
Tuesday, 3 August 2021

Te Hui o Te Kaunihera ā-Rohe o Heretaunga
Hastings District Council
Strategy and Policy Committee Meeting

Kaupapataka

Open Attachments – Volume 1

Te Rā Hui:
Meeting date: **Tuesday, 3 August 2021**

Te Wā:
Time: **1.00pm**

Te Wāhi:
Venue: **Council Chamber
Ground Floor
Civic Administration Building
Lyndon Road East
Hastings**

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HASTINGS DISTRICT COUNCIL
207 Lyndon Road East, Hastings 4122 | Private Bag 9002, Hastings 4156
Phone **06 871 5000** | www.hastingsdc.govt.nz
TE KAUNIHERA Ā-ROHE O HERETAUNGA

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Tuesday, 15 June 2021

Te Hui o Te Kaitiaki o Te Kaitiaki o Heretaunga

Hastings District Council: District Development Subcommittee

Te Rārangī Take

Report to District Development Subcommittee

Nā:
From: Marius van Niekerk, Transportation Asset Manager

Te Take:
Subject: Accessing Te Mata Peak Corridor Management Plan

1.0 Executive Summary – *Te Kaupapa Me Te Whakarāpopototanga*

The purpose of this report is to obtain a recommendation for approval to adopt the recommendations contained in the Accessing Te Mata Peak Corridor Management Plan (CMP) Version C which is attached to this report as Attachment 1.

- 1.2 This report contributes to the achievements of the Council Community Outcomes and specific Council Objectives as set out in the Long Term Plan (LTP) 2018/2028 namely an accessible range of safe transport options.
- 1.3 This request arises from the need to set the long term strategic vision for this section of the transport network, considering both land use and transport demands. The key outputs of the CMP process are to create an integrated transport and land use strategy and an associated phased implementation plan that will outline how the corridor will respond to changes in the wider transport and land use demands over the next 30 plus years.
- 1.4 The CMP is essentially a toolbox of measures/strategic responses that can be considered for use by Council to manage future access on the corridor. Some of these are operational in nature and can be implemented through existing maintenance contracts. These include developing a traffic monitoring framework that would enable a better understanding of traffic volumes and growth over time. Other responses are more strategic/longer term in nature and would be implemented where warranted by the traffic monitoring programme. These may include further engagement/consultation with users of the park and the local community at the time of implementation.
- 1.5 The Council is required to give effect to the purpose of local Government as set out in section 10 of the Local Government Act 2002. That purpose is to enable and promote the social, economic, environmental and cultural wellbeing of communities in the present and for the future.

<File No. 21/330>

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- 1.6 This report concludes by recommending the District Development Subcommittee recommends to The Strategy And Policy Committee, approval of the CMP for Accessing Te Mata Peak which includes:

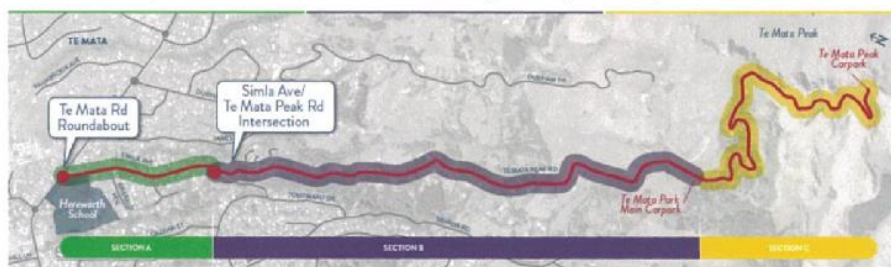
- **Te Mata Peak Road** from the main gates at the entrance to Te Mata Peak Park at the northern extent to the summit car park at its southern extent and
- **Tauroa Road** from the Hikanui Drive intersection on its northern extent to the Chambers Walk car park on its southern extent.

2.0 Recommendations - Ngā Tūtohunga

- A) That the District Development Subcommittee receive the report titled Accessing Te Mata Peak Corridor Management Plan dated 15 June 2021.
- B) That the District Development Subcommittee recommends to the Strategy and Policy Committee approval of the Accessing Te Mata Peak Corridor Management Plan Version C which includes;
- **Te Mata Peak Road** from the main gates at the entrance to Te Mata Peak Park at the northern extent to the summit car park on its southern extent and
 - **Tauroa Road** from the Hikanui Drive intersection on its northern extent to the Chambers Walk car park on its southern extent.

3.0 Background – Te Horopaki

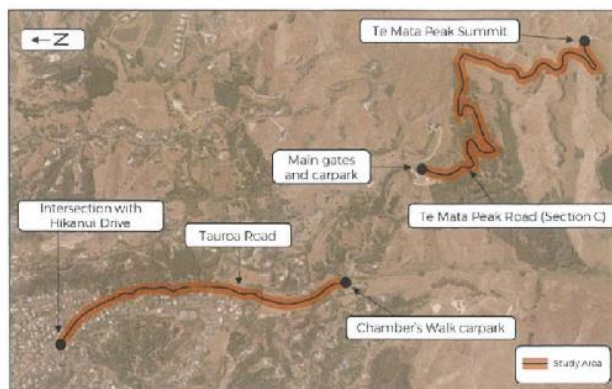
- 3.1 The Simla Avenue/Te Mata Peak Road Corridor management plan Study Area is shown below.



- 3.2 The Simla Avenue and Te Mata Peak Road Corridor Management Plan was approved by Council on the 27 June 2019 with the following resolutions:

- A) That the Council adopt the Simla Avenue – Te Mata Peak Corridor management Plan for Sections A and B and that community engagement for the Simla Avenue – Te Mata Peak Corridor Management Plan be concluded with a presentation highlighting the findings of the Corridor Management Plan for sections A and B.
- B) That the Council approve sections A and B of the Simla Avenue - Te Mata Peak Corridor Management Plan and that officers proceed with a separate Corridor Management Plan for section C as a separate business case with an increased scope to include all access routes to Te Mata Park.

- 3.3 The CMP for Section C is titled Accessing Te Mata Peak. The scope of the CMP includes Tauroa Road from the intersection with Hikanui Drive.



Locality plan showing the extents of the roads included in the Accessing Te Mata Peak CMP

- 3.4 Te Mata Peak Road and the section of Tauroa Road are identified as secondary collector roads within the One Network Road Classification (ONRC). The portion of Tauroa Road south of the intersection with Tauroa Valley Road is identified as an access road in the ONRC.
- 3.5 Te Mata Peak Road within the Te Mata Peak Park provides vehicle access to Te Mata Peak House, the Saddle carpark overlooking the Craggy Range Winery and the Summit car park.
- 3.6 Tauroa Road provides general residential property access within the urbanised section of the road. From Tokomaru Drive intersection the general aspect is more rural in nature with fewer properties and the road ends at the Chambers Walk car park.
- 3.7 The mix of traffic along the corridors consists of tourist traffic visiting Te Mata Peak and a mix of recreational/active use traffic consisting of walking, cycling and motor vehicle traffic.
- 3.8 There is currently provision for tourist buses to access Te Mata Peak Park summit under a traffic management plan.
- 3.9 The scope of the CMP is to evaluate the performance of the existing roads in terms of access, parking, people and freight movement and safety.
- 3.10 The process adopted to thoroughly study the corridor can be summarised as follows:
 - Data collection through stakeholder and public engagement
 - Identification of problems and issues
 - Provide an outline for the recommended solutions and proposed phased implementation plan.
- 3.11 For further details regarding the road environment along the route please refer to the attached CMP Report.

4.0 Discussion – Te Matapakitanga

- 4.1 An Investment Logic Mapping (ILM) workshop was held with stakeholders on the 26 August 2019. The minutes of this workshop are attached as Appendix B. At this meeting the stakeholders agreed the following three problem statements:
 - **Problem 1:** Challenging corridor characteristics and increasing corridor use is compromising safety (50%)
 - **Problem 2:** Increasing corridor demands are leading to conflicts and reduced user experience (40%)

- **Problem 3:** Deteriorating road asset condition is resulting in a reduced level of service (10%)
- 4.2 A long list of options was generated by the ILM stakeholder workshop to identify any interventions that may address the problems and achieve the benefits identified through the ILM process. The long list of options are attached as Appendix D to the CMP. The detailed option assessment developed to further identify benefits, constraints and dependencies for each option is attached as Appendix E to the CMP.
- 4.3 The outcome of the option assessment was used to develop recommended route strategies for each of the two routes.
- 4.4 The recommended route strategy for Te Mata Peak Road is shown in table 4-5 of the CMP and is shown below in the Option 1 discussion for reference (5.5 Table 1 – Te Mata Peak Road Route Strategy).
- 4.5 The recommended route strategy for Tauroa Road is shown in table 5-7 of the CMP and is shown below in the Option 1 discussion for reference (5.7 Table 2 – Tauroa Road Route Strategy).
- 4.6 The draft CMP findings were discussed with the District Development Subcommittee on 9 February 2021. The Subcommittee requested a workshop with the stakeholders to provide feedback on the findings of the CMP.
- 4.7 The stakeholder feedback workshop was held on 20 April 2021.

5.0 Options – Ngā Kōwhiringa

5.1 Option 1 – Adopt the CMP:

- 5.2 The CMP have been developed following extensive stakeholder consultation including work previously undertaken during the development of the Simla Avenue - Te Mata Peak Road CMP.
- 5.3 The CMP compiles route strategies for Te Mata Peak and Tauroa Road by summarising the issues and constraints for each. The strategy outlines a range of potential corridor wide engineering improvements:

5.4 Te Mata Peak Road:

- Enhancements to the roadside environment that seek to manage and/or mitigate current risks and issues under existing operating conditions, including pedestrian access improvements, roadside enhancements and speed limit changes and
- Longer term access options primarily focused on controlling vehicle access as a response to both operational and safety concerns identified within the strategic case

5.5 Table 1 – Te Mata Peak Road Route Strategy:

Strategic Theme	Recommended Interventions
Policy and Planning	
Monitoring Access Demand	Undertake regular modelling of multi-modal access demands (i.e. pedestrians, cyclists and traffic) and parking demands to guide urgency and need for identified long-term improvements.
User Surveys	In co-ordination with Te Mata Peak Trust, undertake regular user surveys to establish the effectiveness of proposals/treatments in responding to identified user concerns.
Safety Monitoring	Undertake a regular review of crash history to monitor the impacts of safety improvements (once installed) and ensure that HDC / Te Mata Peak Trust can respond to any emerging future issues.
Road Rehabilitation and Renewals	Ensure that maintenance and road surfacing improvements are undertaken in accordance with HDC's asset management plan.
Line Marking Renewals	Ensure regular maintenance is undertaken of existing and future delineation to ensure it is maintained to the required standards.
Site Specific Treatments	

Strategic Theme	Recommended Interventions
Pedestrian Crossing Improvements	Identify appropriate locations between the Te Mata Peak main gates and the Te Mata Peak Summit car park for enhanced pedestrian crossings (e.g. Peak House, the Saddle) to increase safety and experience for trail users Monitor other trail interactions to ensure appropriate improvements are made to increase safety and experience of trail users as demand warrants
Parking	Consider formalising existing parking arrangements outside of Peak House (i.e. provide hard standing, marked spaces and signposted facilities) to provide additional parking capacity and support access demands within the Park.
Entrance Signage	Consider providing additional signage at the main entrance to reinforce the presence of vulnerable road users, existing (and future) vehicle access restrictions and challenging roadside conditions.
Speed Control Devices	Consider appropriate locations between the Te Mata Peak main gates and the Te Mata Peak Summit car park for speed management devices in key areas (ensure clear passage for cyclists)
Corridor Wide Treatments	
Speed Limit Review	Implementing a posted speed limit of 20km/hr on Te Mata Peak Road between the Main Gates Carpark and the summit
Shared Zone	Identify area(s) between the Te Mata Peak main gates and the Te Mata Peak Summit car park where shared zone(s) can be established, where space is shared safely by vehicles and pedestrians and where pedestrian priority and quality of life take precedence
Signage Strategy	Develop a signage strategy for Te Mata Peak Road to review the suitability, legibility and clarity of existing and proposed future signage on Te Mata Peak Road.
Road Marking and Delineation	Consider directional arrows or "keep left" signage to reinforce lane discipline. Review wider implementation of road markings that support a low speed environment that provide a consistent message to drivers on approaches to hazards, such as transverse road markings.
Night Time Access Restrictions	Review existing night-time restrictions so that closures occur earlier during the winter months to avoid concerns relating to user safety and antisocial behaviour. Investigate potential for relocating barriers to main gates area to fully restrict unauthorised vehicle access outside of daylight hours.
Large Vehicle Access	Consider extending the existing large vehicle access restrictions along the full extent of Te Mata Peak Road (south of the main gates carpark), or provide additional signage at the main gates to re-enforce existing restrictions to the summit for large vehicles.
Access Restriction	Consider longer-term access restrictions in co-ordination with relevant organisations and interest groups to manage growing conflicts, safety concerns and operation issues on Te Mata Peak Road within the vicinity of the Park. Investigate options to manage access demands by motorised vehicles to mitigate the wider impacts of proposed access controls.

5.6 Tauroa Road:

- General policy, planning and operational recommendations that apply to the future management of the corridor.
- Options for enhancing the safety for pedestrians and cyclists both with urban and rural sections of the corridor.
- Options for enhancing the existing roadside environment to improve legibility and safety, including intersection improvements, road delineation and improvements to low radius curves.
- Enhancements to the corridor south of Tauroa Valley Road that respond to growing access demands into the park via Chambers walk

5.7 Table 2 – Tauroa Road Route Strategy:

Strategic Theme	Recommended Interventions
Policy and Planning	
Access Management	Ensure access to new developments / subdivisions are in suitable locations that adhere to engineering standards requirements.
Vegetation Management	Ensure a regular programme of vegetation removal is undertaken as part of planned maintenance work, focusing on sections narrow sections of Tauroa Road where operational widths are impacting by overgrowth.
Tauroa Reserve	Encourage the development of new pedestrian and cycle tracks through Tauroa Reserve to provide additional leisure and recreational activities.
Site Specific Treatments	
Speed Control Devices	Retain speed cushions on road corridor until such a time that wider safety enhancements (i.e. curve enhancements and improvements for active modes) are completed.
Aotea Crescent Intersection	Implement intersection controls (including limit lines and continuity lines) on Aotea Crescent. Implement parking restrictions in the vicinity of the intersection. Investigate options for enhancing pedestrian access across the intersection (i.e. kerb extensions or pedestrian refuges)
Tokomaru Drive Intersection	Implement parking restrictions in the vicinity of the intersection. Consider implementing intersection controls (limit lines) on Tokomaru Drive.
Access to 132-142 Tauroa Road	Implement parking restrictions in the vicinity of the intersection. Consider implementing intersection controls (limit lines) on accessway. Restrict development adjacent to accessway to maintain clear sight lines to the south. Provide concealed entrance warning signage on Tauroa Road for northbound vehicles.
Tauroa Valley Road Intersection	Implement parking restrictions near the intersection (in co-ordination with wider enhancements to Chambers Walk carpark).
Low-Radius Curves	Short-Term Continue use of speed cushions to reduce speed and raise awareness of low-radius. Installation of appropriate low-cost curve enhancing countermeasures to raise awareness of local low-radius curves on the corridor Long-Term Monitor performance of proposed short-term countermeasures to establish effectiveness Investigate options for realigning road corridor through RP 0.700 to 1.200 in co-ordination with wider maintenance improvements (i.e. replacement of retaining walls)
Chambers Walk Carpark (Tauroa Valley Road to Road Terminus)	Provide additional on-street parking on the western side of Tauroa Road between Tauroa Valley Road and the existing carpark. Control errant parking through restrictions on eastern side of Tauroa Road and at vehicle accesses to adjacent land-uses. Reduce posted speeds (suggest 20km/hr or lower) south of Tauroa Valley Road to support low-speed environment through carpark area.
Corridor Wide Treatments	
Footpath Improvements (Urban)	Implement minor pedestrian improvements that enhance accessibility at key intersections with Tauroa Road (i.e. drop kerbs). Formalise pedestrian and cycling connections between Tauroa Road and existing pedestrian tracks into/through Tauroa Reserve. Where feasible, upgrade existing footpaths to ensure a desired minimum width of 1.5m is achieved.
Active Mode Improvements (Rural)	Investigate options to improve / enhance alternative access options for pedestrians and cyclists through Tauroa Reserve. Progress with the development of pedestrian and cycling boardwalk adjacent to Tauroa Road between RP 0.700 and RP 0.900. Consider extending the proposed boardwalk facility through future stages between RP0.900 and RP1.150.

Strategic Theme	Recommended Interventions
	Develop / implement improved signage to raise awareness of the presence of pedestrians and cyclists on Tauroa Road.
Delineation Improvements	Install dashed centreline along full extent of rural sections of Tauroa Road, with edge lines and / or edge markers on sections of route where appropriate. Ensure delineation improvements are maintained regularly to maximise effectiveness. Provide suitable delineation is provided on upgraded sections of Tauroa Road as / when realignment at curves occurs.

- 5.8 The route strategy for each section is essentially a toolbox of measures/strategic responses that can be considered for use by Council to manage future access on the corridor. Some of these are operational in nature and can be implemented through existing maintenance contracts.
- 5.9 These include developing a traffic monitoring framework that would enable a better understanding of traffic volumes and growth over time.
- 5.10 Other responses are more strategic/longer term in nature and would be implemented where warranted by the traffic monitoring programme. These may include further engagement/consultation with users of the park and the local community at the time of implementation.
- 5.11 **Advantages/Disadvantages:**
- 5.12 Implementation of the CMP will deliver on the strategic objectives of Council and the transportation network by providing:
- Accessible range of safe transport options
 - Safe walking and cycling facilities.
- 5.13 Furthermore it will deliver the three vision statements identified by the stakeholders:
- Improved level of service for all transportation modes
 - Improved customer experience
 - Improved safety for all users.
- 5.14 The phased implementation plan will result in corridor improvements and asset renewals where applicable. Any significant improvements not currently included in the ten year LTP will require funding to be considered through the LTP and Annual Plan processes. The recommended interventions for Te Mata Peak Road (Table 4-5 of the CMP) and Tauroa Road (Table 5-7 of the CMP) may have varying implementation timeframes depending on the need for co-ordination and consultation with relevant stakeholders.
- 5.15 A large number of infrastructure responses were considered inappropriate in responding to the problems as major changes to the existing road alignment (such as widening or expanding car parking provisions) requires significant modification to the existing roadside environment. These options would have significant detrimental impacts on the environmental, cultural, and visual landscape of the Park and do not align with the vision and values for Te Mata Peak Park.
- 5.16 There is a further body of work that would be required to set a pathway for general vehicle access restrictions(closing the road to the summit) as there is much to consider around the mitigating of the impacts of closure as well as establishing operational and legal and ownership arrangements. Further engagement with users of the Park and the local community over the concept would also need to be undertaken at the time of implementation.
- 5.17 **Option 2 – Do not adopt the CMP**
- 5.18 Not adopting the CMP will result in the following outcomes:
- Sub-optimal delivery of Council and Transportation network objectives with an inconsistent approach to long term strategic planning.

- The route strategies resulting from stakeholder consultation and engineering assessment cannot be implemented in a co-ordinated fashion and this may result in reduced effectiveness and lost opportunities for enhancing the corridor.
- The efficiency and effectiveness of an uncoordinated approach to resolving the problems identified will lead to reduced problem solving effectiveness and increased overall costs.
- It may present a risk to the future function and performance of the corridor with its varied user groups and will impact on customer experience and safety.

Attachments:

1	Accessing Te Mata Peak Corridor Management Plan	PRJ16-51-0084	Under Separate Cover
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Summary of Considerations - *He Whakarāpopoto Whakaarohanga*

Fit with purpose of Local Government - *E noho hāngai pū ai ki te Rangatōpū-ā-Rohe*

The Council is required to give effect to the purpose of local government as set out in section 10 of the Local Government Act 2002. That purpose is to enable democratic local decision-making and action by (and on behalf of) communities, and to promote the social, economic, environmental, and cultural wellbeing of communities in the present and for the future.

Link to the Council's Community Outcomes – *Ngā Hononga ki Ngā Putanga ā-Hapori*

This proposal promotes positive Social, Environmental and Cultural Wellbeing outcomes regards safe transport and walking outcomes in the CMP catchment.

Māori Impact Statement - *Te Tauākī Kaupapa Māori*

Iwi was consulted throughout the development of the CMP. The CMP also aligns with the Te Mata Peak Park Trust Board vision and future goals. Mana Whenua is represented on the Te Mata Peak Park Trust Board.

Sustainability - *Te Toitūtanga*

The CMP is a Strategic Planning Document with a 30 year timeframe. It provides a framework for future Council decisions to promote sustainable and positive community, cultural and social wellbeing outcomes.

Financial considerations - *Ngā Whakaarohanga Ahumoni*

The phased implementation plan will result in corridor improvements and asset renewals where applicable. Any significant improvements not currently included in the LTP will require funding to be considered through the Annual Plan and LTP process.

Significance and Engagement - *Te Hiranga me te Tūhonotanga*

This decision/report has been assessed under the Council's Significance and Engagement Policy as being of low significance. There has been a high level of engagement with stakeholders and parties having and interest in the CMP.

Risks

REWARD ~ <i>Te Utu</i>	RISK ~ <i>Te Tūraru</i>
Taking a strategic, well researched and consulted approach in developing the CMP is likely to result in higher quality Wellbeing outcomes.	Officers have not identified any significant risks arising from taking a strategic, well researched and consulted approach in developing the CMP.

Report No: 5-P1292.00

Accessing Te Mata Peak Corridor Management Plan

June 2021





Contact Details

Matt Evis

WSP
L4, The Square Centre
478 Main Street
PO Box 1472, PN Central,
Palmerston North 4440
New Zealand

Telephone: +64 6 350 2500
Mobile: +64 21 245 0547

matthew.evis@wsp.com

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Prepared by

A blue ink signature of Matt Evis, written in a cursive style.

Matt Evis

Reviewed by

A black ink signature of Phil Harrison, written in a cursive style.

Phil Harrison

Approved for release by
Campbell Ogilvie



Document History and Status

Revision	Date	Author	Reviewed by	Approved by	Status
A	August 2020	M Evis	P Harrison	C Ogilvie	Draft
B	October 2020	M Evis	P Harrison	C Ogilvie	Draft
C	June 2021	M Evis	P Harrison	C Ogilvie	Final

Revision Details

Revision	Details
A	Draft for client comment
B	Updated draft following client comment
C	Final for Council adoption



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Glossary of Terms

Term	Definition
AADT	Annual Average Daily Traffic
AWPT	Area Wide Pavement Treatment
CAS	Crash Analysis System
CLoS	Customer Levels of Service
CMP	Corridor Management Plan
DSIs	Deaths and Serious Injuries
FAR	Funding Assistance Rating
GPS	Global Positioning System
HDC	Hastings District Council
ILM	Investment Logic Map
LATM	Local Area Traffic Management
LTP	Long Term Plan
MCA	Multiple Criteria Analysis
NZCT	New Zealand Cycle Trail
NZTA	New Zealand Transport Agency
ONRC	One Network Route Classification
RAMM	Road Assessment and Maintenance Management
RP	Route Position
RRPM	Raised Reflective Pavement Markers
TGSI	Tactile Ground Surface Indicators
VPD	Vehicles Per Day

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Disclaimers and Limitations

In preparing the Report, WSP has relied upon data, surveys, analyses, designs, plans and other information ('**Client Data**') provided by or on behalf of the Client. Except as otherwise stated in the Report, WSP has not verified the accuracy or completeness of the Client Data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in this Report are based in whole or part on the Client Data, those conclusions are contingent upon the accuracy and completeness of the Client Data. WSP will not be liable in relation to incorrect conclusions or findings in the Report should any Client Data be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to WSP.

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Executive Summary

WSP was commissioned by Hastings District Council (HDC) to develop a Corridor Management Plan (CMP) for key roads providing access to Te Mata Peak in Havelock North, Hawkes Bay. The purpose of the CMP is to formulate a strategic plan to guide future transport initiatives and management of access roads to the Park. The CMP provides an outline of the need for investment, and the proposed approach for resolving issues or problems identified on the corridor.

The CMP has been developed in collaboration with technical stakeholders from HDC, as well as key local interest groups and the community. The intention is for outputs from the CMP to be used by HDC to identify and support future investment decisions within the road network over the next 30 years.

Study Area

The extent of the road network included within the Accessing Te Mata Peak CMP includes:

- *Te Mata Peak Road*, from the Main Gates Carpark on its northern extent to the Summit car park on its southern extent.
- *Tauroa Road*, from the Hikanui Drive intersection on its northern extent to the Chambers Walk carpark on its southern extent.

The section of corridors included within the CMP is shown within Figure 0-1.

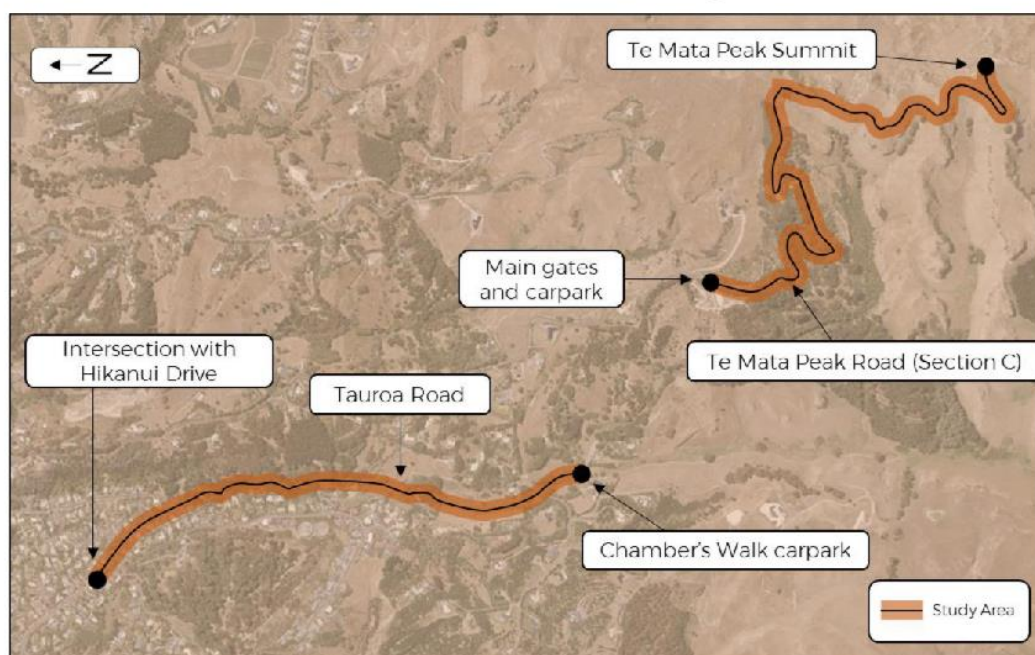


Figure 0-1: Accessing Te Mata Peak CMP Study Area

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Corridor Context

Te Mata Park is located to the south of Havelock North, and is a regionally significant tourist and recreational attraction that is well used by both residents and visitors to the Hawkes Bay area (see Figure 0-2). The Park comprises 108 hectares of leisure and recreational parkland, focused around the summit which rises to approximately 400m above sea level.

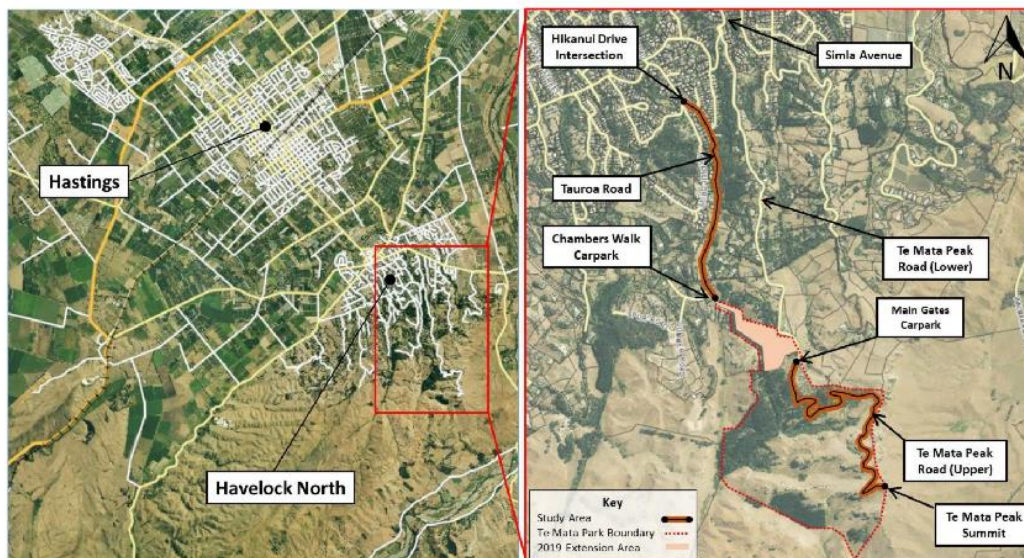


Figure 0-2: Accessing Te Mata Peak Corridor Context

The portion of Te Mata Peak Road included within the study has a winding and challenging alignment that passes along the ridgeline to the peak Summit. Te Mata Peak Road is the only vehicular access to the Park summit. It provides access into the Park for both active and passive recreational activities, as well as providing access to Peak House café.

Tauroa Road is bounded by a range of land-use zones, including urban residential on its northern extent and rural residential, open space/reserves and Te Mata Special character zoning further to the south. Tauroa Road provides vehicle access to recognised rural residential growth areas, as well as to the Park via Chambers Walk, which provides pedestrian and cyclist access into the Park. Sections of Tauroa Road present similar constraints as Te Mata Peak Road, comprising narrow, winding roads with substandard roadside environments that provide minimal facilities for active mode users.

Route Form and Function

Te Mata Peak Road and urbanised sections of Tauroa Road are identified as "secondary collector" roads within the New Zealand Transport Agency's One Road Network Classification (ONRC). The portion of Tauroa Road south of the intersection with Tokomaru Drive is identified as an "access road".

A summary of the road network operational characteristics on both roads is shown on Table 0-1. The general route characteristics indicate that the existing road network generally reflects its form and function as identified within the ONRC road hierarchy.

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Table 0-1: Summary of Local Road Network Characteristics

Road Name	ONRC Classification	AADT (Vehs)	Lanes	Posted Speed
Te Mata Peak Road Summit	Secondary Collector	600 vpd	1-2 lanes	20-40 km/hr
Tauroa Road (North of Tokomaru Dr)	Secondary Collector	1,000 vpd	2 lanes	50 km/hr
Tauroa Road (South of Tokomaru Dr)	Access Road	500 vpd	2 lanes	50 km/hr

Problem Identification

An Investment Logic Mapping (ILM) workshop was held with the key stakeholders on the 26th August 2019. The purpose of the session was to gain a better understanding of the current issues and opportunities along the corridor, with the view to developing and confirming Problem Statements.

Based on the outcomes of the workshop, the following Problem Statements were identified and agreed:

- Problem One:** Challenging corridor characteristics and increasing corridor use is compromising safety (50%)
- Problem Two:** Increasing corridor demands are leading to conflicts and reduced user experiences (40%)
- Problem Three:** Deteriorating road asset condition is resulting in a reduced Level of Service (10%)

A summary of the cause, effects and consequences of the problems on both corridors is outlined in Figure 0-3.

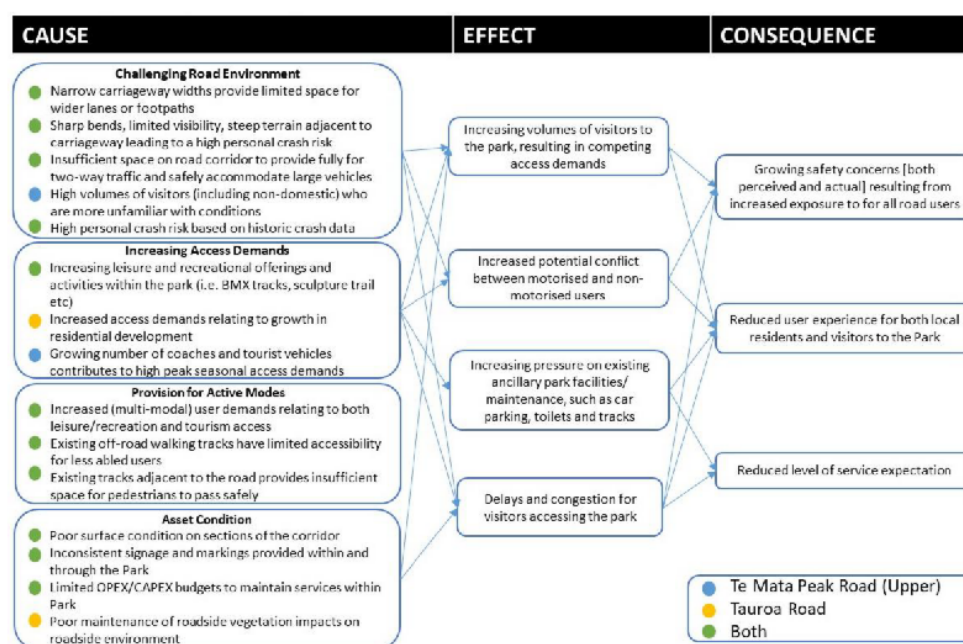


Figure 0-3: Cause, Effect and Consequences of Problems on Te Mata Peak Rd and Tauroa Rd

¹ Based on ADT outlined within the NZTA ONRC mapping tools – accessed 9th October 2018:
<https://nzta.maps.arcgis.com/apps/webappviewer/index.html?id=95fad5204ad243c39d84c37701f614b0>

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The following three benefit statements were identified and confirmed with stakeholders:

- Benefit One: Improved safety [both perceived and actual] for all users (50%);
- Benefit Two: Enhanced experience for all users (40%); and
- Benefit Three: Meet level of service expectations (10%).

Option Identification and Implementation Plan

A range of potential solutions to resolve the identified network deficiencies were investigated and assessed through the CMP process.

Identified improvements range from policy-based recommendations that could be implemented in the short-term to long-term physical works that could be implemented on the corridor in a staged approach to support the safe and efficient operation of both road corridors over the next 30 years.

An implementation plan has been developed that provides an outline of how each of the identified strategic and physical projects could be delivered over the lifetime of the CMP (see Chapter 6). Proposed timeframes for projects are:

- Quick Wins (<1 year);
- Short-term (1-4 years);
- Long-term (5+ Years)

The recommended interventions and proposed timeframes are summarised within Table 0-2 and Table 0-3 for Te Mata Peak Road and Tauroa Road respectively.

Next Steps

Based on the findings of the CMP, it is recommended that:

- The CMP remains a "live" document that is reviewed on a regular basis to ensure the currency of recommendations and capture any emerging issues or network changes;
- HDC investigate opportunities to integrate improvements outlined within the CMP into Future Work Programmes (such as maintenance schedules) to reduce delivery costs, avoid abortive work and minimise community disruption; and
- A traffic monitoring framework is developed to continue to monitor traffic growth and safety trends, to confirm assumptions outlined within the report and identify the need for identified long-term improvements.

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Table 0-2: Te Mata Peak Road Implementation Plan

	Strategic Theme	Recommended Interventions	Timeframe	Report Ref
Te Mata Peak Road	Policy and Planning			
	Monitoring Access Demand	Undertake regular modelling of multi-modal access demands (i.e. pedestrians, cyclists and traffic) and parking demands to guide urgency and need for identified long-term improvements.	On-going	Chapter 6.2
	User Surveys	In co-ordination with Te Mata Peak Trust, undertake regular user surveys to establish the effectiveness of proposals/treatments in responding to identified user concerns.	On-going	Chapter 6.2
	Safety Monitoring	Undertake a regular review of crash history to monitor the impacts of safety improvements (once installed) and ensure that HDC / Te Mata Peak Trust can respond to any emerging future issues.	On-going	Chapter 6.2
	Road Rehabilitation and Renewals	Ensure that maintenance and road surfacing improvements are undertaken in accordance with HDC's asset management plan.	On-going	Chapter 6.2
	Line Marking Renewals	Ensure regular maintenance is undertaken of existing and future delineation to ensure it is maintained to the required standards.	On-going	Chapter 6.2
	Site Specific Treatments			
	Pedestrian Crossings	Identify appropriate locations between the Te Mata Peak main gates and the Te Mata Peak Summit car park for pedestrian crossings (e.g. Peak House, the Saddle) to increase safety and experience for trail users Monitor other trail intersections to ensure appropriate improvements are made to increase safety and experience of trail users as demand warrants	Quick Win On-going	Chapter 4.3.2
	Parking	Consider formalising parking arrangements within Peak House carpark, including suitable surfacing, marking and signage to support current and future access demands.	Short-Term	Chapter 4.3.6
	Entrance Signage	Consider providing additional signage at the main entrance to reinforce the presence of vulnerable road users, existing (and future) vehicle access restrictions and challenging roadside conditions.	Short-Term	Chapter 4.3.1
	Speed Control Devices	Consider appropriate locations between the Te Mata Peak main gates and the Te Mata Peak Summit car park for speed management devices in key areas (ensure clear passage for cyclists)	Short-term	Chapter 4.3.1
	Corridor Wide Treatments			
	Speed Limit Review	Implementing a posted speed limit of 20km/hr on Te Mata Peak Road between the Main Gates Carpark and the summit	Quick-Win	Chapter 4.3.1
	Shared Zone	Identify area(s) between the Te Mata Peak main gates and the Te Mata Peak Summit car park where shared zone(s) can be established, where space is shared safely by vehicles and pedestrians and where pedestrian priority and quality of life take precedence	Short-Term	Chapter 4.3.2
	Signage Strategy	Develop a signage strategy for Te Mata Peak Road to review the suitability, legibility and clarity of existing and proposed future signage on Te Mata Peak Road.	Short-Term	Chapter 4.3.3

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	Strategic Theme	Recommended Interventions	Timeframe	Report Ref
	Road Marking and Delineation	Consider directional arrows or "keep left" signage to reinforce lane discipline. Review wider implementation of road markings that support a low speed environment that provide a consistent message to drivers on approaches to hazards, such as transverse road markings.	Quick Win Quick Win	Chapter 4.3.4
	Night Time Access Restrictions	Review existing night-time restrictions so that closures occur earlier during the winter months to avoid concerns relating to user safety and antisocial behaviour. Consider options for relocating existing barriers to the main gates to restrict unauthorised night time access to the Park.	Quick Win	Chapter 4.3.5
	Large Vehicle Access	Consider extending the existing large vehicle access restrictions along the full extent of Te Mata Peak Road (south of the main gates carpark), or provide additional signage at the main gates to re-enforce existing restrictions to the summit for large vehicles.	Short-Term	Chapter 4.3.5
	Longer Term Access Management Strategy	Consider longer-term access restrictions in co-ordination with relevant organisations and interest groups to manage growing conflicts, safety concerns and operation issues on Te Mata Peak Road within the vicinity of the Park. Investigate options to manage access demands by motorised vehicles to mitigate the wider impacts of proposed access controls.	Long-Term	Chapter 4.4

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Table 0-3: Tauroa Road Implementation Plan

	Strategic Theme	Recommended Interventions	Timeframe	Report Ref.
Tauroa Road	Policy and Planning			
	Access Management	Ensure access to new developments / subdivisions are in suitable locations that adhere to engineering standards requirements.	On-going	Chapter 6.4.1
	Vegetation Management	Ensure a regular programme of vegetation removal is undertaken as part of planned maintenance work, focusing on sections narrow sections of Tauroa Road where operational widths are impacting by overgrowth.	On-going	Chapter 5.4.2
	Tauroa Reserve	Encourage the development of new pedestrian and cycle tracks through Tauroa Reserve to provide additional leisure and recreational activities.	On-going	Chapter 5.8.3
	Site Specific Treatments			
	Speed Control Devices	Retain speed cushions on road corridor until such a time that wider safety enhancements (i.e. curve enhancements and improvements for active modes) are completed.	On-going	Chapter 5.4.3
	Hikanui Drive / Tainui Drive Intersection	Revise existing intersection controls (stop controls) on Tauroa Road (minor approach). Implement parking restrictions in the vicinity of the intersection. Close and consolidate existing intersections on Tainui Drive and Hikanui Drive to form a new (single) priority controlled intersection with Tauroa Road. Provide new footpath connections between Hikanui Drive and Tauroa Road.	Quick-Win Quick-Win Short-Term Short-Term	Chapter 5.7.2
	Aotea Crescent Intersection	Implement intersection controls (including limit lines and continuity lines) on Aotea Crescent. Implement parking restrictions in the vicinity of the intersection. Investigate opportunities to reduce crossing distances for pedestrians at the intersection.	Quick-Win Quick-Win Short-Term	Chapter 5.7.1
	Tokomaru Drive Intersection	Implement parking restrictions in the vicinity of the intersection. Consider implementing intersection controls (limit lines) on Tokomaru Drive.	Quick-Win Quick-Win	Chapter 5.7.1
	Access to 132-142 Tauroa Road	Implement parking restrictions in the vicinity of the intersection. Consider implementing intersection controls (limit lines) on accessway. Restrict development adjacent to accessway to maintain clear sight lines to the south. Provide concealed entrance warning signage on Tauroa Road for northbound vehicles.	Quick-Win Quick-Win On-going Quick-Win	Chapter 5.7.1
	Tauroa Valley Road Intersection	Implement parking restrictions in the vicinity of the intersection (in co-ordination with wider enhancements to Chambers Walk carpark).	Quick-Win	Chapter 5.7.1

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	Strategic Theme	Recommended Interventions	Timeframe	Report Ref.
	Low-Radius Curves	Installation of appropriate low-cost curve enhancing countermeasures to raise awareness of local low-radius curves on the corridor Monitor performance of proposed short-term countermeasures to establish effectiveness Investigate options for realigning road corridor through RP 0.700 to 1.200 in co-ordination with wider maintenance improvements (i.e. replacement of retaining walls)	Short-Term Short-Term Long-Term	Chapter 5.5
	Chambers Walk Carpark (Tauroa Valley Road to Road Terminus)	Provide additional on-street parking on the western side of Tauroa Road between Tauroa Valley Road and the existing carpark. Control errant parking through restrictions on eastern side of Tauroa Road and at vehicle accesses to adjacent land-uses. Reduce posted speeds (suggest 20km/hr or lower) south of Tauroa Valley Road to support low-speed environment through carpark area.	Short-Term Short-Term Short-Term	Chapter 5.9
	Corridor Wide Treatments			
	Footpath Improvements (Urban)	Implement minor pedestrian improvements that enhance accessibility at key intersections with Tauroa Road (i.e. drop kerbs). Formalise pedestrian and cycling connections between Tauroa Road and existing pedestrian tracks into/through Tauroa Reserve. Where feasible, upgrade existing footpaths to ensure a desired minimum width of 1.5m is achieved.	Short-Term Short-Term Short-Term	Chapter 5.8.1
	Active Mode Improvements (Rural)	Investigate options to improve / enhance alternative access options for pedestrians and cyclists through Tauroa Reserve. Progress with the development of pedestrian and cycling boardwalk adjacent to Tauroa Road between RP 0.700 and RP 0.900. Consider extending the proposed boardwalk facility through future stages between RP0.900 and RP1.150. Develop / implement improved signage to raise awareness of the presence of pedestrians and cyclists on Tauroa Road.	Short-Term Short-Term Short-Term Short-Term	Chapter 5.8.2
	Delineation Improvements	Install dashed centreline along full extent of rural sections of Tauroa Road, with edge lines and / or edge markers on sections of route where appropriate. Ensure delineation improvements are maintained regularly to maximise effectiveness. Ensure suitable delineation is provided on upgraded sections of Tauroa Road as / when realignment at curves occurs.	Quick-Win On-going Long-Term	Chapter 5.6

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1 Introduction

WSP was commissioned by Hastings District Council (HDC) to develop a Corridor Management Plan (CMP) for key access routes into and within Te Mata Park ("Park"). The CMP builds upon the Simla Avenue / Te Mata Peak Road CMP (developed in June 2019) to enable a more detailed and holistic assessment of access improvements into and through the Park.

The CMP examines access into the Park via Te Mata Peak Road and Tauroa Road. The intention is that the CMP will help to understand access issues and operational pressures relating to the Park, to then develop a recommended strategic approach and associated implementation plan for resolving these issues.

1.1 Project Purpose

The purpose of the CMP is to guide future transport initiatives within the study area through an assessment of future corridor conditions and access demands. The CMP provides an outline of the need for investment, and the proposed approach for resolving issues or problems identified.

The CMP has been developed in a staged approach, as outlined within the following steps:

- Assess current corridor conditions and existing/future demand for access within the study area, how it is (or will be) expected to perform, what problems currently exist and whether interventions are required to achieve the desired future state (the "Strategic Case");
- Identify constraints and opportunities for implementing improvements to the study area; and where customer expectations, desirable standards and guidelines are not being met;
- Identify recommended improvements or solutions that Council may consider to resolve problems, and outline how these could be delivered through a phased implementation plan.

1.2 Study Area

The extent of the road network included within the CMP includes:

- *Te Mata Peak Road*, from the main gates and car park on its northern extent to the Te Mata Peak Summit car park on its southern extent; and
- *Tauroa Road*, from Hikanui Drive on its northern extent to the Chambers Walk Carpark on the southern extent.

The road corridors included within the CMP are shown within Figure 1-1.

1.3 Corridor Segmentation

The CMP study has considered two sections as shown within Table 1-1. The corridor segments were identified as they are the primary means of accessing the Park.

Table 1-1: Accessing Te Mata Peak Road Segmentation

Road Name	From	To	Length
Te Mata Peak Road	Main Carpark Entrance (RP2.750)	Te Mata Peak Summit (RP4.867)	2,117m
Tauroa Road	Hikanui Drive (RP0.340)	Chambers Walk Carpark (RP1.946)	1,606 m

It should be noted that both sections of the road corridor classed as urban local roads are owned and maintained by HDC. The RP position for all roads increases north-south along the corridors.

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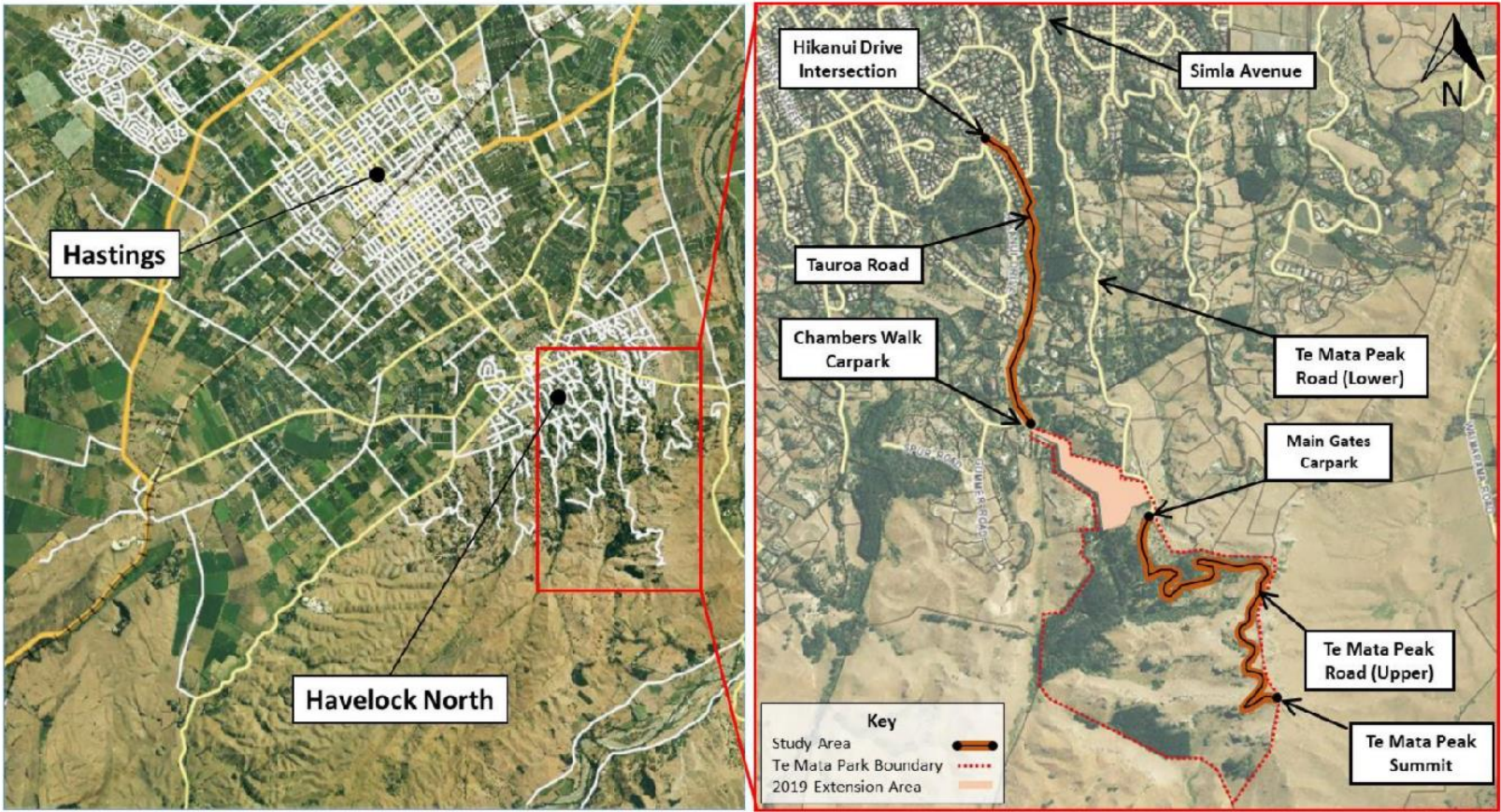


Figure 1-1: Te Mata Peak Road / Tauroa Road CMP Study Area

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1.4 Report Structure

The remainder of the report has been structured as follows:

- Part A – Strategic Case
 - o Chapter 2: Provides a description of the existing corridor environment, including an overview of the existing transport network, descriptions of identified corridor segments and an outline of the existing land-use environment;
 - o Chapter 3: Presents the problems and issues identified on the corridors as identified through community engagement, as well as an analysis of available data that validates the extent of the problems identified;
- Part B – Corridor Strategy and Option Identification
 - o Chapter 4 - 5: Provides an outline of the options considered and recommended solutions that respond to problems identified for within the Strategic Case.
 - o Chapter 6: Provides a summary of identified improvements and proposes a phased implementation plan;
 - o Chapter 7: Provides a summary of recommended next steps for the project.

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Part A – Strategic Context

2 Existing Conditions

This chapter provides an outline of the existing road network conditions and surrounding land-use within the study area.

2.1 Existing Transport Environment

2.1.1 Road Form

Te Mata Peak Road

The section of Te Mata Peak Road included within the study is between the main gate to the Te Mata Peak Summit. The section is approximately 2.1km in length and primarily operates as an access road to the Summit, including connections to the recreational activities such as walking tracks, mountain bike trails and Peak House (RP 3.550). The ascent to the summit is winding with several blind corners and hairpin bends, particularly south of the Saddle car park (see Figure 2-1).



Figure 2-1: View Southbound on Te Mata Peak Road at the Saddle Carpark

The speed limit on Te Mata Peak Road transitions to a 40km/hr environment south of the main gates access, and 20 km/hr south of the saddle car park (RP 3.830) on narrower sections of the ascent.

Access to the peak south of Peak House is restricted from 10pm to 5am daily by a gate (RP 3.630). Access beyond the saddle car park is limited to vehicles up to 7.5m in length. However, tour coaches and buses are permitted to access the peak subject to the use of a pilot vehicle and an accepted traffic management plan.

The road designation on this section of the corridor is 20m wide. The existing carriageway permits two-way traffic movements, although its width ranges between 4.0-6.0m wide and no centreline exists. Midblock sections closer to the summit narrow to 3.0m in places and is largely restricted by high slopes on the eastern edge and sheer drops on its western edge. Additional road width is generally provided on curved sections of the road to support turning vehicle swept paths and to provide waiting areas to allow opposing vehicles to pass.

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Formal footpaths are not provided, although several off-road pedestrian tracks provide direct access to the Peak Summit. The road alignment follows the existing ridgeline on its ascent to the Summit resulting in a winding alignment with steep falls and high banks (see Figure 2-2).



Figure 2-2: Typical View of Te Mata Peak Road to the Summit Approach

Tauroa Road

The section of Tauroa Road included within the study area extends from the intersection with Hikanui Drive (RP 0.340) to the Chamber's Walk carpark (RP 1.946), approximately 1.6km. Over this section, Tauroa Road intersects with four formed public roads as follows:

- Hikanui Drive;
- Aotea Crescent;
- Tokomaru Drive; and
- Tauroa Valley Road.

Currently, Tauroa Road is primarily used as an access road to the Chamber's Walk carpark, which provides access to walking and cycling trails through Te Mata Park. However, this is expected to change as further development is completed around Spur Road, Gummer Road and Tauroa Valley, which are accessed from the southern end of Tauroa Road, near the Chamber's Walk carpark.

The speed limit along Tauroa Road is 50 km/h with gated speed limit signs for northbound traffic located approximately in the centre of the study length. Additional 50 km/h gated speed limit signs for northbound (DRP) traffic are located within the study length approximately 15 m prior to the intersection with Tokomaru Drive.

The study length along Tauroa Road can be split into three distinct sections based on built form and road geometry. The first section extends from Hikanui Drive to Tokomaru Drive and is relatively straight and wide (6.8m from Mobile Road). This section of Tauroa Road has a formed concrete footpath on the eastern berm of the road reserve and is developed with residential properties accessed from both sides of the road (see Figure 2-3). This section of the study length has a very 'urban' appearance.

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Figure 2-3: Tauroa Road between Hikanui Drive and Tokomaru Drive

The following section of Tauroa Road extends from Tokomaru Drive to the gated speed limit signs at RP 1.200 and is much more constrained than the remainder of Tauroa Road. On the eastern side of this section is the Tauroa Reserve which is located in a gully, with a steep 'drop-off' located at the edge of the road at several points along the section (see Figure 2-4). On the western side of the road is a steep raised bank covered in vegetation, with a small number of residential properties accessed off local side roads.



Figure 2-4: Tauroa Road adjacent to Tauroa Reserve

At 5.5m wide, this section is the narrowest along the study length on Tauroa Road with a number of low-radius curves with limited visibility on the right turning curves (when travelling southbound) due to the raised bank on the western side of the road.

The remaining section, extending from the gated speed limits signs at RP 1.200 to the Chamber's Walk carpark, is much straighter than the middle section with long straight sections and larger radius curves (see Figure 2-5). There is still somewhat of a raised bank to the west, however, there is no longer a steep 'drop-off' to the east. There are a small number of accessways leading to residential

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properties along this section which also contains the intersection with Tauroa Valley. From Mobile Road, the width of this section is 6.0 m.



Figure 2-5: Tauroa Road on approach to Chambers Walk Carpark

Except for the section between Hikanui Drive and Tokomaru Drive, there are no formal footpaths provided along the study length of Tauroa Road. Alternative signposted off-road pedestrian routes are provided through the Tauroa Road Reserve.

2.1.2 Road Function

The existing road hierarchy within the study area as defined within the NZ Transport Agency's One Road Network Classification (ONRC) is shown in Figure 2-6. The ONRC divides New Zealand's roads into six categories based on how busy they are, whether they connect to important destinations, or are the only route available. The ONRC classifies the roads within the study area, as follows:

- Te Mata Peak Road identified as a Secondary Collector road;
- Tauroa Road, between Hikanui Drive and Tokomaru Drive, identified as a Secondary Collector, and;
- Tauroa Road, between Tokomaru Drive and the Chamber's Walk carpark, identified as an Access Road.

The ONRC identifies Access roads as "[...] roads [that] provide access and connectivity to many [...] daily journeys (home, shops, school, etc). They also provide access to the wider network." Secondary Collector roads are identified as "[...] roads that provide a secondary distributor/collector function, linking local areas of population and economic sites. They may be the only route available to some places within this local area."

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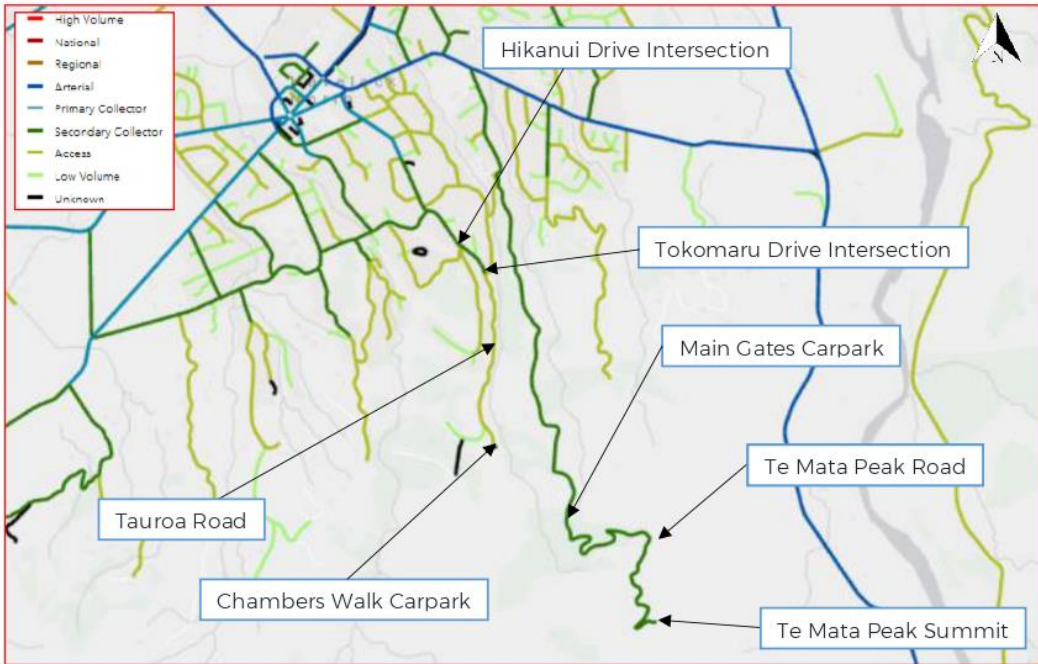


Figure 2-6: Existing Road Hierarchy – NZTA ONRC

The typical characteristics of "Secondary Collector" and "Access" roads as defined within the ONRC are outlined within Figure 2-7. Waka Kotahi have developed guiding principles for the performance expectations of all ONRC road categories through the fit-for-purpose Customer Levels of Service (CLoS) outcomes. The CLoS expectations for both road types are outlined within Appendix A.

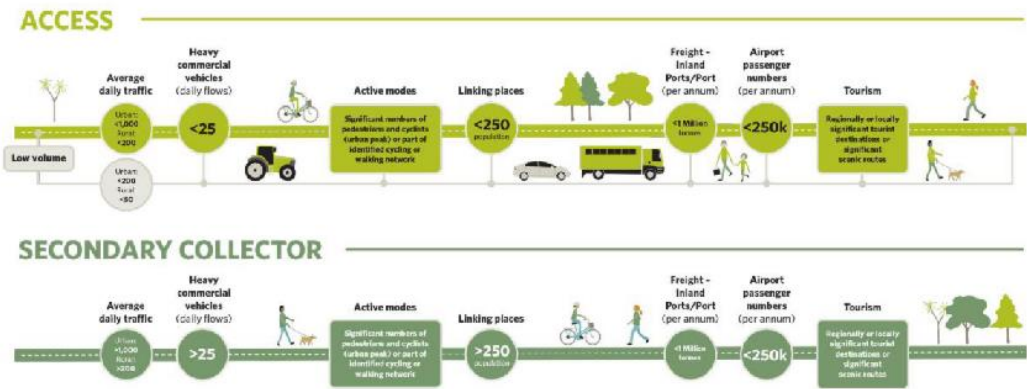


Figure 2-7: ONRC Road Classification Characteristics

A summary of the road network operational characteristics of relevance to the CMP is summarised within Table 2-1. The route characteristics summarised indicate that the existing road network within the study area generally reflects its form and function as identified within the ONRC road hierarchy.

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Table 2-1: Summary of Local Road Network Characteristics

Road Name	ONRC Classification	AADT (Vehs) ²	Lanes	Posted Speed
Tauroa Road (North of Tokomaru Dr)	Secondary Collector	1,000 vpd	2 lanes	50 km/hr
Tauroa Road (South of Tokomaru Dr)	Access Road	500 vpd	2 lanes	50 km/hr
Hikanui Drive	Access Road	650 vpd	2 lanes	50 km/hr
Tokomaru Drive	Access Road	450 vpd	2 lanes	50 km/hr
Tauroa Valley Rd	Low Volume	25 vpd	2 lanes	50 km/hr
Aotea Crescent	Low Volume	180 vpd	2 lanes	50 km/hr
Simla Avenue	Secondary Collector	2,000 vpd	2 lanes	50 km/hr
Te Mata Peak Road (Lower)	Secondary Collector	600 vpd	2 lanes	Urban - 50 km/hr Rural - 60km/hr
Te Mata Peak Road (Upper)	Secondary Collector	600 vpd	1-2 lanes	20-40 km/hr

2.1.3 Traffic Count Data

Te Mata Peak Road (November 2019)

Analysis of weekday traffic count data collected on Te Mata Peak Road at the Saddle (approximately half way to the summit) indicates the route has an ADT of 350-400vpd, whilst recorded weekday traffic volumes were approximately 600 vpd. Figure 2-8 indicates most weekend traffic on Te Mata Peak Road arrived between 10.00-17.00hrs. Peak period traffic volumes on the Saturday (90 vph) were almost double the peak hour volumes observed during the weekday (46 vph).

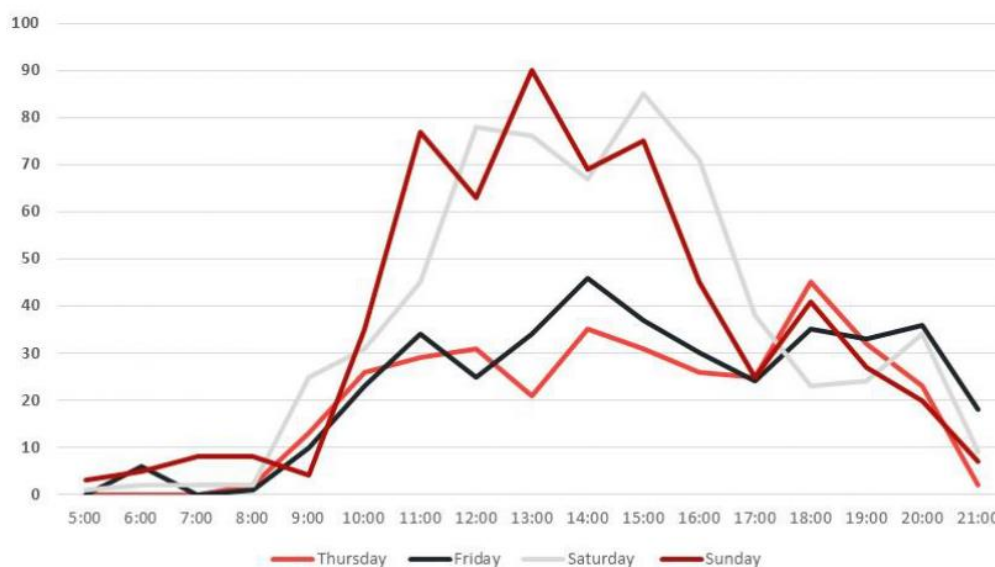


Figure 2-8: Traffic Flow Profile on Te Mata Peak Road (November 2018)

² Based on ADT outlined within MobileRoads - accessed 15th June 2020 <https://mobileroad.org/desktop.html>

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Traffic count data on Te Mata Peak Road north of the main gates was examined to determine seasonal variations in traffic demands between "typical" winter and summer demands. A comparison of daily traffic volumes on Te Mata Peak Road Lower in January 2018 and June 2018 indicated that traffic volumes during the summer more than double on the road during the weekday and Sunday periods, with a slight increase during Saturday periods.

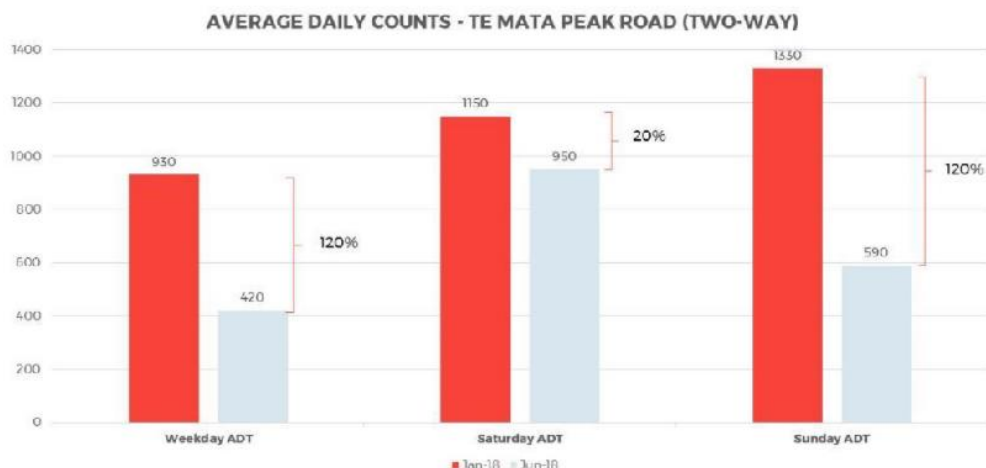


Figure 2-9: Seasonal Variations in Two-Way Traffic Flows on Te Mata Peak Road (Lower)

Tauroa Road (2019)

Analysis of weekday traffic count data collected in June 2019 indicates the section of Tauroa Road south of Hikurangi Drive has an average daily traffic (ADT) volume of approximately 700 vehicles per day (vpd). The recorded weekend volumes were approximately 750 vpd. Figure 2-10 indicates the weekday traffic flow profile on Tauroa Road is reflective of a commuter route with typical morning and evening peak periods; however, this is likely to comprise of both commuter traffic as well as morning and evening recreational activity within Te Mata Park (i.e. evening walks).

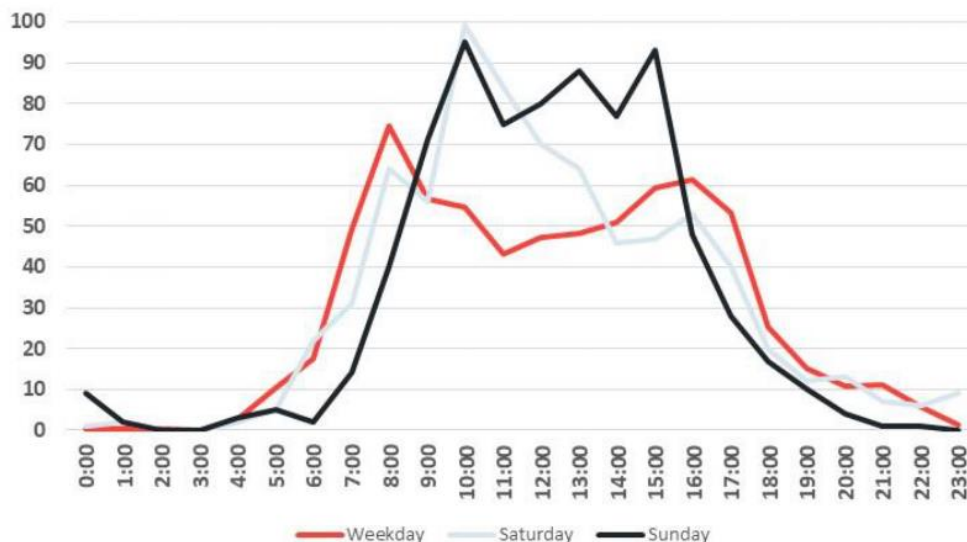


Figure 2-10: Traffic Flow Profile on Tauroa Road (June 2019)

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An average of 75 vehicles per hour (vph) were recorded during the weekday AM peak hour (commencing 8:00hrs). The evening weekday period lasted approximately three hours (between 15:00 and 18:00hrs), and was noticeably "flatter" than the morning peak, with traffic flows remaining relatively around 50 to 60 vph. Peak hour traffic volumes were approximately 60% higher during the Saturday and Sunday data compared with the weekday, reflecting the importance of the route in providing leisure access for visitors and tourists to Te Mata Park.

2.2 Land-Use and Built Form

The section of Te Mata Peak Road included within the study area is located within both rural and Te Mata Peak special character zoning areas (see Figure 2-11). Tauroa Road is primarily surrounded by Rural Residential (orange) and Havelock North Character Residential (light orange) zoning. The route provides access to future residential growth areas on Tauroa Valley Road (zoned Rural Residential).

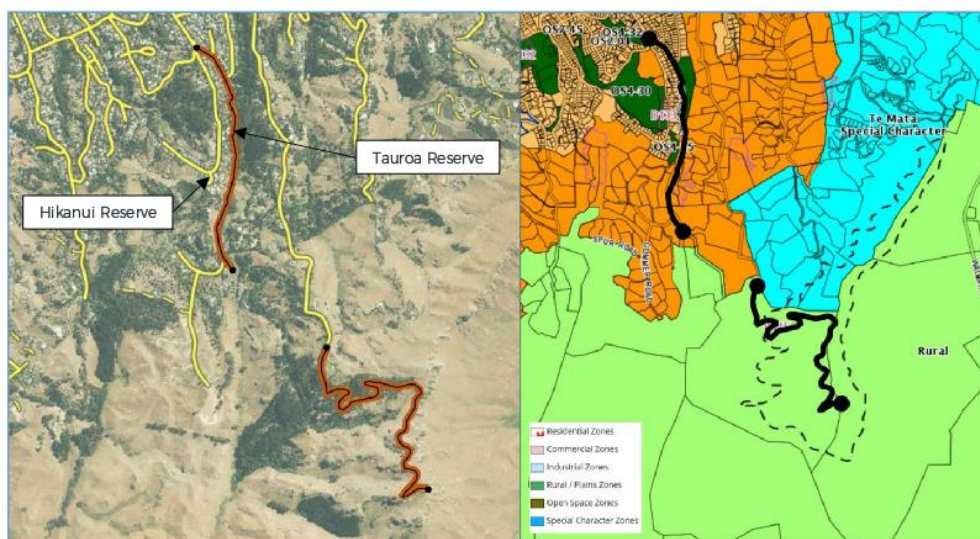


Figure 2-11: Aerial Photo of Land-Use Surroundings (Left) and District Plan Zoning (Right)

Sections of Tauroa Road are bounded by Hikanui and Tauroa Reserves (on its western and eastern sides respectively). The reserves provide off-lead areas for dogs and are popular for walking, biking and running. They are all considered natural open space reserves and therefore maintenance is limited other than maintaining paths, weeding and tree management.

Te Mata Park comprises of 108 hectares of leisure and recreational parkland, focused around the summit which rises to approximately 400m above sea level. Te Mata Park is a major tourist site and recreational attraction and is well used by both residents and visitors to the Hawkes Bay area. The summit section of Te Mata Park provides visitors with views of Napier and Mahia Peninsula to the north and east, hill country to the south and east, and the Ruahine, Kaweka and Maungaharuru ranges beyond the Heretaunga Plains.

Most of the Park is designated as "Outstanding Natural Landscape" in the Hastings District Plan, which specifically notes:

The single most significant landscape icon in Hawke's Bay, having District, Regional and National significance. It is the most prominent landmark in the eastern Heretaunga Plains with a distinctive silhouette skyline. It is a source of identify for both Hastings and Havelock North residents and Ngāti Kahungunu.

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The Park facilitates a wide range of recreational activities including hang gliding and paragliding, mountain biking, road cycling, abseiling, orienteering and Nordic walking (see Figure 2-12). The park is also noted for its unique and unusual flora and fauna, spectacular limestone cliffs and grove of 223 California Redwoods. The Te Mata Peak Trust purchased an 8.5ha site on the north-western periphery of the site in 2019. The Trust plans to further expand the Parks recreational offerings including new walking tracks, sculpture trails and mountain bike loops routes, as well as extensive amenity planting (see Figure 2-13).

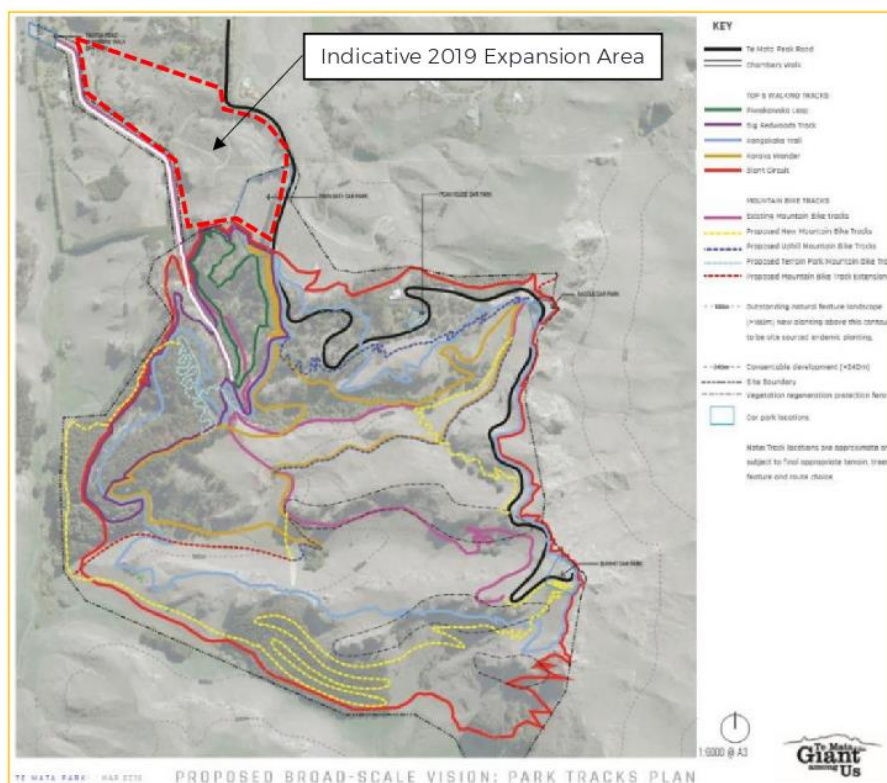


Figure 2-12: Te Mata Park Existing and Proposed Walking and Cycling Routes

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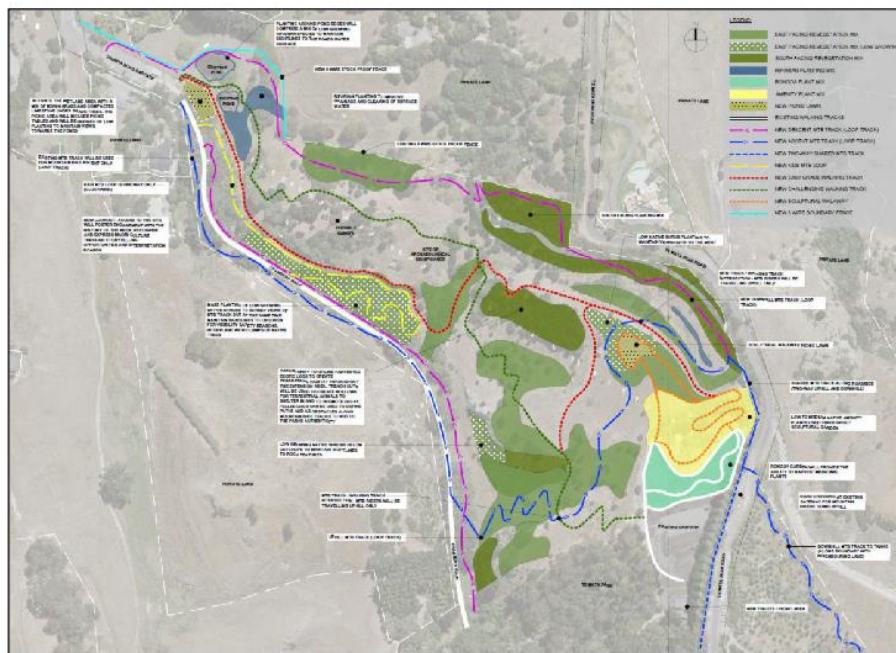


Figure 2-13: Te Mata Park Extension Concept Plans

Approximately 120 parking spaces are provided along Te Mata Peak Road within Te Mata Park to support visitor access. Most parking spaces are provided within the recently upgraded Main Car Park area which also includes wider amenities including dedicated bus parking area, picnic areas, toilets and seating. The remainder of the parking facilities on Te Mata Peak Road are located at Peak House (-20 parks), the Saddle (7 parks) and the Summit (25 parks).

The Chambers Walk Car Park (40 spaces) is located at the southern end of Tauroa Road and is a popular alternative route to Te Mata Peak Road for accessing Te Mata Park. According to the Te Mata Park Management Plan, "The Tauroa Road Carpark is [...] predominantly used by local residents for exercise (running, walking and mountain biking) and for exercising dogs." The 2016 Park Management Plan notes there is limited opportunity to expand the car park without significant structural works and encroachment into the Park.

A community Consultation survey (2015) noted 48% of users parked at the Main Gates, and 33% parked at the Tauroa Road carpark.

2.3 Strategies, Plans and Policies

2.3.1 Hastings District Council – Long Term Plan (2018-2028)

The HDC Long-Term Plan (LTP) outlines the Council's strategic direction for delivering services to the community, and outlines funding allocations for delivering these services.

The LTP identifies the following objectives for investment:

- Local infrastructure which contributes to public health and safety, supports growth, connects communities, activates communities and helps to protect the natural environment.
- Local public services which help meet the needs of young and old, people in need, visitors and locals, businesses and households.
- Regulatory functions which help to prevent harm and help create a safe and healthy environment for people, which promote the best use of natural resources and which are responsive to community needs.

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As the road controlling authority for the region, HDC's objectives are to move people and goods around safely and efficiently through the development and maintenance of roads, footpaths and pathways. The LTP focusses on transport improvements that support:

- Accessible range of safe transport options;
- Safe walking and cycling facilities;
- Efficient movement of goods;
- Infrastructure supporting economic growth; and
- Resilience to hazards and shocks.

2.3.2 Te Mata Park Management Plan

The Te Mata Park Management Plan was developed by the Te Mata Peak Trust in 2016, which sets out the operational and development priorities for Te Mata Park over the next 10 years. The Management Plan outlines the Trust's vision and values for the Park as shown in Table 2-2.

Table 2-2: Te Mata Park Management Plan – Vision and Values

Vision	Values
Te Mata Park is a tāonga I tuku ihō (heavenly gift), and the iconic feature of Hawke's Bay.	Establish Te Mata Park as a place of national significance
It will always be a place of cultural, scenic, recreational, scientific and educational significance for all New Zealanders.	Establish significant financial resources in order to fund the annual operating cost of the Park.
The Trust will sustain, protect and maintain Te Mata Park's outstanding natural features and open spaces.	Provide and maintain facilities and an environment for the recreational, cultural and educational benefit of the public

The Plan notes that the Park is the pre-eminent tourist attraction in the Hawkes Bay, and is facing growing tension between balancing the need for future development in response to growing user demands against the responsibility to carefully manage the parks character and outstanding natural landscape.

Following the development of the Management Plan, the strategic objectives of the Trust have been updated to the following:

- To korero and strengthen our relationship with tangata whenua and weave the voice of Mana Whenua into the planning and policy making of Te Mata Park;
- To enhance and expand Te Mata Park;
- To understand the behaviours and preferences of park users, enabling sustainable and prudent management of the Park;
- To build significant financial resources to enhance, protect and sustain Te Mata Park; and
- To nurture an environment for the recreational, spiritual, cultural and educational benefit of the public.

2.3.3 Tauroa Road – Boardwalk Improvements

HDC are in the process of delivering a new boardwalk adjacent to Tauroa Road, traveling through the Tauroa Road Reserve. The boardwalk is planned to be approximately 200m long (between RP 0.700 to 0.900), ranging between 2.0-3.0m in width to provide separation for pedestrians and cyclists from on-coming traffic on Tauroa Road through narrow sections of the corridor. The extent of the proposal is shown in Figure 2-14:

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Figure 2-14: Proposed Extent of Tauroa Road Boardwalk

The provision of walking and cycling facilities responds to community concerns relating to safety and accessibility along the road corridor, given the lack of existing footpath or berm on Tauroa Road; however, connectivity needs to be considered for the southern end to Tauroa Road carpark.

2.3.4 Tauroa Reserve Management Plan

The Tainui, Tanner, Tauroa and Hikanui Reserves Management Plan (RMP) was developed in 2015, and outlines the objectives and policies for the management, protection and future development of these reserves. The RMP provides Council with a clear framework for the day to day management and decision making for these reserves over the next 10 years.

The RMP identifies the need to enhance existing walkway and cycleway connections through the Tauroa Reserve, providing potential alternatives to the road network. The RMP also recognises that given Tauroa Reserve's strategic location between Havelock North and Te Mata Peak, it also has significant potential to provide off-road options for cyclists travelling to the Park via Chambers Walk.

Table 2-3 outlines the transport and access specific objectives and policies outlined within the Te Mata Park Management Plan.

Table 2-3: Reserve Management Plan – Relevant Objectives and Policies

Objective		Policy
Use of Reserves	1.1.1 To provide opportunities to experience nature, visual amenity, physical landscape values, protection of biodiversity, and ecological restoration.	1.1.2 To provide public access for pedestrians and cyclists to a range of natural values. 1.1.3 The Objectives and Policies of Section 1.1 of the District Wide Reserve Management Plan related to the Use of Reserves shall also apply where relevant.
Cycling	1.5.1 To provide for cycling in specified areas to ensure that it does not create unnecessary conflict with pedestrians.	1.5.2 The Objectives and Policies of Section 1.5 of the District Wide Reserve Management Plan related to Cycling shall also apply.
Access	2.11.1 To provide access to people of all ages and abilities to and through the reserves where practical.	2.11.4 Provide seats/benches as resting places every few hundred metres on accessible walkways. 3.11.5 Ensure gates to accessible walkways are wide enough for disabled access, push chairs etc. 2.11.5 The Objectives and Policies of Section 2.11 of the District Wide Reserve Management Plan related to Access shall also apply where relevant.
Walkways and Cycleways	2.12.1 Access to people of all ages and abilities will be provided to and through reserves where possible.	2.12.2 Develop safe and accessible walking tracks through and around the reserves to improve access.

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Objective	Policy
	<div>2.12.4 Create with the Hawkes Bay Mountain Bike Club new narrow single track mountain bike tracks in Tainui, Tanner, Tauroa and Hikanui reserves away from existing walking tracks.</div> <div>2.12.6 Create shared pedestrian/bike tracks in Tauroa Reserve 'Te Kahika Stream Track' and Tauroa Road off road foot path.</div> <div>2.12.8 The Objectives and Policies of Section 2.12 of the District Wide Reserve Management Plan related to Walkways & Cycleway shall also apply where relevant.</div>

The RMP outlines a number of enhancements for pedestrians and cyclists within Tauroa Reserve (see Figure 2-15). The RMP proposes to give pedestrian access and circulation within the reserve a high priority and cycle use combined with pedestrians only where no alternatives exist. Specialist single track mountain bike routes will be created as separate specialised routes in coordination with the Hawkes Bay Mountain Bike Club.



Figure 2-15: Landscape plan illustrating the access routes through the Tauroa Road Reserve

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3 Strategic Case for Change

This chapter of the CMP discusses the problems that have been identified by the stakeholders and the desired outcomes that could be achieved by investing in the corridor. Collectively this is known as the Strategic Case, which details the need for and key drivers of change on the corridor.

The Strategic Case was developed using the principles of the Better Business Case Approach developed and applied by Waka Kotahi the NZ Transport Agency / NZ Treasury. The Business Case Approach was used to enable key stakeholders to identify and confirm problems for investigation through the CMP, and to ensure consensus is formed on what good outcomes look like, before significant investment is made in investigating solutions.

It also ensures that the transport planning elements of the CMP are based on robust logic that demonstrates a clear line of thinking between strategic outcomes, actual problems and the transport outcomes to be achieved.

3.1 Issue Identification Process

A workshop with technical stakeholders was held on 26th August 2019 to identify and confirm the current issues on Te Mata Peak Road and Tauroa Road through an Investment Logic Map (ILM) exercise. It should be noted that the process was cognisant of the work previously undertaken on the Simla Avenue / Te Mata Peak Road CMP which was completed in 2019.

In discussing the problems, it was clear that most of the identified operational issues are driven by peak visitation season (October to March) and anticipated growth in access demands.

Based on the outcomes of the workshop, the following Problem Statements for Accessing Te Mata Peak CMP were identified:

- **Problem One:** Challenging corridor characteristics and increasing corridor use is compromising safety (50%)
- **Problem Two:** Increasing corridor demands are leading to conflicts and reducing user experience (40%)
- **Problem Three:** Deteriorating road asset condition will result in a reduced level of service (10%)

The Problem Statements identified and agreed with stakeholders are relevant to both Te Mata Peak Road and Tauroa Road, and broadly categorised into themes of safety, access and road condition. A summary of the cause, effect and consequence of the problems is outlined within Figure 3-1.

Stakeholders also discussed and agreed the benefits of resolving the problems. The three benefit statements and associated weightings established through the workshop are:

- **Benefit One:** Improved safety [both perceived and actual] for all users (50%)
- **Benefit Two:** Enhanced experience for all users (40%)
- **Benefit Three:** Meet level of service expectations (10%)

A copy of the ILM and meeting minutes from the workshop are provided within **Appendix B**.

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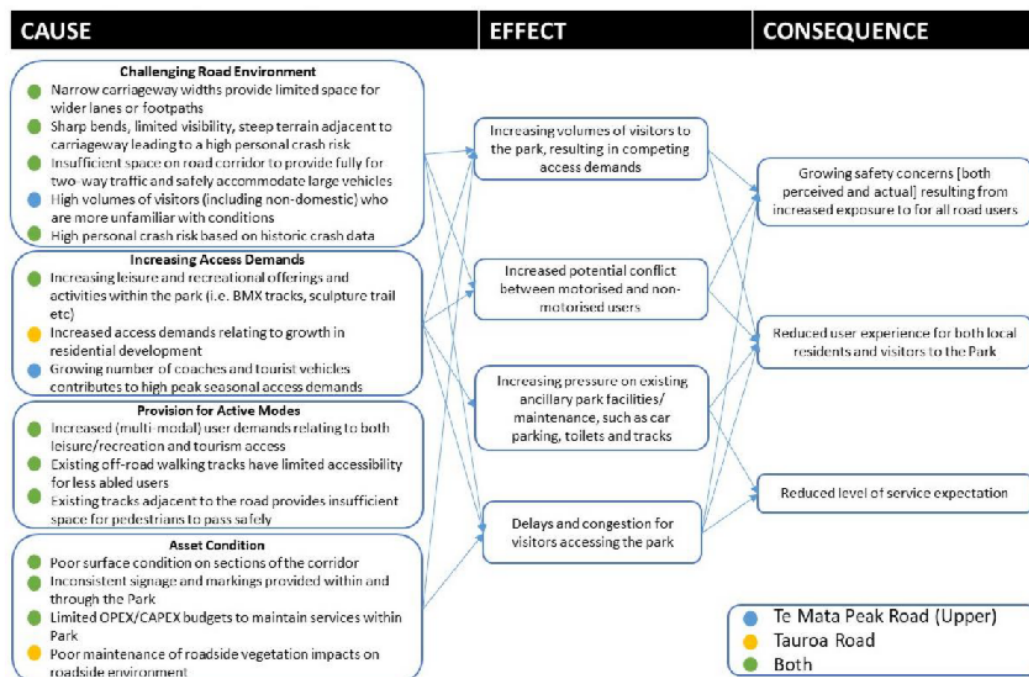


Figure 3-1: Cause, Effect and Consequences of Problems on Te Mata Peak Rd and Tauroa Rd

3.2 Problem One

50% **Problem One:** Challenging corridor characteristics and increasing corridor use is compromising safety

Problem One relates to the safety of users within the Park and was regarded as the most significant problem within the ILM discussions. Safety concerns identified by stakeholders on both Tauroa Road and Te Mata Peak Road related to the unforgiving nature of the existing roadside environment, combined with growing access demands and little-to-no separation between traffic and other (vulnerable) road users.

3.2.1 Crash History

The Waka Kotahi Crash Analysis System (CAS) was used to determine the number of crashes and crash types within the study area over the last 10 years (2010-2020). All recorded crashes are shown in Appendix C.

A total of 15 crashes have been recorded over this period, of which 12 have resulted in an injury. Six of these crashes (40%) have resulted in a death or serious injury (DSI), leading to three deaths and three serious injuries (see Figure 3-2). Two crashes involved cyclists, both of which resulted in minor injuries for the cyclist.

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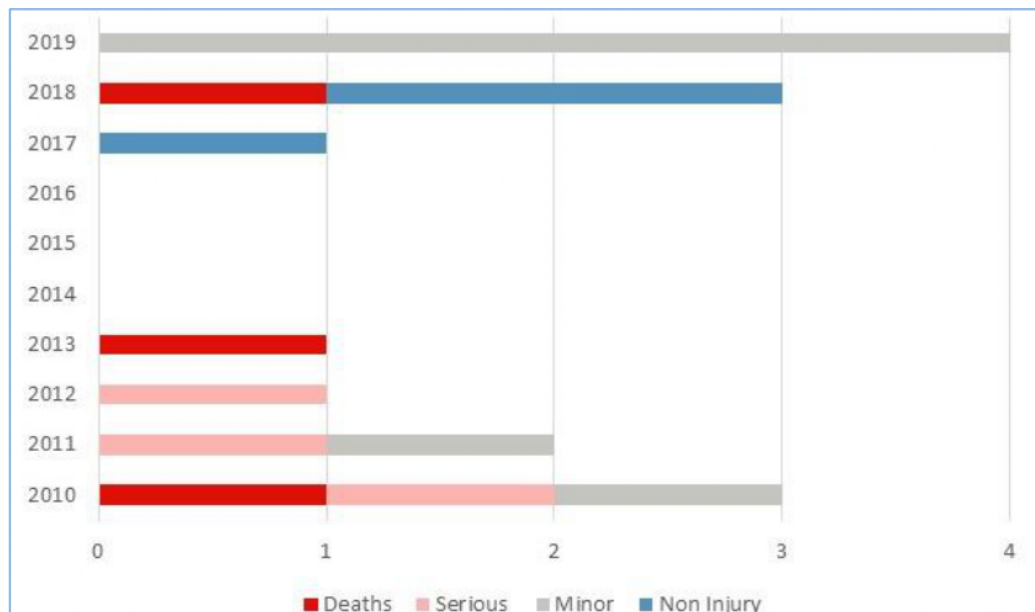


Figure 3-2: Crash Severity by Year (2010-2019)

Interrogation of crash data and factors note the following:

- The primary crash movements are overwhelmingly related to loss of control on bend crashes (75% of crashes). Where crash factors are known, the largest contributors were travelling too fast (38%), poor handling (25%) and alcohol (25%);
- A total of five crashes (33%) occurred in the dark, of which four were the result of loss of control on corners and one resulted in a collision with a cyclist whilst a vehicle was exiting a driveway; and
- 40% of crashes within the study area occurred at weekends, reflective of the higher access demands to the Park for tourist and leisure activity resulting in increased potential for collisions.

Te Mata Peak Road

12 of the recorded crashes have occurred on Te Mata Peak Road (within Te Mata Park), nine resulted in injuries. Five were recorded as fatal and serious injury crashes, resulting in two fatalities and three serious injuries; however, none of these have occurred since 2013. One crash (December 2019) involving a cyclist occurred at the main gates carpark, resulting from a downhill cyclist colliding with a car performing a u-turn within the vicinity of the main gates. The crash resulted in a minor injury for the cyclist.

It should be noted in 2014 HDC implemented some safety improvements in response to the two recorded fatalities. This included a reduction in the posted speed limits from national speed limit and installation of timber containment safety barriers on the upper section of the road. This is likely to have contributed to the decline in the severity of crashes along the corridor in recent years.

As no deaths and serious injuries have occurred on this section of Te Mata Peak Road over the past five years, the collective and personal crash risks are both assessed as being "Low"; however, this is a retrospective assessment and does not reflect future risk associated with changing network conditions (such as increased access demands).

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Tauroa Road

The remaining three (3) recorded crashes occurred on Tauroa Road, resulting in one fatality and two minor injury crashes. One crash involved a cyclist travelling northbound on Tauroa Road (south of Aotea Crescent) being hit by a car manoeuvring from an adjacent residential driveway, resulting in a minor injury (2010).

The remaining two crashes occurred on the same narrow section of Tauroa Road approximately 130m south of Tokomaru Drive, and were single vehicle loss of control crashes. One crash resulted in a fatality and the other resulting in a minor injury.

Tauroa Road has been assessed as having a "medium-high" collective risk and a "high" personal risk, meaning the exposure of drivers to crashes is significant given low traffic volumes on the road corridor (see Table 3-1).

Table 3-1: Collective and Personal Risk Calculations –Tauroa Road

Factors	Tauroa Road	
Deaths + Serious Injuries	1	
Traffic Volumes	750 vpd	
Length of Section	1,600m	
Collective Risk Rating ³	Medium-High (0.125)	
Personal Risk Rating ⁴	High (P=45.66)	
<p>Note: The "Medium-High" collective risk and "High" personal risk rating indicates a "safe system transformation works" approach is preferred.</p>		

Implications:

- There has been a reduction in the severity and frequency in crashes on Te Mata Peak Road since 2014; however, there appears to be an upward trend in crashes over the last few years which could be related to growing access demands.
- Access demands on Te Mata Peak Road by a range of users are expected to grow, leading to increased exposure and risk of crashes occurring, particularly those involving vulnerable road users (i.e. pedestrians and cyclists).
- Tauroa Road is identified as having a "high" personal crash risk, and a "medium-high" collective crash risk. The "High Risk Rural Roads Guide" indicates for these roads, there is considerable scope to reduce personal risk which may justify larger infrastructure improvements.

³ Collective Risk (also known as crash density) is a measure of the number of high-severity (fatal and serious) crashes that have happened per kilometre of road per year

⁴ Personal Risk (or crash rate) is a measure of the number of high-severity (fatal and serious) crashes that have happened per 100 million vehicle kilometres of travel on the road

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3.2.2 Tauroa Road Speed Profile

Council has received a number of submissions relating to excessive traffic speeds and the safety risks for vulnerable road users on Tauroa Road. The existing posted speed limit on Tauroa Road is 50km/hr; however, the most recent tube counts on Tauroa Road indicate the 85th percentile speed is 63 km/hr (RP/1.200, June 2019).

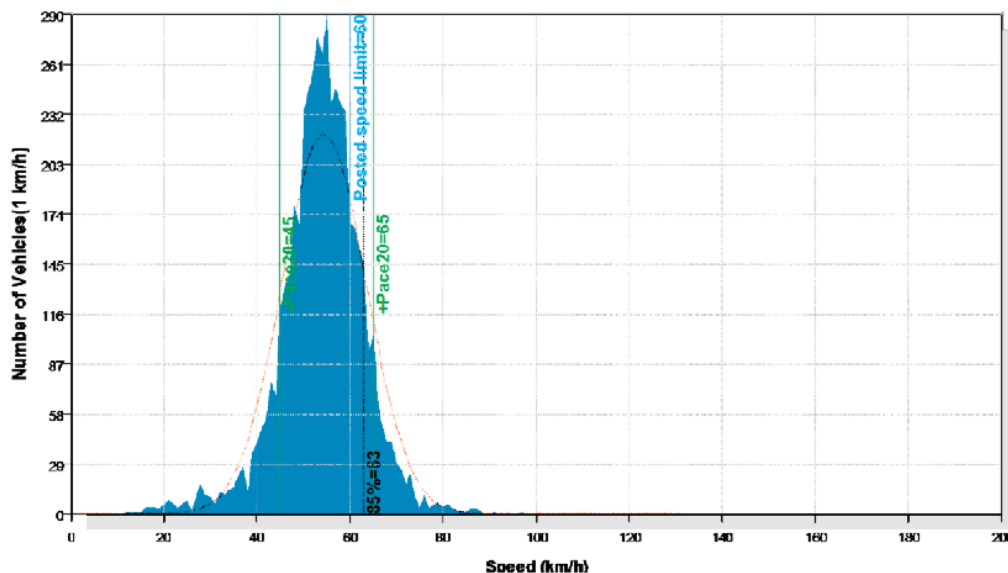


Figure 3-3: Recorded Traffic Speeds on Tauroa Road (June 2019)

Implications:

NZTA Guidance on the setting of speed limits⁵ recommends that additional measures (such as engineering, enforcement, education) should be considered where operational speeds exceed an 85th percentile speed of 60km/hr.

3.2.3 Challenging Roadside Environment

Table 3-2 provides a summary of the roadside characteristics of both Te Mata Peak Road and Tauroa Road, in comparison with the desired design standards outlined within the Hastings District Council Engineering Standards based on route hierarchy. The typical road reserve width along both corridors is 20m; however, the challenging topography along both routes has resulted in minimum carriageway widths being provided.

The existing carriageway width on Te Mata Peak Road is approximately 5.0m, reduced to a single practical lane width at several locations (see Figure 3-4). The lack of a shoulder and the presence of roadside barriers provides limited space for vehicles to manoeuvre past each other on narrow sections of the corridor. The existing roadside environment provides limited scope for widening the road without significant cost and detrimental impacts on Park amenity.

⁵ NZTA - Guidelines for Setting Speed Limits and Procedures for Calculating Speed Limits - <https://www.nzta.govt.nz/assets/resources/speed-limits/speed-limits-nz/docs/speed-limits-nz.pdf>

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Table 3-2: Te Mata Peak Road / Tauroa Road Corridor Characteristics

Characteristics	Te Mata Peak Road		Tauroa Road	
	HDC Engineering Standards (Collector)	Current Environment	HDC Engineering Standards (Rural Local Road)	Current Environment
Road Reserve	20m	20m	20m	20m
Carriageway Width	6.0m (2 x 3.0m)	Typically 5.0m (widths vary)	5.5m (2 X 2.75m)	6.8m on urban sections 5.5-6.0m south of Tokomaru Drive
Shoulders	Total Shoulder 1.0m Sealed Shoulder 0.5m	No shoulders provided	Total Shoulder 1.0m	No shoulders provided
Footpaths	Shared (on shoulder / in berm)	Alternative off-road tracks provided	Shared (on shoulder / in berm)	Footpath provided single side north of Tokomaru Drive
Cycle Provisions	None	None	None	None
Gradient	10%	10%	10%	<2%



Figure 3-4: View of Te Mata Peak Road on the Summit Ascent

The narrow carriageway width, coupled with low radius curves and hairpin bends, provide a particularly challenging environment for tour buses and coaches accessing the Peak summit, requiring vehicles to sweep across the centreline potentially into the path of on-coming traffic with limited forward visibility. Safety issues are further compounded by the high proportion of domestic and international visitors travelling to the summit who are unfamiliar with the road environment.

Vehicle length restrictions are currently enforced on Te Mata Peak Road above the Saddle carpark to control access to the summit, although access is permitted subject to the use of an appropriate traffic management plan (TMP)⁶. Even with the use of TMPs, safety concerns exist. In November 2019, it was announced that Nimons & Sons Ltd (the primary tour provider and operator of the TMP) will

⁶ This includes the use of a pilot vehicle to manage on-coming traffic

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no longer be operating the TMP on cruise ship days based on growing concerns and heightened risks relating to conflicts between bus services travelling to the Peak during periods of heavy demand.

The section of Tauroa Road located immediately south of the Tokomaru Drive intersection is particularly challenging to road users. Whilst the carriageway width achieves the desired minimum carriageway width for a local road (5.5m)⁷; the route comprises several curves with medium radii and poor forward visibility. The useable road widths are also constrained by overhanging vegetation which mask the curb line and reduce the available width of the route (see Figure 3-5).



Figure 3-5: Example of the Challenging Curves and Limited Visibility on Tauroa Road

The combination of narrow carriageway widths and significant roadside hazards present a serious safety risk to users; as reflected within the NZTA Infrastructure Risk Rating (IRR) which scores Te Mata Peak Road as having a "medium-high" IRR risk, and a "medium" IRR risk rating on Tauroa Road (see Figure 3-6).

⁷ Based on HDC's Engineering Code of Practice and NZTA's Guidelines for Rural Road Marking and Delineation (RTS 5)
<https://www.nzta.govt.nz/assets/resources/road-traffic-standards/docs/rt5-05.pdf>

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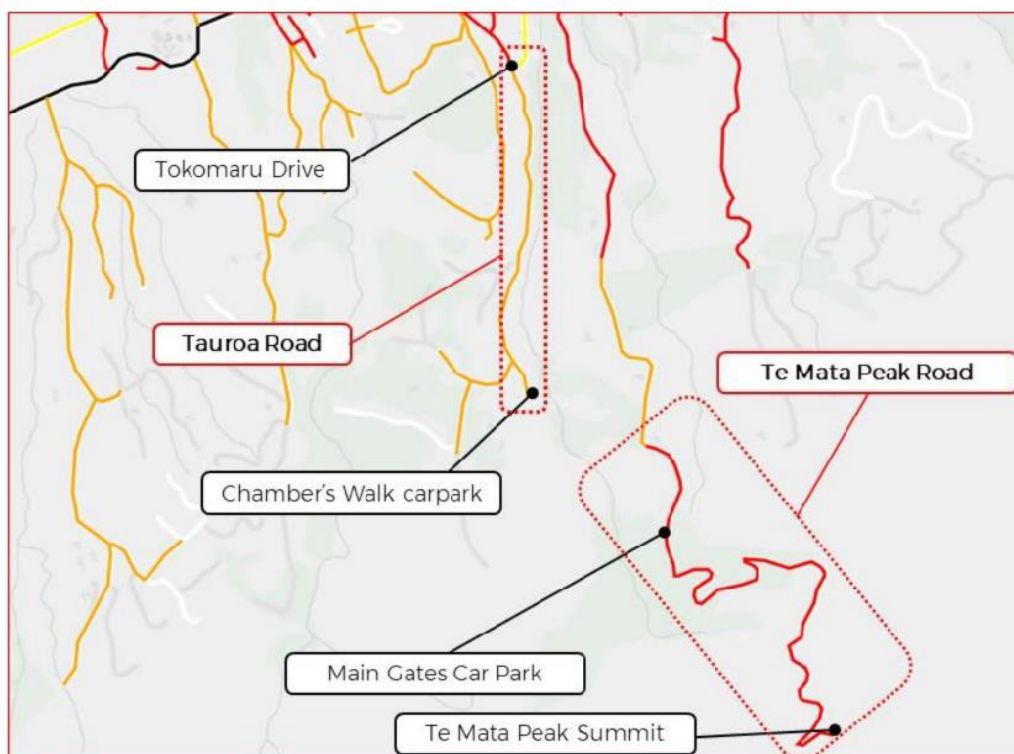


Figure 3-6: Infrastructure Risk Rating (IRR)

Implications:

- The combination of excessive operating speeds, no shoulders and high number of roadside hazards (including unprotected steep batters, large trees, roadside utilities and drop-offs), means accidents that result in run-off or loss of control crashes have the potential to result in serious outcomes on both corridors.
- This is compounded on Tauroa Road by limited berm space which requires pedestrians and cyclists to travel on the road, further risking the potential for collisions between users.
- Whilst Tauroa Road is only rated as having a "medium" IRR risk rating, this reflects the aggregate risk rating of roadside conditions between Tokomaru Drive and the Chambers Walk Carpark. The challenging section between RP 0.700-1.200 is more likely to have at least a "medium-high" risk if it were to be assessed in isolation.

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3.2.4 Active Modes

Neither roads are identified as cycle routes within the Hawke's Bay strategic cycle network (iWay); however, data obtained through the Strava GPS indicates that both routes form some of the most popular corridors for walking and cycling in Havelock North (see Figure 3-8). Although the HDC Engineering Standards indicate dedicated pedestrian and cycling facilities are not required for rural roads classified as local or collector routes (see Table 3-2 previously), it is unlikely that many other "rural" road corridors experience a similar level of pedestrian and cycling demand as on these routes.

The 2016 Te Mata Park Management Plan identified cycling as one of the most popular activities for users of Te Mata Park, with up to 30% of visitors stating cycling as their primary reason for visiting⁸. Current activities within the Park include the established off-road mountain bike trails through the Parkland and the use of Te Mata Peak Road as a training route for road cyclists.

Te Mata Peak Road

Surveys from 2018 indicate pedestrians and cyclists comprise 50-55% of all movements on Te Mata Peak Road to the south of the Saddle (on approach to the summit). The surveys recorded 400-450 active mode movements during the weekdays and 600-650 movements at weekends, indicating access demands are approximately 60% higher during weekends (see Figure 3-7).

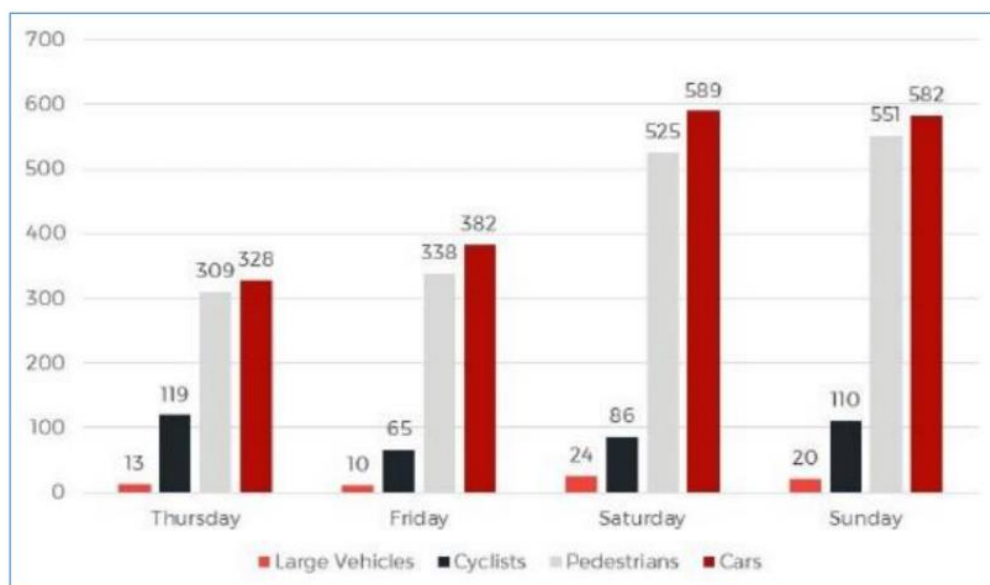


Figure 3-7: Daily Volumes of Users on Te Mata Peak Road north of the Saddle Carpark

Although off-road tracks are provided through the Park, many walkers prefer to use road to access the summit as the route is more accessible and less undulating – particularly to the south of the Saddle where the alternative pedestrian tracks are steeper. The provision of timber railings in 2014 has also reduced the available road width meaning less manoeuvring space for pedestrians and vehicles on the road, increasing the potential for conflicts between users (see Figure 3-9). The presence of pedestrians on the road further compounds the challenging roadside environment noted within Section 3.2.2.

⁸ Te Mata Park Management Plan (2016)

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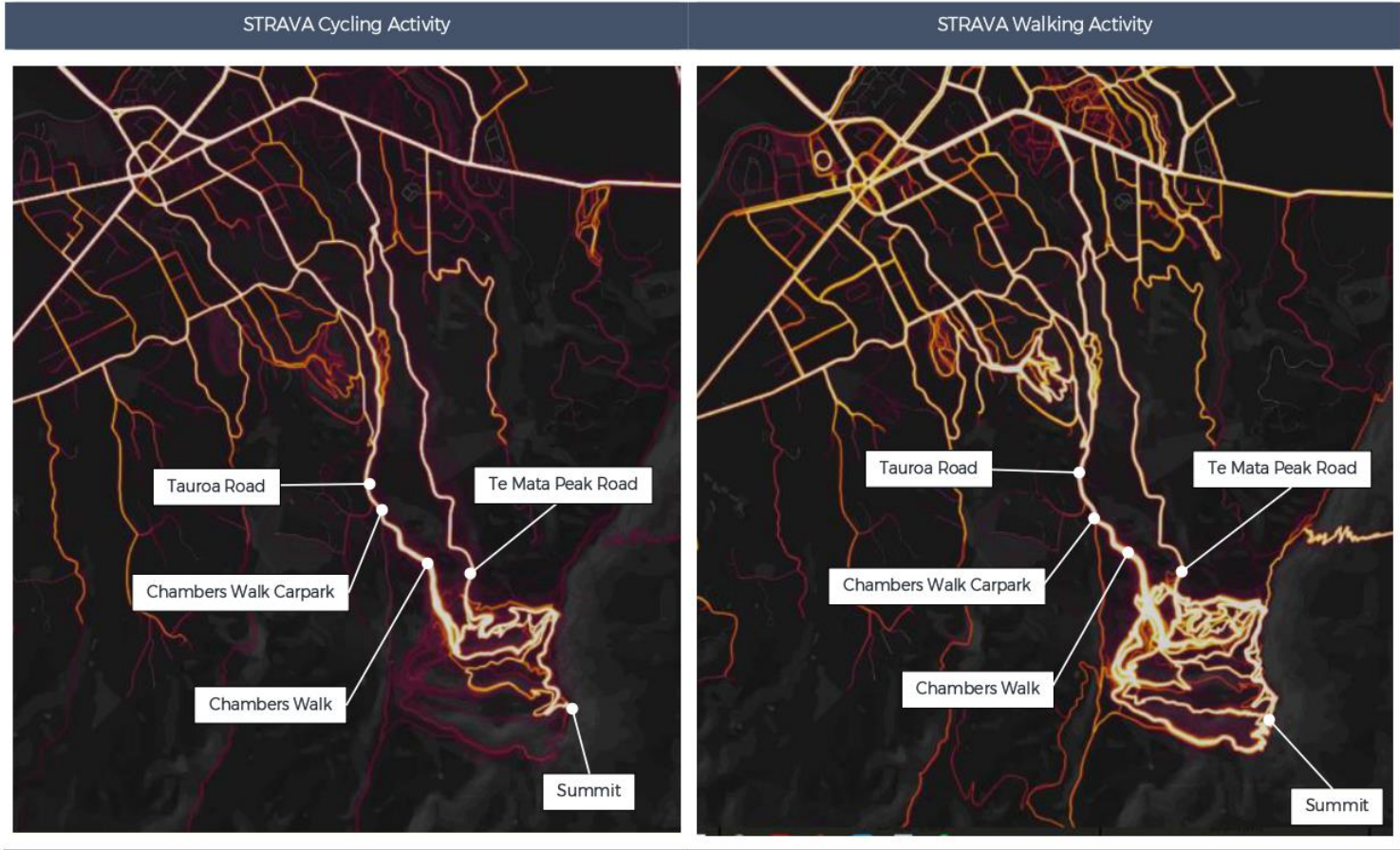


Figure 3-8: Heat Maps – Strava GPS Application Showing Cycling Activity (Left) and Pedestrian Activity (Right)

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Figure 3-9: Pedestrian Access Demands on Te Mata Peak Road South of the Saddle

Cyclists on Te Mata Peak Road generally comprise of sports cyclists travelling to the peak, or off-road leisure cyclists travelling to the top of various BMX tracks within the Park. The steep gradient of Te Mata Peak Road (approximately 10%) allows cyclists travelling downhill to achieve relatively high travel speeds, which combined with poor road surface conditions, winding alignment and steep drop-offs presents significant safety hazards for cyclists.

The steep gradient also mean cyclists travelling uphill have significant speed differentials to other vehicles accessing the Summit. The lack of safe passing opportunities, particularly when travelling in platoons, can create the potential for driver frustration and unsafe road behaviour (Figure 3-10).



Figure 3-10: Platoon of Cyclists on Simla Avenue Travelling towards the Te Mata Peak Summit

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Tauroa Road

Footpaths are provided on the eastern side of Tauroa Road north of the intersection with Tokomaru Drive; however, there are no formal facilities along sections of the route that serve rural residential areas between Tokomaru Drive and Chambers Walk Carpark (see Figure 3-11).



Figure 3-11: Typical Provisions for Pedestrians on Tauroa Road

Active mode demands along this section of the route include those travelling to the Park, as well as access demands associated with established and future residential areas (served by Tauroa Valley Road). Like Te Mata Peak Road, on challenging sections of Tauroa Road where footpaths are not currently provided there is limited berm space for pedestrians, which combined with sharp drop offs, high traffic speeds and narrow road widths creates safety concerns for users.

An alternative north-south pedestrian track is currently provided through the Tauroa Reserve (adjacent to Tauroa Road); however, the access into the reserve includes a relatively steep descent into the 'gully' where the path runs alongside the stream. This presents challenges for elderly or otherwise physically impaired persons to make use of this route. As it runs alongside a stream, the access route is prone to flooding and when muddy or raining the track becomes difficult to pass. In addition to this, the route is less direct than travelling on Tauroa Road and creates a personal safety concerns, particularly outside of daylight hours given the lack of passive surveillance and street lighting.

Implications:

- HDC Design Standards indicate specific pedestrian and cycling facilities are not required for rural local and collector roads; however, both corridors are relatively unique with active mode demands that are higher than would be expected on "typical" rural local or collector roads.
- The lack of separation between cyclists, road walkers and motorists combined with growing visitation demands (including buses and tour coach traffic) creates a growing safety risk for users.
- There are limited attractive alternative options to travelling along Tauroa Road when accessing the Park or residential growth areas on foot, given the form of alternative tracks through Tauroa Reserve.

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3.3 Problem Two



Problem Two: Increasing corridor demands are leading to conflicts and reducing user experience

The second problem relates to the ability of existing road corridors servicing the Park to support the existing and future access demands. This Problem Statement recognises user demands within the Park are growing, and the ability to accommodate the competing user demands is constrained by limited access routes, the capacity of existing trip end facilities (such as parking supply) and the ability of the challenging road corridor to efficiently manage conflicting access demands.

This Problem Statement also recognises there is a need to balance the provision of new transport infrastructure that supports growing user demands against maintaining the Park's highly valued character and outstanding natural landscapes.

3.3.1 Current Access Demands

Te Mata Park attracts a wide range of users, including sightseers accessing the summit for its outstanding views and those wishing to participate in sport and recreational activities (such as walking, cycling, orienteering and abseiling). As the regions 'pinnacle' park, Te Mata Park draws many vehicle-bound tourists to the summit.

Te Mata Park is the pre-eminent tourist attraction in Hawke's Bay and a highly valued and heavily used regional park, with the Peak recognised within Trip Advisor New Zealand as the #1 attraction within the Hastings District. Tourists comprise both cruise ship passengers and independent travellers, who are primarily sightseers visiting the site for its outstanding views rather than for active participation in recreational activity.

Traffic surveys undertaken at key locations on Te Mata Peak Road in November 2018 provide an indication of existing traffic access demands within the Park over a typical summer weekday and weekend period (see Figure 3-12). The surveys were undertaken at three locations to establish an understanding of general access demands into the Park as well as vehicle access demands to the summit.

The surveys indicate approximately 900 vehicles movements (450 return trips) were recorded entering the Park on Te Mata Peak Road during a typical weekday, increasing to 1,140 vehicle movements (570 return trips) during the weekend. To the south of the Saddle (on the approach to the summit) the surveys recorded approximately 360 vehicle movements (180 return trips) per day during weekdays, increasing to 610 vehicle movements (305) return trips per day on weekends. This indicates almost 40% of vehicle traffic entering the Park on Te Mata Peak Road travelled to the summit during weekdays, increasing to approximately 55% of all vehicle demands during the weekend.

The active mode and vehicle flow profiles on Te Mata Peak Road at the Saddle are shown within Figure 3-13 and Figure 3-14. During the weekend, traffic volumes steadily increased through the morning reaching a steady peak between 11:00hrs and 16:00hrs. During the weekday traffic volumes were significantly lower but remained more consistent throughout the day.

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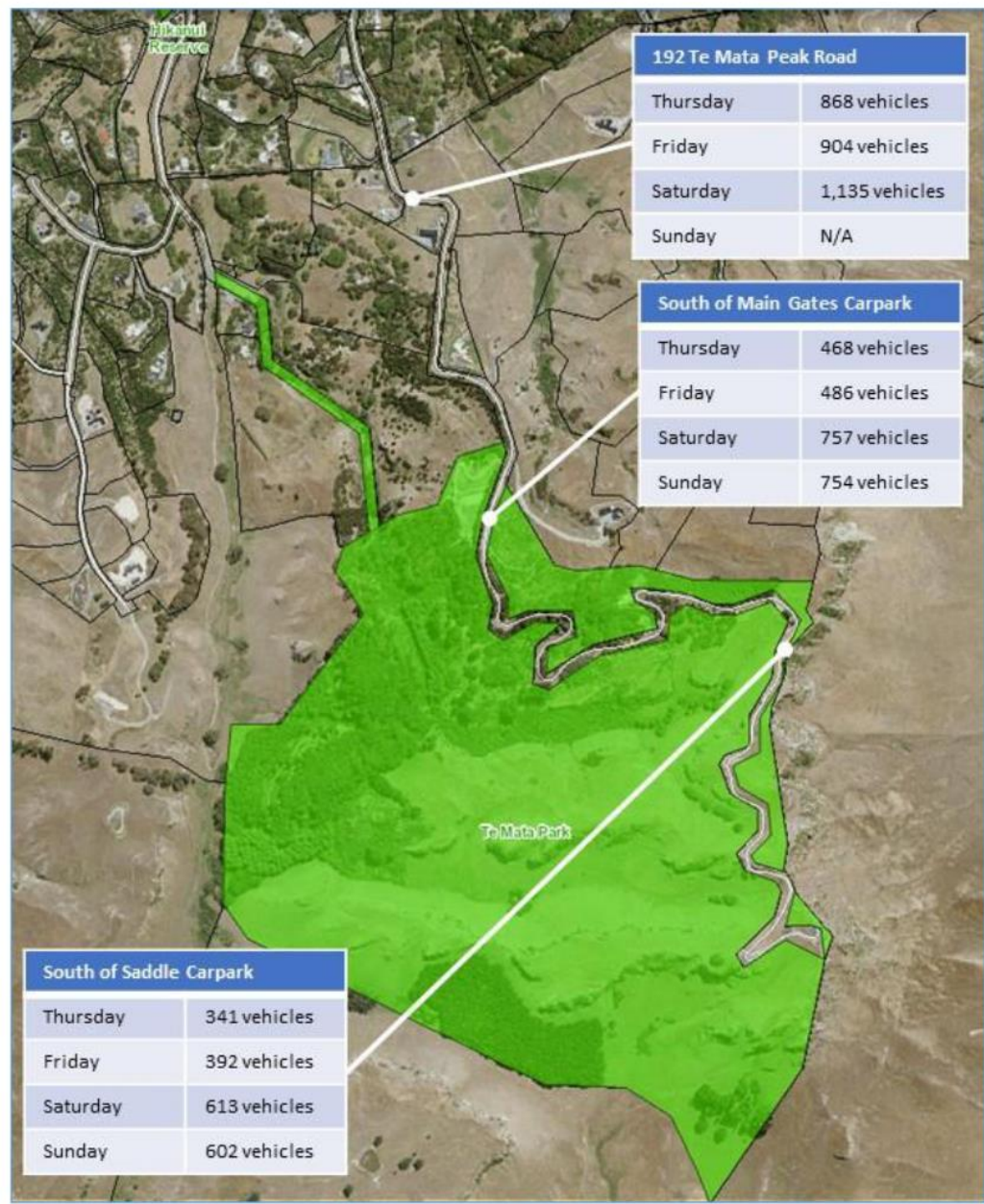


Figure 3-12: Summary of Daily Traffic Flows on Corridor

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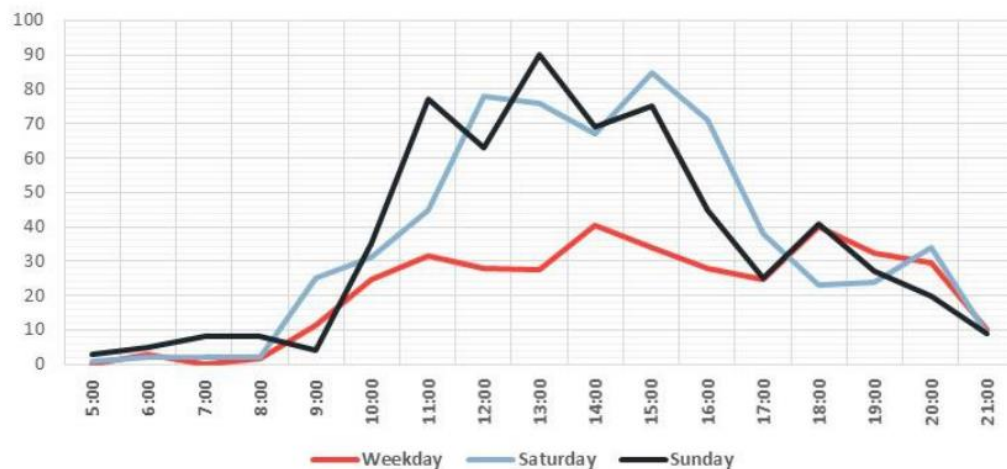


Figure 3-13: Profile of Vehicle Demands on Te Mata Peak Road (November 2018)

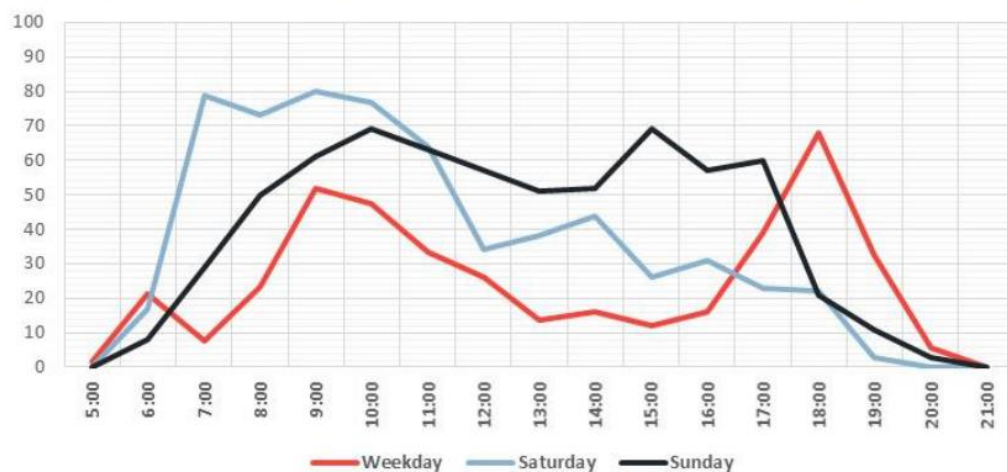


Figure 3-14: Profile of Active Mode Demands on Te Mata Peak Road (November 2018)

Active mode volumes were notably higher throughout the morning (between 07:00hrs and 11:00hrs) during both weekday and weekend periods. Whilst demand steadily declined for the remainder of the day during the weekday and Saturday surveys, they remained relatively consistent through the Sunday. The flow profiles indicate that whilst conflicts between users exist throughout the day, these are amplified during high weekend access demands.

The high volume of access demands onto the summit places significant pressure on the capability of existing end of trip facilities within the Park. The summit carpark currently provides capacity for approximately 25 vehicles in unmarked carparks. As shown in Figure 3-15, parking demand at the summit appears to exceed available parking supply on the summit at several occasions during the surveys, with notable peak access demands at weekends between 11:00hrs and 16:00hrs.

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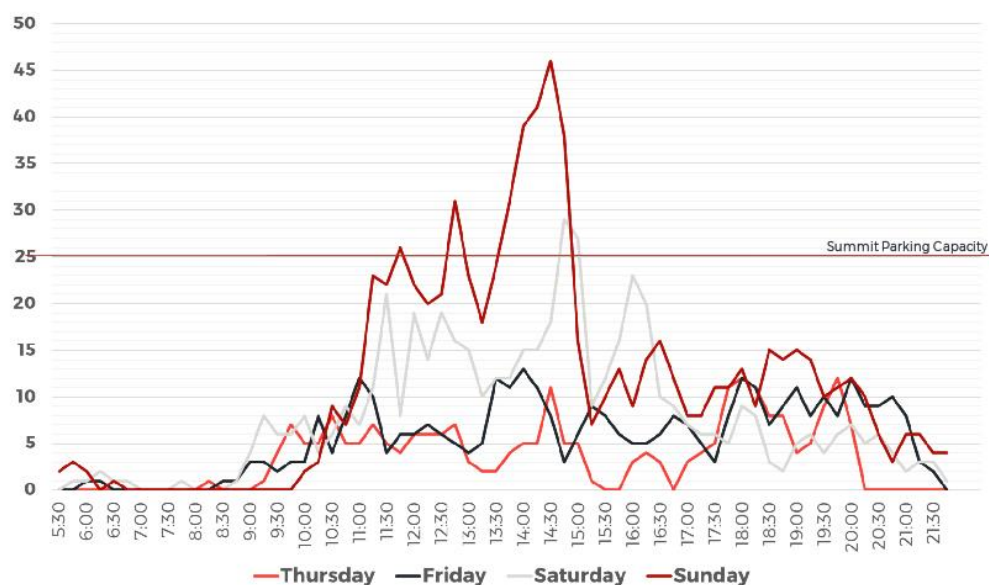


Figure 3-15: Access Demands on Te Mata Park Road at the Saddle

Whilst detailed parking surveys have not been undertaken at the Chambers Walk carpark, the Trust has noted similar capacity issues are regularly observed (see Figure 3-16).

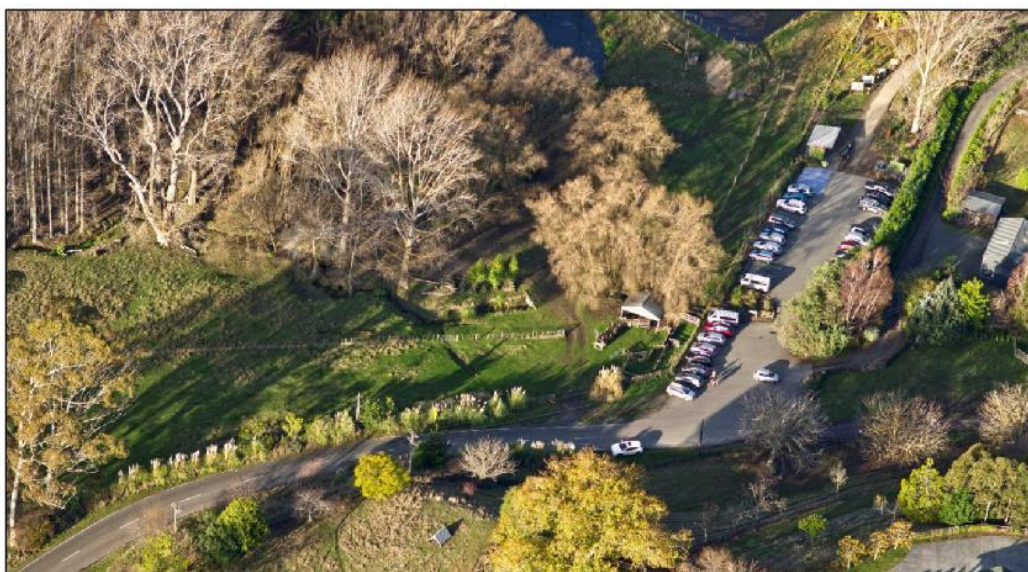


Figure 3-16: Aerial Image of the Chambers Walk Carpark at Capacity

Eco-counter surveys on Chambers Walk provide an indication of likely peak parking demands within the carpark (see Figure 3-17). Access demands during the weekdays typically peak early in the morning and later in the afternoon reflecting resident's use of Chambers Walk for daily exercise (i.e. walking, jogging or cycling). The data also demonstrates access demands are 80% higher during weekends compared with weekdays, which is expected to be reflected within weekend parking demand.

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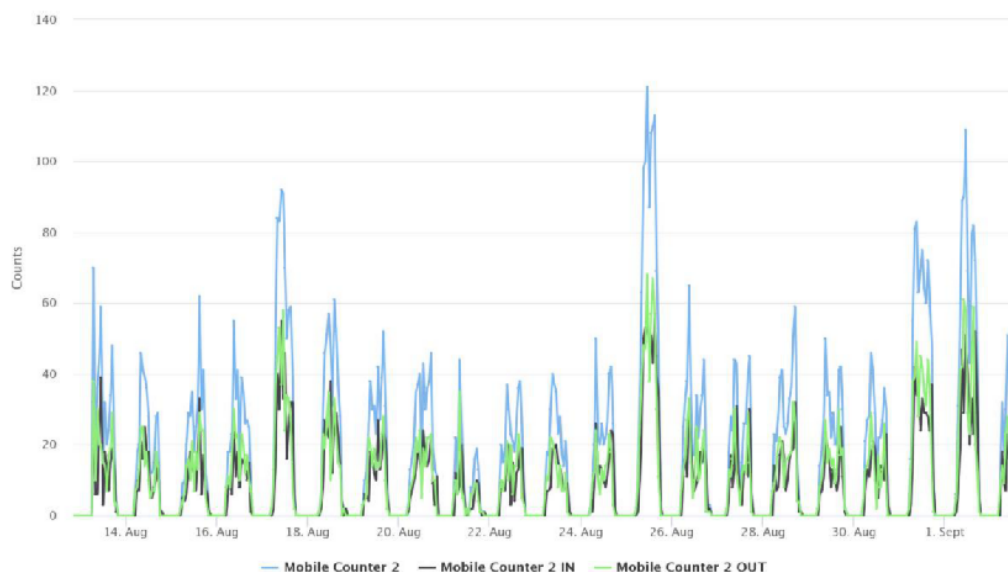


Figure 3-17: Eco-Counter Survey Data from Chambers Walk (August 2019)

Implications:

- Access demands into the Park vary significantly between weekday and weekend periods, with nearly twice as many visitors (by all modes) accessing the summit during the weekend.
- Analysis of access demands through the day indicate higher peak access demands by motorised traffic between 10:00hr-16:00hrs, whilst active mode demand remains relatively consistent throughout the day. This indicates conflicts are likely to be greatest between users during the middle of the day.
- Existing trip end facilities within the Park are already reaching capacity during periods of high demand (such as the summer time and weekends).

3.3.2 Future Access Demands

Historical tube count data on Te Mata Peak Road and Tauroa Road an indication of long-term background traffic growth rates on the Te Mata Peak Road and Tauroa Road since 2000 (see Table 3-3). Traffic volumes on Te Mata Peak Road have steadily increased by approximately 3% per annum year during both summer and winter periods. Tauroa Road has experienced a similar level of growth during summer months; however, lower growth was observed during the winter months.

Table 3-3: Seasonal Traffic Growth Rates on Tauroa Road and Te Mata Peak Road

Location	Summer Growth	Winter Growth
Tauroa Road	2.9% per annum	0.7% per annum ⁹
Te Mata Peak Road – North of Main Gates	3.0% per annum	2.8% per annum

⁹ Traffic volumes established from 2019 traffic count data are significantly higher than historic summer and winter volumes, and almost 300% higher than 2018 traffic volumes at a similar time of year. As such, this appears to be an anomaly. If this data were to be included, winter growth rates would be nearer 3%.

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The growth in access demand has been driven by the Park's role as one of the primary attractions for tourists and domestic visitors to the Hawke's Bay region, as well as the recent development and enhancement of facilities within the Park (such as the development of walking and mountain bike trails). It is expected that future growth in these sectors will continue to increase the volume and frequency of visitation to the Park by active modes, private vehicles and tour coaches.

Whilst future access demands on Te Mata Peak Road are expected to be driven solely by Park user demands, traffic growth on Tauroa Road is also expected to increase due to residential growth on Tauroa Valley Road. Current subdivision consents indicate ten additional rural residential properties are currently planned for construction, which would result in an additional 100 vehicle movements per day on Tauroa Road upon completion¹⁰.

In recent years, the significant growth of the Port of Napier as a cruise ship destination has been the primary driver for increased tourist access to the Park¹¹. Subsequently, the park has experienced growth in coach travel demand for sightseers travelling to the summit on organised tours. Whilst the border closure resulting from Covid-19 will reduce these demands in the short-term, the importance of tourism in supporting regional economic recovery and the prospect of increased domestic tourism is unlikely to result in significantly change these demands in the medium-to-long term.

Tour operators are required to implement a TMP when tour coaches are travelling to the summit; however, a number of operational and safety concerns remain given the winding nature of the road, the growing mix of access demands and the limit capability of the current facilities to support growth. Even with the TMP in operation, there is limited scope for driver error and on occasion large vehicles have been stuck on the Peak and resulting in closure of access for several hours, as recently experienced in December 2018 (see Figure 3-18).

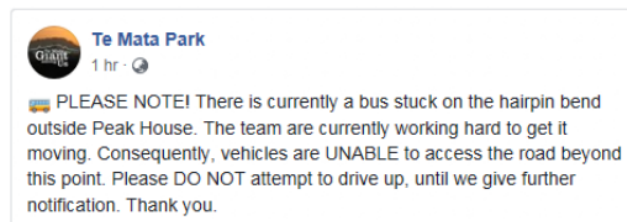


Figure 3-18: HDC Facebook Notice of Road Closure

As noted within Section 3.2.2, the primary coach tour operator (Nimons & Sons Ltd) will no longer be operating on cruise ship days on the peak based on growing safety concerns; however, this may continue to present a challenge as other bus companies may choose to operate the TMP, should they wish to access the peak on cruise ship days. Furthermore, Nimons & Sons intend to continue operating coach tours to the peak on non-cruise ship days.

User perception surveys undertaken by the Trust indicate visitor concerns relating to perceived safety and user access to the Park summit (see Figure 3-19). More than half of the respondents noted specific concerns with the safety of bus access to the summit, and general road safety concerns between the Saddle to the Summit.

¹⁰ Based on a typical trip generation rates of 10 trips per household per day.

¹¹ Prior to the disruption to international tourism resulting from the Covid-19 pandemic, the Port expected to see nearly double the volume of cruise ships visiting the city compared with 2015-16 season.

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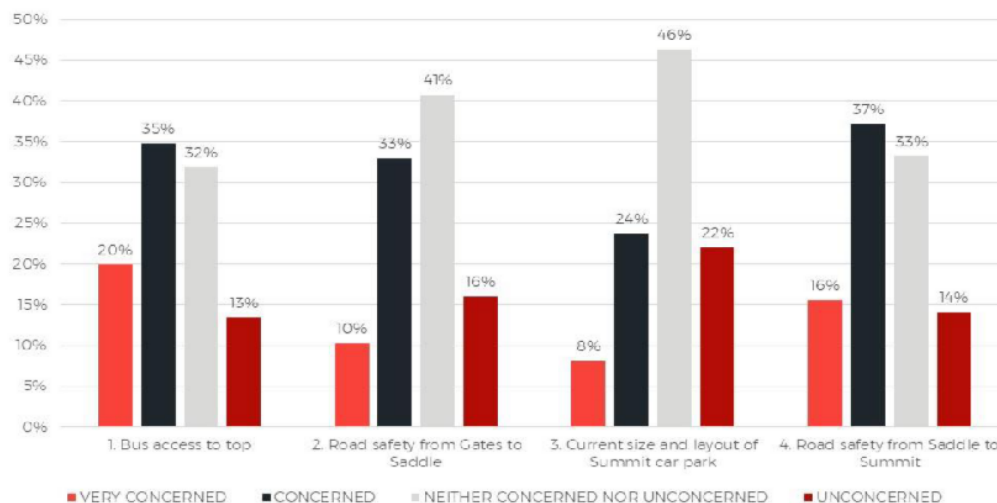


Figure 3-19: Te Mata Peak Trust – Customer Perception Survey Results

Impacts of Covid19

Waka Kotahi (NZ Transport Agency) are currently investigating the impacts of Covid-19 on industry at a national and regional level. The closure of borders due to Covid-19 has had a significant impact on international tourism within New Zealand, and research undertaken to date indicates it is not likely to recover for at least 18 months beyond what is possible through a Trans-Tasman-Pacific bubble¹². However, the report also recognises the region is less reliant than many on international visitors, with domestic tourism contributing over 75% of total tourism spend.

Whilst visitation demands to Te Mata Park resulting from international tourism are expected to reduce (at least in the short-term) these may be off-set by an increase in domestic tourism. Any reductions are also expected to be short-term, as the research also recognises that no significant changes are expected in the nature, scale and location of transport demand within the Hawkes Bay region over the medium to long term, and the 10-year outlook remains largely unchanged.

On this basis, the identified issues related to future growth and the subsequent urgency for responding to them remains unchanged.

Implications

- Whilst future traffic growth rates are not expected to alter the roads function or classification, the growing and changing access demands are likely to increase conflicts between users of the park.
- Growth in visitation will place further pressure on the Park's facilities and presents challenges for balancing (and accommodating) all user demands against the Park's highly valued character and its outstanding natural landscape.
- There is a risk that increasing access demands (both in terms of volumes and composition) will lead to increased congestion and conflict between user groups, particularly during peak seasonal visitation demands, which may result in a further deterioration of visitor satisfaction.

¹² <https://www.nzta.govt.nz/assets/planning-and-investment/docs/arataki/regional-summary-6-hawkes-bay-potential-impacts-of-covid-19.pdf>

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3.4 Problem Three

10%

Problem Three: Deteriorating road asset condition will result in a reduced Level of Service

If maintenance is neglected or improperly performed there is the risk of rapid deterioration of the road and eventual failure from both climatic and vehicle use impacts. There would also be a risk of occasional pavement failures if maintenance treatments fall below the base preservation levels. This would likely attract increased complaints from road users in the community, impact on safe and efficient user access and may result in negative media coverage.

Issues (and opportunities) relating to maintenance of road assets on Tauroa Road and Te Mata Peak Road include:

- Existing retaining wall structures on Tauroa Road adjacent to the Tauroa Reserve that are nearing the end of their design life and are likely to require replacement soon. Reconstruction / maintenance of the retain wall provides an opportunity to revisit the existing road alignment on this section;
- Maintaining roadside vegetation on Tauroa Road which if not managed on a frequent basis impacts on driver visibility and operating widths of traffic lanes;
- Increasing volume of traffic on Te Mata Peak Road (in particular heavy vehicles such as coaches) will lead to a quicker deterioration of pavement condition and increased surface maintenance required to maintain ride quality for all users;
- Ensuring roadside signage, road safety infrastructure (i.e. barriers) and delineation devices are maintained, and provide sufficient guidance and safety advice to visitors without cluttering the landscape and impacting on the aesthetic values of the Park; and
- Providing suitable access / minimising disruption during maintenance work on Tauroa Road and Te Mata Peak Road as there are no alternative routes that can be used to provide vehicle access when construction activities are occurring.

Implications

- Future maintenance work provides opportunities to improve road condition/comfort and user safety, and implement capital improvements identified within the CMP (where warranted).
- Co-ordinating capital improvements with future maintenance programmes would benefit the community through reduced frequency and duration of construction related disruptions.

3.5 Summary of Benefits

In response to the identified problem statements, three benefit statements were identified by the stakeholder representatives.

These were centred around the following benefit themes:

- **Benefit One:** Improved safety [both perceived and actual] for all users (50%)
- **Benefit Two:** Enhanced experience for all users (40%)
- **Benefit Three:** Meet level of service expectations (10%)

The linkages between the identified problem statements and benefits from resolving them are presented in Figure 3-20. The benefits of resolving the problems were considered by stakeholders to be well linked to the identified problems and key issues identified during workshop discussions.

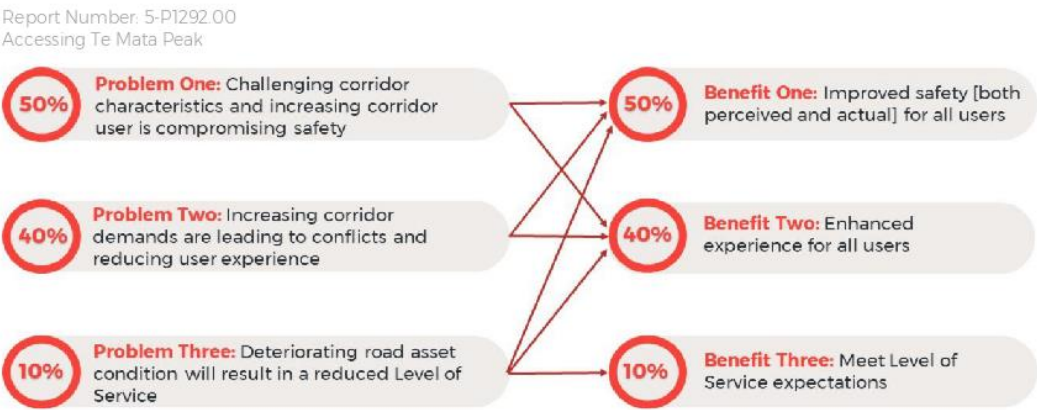


Figure 3-20: Linkages between Problem and Benefit Statements

Consideration has been given to the how potential improvements contribute towards resolving these problems and delivering these benefits, through the option development and assessment phase (Part B) of the CMP.

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Part B – Corridor Strategy and Option Identification

This part of the report identifies proposed strategic improvements Te Mata Peak Road and Tauroa Road in response to the problems identified in Part A.

Each chapter outlines the site-specific problems and recommended strategies identified to resolve identified network deficiencies. The improvements identified within the strategy range from policy-based recommendations that could be implemented in the short-term to long-term physical works that could be implemented on the corridor to support the safe and efficient operation of the corridor over the next 30-years.

Identified corridor improvements comprise suggestions provided by the stakeholders as well as technical solutions identified by the project team. The strategy also provides a record of potential corridor improvements/enhancements that were considered by the project team but ultimately dismissed.

All identified improvements along the corridor are recorded within the implementation plan (Chapter 6). The implementation plan outlines the recommended timeframes for implementing identified improvements, considering a range of factors such as construction complexity, affordability and potential integration with forthcoming works. The implementation plan provides a basis upon which Council can plan Forward Works Programmes on the corridor.

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4 Te Mata Peak Road – Route Strategy

Summary

This section of the CMP summarises the issues and constraints specific to Te Mata Peak Road as identified within the Strategic Context (Part A), and provides an outline of the options identified and considered in developing the route strategy for Te Mata Peak Road through the Park. It also establishes the recommended strategy for responding to identified issues, focusing of short-term route enhancements and longer-term access options.

The route strategy outlines a range of potential corridor wide engineering improvements that have been considered but dismissed, given the adverse impacts on the amenity and environment of the Park. As such, the route strategy has identified:

- Enhancements to the roadside environment that seek to manage and/or mitigate current risks and issues under existing operating conditions, including pedestrian access improvements, roadside enhancements and speed limit changes; and
- Longer-term access options primarily focused on controlling vehicle access as a response to both operational and safety concerns identified within the Strategic Case.

4.1 Specific Issues

The following issues specific to Te Mata Peak Road have been identified through the CMP:

- The combination of narrow road widths, winding alignment and high number of roadside hazards, means accidents have the potential to result in serious outcomes. There has also been an upward trend in crashes over the last few years, including crashes involving people using active modes.
- The lack of separation between cyclists, road walkers and motorists creates a safety risk for users. Growing access demands by a range of users will lead to increased exposure and risk of crashes occurring, particularly those involving vulnerable road users (i.e. pedestrians and cyclists).
- Existing trip end facilities within the Park are already reaching capacity during periods of high demand (such as the summer time and weekends). Growing visitation will place further pressure on the Park's facilities and presents challenges for balancing (and accommodating) all user access demands against the Park's highly valued character and its outstanding natural landscape.
- Growing demand for bus access to the summit is considered unsustainable from an access, capacity and safety perspective, and is a recognised concern for the Te Mata Peak Trust and Park visitors.
- There is a risk that increasing access demands will lead to increased congestion and conflict between user groups on Te Mata Peak Road, which may result in a further deterioration of visitor safety and user experience.

4.2 Options Considered

An initial assessment of a range of options and activities on Te Mata Peak Road was undertaken to identify their benefits and disbenefits, as well as their contribution towards resolving the problems and high level feasibility of delivery. The purpose of the assessment was to establish options that are most practical or beneficial in responding to the problems. A full analysis of these options is provided within **Appendix E**.

In assessing the long-list of potential responses, a number of large infrastructure responses were considered inappropriate in responding to the problems as:

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- Major changes to the existing road alignment (such as widening or expanding car parking provisions) require significant modifications to the existing roadside environment. These options would have significant detrimental impacts on the environmental, cultural and visual landscape of the Park, and do not align with the vision and values for the Park of the Park Management Plan.
- Improving the journey experience and enhancing vehicle access to the summit for motorised traffic may induce latent demand, which is considered unsustainable given limited scope for expanding existing trip end facilities within the Park; and
- Consensus from stakeholders was that some form of access controls for general traffic to the summit is considered the "preferable" long term response to problems as the current situation is not sustainable. Large scale capital improvements would be cost prohibitive and provide poor value for money, particularly given that the benefits of implementing these options would be redundant if long-term access controls are applied.

As such, the CMP has focused on options that enhance or manage access, rather than options that seek to provide additional capacity to support vehicle access. On this basis, a number of major capital improvements identified within the long-listing process were removed (see Table 5-2).

Table 4-1: Te Mata Peak Road – Long List Options Not Considered Further

Option	Description	Reason for Dismissal
Realignment of Road (Peak House)	Realignment of corridor adjacent to peak house to remove existing hairpin bend.	Option would improve access to the peak for larger vehicles, but provide limited benefits to reducing potential collision risk between users. The option would primarily improve access for large vehicles to the Peak, which form a relatively small minority of total access demands. The project also requires significant capital investment and earthworks to achieve alignment. There are also the potential for major adverse environmental impacts as a result of construction.
New Roading Connection	This option would provide an alternative access route to the peak, reducing pressure on the existing Te Mata Peak Road route.	Access to the peak follows the existing ridgeline and there are limited practical alternative options to provide an alternative connection to Waimarama Road existing road, or a looping route back to Te Mata Peak Road to reduce pressure at the summit. Any options are also likely to have adverse environmental impacts because of construction. Improved vehicle access may also induce greater traffic visitation to the peak, increasing potential for conflict with other users and reducing user experience.
Widening to Full Two Lanes	This option would widen the existing road corridor on Te Mata Peak Road to provide consistent two-way access to the peak.	There is little scope to provide two full lane widths along the full extent of Te Mata Peak Road without major capital investment and widening into steep banks, with adverse environmental impacts. The option would not contribute towards reducing potential conflicts with other non-vehicle based users.
One-Way Priority Movements (signals or signage)	This option would provide one-way priority at pinch-points to reduce conflict between vehicles	Majority of pinch-points provide limited stacking capacity mean the option would likely have limited benefits. They would also provide limited benefits on corners as forward sightlines are restricted. Remoteness of the environment and impacts on amenity restrict benefits of signalised options.
Gondola / Land Train Access	Provision of a gondola / land train access to the Peak, removing the need to drive to the summit (similar to Rotorua).	Option provides benefit through reducing car access demand to the peak, and provide a new attraction that would support journey experience; however, it would need to be built/operated by a third party, and has significant potential impacts on cultural, visual and environmental impacts. Visitation numbers are also unlikely to warrant its provision (at present).

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Option	Description	Reason for Dismissal
Footpath Full Length	Provision of a dedicated footpath / boardwalk along the full extent of Te Mata Peak Road	Option would separate pedestrians from vehicles on Te Mata Peak; however, effects are similar to widening to two full lanes (Option C3) and would require significant earthworks/costs to deliver.

4.3 Interim Improvements

The CMP recognises a number of potential opportunities or improvements that could be made to improve or enhance existing roadside conditions, including pedestrian access improvements, roadside enhancements and speed limit changes. These improvements largely focus on small, quick win projects that are considered achievable and cost effective in the interim.

4.3.1 Speed Limit Review and Speed Control Devices

The existing posted speed limit on Te Mata Peak Road varies from 40km/hr between the Main Gates carpark and the Saddle, reducing to a 20km/hr speed limit between the Saddle and the Summit.

The NZTA Speed Management Guide (First Edition 2016)¹³ provides guidance on the setting of safe and appropriate speed limits with consideration given to route classification, user types and the surrounding land-use environment. The Guide recommends setting a safe and appropriate speed of 20km/hr through parks or recreational spaces.

Implementing a posted speed limit of 20km/hr on Te Mata Peak Road between the Main Gates Carpark and the summit would provide a number benefits:

- **Self-Explaining Environment:** Removing multiple posted speed limits provides a more consistent and intuitive speed to the summit, and promotes the route as a low speed environment giving drivers cues that they are entering a park with mixed use access demands.
- **Speed Differentials between Users:** Lower posted speeds for general traffic would reduce speed differentials between motorised and non-motorised users (i.e. as cyclists travelling uphill). This reduces the potential for driver frustration and unsafe road behaviour, such as unsafe overtaking.
- **Improved Pedestrian Safety:** Lower speeds reduce the risk of crashes involving vulnerable road users resulting in serious outcomes. Studies have shown pedestrians have a 90% chance of survival when struck by a car travelling at 30 km/h or below, but less than 50% chance of surviving an impact at 45 km/h.¹⁴
- **Driver Safety:** There are several low-radius curves on north of the Saddle which have an operating speed of less than 40km/hr. Lower traffic speeds reduce the chances of vehicles crashes resulting from inappropriate speeds including head-on collisions or loss of control crashes.

In addition to reviewing the speed limit, consideration of speed management devices between the Te Mata Peak main gates and the Te Mata Peak Summit car park could be conducted in key areas (ensure clear passage for cyclists).

4.3.2 Pedestrian Improvements

Access improvements considered in the interim aim to increase safety of vulnerable road users, raise the priority of these users and enhance user experience.

The Te Mata Peak Trust develop and maintain tracks throughout the Park which are intended to be the primary access for pedestrians. There are several locations where these tracks interact with the road which could be enhanced to raise awareness of pedestrian presence. It is also recognised many

¹³ <https://www.nzta.govt.nz/assets/Safety/docs/speed-management-resources/speed-management-guide-first-edition-201611.pdf>

¹⁴ https://www.who.int/violence_injury_prevention/publications/road_traffic/world_report/speed_en.pdf?ua=1#:~:text=For%20example%2C%20pedestrians%20have%20been,impact%20at%2080%20km%2Fhr

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pedestrians also choose to use the road to access the summit, creating potential conflicts with other users.

Shared Zones

Consideration could be given to establishing a "Shared Zone" on Te Mata Peak Road within the jurisdiction of the Park. Shared zones aim to eliminate the segregation of road users, where space is shared safely by vehicles and pedestrians, and where pedestrian priority takes precedence over ease of vehicle movement. Shared zones are typically applied in urban environments with high pedestrian demand; however, given the lack of separation between users and the relatively high volume of pedestrian demand the route largely operates under shared space principles at present.

A Shared Zone could encompass the entire section of Te Mata Peak Road from the main gates to the summit or could be focused in high-use and conflict areas e.g. from the main gates to the pedestrian crossing and around the Saddle and at the summit car park. These would be reinforced through appropriate signage at gateways into the zones (see Figure 4-1).



Figure 4-1: Example of Shared Zone Signage¹⁵

An official designation is required for the route to be classed as a 'shared zone', and traffic bylaws would require specific resolutions to designate space(s) as a 'shared zone'. Alternatively, should a 'shared zone' be considered inappropriate within the Te Mata Park environment, advisory signage could be considered based on these principles to inform drivers to expect vulnerable road users, and encourage courteous road behaviour.

Pedestrian Crossing Facilities

Pedestrian crossing enhancements have recently been applied at the entrance to the Park (adjacent to the Main Gates carpark) to raise awareness and reinforce the presence of pedestrians and cyclists crossing the road (see Figure 4-2); however, there are several other locations throughout the park where pedestrian tracks interact with Te Mata Peak Road with no formal warning to users.

¹⁵ https://www.rms.nsw.gov.au/roadsafety/downloads/shared_zone_fact_sheet.pdf

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Figure 4-2: Pedestrian Crossing Provisions at the Main Gates Carpark

It is recommended that similar treatments are applied at other locations between the Main Gates and the summit where pedestrian activity can be expected to increase safety and experience for trail users. Treatments could be applied in isolated areas where tracks cross the road (i.e. adjacent to Peak House) or larger areas where multiple activities are present (such as the Saddle). To create a clear and legible environment to road users, it is recommended that treatments are consistently applied through the Park, including the use of coloured surfacing and transverse road markings.

The Trust regularly develops and enhances pedestrian tracks throughout the Park. As future facilities are developed, it is recommended crossing treatments are identified, developed and delivered in co-ordination with Council.

4.3.3 Signage Strategy

Traffic signs aid in the safe and orderly movement of traffic and provide drivers with warning of roadside hazards or conditions along the route, therefore clear and efficient signing is essential. This is particularly important for routes such as Te Mata Peak Road which provide access to a range of visitors who are likely to be unfamiliar with the road and its surrounding environment.

In some locations, current signage is in a poor condition, or mounted on multiple posts. It is recognised that a balance is needed in providing sufficient information to inform drivers of hazards whilst recognising over provision results in visual clutter that detracts from the aesthetics of the surrounding environment.

It is recommended that Council develops an updated signage strategy for Te Mata Peak Road that reviews the location, condition and usefulness of existing and future roadside signage, considering the following:

- Signage is maintained to ensure it remain legible for users and erected only where there is a demonstrated need;
- Signs are placed in the best position to inform drivers, and should be logically and clearly structured;
- Signs are sited where sufficient berm space is available to ensure pedestrian access along tracks adjacent to the road is not unduly impeded; and

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- Signs accommodate only important information and presented in graphic form wherever possible, as this is a universal language.

Through the route strategy, it is recommended that suitable signage is considered and provided at the entrance to the park to:

- Reinforce awareness of the presence of pedestrians and cyclists on the route informing drivers they are entering/exiting an area with high pedestrian and cycling demand (in addition to signage in high use areas);
- Ensure park users are informed of any access restrictions (both current and future) on Te Mata Peak Road when entering the Park; and
- Ensure park users are aware of the challenging road conditions that can be expected when travelling to the summit (such as winding and narrow roads).

4.3.4 Road Marking and Delineation

A driver's prior expectations about the standard of road markings and delineation are a major factor their ability to negotiate the road environment safely. If these road markings or delineation devices are not provided, or not used in a consistent manner, driver expectations are not met and the chances of a motorist entering a hazard at too great a speed increase.

Road marking and delineation devices on sections of Te Mata Peak Road within the Park exceeds what is required within relevant design guidance¹⁶ and includes:

- Painted edge lines along its full extent;
- Chevrons signs and raised reflectorized pavement markers on selected curves between the main gates carpark and Peak House.

The narrow carriageway width means drivers are regularly required to drive over edge lines which reduces treatment life. It is recommended that existing road marking is maintained on a regular basis to ensure edge lines remain effective and clear for drivers, particularly on sections approaching the summit where this is the only form of delineation provided.

Analysis of crash history indicates a loss of control crashes and head-on collisions with oncoming traffic and driving on the wrong side of the road. Given the high volume of visitors to the Park – in particular, international visitors that are likely to be unfamiliar with NZ road conditions – the road environment could be further enhanced through the provision of additional delineation devices such as intermittent on-road directional arrows or keep left signs.

Areas between the Te Mata Peak main gates and the Te Mata Peak Summit car park could also be identified for the use of suitable road markings (e.g. transverse lines, zig zag, dragon tooth) to slow drivers through tight corners and highlight areas of high user conflict (such as pedestrian crossing zones).

4.3.5 Existing Vehicle Access Restrictions

Night-time Access Restrictions

In 2014, the Te Mata Peak Trust and Hastings District Council implemented vehicle restrictions on Te Mata Peak Road, closing access to the summit (south of Peak House) to all vehicles between 10pm and 5am. The fixed time restriction throughout the year was considered the most advantageous option as it sought to manage the primary issue of risk taking by young drivers and provides one set time that people will be able to easily understand.

The vehicle restriction was a direct measure to target the risk taking by young drivers which was a primary trend identified within the crash analysis at the time. The closure restrictions were

¹⁶ Including the Guidelines for Rural Road Marking and Delineation, RTS 5, New Zealand Transport Agency and the HDC Engineering Code of Practice (2011)

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supported Te Mata Peak Trust Board to mitigate anti-social issues that regularly occur on the summit, including (but not limited to) illegal dumping of waste, discharging fireworks and arson.

Analysis of crash history indicates the restrictions (in co-ordination with lower speeds and barrier installation) have contributed towards a reduction in serious crashes on the summit; however, it is understood that not all antisocial behaviour has been eliminated. Furthermore, the time restrictions are applied consistently across the year, meaning vehicles can access the summit during several hours of darkness over winter periods.

There appears to be scope for seasonally adjusting these closure times so closures occur earlier during the winter months, to support a further reduction in anti-social activity and reduced crash risk for vehicles negotiating difficult sections Te Mata Peak Road during the evening/night time during winter. This is supported by the Te Mata Peak Trust in principle.

Operating hours could be adjusted to reflect daylight saving times and should be consulted upon with stakeholders; however, suggested operational hours may include:

- Winter Periods: 19:00hrs to 06:00hrs
- Summer Periods: 22:00hrs to 05:00hrs

To reduce confusion and support compliance, the changing operating hours should be clearly signposted at the gate, and could also be repeated at the main access.

Whilst the existing gates prevent access to the Peak Summit outside of daylight hours, there are currently no restrictions in place at the entrance to the Park, meaning the public is able to access the main gates carpark at all times. Whilst vehicle restrictions have largely supported a reduction in antisocial behaviour at the summit, these activities still remain within the Main Gates carpark area.

The existing barrier system could be relocated to the main gates to restrict all unauthorised vehicle access into the Park outside of identified daylight hours in response to these issues. This is supported by the Te Mata Peak Trust in principle. This option would be subject to acceptance of key stakeholders (i.e. operators of Peak House), and could be implemented as part of the first stage of any long term access restrictions (discussed further in Section 4.4).

Large Vehicle Access

Access to the Park summit for vehicles exceeding 7.5m in length is currently restricted to the south of the Saddle carpark; however, coach vehicles are permitted to travel to the summit subject to the implementation of an approved Traffic Management Plan.

The existing vehicle access restrictions are communicated via roadside signage, located immediately to the south of the Saddle carpark. At present, there are no prior warnings informing users of vehicle access restrictions on the Peak. Vehicles travelling to the summit are required to either park at the Saddle or undertake or travel back towards the Main Gates to provide a suitable parking area.

It is recommended that Council:

- Considers extending the existing large vehicle restrictions along the full extent of Te Mata Peak Road to the south of the Main Gates carpark; or
- Provide additional signage at the main gates to clearly inform users that access restrictions exist for large vehicles on approach to the summit.

Both options would provide greater clarity of existing access restrictions and reduce the potential for confusion and driver non-compliance.

4.3.6 Parking Improvements

At present, approximately 120 parking spaces are provided on Te Mata Peak Road within the Park, with the majority of spaces provided within the Main Car Park area, with the remainder located at Peak House (20 parks), the Saddle (7 parks) and the Summit (25 parks).

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The Te Mata Park Management Plan recognises the need to provide vehicle parking facilities in the park where this will address demand, without impacting on the landscape values of the park or result in loss of valuable open space. Following the development of the Management Plan, significant improvements have been undertaken at the Main Gates carpark, including increased parking capacity and development of supporting amenities including toilet and picnic facilities.

Options for further enhancing other parking areas within the Park in the short-term have been considered, as outlined below:

Reconfigure the existing carpark at the Summit to increase capacity and improve the accessibility and safety for tour buses.

As outlined within Section 3, the Summit carpark is primarily used by short-term visitors to Te Mata Park, travelling to the summit for the spectacular views provided from the Park summit of the surrounding Heretaunga Plains. This carpark area often reaches capacity during peak periods, which is further compounded by the need to support bus/coach access when operating.

Given the extremely constrained environment at the summit, there is limited scope to expand car parking facilities without detrimental impacts on the surrounding natural environment; therefore, demand management or optimisation of existing facilities is considered preferable.

Current issues relating to conflicts with bus access are largely managed using a traffic management plan, (when operational) and should continue to operate whilst bus access to the peak is permitted. The need to provide ample turn around space within the summit for manoeuvring buses restricts the ability to provide additional "formalised" parking spaces for normal vehicles.

Full restrictions on summit access to large vehicles (i.e. as discussed in Section 4.3.5) may enable some of the existing bus manoeuvring space to be reallocated to general parking; however, this would only provide short-term benefits as existing peak period parking demands already exceed the likely additional parking supply that could be achieved through this arrangement.

Large scale access restrictions that seek to restrict all unauthorised vehicle access to the peak would eliminate existing parking concerns at the peak (see Section 4.4) and is considered the most effective option in managing competing access demands. Adjustments to existing parking arrangements within the Saddle carpark are therefore only considered an urgent short-term improvement in the event of a delay in delivering "long-term" access restrictions.

Reconfigure the unsealed parking area below Peak House to increase its carparking capacity.

The Peak House carpark is located approximately 800m south of the main entrance to the Park, and primarily provides access to facilities at Peak House (RP3.42). The carparking facilities adjacent to Peak House comprises the unsealed parking area located below Peak House, and a separate mobility impacted parking space located at the hairpin bend immediately adjacent to the Peak House access. The carpark is underutilised at present, in part due to it being unsealed/unmarked, poorly signposted, and bounded by overgrown vegetation on its perimeters.

A concept plan of potential parking arrangements within the Peak House carpark is shown within Figure 4-3, indicating sufficient space is available to provide 15 car parking spaces (90 degree) and associated manoeuvring space without significantly impacting on surrounding natural environment (including trees and vegetation). A similar arrangement could be mirrored on the opposite side to support additional parking provisions; albeit with greater impacts on the surrounding natural environment.

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Figure 4-3: Concept Plan of Potential Parking Arrangements at Peak House

Formalising existing parking arrangements coupled with improved signage at Peak House would increase attractiveness of using the facility, and support improved parking discipline when in use. Any proposed alterations to the existing car parking arrangements should be investigated and developed collaboratively with the Trust and tenants.

Enhancing facilities to provide additional parking capacity would also offset some of the wider impacts of potential access restrictions, in particular where options to restrict access for unauthorised vehicles south of the Saddle Carpark are considered.

The Te Mata Park Management Plan outlines the need to further monitor parking usage and access demands to ensure increases to parking capacity and operations reflects changing demands. This is supported by the CMP, and is recommended that a parking monitoring programme is developed in conjunction with HDC to frequently gauge changes or future emerging trends, particularly if future access restrictions are considered (see Section 4.4). As

4.4 Access Restrictions

The identified interim improvements provide a range of short-term improvements that seek to manage safety on Te Mata Peak Road under existing conditions; however, the route strategy recognises that broader access controls are needed to effectively respond to safety and operational concerns on the route.

This section of the route strategy outlines the potential access control options identified with key stakeholders that could be applied to Te Mata Peak Road, and provides an outline of the relative benefits and disbenefits of each option. The route strategy also identifies key issues that would need to be considered in the implementation of access controls as initiatives are progressed.

4.4.1 Options Considered

The identified access management options for management involves limiting access on Te Mata Peak Road for some, or all, motorised vehicles. Six options have been identified and assessed through the CMP for consideration as outlined within **Table 4-2**.

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Table 4-2: Description of Long-Term Access Control Options

Option	Description
Option 1: Restricted Access – Saddle to Summit	This option would result in the full closure of Te Mata Peak Road for unauthorised vehicle access from the Saddle to the Peak summit, but would provide vehicle access to the Saddle. Access to the summit by non-motorised modes would be retained.
Option 2: Restricted Access – Main Gates to Summit	This option would result in the of full closure of Te Mata Peak Road for unauthorised vehicle access from the Main Gates carpark to the Peak summit. Access to the summit by non-motorised modes would be retained.
Option 3: Restricted Access During Peak Periods	This option would seek to restrict unauthorised vehicle access on Te Mata Peak Road during periods of peak access demand. This option may include vehicle access restrictions for a specific period of the day (i.e. 10:00-16:00hrs) or full access restrictions across certain days (i.e. weekends). Outside of these restriction periods, vehicles would be permitted to access the peak under the existing access arrangements.
Option 4: Restricted Access to Large Vehicles from the Main Carpark to Peak	Vehicles exceeding 7.5m in length are currently permitted between the main gates carpark and the Saddle, with only authorized vehicles permitted to access the summit. This option would seek to extend the existing vehicle length restrictions along the full extent of Te Mata Peak Road between the main carpark and the summit.
Option 5: Amendments to Existing Vehicle Size Limitations	This option would seek to amend the existing vehicle access restrictions between the Saddle and the Peak, to a new limit (to be established) less than 7.5m. For example, a 5.0m vehicle length restriction would limit access for vehicles larger than a 90 th percentile car, limiting access for larger campervans, some mini-buses etc.
Option 6: Create a Low Emission Zone	This option would create a "low emission zone" within the park, restricting vehicle access on Te Mata Peak Road within the Park to low emission vehicles only (such as electric vehicles (EVs), buses, bikes and pedestrians). This option is expected to significantly reduce vehicle access demands through the park given the relatively low uptake of low emission vehicles.

4.4.2 Options Assessment

The identified access restriction options are assessed using a multiple criteria analysis (MCA), to compare with a "do minimum" option where full access is maintained. The MCA is widely accepted as a formal method to assist in presenting a range of competing information, in a clear and logical manner, and ultimately assist in identifying what is favourable and unfavourable about a particular option so a decision can be made about any preferred option.

The MCA approach will allow the potential benefits and effects of each option to be compared with each other objectively and support the decision-making process. The MCA involves assigning scores to a set of chosen criteria or attributes for each option. The results of the MCA assessment for each of the options are presented within Table 4-3.

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Table 4-3: Long-Term Access Controls – Option Assessment

Criteria		Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Description		Full Closure – Saddle to Summit (vehicles)	Full Closure – Main Gates to Summit	Restriction on vehicle access during peak periods	Full closure to large vehicles from the Main carpark to Peak	Amendments to existing vehicle size limitations	Create a low emission zone
		Implementation of full access restrictions for unauthorized vehicles on Te Mata Peak Road between the Saddle to the Peak summit.	Implementation of full access restrictions for unauthorized vehicles on Te Mata Peak Road between the Main Gates to the Peak summit.	Restrict unauthorized vehicle access beyond the main car park during weekends or public holidays.	Restrict large vehicle access (including buses) at all times from Main Carpark to Peak Summit.	Further limiting length of vehicles (less than current 7.5m).	Restrict access within the park to low emission vehicles (i.e. electric cars, buses, bikes, pedestrians etc)
Problem Solving	Safety	Moderate Positive	Major Positive	Moderate Positive	Minor Positive	Minor Positive	Moderate Positive
		Removes the potential for conflicts between vulnerable road users and vehicles between the Saddle and the Peak. Conflicts remain on other sections of the road. Congestion at the Saddle may increase potential conflicts between users where several pedestrian tracks meet the corridor. Option removes traffic from the high-risk road section between the Saddle and the summit.	Removes the potential for conflicts between vulnerable road users and vehicles between the Main Gates and the Peak. Option removes traffic from the high-risk road section between the Main Gates and the summit. Additional congestion at the Main Gate may require mitigation measures to reduce conflicts between users.	Removes the potential for conflicts between vulnerable road users and vehicles between the Main Gates and the Peak during peak periods (times of highest risk). Option removes traffic from the high-risk road section between the Main Gates and the summit during periods of high risk. Additional congestion at the Main Gate on closure days may require mitigation measures to reduce conflicts between users.	Option restricts large vehicle access to the peak at all times, responding to safety concerns raised by park users within surveys. The option would contribute towards improving perceived safety; however, most vehicle access demands are passenger vehicles, therefore only slight crash risk exposure benefits likely to be achieved.	Further vehicle length restrictions would contribute towards a reduction in vehicle demands on the summit ascent; however, conflicts between users would still remain along the full length of Te Mata Peak Road. Continued growth in passenger vehicles likely to offset any reduction in access demand in the medium/long term; therefore only a minor reduction in crash exposure likely to be achieved. Limiting restrictions to south of the Saddle may increase potential conflicts between users where several pedestrian tracks meet the corridor.	Some conflicts remain between general vehicles and other users as some vehicles would still be permitted to access the peak. Option would permit electric vehicles to access the summit. Whilst option may significantly reduce short-term access demand, growth in EVs may increase medium-long term access demands, increasing future exposure with other users. Additional congestion at the Main Gate may require mitigation measures to reduce conflicts between users.
	Operational	Moderate Positive	Major Positive	Moderate Positive	Minor Positive	Minor Positive	Moderate Positive
		Removal of unauthorized vehicle access to the summit significantly reduces operational issues associated with parking and circulation at the Summit. Option may create additional operational issues at the Saddle, if not adequately mitigated. Reduced conflicts between the Saddle and the summit would contribute towards enhanced visitor experience (reduced emissions, noise, access).	Removal of unauthorized vehicle access to the summit significantly reduces operational issues associated with parking and vehicle circulation. Reduced conflicts between the Main Gates and the summit would significantly contribute towards enhanced visitor experience (reduced emissions, noise, access).	Restricted access to the summit for unauthorized vehicle access during specified times reduces operational issues associated with parking and vehicle circulation during peak periods. Option may result in a transferal of access demands to shoulder periods (i.e. increased weekday visitors), exacerbating issues to other times of the day. Reduced conflicts between the Main Gates and the summit would contribute towards enhanced visitor experience (reduced emissions, noise, access).	Restricted access to the summit for large vehicles reduces operational issues associated with parking and vehicle circulation for these vehicle types; however, existing operational issues remain during high periods of passenger vehicle access demands. The option responds to user concerns relating to conflicts with buses, although high volume of vehicle access demands would remain. Therefore option partly contributes towards improved user experience. Option does not resolve operational issues relating to longer-term growth in general traffic access demands	Further vehicle length restrictions would reduce some operational issues associated with parking and vehicle circulation; however, the overall effectiveness in reducing access demand would depend on the length chosen. The option responds to user concerns relating to vehicle traffic accessing the peak, although a higher volume of vehicle access demands would remain compared with Options 1,2,3 and 4. Therefore option partly contributes towards improved user experience. Option does not resolve operational issues relating to longer-term growth in general traffic access demands.	Limiting access onto Te Mata Peak Road for environmentally friendly vehicles would significantly reduce operational issues associated with parking and vehicle circulation in the short-term. Reduced conflicts between the Main Gates and the summit would significantly contribute towards enhanced visitor experience (reduced emissions, noise, access). There is the risk that long-term benefits of providing a "low emissions zone" may be eroded through future growth / wider access to EV users. Large vehicle access restrictions would need to be retained to restrict larger electric vehicles from accessing the summit.
	Maintenance	Moderate Positive	Major Positive	Minor Positive	Minor Positive	Minor Positive	Major Positive
		Removal of the majority of existing motorized access demands would significantly reduce maintenance requirements on Te Mata Peak Road between the Saddle and the Summit (i.e. delineation and surface maintenance).	Removal of the majority of existing motorized access demands would significantly reduce maintenance requirements on Te Mata Peak Road between the summit and the Peak.	Reduced access demands by general traffic during peak periods would provide some reduction in maintenance requirements of Te Mata Peak Road (i.e. delineation and surface maintenance).	Reduced access demands by large vehicles would provide some reduction in maintenance requirements of Te Mata Peak Road (i.e. delineation and surface maintenance).	Further limitations on medium vehicle access would provide some reduction in maintenance requirements of Te Mata Peak Road between the Main Gates and Summit (i.e. delineation and surface maintenance).	Removal of the majority of existing motorized access demands would significantly reduce maintenance requirements on Te Mata Peak Road between the Main Gates and the Peak.

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Criteria	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Description	Full Closure – Saddle to Summit (vehicles)	Full Closure – Main Gates to Summit	Restriction on vehicle access during peak periods	Full closure to large vehicles from the Main carpark to Peak	Amendments to existing vehicle size limitations	Create a low emission zone
	Implementation of full access restrictions for unauthorized vehicles on Te Mata Peak Road between the Saddle to the Peak summit.	Implementation of full access restrictions for unauthorized vehicles on Te Mata Peak Road between the Main Gates to the Peak summit.	Restrict unauthorized vehicle access beyond the main car park during weekends or public holidays.	Restrict large vehicle access (including buses) at all times from Main Carpark to Peak Summit.	Further limiting length of vehicles (less than current 7.5m).	Restrict access within the park to low emission vehicles (i.e. electric cars, buses, bikes, pedestrians etc)
Objective and Policy Alignment	Medium Risk	Medium Risk	Low Risk	Medium Risk	Medium Risk	Low Risk
	Positive impacts on public health, safety and the natural environment on sections restricted; negative impacts on sections of the Park not restricted. Access needs of users including the old, people in need, visitors, locals, businesses and households might not be met. Positive impact on the character and landscape of the Park above the Saddle. Would need to established that current demands and access are having a detriment impact on the values and features of the Park to align with objectives.	Positive impacts on public health, safety and the natural environment on sections restricted. Access needs of users including the old, people in need, visitors, locals, businesses and households might not be met. Positive impact on the character and landscape of the Park. Would need to established that current demands and access are having a detrimental impact on the values and features of the Park to align with objectives.	Positive impacts on public health, safety and the natural environment during of peak periods. Access needs of users including the old, people in need, visitors, locals, businesses and households could be maintained. Positive impact on the character and landscape of the Park. Would need to assess whether peak periods would lead to a detrimental impact on Te Mata Park values, features and landscape.	Minor positive impacts on public health, safety and the natural environment. Moderate public health and safety concerns would remain for active mode users. Access needs of users including the old, people in need, locals, businesses and households could be maintained. Visitor and tourist access needs may not be met. Would need to assess whether restricting large vehicles will improve the use of Te Mata Park enough that it maintains the values, features and landscape.	Minor positive impacts on public health, safety and the natural environment. Moderate public health and safety concerns would remain for active mode users. Access needs of users including the old, people in need, locals, businesses and households could be maintained. Visitor and tourist access needs may not be met. Would need to assess whether restricting length of vehicles will improve the use of Te Mata Park enough that it maintains the values, features and landscape.	Positive impacts on public health, safety and the natural environment. Minor public health and safety concerns may remain for active mode users until uptake of low emission vehicles increase. Access needs of users including the old, people in need, visitors, locals, businesses and households could be maintained. Would need to monitor whether uptake of low emission vehicles to ensure there is not a detrimental impact on Te Mata Park values, features and landscape over time.
Implementation Costs	High Risk	High Risk	Medium Risk	Low Risk	Low Risk	Medium Risk
	Implementation costs associated with the closure operations would be relatively minor (i.e. no change to form and function of route). This may include implementation of electronic gates and additional signage. Wider mitigation options to manage access demand could require operational and capital expenditure.	Implementation costs associated with the closure operations would be relatively minor (i.e. no change to form and function of route). This may include implementation of electronic gates and additional signage. Wider mitigation options to manage access demand could require operational and capital expenditure	Implementation costs associated with the closure operations would be relatively minor (i.e. no change to form and function of route). This may include implementation of electronic gates and additional signage. Wider mitigation options to manage access demand could require operational and capital expenditure, but likely to be less than Option 1 and 2.	This option would have relatively low costs for implementation. This would include removal of existing signage and provisions of new signage at the Main Gates. Minor improvements may be required to support coach/bus layovers adjacent to Park access.	This option would have relatively low costs for implementation. This would include updated signage at the Saddle carpark.	Implementation costs associated with the creating a low emission zone would be relatively minor. Wider mitigation options to manage access demand could require operational and capital expenditure. This option would also require promotion, education and enforcement of the low emission zone.
Staging Potential	Medium Risk	High Risk	Medium Risk	Low Risk	Low Risk	Medium Risk
	The option could be implemented as a standalone option, or could be implemented the first stage towards full access closure (Option 2)	The option presents the "ultimate" access restriction option, therefore is not considered "stage-able".	The option could be implemented as a standalone option, or could be implemented the first stage towards full access closure (Option 2).	The option could be implemented as a standalone option, or could be implemented the first stage towards more access control options (Options 1,2,3 or 6).	The option could be implemented as a standalone option, or could be implemented the first stage towards more access control options (Options 1,2,3 or 6).	The option could be implemented as a standalone option, or could be implemented the first stage towards full access closure (Option 2)
Feasibility (Construction and Planning Risks)	High Risk	High Risk	Medium Risk	Low Risk	Low Risk	High Risk
	Implementation would require appropriate signage and access controls to be implemented. Feasibility is dependent on the ability for vehicles to access/turn around midway on the alignment and would require adjustments to the Saddle Carpark area or Peak House. Wider mitigation measures may need to be considered to resolve	Implementation would require appropriate signage and access controls to be implemented. Wider mitigation measures may need to be considered to resolve additional access demands at the Main Gates carpark.	Implementation would require appropriate signage and access controls to be implemented to manage access during peak periods. Wider mitigation measures may need to be considered to resolve additional access demands at the Main Gates carpark when peak period closures are operational.	Option would have relatively minor construction and planning risks as actions would be limited to restricting use of the TMP for access, and implementation of appropriate signage.	Option would have relatively minor construction and planning risks as actions would be limited changes to signage at the Saddle. Additional signage may be required at the entrance to the Park reinstating restrictions. Dependent on the length restrictions chosen, additional supporting infrastructure may be required at the Main Gate or the Saddle (such as a	A "low emission zone" is a relatively new concept within a NZ context and the legal requirements of implementing such as scheme needs to be fully considered. Implementation would require additional monitoring, enforcement and educational programmes to support implementation. Restrictions for larger vehicles would need to be maintained to restrict

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Criteria	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Description	Full Closure – Saddle to Summit (vehicles)	Full Closure – Main Gates to Summit	Restriction on vehicle access during peak periods	Full closure to large vehicles from the Main carpark to Peak	Amendments to existing vehicle size limitations	Create a low emission zone
	Implementation of full access restrictions for unauthorized vehicles on Te Mata Peak Road between the Saddle to the Peak summit.	Implementation of full access restrictions for unauthorized vehicles on Te Mata Peak Road between the Main Gates to the Peak summit.	Restrict unauthorized vehicle access beyond the main car park during weekends or public holidays.	Restrict large vehicle access (including buses) at all times from Main Carpark to Peak Summit.	Further limiting length of vehicles (less than current 7.5m).	Restrict access within the park to low emission vehicles (i.e. electric cars, buses, bikes, pedestrians etc)
	additional access demands at the Main Gates carpark.				length station) to assist drivers in knowing what lengths are permitted.	larger electric vehicles from accessing the summit. Wider mitigation measures may need to be considered to resolve additional access demands at the Main Gates carpark.
Community and Stakeholder Acceptability	High Risk	High Risk	High Risk	Medium Risk	Low Risk	High Risk
	Vehicle restrictions would need to be tested with the community. Mixed responses are likely to be received unless certain access concessions are provided (i.e. access for mobility impaired users or recreational groups etc). Impacts on tourism / coaching tour accessibility to the peak, and potential political / tourism industry upset.	Would need to be tested with the community. Mixed responses are likely to be received from the community unless certain access concessions are provided (i.e. access for mobility impaired users or recreational groups etc). Options for providing access to Peak House would need to be considered to ensure viability of existing operations. Impacts on tourism / coaching tour accessibility to the peak, and potential political / tourism industry upset.	Would need to be tested with the community. Mixed responses are likely to be received unless certain access concessions are provided (i.e. access for mobility impaired users or recreational groups etc). Options for providing access to Peak House would need to be considered to ensure viability of existing operations. Impacts on tourism / coaching tour accessibility to the peak, and potential political / tourism industry upset.	Option would impact on tourism / coaching tour accessibility to the peak, with some risks for potential political / tourism industry upset. Likely to be supported by the local community based on feedback from user surveys.	Impacts on tourism / coaching tour accessibility to the peak could be limited through the continued use of TMPs. Likely to be supported/negligible impacts for the local community based on feedback from user surveys.	Would need to be tested with the community. Mixed responses are likely to be received unless certain access concessions are provided (i.e. access for mobility impaired users or recreational groups etc). Impacts on tourism / coaching tour accessibility to the peak, and potential political / community / tourism industry upset.
Social and Economic Outcomes	Moderate Positive	Major Positive	Low Positive	Neutral	Neutral	Moderate Positive
*Note: All options place restrictions on large vehicle access which will impact on existing tourism operations within the park. Therefore, this assessment criteria focusses on aspects where differentiation can be made between options (including opportunities derived from implementation).	Restricted vehicle access provides opportunities for Council/HDC to enhance the environment at the summit and its approaches (such as enhanced viewing areas). Reduced traffic volumes may provide additional opportunities to expand the range of activities available to users of the park (such as electric bike hire). Demand management tools may provide alternative revenue sources for Te Mata Peak Trust to support the operation and maintenance of the Park. Equity of access would need to be considered to enable continued access to the summit for less abled users.	Restricted vehicle access provides significant opportunities for Council/HDC to enhance the environment at the summit and its approaches (such as enhanced viewing areas). Restricted access to Peak House may impact on viability of operations unless suitable access provisions provided for. Removal of traffic within the Park provides significant opportunities to expand the range of activities available to users of the park (such as electric bike hire). Demand management tools may provide alternative revenue sources for Te Mata Peak Trust to support the operation and maintenance of the Park. Equity of access would need to be considered to enable continued access to the summit for less abled users.	Maintained vehicle access outside of peak periods limits opportunities for Council/HDC to enhance the environment at the summit and its approaches (such as enhanced viewing areas). Reduced traffic volumes during peak periods may provide some additional opportunities to expand the range of activities available to users of the park. Demand management tools may provide alternative revenue sources for Te Mata Peak Trust to support the operation and maintenance of the Park. Equity of access would need to be considered to enable continued access to the summit for less abled users.	Maintained vehicle access to the summit provides negligible opportunities for Council/HDC to enhance the environment at the summit and its approaches (such as enhanced viewing areas). As most traffic access demands remain, there are very limited opportunities to expand the range of activities available to users of the Park.	Maintained vehicle access to the summit provides negligible opportunities for Council/HDC to enhance the environment at the summit and its approaches (such as enhanced viewing areas). As most traffic volumes are likely to remain, there are very limited opportunities to expand the range of activities available to users of the Park.	Maintained vehicle access to the summit would limit opportunities for Council/HDC to enhance the environment at the summit and its approaches (such as enhanced viewing areas). Reduced traffic volumes during peak periods may provide some additional opportunities to expand the range of activities available to users of the park. As low-emission zones are relatively new concepts within NZ, it may provide opportunities for HDC/Te Mata Peak Trust to develop wider sustainability or conservation initiatives (such as educational programmes or a sustainability demonstration areas) within the Park. Equity of access would need to be considered to enable continued access to the summit for less abled users.

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4.4.3 Assessment Summary

Unauthorised Vehicle Restrictions (Options 1 to 3)

Options that seek to restrict unauthorised vehicle access to the summit provide the best alignment to resolving existing problems, responding to concerns of growing user conflicts and operational issues at the summit. These options will also have the greatest impact on existing park user access, and likely to have a mixed response from community. However, as shown through case studies of similar access initiatives applied nationally and internationally, restricting vehicles access is not considered inappropriate within regionally significant parks if adequately planned for and managed (see Case Study 1 overleaf).

Whilst the costs of implementing these options could be limited to signage and automated gates, there is the risk that additional traffic management will be required which may require additional capital or operational expenditure. The scale of these mitigation options would need to be fully assessed as part of the option development phase, and in consultation with Te Mata Park Trust and other key stakeholders.

Specific User Restrictions (Options 4 and 5)

Options that seek to restrict access for some vehicles (i.e. Option 4 and 5) will provide some benefit in resolving the problems, but to a much lesser extent than unauthorised vehicle access restrictions. These options respond to perceived safety issues relating to large vehicles accessing the summit as raised by Park users, however these are not expected to significantly reduce conflict risk or operational concerns given access would be retained for the majority of traffic demand within the summit and are not considered long term sustainable options.

These options are simpler and more cost effective to implement than broader access restrictions, and could potentially be considered as the first stage of intervention until more further access restrictions are implemented.

Low Emission Zones

"Low Emission Zones" are a relatively new concept within New Zealand, and there is additional complexity around the legal requirements for implementation and ease of monitoring and managing such restrictions. Whilst the option may provide in terms of reduced vehicle access demand to the peak in the short-term, the growth in electronic vehicles is expected to result in increased future access demands. As such, the long-term benefits of the option in traffic reduction may be limited.

4.4.4 Alignment to Policy and Plans

The options considered above generally align with the HDC LTP as they will improve public health and safety and will help protect the natural environment. The options will also help prevent harm and create a safe and healthy environment to varying degrees depending on the potential for long-term conflict between users and demands on the road asset. Preserving access for the young and old, people in need, visitors, locals, businesses and households is critical as this is one of Council's objectives for investment.

The Te Mata Park Management Plan indicates that it will monitor usage and demands to ensure increases to parking capacity and improvements to accessibility and safety for private vehicles and tour buses is balanced with easy pedestrian access and avoiding areas of high recreational and natural quality. The options considered generally align with the management plan as they all will improve safety of users and enhance user experience to varying degrees depending on the user (motorised / non-motorised).

One consideration is the options that restrict access from the Main Gates or the Saddle to the Peak Summit would need to establish that current demands and access are having a detrimental impact on the values and features of the Park to align with objectives. Additionally, restrictions during peak

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periods or on types of vehicles would have short-term benefits, however monitoring would be required to ensure negative impacts on the Park do not occur in the long-term.

Case Study 1: Access Restrictions at Tūpuna Maunga - Auckland

The Tūpuna Maunga in Auckland are sites of major cultural significance that are also major regionally significant destinations for visitors. Like Te Mata Park, access to the Tūpuna Maunga comprised of narrow roads to and around the tihi (summits) that are shared by cars and pedestrians, with some tihi roads having no adjoining footpaths.

The Tūpuna Maunga o Tamaki Makaurau Authority have implemented permanent closures to private vehicles on six of the Tūpuna Maunga within Auckland in response to public safety concerns relating to near-misses between cars and walkers as well as vehicles exceeding the speed limit on most of the maunga. The restrictions were also implemented to protect the taonga from the adverse effects of growing access demands and to reinforce the spiritual and cultural significance of the sites to the mana whenua.

The access restrictions were applied to six maunga on a staged basis as follows:

- Maungawhau / Mt Eden (2016)
- Maungakiekie / One Tree Hill (2018)
- Maungarei / Mt Wellington (2018)
- Pukewīwī / Puketāpapa / Mt Roskill (2018)
- Takarunga / Mt Victoria (2018)
- Ōwairaka / Te Ahi-kā-a-Rakataura / Mt Albert (2019)

Those with limited mobility who are unable to walk to the tihi can request access through automated gates at the entrance to each summit using an access code. Parking on the maunga is enforced through time limit restrictions to encourage parking turnover and give all visitors equal parking opportunities.

The Auckland maunga are under consideration for attaining Unesco World Heritage Status. The removal of traffic to the tihi supports this status and has enabled wider enhancements to be undertaken to protect the maunga from growing foot traffic and enhance user experiences, such as the development of boardwalks and viewing platforms on Mount Eden (see image below).



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4.4.5 Recommendations

Based on the findings of the assessment, the CMP recognises restricting unauthorised vehicle access along the full length of Te Mata Peak Road provides the best long-term response to the recognised problems within Te Mata Park. This option also aligns with the relevant policies and objectives in that it will improve public health, user safety and enhance the natural environment.

As identified through the option assessment phase, the option of fully restricting unauthorised vehicle access along Te Mata Peak Road to public access also has greater implementation risks including community acceptability and some uncertainty around the wider impacts of the restrictions on network operations.

It is recognised that to reach the "ultimate" scenario of full unauthorised access restrictions, a staged approach could be undertaken, enabling HDC and Te Mata Peak Trust to test wider network effects and softly introduce restrictions to communities and visitors. This could potentially be implemented as a series of trials staged over time, as outlined within Table 4-4.

Table 4-4: Potential Staging Approach to Restricting Access on Te Mata Peak Road

Staging	Discussion
Stage 1	<p>Implement trial of restricting vehicle access during peak periods from the Main Gate.</p> <ul style="list-style-type: none"> Challenges associated with this stage include providing access to Peak House during business hours and ensuring someone locks/unlocks the gates each day. This stage could also include the trial of night-time access restriction that align with daylight savings time hours, as requested by Te Mata Peak Park. Risks at this stage include difficulties with ensuring vehicle access hours are adhered to, ensuring easy access is maintained for Peak House customers and staff, and the elderly or mobility impaired continue to have access to the summit of the Peak. Tour companies would need to be aware of these changes to ensure they schedule trips outside of peak times. This option may also result in increased vehicle access demands outside of closure periods, therefore additional monitoring of the impacts of these effects would be required.
Stage 2	<p>Build upon measures implemented in Stage 1 by adding a trial of full vehicle access restrictions from the Saddle to the Summit of the Peak.</p> <ul style="list-style-type: none"> By continuing the peak period restrictions, this would reduce the infrastructure required at the Saddle and minimise impacts. A turnaround area for buses, RVs and cars would be required to allow vehicle access to the Saddle area; however, vehicle tracking indicates that to support both large vehicle and standard vehicle access, either existing parking facilities at the Saddle may need to be reduced/removed or additional sealed surface areas would need to be provided (see Appendix G). Should the option to progress to "full unauthorised vehicle access" restrictions be implemented, the benefits of additional investment in providing the facility in the short-term may be outweighed by the costs of providing such a facility. Risks of this stage include addressing concerns from tour bus operators due to their inability to access the summit, ensuring access to the summit is not impeded for the elderly and mobility impaired, potential car parking overflow issues, and increased congestion and conflict with users around the Saddle. Prior to Stage 3, actions should be undertaken to either ensure facilities at the Main Gates car park can accommodate increased demand, or allow HDC/Te Mata Peak Trust to trial travel demand initiatives that reduce vehicular access to the Park.
Stage 3 –	<p>Trial of full vehicles access restrictions from the Main Gates.</p> <ul style="list-style-type: none"> Stage 1 and Stage 2 allow for a gradual decrease in access by vehicles so private car users should be prepared for Stage 3 measures. Measures should be in place to ensure easy access to Peak House and for elderly and mobility impaired prior to stage 3 roll out. Risks include funding and timing of replacing the Main Gate with technology that allows for easy access, increased potential for vandalism, existing car parks may not meet increased demand, measures may not be in place in time to provide access for elderly and mobility impaired, and lack of community support for access restrictions.

In developing unauthorised vehicle access restrictions on Te Mata Peak Road, consideration would need to be given to the following:

- Ensuring access is provided for the day-to-day management of the Park;

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- Ensuring access is available for emergency services;
- Ensuring equity of access for the community to the Park;
- Increasing parking capacity outside of restricted areas, where viable; and
- Developing alternative access options to manage access demands.

These wider considerations are discussed further within Section 4.4.6.

4.4.6 Wider Considerations

Several operational issues have been identified that are relevant to all vehicle restriction options, which would need to be considered in further detail as future access restrictions are considered by HDC and Te Mata Peak Trust.

Access Concessions

Concessions to vehicle access controls will still be required to enable the continued operation of the Park and its facilities, as well as providing equity of access for visitors. From an operational standpoint, vehicle access concessions may need to be provided for:

- Users of the park who require access to the summit to continue operating (such as paragliding);
- Route maintenance within the Park and its surroundings (including the road);
- Access to Peak House for servicing and patrons; and
- Emergency vehicle access.

The removal of vehicle access to the summit presents equity of access challenges for less able users. Whilst removal of unauthorised vehicle traffic would provide a safer environment for mobility impaired users to travel along the road, the steep gradients (10%) and long distances to the Peak (a return trip of 4km from the Main Gates) would make access largely untenable for many. In other locations where similar access restrictions have been applied (such as the Maunga in Auckland), vehicle access to mobility impaired visitors (or drivers thereof) has been retained.

Remote access for authorised vehicles could be enabled through the provision of an electronic gate system within the Park. This would allow remote access to authorised users as required, minimising the need for (and the additional operational expenditure associated with) manually servicing the gate. Similar systems have been implemented within Auckland Maunga, as shown within Figure 4-4 and Figure 4-5.

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Figure 4-4 Electronic Gate System in use on One Tree Hill, Auckland



Figure 4-5: Gate Access System (Left) and Vehicle Access Arrangements (Right) at One Tree Hill, Auckland

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Parking Provisions

In seeking to remove conflicts and safety issues at the summit, consideration needs to be given to how best to manage displaced access demands within the rest of the Park. Restricting vehicle access to the Summit is likely to reduce some access demands (particularly short-term visitors access the Park for sightseeing purposes), although this is not expected to off-set the overall loss of parking supply at the Summit.

The Main Gates carpark would be required to accommodate most displaced parking demand. The Main Gates car park has some additional capacity to support parking demands outside of peak periods; however, discussions with stakeholders and existing surveys indicate the carpark already operates at capacity at times. The future growth aspirations of the Trust with the development of Jacks Land (the identified expansion area) is also expected to create additional parking demand within this part of the Park.

The ability to expand the existing carpark is limited. It would require significant engineering works and funding to expand to support additional access demands. The substantial development plans outlined for Jacks Land by Te Mata Peak Trust may also restrict the ability for further growth without impacting on the facilities provided within the proposals.

Parking restrictions (such as time limited parking) could be applied within the Main Gate carpark to support parking turnover; however, time restrictions would need to provide sufficient time for visitors to travel to the summit and may impact on the ability for some existing park activities to occur. Parking restrictions would also require enforcement to be effective, with would require additional operational and management costs by HDC and / or Te Mata Peak Trust.

If additional parking capacity or parking restrictions are considered unviable within the Park, greater emphasis may need to be given to supporting alternative access options or wider options for managing access demand.

Options for managing the wider impacts of increasing parking demand within the main gates carpark (be it providing additional capacity or managing demand) will require close collaboration and buy-in from the Trust to ensure the viability and on-going sustainability of proposals.

Demand Management

There are numerous examples where travel demand management initiatives and been developed to motorised traffic demands at regionally significant Parks at both a national and international level (see the Case Studies below). There would be additional costs associated with implementing, monitoring and enforcing such schemes, however, it could also provide opportunities to raise revenue for the maintenance and operation of facilities within the Park.

Examples of tools that have been applied at other key visitor sites to manage demand include:

- "Park and ride" system

A user-paid park and ride system would allow visitors to access the Park whilst minimising onsite parking demands within the Peak. Given the reduced volume of traffic on the summit, such a service could be authorised to provide vehicle access to the Summit. A suitable site (or sites) for operating such a service would need to be identified; however, potential sites may include Havelock North town centre, or other surrounding local tourist operators / attractions.

An example of such systems is the Tongariro Alpine Crossing, which was implemented by Department of Conservation in 2017 to manage growing visitor demands (see Case Study 2).

- Visitor pass systems.

An example of this is the Red Rock Pass Program, a conservation tool designed to protect, enhance, and maintain the awe-inspiring red rock landscape from growing tourist demands within Sedona, Arizona (USA) (see Case Study 3). All vehicles accessing Red Rock for longer than 15 minutes are required to purchase a day pass. Concessions or free passes could be provided to clubs or residents.

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Case Study 2: Park and Ride - Tongariro Alpine Crossing

A user pays "park and ride" system was introduced to the Tongariro Alpine Crossing in 2017 with the aim of reducing social, environmental and cultural impacts of visitation on the mountain.

Shuttle buses are provided from carparks in the surrounding villages and towns (Ohakune, National Park, Whakapapa, Turangi and Taupo) which take walkers to the track entrance at Mangatepopo Valley. Return buses are available from the Ketetahi Road end.

Limited spaces within car parks are available for people visiting the Mangatepopo Valley for up to four hours, for exploring short walks.



Case Study 3 - Red Rock Pass Programme, Arizona

Visitors are required to purchase a pass before accessing the Park. The pass is required to be displayed when leaving the vehicle unattended while visitors recreating on National Forest land around Sedona and Oak Creek Canyon.

Vehicles parked on the National Forest in the red rock area that do not display a valid pass in the windshield are subject to receiving a fine. A pass is not required for incidental stopping to take a photograph or to enjoy a scenic vista (approximately 15 minutes or less).

The programme provides a range of pass options, including day visitor, weekly or annual passes at discounted rates. There are also various multiple fee-free weekends for various sites throughout the year. Approximately US\$800,000 annually is collected from the Red Rock Pass program of which 95 percent is kept locally to provide for high quality recreation, natural resource protection and valuable visitor services.

Opportunities for Expanding Recreational Facilities

Discussions with stakeholders through the CMP process have identified a range of opportunities to expand recreational facilities within the Park. The CMP has not investigated the viability of implementing such systems within the Park at present, but future access restrictions may provide opportunities to develop these further.

Options identified by stakeholders included:

- Cycle hire schemes (including electronic bikes); and
- Golf cart/buggy hire schemes.

Initial analysis of these options indicated that unless road space is allocated for their use, these they unlikely to be viable from a safety or operational perspective unless access controls are in place. As such, some of these options are not considered suitable for implementing at present; however, future vehicle access restrictions may allow these to occur.

4.5 Recommended Route Strategy

A summary of the recommended interventions identified for Te Mata Peak Road is outlined within Table 4-5. Each of the identified improvements have been categorised under policy and planning, site specific treatments and corridor wide improvements.

Table 4-5: Summary of Recommended Interventions on Te Mata Peak Road

Strategic Theme	Recommended Interventions
Policy and Planning	
Monitoring Access Demand	Undertake regular modelling of multi-modal access demands (i.e. pedestrians, cyclists and traffic) and parking demands to guide urgency and need for identified long-term improvements.
User Surveys	In co-ordination with Te Mata Peak Trust, undertake regular user surveys to establish the effectiveness of proposals/treatments in responding to identified user concerns.
Safety Monitoring	Undertake a regular review of crash history to monitor the impacts of safety improvements (once installed) and ensure that HDC / Te Mata Peak Trust can respond to any emerging future issues.

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Strategic Theme	Recommended Interventions
Road Rehabilitation and Renewals	Ensure that maintenance and road surfacing improvements are undertaken in accordance with HDC's asset management plan.
Line Marking Renewals	Ensure regular maintenance is undertaken of existing and future delineation to ensure it is maintained to the required standards.
Site Specific Treatments	
Pedestrian Crossing Improvements	Identify appropriate locations between the Te Mata Peak main gates and the Te Mata Peak Summit car park for enhanced pedestrian crossings (e.g. Peak House, the Saddle) to increase safety and experience for trail users Monitor other trail interactions to ensure appropriate improvements are made to increase safety and experience of trail users as demand warrants
Parking	Consider formalising existing parking arrangements outside of Peak House (i.e. provide hard standing, marked spaces and signposted facilities) to provide additional parking capacity and support access demands within the Park.
Entrance Signage	Consider providing additional signage at the main entrance to reinforce the presence of vulnerable road users, existing (and future) vehicle access restrictions and challenging roadside conditions.
Speed Control Devices	Consider appropriate locations between the Te Mata Peak main gates and the Te Mata Peak Summit car park for speed management devices in key areas (ensure clear passage for cyclists)
Corridor Wide Treatments	
Speed Limit Review	Implementing a posted speed limit of 20km/hr on Te Mata Peak Road between the Main Gates Carpark and the summit
Shared Zone	Identify area(s) between the Te Mata Peak main gates and the Te Mata Peak Summit car park where shared zone(s) can be established, where space is shared safely by vehicles and pedestrians and where pedestrian priority and quality of life take precedence
Signage Strategy	Develop a signage strategy for Te Mata Peak Road to review the suitability, legibility and clarity of existing and proposed future signage on Te Mata Peak Road.
Road Marking and Delineation	Consider directional arrows or "keep left" signage to reinforce lane discipline. Review wider implementation of road markings that support a low speed environment that provide a consistent message to drivers on approaches to hazards, such as transverse road markings.
Night Time Access Restrictions	Review existing night-time restrictions so that closures occur earlier during the winter months to avoid concerns relating to user safety and antisocial behaviour. Investigate potential for relocating barriers to main gates area to fully restrict unauthorised vehicle access outside of daylight hours.
Large Vehicle Access	Consider extending the existing large vehicle access restrictions along the full extent of Te Mata Peak Road (south of the main gates carpark), or provide additional signage at the main gates to re-enforce existing restrictions to the summit for large vehicles.
Access Restriction	Consider longer-term access restrictions in co-ordination with relevant organisations and interest groups to manage growing conflicts, safety concerns and operation issues on Te Mata Peak Road within the vicinity of the Park. Investigate options to manage access demands by motorised vehicles to mitigate the wider impacts of proposed access controls.

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5 Tauroa Road – Route Strategy

Summary

This section of the CMP summarises the issues and constraints specific to Tauroa Road as identified within the Strategic Context (Part A), and provides an outline of the options identified and considered through the CMP process. It also establishes the recommended strategy for responding to identified issues.

Unlike Te Mata Peak Road, the Tauroa Road corridor provides access to be the Park as well as residential growth areas on Tauroa Valley Road. The route is expected to continue to operate within capacity in its current form; as such the route strategy focuses on improvements that enhance safety for all users of the route.

The route strategy has identified:

- General policy, planning and operational recommendations that apply to the future management of the corridor;
- Options for enhancing safety for pedestrians and cyclists, both with urban and rural sections of the corridor;
- Options for enhancing the existing roadside environment to improve legibility and safety, including intersection improvements, road delineation and improvements to low-radius curves; and
- Enhancements to the corridor south of Tauroa Valley Road that respond to growing access demands into the Park via Chambers Walk.

5.1 Specific Issues

The following issues specific to Tauroa Road have been identified through the CMP:

- The corridor has several low-radius curves that are further compounded by poor restricted visibility, narrow carriageway widths and high traffic speeds. The curves have a crash history that has resulted in serious outcomes that could be targeted for enhancements or realigned to support improved safety.
- The existing level of provisions for active modes varies between both the urban and rural sections. Sections located in urban areas are considered sub-standard for an urban residential collector road, whilst the lack of dedicated facilities for pedestrians and cyclists have raised safety concerns; and
- Growing access demands into the Park from the Chambers Walk carpark result in the carpark reaching capacity, leading to overspill, erratic and unsafe parking, that also impacts on property owner access to adjacent properties. This is expected to be exacerbated by proposed future development of activities and attractions within the Park.

5.2 Corridor Constraints

The following constraints have been identified and considered when identifying potential improvements, which will need to be considered within any future proposals / design resulting from the CMP. There are outlined within Table 4-3 below.

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Table 5-1: Tauroa Road – Route Constraints

Constraint	Implication
Property Access	Regular property access is located on urban sections of Tauroa Road, with most vehicle access demands on rural sections of the corridor being controlled through shared vehicle accesses.
Roadside Environment	The existing road environment south of Tokomaru Drive comprises narrow carriageway and challenging topography, which includes sharp drops and steep banks. Options for enhancing the road alignment will require significant engineering works and may encroach on Tauroa Reserve.
Streetlighting	Streetlighting is currently located on the western side of Tauroa Road through winding sections of the corridor. Any modification to the berm or alignment may require the relocation of streetlighting on the corridor.

5.3 Options Considered

An initial assessment of a range of options and activities on Tauroa Road was undertaken to identify their benefits and disbenefits, as well as their contribution towards resolving the problems and high level feasibility of delivery. The purpose of the assessment was to establish options that are most practical or beneficial in responding to the problems. A full analysis of these options is provided within **Appendix F**.

As outlined within Table 5-2, some of the potential interventions were considered infeasible or unlikely to address the problems, and were withdrawn from further consideration at this stage. These options have been documents to provide an indication to CMPs users of what has been considered, and why the options were considered unsuitable at this time; however, these options could be reconsidered as part of future CMP reviews in light of any emerging issues or proposed network changes.

Table 5-2: Tauroa Road – Long List Options Not Considered Further

Option	Description	Comment
Tauroa Road Extension	Extend Tauroa Road through to Matangi Rd using paper road alignment	Little need for providing additional capacity on route given relatively low all day traffic volumes. May encourage through traffic as an alternative southern access to Havelock North if provided, increasing traffic volumes on corridor. High costs for delivery considering limited operational benefit/need.
One-Way Controls (Priority Control)	Provision of one-way systems (priority controlled) including road signage and marking	Limited pinch-points where one-way traffic controls are required. Limited benefits on narrow sections as forward sightlines are restricted at corners. Provides limited benefits in separating traffic from other road users.
Footpath on Eastern Berm	Provision of a new footpath on the eastern berm along Tauroa Road	As outlined within the strategy, the provision of a boardwalk facility adjacent to Tauroa Reserve would provide a safe space for pedestrians through challenging sections. South of the Reserve, footpaths are not deemed necessary given the existing low traffic volumes, better visibility and road classification (local road). Sufficient berm space is provided south of Tauroa Reserve to support pedestrian access demands.
On-Road Cycleway (Both Directions)	Provision of on-road cycling facilities for both northbound and southbound cyclists	Provides some separation for cyclists from general traffic, but inconsistent level of service for remainder of corridor following provision of boardwalk. Requires northbound cyclists to cross road to connect with boardwalk facilities.
Sharrows	Provide Sharrows for on-street cyclists	Sharrows provide no separation for cyclists from general traffic. Provides inconsistent level of service for remainder of corridor following provision of boardwalk. Requires northbound cyclists to cross road to connect with boardwalk facilities.

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5.4 Policy, Operations and Maintenance

5.4.1 Vehicle Crossings

The existing land-use on the northern extent of the corridor is primarily residential, with vehicle accesses (driveways) provided at regular intervals along both sides of the road. Many of the existing vehicle crossings were developed prior to current engineering standards, and as such many do not achieve desired best practice, in terms of visibility or spacing's.

The crash history indicates poor visibility when manoeuvring into a driveway resulted in a minor injury crash involving a cyclist north of Tokomaru Drive. It is recommended that any future vehicle access onto the corridor be positioned in locations that:

- Achieves minimum sight lines for both vehicle and pedestrian movements; and
- Provide suitable separation distances from adjacent intersections.

This should be actioned through the resource consent planning process.

5.4.2 Vegetation Management

Overgrown vegetation on the steep banks contributes towards safety and operational issues, restricting forward visibility and sightlines on blind corners and masking the curve line reducing the operating width of the northbound lane. This results in poor lane positioning for northbound vehicles, and encroachment into on-coming traffic. It is recommended that Council develops a frequent maintenance schedule of the vegetation along Tauroa Road to minimise these issues.

5.4.3 Speed Control Devices

HDC have implemented speed cushions on Tauroa Road in response to the recorded high operational speeds and community concerns relating safety for pedestrians and cyclists. Whilst limited post-implementation monitoring has not been undertaken to assess the operational impacts of providing speed cushions on the corridor; anecdotal feedback from Council is that they have assisted in reducing speeds and no further concerns have been reported by the community since implementation.

It is recommended the speed cushions are retained on the road corridor until such a time that wider safety measures (such as curve enhancements and improvements for active modes) are operational.

5.5 Low Radius Curve Treatments

There are several low-radius curves on Tauroa Road, primarily located on the section adjacent to Tauroa Reserve, immediately south of the Tokomaru Drive intersection (RP 0.700 and RP 1.200).

The ability for enhancing route geometry is constrained by its current surroundings, given the road alignment is bounded by significant slopes on its western side and steep drop-offs into Tauroa Reserve on its eastern side. Easing the existing curves would provide a highly effective response to loss of control issues and would provide long lasting benefits, although it is expensive and subject to budget availability.

Until such a time that curve easing is considered affordable, it is recommended that a countermeasure strategy of low cost curve enhancement measures (i.e. warning signage or surface treatments) is developed to mitigate the safety hazards at these curves. Potential low-cost curve enhancement treatments that could be implemented to support safety at each of the identified sites is outlined within Table 5-3.

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Table 5-3: Potential Low-Cost Curve Enhancement Measures

Countermeasure	Description
Curve Warnings	Static advisory speed signs give guidance on an appropriate speed for a particular location, providing information to the driver on the appropriate speed at a curve or feature and are very effective in helping reduce speeds.
Edge Marker Posts	EMPs indicate to the driver the alignment of the road ahead, especially at horizontal and vertical curves. There are currently no EMPs on Tauroa Road at all.
High Friction Surfacing	Surface with a high skid resistance which is used on approach to hazards. It can be used to reduce speeds and raise awareness of hazards and reduce stopping distances and potential impact speeds on high risk sites such as curves.
Roadside Barriers	There are no current barriers on curves. The outer edge of low-radius curves have major drop offs or other roadside hazards that increase the severity of loss of control crashes. Well-designed roadside barriers reduce the severity of crashes involving errant vehicles leaving the road and colliding with more severe roadside hazards.
Delineation	Implementation of delineation measures identified for general midblock treatments (see chapter 5.6).

The long-term preferred strategy would be to adopt curve easing/realignment to reduce the severity of the curve radius to a design speed that is consistent with the surrounding speed environment. Existing retaining wall structures between the roadside and Tauroa Reserve are understood to be nearing the end of their design life and are likely to require replacement soon. Reconstruction of the retain wall would provide an opportunity to revisit the existing road alignment on this section.

The realignment of the road offers an opportunity to upgrade the existing carriageway that provides:

- Road widths that adhere with the desired engineering standards of 3m wide traffic lanes with 0.5m wide shoulders;
- Road marking and delineation devices to the expected standards for local roads; and
- Sufficient berm space to install roadside barriers protect traffic roadside obstacles and hazards;

It is recommended that the following hierarchy of improvements is considered for low-radius curves on the corridor:

- Implement low-cost countermeasures at identified low radius curves within the short-term;
- Monitor the effectiveness of short-term improvements on crash statistics and severity; and
- Depending on the outcomes of short-term improvements, consider realignment of the curves which exhibit a continued crash history and capital budgets allows.

5.6 Road Delineation

The existing road corridor is formed of a 5.5m to 6m wide carriageway (2.75m to 3.0m wide lanes), which is considered acceptable for a rural local road; however, there is currently no road marking or delineation devices currently provided for on the route. The recommended level of delineation (including road marking and delineation devices) on the road corridor has been assessed against best practice guidelines provided by HDC and NZTA as follows:

- Hastings District Council Engineering Code of Practice;
- Transit NZ – Guidelines for Rural Road Marking and delineation (RTS 5); and
- NZTA Traffic Control Devices Manual (Part 5).

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The recommended level of delineation outlined within each of the guidance documents is outlined within Table 5-4.

Table 5-4: Guidance of the Provision of Midblock Delineation Treatments

Treatment	Current Provisions	HDC Code of Practice (Rural Roads) - Table C7		RTS 5	TCDM 5
		Local Road (<6m)	Local Road (>6m)		
Road Marking					
Centreline	No	No	Yes	Dashed centreline	Yes
Edge Lines	No	No	Yes	No	No
Intersection Markings	No	-	-	Solid Centreline	-
Delineation Devices					
Edge Markers	No	No	No	Yes	Isolated Sections
RRPMs	No	No	No	Yes (where >6m)	-

Based on the guidelines, it is recommended that a dashed centre line is provided along the full extent of rural sections of the route (south of Tokomaru Drive), with edge lines provided on sections of the route where a minimum width of 6.0m wide carriageway width is currently provided.

Edge marker posts could be considered to highlight the challenging horizontal alignment on isolated sections of the corridor to assist night-time driving on the current route. The requirements, purpose and benefits of providing these delineation enhancements is outlined within Table 5-5.

Table 5-5: Purpose and Benefits of Proposed Midblock Delineation Improvements

Treatment	Requirements	Purpose	Benefits
Centreline	The NZTA's High Risk Rural Road Guidelines recommends centrelines are used where a road is greater than 5m wide and minimum AADT of 250 vpd	Centrelines can discourage overtaking and drifting from the lane and reduce head-on type crashes by shifting lane position.	Studies indicate centrelines can result in: <ul style="list-style-type: none"> • 30% reduction in all crashes • 25-40% reduction in casualty crashes They have a typical treatment life of 1-5 years.
Edge Lines	The NZTA's High Risk Rural Road Guidelines recommends edge lines are marked where seal width is greater than 6m and AADT is greater than 250vpd.	Delineate the edge of a traffic lane. Separates a sealed shoulder from the traffic lane. They also provide useful guidance to motorists at night and during inclement weather.	Edge lines can address lost control accidents by defining alignment and road edge. Studies indicate edge lines can result in <ul style="list-style-type: none"> • 30% reduction in crashes on curves and straights • 25% reduction in loss of control crashes • 8-35% reduction of total accidents Edge lines can reduce shoulder damage, reducing maintenance costs They have a typical treatment life of 1-5 years.
Edge Markers	The NZTA's High Risk Rural Road Guidelines recommends edge marker posts are provided where other sources of delineation (such as line marking) are not sufficient.	EMPs to indicate to the driver the alignment of the road ahead, especially at horizontal and vertical curves. They form a primary aid for night-time driving.	Studies indicate edge markers can result in: <ul style="list-style-type: none"> • 32-67% reduction in loss of control crashes at night • 15-18% reduction in total crashes at night • 30% crash effectiveness They have a typical treatment life of 1-5 years.

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5.7 Intersection Improvements

5.7.1 Minor Intersection Improvements

There are several priority controlled intersections with the Tauroa Road corridor between Hikanui Drive and Chambers Walk carpark. Future traffic volumes on Tauroa Road are not expected to require alteration to intersection form from a capacity perspective; however, minor enhancements have been identified to support the safe and efficient operation of the road corridor at the following sites:

- Aotea Crescent / Tauroa Road;
- Tokomaru Drive / Tauroa Road;
- 132-142 Tauroa Road shared access; and
- Tauroa Valley Road / Tauroa Road.

Further detail on identified issues and potential improvements that could be considered at these intersections are outlined within Table 5-6.

Table 5-6: Identified Issues and Recommended Improvements

Intersection	Issues	Recommendations
Aotea Crescent	<p>The existing intersection width is significantly wider than required for residential roads, encouraging higher traffic speeds and longer pedestrian clearance distances.</p> <p>There are no restrictions for on-street parking within proximity of the intersection</p>	<ul style="list-style-type: none"> • Seek opportunities to reduce crossing distance for pedestrians and provide geometric delays by providing a central raised median or narrowing the intersection width. • Provide drop curves along pedestrian desire lines to support safety and accessibility for less abled users. • Implement parking restrictions within vicinity of intersection. • Mark limit-line and continuity lines on Aotea Crescent intersection approach.
Tokomaru Drive	<p>There are no restrictions for on-street parking within proximity of the intersection.</p> <p>The intersection provides limited safe pedestrian connections to Tauroa Reserve or potential future boardwalk facility.</p>	<ul style="list-style-type: none"> • Implement parking restrictions within vicinity of intersection. • Mark limit-line and continuity lines on Tokomaru Drive intersection approach. • Provide drop curves along pedestrian desire lines and extend footpath connections to support safety and accessibility for less abled users. • Enhance connections for pedestrians and cyclists at egress points into Tauroa Reserve.
132-142 Tauroa Road Shared Access	<p>The skewed intersection approach reduces visibility of major traffic flows to the south.</p> <p>There are no restrictions for on-street parking within proximity of the intersection.</p> <p>Future growth/access demand increases potential for user conflicts.</p>	<ul style="list-style-type: none"> • Consider implementing parking restrictions within vicinity of the intersection. • Implement additional warning signs for northbound drivers on Tauroa Road (i.e. concealed entrance or similar). • Maintain clear sightlines through development restrictions on parcel of land at the south-west of the intersection. • Consider formalising approach through limit-line and continuity line markings on driveway approach.
Tauroa Valley Road	<p>On-street parking overspill from Chambers Walk carpark could restrict visibility from intersection.</p>	<ul style="list-style-type: none"> • Implement parking restrictions within vicinity of the intersection, in coordination with wider improvements south of Tauroa Valley Road (see Section 6.9).

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5.7.2 Hikanui Drive / Tainui Drive Intersection Enhancements

The Hikanui Drive / Tauroa Road / Tainui Drive intersection is located at the northern end of the study area. The site is formed of four priority controlled intersections, with most vehicle interactions occurring at the Tauroa Road / Hikanui Drive intersection. Hikanui Drive is identified as the priority movement on all intersection approaches. Although no crash history has been recorded at these intersections within CAS, they present several issues under their current arrangement, including:

- Multiple intersections located within proximity of each other creating a multiple conflict points, and complex or potentially confusing environment for users;
- The acute intersection approach from Tauroa Road coupled with mature trees makes visibility into Hikanui Drive challenging when waiting at the stop line; and
- Pedestrian footpaths terminate on Hikanui Drive at the intersection with Tainui Drive, restricting pedestrian connectivity onto and across Tauroa Road.

There are several improvements that could be considered to enhance this intersection arrangement in the short-term, including applying parking restrictions on intersection approaches and reviewing existing intersection controls (i.e. stop control); however, the long term recommended solution would include:

- Closing both the Hikanui Drive and Tainui Drive intersections with Tauroa Road, and consolidating access through a new single priority controlled intersection with appropriate controls. The arrangement would maintain priority for movements on Tauroa Road;
- Maintaining visibility for drivers approaching from Hikanui Drive through appropriate parking restrictions on all approaches;
- Extend the footpath from Hikanui Drive to the new intersection and provide improved pedestrian crossing facilities to support access onto Tauroa Road (i.e. dropped curbs);
- Maintain access to existing properties, either through a small cul-de-sac along the existing Hikanui Drive intersection or providing new access driveways from Tauroa Road.



Figure 5-1: Hikanui Drive / Tauroa Road Recommended Intersection Layout

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5.8 Active Modes

There are currently no formal cycling facilities provided along the corridor, with limited formal pedestrian provisions south of Tokomaru Drive. Where footpaths are currently provided in urban areas, several deficiencies relating to widths and crossing provisions have been identified that impact on the quality, safety and usefulness of these facilities.

Given the relatively low traffic volumes currently travelling on Tauroa Road, there is limited need to provide a dedicated, separated facilities on local roads; however, the road environment is imposing for users, in particular winding sections where high traffic speeds have been recorded.

Furthermore, active mode volumes are expected to grow on Tauroa Road because of:

- Growing residential development on Tauroa Road's southern extent; and
- Expanding leisure activities and facilities within Te Mata Park, as well as local reserves.

The CMP provides recommendations to improve conditions for active modes on both urban and rural sections of Tauroa Road, as outlined below.

5.8.1 Pedestrian Provisions (Urban Section)

Existing footpaths on the eastern side of Tauroa Road is generally in a reasonable condition, and is continuous and consistent in terms of its provisions. The existing footpath widths are less than the recommended minimum widths outlined within Section 14 of the Pedestrian Planning and Design Guide (NZTA)¹⁷, the HDC Subdivision and Infrastructure Development Best Practice Design Guidance¹⁸ and Engineering Code of Practice¹⁹ which recommend local roads have a minimum footpath width of 1.5m.

As footpaths are renewed through future maintenance programmes, it is recommended that these footpaths are widened to a minimum of 1.5m width where achievable. Opportunities should also be considered to enhance conditions for pedestrians including crossing facilities to minimise pedestrian crossing distances. These include:

- Tightening curve radii to support reduced speed environment and crossing distances;
- Providing tactile paving to support accessibility and safety for visually impaired users;
- Locating pram crossings at right angles to the direction of the road;
- Ensuring the roadway is as narrow as possible at the crossing point; and
- Restricting parking for at least 15 m either side of the crossing point.

5.8.2 Pedestrian Provisions (Rural Section)

Existing pedestrian facilities terminate on the southern side of the Tauroa Road / Tokomaru Drive intersection (RP 0.640), with pedestrians travelling further south on Tauroa Road required to travel either within the carriageway or on a narrow berm. The HDC Engineering Standards notes for local rural roads, pedestrians are expected to either travel within the shoulder or the berm.

Whilst the CMP strategy is supportive of developing enhanced pedestrian and cyclist connections through the Reserve, these facilities are not considered a suitable long-term alternative to providing a facility along Tauroa Road (see Section 5.8.3).

¹⁷ Minimum width of 1.5m provides provide sufficient space for a wheelchair and pram to pass without the need to step onto the road

¹⁸ <https://www.hastingsdc.govt.nz/assets/Document-Library/Policies/Engineering-Code-of-Conduct/subdivision-Infrastructure-design-guide.pdf>

¹⁹ <https://www.hastingsdc.govt.nz/assets/Document-Library/Policies/Engineering-Code-of-Conduct/engineering-code-of-practice.pdf>

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The corridor has a limited crash history involving cyclists or pedestrians; however, the steep banks on the western side of Tauroa Road provides no berm space to safely support pedestrians, meaning all pedestrian activity is focused on the eastern side of the road. The existing berm on the eastern side of the road provides an unwelcoming and unsafe environment for pedestrians, with limited space for two-way pedestrian movements (being less than 1m wide), absent shoulder widths and steep drop-offs into Tauroa Reserve. This is further compounded by the relatively high traffic speeds and the poor visibility experienced on the route at present.

In response to safety concerns, HDC have developed concept plans for providing a new boardwalk to accommodate both pedestrians and cyclists on the eastern side of Tauroa Road within the western edge of Tauroa Reserve (between RP 0.700 to RP 0.900) (see Figure 5-2).



Figure 5-2: Extent of Proposed Tauroa Road Boardwalk

Whilst the facility would significantly enhance safety and connectivity for active mode users where provided, similar user concerns remain on sections that run adjacent to the Reserve (RP0.900 to RP1.150). Terminating the facility at the indicative location outlined within the concept plans also would require cyclists travelling northbound to cross live traffic lanes on blind curves to access the facility, potentially creating safety issues for those users wishing to access the facility.

It is recommended that a separated facility is provided along the full length of the route, tying into/utilising available space within the berm where viable/possible. This would provide a consistent level of service for active modes throughout the most constrained section of Tauroa Road, and provide a safe connection point for cyclists joining or alighting the boardwalk at its southern terminus.

Whilst the provision of a boardwalk along the full extent could be delivered in stages for budgeting purposes, all stages should be designed cognisant of future sections or realignment improvements (discussed within Section 6.5) to ensure tie-ins or connections can be achieved without substantial abortive works. The potential replacement of the failing retaining walls may also provide an opportunity to deliver the project in co-ordination with wider enhancements.

The proposed facility should provide:

- Sufficient widths to safely accommodate two-way movements for pedestrians and cyclists;
- Provision of suitable handrails to provide suitable fall arrest particularly on boardwalk sections;
- A route that provides minimal cross fall and a gradient that is accessible to all users;
- Clear signage and / or gateway features to highlight entry and exit points onto the boardwalk for pedestrians and cyclists; and
- Connectivity to entrances and accesses from Tauroa Reserve (where they interact).

Except for the curve located at RP1.400, the remainder of the corridor to the south of RP1.150 consists of a relatively straight and wider road alignment with reasonable forward sight visibility, less severe drop-offs and wider berm space. On these sections, it is not considered so critical to provide

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dedicated facilities for active modes; however, it is recommended that signage is implemented to raise awareness to drivers of the presence of pedestrians and cyclists along the route.

5.8.3 Enhanced Access to Tauroa Reserve

The Tauroa Reserve Management Plan (RMP) identifies the need to enhance existing walkway and cycleway connections through the Reserve, providing potential alternatives to the road network.

Whilst the CMP strategy is supportive of developing enhanced pedestrian and cyclist connections through the Reserve, these facilities are not considered a suitable long-term alternative to providing a facility along Tauroa Road as:

- The pedestrian tracks require a relatively steep descent into the reserve, which together with the lack of formed paths makes it difficult for elderly or otherwise physically impaired persons to make use of this route;
- The pathways run alongside a stream, meaning the access route is prone to flooding and when muddy or raining the track can become difficult to pass;
- The lack of lighting and passive surveillance provides concerns for user safety, particularly for vulnerable groups such as the elderly or those travelling outside of daylight hours; and
- The Tauroa Road route provides the most direct and convenient route for pedestrians travelling to future growth in residential development on Tauroa Road's southern extent.

5.9 Parking Provisions

The Chambers Walk carpark is located at the southernmost end of Tauroa Road and provides a key entry point to Te Mata Park via the Chambers Walk path. The route is predominantly used by residents for exercise (running, walking and mountain biking) and for exercising dogs.

The carpark was extended in 2015 to provide an additional 30 parking spaces; however, continued growth in visitor demand means it is often at capacity, leading to congestion and erratic parking on Tauroa Road between Tauroa Valley Road and the main carpark. This creates issues for users and local land-owners, including a reduction in the safe and efficient operation of Tauroa Road, and parked vehicles blocking accesses for landowners to adjacent land-uses. The Trusts' plans for expanding recreational offerings within the extension area is expected to further compound these concerns.

Whilst improving pedestrian and cycling conditions on Tauroa Road may encourage greater access by non-car based modes, it is unlikely that the full benefits of such a facility (in terms of reduced parking demand) will be realised until a fully connected route is completed. As shown in Figure 5-3, although Te Mata Park Trust own additional land to the north of the carpark, there is minimal potential to further increase the capacity of the existing carpark without significant structural works, additional land purchase and encroachment into the Park.

The road reserve south of Tauroa Valley Road is particularly wide on the western side of Tauroa Road which provides an opportunity to deliver additional on-street parking to support overspill parking demand. The existing bank adjacent to the road would require retaining walls or suitable batters to accommodate any additional parking facilities.

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Figure 5-3: Options for Expanding Carpark Provisions

A concept plan showing a minor realignment to Tauroa Road coupled with 90-degree parking facilities on the western berm is shown within Figure 5-4. This option would require widening of the existing road width to provide sufficient space for vehicles to access or egress the parking spaces (to a minimum 6.6m width²⁰).

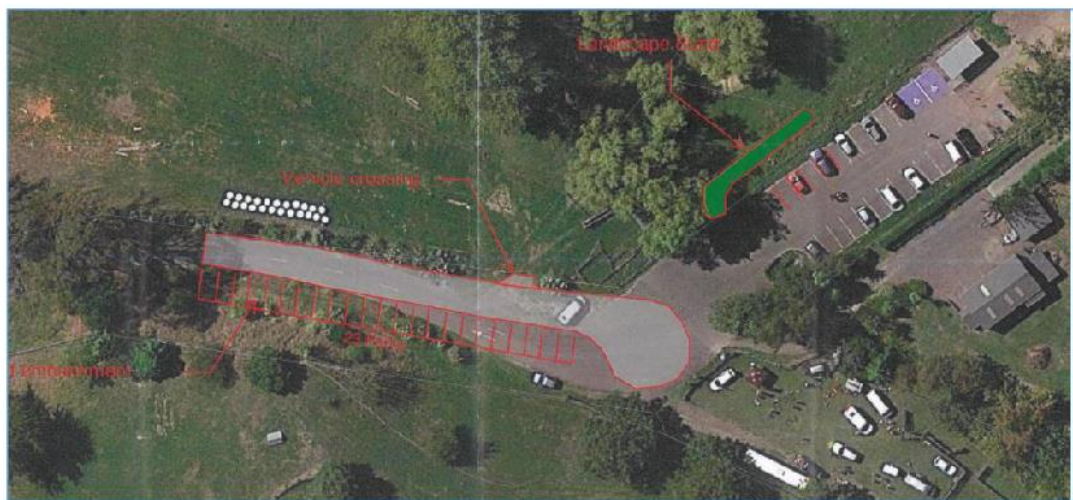


Figure 5-4: Concept Parking Plan for Tauroa Road (HDC)

An alternative option could be to provide parallel parking facilities within the berm. Parallel parking facilities would result in a lower parking space yield than 90-degree parking facilities; however, this option may improve visibility of on-coming road users, would require less manoeuvring aisle widths (i.e. no road widening), and may reduce the need for retaining structures to support the adjacent bank. Both options could be considered in further detail at a concept design stage.

²⁰ Hasting District Council: District Plan - Appendix 14.1-2

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In addition to providing additional parking supply, the following is recommended to reinforce safety and access for all users:

- Implement parking restrictions along the eastern side of Tauroa Road, as well as approaches to Tauroa Valley Road intersection (as discussed in Section 6.7) and at vehicle access to adjacent properties to maintain safe and efficient access;
- Provision of suitable signage to encourage considerate parking and raise awareness of the presence of pedestrian and cyclists; and
- Consider reducing the posted speed limit to 20km/hr south of Tauroa Valley Road to support a lower speed environment that supports pedestrian and cyclist safety. This would also reduce the potential for conflicts between through traffic and vehicles manoeuvring into / from proposed parking areas. Lower vehicle speeds could also be reinforced with suitable vertical deflection devices (i.e. speed cushions).

5.10 Recommended Route Strategy

A summary of the recommended interventions identified for Tauroa Road is outlined within Table 5-7. Each of the identified improvements have been categorised under policy and planning, site specific treatments and corridor wide improvements.

Table 5-7: Summary of Recommended Interventions on Tauroa Road

Strategic Theme	Recommended Interventions
Policy and Planning	
Access Management	Ensure access to new developments / subdivisions are in suitable locations that adhere to engineering standards requirements.
Vegetation Management	Ensure a regular programme of vegetation removal is undertaken as part of planned maintenance work, focusing on sections narrow sections of Tauroa Road where operational widths are impacted by overgrowth.
Tauroa Reserve	Encourage the development of new pedestrian and cycle tracks through Tauroa Reserve to provide additional leisure and recreational activities.
Site Specific Treatments	
Speed Control Devices	Retain speed cushions on road corridor until such a time that wider safety enhancements (i.e. curve enhancements and improvements for active modes) are completed.
Aotea Crescent Intersection	Implement intersection controls (including limit lines and continuity lines) on Aotea Crescent. Implement parking restrictions in the vicinity of the intersection. Investigate options for enhancing pedestrian access across the intersection (i.e. kerb extensions or pedestrian refuges)
Tokomaru Drive Intersection	Implement parking restrictions in the vicinity of the intersection. Consider implementing intersection controls (limit lines) on Tokomaru Drive.
Access to 132-142 Tauroa Road	Implement parking restrictions in the vicinity of the intersection. Consider implementing intersection controls (limit lines) on accessway. Restrict development adjacent to accessway to maintain clear sight lines to the south. Provide concealed entrance warning signage on Tauroa Road for northbound vehicles.
Tauroa Valley Road Intersection	Implement parking restrictions near the intersection (in co-ordination with wider enhancements to Chambers Walk carpark).
Low-Radius Curves	Short-Term Continue use of speed cushions to reduce speed and raise awareness of low-radius. Installation of appropriate low-cost curve enhancing countermeasures to raise awareness of local low-radius curves on the corridor Long-Term Monitor performance of proposed short-term countermeasures to establish effectiveness

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Strategic Theme	Recommended Interventions
	Investigate options for realigning road corridor through RP 0.700 to 1200 in co-ordination with wider maintenance improvements (i.e. replacement of retaining walls)
Chambers Walk Carpark (Tauroa Valley Road to Road Terminus)	Provide additional on-street parking on the western side of Tauroa Road between Tauroa Valley Road and the existing carpark. Control errant parking through restrictions on eastern side of Tauroa Road and at vehicle accesses to adjacent land-uses. Reduce posted speeds (suggest 20km/hr or lower) south of Tauroa Valley Road to support low-speed environment through carpark area.
Corridor Wide Treatments	
Footpath Improvements (Urban)	Implement minor pedestrian improvements that enhance accessibility at key intersections with Tauroa Road (i.e. drop kerbs). Formalise pedestrian and cycling connections between Tauroa Road and existing pedestrian tracks into/through Tauroa Reserve. Where feasible, upgrade existing footpaths to ensure a desired minimum width of 1.5m is achieved.
Active Mode Improvements (Rural)	Investigate options to improve / enhance alternative access options for pedestrians and cyclists through Tauroa Reserve. Progress with the development of pedestrian and cycling boardwalk adjacent to Tauroa Road between RP 0.700 and RP 0.900. Consider extending the proposed boardwalk facility through future stages between RP0.900 and RP1.150. Develop / implement improved signage to raise awareness of the presence of pedestrians and cyclists on Tauroa Road.
Delineation Improvements	Install dashed centreline along full extent of rural sections of Tauroa Road, with edge lines and / or edge markers on sections of route where appropriate. Ensure delineation improvements are maintained regularly to maximise effectiveness. Provide suitable delineation is provided on upgraded sections of Tauroa Road as / when realignment at curves occurs.

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6 Implementation Plan

6.1 Framework Development

To process the vision identified for this CMP into an achievable reality can be a complex task. The implementation plan identifies how the CMP can be rolled out in a timely, collaborative and resource efficient way by HDC, building on preceding stages or interact with subsequent stages with little sacrificial works.

The stages and sequencing identified below is generally based on the anticipated timing that improvements are needed or where opportunities for improvements may arise. As no alternative vehicle access routes are available to Te Mata Peak Road or Tauroa Road, co-ordinating improvements / enhancements are considered important to minimise disruption to residents and visitors.

The timing and even sequencing of these other projects is not fully certain, so this CMP has attempted in so far as is practicable to identify a series of projects able to be developed at the same time or in response to other proposed improvements on the network.

It is not intended that the implementation plan operates as a 'fixed and final' plan but rather an organic plan that is amenable to be adapted where new opportunities to implement improvements are identified. This may increase or decrease the urgency or priority of projects.

The proposed interventions have been grouped on a section basis as follows:

- Te Mata Peak Road (from the Main Gates carpark to the Summit)
- Tauroa Road (from Hikurangi Drive to Chambers Walk Carpark)

The owner of actions outlined within the CMP implementation plan are primarily the responsibility of Hastings District Council unless noted otherwise.

6.1.1 Timeframe

Each of the identified interventions identified within the CMP have been allocated a timeframe for undertaking the project. The timeframes allocated to each of the interventions relates to both the relative priority of the intervention or the need to develop enabling projects / work that support the development of further projects.

Proposed timeframes for projects are:

- Quick Wins (<1 year);
- Short-term (1-4 years);
- Long-term (5+ Years)

6.1.2 Outcome

This provides the rationale for the project and identifies how the project resolves key problems or contributes towards desired outcomes identified.

6.1.3 Implementation Requirements

This outlines the construction or planning requirements for implementing the identified projects. It provides an indication of the limitations and constraints associated with implementing the proposed improvements and the next steps for investigating projects. Some identified actions have specific trigger points or opportunities (such as maintenance improvements) that may influence when improvements should be undertaken.

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6.2 Land-Use and Policy Actions

The following land-use and policy actions have been identified for both corridors (unless otherwise specified) (see Table 6-1).

Table 6-1: Land-Use and Policy Actions

Ref	Segment	Project Title	Description	Outcome	Implementation Requirements
LU1	Tauroa Road	Vegetation Management / Removal	Ensure a regular programme of vegetation removal is undertaken, particularly on roadside where Tauroa Road has challenging curves.	Enhance safety by maintaining sight distances and removing hazards from clear zones.	Undertaken by Council as part of general maintenance works.
LU2	Tauroa Road	Access Management	Ensure new vehicle crossings are provided in appropriate locations that provide good sight visibility and safe access	Planning for future access would support improved safety and reduced potential for crashes involving vehicle access onto Tauroa Road. Future access should be designed to achieve minimum design standards.	To be actioned through resource consent application / reviews
LU3	All Corridors	Traffic Monitoring	Undertake annual monitoring of multi-modal access demands to guide urgency and need for identified improvements.	Provide greater certainty around identified thresholds and timeframes for proposed network upgrades, in particular long-term access restriction options on Te Mata Peak Road.	To be undertaken through Council's current traffic monitoring programme.
LU4	All Corridors	Safety Monitoring	Undertake annual reviews of recorded crash history on the corridor.	Enable any new emerging safety hazards to be identified and actioned. Monitor the impacts of proposed safety improvements.	To be undertaken by Council using the existing NZTA Crash Database resources.
LU5	All Corridors	Delineation Maintenance	Ensure regular maintenance is undertaken of existing and future delineation to ensure it is maintained to the required standards.	Ensure the effectiveness/benefits of providing delineation on the road are maximized for user safety.	Undertaken by Council as part of general maintenance works.
LU6	All Corridors	Parking Surveys	Undertake parking surveys within existing facilities at the Main Gates and Tauroa Road carparks to establish parking demands throughout the day.	Inform future corridor modifications by establishing likely parking needs. Enable long-term planning for implementing access restriction options on Te Mata Peak Road.	To be undertaken by Council in co-ordination with Te Mata Peak Trust.
LU7	All Corridors	User Surveys	In co-ordination with Te Mata Peak Trust, undertake regular user surveys to establish the effectiveness of proposals/treatments in responding to identified user concerns.	Establish an understanding of effectiveness of delivered initiatives.	To be undertaken by Council in co-ordination with Te Mata Peak Trust.

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Ref	Segment	Project Title	Description	Outcome	Implementation Requirements
				Ensure Council and other organisations respond to growing user concerns as they arise.	
LU8	Tauroa Road	132-142 Tauroa Road Access	Ensure development controls restrict the potential for future development on adjacent land parcels to the south-west of the intersection that may impact on driver visibility.	Maintain visibility and safety of intersection under existing arrangements	To be actioned through resource consent application / reviews
LU9	Tauroa Road	Tauroa Reserve Walking and Cycling Tracks	Support the continued development and upgrades to existing pedestrian and cycling tracks within the Tauroa Reserve as identified within the Management Plan	Provide alternative leisure and recreational access for pedestrians and cyclists within the vicinity of Tauroa Road.	Undertaken by Council as part of future parks work programme.

6.3 Quick Wins

The Accessing Te Mata Peak CMP has identified "Quick Wins" that could be implemented the Te Mata Peak Road and Tauroa Road corridors. These can easily be implemented without significant cost or a high level of intervention. These actions are considered a high-priority as they often provide immediate benefit to users and resolve existing deficiencies along the corridor.

Table 6-2: CMP Quick-Wins Actions

Ref	Segment	Project Location / Name	Description	Outcome	Implementation Requirements
QW1	Te Mata Peak Road	Night Time Access Restrictions	Review existing night-time restrictions so that closures occur earlier during the winter months. Investigate options for relocating existing gates to the access gate to fully restrict unauthorised nighttime access.	To reduce concerns relating to user safety and antisocial behaviour during night-time hours.	Undertake as part of minor safety works / maintenance programme
QW2	Te Mata Peak Road	Speed Limit Changes	Reduce the posted speed limit on Te Mata Peak Road to provide a consistent 20km/hr posted speed limit.	Reinforcement of a low speed environment through the full extent of Te Mata Park Raise awareness of the existing mixed use environment.	Requires removal of existing signage and provision of new speed limit gateway features at Main Gates carpark. The review could be undertaken as part of Council's wider speed limit review programmes.
QW3	Te Mata Peak Road	Line Marking Renewals	Ensure that existing line markings on the road are maintained to the required standard.	Maintain levels of service and expected within ONRC. Reduce driver confusion.	Undertake as part of minor safety works / maintenance programme

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Ref	Segment	Project Location / Name	Description	Outcome	Implementation Requirements
QW4	Te Mata Peak Road	Additional Road Marking / Delineation	Consider directional arrows or "keep left" signage to reinforce lane discipline. Review wider implementation of road markings that support a low speed environment	Improve safety by responding poor lane discipline, particularly given the high volume of road users unfamiliar with NZ road conditions. Provide a consistent message to drivers on approaches to hazards, such as transverse road markings.	Undertake as part of minor safety works / maintenance programme
QW5	Te Mata Peak Road	Pedestrian Crossing Enhancements	Identify appropriate locations between the Te Mata Peak main gates and the Te Mata Peak Summit car park for pedestrian crossings (e.g. Peak House, the Saddle)	Provides consistent treatment of pedestrian crossings areas within park. Increased safety for pedestrians by raising awareness of their presence with drivers.	Undertake as part of minor safety works / maintenance programme
QW6	Tauroa Road	Aotea Crescent Intersection	Installation of no parking within vicinity of the intersection. Mark limit line and continuity lines on Aotea Crescent intersection approach.	Improved visibility and safety of intersection under existing arrangements	Undertake as part of minor safety works / maintenance programme
QW7	Tauroa Road	Tokomaru Drive Intersection	Installation of no parking within vicinity of the intersection. Mark limit line and continuity lines on Tokomaru Drive intersection approach.	Improved visibility and safety of intersection under existing arrangements	Undertake as part of minor safety works / maintenance programme
QW8	Tauroa Road	132-142 Tauroa Road Access	Installation of no parking within vicinity of the intersection. Implement concealed access signage to raise awareness of intersection for northbound drivers.	Improved visibility and safety of intersection under existing arrangements	Undertake as part of minor safety works / maintenance programme
QW9	Tauroa Road	Hikanui Drive / Tainui Drive Intersection	Installation of no parking within vicinity of the intersection. Alter existing intersection controls to stop control on Tauroa Road (minor approach arm)	Improved visibility and safety of intersection under existing arrangements	Undertake as part of minor safety works / maintenance programme
QW10	Tauroa Road	Tauroa Valley Road Intersection	Installation of no parking within vicinity of the intersection.	Improved visibility and safety of intersection under existing arrangements	Undertake as part of minor safety works / maintenance programme

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Ref	Segment	Project Location / Name	Description	Outcome	Implementation Requirements
QW11	Tauroa Road	Pedestrian and Cycle Signage Strategy	Investigate options for implementing improved cycle and pedestrian signage on Tauroa Road.	Improved awareness of the presence of vulnerable road users.	Undertake as part of minor safety works / maintenance programme
QW12	Tauroa Road	Delineation Improvements	Install dashed centreline along full extent of rural sections of Tauroa Road, with edge lines and / or edge markers on sections of route where appropriate.	Enhance existing delineation to support a safety roadside environment in line with local road expectations.	Undertake as part of minor safety works / maintenance programme

6.4 Short-Term Actions

The following actions are considered to have a high degree of urgency that requires immediate action. Thus, the following projects are considered short-term actions. These actions can be enablers for long-term actions.

Table 6-3: CMP Short-Term Actions

Ref	Segment	Project Location / Name	Description	Outcome	Implementation Requirements
ST1	Te Mata Peak Road	Entrance Signage	Consider providing additional signage at the main entrance to reinforce the presence of vulnerable road users, existing (and future) vehicle access restrictions and challenging roadside conditions.	Raise awareness / expectations of driving conditions for visitors entering the park	Ensure signage is located in a clear and legible location within the vicinity of the main gates carpark. May reduce the need for multiple repeater signage throughout the remainder of the Park. Design should be cognisant of the amenity and environmental values of the Park.
ST2	Te Mata Peak Road	Speed Control Devices	Consider appropriate locations between the Te Mata Peak main gates and the Te Mata Peak Summit car park for speed management devices in key areas	Support the application of a reduced speed environment through the Park.	Ensure any improvements that involve vertical displacement devices do not create safety issues for cyclists.
ST3	Te Mata Peak Road	Shared Zones	Identify area(s) between the Te Mata Peak main gates and the Te Mata Peak Summit car park where shared zone(s) (or similar principles) can be established.	Increase pedestrian and cyclist priority within the constrained road environment. Encourage courteous driver behaviour through the Park.	Legal requirements for providing a shared zone in a park environment needs to be considered. Alternatively, advisory signs with similar principles could be provided.
ST4	Te Mata Peak Road	Large Vehicle Access	Consider extending the existing large vehicle access restrictions along the full extent of Te Mata Peak	Provide greater clarity of existing access restrictions. Reduce the	Options should be developed in co-ordination with Te Mata Peak Trust.

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Ref	Segment	Project Location / Name	Description	Outcome	Implementation Requirements
			Road (south of the main gates carpark), or provide additional signage at the main gates to re-enforce existing restrictions to the summit for large vehicles.	potential for driver confusion or non-compliance with restrictions.	Changes in restrictions would need to be implemented through an appropriate Traffic Resolution Order.
ST5	Te Mata Peak Road	Signage Strategy	Develop a signage strategy for Te Mata Peak Road of existing and proposed future signage on Te Mata Peak Road.	Reinforcement of presence of vulnerable road users. Maintain effectiveness and clarity of access restrictions. Raise awareness of challenging roadside conditions for visitors.	Develop signage strategy in co-ordination with Trust. Improvements could be undertaken in co-ordination with future maintenance work.
ST6	Te Mata Peak Road	Peak House Parking	Expand and formalise existing parking facilities within Peak House to support current access demands, and support wider access restrictions.	Increase parking capacity within carpark to reduce demand on summit facilities.	Requires consultation and development in coordination with Peak House operators.
ST7	Tauroa Road	Low Radius Curves	Installation of appropriate low-cost curve enhancing countermeasures to raise awareness of local low-radius curves on the Tauroa Road.	Improve safety by reducing potential for loss of control crashes.	Could be undertaken as part of the minor safety works programme. Monitor performance of proposed short-term countermeasures to establish effectiveness
ST8	Tauroa Road	Footpath Improvements (Urban)	Implement minor pedestrian improvements that enhance accessibility at key intersections with Tauroa Road (i.e. drop kerbs). Where feasible, upgrade existing footpaths to ensure a desired minimum width of 1.5m is achieved.	Enhanced accessibility for existing and future pedestrian users of the corridor. Achieve minimum level of service expectations for local roads.	Improvements could be undertaken in co-ordination with future maintenance work on Tauroa Road.
ST9	Tauroa Road	Aotea Crescent Intersection	Seek opportunities to reduce crossing distances for pedestrians and provide geometric delays by providing a raised median or narrowing the intersection width.	Improve pedestrian safety and connectivity.	Requires adjustments to the existing kerb lines. Improvements could be undertaken in co-ordination with future maintenance work on Tauroa Road.
ST10	Tauroa Road	Hikanui Drive / Taunui Drive Intersection	Close and consolidate existing intersections on Taunui Drive and Hikanui Drive to form a new priority controlled intersection with Tauroa Road. Provide new footpath connections between Hikanui Drive and Tauroa Road as part of improvements.	Improve pedestrian safety and connectivity. Improve safety and visibility for drivers travelling through the intersection.	Requires adjustments to the existing kerb lines and potentially landscaping treatments to offset loss of trees. Improvements could be undertaken in co-ordination with future maintenance work on Tauroa Road.

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Ref	Segment	Project Location / Name	Description	Outcome	Implementation Requirements
ST11	Tauroa Road	Wider Pedestrian Linkages	Formalise pedestrian and cycling connections between Tauroa Road and existing pedestrian tracks into/through Tauroa Reserve.	Improve linkages for residents between Tauroa Road and the Tauroa Reserve.	Could be implemented through Parks and Property forward works programme.
ST12	Tauroa Road	Active Mode Improvements (Rural)	Progress with the development of pedestrian and cycling boardwalk adjacent to Tauroa Road between RP 0.700 and RP 0.900. Consider extending the proposed boardwalk facility through future stages between RP0.900 and RP1.150.	Enhanced accessibility and safety for existing and future active mode users of the corridor.	First stage is currently proposed to be developed through Council's Forward Works Programme, subject to funding. Preferred extension option should be developed into a concept scheme for public consultation. Could potentially be implemented in co-ordination with Parks and Property forward works programme.
ST13	Tauroa Road	Chambers Walk Parking Enhancements	Improvements on Tauroa Road south of Tauroa Valley Road to provide additional capacity and support access to the Park. Provide additional on-street parking facilities on western side of Tauroa Road, in conjunction with on street parking restrictions and reduced speed limits (20km/hr).	Improved safety and access to Te Mata Park from the Chambers Walk carpark. Minimise impacts of increasing access demands on adjacent land owner access.	Preferred option should be developed into a concept scheme in consultation with Te Mata Peak Trust and local land-owners.

6.5 Long-Term Actions

The following table outlines the proposed long-term actions for the Te Mata Peak Road and Tauroa Road corridor. These actions often require further investigation, land acquisition or further consideration following the implementation of identified short-term actions.

Table 6-4: CMP Long-Term Actions

Ref	Segment	Name/Location	Description	Outcomes	Implementation Requirements
LTI	Te Mata Peak Road	Long-Term Access Restrictions	Delivery of permanent access restrictions that seek to restrict unauthorised vehicle movements to the summit.	Improved safety for vulnerable road users accessing the peak. Improved amenity and environment for users of Te Mata Park. Reduce operational strain on existing trip-end facilities within the Peak summit.	Requires delivery of a mitigation strategy including travel demand management initiatives to minimise impacts of parking loss and loss of direct vehicle access to the Peak. Depending on public acceptance, access restrictions could be accelerated in the short-term.

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					Restrictions would need to be enforced through appropriate traffic resolution orders.
LT2	Tauroa Road	Realignment of Low Radius Curves	Realignment of low radius curves on Tauroa Road in co-ordination with future road maintenance programmes. Ensure suitable delineation is provided on upgraded sections of Tauroa Road as / when realignment at curves occurs.	Respond to any future safety issues following implementation of proposed short-term enhancements	High cost item, that may not be required if short-term enhancements operate sufficiently. Reconstruction of retaining walls adjacent to Tauroa Reserve may provide opportunities for joint working/ implementation.

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7 Next Steps

7.1 CMP Review

It is recommended that the CMP remains a 'live' document to ensure that it is updated and reviewed on a regular basis to make certain that recommendations within the report remain current and reflect any emerging issues or proposed network changes.

It is expected that the CMP will need to be reviewed and updated every three years to confirm the relevance of assumptions outlined within the report, as well as identify improvements that could be included within Council's Long-Term Plan. This will also allow the CMP to remain updated with progress-to-date on actions identified within the implementation plan and highlight the next stages / priorities identified within the CMP.

7.2 Future Works Programming

The implementation plan identifies opportunities to implement corridor improvements in co-ordination with other capital projects, including maintenance work. As part of future Forward Works Programming, it is recommended that Council considers opportunities for integrating recommendations outlined within the CMP into these projects to minimise delivery costs and community disruption.

7.3 Traffic Monitoring Framework

Historically, traffic counts have been undertaken sporadically and at different times of year. It is recommended that HDC develops a monitoring programme on the corridor to establish annual growth trends and safety performance of the route during both off-peak and peak holiday periods. The proposed traffic monitoring framework would enable a firmer understanding of traffic volumes and growth figures over time. This will allow HDC to monitor traffic growth rates and confirm the relevance of assumptions outlined within the CMP, as well as allowing Council to assess the effectiveness of short-term improvements once delivered.

The proposed traffic count monitoring framework for both Te Mata Peak Road and Tauroa Road is outlined within Table 7-1.

Table 7-1: Proposed Traffic Monitoring Framework

Road	Site Location	Existing	Proposed
Te Mata Peak Road	RP 2.322	5 Yearly Cycle (next due 11/2023)	2 counts per annum to capture seasonal growth rates (peak and off-peak)
	RP 3.623	5 Yearly Cycle (next due 5/2025)	Annual count on summit ascent
Tauroa Road	RP 0.110	5 Yearly Cycle (next due 12/2023)	Annual count on northern extent of Tauroa Road
	RP 0.627-1.187	N/A	2 counts per annum to capture seasonal growth rates (peak and off-peak)

7.4 Community Consultation

The CMP has identified several long-term access solutions that will significantly change how people access and use the Park. As a regionally significant facility there are a wide range of users and visitors would be impacted by these proposals, therefore it is recommended that as options are developed further, these options are refined and developed in consultation with key stakeholders, park users and the wider community before it is implemented.

Consultation will also enable Council to seek feedback before any long-term access restrictions are developed, and keep the community and stakeholders informed about future projects so they are aware project timeframes and expectations.

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7.5 Delivery of Wider Strategies

Several strategies have been developed by HDC that seek to improve access into Te Mata Park from its wider surroundings (see Table 7-2). Once implemented, the recommendations within these strategies will further complement and enhance the strategic objectives of the Accessing Te Mata Peak CMP, in particular enhancing connectivity to non-motorised users. The CMP supports the implementation of the proposed facilities, as outlined within the relevant implementation plans.

Table 7-2: Wider Strategies and Connectivity to CMP

Strategy	Relevance
Simla Avenue / Te Mata Peak Road CMP (2019)	<p>Strategy identifies opportunities to enhance access from Havelock North town centre to the main gates for pedestrians and cyclists. The strategy also identified safety enhancements to the journey to support vehicle traffic accessing the Park.</p> <p>The implementation plan recommends a staged approach to developing improvements, with pedestrian and cycling improvements undertaken in co-ordination with wider maintenance programmes (such as Area Wide Pavements Treatments) for the route.</p>
Tainui, Tanner, Tauroa & Hikanui Reserves Management Plan (2015)	<p>Strategy identifies opportunities to enhance access through reserves for both pedestrians and cyclists, for both general accessibility as well as improved recreational opportunities for residents and visitors. These improvements seek to enhance connectivity and provide more direct pedestrian connections between surrounding residential areas and key sites of interest, including the local reserves and Te Mata Park.</p> <p>HDC have confirmed the recommendations within the Plan remain relevant, including the provision of a boardwalk through Tauroa Reserve to reduce exposure of pedestrians to general traffic on Tauroa Road.</p>

7.6 Oversight and Management

Development of improvements within Te Mata Park is dependent on community buy-in, requiring close collaboration between key stakeholders and end park users. This includes (but not limited to) Hastings District Council, Te Mata Park Trust, Peak House management, clubs and societies that operate within the Park as well as other groups with a vested interest in the park.

Developing a working group with representatives from key stakeholder organisations to oversee the development, co-ordination and implementation of broader access initiatives is recommended and should be established early in the process. This governance structure approach would:

- Ensure regular communication between organisations with a key interest in the operation of the Park;
- Establish an understanding and support of initiatives through collaboration and involvement in key decisions related to access of the peak;
- Enable a co-ordinated approach to delivering initiatives / improvements for accessing the Park, ensuring they are delivered with due consideration given to Park user needs;
- Provide access to broader range of external funding opportunities to deliver future Park initiatives; and
- Enable efficient and effective monitoring of improvements / solutions identified within the CMP.

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Appendix A: Level of Service Expectations

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Fit for Purpose – CLoS Outcomes	Secondary Collector	Access Road
Travel Time	<ul style="list-style-type: none"> Road users travel times may vary as a result of other road users (all modes), weather conditions or the physical condition of the road. 	<ul style="list-style-type: none"> Road users experience varied travel times as a result of other road users (all modes), weather conditions or the physical condition of the road.
Resilience	<ul style="list-style-type: none"> Route is nearly always available except in major weather events or emergency event and alternatives may exist. Clearance of incidents affecting road users will have a moderate priority. Road users may be advised of issues and incidents 	<ul style="list-style-type: none"> Route may not be available in moderate weather events and alternatives may not exist. Clearance of incidents affecting road users and road user information will have a lower priority.
Optimal Speeds	<ul style="list-style-type: none"> Travel speeds depend on assessed level of risk and recognise mixed use, schools, shopping strips and concentrations of active road users 	<ul style="list-style-type: none"> Travel speeds depend on assessed level of risk and recognise access and use values, particularly schools, shopping strips and concentrations of active road users
Safety	<ul style="list-style-type: none"> Variable road standards and alignment. Lower speeds and greater driver vigilance required on some roads/sections particularly depending on topography, access, density and use. Active road users should expect mixed use environments with some variability in the road environment, including vehicle speed. Road user safety guidance provided at high risk locations. 	<ul style="list-style-type: none"> Variable road standards and alignment. Lower speeds and greater driver vigilance required on some roads/sections particularly depending on topography, access, density and use. Road users should expect mixed use environments with some variability in the road environment, including vehicle speed. Road user safety guidance may be provided at high risk locations.
Amenity	<ul style="list-style-type: none"> Moderate level of comfort, longer areas of roughness. Aesthetics of adjacent road environment reflects journey experience needs of all road users and adjacent land use. Urban collectors reflect urban fabric and contribute to local character. Specific provision (e.g. streetlighting) where active road users present. 	<ul style="list-style-type: none"> Lowest level of comfort, may include extended areas of roughness and unsealed surfaces (on rural roads). Aesthetics of adjacent road environment strongly reflects land use and place function. Strong shared philosophy between active road users (if present) and vehicular traffic. Active road users expect environment appropriate to their needs. Urban areas clean, safe [low vehicle speed] and secure [lighting].
Accessibility	<ul style="list-style-type: none"> Land-use access for road users generally permitted but some restrictions may apply. Road user connection at junctions with other Collectors or Access roads. Collector road traffic generally has priority over Access road traffic. Active road users should expect mixed use environments with some variability in the road environment, including vehicle speed. Provision of quality information relevant to Collector road user needs. 	<ul style="list-style-type: none"> Access to all adjacent properties for road users. Road user connection at junctions ideally with Collectors and other Access roads. Access road traffic generally has lower priority over traffic on all higher classification roads. Active road users should expect mixed use environments with some variability in the road environment, including vehicle speed. Enhanced accessibility via 'share the road' philosophy (active road users, mobility impaired and drivers), journey connectivity to key destinations via all modes, and provision of quality information.

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Appendix B: ILM Workshop Minutes

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ACCESSING TE MATA PEAK - CORRIDOR MANAGEMENT PLAN WORKSHOP 1

Minutes of Meeting

File No:	5-P1292.00	Date:	26 th August 2019	Time:	09:00-12:00
Subject:	Accessing Te Mata Peak – Stakeholder Workshop 1				
Location:	HDC Council Chambers	Minutes by:	WSP Opus		
Persons Present		Organisation			
1	Marius Van Niekerk (MVN)	Hastings District Council			
2	Eynon Phillips (EP)	Hastings District Council			
3	Jane Mackersey (JM)	Havelock North Business Association			
4	Ann Redstone (AR)	HDC Councillor			
5	Rowan Wallace (RW)	Hastings District Council			
6	Ian Hughes (IH)	Operation Manager - Nimon and Sons			
7	Katie Nimon (KN)	General Manager - Nimon and Sons			
8	Ben Hutton (BH)	Marketing Manager - Hawkes Bay Tourism			
9	Emma Buttle (EB)	Manager, Te Mata Peak Trust			
10	Malcolm Dixon (MD)	HDC Councillor/ Te Mata Peak Trust Board			
11	Mike Devonshire (MD)	Chair, Te Mata Peak Trust Board			
12	Rose Mohi (RM)	Taiwhenua			
13	Dr James Graham (JC)	Hastings District Council			
14	Matthew Evis (ME)	WSP Opus			
15	Claire Rusin (CR)	WSP Opus			
16	Lisa Malde (LM)	WSP Opus			
Persons Absent (Apologies)		Organisation			
1	Marei Apatu	Taiwhenua			
2	Mike Paku	Taiwhenua			

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Item	Discussion and Action	Whom	When
1	<p>Introduction and Welcomes</p> <p>ME/MvN welcomed stakeholders to the workshop.</p> <p>Apologies were received (noted above).</p> <p>Comments raised during introductions included</p> <ul style="list-style-type: none"> Nimon and Sons have been working on a new traffic management plan to ensure all operators can access the peak safely (and maintain safety of other park visitors and road users). This is led by Nimon and Sons but other bus operators benefit. Nimon and Sons also ensure bus drivers are suitably trained and have skillsets to drive the route safely. MD: Mana Whenua need to be kept informed/consulted due to the values of the park. MvN noted they are a key stakeholder and included within the process. 	NA	NA
2	<p>Objectives / Background Information</p> <p>The objective of the workshop was to update stakeholders on work undertaken since the initial Investment Logic Mapping exercise (ILM) in June 2018, and work with stakeholders to:</p> <ul style="list-style-type: none"> Confirm with stakeholders that the problem statements are relevant to the Accessing Te Mata Peak Study area, and Identify long-list options with stakeholders for consideration within the CMP <p>ME provided feedback to workshop attendees on the project scope, status of the previous CMP and the project process.</p> <p>The scope of the "Accessing Te Mata Peak CMP" study area includes:</p> <ul style="list-style-type: none"> Te Mata Peak Road (Summit Section); and Tauroa Road (between Hikanui Dr and Chambers carpark) <p>Whilst the previous CMP identified problems on the Summit section of Te Mata Peak Road, this project will investigate options and solutions in detail. Tauroa Road has been included within the CMP to provide a "holistic" plan for access to Te Mata Park, as well as responding to safety concerns raised by the public.</p>	NA	NA
3	<p>Problem Statement Discussion</p> <p>ME provided a summary of the problem statements and existing evidence base for both Te Mata Peak Road and Tauroa Road for stakeholder feedback.</p> <p>MD queried whether the scope of the problems and benefits are specific to the study area or include sections investigated within previous CMP study. ME noted the issues identified through the ILM are relevant across the whole route; however, there may be additional weighting of problems applied to the summit section.</p> <p>Stakeholders stated solutions will need to consider balancing the landscape/cultural impacts. ME noted this would be considered through the option assessment phase.</p> <p>EP confirmed that the road is a public asset owned by HDC.</p>	NA	NA

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4	Te Mata Peak Road – Problem Confirmation <p>Stakeholders discussed the applicability of the problem statements to the section of Te Mata Peak Road within Te Mata Park, and the evidence base provided for discussion within the presentation.</p> <p>A summary of the discussion is provided below:</p> <ul style="list-style-type: none"> MD: Since the previous workshop, the TMP Trust have secured additional land. The new area provides opportunities to expand recreational offerings, including new walking tracks and sculpture walks. This is also expected to increase organised educational trips to the Peak (i.e. school visits). ME: noted that new pedestrian threshold warnings have been installed on Te Mata Peak Road for northbound traffic approaching the Main Carpark area. JM questioned the safety issue TMP Road within on the peak, given historic crash records indicate a reduction in the volume and severity of crashes since safety measures (barriers & speed limits) were implemented. MD noted whilst crashes have decreased, the recent / forecast growth in user numbers and mix of users creates the potential for a serious incident to occur. This is a key H&S concern for the Trust. Stakeholders confirmed a large proportion of people prefer to walk on the road (in particular less mobile pedestrians and those with kids) as the route is more accessible than the adjacent walking tracks. The installation of barriers has also reduced the available berm space for pedestrians adjacent to the road. At times large groups of pedestrians travel up the road for organised activities (e.g. Easter walk with 40+ people). MD noted that the evidence base presented within the safety problem statement doesn't note the above. WSP Opus to incorporate this into the evidence base. MD queried whether traffic growth figures provided (3% since 2000) were total (since 2000) or annual growth. ME confirmed annual. This indicates traffic volumes could exceed 1,000 vpd on the summit within the next 20 years. MD noted that the Trust have consented plans for a Ridgeline track however, progress has stalled since issues with the Craggy Range Winery track. Should this be implemented, there will be additional access point/biking demands on the summit. Stakeholders queried whether carparking capacity issues required a separate problem statement to be developed, and confirmed existing carparks within the reserve are at capacity even with recent parking supply expansion. MD also noted additional parking capacity needed to support activities within Te Mata Peak Café following its reopening. EB noted the park is experiencing a lot of antisocial behaviour, particularly at night time. Access to the peak is restricted between 10pm and 5am; however, having separate summer/winter access hours could address the post-dusk issues. 	NA	NA
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Item	Discussion and Action	Whom	When
	<ul style="list-style-type: none"> Stakeholders queries whether Problem 3 (relating to asset condition). ME noted initially this was more of a response to lower sections of Te Mata Peak, however, MvN noted that the route is coming up for future renewal, so does remain relevant. Specific to the problem statement wording, stakeholders questioned whether the problem statement required 'residents and visitors' to be mentioned specifically. <p>Agreed: General agreement from participants that safety concerns are the greatest issue on the Peak.</p> <p>Agreed: Carparking concerns relate to access issues outlined within Problem Statement 2, and forms part of the supporting evidence base.</p> <p>Agreed: Problem Statement 3 to remain, although with a lower priority (weighting) than developed for the rest of the corridor. Additional weighting to be transferred to Problem Statement 2.</p> <p>Agreed: Problem statements to use the term customers or users rather than specifically mentioning residents/visitors, as this covers both groups.</p>	WSP Opus	WS2
4	<p>Tauroa Road - Problem Confirmation</p> <ul style="list-style-type: none"> ME noted that new speed control devices + signage had been installed, and vegetation clearance had been undertaken in the past few months on Tauroa Road. Stakeholders agreed that the problem statements relating to access and safety were also applicable to Tauroa Road. Stakeholders noted speeding issues on Tauroa Road need to be drawn into the evidence to support problem statements. HDC to assess the impact of the speed control devices recently implemented. There are options for providing alternative pedestrian/cycle access through Tauroa Reserve, but steep gradients / muddy tracks reduce the attractiveness and use-ability for people. The future growth in the area/development of Te Mata Park is also expected to increase access demands on Tauroa Road in the future (both traffic growth and pedestrian/cycle demands). Similar to the main access route, parking demands within the Chambers car park are also expected to grow as a response, although there is limited room for future parking growth. <p>Agreed: Problem Statements developed for Te Mata Peak Road can also apply to Tauroa Road</p>	WSP Opus / HDC	WS2
		WSP Opus	WS2

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Item	Discussion and Action	Whom	When
5	<p>Confirmed Problem Statements</p> <p>Based on the outcomes of the workshop, the following problem statements were agreed amongst participants (yellow denotes changes):</p> <ul style="list-style-type: none"> Problem 1: Challenging corridor characteristics and increasing corridor use is compromising safety. (50%) Problem 2: Increasing corridor demands are leading to conflicts and reduced user experience for both residents and visitors (30% 40%) Problem 3: Deteriorating road asset condition is resulting in a reduced level of service. (20% 10%) <p>Other comments:</p> <p>Te Mata Peak Trust are undertaking an engagement survey with users of the Park - EB questioned whether to include a survey question relating to potential park improvements. Project team to provide feedback.</p> <p>Stakeholders noted that at present, the park provides commercial benefits to some users but does not enable the Hastings District to "clip the ticket". Any potential revenue streams that could be generated to support services/maintenance of the park could be considered.</p>	WSP Opus	ASAP
6	<p>Te Mata Peak Trust Presentation</p> <p>MD provided a summary of the Te Mata Peak Trusts strategic long-term vision, objectives and challenges.</p> <p>A copy of the slides is provided for reference in Appendix A.</p> <p>The contribution/alignment of improvements to the long-term vision of the trust is an important consideration as options are progressed/developed.</p>	NA	NA
7	<p>Option Development</p> <p>CR introduced the option development session.</p> <p>The purpose of the session was to invite stakeholders to identify a range of options or ideas that could be considered as part of a "long-list" of potential options that could be considered within the CMP.</p> <p>Stakeholders were divided into two groups to identify and generate ideas. Options and ideas were identified for:</p> <ul style="list-style-type: none"> <i>Te Mata Peak Road (Summit Section) and</i> <i>Tauroa Road (between Hikanui Dr and Chambers carpark)</i> <p>A full set of the options/ideas generated by the stakeholder group are provided within Appendix B.</p>	NA	NA

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Item	Discussion and Action	Whom	When
8	<p>Next Steps</p> <p>The WSP Opus project team will compile the "long-list" of potential options and undertake an initial assessment of the options. This will include consideration of options identified by the public through consultation exercises undertaken to date. This will identify a "short list" of options for further discussion.</p> <p>Stakeholders will be invited to attend a second workshop (expected Mid-October) to review the "short-list" options in further detail.</p> <p>WSP Opus / HDC to organise and confirm date for second workshop.</p> <p>WSP Opus to circulate meeting minutes.</p>	<p>WSP Opus / HDC</p>	<p>Mid - Septem- ber</p>

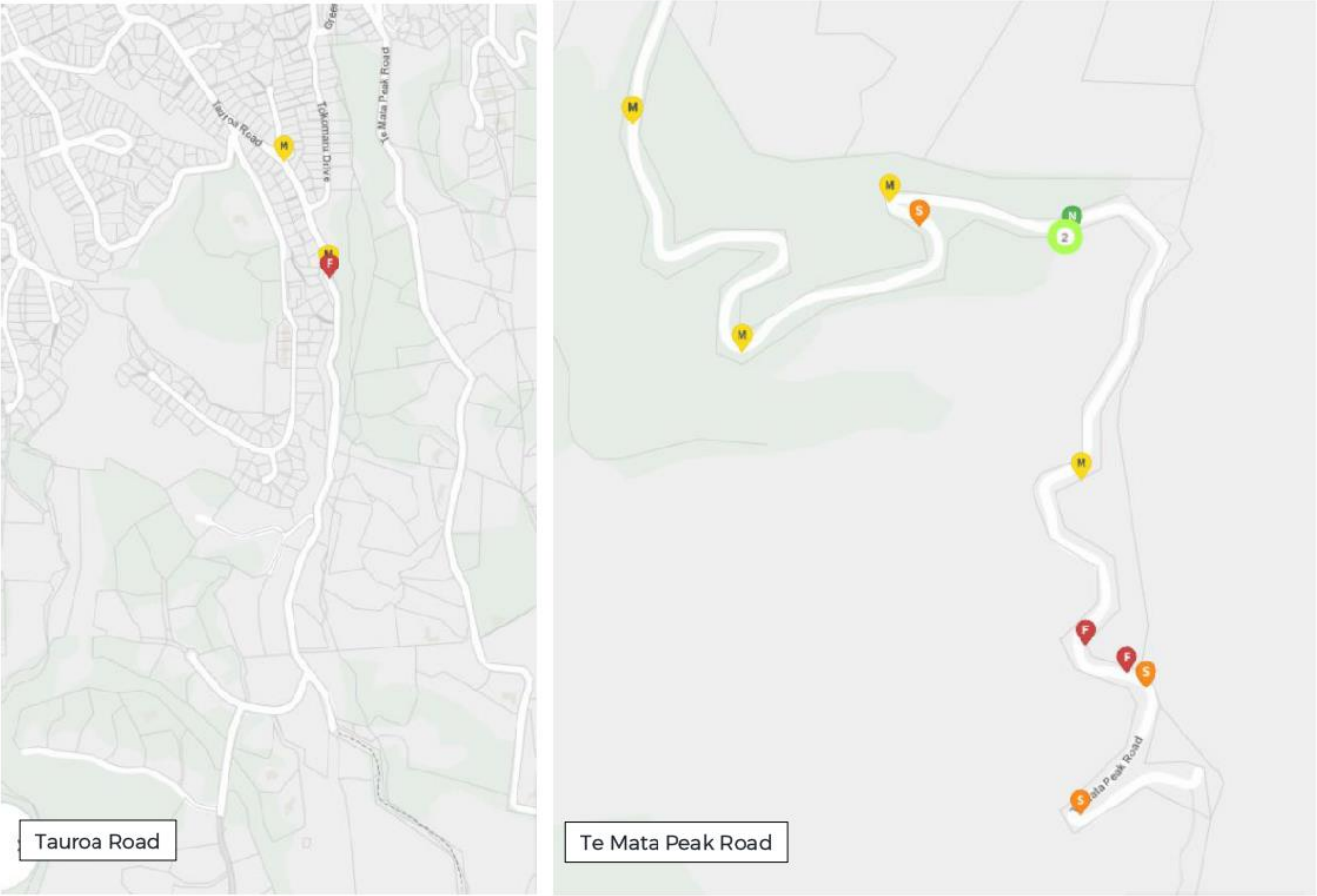
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Appendix C: Crash History

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Collision Diagram - Te Mata Peak Road and Tauroa Road 2010-2020



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Appendix D: Long List Option Identification

As part of the ILM workshop, stakeholders were invited to identify a range of options or activities that could be considered as part of a "long-list" of potential options that could be considered within the CMP. The workshop sought to identify any interventions that may address the problems and achieve the benefits identified through the Investment Logic Map process.

Stakeholders were encouraged to provide "blue-sky" thinking, so as to ensure all potential options or activities were identified at an early stage. This approach ensured that the ideas were not limited to just those that achieved a high alignment to the benefits but may include types of intervention to target specific community outcomes, complementary measures, or services that may provide alternative options for accessing Te Mata Park.

The ideas identified within the session included physical corridor improvements, alternative access options, operational enhancements or demand management techniques. These ranged from corridor wide improvements to site specific enhancements. The

The potential ideas generated by the stakeholder engagement workshop were combined with ideas presented to HDC by the public through previous engagement undertaken through the Simla Avenue / Te Mata Peak Road Corridor Management Plan to create a long-list of potential options.

The idea generation process targeted interventions that seek to manage demand (reduce or slow the problem), increase productivity (optimise or make better use of the existing system) and/or increase supply (i.e. provision of extra capacity to treat or fix the problem).

These options were rationalised and developed into a "long-list" of options for consideration, based on key "themes" as follows:

- A: Land-use policy and planning
- B: Access Control and Management
- C: Capacity Improvements
- D: Traffic Management
- E: Alternative Access Options
- F: Minor Safety Improvements
- G: Parking Management

In total:

- 43 separate options, activities or ideas were identified on Te Mata Peak Road; and
- 32 separate options, activities or ideas were identified on Tauroa Road.

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Te Mata Peak Road – Summit Ascent

Group 1:

- Speed management – access controls for the public
- Regular user surveys and reviews
- Saddle closure, w/ improved stopping facilities
- Better bus turn around areas
- Better stopping area
- Close route at saddle
- Environmentally sound solutions – ebikes, e buses, walking, no diesel
- Peak house – develop carpark to support access
- More security – gate to main gates
- Close at car park at park entry
- More connectivity/arterial routes may = dispersing the cars, spreading the load to other roads
- Vehicle technology – buses with articulated axels
- Vehicle types – providing a variety
- Speed management – traffic calming
- Time of day access – closed at twilight
- Smaller shuttles accessing peak
- Funding model over long term (w/ board of trustees)
- Issue: Pricing with shuttles
- Time varies
- Staged closure to vehicles from peak down
- Cultural walking tours
- Rationalising car parking – e.g. grass verges (even below gates)
- Develop golf cart tracks on the peak from main carpark to summit – close road to cars
- Walking tracks – improve safety/condition
- A TMP i-site – something more local in Hastings
- Add questions about access ideas to visitors survey
- Concessions for access when controls are in place
- Risk – transfer of bus passengers results in double handling
- More park wardens to manage access
- Domestic visitors – access plans for groups
- TMP access forums – enable planning conversations to take place
- Provide more information – seasonal tourism fluctuations
- Local government controls and policing of access
- Tourism operators – agreement / forum on TMP
- Better disability access at main carpark – only one currently provided

Group 2:

- Consider options for improved access for walkers
- Provide more gentle walking tracks
- Provide shuttle bus services from port/Clive or Farndon Park
- Run shuttles / coaches to Hastings, bypass Napier i-site so Hastings can "clip the ticket"
- Provide additional signage about event traffic
- Maintaining disabled access is important
- Shuttle from village to Summit
- Use electric buses – reduce carbon footprint
- Better signage throughout the park
- Limit length of vehicles to 7.5m from the Saddle (full time)
- Reduce speed throughout park to provide consistency – i.e. 20km/hr environment
- Provide another means of access not by road to the summit
- Consider track based train or cable car to the peak.
- I-site in Napier commercialising Te Mata Peak – tensions between commercial vs private usage
- Inform users that ship tours occur at weekends
- Consider parking wardens
- Paid carparking facilities
- Conversation w/ PoA, NCC on impacts etc.
- What opportunities are there for locals to "clip the ticket"
- Gondola – temp bus to raise funds for long-term Gondola opportunities
- Limit access from car park to permitted vehicles only
- Reassess access to the top of Te Mata Peak – size of vehicles
- Opportunities for funding to be shared with Trust Park
- Restrictions on vehicle movements to summit during certain times of day – user protection, i.e. window of time (peak vs off-peak)
- Enhanced security consistently
- Direction markings on road to increase safety
- Restrict vehicle access to top during peak times
- Road markings renewed across full length
- Provide designated carparking spaces for campers
- Provide major road improvements to take pedestrians off road

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Tauroa Road

Group 1:

- No comments

Group 2:

- Provide directional arrows on road
- One way or one lane access (traffic light control)
- Speed restrictions
- Provide walkway/cycle path separate to road
- Improve access routes for pedestrians through Tauroa Reserve

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Appendix E: Option Assessment – Te Mata Peak Road

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Land-Use, Policy and Planning

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
A1	Oversight / Management Group	Development of an organisation (similar to TMA) to oversee implementation of broader access initiatives, funding, infrastructure development	HDC/Trust	<ul style="list-style-type: none"> Enable co-ordinated approach to delivering initiatives/improvements for accessing peak Monitoring effectiveness of improvements / solutions identified within the CMP 	<ul style="list-style-type: none"> Requires buy-in / interest from relevant organisations and partners 	<ul style="list-style-type: none"> Dependent on appetite from stakeholders. Can be implemented irrespective of other options
A2	Traffic Monitoring	Undertake annual monitoring of multi-modal access demands to guide urgency and need for identified improvements	HDC / Trust	<ul style="list-style-type: none"> Enable informed understanding of access demand changes over time 	<ul style="list-style-type: none"> Availability of resources / costs for undertaking surveys 	<ul style="list-style-type: none"> Can be undertaken through Council's current traffic monitoring programme. No key dependencies with other options
A3	Safety Monitoring	Undertake annual reviews of recorded crash history on the corridor	HDC	<ul style="list-style-type: none"> Enable understanding of any emerging safety issues, or 	<ul style="list-style-type: none"> Availability of resources / costs for undertaking review (minimal) 	<ul style="list-style-type: none"> To be undertaken by HDC using the NZTA Crash Database resources No key dependencies with other options
A4	Parking Surveys	Undertake parking surveys within key carparks to monitor demand	HDC / Trust	<ul style="list-style-type: none"> Enable an understanding of long-term parking demands and periods of peak parking demand 	<ul style="list-style-type: none"> Availability of resources / costs for undertaking review (minimal) 	<ul style="list-style-type: none"> Could be undertaken jointly by HDC / Trust No key dependencies with other options
A5	User Surveys	Undertake user surveys to gain ongoing understanding of user experience	Trust	<ul style="list-style-type: none"> Enable an understanding of users experiences accessing park Ensure Trust/HDC are able to proactively respond to issues or requests 	<ul style="list-style-type: none"> Availability of resources / costs for undertaking review 	<ul style="list-style-type: none"> Could be undertaken by Trust as part of ongoing monitoring
A6	Information Access	Improved access to information about park activities, access arrangements etc	Trust	<ul style="list-style-type: none"> Improve availability of information on how visitors and recreational users can access the park, and what is available Provide information on high visitation periods (such as tour buses) 	<ul style="list-style-type: none"> Availability of resources for developing information. Identification of how best to disseminate information 	<ul style="list-style-type: none"> Could be undertaken as part of an online resource.
A7	TMP "I-Site"	Development of TMP I Site within the park	Trust	<ul style="list-style-type: none"> Provide information on the park, history and cultural aspects 	<ul style="list-style-type: none"> Limited benefits in resolving problem statements High costs for implementing. Has been investigated previously by TMP Trust and decided not to progress/develop 	<ul style="list-style-type: none"> High cost for implementation dependent on funding sources

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Access Control / Access Management

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
B1	Full Closure – Saddle to Summit	Implementation of full closure of Te Mata Peak Road for all vehicle access from the Saddle to the Peak summit.	HDC	<ul style="list-style-type: none"> Similar to restrictions applied at other key destinations in Auckland and Wellington Protect recreational area with ecological significance Enhanced visitor experience (reduced emissions, noise, access) Removes the potential for conflicts between users of the peak Existing road could be used as a pedestrian/cycle linkage to the peak. Cost effective to implement compared with other infrastructure options (road widening) Potential for drop-off area to be provided around the Saddle. 	<ul style="list-style-type: none"> Reduced accessibility to the peak for less abled users. Impacts on tourism / coaching tour accessibility to the peak. Increased visitation time resulting in reduced parking capacity / turnover. Potential political / community / tourism industry upset. Potential implications on existing activities within the park (i.e. access for paragliding) Improvements required to enable vehicles to turn around at the Saddle. Additional demand for parking at the Saddle/Main Gates /Tauroa Road car parks. 	<ul style="list-style-type: none"> Requires bylaw/TRO to be implemented Could provide limited vehicle access for specified recreational / mobility impaired users. Potentially provide limited access for shuttle bus services Require liaison with affected parties Assess requirements / needs for additional parking supply Ability to support turn around at the Saddle needs to be considered
B2	Full closure - Main Gates to Summit	Implementation of full closure of Te Mata Peak Road for all vehicle access from main car park entrance to the Peak summit.	HDC	<p>As per option A1, with:</p> <ul style="list-style-type: none"> Additional benefits resulting from full exposure along full extent of Te Mata Peak Road 	<p>As per A1 with:</p> <ul style="list-style-type: none"> Potential impacts on vehicle access to Peak House café Longer dwell times at the main car park as pedestrians/cyclists would need to travel further to access the peak 	As per A1
B3	Restriction on vehicle access during peak periods	Restrict vehicle access beyond the main car park during peak hours or public holidays for non-motorised users	HDC	<p>As per benefits to A1, with:</p> <ul style="list-style-type: none"> Removes the potential for conflicts between users of the peak during high periods of pedestrian/cycle access. 	<ul style="list-style-type: none"> As per option A2, with the exception of limited access to Peak House café dependent on time restrictions 	As per A1
B4	Full closure to large vehicles - Main carpark to Peak	Restrict large vehicle access (including buses) at all times from Main Carpark to Peak Summit. Peak access currently managed by TMP's	HDC	<ul style="list-style-type: none"> Impose restrictions on large vehicle access at all times. Reduces the potential for conflicts between larger vehicles and other users of the peak. Could be relatively cost effective to implement compared with other infrastructure options (road widening) Enhanced visitor experience (reduced emissions, noise, access) 	<ul style="list-style-type: none"> No crashes on Te Mata Peak Road have involved heavy vehicles. Conflicts still remain between general vehicles and other users (i.e. pedestrians and cyclists) Need to manage access demands through a turnaround or similar for buses at the Main Gates Relies on users complying with restrictions or enforcement is required Impacts on tourism / coaching tour accessibility to the peak Potential political / community / tourism industry upset. 	<p>Requires bylaw/TRO to be implemented.</p> <p>Large vehicle restrictions/limitations currently exist from Saddle to Summit.</p> <p>Ability for turn around in Main Gates to be considered.</p> <p>Require liaison with affected parties</p> <p>May result in smaller shuttle bus access to peak.</p>
B5	Close access to the top of the Peak after Dark	Option would have flexible time restrictions or separate summer/winter access restrictions	HDC	<ul style="list-style-type: none"> Reduced potential for anti-social activity during the evenings/night time during winter periods. Reduces crash risk on difficult sections Te Mata Peak Road during the evening/night time during winter. 	<ul style="list-style-type: none"> Limited benefits in resolving problem statement during peak period activity. Significant conflicts between users still exist throughout the day. Potential for confusion for visitors if closure period varies (i.e. 1 hour after sunset) 	Current restricts are 5am-10pm all year.
B6	Amendments to existing vehicle size limitations	Further limiting length of vehicles (potentially less than current 7.5m)	HDC	<ul style="list-style-type: none"> Reduces the potential for conflicts between larger vehicles and other users of the peak. Could be relatively cost effective to implement compared with other infrastructure options (road widening) 	<ul style="list-style-type: none"> No crashes on Te Mata Peak Road have involved heavy vehicles. Conflicts remain between general vehicles and other users (i.e. pedestrians and cyclists) 	<p>Requires bylaw/TRO to be implemented.</p> <p>Large vehicle restrictions/limitations currently exist from Saddle to Summit.</p> <p>Ability for turn around in Main Gates to be considered.</p>

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Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
				<ul style="list-style-type: none"> Enhanced visitor experience (reduced emissions, noise, access) 	<ul style="list-style-type: none"> Need to manage access demands through a turnaround or similar for buses at the Saddle or Main Gates Relies on users complying with restrictions or enforcement is required Impacts on tourism / coaching tour accessibility to the peak. Potential political / community / tourism industry upset. 	<ul style="list-style-type: none"> Require liaison with affected parties May result in smaller shuttle bus access to peak
B7	Low Emission Zone	Restrict access within the park to low emission vehicles (i.e. electric cars, buses, bikes, pedestrians etc)		<ul style="list-style-type: none"> Improved air quality and visitor experience Protect recreational area with ecological significance Enhanced visitor experience (reduced emissions, noise, access) Reduces potential for conflicts between users of the peak. Cost effective to implement compared with other infrastructure options (road widening) 	<ul style="list-style-type: none"> Some conflicts remain between general vehicles and other users (i.e. pedestrians and cyclists) Need to manage access demands through a turnaround or similar for buses at the Saddle or Main Gates Relies on users complying with restrictions or enforcement is required Impacts on tourism / coaching tour accessibility to the peak, and potential political / community / tourism industry upset. 	<ul style="list-style-type: none"> Although applied internationally, no restrictions have been applied in NZ context Unlikely to be implemented in co-ordination with other access restrictions Could be implemented with complementary improvements (i.e. electric bike hire)

Capacity Improvements

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
C1	Realignment of Road by Peak House	Review road curves adjacent to peak house to provide more direct / less winding alignment	Safety / Access Management	<ul style="list-style-type: none"> Reduction in hair-pin and blind corner to improve safety / vehicle accessibility, particularly for larger vehicles such as coaches 	<ul style="list-style-type: none"> Environmental impacts need to be assessed - requires removal of trees / native bush, cut/fill to achieve gradient Unknown ground conditions - could be the reason why current alignment exists Needs to consider wider proposals (i.e. access for coaches) as to whether this is required Likely to be a relatively high cost item. 	<ul style="list-style-type: none"> Viability / benefit needs to be established Availability of funding to deliver
C2	New Road Connection	Provide alternative roading access to the Summit (to provide either one-way flow or spread access demand)	HDC	<ul style="list-style-type: none"> Potential to spread access demands to the peak Could potentially reduce conflicts with non car based users if connection allows one-way access through the Peak Road space could be allocated to other users (i.e. dedicated pedestrian/cyclist route on road) 	<ul style="list-style-type: none"> High cost for implementing improvements. No clear alternative connections that would relieve congestion/conflict at the summit approach Environmental impacts need to be assessed - requires removal of trees / native bush, cut/fill to achieve gradient Unknown ground conditions - could be the reason why current alignment exists 	<ul style="list-style-type: none"> Dependent on a viable alternative access route being achieved Availability of funding to deliver Wouldn't be required if access restrictions are applied
C3	Widening of TMP Road	Widen the existing alignment to achieve minimum width (3m lanes) along full extent	HDC	<ul style="list-style-type: none"> Reduce potential conflict points between vehicles travelling to summit Additional widening could support bus access to the peak 	<ul style="list-style-type: none"> Limited available width requires steep cut into adjacent hillside Potential for significant environmental, cultural and visual impact on the landscape Limited benefit in reducing conflicts between pedestrians/cyclists travelling to summit on road. High cost for implementation 	<ul style="list-style-type: none"> Dependent on a viable alternative access route being achieved Availability of funding to deliver Wouldn't be required if access restrictions are applied

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Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
					<ul style="list-style-type: none"> May require additional land from trust to build required infrastructure. Wider road may encourage higher speeds and decrease safety 	

Traffic Management

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
D1	One-way controls (Signals)	Provision of traffic light systems to support one-way movements	HDC	<ul style="list-style-type: none"> Manage conflicts between vehicles / users on blind corners or areas with restricted road width Support a lower user speed on constrained sections of the corridor 	<ul style="list-style-type: none"> Visual impact/sensitivity of road environment. Stacking capacity for multiple vehicles limited Increased delay for vehicle access during low volume periods (could be restricted during non-weekend/summer periods) Reduce safety if not working properly Limited power supply in remote areas – potential for solar powered systems? 	<ul style="list-style-type: none"> Need to manage access requirements for all users (including coaches) Liaison with affected parties
D2	One-way controls (Priority Control)	Provision of one-way systems (priority controlled) including road signage and marking	HDC	<ul style="list-style-type: none"> Reduce potential conflicts between vehicles / users on sections of the Stacking capacity still needs to be considered but delay compared with signals during quiet periods Can be installed without power supply needs 	<ul style="list-style-type: none"> Visual impact/sensitivity of road environment. Arrival patterns needs to be considered - one-way period demands may impact on operations and safety of system depending on priorities Stacking capacity for multiple vehicles limited Limited benefit for managing conflict risks on bends. 	<ul style="list-style-type: none"> Need to manage access requirements for all users (including coaches) Liaison with affected parties
D3	Variable Messaging Systems	Provide advanced warning of other road users on blind corners / visibility issues or inappropriate speeds	HDC	<ul style="list-style-type: none"> Improved forward awareness of other road users. Reduce potential for collisions / severity between vehicles. 	<ul style="list-style-type: none"> Visual impact/sensitivity of road environment. Limited power supply in remote areas – potential for solar powered systems? Reduce safety if not working properly 	<ul style="list-style-type: none"> Require liaison with affected parties
D4	Enhanced Bus/Large Vehicle Turn Around Area	Provision of suitable turn around area to support coach/larger vehicle access to the peak	HDC / Trust	<ul style="list-style-type: none"> Provision of turn around area largely a response to wider options (i.e. access controls). Maintains access for visitors / tourists to the peak 	<ul style="list-style-type: none"> Sufficient space required within the road reserve and appropriate location identified. HDC may require additional land from the Trust to build required infrastructure. Would need to assess whether suitable with access control options. Large footprint required to accommodate turning bus swept path High cost component of mitigation resulting from access restrictions. 	<ul style="list-style-type: none"> Access controls may require additional/new turn around areas to be provided for buses Potential areas for consideration include Saddle Carpark and Main Car Park area

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Alternative Access Options

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
E1	Golf Cart / Buggy Hire to Access Peak	Development of a buggy hire system for accessing the summit	External	<ul style="list-style-type: none"> Provide a unique tourist attraction to Te Mata Peak Reduces access dependence on private vehicles, and provides alternative to walking and cycling to the peak which may not be viable for some Provides an alternative access option for less abled users Potential for revenue gathering for other Trust related improvements 	<ul style="list-style-type: none"> Requires suitable base area for running operations / storing vehicles outside of use Needs to be viable business if being run by third party. Unless road space is allocated for this use, it may only be viable if access controls are in place. 	<ul style="list-style-type: none"> Most viable if access to the peak is restricted for vehicles Access restrictions would need to provide concessions for these vehicles
E2	Electric Bike Hire	Development of an electric bike hire system within Te Mata Park	External	<ul style="list-style-type: none"> Supports a reduction in vehicle travel to the summit, Support increased physical activity for visitors and residents improved environmental outcomes compared with driving to the peak Provides tourism benefits in terms of new attraction. Potential for revenue gathering for other Trust related improvements 	<ul style="list-style-type: none"> Needs to be viable business if being run by third party. Unless road space is allocated for this use, it may only be viable if access controls are in place. 	<ul style="list-style-type: none"> Most viable if access to the peak is restricted for vehicles
E3	Gondola / Land Train	Provision of alternative means of access to the peak	External	<ul style="list-style-type: none"> Potential tourism benefits in terms of new attraction Supports a reduction in potential conflict between users accessing the peak Provide access to less abled users as an alternative should closure of access be considered 	<ul style="list-style-type: none"> Requires investment/operation from third party Potential for significant impacts on environment within TMP Places additional pressure on parking demand away from main park area Significant challenges relating to engineering/design Significant potential to have negative social, cultural, visual and environmental impacts on the peak. 	<ul style="list-style-type: none"> Reliant on third party investment/operations Could be implemented as a complementary measure for access restrictions Trust would have to approve a facility to be built on their land. Needs to align with Trusts future vision. May require user charging to operate. Additional parking required at base level to support access
E4	Minibus Shuttle Access	Provision of minibus shuttle service for accessing the peak, from Havelock North or TMP car parks	HDC / Trust	<ul style="list-style-type: none"> Provide alternative access for less abled users should closure of access be considered Reduce visitation time/turnover of parking for those accessing the park Reduce number of vehicles accessing peak – reducing potential for conflicts and vehicle access demands to peak 	<ul style="list-style-type: none"> Needs to be a viable business / opportunity Requires investment/operation from HDC / TMP trust, or third party operations Pressures on wider network needs to be considered (i.e. where to base parking), as well as operational requirements – i.e. frequency of services. Source of operational funding would be required 	<ul style="list-style-type: none"> Could be implemented separately or in response to access restricts for general vehicles Would need to ensure access controls would allow for this use to continue
E5	Footpath – Full Length	Provision of a dedicated footpath along the full extent of TMP Road	HDC	<ul style="list-style-type: none"> Provide separation from general traffic accessing the peak More accessible gradients for all users of the park Provide access for all users by foot 	<ul style="list-style-type: none"> Significant earthworks/engineering and cost required to provide a footpath Insufficient space within existing road corridor alignment without major road widening Potential for significant environmental, visual and cultural impacts from widening road 	<ul style="list-style-type: none"> Not required if access to the peak by private vehicle is limited

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Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
					<ul style="list-style-type: none"> Dedicated formal footpaths (i.e. asphalt or concrete) may detract from user experience (i.e. remoteness) 	
E6	Pedestrian Track Improvements	Enhance / upgrade existing tracks to improved access and attractiveness to users	HDC / Trust	<ul style="list-style-type: none"> Improved access on tracks may reduce the number of pedestrians travelling on the road Improved safety and amenity benefits for pedestrians accessing the park 	<ul style="list-style-type: none"> Hilly terrain provides limited "accessible" alternative tracks for accessing the peak Tracks may be less direct than currently provided. 	<ul style="list-style-type: none"> Can be implemented separately from other options. Need to be investigated/discussed with TMP Trust
E7	Pedestrian Crossing Improvements	Enhancing existing pedestrian crossings on TMP Road – like Main Carpark	HDC	<ul style="list-style-type: none"> Enhance safety/awareness of pedestrian crossing points on Te Mata Peak Road Reinforce the presence of pedestrians using off-road tracks 	<ul style="list-style-type: none"> Signage / lining needs to be provided at the right level to avoid visual clutter on route. Additional maintenance costs (i.e. refreshing lines/signage) 	<ul style="list-style-type: none"> May not be required if vehicle access to the peak is restricted. Could be implemented with wider traffic calming improvements
E8	Cycling Parking	Provision of cycle parking at key locations on TMP Road	HDC	<ul style="list-style-type: none"> Provide improved access for cyclists to key park destinations Enhance security for cyclists accessing the park Support the use of non-vehicular traffic to TMP 	<ul style="list-style-type: none"> Need for cycle parking needs to be balanced against anticipated use 	<ul style="list-style-type: none"> Potential locations for cycle parking need to be identified with Trust. Can be implemented in isolation to other improvements

Minor Safety Improvements

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
F1	Improved signage / warning systems	Review of existing wayfinding/signage and road markings	HDC	<ul style="list-style-type: none"> Improved awareness of safety and risks for all users travelling on the summit ascent – i.e. size restrictions, shared space, speed reinforcement Raise awareness for drivers of the presence of pedestrians and cyclists Low cost solution for enhancing safety 	<ul style="list-style-type: none"> Ensuring a balance is made between risk vs wider objectives such as amenity. Space for provision of some signage may be restricted by existing roadside 	<ul style="list-style-type: none"> Liaison with Peak Trust Signage strategy could be applied with any recommended option
F2	Advisory Speed Signs	Provision of static advisory speed signs to out-of-context curves	HDC	<ul style="list-style-type: none"> Signage provide information to the driver on the appropriate speed at a curve or feature and considered very effective in helping reduce speed. Can provide a 25% decrease in crash reduction where used effectively. Can be used where warranted to support existing chevron markings. 	<ul style="list-style-type: none"> Advisory signs and warning devices lose effectiveness and credibility if used inappropriately. The appropriate speed for larger vehicles is lower due to higher centre of gravity. Excess signage can detract from local environment. Winding nature of route and existing low-speed environment (20km/hr) means options usefulness is limited. 	<ul style="list-style-type: none"> Dynamic advisory speed signs require power source.
F3	High Friction Surfacing	Use of high friction / coloured surfacing on curves to delineate safety risk	HDC	<ul style="list-style-type: none"> Potential to reduce loss of control on challenging road curves. Can be used to emphasise high risk corners. 	<ul style="list-style-type: none"> Visual impact on roadside environment Additional maintenance costs / requirements Suitability for environment 	<ul style="list-style-type: none"> Suitability needs to be considered given existing roadside environment.
F4	Reduce Posted Speeds	Reduce speed limit on Te Mata Peak Road to 20km/hr	HDC	<ul style="list-style-type: none"> Reduced speed environment. Less confusion for drivers as to posted speeds through park Contribute towards perceived speed and antisocial driver behaviour issues. Improved safety for pedestrians and cyclists. 	<ul style="list-style-type: none"> Only 40km/hr environment in Havelock North. Limited benefit if implemented in isolation – unlikely to be adhered to by those creating perceived issues. 	<ul style="list-style-type: none"> Undertake assessment of "safe and appropriate" road speed. Require Traffic Resolution Order. Additional speed reduction devices may be required.

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Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
F5	Directional Arrows	Provision of directional arrows on road corridor, reminders to keep left	HDC	<ul style="list-style-type: none"> High proportion of visitors to the park are tourists, many of which aren't familiar with NZ conditions Some recorded crashes have resulted from failure to keep left 	<ul style="list-style-type: none"> Balance in the provision of additional road markings against wider amenity objectives 	<ul style="list-style-type: none"> Could be undertaken as part of a do minimum scenario. May not be required if vehicle access is restricted
F6	Speed Management / Traffic Calming	Traffic calming introduced into a road to encourage drivers to travel at an appropriate speed for their surroundings.	HDC	<ul style="list-style-type: none"> Can be used to support safety at areas of high conflict between vehicles and vulnerable road users Can reinforce low speed limits along the corridor 	<ul style="list-style-type: none"> Generally, road speeds are low as a result of challenging road alignment Use of raised (vertical) traffic calming options may impact on cyclist and pedestrian access May not be required if access is restricted to the park 	<ul style="list-style-type: none"> Not required if access is restricted

Parking Management

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
G1	Provide Parking Wardens to Manage Access	Use of parking wardens to manage access demands at	HDC	<ul style="list-style-type: none"> Could be used during peak periods to manage high access demands (i.e. Summer/weekends/public holidays) Can improve safety/efficiency of parking operations within the park Reduce antisocial behaviour within the park 	<ul style="list-style-type: none"> Limited benefit in resolving conflicts between users accessing the peak Operational costs for trust or Council if parking wardens are paid 	<ul style="list-style-type: none"> May be required to manage parking as a response to access restrictions
G2	Provide Designated Parking for Campervans/RVs	Provide dedicated parking areas for campervans in	HDC/Trust	<ul style="list-style-type: none"> Improved access for larger vehicles to existing carparks Supports any potential restrictions on larger vehicle access to summit 	<ul style="list-style-type: none"> Enforcement of parking maybe required. May result in reduced capacity for other vehicles if parking supply isn't balanced (i.e. more campervan parks provided than required) 	<ul style="list-style-type: none"> May be required to manage parking as a response to access restrictions
G3	Paid Parking with Security and Enforcement	Implement paid parking within car park facilities	Trust	<ul style="list-style-type: none"> Improved safety and reduced antisocial behaviour within TMP carparks Support turnover of parking spaces within the Park Potential source of funding for wider improvements within the Park 	<ul style="list-style-type: none"> Additional capacity costs relating to installing/maintaining payment mechanisms Operational costs for trust for maintaining security/enforcement staff Unlikely to gain support from communities / visitors 	<ul style="list-style-type: none"> Could potentially be implemented irrespective of other options
G4	Time Restricted Parking	Implement time restrictions within car parks	Trust	<ul style="list-style-type: none"> Potentially manage turnover and access to the park 	<ul style="list-style-type: none"> Potential to significantly impact on access demands for all user types Time period of restrictions requires a balance between supporting turnover and enabling visitors to enjoy their visit Requires management and enforcement to operate effectively Unlikely to gain support from communities / visitors 	<ul style="list-style-type: none"> Could potentially be implemented irrespective of other options
G5	Disability Parking Provision	Provide additional dedicated disability car parking at Main Gates	HDC/Trust	<ul style="list-style-type: none"> Improved access for less abled users Achieve requirements for mobility parking within NZ Standards 	<ul style="list-style-type: none"> Loss of general parking numbers for other users. Additional parking maybe required to offset parking loss 	<ul style="list-style-type: none"> Additional mobility parking may be required if access restricted to the peak.
G6	Main Gates Parking Provision	Provide additional parking supply at main gates	HDC / Trust	<ul style="list-style-type: none"> Ease access issues if restrictions are applied to accessing summit 	<ul style="list-style-type: none"> Significant capital costs for developing parking supply within Te Mata Park 	<ul style="list-style-type: none"> Could be implemented without wider improvements

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Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
				<ul style="list-style-type: none"> Ease existing parking capacity issues at the Main Gates carpark 	<ul style="list-style-type: none"> Potential environmental impacts need to be assessed/mitigated Balance/offset parking supply against recreational space within TMP Potential for additional induced demand. 	<ul style="list-style-type: none"> May be required to manage parking as a response to access restrictions
G7	Develop Car Park at Peak House Café	Improve existing parking facilities at Peak House café to support patron access	Trust / HDC / Peak House Owners	<ul style="list-style-type: none"> Improved access for patrons to Peak House Café Potential to improve safety around Peak House Increased use of café / improved user experience for visitors 	<ul style="list-style-type: none"> Feasibility of additional parking needs to be assessed. Potential environmental impacts need to be assessed/mitigated Potential for use by non-patrons if closures / restrictions are applied 	<ul style="list-style-type: none"> Need to consider managing access for patrons if restrictions applied to peak Improved signage maybe needed Access controls / enforcement may be needed.
G8	Parking Camera for Visitors	Provide camera stream of parking areas for visitors to the park	Trust	<ul style="list-style-type: none"> Provides real time car parking availability and awareness of tours Allow visitors to monitor how busy the car park is before visiting the site Potential to support reduced antisocial behaviour within the park 	<ul style="list-style-type: none"> Potential issues relating to privacy / data capture Will not resolve the problems relating to safety / conflicts on road corridor. Capital outlay for costs of implementation 	<ul style="list-style-type: none"> Could be implemented in isolation or in response to wider changes.

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Appendix F: Option Assessment – Tauroa Road

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Land-Use, Policy and Planning

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
A1	Oversight / Management Group	Development of an organisation (similar to TMA) to oversee implementation of broader access initiatives, funding, infrastructure development	HDC/Trust	<ul style="list-style-type: none"> Enable co-ordinated approach to delivering initiatives/improvements for accessing peak Monitoring effectiveness of improvements / solutions identified within the CMP 	<ul style="list-style-type: none"> Requires buy-in / interest from relevant organisations and partners 	<ul style="list-style-type: none"> Dependent on appetite from stakeholders. Can be implemented irrespective of other options
A2	Traffic Monitoring	Undertake annual monitoring of multi-modal access demands to guide urgency and need for identified improvements	HDC / Trust	<ul style="list-style-type: none"> Enable informed understanding of access demand changes over time 	<ul style="list-style-type: none"> Availability of resources / costs for undertaking surveys 	<ul style="list-style-type: none"> Can be undertaken through Council's current traffic monitoring programme. No key dependencies with other options
A3	Safety Monitoring	Undertake annual reviews of recorded crash history on the corridor	HDC	<ul style="list-style-type: none"> Enable understanding of any emerging safety issues, or 	<ul style="list-style-type: none"> Availability of resources / costs for undertaking review (minimal) 	<ul style="list-style-type: none"> To be undertaken by HDC using the NZTA Crash Database resources No key dependencies with other options
A4	Parking Surveys	Undertake parking surveys within key carparks to monitor demand	HDC / Trust	<ul style="list-style-type: none"> Enable an understanding of long-term parking demands and periods of peak parking demand 	<ul style="list-style-type: none"> Availability of resources / costs for undertaking review (minimal) 	<ul style="list-style-type: none"> Could be undertaken jointly by HDC / Trust No key dependencies with other options
A5	User Surveys	Undertake user surveys to gain ongoing understanding of user experience	Trust	<ul style="list-style-type: none"> Enable an understanding of users experiences accessing park Ensure Trust/HDC are able to proactively respond to issues or requests 	<ul style="list-style-type: none"> Availability of resources / costs for undertaking review 	<ul style="list-style-type: none"> Could be undertaken by Trust as part of ongoing monitoring
A6	Information Access	Improved access to information about park activities, access arrangements etc	Trust	<ul style="list-style-type: none"> Improve availability of information on how visitors and recreational users can access the park, and what is available Provide information on high visitation periods (such as tour buses) 	<ul style="list-style-type: none"> Availability of resources for developing information. Identification of how best to disseminate information 	<ul style="list-style-type: none"> Could be undertaken as part of an online resource.
A7	Vegetation Management	Maintain vegetation within corridor	HDC	<ul style="list-style-type: none"> Retain full available width of carriageway Support visibility splays at intersections / vehicle accesses onto road, and curves in road 	<ul style="list-style-type: none"> Vegetation management plan requires liaison with local residents. 	<ul style="list-style-type: none"> Undertaken as part of general maintenance activities

Access Control / Access Management

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
B1	New Vehicle Accesses	Ensure new vehicle accesses are provided in appropriate locations	HDC	<ul style="list-style-type: none"> Ensure future driveway access proposals achieve appropriate visibility requirements 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Managed through resource consents / planning applications. DP forms planning mechanism.

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Capacity Improvements

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
C1	Seal Widening (Both Directions)	Widening of the existing seal to achieve minimum width of 6.0m	HDC	<ul style="list-style-type: none"> Road cross section achieves desired minimum width requirement for secondary collector Could provide additional space for pedestrians/cyclists travelling on the corridor. Provides additional space to reduce risk of head-on collisions between vehicles. Enables better access for larger vehicles accessing residential growth area. 	<ul style="list-style-type: none"> Potential for use by visitors for on street parking resulting from car park overspill restricting usefulness. Requires widening of the existing carriageway by 0.5m. Seal edge requires maintenance to ensure clear of debris. Widening of the road could result in increased speeds. Larger vehicle access is only expected to be short-term need whilst construction is being undertaken. 	Recommended minimum 6m width. Additional width maybe required on curves to achieve minimum swept path Best option for road widening is towards reserve – requires amendments to existing retaining walls in locations.
C2	Curve Realignment	Physical realignment of curves on the route	HDC	<ul style="list-style-type: none"> Reduce potential for loss of control on out-of-context curves Improve forward visibility for vehicles negotiating curves Reduced potential for head-on collision resulting from vehicles passing the centreline. 	<ul style="list-style-type: none"> May require land outside the road boundary Significant retaining walls required to support structure. Potential impact on boardwalk currently proposed adjacent to road. May increase vehicle speeds on corridor sections May require relocation of overhead utilities in some locations on the western side. 	High cost may require this to be a long-term option. Curve realignment will need to tie into any boardwalk connection.
C3	Tauroa Road Extension	Extend Tauroa Road through to Matangi Rd using paper road alignment	HDC	<ul style="list-style-type: none"> Provides an alternative connection / linkage to Tauroa Road to spread access demand Existing paper road could be used to complete the connection. 	<ul style="list-style-type: none"> Unknown ground conditions and environmental effects. Project is not required to resolve capacity issues as traffic volumes are relatively low on the corridor Provision of a secondary connection may increase use of route as a through route, impacting on 	Could be implemented irrespective of other options.

Traffic Management

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
D1	One-way controls (Priority Control)	Provision of one-way systems (priority controlled) including road signage and marking	Safety / Access Management	<ul style="list-style-type: none"> Reduce potential conflicts between vehicles / users on sections of Tauroa Road Stacking capacity needs to be considered 	<ul style="list-style-type: none"> Arrival patterns needs to be considered to see if beneficial – unbalanced directional flows may mean risks of head on's are already limited Low traffic volumes may mean vehicles do not expect oncoming traffic Sufficient forward visibility is required for option to be effective. Limited benefit for managing conflict risks on bends due to limited forward sight visibility 	Need to manage access requirements for all users Liaison with affected parties

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Alternative Access Options

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
E1	Footpath on Eastern Berm	Provision of a new footpath on the eastern berm along Tauroa Road	HDC	<ul style="list-style-type: none"> Provides safer facilities for pedestrians, particularly on areas where existing berm is narrow and does not support two-way pedestrian movement. Provide connections on existing footpath LoS gap. 	<ul style="list-style-type: none"> Undulating berm / narrow berm in sections. Not required where boardwalk is being provided. Limited continuous levels of service for cyclists if shared use boardwalk is provided and continues as a footpath only. 	Would not be required where boardwalks are currently proposed. Dependent on other options (i.e. seal widening or curve realignment) to minimum rework
E2	Shared Path Facility	Provision of shared path on Tauroa Road.	HDC	<ul style="list-style-type: none"> Provides a dedicated shared path for pedestrians and cyclists away from general traffic. More attractive to less confident cyclists (i.e. young family, school children or leisure cyclists) Could potentially located on sections of Tauroa Road where sufficient berm is provided. Limited driveways / access demands on eastern side mean potential crash hazards are low. 	<ul style="list-style-type: none"> Provision of a high-quality facility might have limited use if not continuous along corridor length. Unlikely to be used by more experienced cyclists travelling for leisure/roading cycling purposes. Potential conflict with sensitive road users, such as pedestrians and dog walkers. Barriers and retaining walls may be required to facilitate the full cross section width High potential cost for construction where widths are constrained. 	Consider need given not identified as a primary cycleway or a highly trafficked road. Needs to consider extent of boardwalk facilities provided Design requirements: <ul style="list-style-type: none"> 3.0m wide desirable 2.5m wide minimum Connections to start/end point need to be full considered.
E3	On-Road cycleway (both directions)	Provision of on-road cycling facilities for both northbound and southbound cyclists	HDC	<ul style="list-style-type: none"> Provide dedicated separated cycle lanes for cyclists within the carriageway. Separates cyclists from general road users. Can provide visual narrowing of road corridor width to support lower speeds. 	<ul style="list-style-type: none"> Traffic speed / volumes generally support mixed use environment. Widening of roadway requires use of existing berm, with work in the drip-line. Requires restrictions for on-street parking along majority of corridor. Not identified as a key cycle route within IWay Network. Poor connectivity to shared path/boardwalk provided on eastern side. 	Min. 1.5m wide cycle lanes (1.8m desirable). Require widening of carriageway (+3.6m).
E4	Pedestrian Crossings	Provision of suitable pedestrian crossing points	HDC	<ul style="list-style-type: none"> Provide pedestrian crossing facilities in strategic locations (i.e. drop kerbs) Support pedestrian crossing demands were required Improve accessibility and level of service. 	<ul style="list-style-type: none"> Options constrained by pavement widths / pedestrian volumes (i.e. pedestrian buildouts or central islands). Suitable locations dependent on providing adequate visibility splays 	Best considered if footpath provided on eastern side of road. Suitability of providing for formalised pedestrian crossings (i.e. zebra) needs to be warranted.
E5	Sharrows	Provide sharrows for on-road cyclists	HDC	<ul style="list-style-type: none"> Sharrows inform presence of cyclists on the network. Support cyclists in positioning within the road. 	<ul style="list-style-type: none"> Additional maintenance. Limited benefit to less confident cyclists. 	Confirmation of suitability for rural road network. Would not provide if other cycle facilities provided
E6	Provide Boardwalk	Provision of boardwalk adjacent to Tauroa Road	HDC	<ul style="list-style-type: none"> Provides a dedicated shared path for pedestrians and cyclists away from general traffic. More attractive to less confident cyclists (i.e. young family, school children or leisure cyclists) Could potentially located on sections of Tauroa Road where insufficient berm is provided. Provides consistency with existing proposed facilities through Reserve 	<ul style="list-style-type: none"> Provision of a high-quality facility might have limited use if not continuous along corridor length. Unlikely to be used by more experienced cyclists travelling for leisure/roading cycling purposes. Potential conflict with sensitive road users, such as pedestrians and dog walkers. Barriers and retaining walls may be required to facilitate the full cross section width High potential cost for construction. 	Design requirements: <ul style="list-style-type: none"> 3.0m wide desirable 2.5m wide minimum Connections to start/end point need to be full considered. Ensure consistency in level of provision with currently proposed sections.

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Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
E7	Provide Alternative Route through Tauroa Reserve	Provision of alternative pedestrian connection through Tauroa Reserve	HDC	<ul style="list-style-type: none"> Provides a separated facility away from traffic through Tauroa Road Enhances access to existing reserve in line with Reserve Management Plan. 	<ul style="list-style-type: none"> Limited lighting and isolation from the road corridor raises CPTED concerns Footpath access from roadside is steep and not attractive to less abled/elderly users. Public perception / feedback is that this is a less attractive option. Option is less direct for people accessing Te Mata Peak 	Option identified within Reserve Management Plan – may develop irrespective of other Tauroa Road improvements.

Minor Safety Improvements

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
F1	Reduce Posted Speeds	Reduce speed limit on Tauroa Road to 40km/hr, or 20km/hr on entrance to Te Mata Park.	HDC	<ul style="list-style-type: none"> Reduced speed environment. Support general liveability / contribute towards perceived speed issues on the corridor. Improved safety for pedestrians and cyclists. 	<ul style="list-style-type: none"> Only 40km/hr environment in Havelock North. Limited benefit if implemented in isolation – unlikely to be adhered to by those creating perceived issues. 	<ul style="list-style-type: none"> Undertake assessment of "safe and appropriate" road speed. Require Traffic Resolution Order. Additional speed reduction devices required to be effective.
F2	Local Area Traffic Management	Traffic calming introduced into a road to encourage drivers to travel at an appropriate speed for their surroundings.	HDC	<ul style="list-style-type: none"> Typically used to reduce vehicle speeds and potential to discourage through traffic Lower speeds and traffic volumes significantly decrease crash risk for active road users by providing formalised crossings and making it clear where drivers can expect to see pedestrians. LATM schemes can enhance the existing aesthetic environment. Encourages use of active modes through perception of safer environment. 	<ul style="list-style-type: none"> Effectiveness of application needs to be consistent rather than isolated treatments (every 80-120m spacings) Frequent use by larger vehicles (i.e. trucks) could increase noise and maintenance requirements. May not be required if additional work is undertaken to separate vulnerable road users from the corridor and additional capacity improvements installed 	<ul style="list-style-type: none"> Typically used on low volume and access roads where posted and operational speed limits are less than 50km/hr Any improvements that narrow corridor widths can cause safety issues for pedestrians/cyclists if not planned for properly
F3	Intersection Controls	Implement intersection controls on adjacent side streets	HDC	<ul style="list-style-type: none"> Reinforce extent of the stop line on roads where none currently exist. 	<ul style="list-style-type: none"> Minor additional maintenance costs. 	<ul style="list-style-type: none"> Potential to implement with other intersection improvements
F4	Parking Restrictions	Apply parking restrictions on Simla Avenue at intersections	Parking	<ul style="list-style-type: none"> Manage improved visibility at driveways / crossings Maintain safe thoroughfare for general road users Reduce the need for cyclists to face oncoming traffic 	<ul style="list-style-type: none"> Potential community backlash. Requires enforcement. Reduced on-street parking may increase road operating speeds. 	<ul style="list-style-type: none"> Traffic resolution order required Need to review general evening parking demand.
F5	Retroreflective Safety Devise	Provision of retroreflective safety devices on road centreline (cats eyes)	Safety	<ul style="list-style-type: none"> Visual lane marking to reinforce centreline and/or edge of road on road in low light conditions 	<ul style="list-style-type: none"> Additional maintenance / cost Appropriateness for local environment needs to be agreed. 	
F6	Road Edge Barriers	Provision of road edge barriers on	Safety	<ul style="list-style-type: none"> Provide vertical deflection on road edge with fall risk. Could be targeted at LoC sites. 	<ul style="list-style-type: none"> Need to be considered in relation to any proposed footpath / cycleway provisions to ensure effective width is not compromised WOL considerations regarding access to safety 	<ul style="list-style-type: none"> Review existing locations and preferable treatment options
F7	High Friction Surfacing	Use of high friction / coloured surfacing on curves to delineate safety risk	Safety	<ul style="list-style-type: none"> Potential to reduce loss of control on out-of-context curves. Low cost solution for initial implementation. 	<ul style="list-style-type: none"> Visual impact on roadside environment Additional maintenance costs / requirements Suitability for environment 	<ul style="list-style-type: none"> Can be implemented in line with other options / safety solutions.

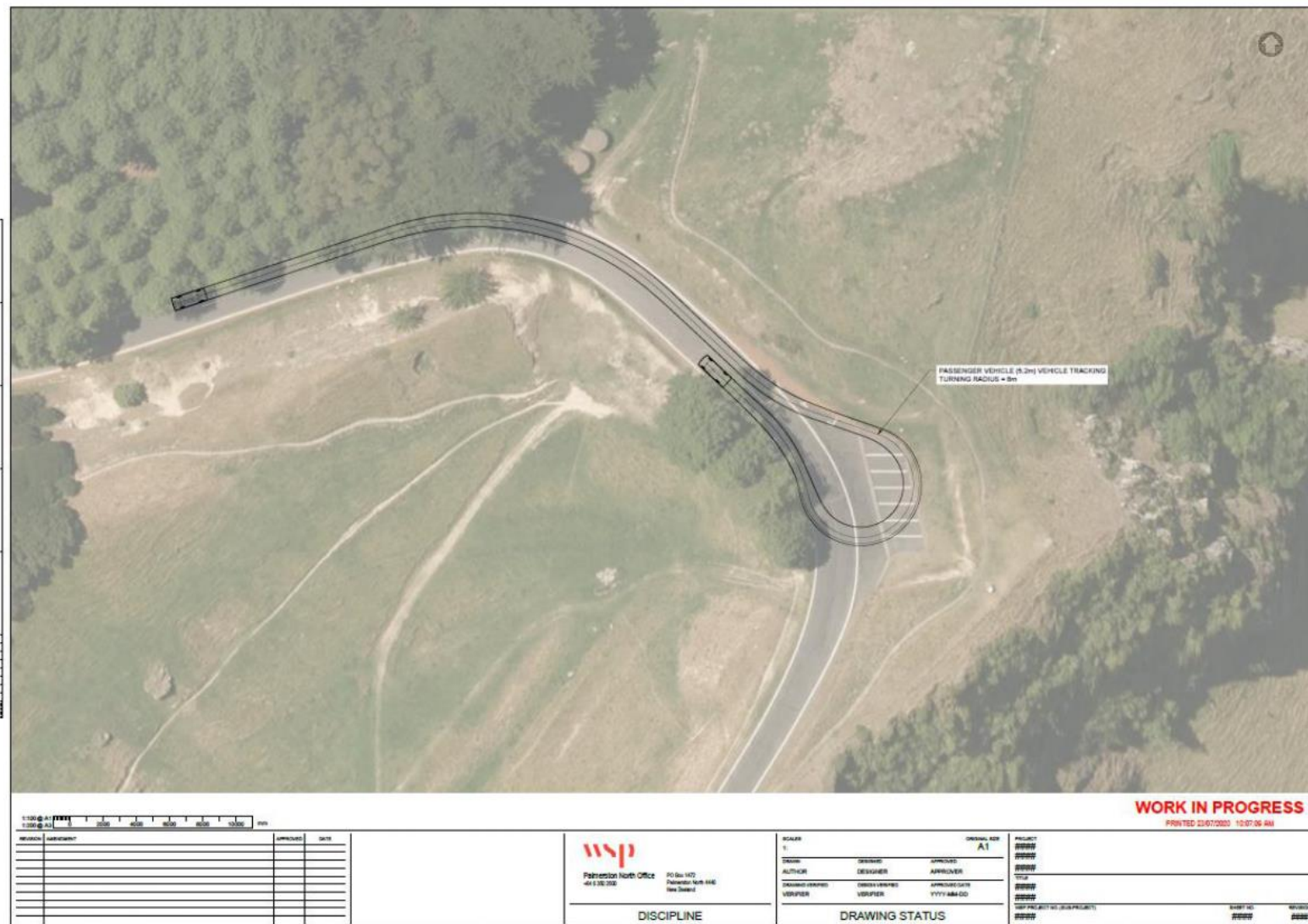
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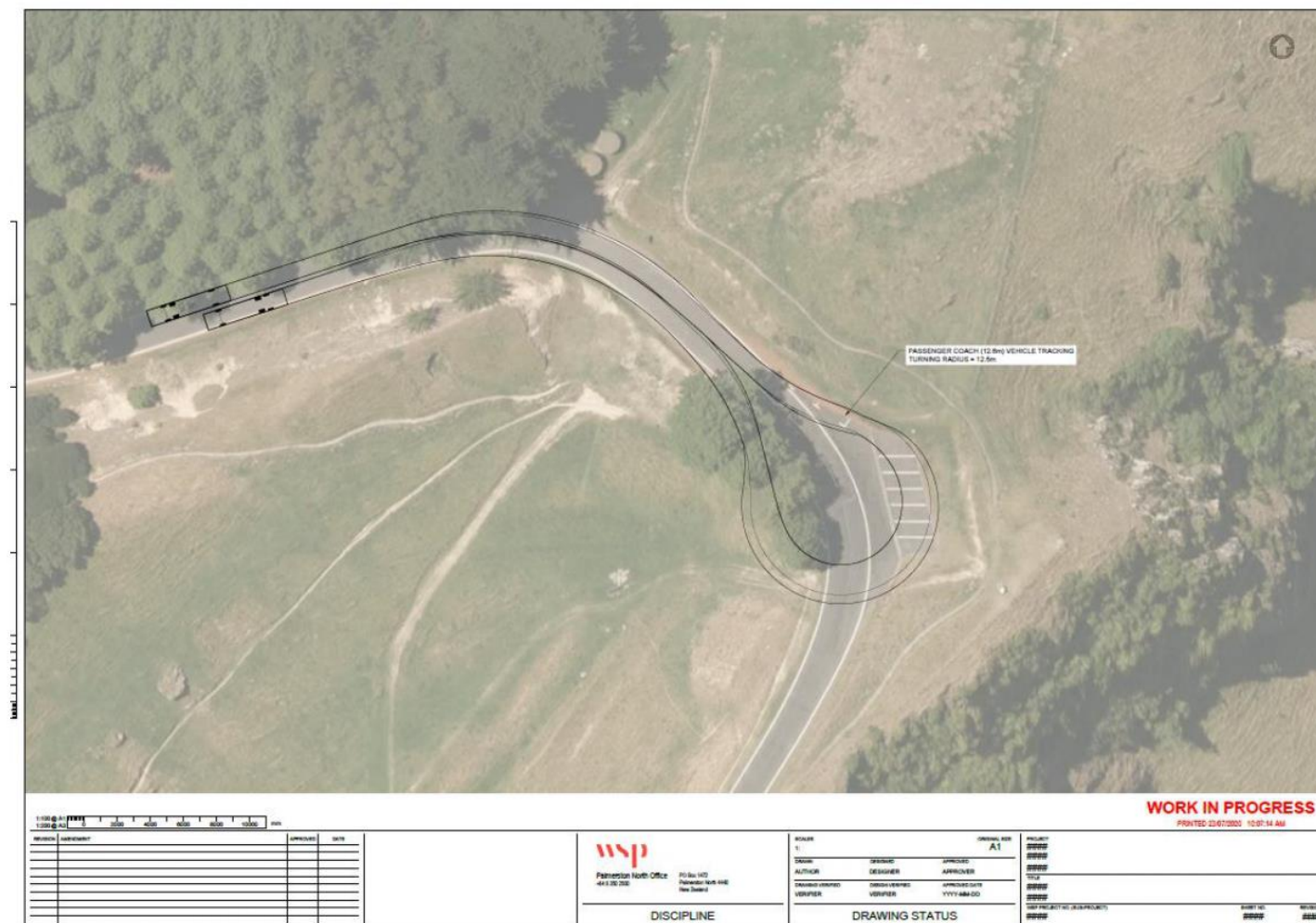
Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
F8	Directional Arrows	Provision of directional arrows on road corridor, reminders to keep left	HDC	<ul style="list-style-type: none"> High proportion of visitors to the park are tourists, many of which aren't familiar with NZ conditions 	<ul style="list-style-type: none"> Balance in the provision of additional road markings against wider amenity objectives 	<ul style="list-style-type: none"> Could be undertaken as part of a do minimum scenario. May not be required if vehicle access is restricted

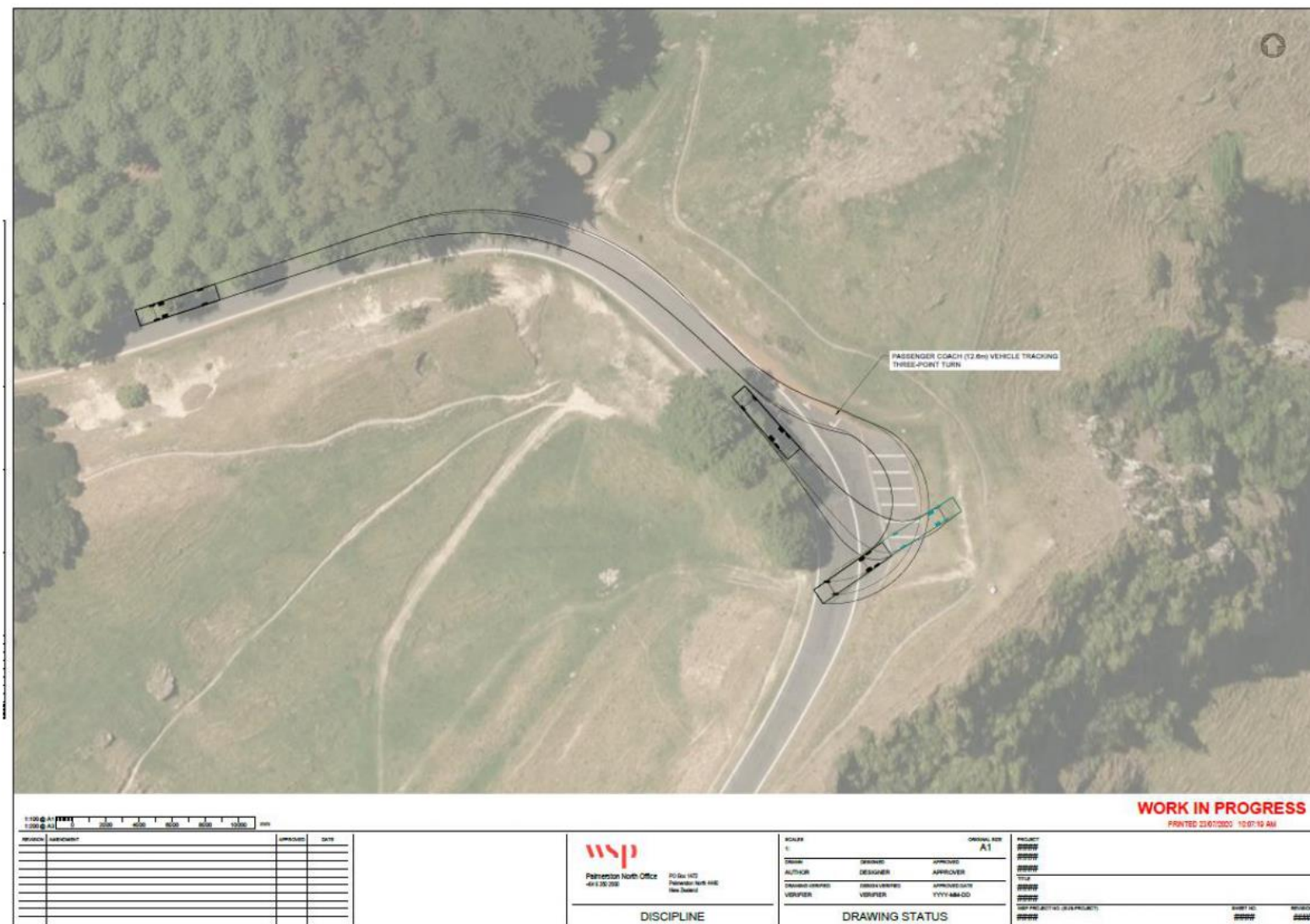
Parking Management

Ref	Option Considered	Description	Responsibility	Benefit	Constraints	Dependencies
G1	Chambers Walk Parking Provision	Provide additional parking supply at Chambers Walk car park	HDC / Trust	<ul style="list-style-type: none"> Ease access issues if restrictions are applied to accessing summit Ease existing parking capacity issues at the Chambers Walk car park 	<ul style="list-style-type: none"> Capital costs for developing parking supply Potential environmental impacts need to be assessed/mitigated Balance/offset parking supply against recreational space within TMP Potential for additional induced demand. 	<ul style="list-style-type: none"> Could be implemented without wider improvements May be required to manage parking as a response to access restrictions
G2	Provide Parking Wardens to Manage Access	Use of parking wardens to manage access demands at	HDC	<ul style="list-style-type: none"> Could be used during peak periods to manage high access demands (i.e. Summer/weekends/public holidays) Can improve safety/efficiency of parking operations within the park Reduce antisocial behaviour within the park 	<ul style="list-style-type: none"> Limited benefit in resolving conflicts between users accessing the peak Operational costs for trust or Council if parking wardens are paid 	<ul style="list-style-type: none"> May be required to manage parking as a response to access restrictions
G3	Provide Designated Parking for Campervans/RVs	Provide dedicated parking areas for campervans in	HDC/Trust	<ul style="list-style-type: none"> Improved access for larger vehicles to existing carparks Supports any potential restrictions on larger vehicle access to summit 	<ul style="list-style-type: none"> Enforcement of parking maybe required. May result in reduced capacity for other vehicles if parking supply isn't balanced (i.e. more campervan parks provided than required) 	<ul style="list-style-type: none"> May be required to manage parking as a response to access restrictions
G4	Paid Parking with Security and Enforcement	Implement paid parking within car park facilities	Trust	<ul style="list-style-type: none"> Improved safety and reduced antisocial behaviour within TMP carparks Support turnover of parking spaces within the Park Potential source of funding for wider improvements within the Park 	<ul style="list-style-type: none"> Additional capacity costs relating to installing/maintaining payment mechanisms Operational costs for trust for maintaining security/enforcement staff Unlikely to gain support from communities / visitors 	<ul style="list-style-type: none"> Could potentially be implemented irrespective of other options
G5	Time Restricted Parking	Implement time restrictions within car parks	Trust	<ul style="list-style-type: none"> Potentially manage turnover and access to the park 	<ul style="list-style-type: none"> Potential to significantly impact on access demands for all user types Time period of restrictions requires a balance between supporting turnover and enabling visitors to enjoy their visit Requires management and enforcement to operate effectively Unlikely to gain support from communities / visitors 	<ul style="list-style-type: none"> Could potentially be implemented irrespective of other options
G6	Disability Parking Provision	Provide additional dedicated disability car parking at Main Gates	HDC/Trust	<ul style="list-style-type: none"> Improved access for less abled users Achieve requirements for mobility parking within NZ Standards 	<ul style="list-style-type: none"> Loss of general parking numbers for other users. Additional parking maybe required to offset parking loss 	<ul style="list-style-type: none"> Additional mobility parking may be required if access restricted to the peak.

Appendix G: Vehicle Tracking at the Saddle Carpark







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