
Transport Comments on Hamner Springs 'Flyride' Parking Assessment

Prepared for: Hurunui District Council
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Prepared by: Dave Smith, Technical Director

Introduction

1. My name is David John Robert Smith.
2. I hold a Bachelor of Technology (with Honours) in Industrial Operations Research and Master of Philosophy in Operations Research from Massey University. I am a Chartered Member of the Institute of Logistics and Transport (CMILT), a member of Engineering New Zealand (MEngNZ) and a member of the NZ Modelling User Group sub-group of ENZ. I have been appointed to the NZ Transport Agency Independent Professional Advisors panel for Transportation Modelling. I am also certified as a Hearings Commissioner having completed the Making Good Decisions course in 2019.
3. I hold the position of Technical Director of Transportation Planning at Abley. I have been in this position since 2018 and have been at Abley for since 2012. I lead a range of development planning and transportation planning projects for both public and private sector clients.
4. My previous work experience includes 21 years of transportation planning and engineering experience. I have managed and led numerous projects related to transportation business cases, transportation research and Resource Management Act (**RMA**) related matters for public and private sector clients. As an expert witness I was engaged by the Environmental Protection Authority (EPA) to provide transportation advice and evidence directly to the Board of Inquiry presiding over the Basin Bridge hearing. I have also recently represented Foodstuffs South Island Limited, Auckland Council, Selwyn District Council, Queenstown-Lakes District Council, Ports of Auckland, and Fonterra as a transportation expert witness.
5. My role in relation to the Hamner Springs Fly by Wire Consent Review is as an advisor to Hurunui District Council on traffic and transportation matters.
6. In my assessment I have reviewed the following documents:
 - a. The Assessment of Environmental Effects (AEE) prepared by Response Planning, dated February 2021.

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- b. Parking Assessment prepared by Novo Group, dated May 2021.
 - c. Addendum to resource consent application, dated June 2021.
 - d. Transport-related submissions received in response to the addendum.
 7. At the time of preparing this evidence I have not undertaken a site visit but am familiar with the local area. I intend to undertake at least one site visit prior to the hearing.
 8. The scope of my evidence includes:
 - a. A review of the parking assessment in the context of the application;
 - b. Assessment of plan compliance; and
 - c. Matters raised through submissions.

Transportation Context of Site

9. I understand that Flyride customers must approach the ride start point from a number of pedestrian entrances to Conical Hill Reserve. Riders are expected to walk to the top of Conical Hill, ride down, and then exit out of Conical Hill Reserve. The primary entrance to the Flyride is at the end of Conical Hill Road where Oregon Heights starts. Alternative routes are available and include Acheron Heights (east side), Lucas Lane walkway (west side) and Majuba Walk trail (east side).
10. I further understand that there is no vehicle access to the site and no vehicle parking is proposed. Riders are expected to utilise on-street parking nearby the entrances or walk from elsewhere in Hanmer Springs. The Flyride has a maximum capacity limit of 60 persons per hour and tickets will predominately be sold online with no manned ticket booth available on-site.

Review of Parking Assessment

11. I have reviewed the Parking Assessment report prepared by Novo Group dated May 2021.

Existing Demand and Survey Methodology

12. The Novo Group parking assessment evaluated the existing parking demand by conducting a parking survey along the streets shown in **Figure 1**



Figure 1 Novo Group Survey Limits (Source: Novo Group Parking Assessment)

13. The survey provides an indication of existing demand on key streets needed for on-street parking for Conical Hill. I note that there are other nearby streets that support parking for Conical Hill including Lucas Lane, Alpine Avenue, and Conical Hill Road further south.
14. The survey was conducted on Saturday, 24 April 2021 between 11am and 2pm during the school holidays and part of the ANZAC day long weekend. The number of visitors on the survey date at the Hammer Springs Thermal Pools was 140% greater than the average weekend day over the year. I consider the date chosen for the parking survey is broadly representative of peak parking demand.
15. However, at this time the borders to New Zealand were closed due to COVID-19. Therefore, it is difficult to assess potential parking demand when this restriction is removed, however according to the Novo Group report only “a limited number of properties” were available for booking.
16. The existing peak parking demand was 20 vehicles spread around the centrally surveyed streets, and four vehicles on Acheron Heights shown diagrammatically in **Figure 2**.

Parking Demand

17. The Novo Group parking assessment assumes an average 90-minute visit time, including a 30-minute walk up the hill and a 15-minute safety briefing and that riders who drive to the site will arrive in cars with at least two riders. I consider these assumptions to be appropriate based on the operation of the activity, and the appeal to groups and families.
18. Using the above assumptions, if 50% of riders drive to the site, 23 vehicles are expected, and if 75% of riders drive (sensitivity test), 34 vehicles are expected. I acknowledge these estimates are appropriate and note that

this assumes the Flyride activity is operating at peak operating rate of 60 riders per hour with two riders per vehicle, providing a conservatively high assessment of parking demand.

19. I have illustrated the parking supply and projected peak demand in **Figure 2** to demonstrate the parking spaces that will be occupied first. The blue vehicles demonstrate the base demand and red vehicles show the impact of adding a further 34 parked vehicles when the Flyride is operating at full capacity and the higher 75% drive mode share.



Figure 2 Parking Supply and Demand Map

20. I have acknowledged riders may instead park on other nearby streets such as Acheron Heights and Lucas Lane. Within Table 4 of the Novo Group Report Acheron Heights was surveyed to have a peak vehicle occupancy of four and a capacity of 26, resulting in a spare capacity of 22. Demand on Acheron Heights in particular has the potential to increase with the proposed activity, and this is a matter I return to later in addressing submissions.
21. Parking on Lucas Lane was not surveyed by Novo Group. The road is unsealed making it less desirable for riders to park there and services the Lucas Lane Walkway. I acknowledge that the walkway links to Conical Hill, however since it is not the most direct route it is somewhat less likely to be used by riders. I also return to this matter in addressing submissions.

Plan Compliance

22. I have assessed the proposal against the rules of the operative Hurunui District Plan within Chapter 8 - Transportation, dated 6 July 2020. The proposal is non-compliant with Rule 8.4.3.5 On-site Parking Standards due to a shortfall of parking spaces as shown in the table below.

Transport rule in the District Plan	Complies	Notes
Chapter 8 – Transportation		
8.4.3.5 On-site Parking Standards – Minimum Requirement <i>(i) Where an activity falls under the definition of more than one activity, then the higher parking requirement will apply.</i> <i>Turnover: 1 per 4 licensed or design visitor capacity (whichever is the greater). Plus 1 per 2 employees.</i>	No	60 hourly visitors / 4 + 2 = 17 parking spaces <i>No on-site parking is proposed. The application does not meet the requirements of this rule.</i>

23. I have assessed the adverse transport effects to determine the extent caused by the parking shortfall. The outcomes of my review are summarised under the safety, parking supply and operation headings below.

Safety

24. I have considered the crash assessment prepared as part of the parking assessment which presents crash history in the local vicinity. Whilst this is a generally appropriate means of assessment, I have identified several additional concerns that are not highlighted by crash data.
25. I consider that the absence of a give way control at the Conical Hill Road and Thomas Hanmer Drive intersection, coupled with the close proximity of the driveway at 84-86 Conical Hill Road may give rise to confusion with respect to vehicles yielding at this intersection. I acknowledged that there have been no crashes identified in the past five years at this location, however the potential for conflict may be exacerbated by the increased numbers of vehicles turning and crossing pedestrians associated with the Flyride activity, without dedicated crossing infrastructure.
26. I have further identified that there is no footpath on the west side of Conical Hill Road or a designated crossing location on Conical Hill Road to access the footpath on the east side of the corridor. Visitors who park on Thomas Hanmer Drive will need to cross Conical Hill Road and may choose to do so at a variety of locations at or near the intersection including potentially in the path of manoeuvring vehicles and/or where there is limited visibility.
27. I recommend that a formal crossing facility is be installed to provide for safe pedestrian movement across Conical Hill Road on the south side of Thomas Hanmer Drive. This is important to provide connectivity to the walking network for the occupants of vehicles parking along Thomas Hanmer Drive associated with the Flyride activity.

Parking Supply

28. The walking distance from the furthest parked vehicle (in red) shown in **Figure 2** to the main Conical Hill entrance is approximately 150 metres based on the 75% vehicle mode share. Based on a typical walk speed of

1.2 ms⁻¹ this equates to up to a two minute walk. I consider that this is an appropriate access distance to walk to the entrance and is unlikely to result in adverse effects such as unnecessary parking circulation, non-compliant parking and associated congestion.

29. From a parking supply perspective, I think the extent of reliance on the current on-street parking supply is generally acceptable, however there is a risk that parking demands will exceed those shown in the Novo Group assessment at peak times. Should there be a substantial increase in parking demand and corresponding walk access times, I consider the likelihood of adverse effects would increase.
30. I recommend that the parking occupancy on local streets adjacent to the Flyride activity be monitored to provide an assessment of the extent to which additional parking is required beyond the 150 metres calculated. It is proposed to undertake monitoring twice yearly coinciding with school holidays and/or public holidays within the first two years of operation such that any parking shortfalls would be identified in a timely manner. I further recommend monitoring of parking in a school holiday or public holiday weekend prior to the activity opening as a baseline.

Operation

31. I acknowledge that the turnarounds at Oregon Heights and Acheron Heights will be able to handle the additional traffic and note that Thomas Hanmer Drive does not yet have a turnaround constructed. It is likely that drivers parking there will U-turn at the intersection with Kereru Rise. A further assessment of the widths of these corridors is addressed later in submissions in relation to fire and emergency vehicle access.

Matters raised in submissions

32. I have addressed the transport-related submissions with my responses grouped into topics to assist in providing a comprehensive response. A total of 55 submissions were received, with 42 referring to transportation issues. I will only be addressing the transportation issues raised in the 42 submissions.

Supporting Submissions

33. Submissions 8, 18 and 34 supported the proposal to utilise existing on-street parking, and submissions 23 and #39 supported the proposal if parking availability is reviewed after the Flyride opens. Submissions 23 and 39 noted that currently there is a high proportion of visitors to Conical Hill choose to walk there, and that walking to activities in general is very common in Hanmer Springs. Submission #8 noted the current high availability of on-street parking and mentioned an existing car park in town that is currently underutilised.

Lack of Parking

34. Submissions 2, 4-5, 9, 12-14, 17, 19, 25, 27, 31, 41-43 and 55 expressed concern as to the lack of parking included in the proposal. Submissions 1 3 10, 20-22, 24, 28, 40, 44-45, 49-50, 53 and 54 noted the current low availability of on-street parking. Submissions 2, 11, 16, 32 and 33 suggested that the spare parking capacity had been overestimated in the Novo Group Parking Assessment.
35. I reiterate that at the time of writing I have been unable to undertake a site visit, therefore my assessment of the parking proposal is reliant on the applicant's parking survey. This was carried out on a long weekend during the

school holidays, so is likely to have captured one of the busier periods in Hanmer Springs. Based on this, I would expect this to be representative and for there to be plenty of parking available for Flyride users on an average day, however there is a risk that with travel restrictions due to COVID-19 the typical peak parking demands may be greater.

- 36. Due to the uncertainty relating to parking I have recommended that monitoring be undertaken of the extent of parking on local streets as stated in paragraph 30.

Congestion

- 37. Submission 52 was specifically concerned about congestion on the local roads. The maximum hourly demand for the activity is 60 people. Based on a likely maximum 75% car mode share and two riders per vehicle the total increase in traffic movements would be 22-23 vehicles per hour which is a little over one vehicle movement every three minutes in each direction. It is my view that this level of additional traffic is well within the capacity of the local roads.

- 38. Additional manoeuvring may likely be required as vehicles negotiate in and out of on street parks, or circulating among local streets if on street parking is unavailable, which would result in intermittent and localised congestion.

Alternative Accesses to Flyride

- 39. Submissions 1, 9 and 19 were from property owners on Oregon Heights who expressed concerns that riders would utilise the private section of Oregon Heights to park and then use a private path (shown in red in **Figure 3**) to access the Flyride.



Figure 3 Private Oregon Heights

- 40. As a mitigation measure, I recommend wayfinding be installed to prevent the unauthorised entry into this private lane and provide suitable information as to the site's entry location.

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41. Submissions #13 and #27 expressed concerns that Lucas Lane in its current condition would not be able to support additional traffic accessing the Flyride and suggested that the road should be sealed.
 42. I recommend the wayfinding be extended to Lucas Lane to discourage its use. I acknowledge the track provides access to Conical Hill, however this track I consider to be less desirable as it is not as direct a route to access the activity.
 43. Submission 16 observed increased use of Acheron Heights to access Conical Hill and stated *“A pedestrian counter has been installed to count the number of people using the access. A total of 754 people walked past the counter in a 11-day period. Given Hanmer Springs has a permanent population of approximately 1,000, this would indicate, should Novo Group’s data be relied upon, that 75% of the population have used this access in an 11-day period. The Novo Group assessment is incorrect based on actual counts. Visitor’s cars regularly access the hillside streets and visitors do drive to the end of Acheron Heights to access the walkway.”*
 44. As I have not had the opportunity to undertake a site visit prior to preparing this brief of evidence I have relied on Novo Group’s assessment but will revisit this matter prior to the hearing. However, the monitoring recommended in paragraph 30 should ideally extend to consideration of Acheron Heights.

Parking on Private Property

45. Six submissions expressed concerns that Flyride users would park on or walk through private property to access the Flyride.
46. Submissions 4 and 55 raised more general concerns about parking on driveways and private properties on the hillside streets.
47. Submission 24 expressed concerns around Flyride users parking in carparks that are meant for other businesses, such as the Mini Golf on Conical Hill Rd.
48. The concerns raised in these submissions may indeed be valid if the extent of parking demand were to substantially exceed the levels estimated in the Novo Group assessment and shown in Figure 2 of this statement. The monitoring recommended in paragraph 30 is intended to establish whether effects would be worse than those stated and may lead to non-compliant parking behaviour or use parking intended for other activities.

Inadequacy of Proposed Conditions

49. Submissions 11 and 16 expressed concern that the draft condition to review parking issues in two years does not adequately address the issues expected to be caused by the application. They requested that the review condition period be shortened, as impacts on residents will be immediate.
50. I agree and have proposed a formal monitoring condition be included in the application as outlined in paragraph 30.

Emergency Vehicle Access

51. Seven submissions mentioned concerns that having vehicles parked on both sides of the roads below Conical Hill will restrict access for fire trucks and other emergency vehicles (submissions #10, #11, #16, #42, #44, #50 and #53).
52. According to Fire and Emergency New Zealand's guidelines , the maximum overall width of a Fire and Emergency appliance is 2.5m however a minimum of 4m carriageway width is required is required as shown in Figure 4.

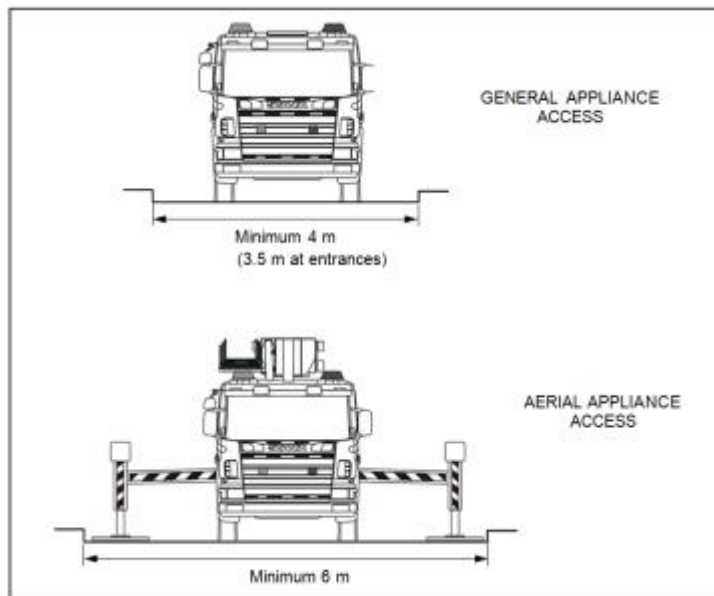


Figure 4 Minimum carriageway width from FENZ guidelines (fig 1)

53. The 85th%ile vehicle width in the Australian New Zealand Standard (ASNZS) 2890.2004 is 1.87m but acknowledging that vehicle may not park flush with the curve I consider that an 8m wide corridor is required to provided sufficient clearance for Fire and Emergency vehicles if cars are parked on both sides of the corridor.
54. I have undertaken measurements using online aerial photography and established that the existing carriageway widths on Conical Hill Road, Thomas Hanmer Drive, and Chalet Crescent are greater than 8m. The local roads where cars associated with the Flywire may park on both sides of the road which are deficient are Oregon Heights and Acheron Heights, where I have measured the carriageway widths to generally be between 7.2m and 7.8m. I note that Oregon Heights has No Stopping At All Times (NSAAT) lines installed on the south side of the corridor however if vehicles were parked on both sides of Acheron Heights this would leave less than 4m clear for emergency vehicles.
55. I understand from Ms Bewley that a submitter recently requested to the Hanmer Springs Community Board at the recent August meeting that NSAAT lines be painted along Acheron Heights due to concerns regarding emergency vehicle access. I understand this request will be investigated further by the Community Board.
56. The narrow road width and parking demands are clearly an existing issue restricting access to emergency vehicles however I note the Novo Group survey only identified four vehicles parked on Acheron Heights. I intend to undertake my own observations prior to the hearing to better understand the parking demand at this location and extent to which emergency vehicle access may be compromised.

57. However, I consider that this is an issue which may be exacerbated by additional parking demand associated with the Flyride activity. Given this increased risk, it is recommended that the parking monitoring proposed be extended to Acheron Heights to ensure that vehicles associated with the activity are not encroaching beyond the cul-de-sac head along both sides of the corridor. Should this be the case then it is recommended that wayfinding be installed to reinforce that access to the Flyride activity is via Conical Hill Road. If this were the case I would further recommend that parking is restricted to one side of the road on Acheron Heights although I note this is a matter for the Community Board and not for the applicant.

Grit Truck Access

58. Submissions #11, #16, #33 and #42 noted that the hillside roads often get frosty and icy in winter and were concerned that contractors may not be able to reach the higher areas to spread grit if there are too many parked vehicles.
59. I do not expect this to be an issue as the proposed winter operating hours for the Flyride are 10am to 6pm, so grit spreading trucks are likely to be finished on the hillside before customers start arriving for 10am rides.

Pedestrian/Vehicle Conflicts at Access Points

60. Submission 16 raised concerns around the safety of pedestrians accessing the Flyride from Acheron Heights as pedestrian volumes increase. The access is a shared driveway which is also used by vehicles accessing the neighbouring property at 32 Acheron Heights. The property owner expressed concerns about possible conflicts between pedestrians and vehicles if large volumes of pedestrians start to use this access.
- a. I expect most Flyride customers will use the main entrance from Conical Hill Rd, as this is a more direct route from town. I do not expect pedestrian volumes through the Acheron Heights access to increase significantly but as noted previously this can be reinforced through wayfinding.
 - b. I have extracted crash data for this site for five years from 2016 to 2020 from Waka Kotahi's Crash Analysis System (CAS). There were no recorded crashes on Acheron Heights during this time.
 - c. As there are no recorded crashes in this location and pedestrian volumes are not expected to increase substantially, I consider that it is unlikely that there will be any issues with pedestrian/vehicle conflicts at the Acheron Heights access.
61. Submission 20 expressed concerns around pedestrian safety at the Conical Hill Rd access as both pedestrian and vehicle volumes increase. The main entrance to the Conical Hill Walkway is on the corner of Oregon Heights and Conical Hill Rd. The walkway adjoins a shared driveway which provides access to two properties. Along the lower part of Oregon Heights, there is only a footpath on one side of the road, and this is raised on a bank above the road. People parking in this area must walk along the road to access the footpath.
- a. I have extracted crash data for this site for five years from 2016 to 2020 from Waka Kotahi's Crash Analysis System (CAS). There were two non-injury crashes on the corner of Oregon Heights and Conical Hill Rd. These were both loss of control crashes with no pedestrians involved.

- b. I understand that Council have designed improvements to the entrance to Conical Hill for pedestrians and they are intended to be constructed in the current financial year. A design drawing is included as **Figure 5** and shows the existing pedestrian footpath to be extended on the north side of the corridor adjacent to the kerbside with a ramp approaching the start of the walkway from the west. This will improve access for pedestrians and provides a footpath for the majority of vehicles parked adjacent to the kerb.



Figure 5 Conical Hill Pedestrian Access Improvements

- c. These improvements are included in the Hurunui District Long Term Plan (LTP) 2021-31 (refer section 8.9.1 of LTP) and are programmed for year 1 (2021/22). I recommend that these improvements are in place prior to the Flywire activity being open to the public which will improve the safety and accessibility of Conical Hill for pedestrians.

Conclusions

62. I have reviewed the Flyride car parking assessment and wider application and considered submissions on the application. The parking assessment is considered to be generally satisfactory however there are several areas of uncertainty in relation to the parking assessment, These include the current level of parking demand whilst New Zealand is under travel restrictions, the vehicle mode share for visitors and the extent of use of the various accesses to the reserve.

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63. I have concluded that the proposal does not comply with Hurunui District Plan 8.4.3.5 On-site Parking Standards as no on-site parking is proposed. This non-compliance has been assessed and a review of the effects of relying on on-street parking has been completed.
64. Any traffic effects associated with the proposal are considered acceptable subject to addressing the following:
- a. Monitoring of on street parking associated with the Flyride activity to be undertaken by an independent suitably qualified transportation engineer before the attraction opens (as a baseline) and twice annually for two years after opening, and to coincide with a school or public holiday weekend. Should the extent of parking activity be substantially greater than that identified in the parking assessment, then Council and the applicant should agree on what constitutes an adverse effect, how this can be mitigated and capture this within the wording of a condition of consent.
 - b. Monitoring should extend to the extent of parking associated with the activity on Acheron Heights. Should parking demand extend to both sides of the corridor such that vehicles potentially impede Emergency and Fire Appliances access then the applicant should work with Council to install No Stopping At All Times (NSAAT) markings on one side of Acheron Heights or agree on other suitable mitigation including the implementation of wayfinding.
 - c. A formal crossing facility should be installed to provide for safe pedestrian movement across Conical Hill Road on the south side of Thomas Hanmer Drive. The specific location, form and design of the crossing should be agreed and approved by Council.
 - d. It is recommended that pedestrian improvements to the Conical Hill access (programmed to be delivered by Council in 2021/22 financial year) be completed prior to the Flywire activity being open to the public which will improve the safety and accessibility of Conical Hill for pedestrians.
 - e. It is recommended that a Wayfinding Plan be prepared including signage to encourage the use of the Conical Hill access for Flyride activity visitors, coupled with signage to discourage the use of private accessways, Lucas Lane and Acheron Heights.

Dave Smith

15 September 2021

ATTACHMENT A Hurunui District Plan Parking Rules Assessment

65. Transport rule in the District Plan	Complies	Notes
Chapter 8 – Transportation		
<p>8.4.3.5 On-site Parking Standards – Minimum Requirement</p> <p><i>(i) Where an activity falls under the definition of more than one activity, then the higher parking requirement will apply.</i></p> <p><i>Turnover:</i></p> <p>1 per 4 licensed or design visitor capacity (whichever is the greater). Plus 1 per 2 employees.</p>	No	<p>60 hourly visitors / 4 + 2 = 17 parking spaces</p> <p><i>No on-site parking is proposed. The application does not meet the requirements of this rule.</i></p> <p><i>Refer to the Assessment of Transport Effects for discussion.</i></p>