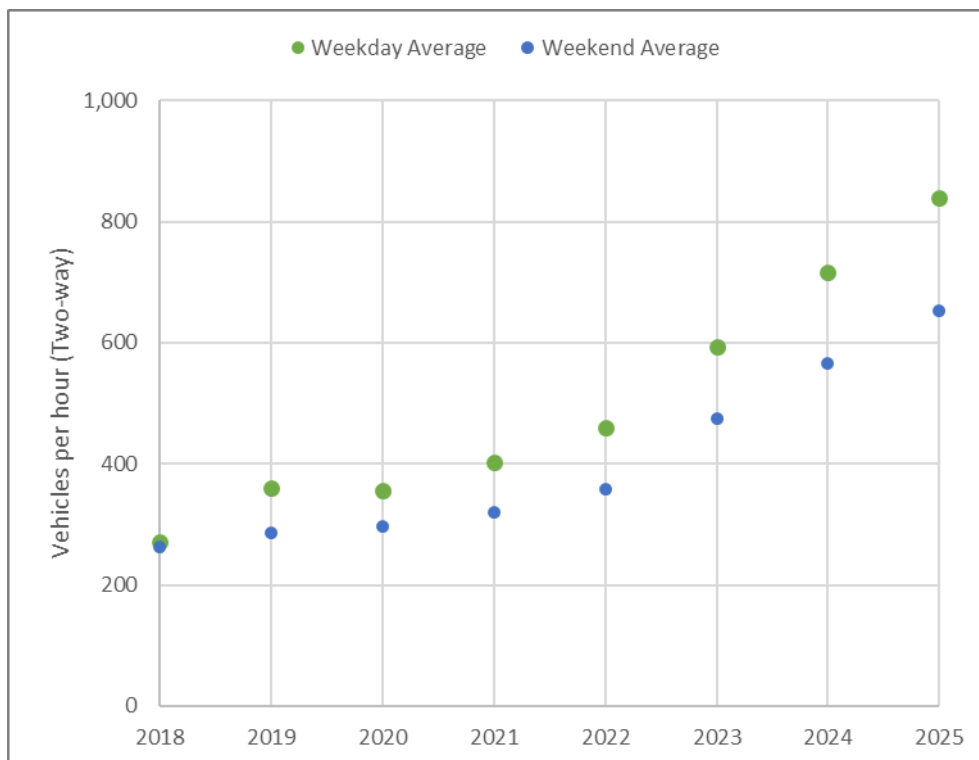


Figure 9-1: Southbound traffic volumes 4:00 PM to 5:00 PM – SH6 north of Remarkables Ski Field Access Road (Source: NZTA TMS)

Analysis has been carried out in the SIDRA Intersection software to assess the intersection performance. During the weekday morning peak period, Table 9-1 indicates that right turn movements from the access road are subject to long delays because of the high volumes on SH6. Right turn



## Remarkables Ski Area Expansion 9 State Highway Access

movements from the south experience moderate delays and can contribute to localised queuing unless through vehicles move onto the unsealed shoulder.

In the afternoon, NZSki operates a temporary traffic management plan (TMP) that requires all drivers to turn left on departure. This supports safe egress from the access road, however, even with this system in place, queues on the access road can extend through the SH6 car park on busier weekdays.

Table 9-1: Existing SH6 Intersection Performance with current TMP – 2025 and 3,500 visitor day

Approach	Movement	AM		PM	
		Delay (seconds)	Queue (metres)	Delay (seconds)	Queue (metres)
South	Right	22	14	24	2
Ski Field	Left	4	1	36	85
	Right	111	20	Not permitted	
North	Left	8	0	8	0

### 9.1.2 Short to Medium Term

Although the TTSCSP indicates that a roundabout would be constructed at the SH6 Remarkables Ski Field Access Road intersection in the short term, that is, within a three year time frame, it is understood from NZTA that it is unlikely that any change to the intersection would occur in that time frame as no funds have been committed for the works. On that basis, this assessment of the future intersection performance in the short term has been based on the existing intersection configuration with movements subject to a temporary traffic management plan during the ski season and makes no reliance on any intersection improvements identified in the TTSCSP.

For the purposes of assessing the effects on the Remarkables Ski Field Access Road intersection in the short term and prior to any expansion of the ski field, a three year forecast has been adopted. Based on the recent growth in SH6 traffic volumes passing the SH6 / Remarkables Ski Field Access Road intersection and the rate of housing development reported by QLDC, average daily volumes on SH6 volumes can be expected to rise by approximately 6,000 vpd by 2028. With this level of growth, there could be over 1,700 vph passing the access road in the morning peak period on a weekday and about 1,900 vph during the weekday afternoon ski field peak, compared with 1,300 vph and 1,400 vph in the morning and early afternoon peaks respectively in 2025. At these future volumes, there is little to no capacity for priority controlled turning movements from the Remarkables Ski Field Access Road even with the TMP preventing right turn exit movements from the access road.

Table 9-2 provides a summary of the forecast access performance in 2028 with the vehicle volumes anticipated in the baseline design scenario. It indicates that queues on the access road of more than 800 m could be expected on a weekday on a high demand day because the high southbound volume does not provide sufficient gaps for a left turning vehicle to enter the traffic flow.



## Remarkables Ski Area Expansion 9 State Highway Access

Although this analysis indicates long delays for the right movement from the access road in the morning, there are low demands for this in the morning and it is considered likely that drivers would choose to turn left and then u-turn at the Coneburn roundabout.

Table 9-2: SH6 Intersection Performance with current TMP – 2028 and 3,500 visitor day

Approach	Movement	AM		PM	
		Delay (s)	Queue (m)	Delay (s)	Queue (m)
South	Right	30	27	45	2
Ski Field	Left	5	1	> 600	800 m
	Right	> 600	50	Not permitted	
North	Left	8	0	8	0

Figure 9-2 shows the theoretical capacity (grey line) of the left turn movement under the TMP with SH6 southbound volumes and ski area demands in 2025 and forecast for 2028. It indicates that the intersection was operating at above its theoretical capacity in 2025 on high demand days (more than 3,500 visitors) on weekdays. By 2028, the ski area departure demand will exceed the capacity of the intersection on all days of the week even with some reduction in the departure volumes as a result of increased vehicle occupancy rates solely because of the higher SH6 volumes. Based on this analysis, the ongoing high levels of growth in SH6 traffic volumes will require a revised approach to managing ski area traffic if visitors are to be able to efficiently access SH6 during the afternoon peak departure period, 3:30 PM to 5:00 PM.

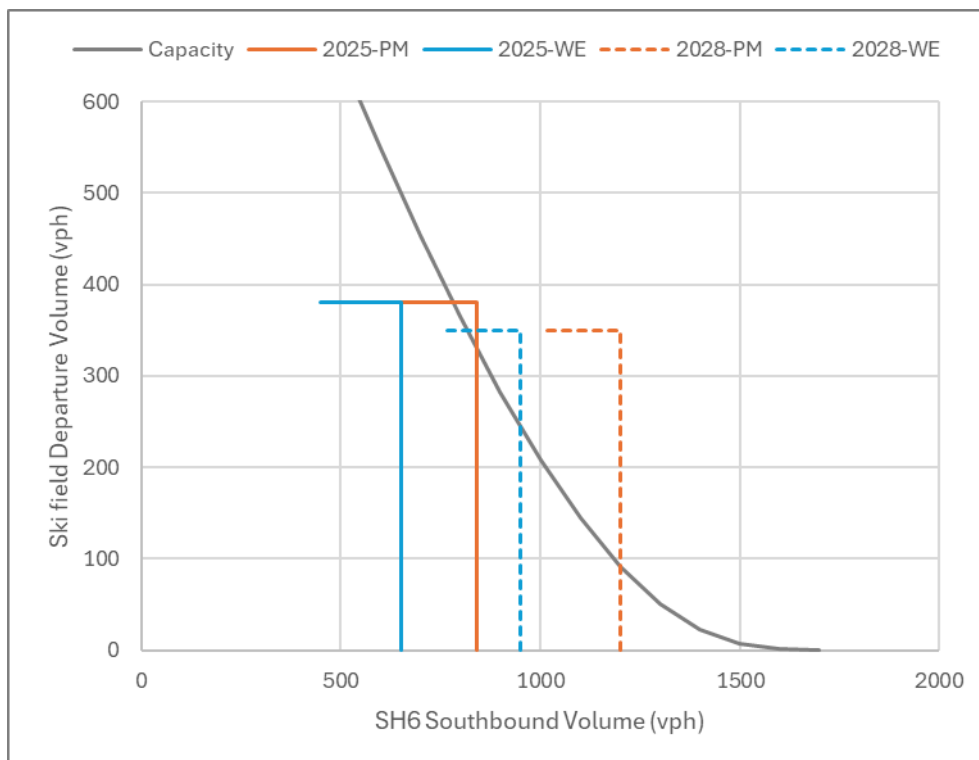


Figure 9-2: TMP Capacity Analysis



## Remarkables Ski Area Expansion

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The option of implementing a refined traffic management plan with a temporary signal control at the intersection (primarily for the PM peak departure) has been investigated because this creates an opportunity to allow right turn departures from the Remarkables Ski Field Access Road which will also eliminate the need for u-turn manoeuvres at the Coneburn roundabout. Table 9-3 shows the indicative performance of a temporary signal based on optimised signal timings which balances delays across all approaches. For safety reasons, the analysis has been based on provision of localised access seal widening so that right turning vehicles on SH6 can stop clear of through traffic. In practice, it is anticipated that the signal timings will be set to reduce delays on SH6 by reducing the phase time allocated to the private access road. One consequence of this will be increased delays and queue lengths on the Remarkables Ski Field Access Road. This analysis indicates that operating the intersection with temporary signals could increase its capacity compared with the current TMP arrangements.

Although the morning peak has been assessed with signals, since accommodating the low exit demands could create long queues for northbound traffic, it is recommended that the signals are only considered for the peak afternoon departure period. During the morning, the existing TMP arrangements with right turn exit manoeuvres diverted south to the Coneburn roundabout as the southbound volumes over the peak arrival period are not expected to reach 600 vph until about 2030 based on recent growth rates.

*Table 9-3: SH6 Intersection Performance with temporary signals TMP – 2028 and 3,500 visitor design day*

Approach	Movement	AM		PM	
		Delay (s)	Queue (m)	Delay (s)	Queue (m)
South	Through	35	456	17	192
	Right	17	10	55	2
Ski Field	Left	45	5	60	164
	Right	45	20	60	164
North	Left	10	87	29	390
	Through	3	87	29	390

A sensitivity analysis indicates that this arrangement could operate with moderate and acceptable delays for SH6 traffic up to a point where SH6 traffic volumes are about 60 to 70 percent higher than 2025 volumes. That represents about five years' growth based on recent and forecast short term growth rates.

While NZSki is proposing to implement measures to increase the use of buses and reduce the private vehicle travel demands on the ski field road, the primary factor affecting the performance of the intersection in the short term is the ongoing growth in SH6 volumes.

### 9.1.3 Medium to Long Term

In the medium to long term, the growth in SH6 traffic volumes will make right turns at any driveways or any priority intersections along SH6 north of the Coneburn roundabout impractical because there will



## Remarkables Ski Area Expansion

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be insufficient gaps available in the flows for turning to be completed safely. This is recognised in the TTSCSP which identifies a need to achieve a mode shift away from private vehicles. Even with this shift in mode, the structure plan identifies a need for improvements to all major priority controlled intersections including the Remarkables Ski Field Access Road intersection. The TTSCSP short term actions state these projects will be led by the key transport stakeholders QLDC, NZTA, and ORC.

Although NZSki will promote a mode shift from private vehicles to buses as the Project is implemented, the anticipated growth in visitor numbers with the expansion of the ski area will generate more vehicle movements at the SH6 / Remarkables Ski Field Access Road intersection. It is anticipated that this would be taken into account as part of the design considerations for any broader Southern Corridor and intersection improvements by NZTA in addressing overall growth in traffic on SH6 generated by all activities along the Southern Corridor.

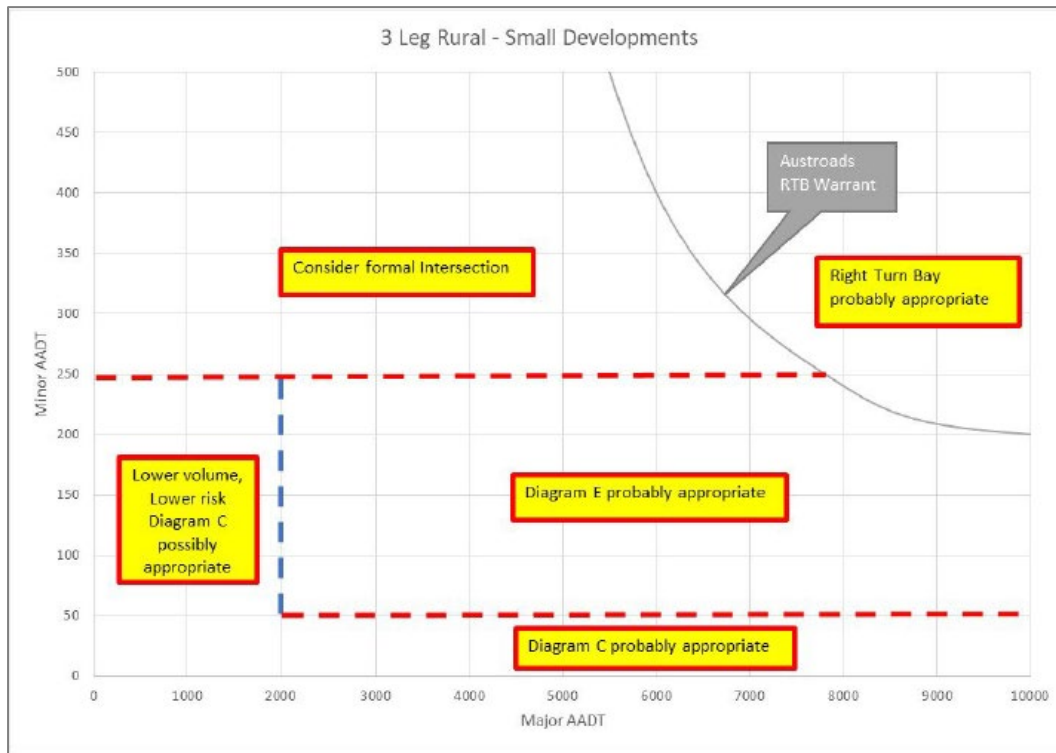
## 9.2 Road Safety Effects

The SH6 / Remarkables Ski Field Access Road intersection has been formed to a basic standard with no seal widening of the SH6 carriageway opposite the Remarkables Ski Field Access Road. With the ongoing development on the Te Tapuae Southern Corridor, there will be increasing demands for the right turn movement into the Remarkables Ski Field Access Road from the south. This creates a safety concern because the high volumes of traffic on SH6 will result in right turning vehicles having to stop in the northbound traffic lane before being able to turn right which increases the risk of rear end type collisions for northbound traffic. It also creates a higher likelihood of following traffic passing on the unsealed shoulder, which increases risk of loss of control type crashes. Although the review of crashes in the last five years indicates that while such crashes have not occurred at the Remarkables Ski Field Access Road intersection, the historic traffic conditions do not reflect the change in risk associated with the future growth which will contribute to a higher likelihood of crashes at the intersection.

The NZTA Planning Policy Manual (PPM) provides guidance on the appropriate treatments for a private access to a state highway. Figure 9-3 shows an extract from the PPM with the guidance for low volume rural accesses. At the most basic level, any private access to a rural highway generating more than 50 vpd on average and less than 200 vpd is expected to have a widened shoulder on the opposite side of the access. This represents the situation at the Remarkables Ski Field Access Road for much of the year but not during the ski season when daily movements range from 1,500 to 2,500 vpd. Although the PPM guidance figures do not extend to major road volumes of over 10,000 vpd, it does suggest that a right turn bay treatment may be appropriate if the average daily volumes on a private access to a state highway exceed about 200 vpd when the state highway volumes are above 10,000 vpd. This suggests that a right turn treatment would contribute to reducing crash risks under the current traffic conditions.



**Remarkables Ski Area Expansion  
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*Figure 9-3: PPM Low Volume Rural Access Treatments*

Given the high traffic volumes being generated by the Remarkables Ski Area for part of the year, the existing access has been formed as an intersection. The PPM only includes explicit guidance for intersection forms for private access to a state highway for volumes of less than 10,000 vpd on the highway. Although a priority intersection with a right turn bay may represent the most appropriate intersection configuration from a safety perspective outside the ski season, the PPM indicates that a roundabout may be more appropriate during the ski season.

The TTSCSP anticipates that the high future volumes on SH6 in the medium to long term could require that the highway is widened to four lanes. In the event that this represents the future configuration of the highway, a priority intersection could not be supported for safety reasons and a roundabout is likely to represent the preferred intersection configuration.



## 10 Parking

### 10.1 Parking Demands

Based on analysis of visitor numbers and car park occupancy, the average vehicle occupancy rate in 2025 was about 2.6 people but ranged from 2.5 to 2.9 people per vehicle with higher occupancy rates occurring on busier days.

The Stage 2 design scenario anticipates 3,000 visitors travelling by private vehicle to the Remarkables Ski Area and 3,000 visitors on buses (charters and NZSki). Even with an average vehicle occupancy of three, this level of private vehicle travel could generate a parking demand for 1,000 spaces which would exceed the capacity of the upper car parks. Since there is little opportunity to expand the capacity of the existing upper car parking areas and car park 3 will be removed, the overall capacity will be reduced. This will require greater use of the lower car parks to accommodate the demands and development of controls to manage parking demands at the upper car parks.

The proposed promotion of 'park and ride' facilities from the SH6 car park to the Rastus Burn Base Area will increase parking demands at the lower car parks. Under the Stage 2 design scenario, the 'park and ride' facility is expected to attract a patronage of 1,400 people. Since travel to the 'park and ride' facility beside SH6 is expected to be predominantly via private vehicle, the facility could generate a parking demand for about 500 vehicles if average vehicle occupancy rates of 2.8 are achieved. As a sensitivity test, if vehicle occupancy rates for users of the 'park and ride' shuttle service are lower than for the upper car parks, that could increase parking demands to over 600 spaces. Regardless of the vehicle occupancy rates that are achieved in the lower car parks, there will be a need for an expansion to the car park capacity in the medium to long term. NZSki have identified two areas of land for this that have sufficient space to accommodate about 800 vehicles.

### 10.2 Parking Management Effects

#### 10.2.1 Vehicle Occupancy Controls

It is understood that the marshals currently control parking demands at car parks 1 and 2 by restricting their use to vehicles with a minimum occupancy of 3 people at peak times. As they have done in the past, NZSki can adjust vehicle occupancy requirements to assist with car park management at peak times.

If the existing control was amended to restrict use of these car parks to vehicles with a minimum occupancy of four people or people with restricted mobility, it would contribute to reducing demand at car parks 1 and 2 but may increase demand at car park 4 and at the SH6 car park. This would increase the need for NZSki to operate shuttles between the Rastus Burn Base Area and lower car parks (car park 4 and SH6 car park). This approach to managing parking has been used successfully at Mt Hutt for several years.

To demonstrate the potential for changes in car park utilisation as a result of parking management, Table 10-1 shows indicative car park occupancy levels for increasing levels of parking demand based on an average occupancy rate of 2.9 people under a parking management regime that restricts use of car park 1 to vehicles with a minimum occupancy of 4 and use of car park 2 to vehicles with a



## Remarkables Ski Area Expansion

### 10 Parking

minimum occupancy of three. This level of control is currently implemented by NZSki on days of high forecast visitor demands. With this type of control, car park 1 may be underutilised on lower demand days but car parks 2 and 4 would be fully utilised. Under this type of parking management regime, the use of the SH6 base area car parks would increase as the overall parking demands increase. Setting the existing minimum occupancy requirement for car park 1 to three people on all days of the ski season would ensure that it is fully utilised regardless of overall demand and will reduce the parking demands at the SH6 base area car park.

Table 10-1: Indicative car park occupancy levels with occupancy rate controls

Parking Demand (vehicles)	Car park 1 (230)	Car park 2 (128)	Car park 4 (346)	Overflow
750	225	128	335	51
800	230	128	346	96
900	230	128	346	196
1,000	230	128	346	296
1,100	230	128	346	396

In practice, the parking marshals can achieve higher operational capacity than indicated in Table 11-1 which means the overflow demands to the transit area will be lower than indicated.

Under the current operating environment, NZSki operates shuttle buses between car park 4 and the Rastus Burn Base Area but only to the lower car parks, car park 5 and car park A, when warranted by the parking demands.

The car park marshals manage parking to increase their operational capacity with one consequence being that vehicles in the upper car parks are parked more closely than recommended under typical design standards such as NZS2890.1 (Figure 4-1 and Figure 4-2). This approach operates well while parking demands are below about 900 vehicles with the existing car parks, that is days where visitor numbers are below 3,500. However, the higher parking demands on busier days creates a need to use the lower car parks and operate a shuttle service. The overflow demand from car park 4 was met in car park 5 in 2025 but use of the lower car parks is proposed in the future.

If NZSki implements higher minimum vehicle occupancy requirements for the upper car parks, there will be an increased need for NZSki to operate shuttle services between the lower car parks and Rastus Burn Base Area field on the busier days of the ski season.

One risk with the operation of a car park shuttle from the SH6 base area is a potential conflict with the NZSki bus. Since the car park shuttle service is currently free, it could attract use by visitors that would otherwise have used the NZSki bus. This represents an operational matter for NZSki.

#### 10.2.2 Carpooling

The implementation of higher minimum vehicle rates at the upper car parks could create some demand for carpooling at the SH6 car park. Since carpooling acts to reduce parking demands in the



## **Remarkables Ski Area Expansion 10 Parking**

upper car parks, it is understood that NZSKI promotes this with a designated loading area, signage and a parking area for vehicles being left in the SH6 car park.

This option will be attractive to drivers that want to use car parks 1 and 2 because it provides an incentive to fill their vehicle. It would also be attractive to people who do not want to drive because of the conditions or do not have a suitable vehicle for the road conditions, e.g. 4WD or fitted with chains.

### **10.2.3 Car Park Booking System**

A common approach to managing parking in high demand areas involves a booking system often with fees set to influence where drivers choose to park. While this represents an operational matter for NZSKI, implementation of a booking system could form one part of the overall mode shift measures to influence parking demands on busier days. This would provide indirect control on departure volumes.



## 11 Buses and Shuttles

### 11.1 Queenstown Service

The existing NZSki bus service effectively comprises two services, a Queenstown service and Frankton service, with the Frankton service using the same route as the Queenstown service. Some of the existing buses from Queenstown are effectively operated as express services because the buses are filled on departure from Queenstown. These buses can travel to the Remarkables Ski Field in about 45 minutes. Stopping services are also operated to allow for boarding along Frankton Road but can take up to one hour to reach the Remarkables Ski Field.

In 2025, the typical number of passengers boarding the bus service between Queenstown and Frankton on a day with more than 3,500 visitors to the Remarkables Ski Field was about 600. This is expected to increase to about 700 in the baseline design scenario, about 800 in the Stage 1 design scenario and 900 in the Stage 2 design scenario.

With about 65 percent of the travel demand occurring across a two hour period in the morning, there will be a peak hour passenger demand of about 300 in the Stage 2 design scenario. Meeting this level of demand will require seven buses per hour to depart from Queenstown based on a bus occupancy rate of 44 people.

Since a return trip to the ski field will take nearly two hours, the operation of the Queenstown service could require 14 bus departures from Queenstown over the course of the morning. It may be possible for some of the early departures to return to meet the later morning travel demands.

### 11.2 Frankton Service

In 2025, the number of people boarding the ski bus within Frankton varied from 100 to 150 on the busier days of the season. For the purposes of this assessment, a figure of 150 people has been adopted for the baseline design scenario with this increasing to 200 in the Stage 1 design scenario and 300 in the Stage 2 design scenario. A travel demand of 300 people will require at least seven scheduled bus departures from Frankton.

Based on the existing patterns of demand, there will be a peak boarding demand of about 100 people per hour in the Stage 2 design scenario which would require three buses per hour to depart from Frankton.

Since a return trip from the Frankton Hub to the ski field will take about 90 minutes, it will be possible for some of the early departures to return to meet the later morning travel demands.

### 11.3 Southern Corridor Service

NZSki proposes implementation of a Southern Corridor bus service between the ski field and Homestead Bay, Jack's Point and Hanley Farm. Although this will be operated as a trial initially, it is expected to achieve a patronage of about 200 people with up to five scheduled departures. As a return trip could take up to 90 minutes, it would be possible for the early departures to return to meet the demand for the later departures.



## **11.4 SH6 Car Park – Park and Ride Facility**

The SH6 car park will effectively operate as a park and ride facility with visitors parking their vehicle and then boarding an NZSki shuttle for onward travel to the ski field. Although currently, visitors board scheduled NZSki buses at the car park, the promotion of the NZSki buses will reduce the capacity for the scheduled buses from Queenstown and Frankton to pick up visitors at the SH6 car park and NZSki will need to operate a separate shuttle service between the SH6 car park and Rastus Burn Base Area.

Under the NZSki design scenarios, the use of the car park A is expected to grow from about 100 people day currently to 500 in the Stage 1 scenario and anticipates 1,400 people in the Stage 2 design scenario. As there are currently no public bus stops for the Remarkables Ski Area, the following assessment has been based on all these visitors travelling by private vehicle to the transit station with an average occupancy of 2.5 to 2.8 people since vehicles with greater occupancy would generally be able to continue to the upper car parks. On that basis, use of the 'park and ride' facility could generate a parking demand for 500 to 600 vehicles. Since the current SH6 car park only has capacity for about 300 vehicles and establishing sufficient bus stop facilities to support the 'park and ride' operation could reduce this capacity, an expansion to the parking supply will be required to meet the long term parking demands.

In the Stage 2 design scenario, the peak passenger demand for the 'park and ride' service is expected to be in the range 900 to 1,000 people over a two hour long peak period. Meeting this demand would require shuttles to be departing every five minutes from the SH6 base area to the Rastus Burn Base Area based on a shuttle occupancy of 44 people. Since loading or unloading of a full shuttle bus will take about 10 minutes, three bus bays would be required to allow for loading of at least two buses in parallel and any delays with loading or unloading. Additional stops are recommended to allow for integration with the Orbus public bus service and if required, any stops associated with the NZSki Queenstown or Frankton services.

A schematic design for the transit station has been developed (Figure 11-1) that involves minor realignment of the access road to allow construction of a bus stop transit facility that can operate independently of the car parking areas and avoids the need for visitors to walk across the bus manoeuvring areas, supporting pedestrian safety. The bus platform provides sufficient space for five bus bays to operate independently, that is four for car park shuttle buses and one for use by the Orbus public bus services.

Since the bus platform will occupy part of the existing parking area and could reduce its capacity, there will be a need to develop new parking areas. NZSki have identified land adjacent to the Remarkables Ski Field Access Road for this with capacity to park about 800 vehicles.



## Remarkables Ski Area Expansion 11 Buses and Shuttles

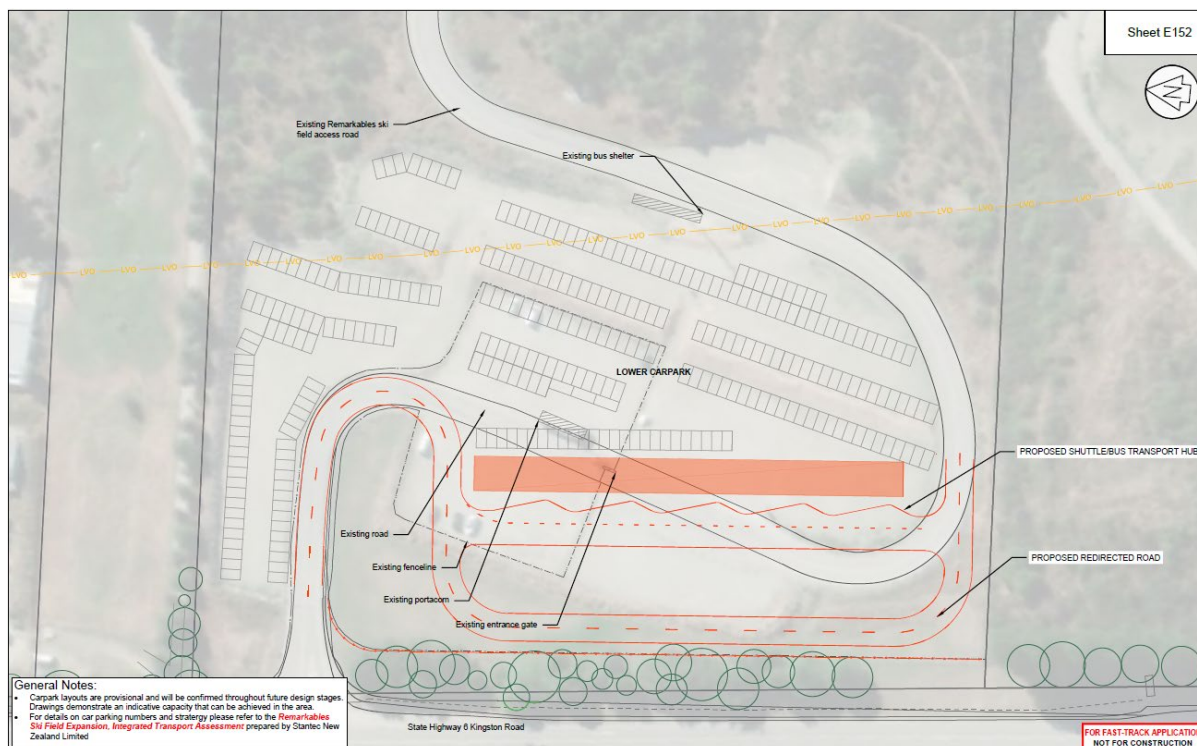


Figure 11-1: Bus platform schematic design layout (Source: Southern Land Drawings Sheet E152)

### 11.5 Rastus Burn Base Area

Table 12-1 shows the forecast numbers of visitors travelling by bus to the Rastus Burn Base Area under each of the design scenarios and the estimated peak hour arrival / departure demand based on 35% occurring in one hour. It indicates that accommodating this number of visitors will require the base area bus facility to accommodate 26 buses per hour.

Table 11-1: Forecast bus user numbers (Source: NZSki)

	Location / Mode	2025 Reference	Baseline	Stage 1	Stage 2
Visitors	Queenstown Bus	600	700	800	900
	Frankton Bus	100	150	200	300
	South Bus	0	0	100	200
	Charter Bus	175	175	200	200
	SH6 Car park shuttles	100	150	500	1,400
	<b>TOTAL</b>		<b>975</b>	<b>1,175</b>	<b>1,800</b>
Peak Hour (35%)		<b>340</b>	<b>410</b>	<b>620</b>	<b>1,150</b>
Buses per hour		<b>8</b>	<b>10</b>	<b>14</b>	<b>26</b>

Based on a loading time of 10 minutes, accommodating 26 buses per hour would require five bus bays operating independently.



## **Remarkables Ski Area Expansion 11 Buses and Shuttles**

The peak bus parking demand will arise during the middle of day as there will be a layover period between managing arrivals and managing departures. The number of bus parks required will depend upon the bus operating plan adopted by NZSki but could require up to 40 spaces.



## 12 Pedestrians

### 12.1 Existing Operations

NZSki manages its parking areas to minimise the need for any pedestrian movement on the primary vehicle access routes. Pedestrians and drivers are expected to pay due care and attention to each other when they are moving within parking areas. This involves travelling at low speed and not unduly obstructing access routes. Pedestrian movement is not permitted on the Remarkables Ski Field Access Road below car park 3 and visitors are required to use the shuttles that are provided. NZSki also provides dedicated areas for buses and coaches that avoids the need for pedestrians to traverse any required manoeuvring space.

### 12.2 Future Environment

It is understood that NZSki will continue to operate its car parks in a similar manner to current operations. This includes:

- Operating shuttles between the main parking areas so that pedestrians are not required to walk along the Remarkables Ski Field Access Road.
- Provision of protected walking areas in high pedestrian demand areas.
- Separation of bus movements from pedestrian movement areas.
- Low operating speed environment



## 13 Construction Effects

Construction of new facilities to support the ski field expansion will occur in phases over a three to four year period because construction work will only be practical for part of each year. While the level of activity will vary from day to day, it is expected to involve about 80 workers on average but up to 150 workers during the peak construction period and up to 20 material deliveries per day.

Construction workers are expected to arrive at the ski field access road before 8:00 AM and will be departing after 4:00 PM. Material deliveries by heavy vehicles are likely to be distributed across the day.

Outside of the ski season, right turn movements from the access road are constrained by the traffic volumes on SH6. As a result, many drivers choose to turn left first and then u-turn at the Coneburn roundabout to continue their journey back towards Frankton and Queenstown.

Although the construction activity will increase vehicle departure movements from the Remarkables Ski Field Access Road in the late afternoon, this can be accommodated by directing vehicles to turn left.

Overall, it is considered that construction traffic movements can be accommodated at the existing intersection but it is recommended that departure movements are directed to turn left initially towards the Coneburn roundabout as part of the transport provisions of the Construction Management Plan.



# Statutory Assessment



## 14 District Plan

### 14.1 Transport Standards

Appendix B includes a tabulated summary of the compliance assessment against the QLDC Proposed District Plan transport standards. More detailed assessment has been provided below where the development does not meet the standards.

#### 14.1.1 High Trip Generating Activities

The high trip generating activity rule is triggered if a new or change to an existing activity is expected to increase traffic volumes by more than 50 vph during the commuter peak hour.

Traffic volumes on the access road vary widely from day to day particularly during the ski season because they are strongly influenced by weather and snow conditions. For the purpose of assessment under this rule, reference has been made to traffic volumes on a 90<sup>th</sup> percentile day in 2025 with 3,500 visitors.

In the short term, NZSki is proposing to implement measures to promote a shift in travel mode by its visitors which will reduce vehicle movements at the access to SH6. However, with the anticipated growth in visitor numbers following the expansion to the ski area, traffic volumes on a day with 4,500 visitors could generate about 50 vph of additional movement compared with 2025. In the Stage 2 design scenario, hourly volumes could increase by 150 to 200 vph.

This report describes the extensive mode shift provision planned by NZSki to minimise change in traffic patterns generated by the ski area. Nevertheless, the historical and forecast growth in SH6 traffic volumes passing the Remarkables Ski Field Access Road intersection is expected to require adaptations to the traffic management approach for the Remarkables Ski Area at peak times, as described in this report. Ultimately, implementation of transport network improvements under the TTSCSP including increased provision for public transport and active modes have been proposed to support the forecast changes to transport demands in the corridor.

The concept design for the SH6 car park and bus platforms includes provision for integrating a new stop on the existing Orbus public transport services to reduce the need for visitors to travel by car to the SH6 car park.

Overall, it is considered the Remarkables Ski Area operational traffic management plans and utilisation of buses demonstrates the alignment of NZSki to the District Plan high trip generator objective promoting mode shift from private vehicle travel to buses, and managing traffic effects.

#### 14.1.2 Car Parking

The existing parking areas at the Remarkables Ski Area are unsealed with parking being managed by marshals to optimise capacity. This means that the parking arrangements do not meet the District Plan requirements for:

- Parking bay dimensions;
- Marking of parking bays;
- Accessible parking;



## Remarkables Ski Area Expansion 14 District Plan

- Surfacing;
- Manoeuvring aisle widths; or
- Reverse manoeuvres.

This reflects the alpine environment and the nature of parking facilities which provide for long stay parking demands with typically a single morning arrival movement and single departure movement.

On that basis, while the parking does not comply with District Plan standards, the proposed expansion of the ski field will not generate any new effects or constraints on parking manoeuvres.

### 14.1.3 Crossing Design

Since the Remarkables Ski Field Access Road carries more than 100 vpd on average outside the ski season and can exceed 2,000 vpd during the ski season, the District Plan requires that the crossing is formed in accordance with Diagram 10 of the Transport Chapter which requires seal widening to a width of 6 m from the centreline over a distance of about 90 m either side of the crossing. The existing formation of the access is to a basic standard intersection and does not include any provision for seal widening which creates safety concerns.

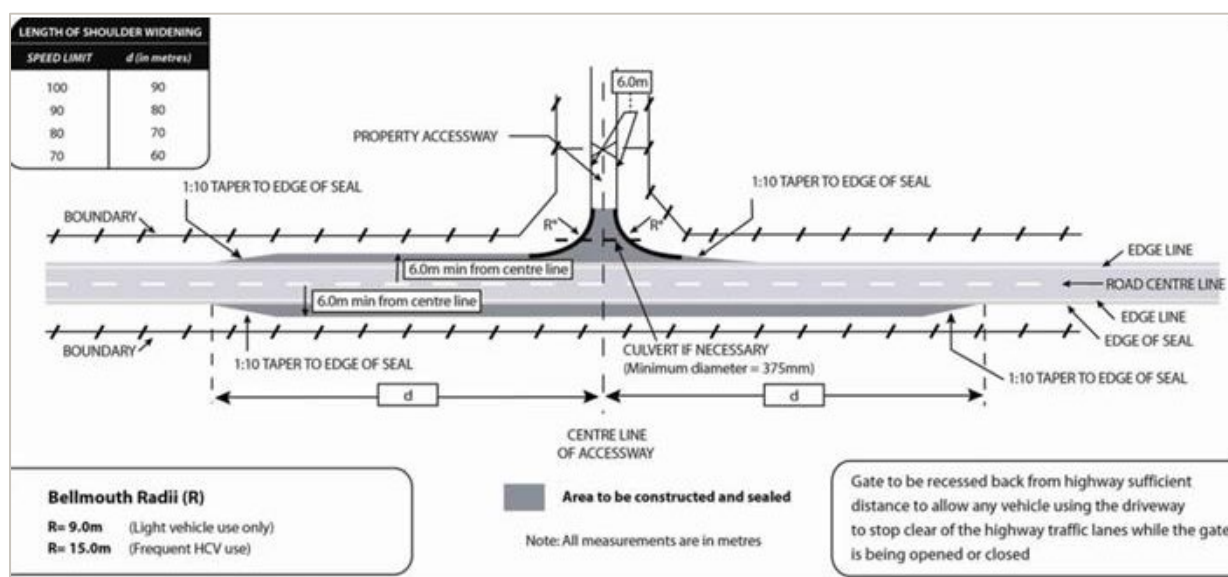


Figure 14-1: QLDC Proposed District Plan, Transport Chapter Diagram 10

Although the configuration of the access has been previously approved, it is recommended that the carriageway is widened at least to the District Plan Diagram 10 standard (identical to the NZTA PPM Diagram E standard) to address safety in the short term and until the future configuration of the highway has been determined and addressed by NZTA.

### 14.1.4 Crossing Separation

The District Plan sets out minimum separation requirements for crossings to a highway. Where the posted speed limit is 100 km/h, a minimum separation of 200 m is required.

While the separation between the access road and closest crossing to the south (Stoney Creek Lane) is about 300 m, the nearest crossing to the north (247 and 249 Kingston Road) is about 35 m away. Both



## Remarkables Ski Area Expansion

### 14 District Plan

crossings operate as low volume accesses to the highway. One risk with closely separated crossings in a high speed environment is that there is greater potential for drivers to misinterpret the intentions of turning drivers which can lead to crashes. The Remarkables Ski Field Access Road has been in the current position for 40 years. In this case, the low volume nature of the crossing to the north and its position upstream of the dominant turning traffic movements at the Remarkables Ski Field Access Road means that these risks are primarily experienced at the crossing to the north where users will be very familiar.

Although the existing crossings have been approved NZTA, it is anticipated that some consolidation of access points may need to be considered as part of the long term plans for improvements to the transport corridor.



## 15 Conclusions

The analysis of existing travel demands at the Remarkables Ski Area indicates that the SH6 intersection with the Remarkables Ski Field Access Road is already operating at close to or above its capacity on the busier days of the ski season. Parking demands at car parks 1 to 3 regularly exceed their theoretical capacities based on standard parking bay dimensions and requires NZSki to operate shuttles to car park 4 and on very high demand days to lower parking areas, car park 5 and the SH6 car park.

NZSki has set out a goal to reduce private vehicle travel demands and proposes to establish infrastructure including an expanded 'park and ride' facility close to SH6 to support greater use of buses. Even with these measures, the future parking demands are likely to exceed the available parking capacity at the upper car parks and there will be a need to make greater use of the lower parking areas to meet the demands. In the medium to long term, an expansion to the lower car park will be necessary and land adjacent to the Remarkables Ski Field Access Road close to the existing car park has been identified for this.

Existing development along the Te Tapuae Southern Corridor comprises about 2,000 households and QLDC has reported that this has been increasing by 350 households per annum in recent years. One consequence is that traffic volumes on SH6 Kingston Highway have been increasing by about 2,200 vpd per annum (13% per annum) in recent years. As this level of growth is expected to continue for the next 10 to 15 years, there is a need for significant improvements to the state highway and its intersections even with measures to promote a travel mode shift to public transport. Although the TTSCSP for the corridor proposes a roundabout at the Remarkables Ski Field Access Road within the short term, that is, within three years, there is no funding allocated for design or construction of this.

The SH6 / Remarkables Ski Field Access Road intersection has been in place for approximately 40 years. With the ongoing high level of traffic growth on SH6 associated with the development along the SH6 Southern Corridor, the capacity of the intersection to accommodate turning movements will reduce. Even with no changes to the existing level of traffic generation at the Remarkables Ski Area, changes to the temporary traffic management measures will be required to increase the capacity for turning movements to reduce delays for departing visitors. Options such as stop/go controls or temporary signals during the afternoon peak departure period represent practical measures to allow ski area traffic to depart more efficiently on to the highway but will require NZTA approval. Although this form of traffic management would introduce some delays for through traffic on the highway, it could improve safety at the intersection by removing the need for risk-taking behaviour by drivers and would also reduce turning demands at the Coneburn roundabout.

Until transport solutions to the SH6 Southern Corridor are further developed and established by NZTA, QLDC, and ORC, it is proposed that the SH6 / Remarkables Ski Field Access Road intersection is operated under a traffic management plan from 2026 that only permits left turn exit movements unless an alternative management plan is approved by NZTA.

Since the timing for any corridor improvements has not been confirmed and the SH6 / Remarkables Ski Field Access Road intersection configuration does not meet current best practice design standards, it is recommended that some safety works are implemented. As a minimum, this should include construction of a splitter island to prevent right turn exit movements. The option of seal widening and possibly a right turn bay may need to be considered in the short term if the planned TTSCSP transport network improvements have a longer than expected delivery date.



## Remarkables Ski Area Expansion

### 15 Conclusions

Overall, it has been concluded that the long term plans for expansion of the Remarkables Ski Area can be supported from a transport perspective with the following mitigation measures:

#### **Enabling Mode Shift**

1. Utilise and progressively expand the SH6 base area parking facilities to accommodate a park-and-ride facility with sufficient bus stops to accommodate peak bus arrival and departures at 5 minute intervals.
2. Promote carpooling facilities within a dedicated parking area close to SH6 to support higher vehicle occupancy levels in the upper car parks.
3. Increase NZSki bus services from Queenstown and Frankton to support mode shift.
4. Establish new NZSki bus services from residential areas to the south, indicatively from Homestead Bay via Jack's Point and Hanley Farm.

#### **Managing Operational Effects**

5. Operate a temporary traffic management plan in the ski season that restricts departure movements from the Remarkables Ski Field Access Road to SH6 to left turns only unless an alternative management plan is approved by NZTA.
6. Implement parking management measures that increase average vehicle occupancy rates of the upper car parks.

#### **Managing Safety Effects**

7. Implementation of safety improvements at the SH6 / Remarkables Ski Field Access Road intersection such as forming a splitter island to prevent right turn exit movements, widening the sealed shoulder in accordance with the District Plan transport standards (identical to Diagram E of the NZTA Planning Policy Manual) or provision of a right turn bay.

#### NOTES:

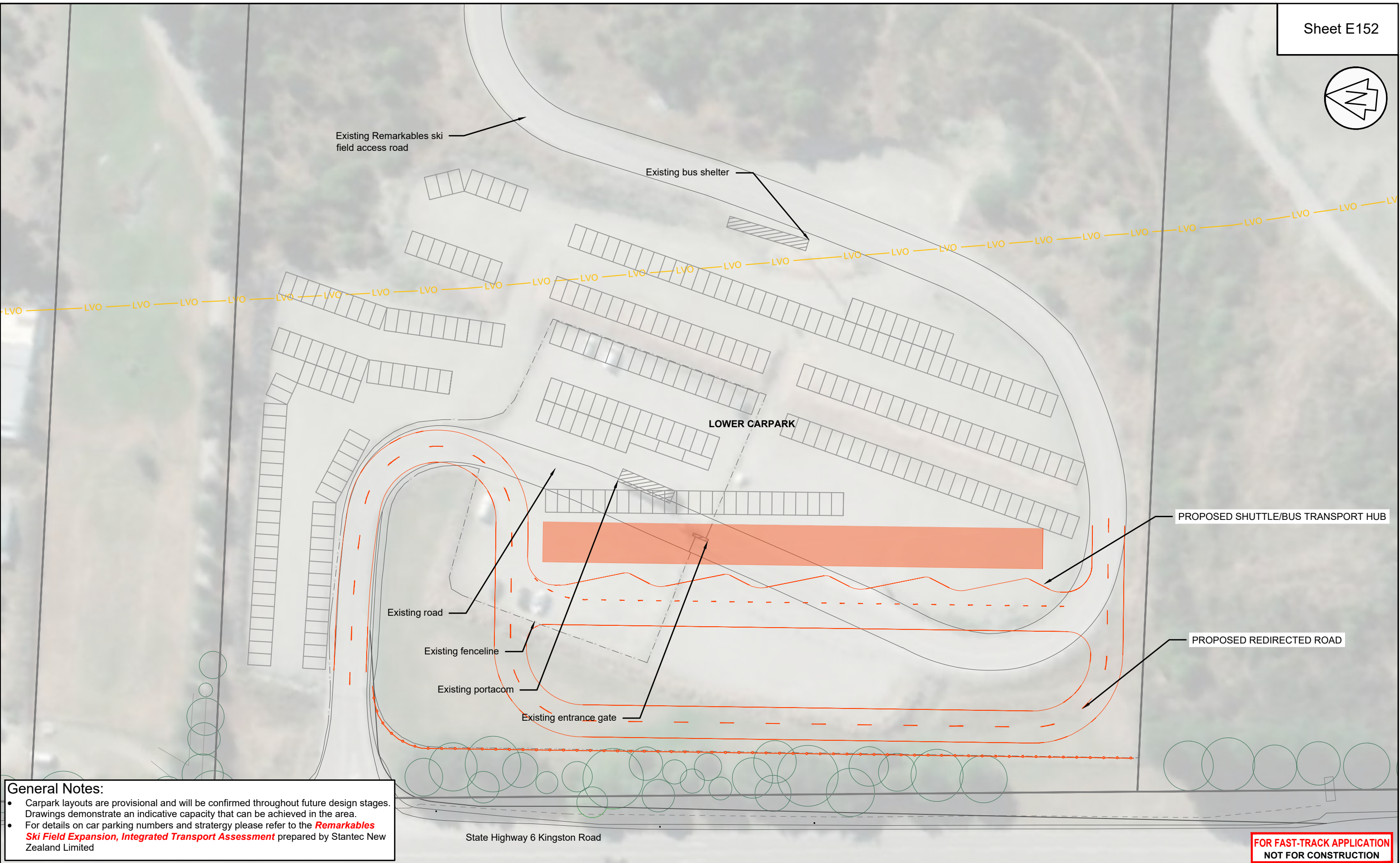
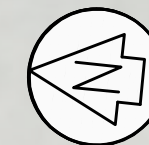
- a. Any alterations to the carriageway will be subject to the NZTA design approval and implementation processes.
- b. The timing and need for implementation of improvements should be informed by the decisions and timing for the wider network improvements proposed under the Te Tapuae Southern Corridor Structure Plan.



# **Appendices**

# Appendix A SH6 Base Area Parking Concept Design





**General Notes:**

- Carpark layouts are provisional and will be confirmed throughout future design stages. Drawings demonstrate an indicative capacity that can be achieved in the area.
- For details on car parking numbers and strategy please refer to the **Remarkables Ski Field Expansion, Integrated Transport Assessment** prepared by Stantec New Zealand Limited

**FOR FAST-TRACK APPLICATION  
NOT FOR CONSTRUCTION**



REVISION	DESCRIPTION	DATE
G	For Information	28/11/25
H	For Consent	30/01/26
J	For Consent	16/04/26

**Remarkables Ski Area Upgrades & Doolans Basin Expansion  
Access and Transportation  
Carpark A Area**



SCALE  
1:750 @ A3

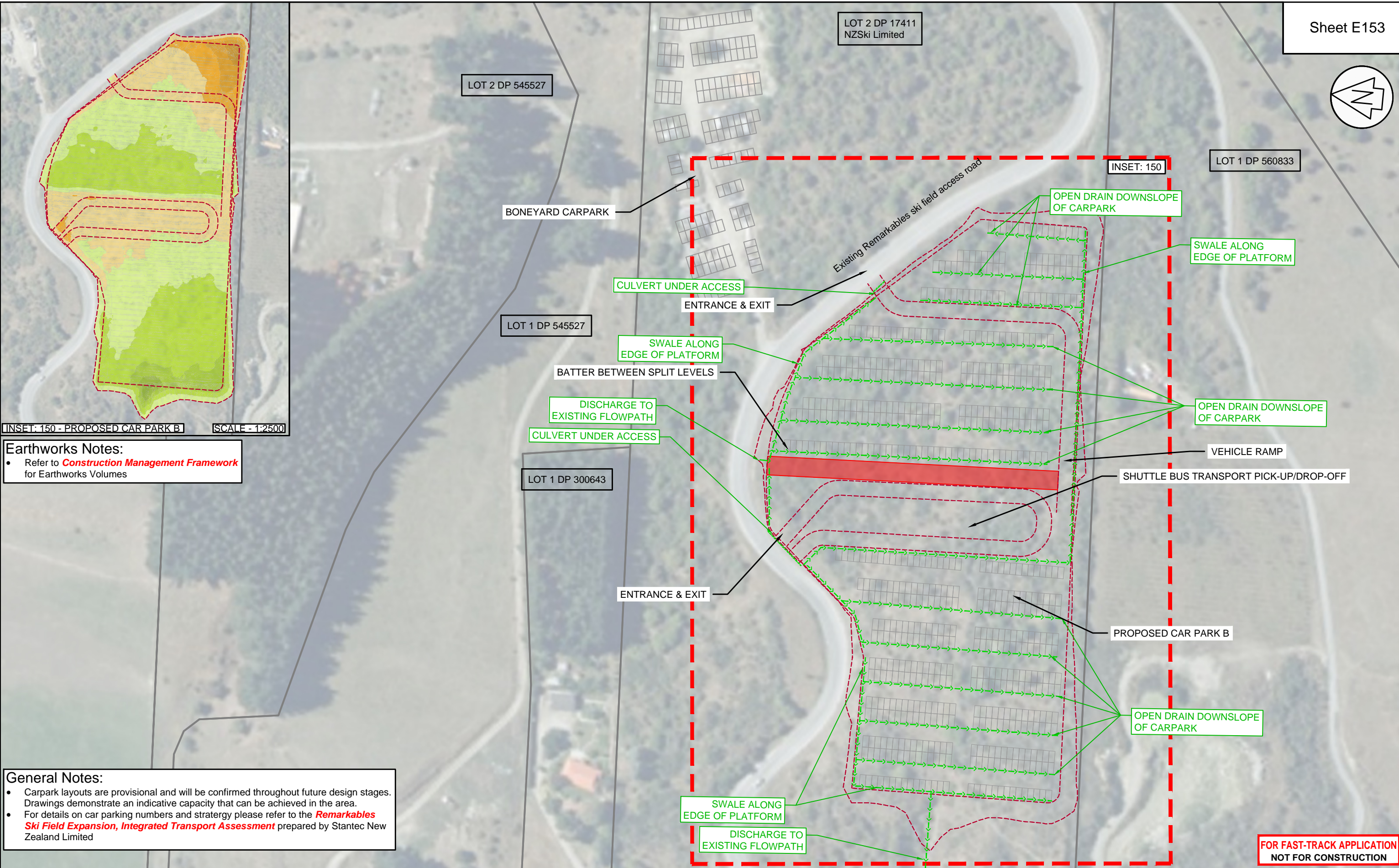
DATUM & LEVEL  
NZTM  
LEVEL IN TERMS OF DV068  
ORIGIN DAT XI DP XXXXX RL = XXXXX

Level 2 Brownston House, 21 Brownston St, Wanaka, Ph: (03) 443 5577, Email: contact@southernland.co.nz, www.southernland.co.nz



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SURVEYED	DATE	CHECKED	DATE	APPROVED	DATE	DRAWING REFERENCE	REVISION
-	-	AJHB	16/04/26	-	-	A30043_E7	J
DN	16/04/26	AJHB	16/04/26	-	-	-	-



INSET: 150 - PROPOSED CAR PARK B SCALE - 1:2500

**Earthworks Notes:**

- Refer to **Construction Management Framework** for Earthworks Volumes

**General Notes:**

- Carpark layouts are provisional and will be confirmed throughout future design stages. Drawings demonstrate an indicative capacity that can be achieved in the area.
- For details on car parking numbers and strategy please refer to the **Remarkables Ski Field Expansion, Integrated Transport Assessment** prepared by Stantec New Zealand Limited

**FOR FAST-TRACK APPLICATION  
NOT FOR CONSTRUCTION**



REVISION	DESCRIPTION	DATE
H	For Consent	30/01/26
J	For Consent	16/04/26
K	For Consent	06/05/26

Level 2 Brownston House, 21 Brownston St., Wanaka, Ph: (03) 443 5577, Email: contact@southernland.co.nz, www.southernland.co.nz



**Remarkables Ski Area Upgrades & Doolans Basin Expansion  
Access and Transportation  
Proposed Carpark B and Boneyard**

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SCALE	1:1,500 @ A3
DATUM & LEVEL	NZTM
LEVEL IN TERMS OF DV068	ORIGIN DAT AT DP XXXXX RL = XXXXX
DRAWING REFERENCE	A30043_E7
REVISION	K

SURVEYED	DATE	CHECKED	DATE
-	-	AJHB	06/05/26
DRAWN	DATE	APPROVED	DATE
TN/MS	06/05/26	AJHB	06/05/26

## Appendix B Transport Standards Assessment

Rule	Requirement	Comments	Assessment
29.4.11	<p>High Traffic Generating Activities</p> <p>Any new land-use or subdivision activity, including changes in use that exceeds the traffic generation standards or thresholds set out in Table 29.5.</p> <p>Discretion is restricted to effects on the transport network.</p> <p>Threshold: 50 vph increase in commuter peak period</p>	Seasonal recreational activity	<p>Restricted Discretionary</p> <p>See report for assessment of effects.</p>
29.5.1 (a)	Any parking space required by Table 29.4 or loading space shall be available for staff and visitors during the hours of operation and any staff parking required by this rule shall be marked as such.	No change to existing operational management of parking	<p>Restricted Discretionary</p> <p>See report for assessment of effects</p>
29.5.1 (b)	No parking space required by Table 29.4 shall be located on any access or outdoor living space required by the District Plan, such that each parking space required by Table 29.5 shall have unobstructed vehicular access to a road or service lane, except where tandem parking is specifically provided for by Rule 29.5.8.	No change to existing operational management of parking	<p>Restricted Discretionary</p> <p>See report for assessment of effects</p>
29.5.1 (c)	Parking spaces and loading spaces may be served by a common manoeuvring area (which may include the installation of vehicle turntables), which shall remain unobstructed.	No change to existing operational management of parking	<p>Restricted Discretionary</p> <p>See report for assessment of effects</p>
29.5.2 (a)	All provided parking spaces and associated manoeuvring areas are to be designed and laid out in accordance with the Car Parking Layout requirements of Table 29.7 and Diagram 3 (car space layouts) of Schedule 29.2.	No change to existing operational management of parking	<p>Restricted Discretionary</p> <p>See report for assessment of effects</p>
29.5.2 (b)	The installation of a vehicle turntable for residential units and residential flats is an acceptable alternative to achieve the required turning manoeuvres of the swept path Diagram 4.	Not a residential property	Not applicable
29.5.3	Parking spaces and parking areas other than mobility parking spaces shall have a gradient of no more than 1 in 20 parallel to the angle of parking, and a gradient of no more than 1 in 16 in any other direction.	No change to existing operational management of parking	<p>Restricted Discretionary</p> <p>See report for assessment of effects</p>
29.5.4 (a)	Other than in relation to residential units and visitor accommodation with less than 6 guests, mobility parking spaces shall be provided in accordance with the following minimum standards:	No change to existing operational management of parking	<p>Restricted Discretionary</p> <p>See report for assessment of effects</p>



**Remarkables Ski Area Expansion**  
**Appendix B Transport Standards Assessment**

<b>Rule</b>	<b>Requirement</b>	<b>Comments</b>	<b>Assessment</b>
29.5.4 (b)	Where two or more activities are located on one site, the activity with the greater mobility parking requirement is the number of mobility parks provided.	No change to existing operational management of parking	Restricted Discretionary  See report for assessment of effects
29.5.5 (a)	Drop off/ pick up (set down) areas in all zones	Recreational activity does not require drop-off/pick up areas.	Not applicable
29.5.6 (a)	Where on-site manoeuvring areas or drop off/ pick up (set down) areas are required, these shall be located and designed to ensure that no vehicle is required to reverse onto or off any road.	Drop-off areas are not required.	Not applicable
29.5.6 (b)	Where heavy vehicle parking spaces, on-site manoeuvring, and loading areas are required, these shall be designed and located to ensure that no heavy vehicle is required to reverse manoeuvre from (or onto) any site or service lane onto (or from) any road.	Layout of servicing area does not require reverse manoeuvres onto any road.	Permitted
29.5.6 (c)	Where a service lane does not meet the definition of a 'road', a heavy vehicle can reverse onto (or from) a site from (or onto) a service lane but this does not enable a heavy vehicle to then reverse from that service lane onto a road.	No service lane proposed.	Not applicable
29.5.6 (d)	On-site manoeuvring shall be provided to ensure that no vehicle is required to reverse onto or off any State Highway or arterial road.	On-site manoeuvring is provided.	Permitted
29.5.6 (e)	On-site manoeuvring shall be provided for a B85 vehicle to ensure that no such vehicle is required to reverse either onto or off any collector road where: <ul style="list-style-type: none"> <li>i. the frontage road speed limit is 80km/h or greater, or</li> <li>ii. six or more parking spaces are to be serviced by a single accessway; or</li> <li>iii. three or more residential units share a single accessway; or</li> <li>iv. the activity is on a rear site.</li> </ul>	No access to a collector road	Not applicable
29.5.6 (f)	On-site manoeuvring shall be provided for a B85 vehicle to ensure that no such vehicle is required to reverse either onto or off any local road where: <ul style="list-style-type: none"> <li>i. ten or more parking spaces are to be serviced by a single accessway, or</li> <li>ii. five or more residential units share a single accessway, or</li> <li>iii. the activity is on a rear site.</li> </ul>	No access to a local road	Not applicable



**Remarkables Ski Area Expansion**  
**Appendix B Transport Standards Assessment**

<b>Rule</b>	<b>Requirement</b>	<b>Comments</b>	<b>Assessment</b>
29.5.6 (g)	Where on-site manoeuvring areas are required, a B85 vehicle shall be able to manoeuvre in and out of any provided parking space other than parallel parking spaces, with only one reverse manoeuvre	No change to existing operational management of parking	Restricted Discretionary See assessment
29.5.6 (h)	The installation of a vehicle turntable for residential units and residential flats is an acceptable alternative to achieve the required turning manoeuvres	Not a residential development	Not applicable
29.5.7	Residential Parking Space Design	Not a residential development	Not applicable
29.5.8 (a)	On-site queuing space shall be provided for all vehicles entering a parking or loading area in accordance with the following: <i>30m is required where there are over 151 car parking spaces</i>	Queuing space exceeds 30 m	Permitted
29.5.8 (b)	Where the parking area has more than one access the required queuing space may be divided between the accesses based on the expected traffic volume served at each access point.	Queuing space exceeds 30 m	Permitted
29.5.8 (c)	Queuing space length shall be measured from the road boundary at the vehicle crossing to the nearest vehicle control point	Queuing space exceeds 30 m	Permitted
29.5.9 (a)	Off-street loading shall be provided in accordance with this standard on every site in the Coneburn Industrial Zone, General Industrial and Service Zone, Business Mixed Use Zone, the Town Centre zones, and the Local Shopping Centre Zone.	Off-street loading area in a designated loading/servicing area, away from the main car parking area	Permitted
29.5.9 (b)	Every loading space shall meet the following dimensions:  <i>All other activities except residential, visitor accommodation, and those listed in Rule 29.5.9 b.i :</i>  <i>9m length, 3.5m wide and 4.5m high.</i>	Complies	Permitted
29.5.9 (c)	Notwithstanding: i. Where articulated trucks are used in connection with any site sufficient space not less than 20m in depth shall be provided. ii. Each loading space required shall have unobstructed vehicular access to a road or service lane. iii. Parking areas and loading areas may be served in whole or in part by a common manoeuvre area, which shall remain unobstructed.	Complies	Permitted



**Remarkables Ski Area Expansion**  
**Appendix B Transport Standards Assessment**

<b>Rule</b>	<b>Requirement</b>	<b>Comments</b>	<b>Assessment</b>
29.5.10 (a)	The surface of all parking, loading and associated access areas and spaces shall be formed, sealed, or otherwise maintained so as to avoid creating a dust or noise nuisance, to avoid water ponding on the surface, and to avoid run-off onto adjoining roads.	No change to parking areas are proposed - car parks are unsealed	Restricted Discretionary See assessment
29.5.10 (b)	The first 10m of such areas, as measured from the edge of the traffic lane, shall be formed and surfaced to ensure that material such as mud, stone chips or gravel is not carried onto any footpath, road or service lane.	Access road is sealed for 9 km	Permitted
29.5.11 (a)	Excluding parking areas accessory to residential activity, where a parking area provides for 10 or more parking spaces, which are likely to be used during the hours of darkness, the parking and manoeuvring areas and associated pedestrian routes shall be adequately lit.	No changes to parking areas are proposed – typical use is day time only	Permitted
29.5.11 (b)	Such lighting shall be designed in accordance with the Queenstown Lakes District Council Southern Light Part One - A Lighting Strategy (March 2017) and Queenstown Lakes District Council Southern Light Part Two – Technical Specifications (March 2017).	No changes to parking areas are proposed – typical use is day time only	Not applicable
29.5.11 (c)	Such lighting shall not result in a greater than 10 lux spill (horizontal or vertical) of light onto any adjoining site within the Business Mixed Use Zone, the Town Centre Zones, and the Local Shopping Centre Zone, measured at any point inside the boundary of any adjoining site.	No changes to parking areas are proposed – typical use is day time only	Not applicable
29.5.11 (d)	Such lighting shall not result in a greater than 3 lux spill (horizontal or vertical) of light onto any adjoining site that is zoned High Density Residential, Medium Density Residential, Low Density Residential, Airport Zone, or the land subject to Designation #2 measured at any point more than 2m inside the boundary of the adjoining site.	No changes to parking areas are proposed – typical use is day time only	Not applicable
29.5.12	Bicycle parking, lockers, and showers shall be provided in accordance with the minimum requirements specified in Table 29.6.	Not required	Permitted
29.5.13 (a)	All vehicular access to fee simple title lots, cross lease, unit title or leased premises shall be in accordance with Table 3.2 (Road Design Standards) of the QLDC Land Development and Subdivision Code of Practice 2018	Not residential	Not applicable
29.5.13 (b)	All shared private vehicular accesses serving residential units and/ or visitor accommodation units in the High Density Residential Zone, Medium Density Residential Zone, Low Density Residential Zone and Settlement Zone shall comply with the standards	Not a residential development	Not applicable
29.5.13 (c)	No private way or private vehicle access or shared access in any zone shall serve sites with a potential to accommodate more than 12 units on the site and adjoining sites.	Single site	Not applicable



**Remarkables Ski Area Expansion**  
**Appendix B Transport Standards Assessment**

<b>Rule</b>	<b>Requirement</b>	<b>Comments</b>	<b>Assessment</b>
29.5.13 (d)	Private shared vehicle accesses shall have legally enforceable arrangements for maintenance put in place at the time they are created.	No private shared vehicle access proposed	Not applicable
29.5.13 (e)	All vehicle access design shall comply with Schedule 29.2.	Existing approved access	Permitted
29.5.13 (f)	The above access width rules do not apply to existing private shared vehicle accessways for the purpose of controlling the number of units that may be built using the accessways, unless the total land served by the accessway could provide for more than 12 units.	Existing approved access	Not applicable
29.5.14 (a)	The following vehicle crossing widths shall apply as measured at the property boundary: for 'other' activity, access shall have a minimum width of 4m and a maximum width of 9m.	No changes to the existing approved crossing are proposed	Restricted Discretionary See assessment
29.5.14 (b)	Vehicle crossings in all zones other than in those rural zones which are regulated by Rule 29.5.15 shall comply with Diagram 2 and with either Diagram 6 or 7 in Schedule 29.2, depending on the activity served by the access,	Rural zone	Not applicable
29.5.14 (b) i	The access crosses the property boundary at an angle of between 45 degrees and 90 degrees;	No changes to the existing approved crossing are proposed	Permitted
29.5.14 (b) ii	The vehicle crossing intersects with the carriageway at an angle of 90 degrees plus or minus 15 degrees;	No changes to the existing approved crossing are proposed	Permitted
29.5.14 (b) iii	Roading drainage shall be continuous across the length of the crossing;	No changes to the existing approved crossing are proposed	Permitted
29.5.14 (b) iv	All vehicular accessways adjacent to State Highways shall be sealed from the edge of the carriageway to the property boundary.	No changes to the existing approved crossing are proposed	Permitted
29.5.14 (c)	For vehicle crossings in all zones other than in those rural zones which are regulated by Rule 29.5.15, the width of the vehicle crossings at the kerb shall be 1.0m wider than the width at the boundary.	No changes to the existing approved crossing are proposed	Restricted Discretionary See assessment
29.5.14 (d)	All vehicle crossings in all zones other than in those rural zones which are regulated by Rule 29.5.15 shall be located at least 500mm from any internal property boundary and from any other vehicle crossing on the same site.	Rural zone	Not applicable
29.5.15	Design of vehicle Crossing – Rural Zone <i>Diagram 10 required</i>	No changes to the existing approved crossing are proposed	Restricted Discretionary See assessment



**Remarkables Ski Area Expansion**  
**Appendix B Transport Standards Assessment**

<b>Rule</b>	<b>Requirement</b>	<b>Comments</b>	<b>Assessment</b>
29.5.16 (a)	The maximum gradient for any private way used for vehicle access shall be 1 in 6.	No changes to the existing approved crossing are proposed	Permitted
29.5.16 (b)	In residential zones where a private way serves no more than 2 residential units the maximum gradient may be increased to 1 in 5 provided.	Not a residential zone	Not applicable
29.5.16 (c)	The vehicle break-over angles shown in Diagram 2 of Schedule 29.2 shall not be exceeded over any part of the width of the vehicle access/ crossing.	No changes to the existing approved crossing are proposed	Permitted
29.5.17 (a)	Minimum sight distances from vehicle accesses to QLDC road:	No access to QLDC road	Not applicable
29.5.17 (b)	Proposed and existing landscaping (at maturity) and/ or structures shall be considered when assessing compliance with site distances.	No changes to the existing approved crossing are proposed	Permitted
29.5.18	Minimum sight distances from vehicle access onto state highways. <i>282m for 100 km/h road</i>	Complies	Permitted
29.5.19	Maximum number of vehicle crossings to QLDC road	No access to QLDC road	Not applicable
29.5.20	Minimum distance between vehicle crossings onto state highways <i>200 m between crossings</i>	No changes to the existing approved crossing are proposed	Restricted Discretionary See assessment
29.5.21 (a)	No part of any vehicle crossing shall be located closer to the intersection than 30m (collector frontage road)  Except that where the boundaries of the site do not enable a conforming vehicle crossing to be provided, a single vehicle crossing may be constructed provided it is located 0.5m from the internal boundary of the site in the position that most closely complies with the above provisions.	Crossing is to state highway	Not applicable
29.5.22	Minimum distances of vehicle crossings from intersections onto state highways	More than 200 m from nearest intersections	Permitted
29.5.23	Service stations	Not a service station	Not applicable



## Appendix C NZSki Parking Strategy



# Remarkables Expansion Programme

<b>Subject</b>	Draft Transport Impact Assessment Outcomes
<b>Date</b>	26.02.26
<b>Prepared by</b>	[REDACTED]
<b>Distribution</b>	NZSki Management Team + Mitchel Daysh

## Operational Implementation Implications

### 1. Purpose

To translate the approved transport demand assumptions (as confirmed in the Transport Brief) into operational fleet, parking and peak-day management requirements for existing and future operations, based on the outcomes of the Draft Transport Impact Assessment (TIA).

This memo focuses solely on operational implementation implications for staged increases from 4,500 visitors to 6,000 visitors. The SH6 intersection corridor strategy is addressed separately.

This memo reflects the agreed operational mode shift strategy and adaptive monitoring approach endorsed by NZ Ski Management.

### 2. Alignment with Approved Brief

The Draft TIA assesses the same demand envelopes and mode share assumptions previously endorsed by the NZ Ski team:

Scenario	Visitors / Day	Bus Mode Share	Private Mode Share	Avg Car Occupancy
Baseline	3,500	35%	65%	2.7
Stage 1	4,500	40%	60%	2.8
Stage 2	6,000	50%	50%	2.9

Peak operational windows tested:

- Morning arrivals: 7:30–9:30am
- Afternoon departures: 3:30–5:30pm

There has been no material change to the demand envelope approved at Brief stage. The TIA confirms performance under these assumptions, subject to operational delivery of the endorsed mode shift strategy.

Carpark 5 has now been removed from the planning envelope. The implications below reflect initial internal review and will be formally confirmed through updated parking tables by Stantec in the revised TIA.

### 3. Private Vehicle Demand – Operational Translation

Scenario	Visitors by Car	Estimated Vehicles / Day	Peak Hour Arrivals (~30%)	Peak Hour Departures (~35%)
Baseline	~2,275	~840	~250–280	~290–320
Stage 1	~2,700	~965	~290–320	~330–360
Stage 2	~3,000	~1,035	~310–340	~360–400

#### Operational observations:

- Stage 1 represents an incremental uplift relative to current peak winter days.
- Stage 2 represents the full operational envelope tested in the Brief.

- Vehicle volumes are highly concentrated within seasonal winter peaks and primarily within defined two-hour arrival and departure windows.
- This remains a peak management issue rather than a year-round capacity constraint.

Key operational levers remain:

- Upper carpark occupancy enforcement
- Dynamic carpark allocation
- Managed afternoon departure routing during peak periods

#### 4. Bus & Shuttle Scaling Requirements

Assuming an average bus capacity of 45–50 passengers:

Scenario	Bus Passengers / Day	Approximate Bus Loads	Peak Hour Passenger Flow	Approximate Buses / Hour
Baseline	~1,225	~25	~600	~12–14
Stage 1	~1,800	~36	~900	~18–20
Stage 2	~3,000	~60	~1,500	~28–32

#### Operational implications:

- Stage 1 requires dispatch of approximately one bus every 3–4 minutes during the morning peak.
- Stage 2 requires dispatch closer to one bus every 2 minutes during peak arrival.
- Fleet sizing must account for full return cycle times and recovery margins.
- Bus staging efficiency and dispatch discipline become increasingly critical at Stage 2.

Both stages are operationally achievable provided fleet scaling is planned progressively. These dispatch headways represent peak design conditions and will be validated through live operational monitoring over the next two winter seasons.

#### 5. Parking Supply (Carpark 5 Removed)

Updated effective supply (excluding Carpark 5):

Area	Approximate Capacity
Carparks 1–4	~870–900
SH6 Transit Hub	~390
Total Available Supply	~1,260–1,290

- Stage 1 estimated vehicle demand (~965 vehicles) remains within total available supply.
- Stage 2 estimated vehicle demand (~1,035 vehicles) also remains within aggregate supply.

Removal of Carpark 5 reduces operational buffer and increases reliance on:

- Minimum occupancy enforcement (particularly in Carparks 1–2)
- Active utilisation of SH6 transit hub
- Shuttle optimisation from lower-elevation parking

Based on initial review, removal of Carpark 5 does not create a structural parking deficit at either Stage 1 or Stage 2, subject to delivery of the operational mode shift assumptions tested in the TIA. This conclusion will be validated through updated parking balance tables by Stantec.

No additional permanent parking expansion is required under the operational mode shift scenario tested, provided performance assumptions are delivered and validated.

## 6. System Throughput Validation – Transit Hub and Base Area Interfaces

The transport modelling translates Stage 2 demand into peak arrival flows of approximately:

- ~1,500 bus passengers per hour; plus
- ~300–340 private vehicle arrivals per hour

Equating to ~1,800–2,000 persons per hour entering the base area during peak windows.

To deliver the required dispatch headways (Stage 1 ~3–4 minutes; Stage 2 ~2 minutes), throughput must be reliable at both ends of the shuttle system:

- Transit Hub (loading) – passengers boarding efficiently
- Base Area (unloading and onward processing) – passengers disembarking and moving through without causing dwell delay

It is recommended that the following operational parameters be validated:

### A. Transit Hub Loading

- Average bus dwell time during peak loading
- Passenger queuing capacity and circulation
- Number of operational bays required to sustain headways
- Ticketing / validation impacts on boarding time
- Traffic management and manoeuvring efficiency

### B. Base Area Unloading and Processing

- Average bus dwell time during unloading
- Pedestrian discharge and circulation capacity
- Ticketing, rental, and lift gate processing rates
- Internal queue storage capacity
- Potential for downstream queuing to affect dispatch reliability

This is not a change to the transport strategy. It is an implementation validation step to confirm that loading, shuttle throughput, forecourt operation, and building processing perform as assumed in the modelling.

Undertaking this validation during the upcoming peak seasons will move reliance from modelling assumptions to measured operational performance.

## 7. Implementation Considerations

The Draft TIA confirms that both Stage 1 and Stage 2 are operationally manageable within the tested framework, subject to progressive delivery of the operational mode shift and peak management controls.

These include:

- Occupancy management in upper carparks
- Scaled shuttle fleet deployment aligned to seasonal demand
- Active SH6 transit hub utilisation
- Peak-day traffic control during afternoon departures
- Validation of transit hub and base area throughput

Active management and monitoring over the next two winter seasons will confirm the robustness of these assumptions prior to full Stage 2 demand realisation.

## **8. Summary**

- The Draft TIA remains aligned with the approved Transport Brief.
- Stage 1 and Stage 2 demand envelopes have been translated into operational requirements.
- Removal of Carpark 5 (subject to Stantec confirmation) does not create a structural parking deficit at either stage, subject to delivery of operational mode shift assumptions.
- Bus fleet scaling, dispatch discipline, and efficient loading and unloading are the primary operational drivers.
- Peak-hour throughput at both the SH6 Transit Hub and Base Area should be validated to ensure required bus headways are reliably achievable.
- No additional permanent parking expansion is required under the operational mode shift scenario tested, provided assumptions are delivered and validated.

A separate memo addresses the SH6 corridor positioning and recommended strategic approach for inclusion in the Fast-track application.

## **Appendices**

- E102: Ski Area Access Road Overall
- E153: Proposed Car Park X

## Appendix D NZSki SH6 Intersection Strategy



# Remarkables Expansion Programme

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<b>Subject</b>	<i>Draft Transport Assessment Outcomes Review</i>
<b>Date</b>	26.02.26
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## SH6 Intersection Upgrade – Strategic Position and Fast-track Approach

### 1. Purpose

To set out:

- The SH6 corridor growth context
- What the Draft Transport Impact Assessment (TIA) models and assumes
- The nature of intersection performance effects under future growth
- Potential exposure risks
- A recommended Fast-track positioning aligned with the agreed operational strategy

This memo reflects management's agreed position that seasonal peak effects should be addressed through operational management and adaptive monitoring.

### 2. SH6 Corridor Growth Context

The SH6 / Remarkables Ski Area Access intersection sits within the wider Southern Corridor growth area. Traffic growth on SH6 is driven by cumulative residential, industrial and regional development, not solely by ski demand.

Key points:

- SH6 is a state highway under NZTA control.
- Corridor growth materially influences intersection performance.
- Timing and form of any structural intervention remain solely at NZTA's discretion.

The Draft TIA models intersection performance under future corridor growth assumptions. It does not confirm any funded or programmed infrastructure change.

### 3. Interpretation of the Draft TIA

#### 3.1 What the TIA Assumes

The Draft TIA models:

- Approximately 40% growth in SH6 traffic volumes to a 2028 baseline
- Stage 1 and Stage 2 ski demand envelopes
- Intersection performance under cumulative corridor growth conditions

Under the 2028 high-growth baseline:

- Intersection delay increases
- Peak queuing increases
- Gap acceptance becomes more constrained

This degradation is primarily driven by cumulative corridor growth rather than ski expansion alone.

#### 3.2 Nature of the Effects

The modelling confirms:

- Effects are concentrated in defined winter peak windows

- Morning arrivals and afternoon departures drive the highest load
- Outside these periods the intersection operates within normal parameters

This represents short-duration seasonal loading rather than continuous year-round network stress. The ski expansion does not independently trigger structural failure of the network.

#### **4. Strategic Risk Exposure**

The primary exposure risk relates to timing mismatch between:

- Corridor growth assumptions; and
- NZTA's future network decisions.

If corridor growth materialises before broader network interventions occur:

- Winter peak congestion may intensify
- Interim management measures may be required
- Contribution discussions could arise

The TIA distinguishes clearly between cumulative corridor growth and incremental ski impact. That distinction is fundamental in any future attribution discussion.

#### **5. Operational Management Position**

Management has agreed that the appropriate response is operational management and adaptive validation.

This includes:

- Increased bus mode share
- Active peak period management
- Occupancy enforcement
- Shuttle prioritisation
- Continued deployment of endorsed temporary traffic management

Under the operational mode shift scenario tested in the TIA, traffic volumes remain within a manageable operational envelope.

Accordingly:

- Additional bottom parking is not required under the tested operational scenario
- Seasonal peak effects can be managed through operational controls

Performance will be actively monitored over the next two winter seasons to validate modelling assumptions using measured operational data.

This approach moves reliance from modelling projections to demonstrated performance.

#### **6. Temporary Traffic Management**

Temporary traffic management protocols approved by NZTA were implemented last winter and successfully managed short-duration peak queuing.

The same framework will continue to be deployed during peak winter periods.

These measures are scalable and can be adjusted based on observed performance and demand.

Temporary management provides a practical and proportionate response to seasonal peak loading while corridor growth trends are monitored.

## **7. Commercial Position**

NZ Ski's position should remain disciplined and proportionate.

Principles:

1. Intersection performance degradation is primarily driven by cumulative corridor growth.
2. Any contribution discussion must isolate incremental impact attributable solely to ski demand.
3. No position should be adopted prior to confirmed design and quantified impact.
4. Operational land impacts must be considered in any future assessment.

Language implying inevitability or acceptance of structural intervention should be avoided.

## **8. Recommended Fast-track Position**

The Fast-track application should:

- Acknowledge corridor growth assumptions modelled in the TIA
- Recognise that network decisions remain at NZTA's discretion
- Emphasise that effects are seasonal and peak-window constrained
- Commit to operational management and adaptive monitoring
- Confirm continued deployment of temporary traffic management
- Avoid implying structural intervention is required solely due to ski expansion

This positions NZ Ski as responsible, collaborative and commercially disciplined.

## **9. Summary**

- The Draft TIA models intersection performance under 2028 corridor growth assumptions.
- Degradation is primarily corridor-growth driven.
- Effects are seasonal and concentrated in winter peak windows.
- Operational management provides an immediate and controllable response.
- Temporary traffic management remains appropriate.
- Network intervention timing and form remain NZTA's decision.
- Any future contribution must be proportional and evidence-based.

The appropriate position is operationally focused, adaptive and commercially disciplined.

## **Appendices**

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