Before an Independent Hearing Commissioner
At Wairarapa

Under	the Resource Management Act 1991 (the **RMA**)
In the matter of	an application for resource consent by Woolworths New Zealand Ltd to undertake demolition of a building, undertake new building, alterations, and additions and to establish a sign exceeding the maximum size within the Greytown Historic Heritage Precinct; establish an additional vehicle crossing to State Highway 2 (Main Street) Greytown and to undertake associated landscaping and site works.
Between	**Woolworths New Zealand Limited** Applicant
And	**South Wairarapa District Council** Consent Authority

Statement of evidence of Roxanne Odelle Hilliard for Waka Kotahi New Zealand Transport Agency

Corporate

Dated 22 September 2023

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1. EXECUTIVE SUMMARY

1.1 My full name is Roxanne Odelle Hilliard. I am the Wellington Transport Alliance Manager at Waka Kotahi NZ Transport Agency (**Waka Kotahi**) and am presenting evidence on behalf of the organisation.

1.2 My evidence outlines the statutory functions and obligations of Waka Kotahi and some of the aspects of the wider transport planning system, such as the Government Policy Statement.

1.3 Waka Kotahi is responsible for contributing to an effective, efficient and safe land transport system in the public interest. This includes managing the state highway network and systems to manage funding for safety upgrades across the entire state highway network.

1.4 My evidence is in support of the Waka Kotahi submission on the resource consent application (the **Proposal**) by Woolworths NZ Limited (**Applicant**) at 2-12 Hastwell Street, 105 West Street, and 134 Main Street, Greytown (**Site**) for land use consent to:

- Undertake demolition of a building within the Greytown Historic Heritage Precinct; and
- Undertake new building, alterations, and additions within the Greytown Historic Heritage Precinct; and
- Establish a sign exceeding the maximum size within the Greytown Historic Heritage Precinct; and
- Establish a new vehicle crossing to State Highway 2 (**SH2**) (Main Street) Greytown for use by customers and delivery trucks; and
- Undertake associated landscaping and site works.

1.5 The key outcomes sought by Waka Kotahi in relation to the proposal are:

(a) Integration of land use and transport planning;

(b) That the safety for all road users (including pedestrians and cyclists) is not compromised;

(c) That the transport environment in Greytown Village continues to support the role of SH2/Main Street as a Regional Road, Strategic Arterial Route, and 'Activity Street' in the One Network Framework (**ONF**). This means supporting high levels of people walking, cycling, using public transport, or driving through the area, and not creating new conflicts with those movements;

(d) No increase in stormwater discharges to the state highway, and clarification of how the landscaping will incorporate the design for water soakage and discharge; and

(e) That any new vehicle movements do not lead to degradation of the footpath and highway pavement.

1.6 These outcomes are best achieved by declining the application for resource consent and:

(a) Managing on-site safety issues through a travel management plan without the need for a new access; or

(b) Implementing the alternative access arrangement at 134 Main Street proposed by **Mr Terry Church**; and/or

(c) Establishing a connection for pedestrians and cyclists only, together with safe connectivity to West Street.

1.7 The Proposal to establish a new access of this scale and for the purpose of accommodating heavy vehicle and customer traffic in this location is contrary to the Activity Street classification of Main Street, at odds with the state highway through-road functions and is not aligned with the Safe Systems and Road to Zero principles that Waka Kotahi seeks to achieve through the low-cost low-risk projects in the local environment.

1.8 I have reviewed the evidence of **Mr Church** and **Ms Kathryn St Amand** who both propose additional conditions, should the application be granted. While Waka Kotahi does not support the application, should the Commissioner grant consent, Waka Kotahi would support the inclusion of the conditions as proposed by **Mr Church** and **Ms St Amand**.

1.9 As the road controlling authority, Waka Kotahi requires the opportunity and time to review and comment on any additional changes proposed to the state highway as a result of new mitigations arising through the course of the hearing.

2. QUALIFICATIONS AND EXPERIENCE

2.1 My full name is Roxanne Odelle Hilliard. I am the Wellington Transport Alliance Manager. In this role I am responsible for Maintenance and Operations on the Greater Wellington state highway network. I have been in this specific role since March 2023. I have worked for Waka Kotahi for 10.5 years, noting that there was a gap in my employment for 4 years when I was at Fire and Emergency NZ as the National Risk Reduction Manager. During my employment with Waka Kotahi, I have held a few roles, including managing the Wellington Transport Centre, National Risk Manager and a Policy and Design Advisor.

2.2 As the Wellington Transport Alliance Manager, my team enable commuters to make safe and reliable journeys. I am accountable for maintaining and operating the state highway network and assets in the Greater Wellington region. This involves working with our partners to ensure land use and development is integrated with the current and future transport network needs and delivers the appropriate outcomes for the region and New Zealand.

2.3 While I am not giving expert evidence, for completeness I have the following qualifications and experience relevant to my evidence:

(a) Masters in Public Management;

(b) Bachelor in Business Studies, Human Resources;

(c) NEBOSH International General Certificate, Health and Safety;

(d) Coordinated Incident Management CIMS 2 &4;

(e) New Zealand's National Security System; Senior Officials;

(f) Government Regulatory Practice - G-Reg Level 3.

2.4 I am authorised to give evidence on behalf of Waka Kotahi.

3. SCOPE OF EVIDENCE

3.1 The purpose of my evidence is to outline the Waka Kotahi role in maintaining a safe, efficient and effective land transport network, describe the existing and future transport environment and outline the outcomes Waka Kotahi seeks in relation to the highway network.

3.2 This evidence takes into account Waka Kotahi objectives and statutory obligations, as well as prior experience with integrated land use and transport planning and funding across the region.

3.3 My evidence addresses the following matters:

(a) Waka Kotahi statutory obligations and the transport framework;

(b) Key national transport strategies;

(c) Regional and local context;

(d) Low-Cost Low-Risk Upgrades;

(e) State highway changes consequential to the proposal.

3.4 My evidence is relevant to this Proposal because:

(a) I explain why Waka Kotahi is interested to ensure that the Greytown transport environment operates in an effective and integrated

manner.

(b) I explain how important land use planning (deciding what activities should occur where) is for achieving the Government's strategic priorities for transport. Proposals such as this undermine the efforts of Waka Kotahi to improve safety for all modes and support better (including low carbon) travel options.

(c) I explain that the affected part of SH2/Main Street is classified as a Regional Road Strategic Arterial Route and 'Activity Street'. This means that future decisions made by Waka Kotahi will emphasise both the through-function of the state highway, as well as the movement of pedestrians and cyclists. For example, the speed limit at the Site was reduced to 40km/h in January 2023 to provide a safer environment for pedestrians, cyclists and vulnerable users crossing busy roads. An upgrade to a nearby pedestrian crossing is also scheduled.

(d) I include ownership and management details of stormwater and pavement/footpath assets which the Proposal will impact.

4. STATUTORY OBLIGATIONS AND TRANSPORT FRAMEWORK

4.1 Waka Kotahi is a Crown entity whose purpose is to deliver transport solutions for New Zealand. This includes investing:

(a) In public transport, local roads, pedestrian and cycle networks; and

(b) In the construction and operation of the state highway network on behalf of the government[1]

4.2 The functions and operating principles relevant to Waka Kotahi are set out in the Land Transport Management Act 2003 (**LTMA**) and the

[1] Government Roading Powers Act 1989, section 61 provides Waka Kotahi with the sole power of control for all purposes, including construction and maintenance, of all state highways and has the power to do all things necessary to construct and maintain in good repair any state highway.

Government Roading Powers Act 1989 (**GRPA**).

4.3 The Waka Kotahi statutory objective under the LTMA is:

> To undertake its function in a way that contributes to an effective, efficient, and safe land transport system in the public interest.[2]

4.4 A "Land transport system" is defined broadly in the LTMA as including "*transport on land by any means*" and "*coastal shipping and associated infrastructure*".[3] The relevant functions include:[4]

> (a) to contribute to an effective, efficient, and safe land transport system in the public interest…
>
> (c) to manage the state highway system, including planning, funding, design, supervision, construction, and maintenance and operations, in accordance with this Act and the Government Roading Powers Act 1989…

4.5 In meeting its objectives and functions, Waka Kotahi is required under section 96(1) of the LTMA to exhibit a sense of social and environmental responsibility and use its revenue in a manner that seeks value for money.[5] This means Waka Kotahi aims to provide environmentally and socially responsible outcomes in particular transport projects, within the overall funding allocation.

4.6 The above functions reflect a general duty to ensure that all forms of land transport (not just state highways) operate in an effective and integrated manner. Waka Kotahi has systems and processes that determine how to allocate a limited budget to best achieve those incomes across the entire network.

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[2] Land Transport Management Act 2003, section 94.
[3] Section 5.
[4] Section 95.
[5] Section 96(1)(a) and (1)(b).

5. NATIONAL CONTEXT

Transport Outcomes Framework

5.1 The Transport Outcomes Framework (2020) identifies that the purpose of the transport system is to improve people's wellbeing, and the liveability of places. The Framework identifies five outcome areas to contribute to this purpose, these being: inclusive access; healthy and safe people; economic prosperity; resilience and security; and environmental sustainability. With regards to the last outcome, the Framework defines this outcome to be a transport system that transitions to net zero carbon emissions, and maintains or improves biodiversity, water quality and air quality.

Government Policy Statement on Land Transport

5.2 Waka Kotahi also must give effect to the Government Policy Statement on Land Transport (**GPS**). The GPS is required under the LTMA and outlines the Government's strategy to guide land transport investment over the next ten years.

5.3 The four strategic priorities of the GPS 2021 are safety, better travel options, climate change, and improving freight connections. A key theme of the GPS is integrating land use, transport planning and delivery. There is also a focus on investment in "providing people with better travel options to access places for earning, learning, and participating in society". These key themes influence the funding priorities for Waka Kotahi as an organisation. It is recognised that the organisation does not have a sufficient budget or human resources to solve all transport deficiencies across the network.

5.4 Land use planning has a significant impact on transport policy, infrastructure, and services provision, and vice versa. When development is completed, it has a long-term impact on the transport network. Figure 1 below (extracted from the GPS) shows the hierarchy within the priorities and explains what they mean.

Figure 1 - Strategic Direction of the GPS 2001

5.5 The GPS has a section on its Strategic Priority – Safety, with a mandate to reduce deaths and serious injuries and deliver a safer land transport network by 2031. There are several statements contained within this section of relevance to this Proposal.

5.6 'Healthy and Safe people' is one of the key outcomes identified in the Ministry of Transport's Transport Outcomes Framework in the GPS which is defined as "protecting people from transport-related injuries and harmful pollution and making active travel an attractive option.

5.7 Among other strategies developed to deliver on the outcomes set by the GPS, Waka Kotahi has the Safe Systems Approach and the Road to Zero, which are summarised below.

Safe System Approach and the Road to Zero

5.8 The "Safe System approach" is promoted in the Road to Zero Strategy 2020-2030, published by the Associate Minister for Transport (responsible for road safety) in November 2019.

5.9 The philosophy of the Safe System approach is to recognise that human error and vulnerability are inevitable, even for responsible road users, and to take this into account by designing a more forgiving road system.

5.10 The Road to Zero Strategy is underpinned by seven guiding principles:

(a) We promote good choices but plan for mistakes;

(b) We design for human vulnerability;

(c) We strengthen all parts of the road transport system;

(d) We have a shared responsibility for improving road safety;

(e) Our actions are grounded in evidence and evaluated;

(f) Our road safety actions support health, wellbeing, and liveable places; and

(g) We make safety a critical decision-making priority.

5.11 By implementing these principles, the strategy aims to achieve a 40% reduction in deaths and serious injuries by 2030. A Safe System combines all aspects of road safety working together to save lives. This approach seeks to avoid safety issues rather than correcting them when they become critical (assuming such corrections are possible).

5.12 **Mr Terry Church** has completed a safe system assessment of the proposed access which considers the above guiding principles. This safe systems assessment was provided to the applicant via email on the 7 July 2023, however **Mr Church** has since updated this assessment, which is included as **Appendix A** to my evidence. I understand from this

Safe System assessment of the proposal, and the evidence of **Mr Church**, that the access would create a conflict between vehicles entering the site from the state highway and the movement of pedestrians along Main Street using the footpath. In particular, the right turning of vehicles and the size of turning delivery vehicles means that that the application as submitted increases the safety risk to all road users, and therefore is inconsistent with the Safe System Approach and subsequently the Road to Zero strategy.

5.13 FreshChoice currently has two vehicle access points from the local road network (Hastwell Street and West Street). **Mr Church** advises that these local road access points currently have no known safety issues.[6] These access points could be retained in use whilst different on-site strategies are utilised to address the on-site safety issues identified by the applicant. As such, a new access is not required. In the absence of a robust assessment of alternative options from the applicant, and considering the significant safety conflict introduced on the state highway / footpath intersection from the proposed access which the Applicant has not adequately assessed, the proposal is not supported by Waka Kotahi.

5.14 Safety of SH2 users should be a critical decision-making priority, including pedestrians and vulnerable road users. The Proposal does not appropriately respond to the safety of state highway users in the local environment.

6. State Highway management and decision-making

One Network Road Classification and Roading Hierarchy

6.1 The One Network Road Classification (**ONRC**) categorises the roads of New Zealand into six different categories. The classification of these roads is informed by their traffic volumes and strategic function. The ONRC has six different categories:

(a) National – link major population centres and transport hubs.

[6] Church, evidence in chief, para 5.10.

(b) Arterial – link regionally significant places and industries.

(c) Regional – major connectors between and within regions; often public transport routes.

(d) Primary collector – link significant local populations and industries.

(e) Secondary collector – provide secondary routes, can be the only route to some places.

(f) Access – small roads facilitating daily activities.

6.2 The ONRC is used to inform investment opportunities and compare the state and function of roads across the country. The ONRC is supported by specific performance measures to ensure consistent monitoring and managing of roads to support the outcomes of the framework, and includes measures relating to safety, resilience, amenity, accessibility, travel time reliability, and cost efficiency.

6.3 State Highway 2 is identified as a regional road under the ONRC. Figure 2 shows the relevant functions of regional roads under the ONRC, which includes connections in and between regions and connectivity in urban areas.

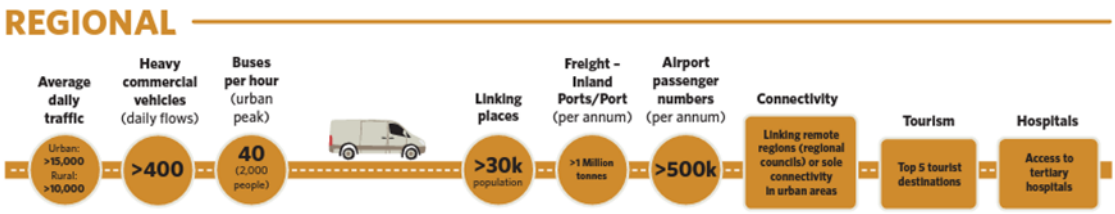

Figure 2 Regional road classification and function

One Network Framework

6.4 The One Network Framework (**ONF**) has been developed to provide a better framework for planning and investment in transport infrastructure. It categorises roads and streets, differentiating between urban and

rural, recognising that the level of people and goods movement as well as the factors that determine place are different in each context (**Figure 3**). This in turn informs planning and investment.

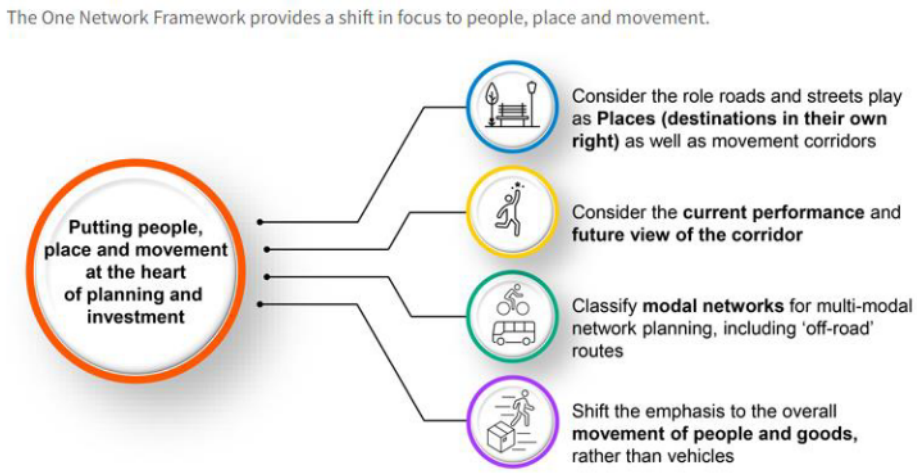

Figure 3 ONF focus on people, place and movement

6.5 One of the key features is the ONF allows land use and transport planning to be integrated, aligning with key transport planning at all levels including long term plans, the Wellington Regional Land Transport Plan 2021 (**RLTP**) and National Land Transport Programme (**NLTP**), and at a local level district plans. The ONF allows for investment to deliver on the strategic goals, including Road to Zero; higher quality urban development promoted through the GPS and other strategy documents.

6.6 The ONF acknowledges the transport network reflects both 'place' and 'movement' functions. In the context of the section of SH2 fronting the site, this is classified as an Activity Street under the ONF, with a place function of P3 and a movement function of M2. The slides in **Appendix B** to this evidence show the typical characteristics and functions of an Activity Street. The last slide was prepared by a Waka Kotahi urban design specialist and identifies the through-movements and nodes in the vicinity of the Proposal.

6.7 Place ranking is informed by the function of the specific location, in the case of Main Street being a neighbourhood centre with residential and

commercial land use, people spending time in the area to access local services, on-street amenities, and the user experience that transport needs to support.

6.8 Movement ranking is informed by transport modes and in this instance, prioritising goods and people moving safely. On an Activity Street, movement priorities include supporting all modes, with formal crossing opportunities for pedestrian movement and on-street parking; as well as facilitating the through traffic.

6.9 These rankings support the classification of SH2 in this location as an Activity Street under the ONF with a Place P3 ranking, and a Movement M2 ranking. **Figure 4** shows how the movement and place functions matrix, with Main Street falling into the 'Activity Streets' category with a high movement ranking and a moderate place ranking. The movement ranking reflects both the pedestrians on the street as well as the through function of the state highway connecting the Hawkes Bay with Wellington and connecting the townships through the Wairarapa.

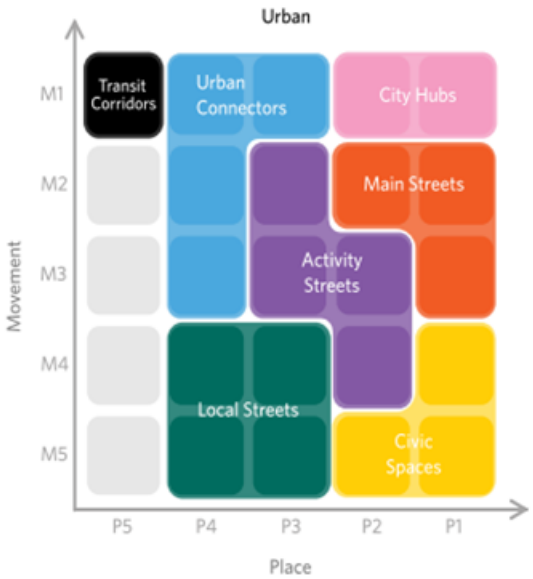

Figure 4 ONF Categorisation matrix

6.10 Under the ONF, Activity Streets '*provide access to shops, entertainment venues, community facilities and commercial, trades and industrial*

businesses for everyone. People spend a significant amount of time, working, shopping, eating, residing, and undertaking recreation. They support medium to high levels of people walking, cycling, using public transport, or driving through the area.'

6.11 The classification of Main Street, SH2 as an Activity Street will influence the future decisions made by Waka Kotahi on how this section of state highway will be managed, in terms of planning and infrastructure provision to support the anticipated activities and usage. To assist with decision making in such environments, Waka Kotahi has developed an urban street planning and design guide[7] that sets out the policy context and criteria for planning, designing and evaluating streets. The guide integrates with the ONF, identifying design guidance for different road classifications, including for Activity Streets.

6.12 The proposal for a new high traffic access for service and customer vehicles in this location is at odds with the classification of Main Street as an Activity Street and will create a conflict between high pedestrian numbers who will be seeking to access local services on Main Street, and with customer and delivery vehicles traversing the pavement to access the supermarket. The crossing will disrupt the footpath connectivity and pedestrian movement in this location.

6.13 The Waka Kotahi guidance on the design of driveways and intersections[8] is considered relevant for this proposal, however the Applicant has not put forward a design which demonstrates that pedestrian priority will be provided for at the access despite statements in the application that this will be the case. This is of particular concern given the conflict between heavy vehicles and pedestrians as a result of the new access which will be mid-block, when these vehicle movements should be managed at existing formalized intersections. Maintaining pedestrian priority with a continuous footpath is reflective of the Place

[7] https://www.nzta.govt.nz/about-us/about-waka-kotahi-nz-transport-agency/environmental-and-social-responsibility/urban-street-guide/about-the-guide/

[8] https://www.nzta.govt.nz/walking-cycling-and-public-transport/walking/walking-standards-and-guidelines/pedestrian-network-guidance/design/paths/footpath-design-other-elements/driveways/

function of Main Street under the ONF. This issue is discussed further in the evidence of **Mr Church** and **Ms St Amand**.

6.14 A pedestrian and cyclist access point to the supermarket in this location would align with the classification status as an Activity Street and could be integrated into the existing streetscape as per the design guide principles, allowing for pedestrian and cyclist entry to the supermarket without compromising the safe movement of people on Main Street. **Mr Church** supports this part of the proposal, subject to an extension of the footpath to West Street which would provide a safe connection that separates pedestrians from vehicle movements.

Roading Hierarchy

6.15 The District Plan roading hierarchy identifies SH2 as a Strategic Arterial Route. As a Strategic Arterial, the highway function includes carrying through traffic and major movements in and out of the district. The available traffic data[9] (included as **Appendix C**) for surveys during 2023 identifies that traffic levels on the highway are high during Fridays, when the total number of vehicles per day is consistently over 10,000, peaking during the mid to late afternoon (2pm – 6pm). During the peak weekend hours of 10am to 4pm, traffic numbers are also high when pedestrian counts on the footpath correlate as high. The information also shows spikes in traffic volume during seasonal holiday periods, particularly over the summer months.

6.16 The hierarchy of SH2 as a Strategic Arterial Route promoting a through road function, and the ONF classification need to be considered together, to ensure the function of the highway is maintained whilst ensuring a safe environment for the anticipated activities associated with an Activity Street, including the movement of pedestrians and cyclists.

[9] Telemetry site 00200908 (North of Wood Street, Greytown).

Regional Land Transport Plan 2021

6.17 The Regional Land Transport Plan (**RLTP**) 30-year vision and strategic objectives are supported by three "Ten-year headline targets".[10] The Plan describes the purpose of these targets as "indicators of the scale of change sought in the short to medium-term to move towards our vision and strategic objectives." The targets are as follows:

(a) Carbon emissions: 35 percent reduction in transport generated carbon emissions by 2030;

(b) Mode share: 40 percent increase in active travel and public transport mode share by 2030; and

(c) Safety: 40 percent reduction in deaths and serious injuries on our roads by 2030.

6.18 Achieving these targets is going to require a concerted "integrated transport planning effort" not only at a regional level, but also at a local level including for new subdivisions / land developments.

6.19 The RLTP outlines the Transport Investment Priorities over the next 10 years, including safety related investments that will help address the key problem of "increasing conflicts between transport users in urban centres". Within South Wairarapa, approximately $47 million has been assigned for 6-year costs to provide for maintenance, operations and renewals programme, Special Purpose Roads, and Low-Cost Low-Risk (**LCLR**) improvements. Under the RLTP, South Wairarapa District Council (**SWDC**) have an identified safety focus on "safe network operations, speed management".

6.20 The LCLR programme of works under the RLTP align with the Road to Zero strategy and include activities that are less than $2 million each. The LCLR improvements are primarily focused on speed reduction measures

[10] Wellington Regional Land Transport Plan 2021, 2021, page 9. See Wellington Regional Land Transport Plan 2021 (gwrc.govt.nz).

and infrastructure improvements.

6.21 LCLR projects play an important role in making cumulative changes throughout the network which can result in significant benefits in achieving the Road to Zero principles and subsequently enforcing a Safe Systems approach. Given the classification of SH2 as a through road under the SWDC roading hierarchy, the LCLR projects also help address potential conflicts between the road function and the street classification.

Low-Cost Low-Risk improvements

6.22 There are two LCLR projects on Main Street that are of relevance to the proposed application:

(a) The recent lowering of the speed limit on Main Street; and

(b) Scheduled upgrades to the zebra crossing on State Highway 2 near the corner of Hastwell St.

6.23 Waka Kotahi is bound by legislation in the setting of speed limits under Land Transport Rule – Setting of Speed Limits 2022. Delegations for making decisions under this rule sits with the Director of Land Transport. The speed limit from 40m northeast of the SH2 / Kuratawhiti Street / Jellicoe Street intersection to 20m south of SH2 / Wood Street / Church Street intersection, was reduced from 50km/h to 40km/h in January 2023 (**Figure 5**). This section of Main Street includes the application site.

Figure 5 Speed limit changes on Main Street, Greytown

6.24 This speed limit reduction was part of a wider programme of speed reductions in the main centres of Masterton, Carterton, Greytown, and Featherston. The purpose of the speed limit changes was to provide for a safer environment for pedestrians, cyclists, and vulnerable road users to cross busy through roads, aligning with and supporting the Road to Zero strategy and the ONF Activity Street categorisation of Main Street, SH2. The proposed changes in speed limits were subject to stakeholder and public consultation in August and September of 2021. The consultation feedback identified that *'most people are supportive of speed being reduced through townships, and approaching, urban areas and high-risk intersections.'*[11]

6.25 The information on traffic counts on SH2 in Greytown has some relatively high traffic volume counts during Fridays and the peak hour weekend periods. These high traffic volume periods correlate with the periods when there are higher pedestrian numbers on Main Street, and so there is an increased risk to the safe movement of pedestrians and cyclists along Main Street where traffic numbers are higher. Reducing speed

[11] Waka Kotahi State Highway 2 Masterton to Featherston speed review, summary of the speed review consultation, 13 January 2023

limits in this location will help mitigate the safety risk to pedestrians and cyclists during these peak traffic periods. Introducing a new conflict point between pedestrians and vehicles on the footpath would be an unwelcome change considering the recent infrastructure improvements.

6.26 The LCLR projects also include a scheduled upgrade to the existing pedestrian crossing currently situated approximately 20m north from the proposed access. The upgrade of this pedestrian crossing is part of a broader suite of upgrades to pedestrian crossings throughout the Wairarapa area. There are two crossing upgrades scheduled in Masterton, and one each in Carterton, Greytown, and Featherston.

6.27 The upgrade would relocate the crossing approximately 6m to the north of the existing crossing which would be closed. The new crossing will be a raised crossing with safety measures to accommodate cyclists through line markings clearly delineating a cycle lane on approach to the crossing and then running across the Hastwell Street intersection. The current design provides for cycle line markings approaching the crossing; however these do not extend across the proposed access. Should the new access be approved, the cycle lane markings would need to be included in the access design by the applicant to run across the new access, to address potential safety effects of the access on cyclists.

6.28 Community and business engagement is currently being undertaken on the proposed new crossing, which is scheduled to be completed before the end of this year. The proposed design for the crossing upgrade is shown in **Figure 6** (note this design is currently being reviewed for confirmation and some minor changes are anticipated, including the marking of cycle lane across the Hastwell Street intersection).

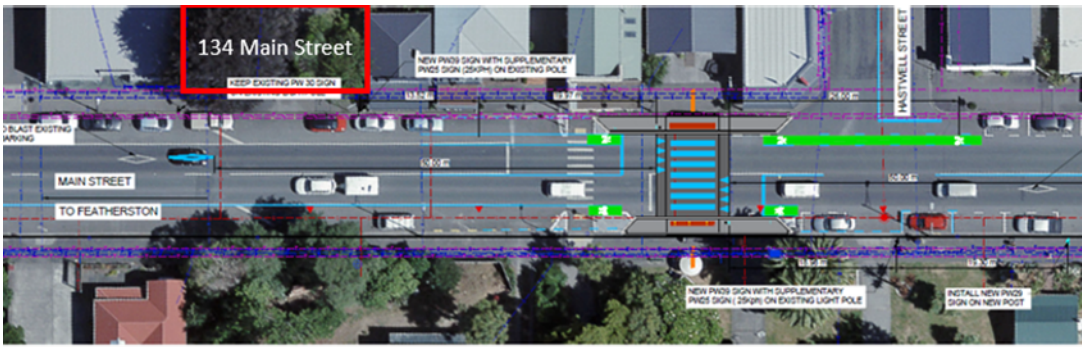

Figure 6 Proposed crossing upgrade design

6.29 The placement of the crossing currently provides an important role in facilitating the safe crossing of pedestrians on Main Street, including during peak weekend hours when traffic volumes are high but pedestrian volume is also high. During these times, ensuring pedestrians can safely cross Main Street supports its classification as an Activity Street and provides for a safe environment for all road users.

6.30 The crossing is of strategic relevance to nearby Greytown School, which is located on East Street, but can be accessed from Main Street via Stella Bulls Park. The crossing is the nearest safe crossing place of Main Street to access Stella Bulls Park and the school. I note that the submission from the Greytown School Board of Trustees identifies that the existing crossing is regularly used by students after school, during peak times (between 15:00 and 15:20). The school also identifies that there have already been near misses with children on this crossing this year.

6.31 The upgrade of this strategic crossing place will support the safe movement of pedestrians along Main Street, as well as providing for the safety of cyclists at the crossing itself and will allow for the future proofing of any cycling improvements that may be planned along this corridor. The upgrade to this crossing is another improvement that further supports the recognition of this street as an Activity Street and reflects the commitment of Waka Kotahi in making safety improvements that provide for the safe movement of pedestrians and cyclists on

Main Street.

6.32 The regular use of this crossing by vulnerable road users and its strategic importance further support the necessity to provide for a safe crossing place through the LCLR upgrades. However, the proposed new access, only a short distance from the existing crossing and proposed upgraded crossing, is likely to undermine the benefit of a new crossing due to increased traffic, and potential queuing of right turning traffic in this location.

6.33 Waka Kotahi supports the Crime Prevention Through Environmental Design (**CPTED**) guidelines, which have been incorporated into the Waka Kotahi urban design guidelines for state highways. However, these guidelines are also relevant for development adjacent to the state highway, and Waka Kothai supports their inclusion in such development to achieve positive urban design outcomes that support reducing opportunities to commit crime. The proposed new pedestrian access should be designed in accordance with CPED guidelines.

Application changes to the state highway

6.34 I note that as part of the Proposal to establish the new access, there will be subsequent changes within the state highway environment to accommodate the new access into the existing environment. Given the 40km/h road speed environment, Waka Kotahi has contracted with SWDC to manage activities and assets behind the kerb; Waka Kotahi primarily oversees activities within the state highway from kerb to kerb. Despite this, the state highway designation sits across the whole road and footpath area and Waka Kotahi is ultimately responsible for administering the designation. If the application for resource consent is approved, Waka Kotahi will continue to be involved for future changes within the state highway corridor.

6.35 The Proposal will create additional hard standing at 134 Main Street, and the management of stormwater needs to be considered, including

whether the Proposal would lead to any discharge into the highway stormwater system.

6.36 There is one highway owned catchpit (see **Figure 7**) in the immediate environment, situated opposite the development section on the southbound lane, which predominantly catches road surface water through kerb channel on the southbound carriageway. In the maintenance agreement with the SWDC, these catchpits (within urban areas) are maintained by the Council.

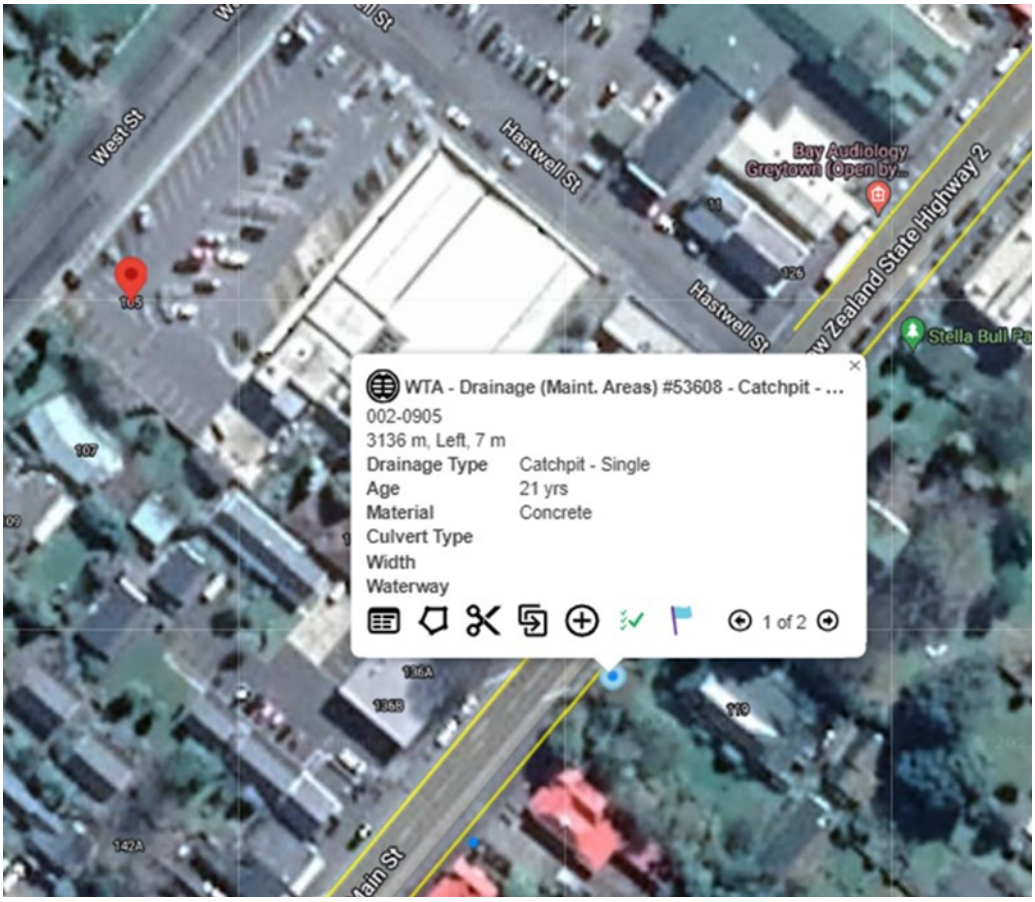

Figure 7 Highway catchpit

6.37 The stormwater main (see **Figure 8**) across the highway that connects the upper stream through the development area and the down stream (culverts) are owned and maintained by the Council.

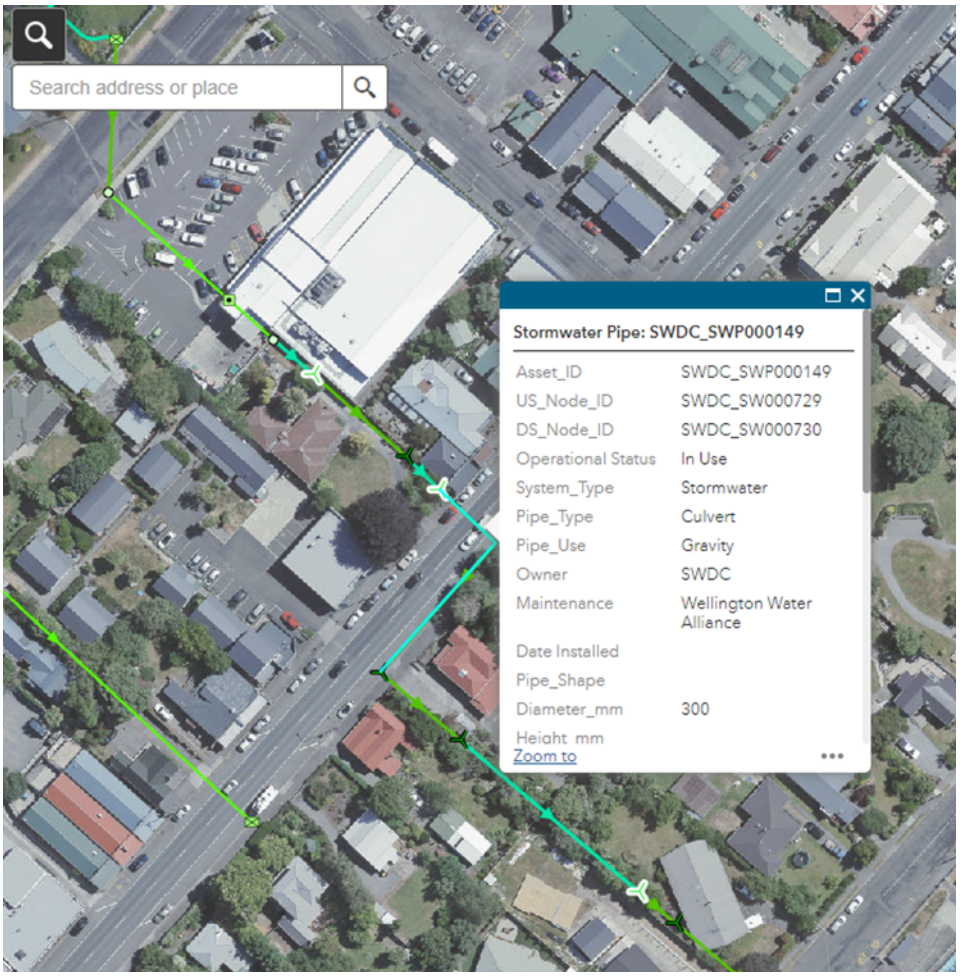

Figure 8 Stormwater Main

6.38 The catchpit is understood to connect to the stormwater main, discharging surface water to it. There is no identified risk to highway flooding, given that there has not been reported flooding incidents in the past 10 years from the Waka Kotahi records at this location of the highway. The Applicant has stated in their application that they would extend the existing pipe reticulation to include the proposed hardstand area, which would then discharge into an existing concrete channel (identified as the Moroa Water Race on the SWDC Water Services map) that discharges to the Council's reticulated stormwater supply that traverses south under Main Street. It is understood that the proposal will not result in any surface water discharge to the highway kerb and channel system and can be designed in consideration of the capacity of Council's stormwater main (300mm diameter).

6.39 On this basis, Waka Kotahi would not have any objections to the stormwater management proposed by the Applicant but note that the development involves a significant portion of the site being developed with hard stand materials leaving little of the site available for onsite soakage. A specific design for water soakage and discharge is proposed although it is noted that the proposed landscape mitigation intersects with the existing open stormwater drain. Waka Kotahi seek a neutral effect from stormwater on the state highway, and clarification on how the landscaping will incorporate the design for water soakage and discharge.

6.40 The new access and associated vehicle movements, specifically heavy vehicle movements turning into the site, could lead to adverse effects on the quality of the pavement (road surface) in this area. It is noted that pavement quality in Greytown is generally poor, and there is a rehabilitation planned for this area to improve the pavement quality, which is currently scheduled for 2024/25. If the application was to be approved, Waka Kotahi seeks that the Applicant complete a road strength and pavement impact study to determine the effects of the new vehicle movements on the pavement, and the crossing would need to be designed accordingly to ensure the vehicle movements would not lead to degradation of the footpath. If road and pavement strength upgrades are required to accommodate the turning movements of vehicles at the proposed access, Waka Kotahi require the Applicant to carry out that work and bear all associated costs.

Signage

6.41 The proposed signage for the Proposal complies with New Zealand Transport Agency Advertising Signage on state highway guidelines, and therefore Waka Kotahi would be comfortable with the sign as proposed. **Ms St Amand** has considered the proposed signage further in her evidence.

7. CONCLUSION

7.1 In conclusion, Waka Kotahi has a direct interest in the application for land use consent and the safety implications of allowing the activity to be lawfully established in this location. Waka Kotahi has a statutory obligation to contribute to an effective, efficient, and safe land transport system in the public interest and must give effect to the GPS. Bearing this in mind, Waka Kotahi does not support this Proposal.

7.2 Waka Kotahi have and will continue to make changes to the local state highway through LCLR projects and other significant activities as prescribed in the RLTP, that align with the aim of the GPS and Road to Zero principles. Waka Kotahi will also ensure that the status of Main Street as an Activity Street directs the funding and planning of infrastructure decisions on this corridor, to continue to ensure that the roading environment is safe for all road users which are anticipated through the Activity Street classification. This proposal is at odds with this state highway management.

7.3 However, the proposal by the applicant to establish a new access of this scale and for the purpose of accommodating heavy vehicle and customer traffic in this location is contrary to the roads classification under the ONF, at odds with the state highway through road functions and is not aligned with the Safe Systems and Road to Zero principles that Waka Kotahi are seeking to achieve through the LCLR projects in the local environment.

Roxanne Hilliard
22 September 2023

APPENDIX A Safe System Assessment for Greytown

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Table 1 - SSA Matrix – Existing Conditions

	Run-off road	Head-on	Intersection (Accessway and Main Street)	Other	Pedestrian	Cyclist	Motorcyclists
Exposure Comments:	For run-off road crash types, AADT is 10,000 vpd	For head-on road crash types, AADT is 10,000 vpd	For intersection road crash types, AADT is 10,000 vpd. Currently, a residential vehicle access therefore does not qualify as an intersection. Low volumes of turning traffic at accesses	For other road crash types, AADT is 10,000 vpd	Pedestrian numbers are estimated at 850 units per day	Cyclist volumes are estimated at 13 units per day	Motorcyclist numbers are unknown. Assuming 1% of AADT, volumes are 50-100 units per day
Exposure Score:	4/4	4/4	4/4	4/4	4/4	2/4	3/4
Likelihood Comments:	**Highly Unlikely** Factors that increase the likelihood include: • High volume of pedestrians could mean some cross the road where there is no priority, and vehicles swerve in trying to avoid the pedestrian on the road Factors that decrease the likelihood include: • Hatched area used for parking • Straight section of road	**Highly Unlikely** Factors that increase the likelihood include: • No central raised or flush median to separate opposing traffic that may swerve to pass turning traffic Factors that decrease the likelihood include: • Town centre approach and built-up environment indicate to drivers to slow down • Straight section of road	**Highly Unlikely** Factors that increase the likelihood include: • Low visibility of driveway Factors that decrease the likelihood include: • a very low volume uses the vehicular access currently. • Exiting vehicles can wait at the parking bay when looking for a gap to enter the road. • Driver exiting at low speed (likely to be less than 20kph) • The light vehicles using the accessway are likely to be able to take the next available gap easily such that they are not encouraged to undertake unsafe manoeuvres. • Town centre approach and built-up environment indicate to drivers to slow down on	**Highly Unlikely** Factors that increase the likelihood include: • Parking and Manoeuvring Factors that decrease the likelihood include: • none	**Likely** Factors that increase the likelihood include: • poor provision of pedestrian crossing facilities • No separated cycling facilities so cyclists likely to use shared paths • Pedestrian vs cyclist risk • Pedestrians likely to cross between parked cars limiting visibility • High volume of pedestrians • Presence of driveways Factors that decrease the likelihood include:	**Likely** Factors that increase the likelihood include: • No separated cycling facilities so most cyclists are likely to use the shared path • Presence of driveways • Cyclist-pedestrian crashes are likely to occur • Some cyclists may cycle on-road to avoid large pedestrian volumes on the shared path and get struck by vehicles. •	**Unlikely** Factors that increase the likelihood include: • High volume of pedestrians could mean some cross the road where there is no priority, and motorcyclists swerve in trying to avoid the pedestrian on the road • Wide lanes mean motorcyclists do not ride in the centre of a lane Factors that decrease the likelihood include: • Town centre approach and built-up environment indicate to drivers to slow down

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	Run-off road	Head-on	Intersection (Accessway and Main Street)	Other	Pedestrian	Cyclist	Motorcyclists
			the section of state highway in front of the access		• Low volume of vehicles using the driveways crossing footpath	Factors that decrease the likelihood include: • a very low volume of light vehicles using the vehicular access currently.	
Likelihood Score:	1/4	1/4	1/4	1/4	3/4	3/4	2/4
Severity Comments:	**Unlikely** Side impacts with a fixed object at speeds greater than 30-40 km/h are likely to cause death or serious injury. Factors that increase the severity include: • 50 kph speed environment, especially approaching from the south Factors that decrease the severity include: • Speeds may be lower during busier/congested times • dedicated zebra crossings across Main Street and the built-up	**Unlikely** Impacts with an oncoming vehicle at speeds greater than 70 km/h are likely to cause death or serious injury Factors that increase the severity include: • High percentage of heavy vehicles on Main Street Factors that decrease the severity include: • impact speeds likely to be less than 70 km/hr	**Unlikely** Side-on impacts with a vehicle at speeds greater than 50 km/h are likely to cause death or serious injury. Factors that increase the severity include: • high impact angles for the vehicle exiting the driveway against the vehicle on Main Street Factors that decrease the severity include: • light vehicles' impact speeds are likely to be less than 50 km/h and less than 30km/h during busy/congested times	**Likely** Factors that increase the severity include: • none Factors that decrease the severity include: • Speeds likely to be 50 km/h or less	**Highly Likely** Pedestrians struck at speeds above 30 km/h are likely to be seriously injured or killed. Factors that increase the severity include: • Sharing a path with cyclists • Presence of a driveway • Pedestrians crossing the road and vehicles unable to stop before a collision with pedestrians. • Vehicle speeds over 30km/h on Main Street Factors that decrease the severity include: • Vehicles exiting the driveways are likely	**Highly Likely** Factors that increase the severity include: • Sharing a path with a high volume of pedestrians • Presence of driveways • Vehicle speeds over 30km/h on Main Street Factors that decrease the severity include: • Vehicles exiting the driveways are likely to be at speeds less than 30km/h • Only light vehicles use the driveway • Pedestrian-cyclist crashes at lower speeds on the shared paths	**Likely** People riding motorbikes struck at speeds above 30 km/h are likely to be seriously injured or killed. Vehicle- motorbike crashes at lower speeds, especially involving heavy vehicles) can cause serious injury A crash between a motorbike and a parked car is likely to result in serious trauma unless speeds are very low. Factors that increase the severity include: • Speed of vehicles more than 30 km/hr • High percentage of heavy vehicles on Main Street

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	Run-off road	Head-on	Intersection (Accessway and Main Street)	Other	Pedestrian	Cyclist	Motorcyclists
	environment indicate to drivers to slow down				to be at speeds less than 30km/h • Only light vehicles use the driveway • Dedicated pedestrian crossing across Main Street and associated road markings and signage		• Parked cars close to the roadside Factors that decrease the severity include: • dedicated zebra crossings across Main Street and the built-up environment indicate to drivers to slow down • lower speeds in busier times • rider typically wears protective gear
Severity Score:	2/4	2/4	2/4	3/4	4/4	4/4	3/4
Product (multiply scores above for crash type)	**8/64**	**8/64**	**8/64**	**12/64**	**48/64**	**24/64**	**18/64**
			TOTAL	**126/448**			

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Table 2 - SSA Matrix – Option 1 – Applicant's proposed design

	Run-off road	Head-on	Intersection (Accessway and Main Street)	Other	Pedestrian	Cyclist	Motorcyclists
Exposure Comments:	For run-off road crash types, AADT is 10,000 vpd	For head-on road crash types, AADT is 10,000 vpd	For intersection road crash types, AADT is 10,000 vpd. ~~Currently, a residential vehicle access therefore does not qualify as an intersection.~~ The introduction of public access to the supermarket with high ~~Low~~ volumes of turning traffic at access	For other road crash types, AADT is 10,000 vpd	Pedestrian numbers are estimated at 850 units per day	Cyclist volumes are estimated at 13 units per day	Motorcyclist numbers are unknown. Assuming 1% of AADT, volumes are 50-100 units per day
Exposure Score:	4/4	4/4	4/4	4/4	4/4	2/4	3/4
Likelihood Comments:	**Highly Unlikely** Factors that increase the likelihood include: • High volume of pedestrians could mean some cross the road where there is no priority, and vehicles swerve in trying to avoid the pedestrian on the road Factors that decrease the likelihood include: • Hatched area used for parking • Straight section of road	**Highly Unlikely** Factors that increase the likelihood include: • No central raised or flush median to separate opposing traffic that may swerve to pass turning traffic Factors that decrease the likelihood include: • Town centre approach and built-up environment indicate to drivers to slow down • Straight section of road	~~**Highly Unlikely**~~ **Highly Likely** Factors that increase the likelihood include: • ~~The low visibility of the driveway~~ • Notable increase in the volume of vehicles using the vehicular access • The heavy vehicles entering the accessway are likely to be unable to take the next available gap as easily as light vehicles and may undertake unsafe manoeuvres, especially during busier times. • During busier times, there is an increased risk that vehicles will undertake a right turn into the accessway without an adequate gap, leading to right-turn against crashes • Increase in Vehicles slowing down before entering the	**Highly Unlikely** Factors that increase the likelihood include: • Parking and Manoeuvring Factors that decrease the likelihood include: • none	**Highly Likely** Factors that increase the likelihood include: • poor provision of pedestrian crossing facilities • No separated cycling facilities so cyclists likely to use shared paths • Pedestrian vs cyclist risk • Pedestrians likely to cross between parked cars limiting visibility • high volume of pedestrians • shared path with cyclists • Presence of driveways	**Highly Likely** Factors that increase the likelihood include: • No separated cycling facilities so most cyclists are likely to use the shared path • Presence of driveways • ~~Shared path runs in front of the driveway, meaning the driver exiting the driveway may not notice someone cycling across the front if they are at high speed.~~	**Unlikely** Factors that increase the likelihood include: • High volume of pedestrians could mean some cross the road where there is no priority, and motorcyclists swerve in trying to avoid the pedestrian on the road • Wide lanes mean motorcyclists do not ride in the centre of a lane Factors that decrease the likelihood include: • Town centre approach and built-up environment

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	Run-off road	Head-on	Intersection (Accessway and Main Street)	Other	Pedestrian	Cyclist	Motorcyclists
			accessway which is not an obvious intersection means an increased likelihood of rear-end crashes. • Following vehicles may try to overtake the vehicles slowing down to enter the accessway. However, the lack of adequate lane width to accommodate this overtake movement increases the likelihood of side-swipe crashes with the vehicle in the same direction, and head-on crashes with vehicles in the opposing direction. • The proposal does not make the accessway obvious and visible. There is no right turn bay or left turn slip lane, to safely store and separate, turning traffic from through traffic increasing the likelihood of crashes with through traffic on Main Street. • Poor visibility of the new intersection. Although removing one parking space slightly improves the visibility compared to the existing layout, the building canopy and column, and the existing short wall are retained, and the entrance of the accessway remains set back from the main road. The proposal does not make the accessway obvious and visible whilst increasing the traffic volumes using the accessway.		• high volume of vehicles using the proposed accessway • during busier times, there is a risk that drivers, of both light and heavy vehicles, concentrate on opposing through traffic, and do not notice the cyclists on the shared path • queue lengths extending to the crossing, or the busier street, could lead to frustrated drivers on Main Street undertaking unsafe manoeuvres during busier times could lead to impacting the safety of pedestrians using the crossing. Factors that decrease the likelihood include: • ~~Low volume of vehicles using the driveways crossing the footpath~~	• Cyclist-pedestrian crashes are likely to occur • Some cyclists may cycle on-road to avoid large pedestrian volumes on the shared path and get struck by vehicles • high volume of vehicles using the driveway • during busier times, there is a risk that drivers, of both light and heavy vehicles, concentrate on opposing through traffic, and do not notice the cyclists on the shared path • vehicles trying to bypass any vehicle turning into the accessway may crash into the people on bikes in the new proposed cycle lanes along Main Street Factors that decrease the likelihood include: • ~~a very low volume of light vehicles~~	indicate to drivers to slow down

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	Run-off road	Head-on	Intersection (Accessway and Main Street)	Other	Pedestrian	Cyclist	Motorcyclists
			Factors that decrease the likelihood include: • The removal of one parking space only slightly improves the visibility of the driveway compared to the existing layout. • ~~a very low volume uses the vehicular access currently.~~ • ~~Exiting vehicles can wait at the parking bay when looking for a gap to enter the road.~~ • ~~Driver exiting at low speed (likely to be less than 20kph)~~ • ~~The light vehicles using the accessway are likely to be able to take the next available gap easily such that they are not encouraged to undertake unsafe manoeuvres.~~ • Town centre approach and built-up environment indicate to drivers to slow down on the section of state highway in front of the access			~~using the vehicular access currently.~~	
Likelihood Score:	1/4	1/4	4/4	1/4	4/4	4/4	2/4
Severity Comments:	**Unlikely** Side impacts with a fixed object at speeds greater than 30-40 km/h are likely to cause death or serious injury.	**Unlikely** Impacts with an oncoming vehicle at speeds greater than 70 km/h are likely to cause death or serious injury	**Unlikely** Side-on impacts with a vehicle at speeds greater than 50 km/h are likely to cause death or serious injury. Factors that increase the severity include:	**Likely** Factors that increase the severity include: • none Factors that decrease the severity include: • Speeds likely to be 50 km/h or less	**Highly Likely** Pedestrians struck at speeds above 30 km/h are likely to be seriously injured or killed. Factors that increase the severity include:	**Highly Likely** Pedestrian-cyclist crashes at lower speeds on the shared paths Factors that increase the severity include:	**Likely** People riding motorbikes struck at speeds above 30 km/h are likely to be seriously injured or killed. Vehicle- motorbike crashes at lower speeds, especially involving

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	Run-off road	Head-on	Intersection (Accessway and Main Street)	Other	Pedestrian	Cyclist	Motorcyclists
	Factors that increase the severity include: • 50 kph speed environment, especially approaching from the south Factors that decrease the severity include: • Speeds may be lower during busier/congested times • dedicated zebra crossings across Main Street and the built-up environment indicate to drivers to slow down	Factors that increase the severity include: • High percentage of heavy vehicles on Main Street Factors that decrease the severity include: • impact speeds likely to be less than 70 km/hr	• ~~high impact angles for the vehicle exiting the driveway against the vehicle on Main Street~~ • increased vehicles turning right leading to an increase in risk of right turn against crashes • presence of heavy vehicles undertaking turning movements • increased risk of sideswipe and rear-end crashes Factors that decrease the severity include: • ~~light~~ vehicles' impact speeds are likely to be less than 50 km/h and less than 30km/h during busy/congested times • no vehicles exiting the driveway		• Sharing a path with cyclists • Presence of driveways • Pedestrians crossing the road and vehicles unable to stop before a collision with pedestrians. • Vehicle speeds over 30km/h on Main Street • Vehicles will be turning right from Main Street to enter the accessway could crash into pedestrians at the far end of their turning manoeuvre. at speeds either 30km/hr or higher which increases the risk of death or serious injury • The introduction of medium to heavy vehicles using the accessway means that in any crash, there is a much higher probability of death or serious injury Factors that decrease the severity include:	• Sharing a path with a high volume of pedestrians • Presence of driveways • Vehicle speeds over 30km/h on Main Street • Vehicles will be turning right from Main Street to enter the accessway could crash into cyclists at the far end of their turning manoeuvre. at speeds either 30km/hr or higher which increases the risk of death or serious injury • The introduction of medium to heavy vehicles using the accessway means that in any crash, there is a much higher probability of death or serious injury • Impact speeds of sideswipe crashes between vehicles and people on bikes would be greater 30km/h in less busy/congested times	heavy vehicles) can cause serious injury A crash between a motorbike and a parked car is likely to result in serious trauma unless speeds are very low. Factors that increase the severity include: • Speed of vehicles more than 30 km/hr • High percentage of heavy vehicles on Main Street • Parked cars close to the roadside Factors that decrease the severity include: • dedicated zebra crossings across Main Street and the built-up environment indicate to drivers to slow down • lower speeds in busier times

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	Run-off road	Head-on	Intersection (Accessway and Main Street)	Other	Pedestrian	Cyclist	Motorcyclists
					• ~~Vehicles exiting the driveway are likely to be at speeds less than 30km/h~~ • ~~Only light vehicles use the driveway~~ • none	Factors that decrease the severity include: • ~~Vehicles exiting the driveway are likely to be at speeds less than 30km/h~~ • ~~Only light vehicles use the driveway~~ • none	
Severity Score:	2/4	2/4	2/4	3/4	4/4	4/4	4/4
Product (multiply scores above for crash type)	**8/64**	**8/64**	**32/64**	**12/64**	**64/64**	**32/64**	**24/64**
				TOTAL	**180/448**		

Table 3 - Summary of SSA Scores

Scenario	Run-off-road	Head-on	Intersection	Other	Pedestrian	Cyclist	Motorcyclist	TOTAL
Existing Conditions	**8/64**	**8/64**	**8/64**	**12/64**	**48/64**	**24/64**	**18/64**	**126/448**
Option 1 – Applicant's proposed design	**8/64**	**8/64**	**32/64**	**12/64**	**64/64**	**32/64**	**24/64**	**180/448**

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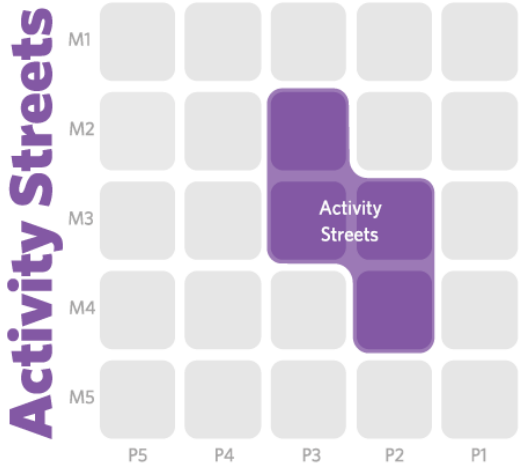
Table 4 - Summary of Options

Option	SSA Score	Description
Existing Conditions	**126**	Retaining the existing residential access presents the least risk of all options tested. The main risks are associated with the lack of a separated cycleway and raised pedestrian crossing, along with a 40km/h speed zone.
Option 1 – Applicant's proposed design	**180**	Introducing a public access to a supermarket (defined as a high-volume access or an intersection) increases the exposure. Intersection crashes increase with this option and overall, this option presents a notable increase in risk compared to the existing conditions.

APPENDIX B Characteristics and functions of an Activity Street

Activity Streets

Activity Streets provide access to shops, entertainment venues, community facilities and commercial, trades and industrial businesses for everyone. People spend a significant amount of time, working, shopping, eating, residing, and undertaking recreation. They support medium to high levels of people walking, cycling, using public transport, or driving through the area.



Place/Movement rankings:

- P2/3
- M2-4

Function:

Access to adjacent land-use for all modes.

Accommodates medium to high levels of through movement for all modes.

Density of on-street activity	Intensity of use (dwell time)	Adjacent land-use (indicative)	Place function – primary attributes	Movement function – primary attributes
Medium	Medium/high	• Office blocks • Low rise apartments • Retail • Entertainment venues • Commercial/trades • Community facilities • Industrial	• In CBDs of cities high pedestrian numbers accessing adjacent land-use • Some on-street amenities (e.g., al fresco dining*, street furniture) • Some people spending time in the area, particularly in cities (e.g., visiting businesses and gathering at destinations)	• All modes - high pedestrian numbers in cities • Often public transport routes in cities • Often on-street parking or driveway access for motor vehicle drivers to be able to access carparks of desired destinations • Formal crossing opportunities to facilitate pedestrian movement across street/road. • Limited cycle parking facilities.

Activity Streets

Typical street width: varies (18 - 20m depicted)

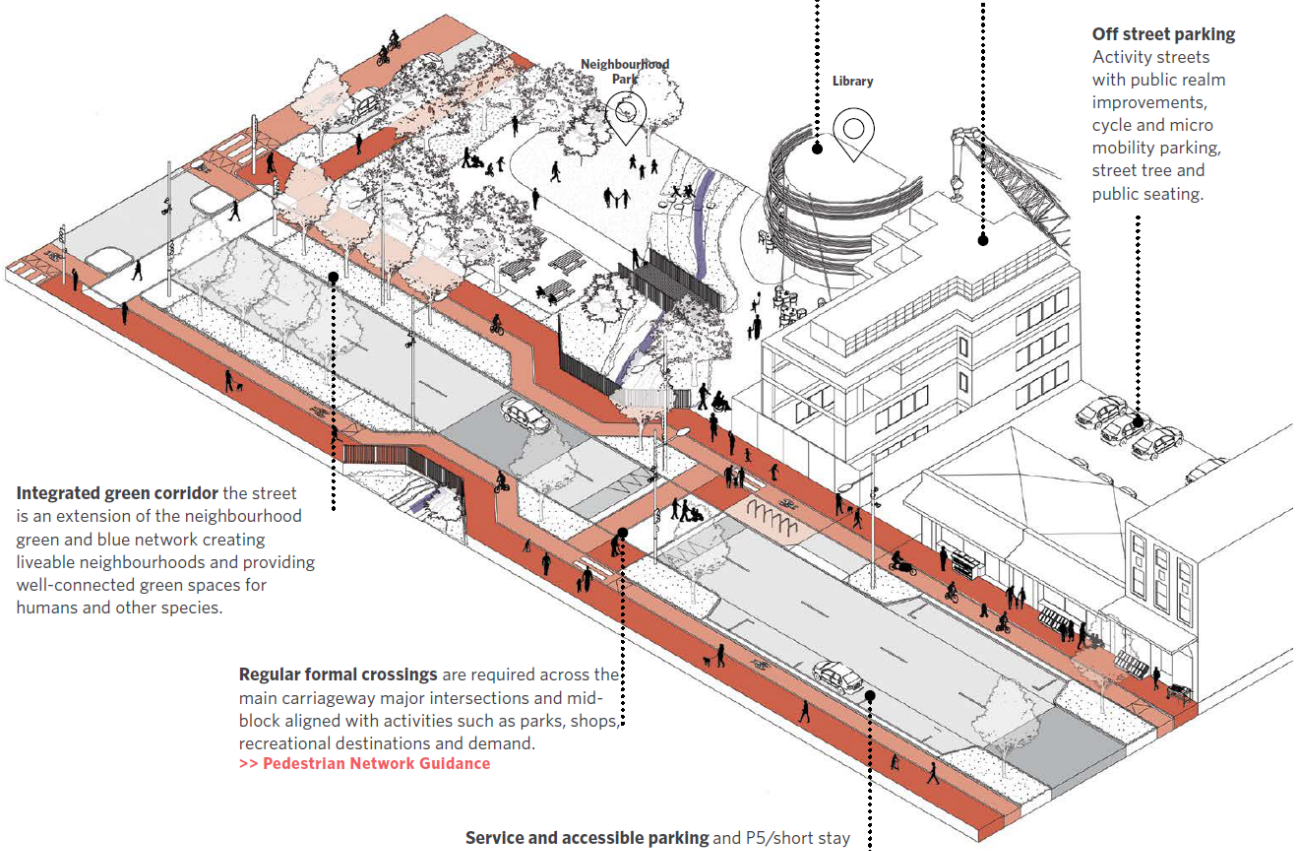
Typical speed limit: 30 - 40km/h

Typical land use context: neighbourhood amenity

Activity Streets provide access to shops and services by all modes. There is significant demand for movement as well as place with a need to manage competing demands within the available road space. Activity Streets aim to ensure a high quality public realm with a strong focus on supporting businesses, traders and neighbourhood life. Activity streets are where people spend a significant amount of time, working, shopping, eating, residing, and undertaking recreation. Examples range from neighbourhood shopping centres to waterfront esplanades.

Network and operations guidance

- Versions of this street type can be delivered in tactical or incremental ways saving time and money from a complete streetscape upgrade.
- Where adjacent land uses support transitioning connector streets to more place-focused activity streets and people-friendly places they provide the opportunity for additional local serving business and public places, even for short stretches or local spots such as outside neighbourhood shops or parks.
- Reducing traffic, lowering traffic speeds generation and higher quality, more engaging urban development on sites adjacent activity streets.
- Design and enforce traffic speeds of 30kph to provide safe and liveable neighbourhoods.
- General parking should be minimised and management strategies of time restrictions and pricing should be implemented to increase the liveability of the street.



Support community facilities along Activity Streets with public realm improvements, cycle and micro mobility parking, street tree and public seating.

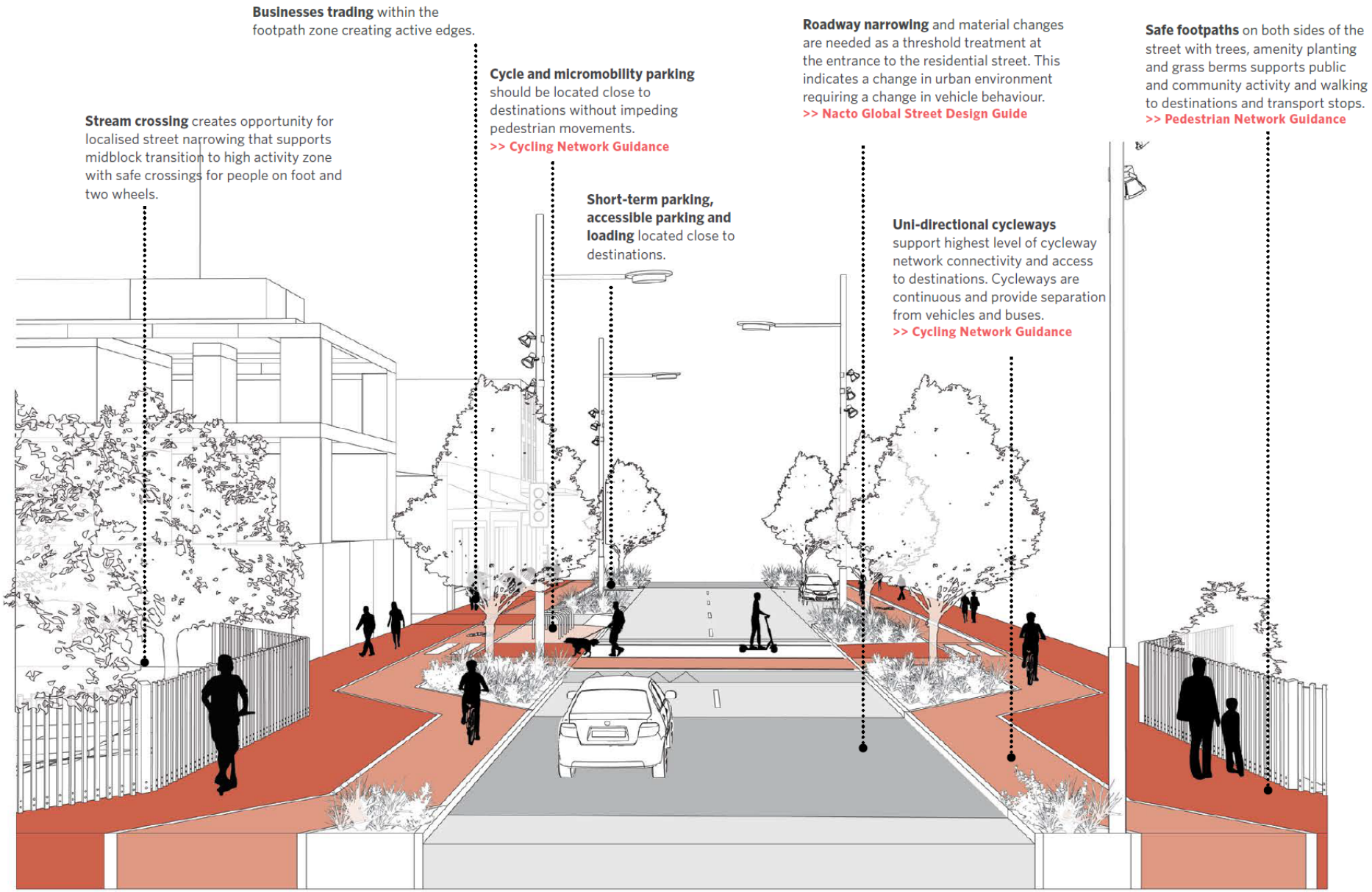
Changing densities with residential apartments developing adjacent to a range of activities catalysing an increase in place value.

Off street parking Activity streets with public realm improvements, cycle and micro mobility parking, street tree and public seating.

Integrated green corridor the street is an extension of the neighbourhood green and blue network creating liveable neighbourhoods and providing well-connected green spaces for humans and other species.

Regular formal crossings are required across the main carriageway major intersections and mid-block aligned with activities such as parks, shops, recreational destinations and demand.
>> Pedestrian Network Guidance

Service and accessible parking and P5/short stay parking can be provided by mountable kerb solutions outside shops and other destinations on busy urban connectors with no kerbside parking, designed in ways that do not compromise walking paths or cycleways.
>> National Parking Management Guidance


Businesses trading within the footpath zone creating active edges.
Stream crossing creates opportunity for localised street narrowing that supports midblock transition to high activity zone with safe crossings for people on foot and two wheels.
Cycle and micromobility parking should be located close to destinations without impeding pedestrian movements.
>> Cycling Network Guidance
Short-term parking, accessible parking and loading located close to destinations.
Roadway narrowing and material changes are needed as a threshold treatment at the entrance to the residential street. This indicates a change in urban environment requiring a change in vehicle behaviour.
>> Nacto Global Street Design Guide
Uni-directional cycleways support highest level of cycleway network connectivity and access to destinations. Cycleways are continuous and provide separation from vehicles and buses.
>> Cycling Network Guidance
Safe footpaths on both sides of the street with trees, amenity planting and grass berms supports public and community activity and walking to destinations and transport stops.
>> Pedestrian Network Guidance

Activity Streets

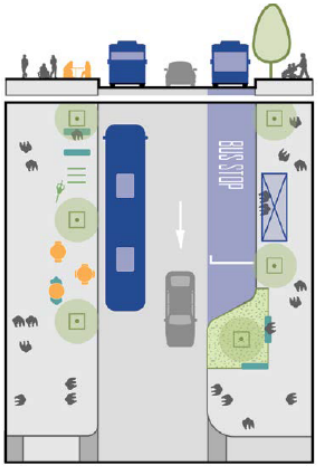
Diversifying the street category

Within any given One Network Framework street category, there is more than one integrated street solution. These pages provide indicative examples of the sorts of differentiated design responses to be explored through option development, as well as examples of similar street types from Aotearoa and around the world. This is intended to demonstrate that there's a diverse range of street types and integrated street design solutions possible within the broad umbrella of each ONF Street Category.

Activity Streets

WAKA KOTAHI NZ TRANSPORT AGENCY | One Network Framework

A range of potential integrated street solutions, to be explored through option development, for example



Mixed-use

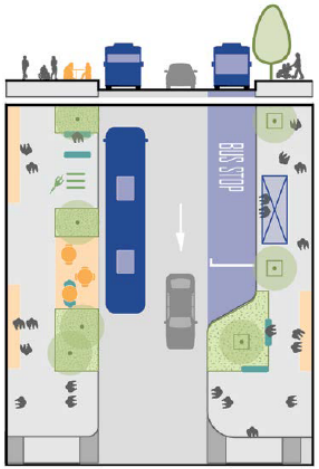
Priorities:

Safe and appropriate speed limit:

30 - 40

Key features:

- Prioritises the movement of people, and supports mixed-use land uses
- Calm traffic with narrowed lanes, pavement markings, signage and tree pits
- Encourage vibrant on-street activity and amenity for workers, residents and visitors through flexible street furniture
- Provides access for all transport modes, with sustainable transport priority
- Removal of on-street parking and slip lanes, simplify intersections.



Commercial

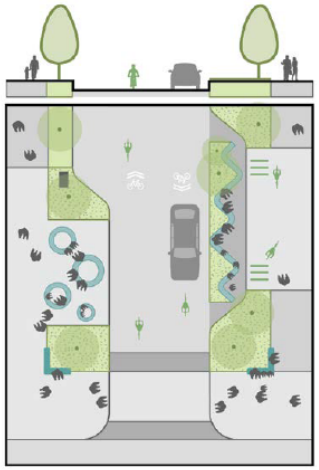
Priorities:

Safe and appropriate speed limit:

30 - 40

Key features:

- Prioritises people walking and sustainable transport with frequent, integrated public transport stops and local low-speed vehicle access
- Strengthens access to local community facilities, including retail, commercial, social and medical services and recreation
- Incorporates wide footpaths and on-street dining space, encourages dwelling, social interaction and a sense of community
- Extended kerbs to shorten crossing distance and provide extra green space.



School

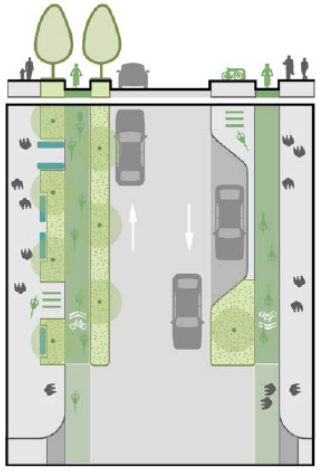
Priorities:

Safe and appropriate speed limit:

30

Key features:

- Prioritises safety and access for people walking, connects to high amenity local walking networks, school bus and public transport facilities located nearby
- Provides extended footpaths, planting for shelter and shade and seating
- Incorporates extended kerbs and gateway treatments to slow traffic and create safe and continuous walking access
- Provides for low-speed local traffic and servicing access, no kerbside parking in pedestrian priority areas, but some on-street short-term parking in close proximity.



Park

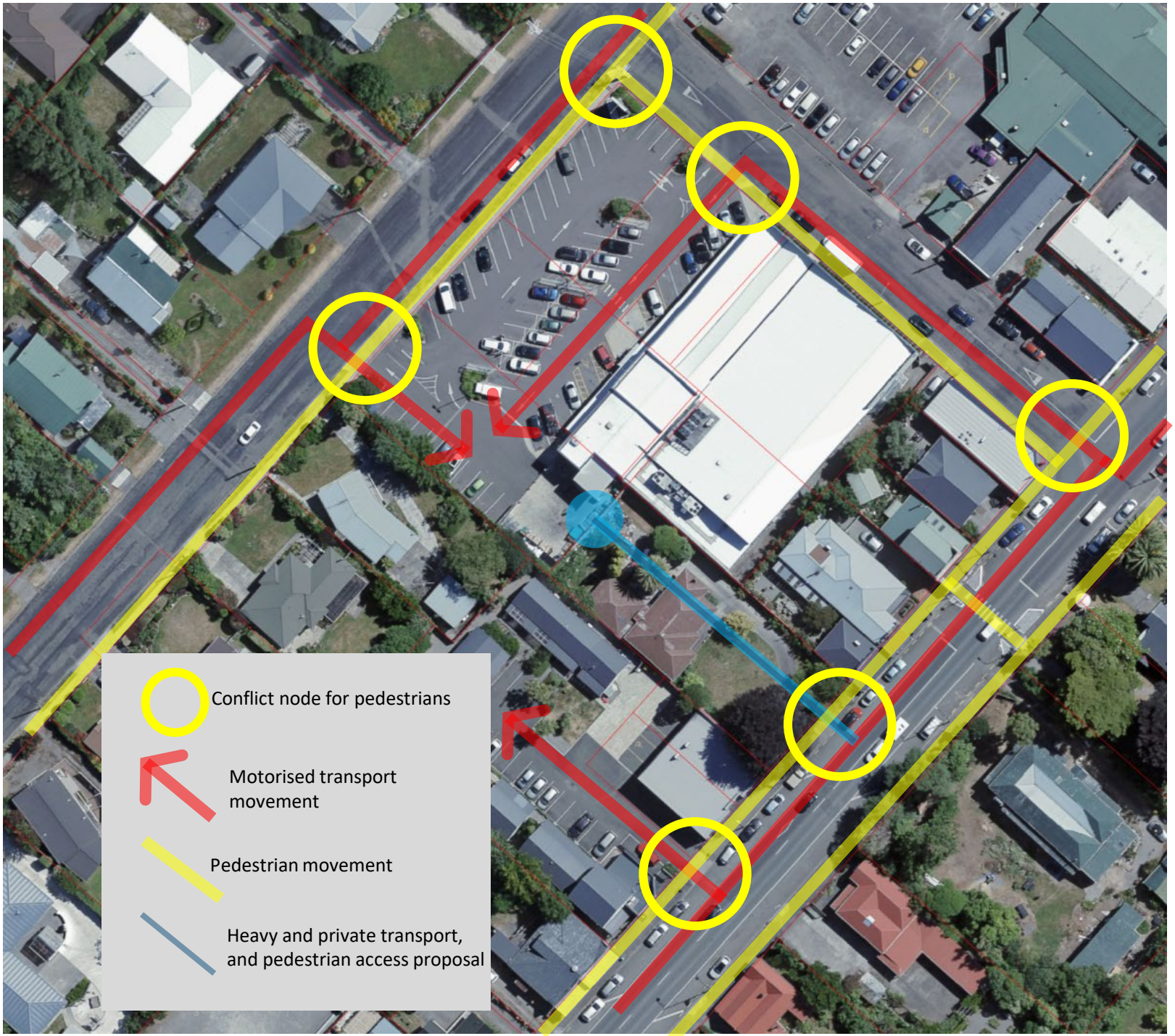
Priorities:

Safe and appropriate speed limit:

30 - 40

Key features:

- Prioritises active transport with treatments to slow traffic and provide green buffers between vehicles and people walking and cycling
- Provides for some on-street parking and low speed local vehicle access
- Enhances native ecology through continuous green connections, and opportunities for play and interaction on-street
- Integrates blue-green infrastructure where possible
- Provides opportunities to involve the local community in placemaking design.


Conflict node for pedestrians
Motorised transport movement
Pedestrian movement
Heavy and private transport, and pedestrian access proposal

APPENDIX C Available traffic data

Hourly Count Export

Site Ref: 00200908 (Nth of Wood St (Greytown))
Start Date (dd-mon-yyyy): 01-Jan-2023
End Date (dd-mon-yyyy): 08-Sep-2023
Direction: Both
Data Type: ALL Vehicles

Day	00:00 - 01:	01:00 - 02:	02:00 - 03:	03:00 - 04:	04:00 - 05:	05:00 - 06:	06:00 - 07:	07:00 - 08:	08:00 - 09:	09:00 - 10:	10:00 - 11:	11:00 - 12:	12:00 - 13:	13:00 - 14:	14:00 - 15:	15:00 - 16:	16:00 - 17:	17:00 - 18:	18:00 - 19:	19:00 - 20:	20:00 - 21:	21:00 - 22:	22:00 - 23:	23:00 - 00:	Total
01-JAN-20	85	38	16	20	34	74	86	179	386	617	779	789	761	768	735	620	562	407	280	218	161	68	59	22	7764
02-JAN-20	20	14	15	20	48	110	210	350	711	988	1115	1094	969	799	778	815	775	801	367	223	193	132	66	25	10638
03-JAN-20	13	10	12	26	47	108	217	414	696	963	982	917	907	851	867	781	589	515	332	264	127	91	60	41	9830
04-JAN-20	21	15	18	37	92	171	337	490	717	947	922	921	790	814	901	833	661	471	279	229	168	85	69	30	10018
05-JAN-20	33	18	20	42	63	163	305	435	622	855	866	864	796	840	796	703	567	422	240	212	155	69	58	32	9176
06-JAN-20	22	21	24	42	66	164	284	430	672	814	857	912	852	929	815	763	627	409	286	205	138	111	78	43	9564
07-JAN-20	20	28	18	30	38	104	174	329	562	792	866	825	777	720	619	550	490	372	240	174	143	101	65	39	8076
08-JAN-20	36	16	10	12	21	52	113	203	427	611	698	794	654	663	656	560	439	295	189	165	98	67	35	15	6829
09-JAN-20	18	15	21	58	144	334	518	549	612	709	704	718	676	684	756	770	660	369	250	142	106	65	38	38	8954
10-JAN-20	19	19	26	55	151	333	534	586	657	722	773	728	696	740	747	794	714	406	288	164	118	56	50	35	9411
11-JAN-20	20	16	34	58	136	320	474	573	650	699	725	770	732	716	729	708	642	375	202	154	116	64	36	21	8970
12-JAN-20	22	16	24	60	148	310	519	629	669	698	699	683	670	742	791	773	692	435	286	173	159	67	41	27	9333
13-JAN-20	22	21	17	54	142	284	517	589	727	818	855	815	868	880	969	967	864	581	395	222	169	114	72	39	11001
14-JAN-20	17	18	15	26	68	128	262	432	698	881	969	929	866	837	794	729	628	508	362	244	200	159	91	57	9918
15-JAN-20	25	21	13	24	38	76	164	302	586	770	892	840	795	881	809	798	664	446	339	225	119	97	62	46	9032
16-JAN-20	21	15	18	69	176	423	607	646	725	694	681	715	660	644	753	828	750	428	298	195	146	69	47	37	9645
17-JAN-20	15	14	21	67	200	422	610	687	744	746	755	687	708	756	777	900	748	500	279	220	120	78	54	31	10139
18-JAN-20	11	19	22	60	182	393	635	777	782	798	759	745	792	781	779	915	787	483	330	223	191	58	30	21	10573
19-JAN-20	14	6	26	81	164	392	620	691	736	743	733	743	716	755	825	891	771	567	359	245	162	99	55	32	10426
20-JAN-20	20	24	20	58	159	367	564	656	838	824	900	817	843	975	948	1011	924	685	470	277	183	121	94	45	11823
21-JAN-20	37	20	17	28	68	132	257	474	727	919	952	862	755	782	784	756	656	430	323	265	267	198	109	60	9878
22-JAN-20	26	16	13	25	44	127	192	329	586	838	926	965	852	826	867	905	768	542	374	331	225	126	55	42	10000
23-JAN-20	23	13	20	21	50	96	149	298	483	733	859	864	870	815	812	682	547	405	319	204	126	85	45	21	8540
24-JAN-20	26	16	20	58	194	403	639	699	713	738	746	722	719	730	821	913	784	466	317	217	133	81	66	39	10260
25-JAN-20	34	19	29	68	192	414	602	700	798	748	722	723	753	782	902	880	849	552	353	283	163	87	76	42	10771
26-JAN-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
27-JAN-20	35	36	37	31	67	195	377	616	696	726	875	877	810	829	980	937	1001	809	576	462	222	145	109	69	11517
28-JAN-20	37	41	26	22	40	58	129	251	365	606	839	799	878	733	700	701	550	464	355	270	216	140	101	87	8408
29-JAN-20	56	30	19	6	14	31	59	137	229	522	647	748	725	709	714	675	635	535	373	289	204	134	66	48	7605
30-JAN-20	39	23	22	28	67	209	430	650	684	677	736	605	743	656	642	682	831	687	406	240	169	115	57	46	9444
31-JAN-20	44	29	25	35	66	199	415	671	692	753	648	657	664	630	718	769	843	686	429	296	203	140	94	61	9767
01-FEB-20	29	26	25	28	64	209	444	654	818	706	754	674	661	671	759	816	898	763	491	306	206	158	87	51	10298
02-FEB-20	42	21	23	28	71	184	403	662	809	774	669	729	783	772	840	788	814	965	525	339	218	144	95	89	10787
03-FEB-20	296	120	39	34	56	186	344	628	777	761	807	846	901	904	966	1059	1048	851	782	576	324	196	142	81	12724
04-FEB-20	64	35	18	30	59	118	160	333	596	861	1116	1124	1066	1036	1021	911	825	648	478	371	228	210	156	92	11556
05-FEB-20	57	36	26	21	25	58	94	166	358	643	891	976	867	843	872	851	797	689	477	286	236	138	121	69	9597
06-FEB-20	43	19	12	18	26	55	63	152	304	570	846	999	1006	923	866	883	774	827	488	324	242	157	84	54	9735
07-FEB-20	31	18	18	30	71	238	474	703	818	766	681	652	645	644	705	789	846	754	452	303	195	151	72	42	10098
08-FEB-20	38	23	25	27	91	242	425	654	787	732	702	662	689	673	710	873	857	732	509	369	204	161	74	36	10295
09-FEB-20	30	33	21	32	66	234	440	688	821	741	704	666	624	718	732	849	891	763	498	324	231	144	81	41	10372
10-FEB-20	35	34	27	39	75	196	385	615	791	784	782	762	735	750	810	972	917	846	590	400	294	170	112	69	11190
11-FEB-20	32	31	19	35	43	74	139	313	474	713	859	830	802	731	725	675	645	624	454	337	262	200	130	97	9244
12-FEB-20	49	28	14	14	20	40	90	180	370	566	716	839	789	776	794	836	776	547	424	317	190	113	71	47	8606
13-FEB-20	32	21	26	27	72	193	413	642	749	680	612	604	574	583	627	727	805	620	338	208	114	91	37	33	8828
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15-FEB-20	17	9	13	20	50	149	329	546	686	614	529	530	587	552	589	715	711	699	409	270	158	125	67	44	8418
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01-MAR-2(	31	14	6	21	70	238	425	711	826	744	694	657	651	666	695	809	872	801	536	344	218	153	33	30	10245
02-MAR-2(	32	21	12	28	75	200	401	715	804	737	657	628	708	693	738	861	931	781	505	411	251	130	41	33	10393
03-MAR-2(	31	15	8	30	63	195	388	688	787	747	834	782	831	860	884	1079	1001	848	725	499	305	191	94	133	12018
04-MAR-2(	80	29	21	21	42	114	190	327	506	803	924	1005	987	941	875	792	749	605	458	335	246	177	142	60	10429

05-MAR-2(	47	27	15	15	17	52	88	167	319	583	760	828	768	716	708	736	663	559	358	302	189	108	48	40	8113
06-MAR-2(	19	19	29	30	71	223	389	677	733	676	622	641	608	609	662	762	831	758	383	264	163	118	58	45	9390
07-MAR-2(	18	25	18	30	67	232	384	662	782	677	615	544	601	602	697	810	859	831	461	296	209	138	75	51	9684
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09-MAR-2(	31	22	26	32	52	204	408	637	835	681	724	663	679	654	790	875	885	766	540	298	240	145	56	52	10295
10-MAR-2(	29	32	20	27	65	195	349	625	791	698	705	752	789	742	928	970	939	897	630	447	279	225	111	87	11332
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21-MAR-2(	31	19	16	24	80	207	388	652	746	651	661	656	644	614	676	802	808	785	497	265	155	114	66	31	9588
22-MAR-2(	23	20	28	25	70	217	374	605	856	736	660	655	721	728	748	809	816	791	470	240	155	129	77	43	9996
23-MAR-2(	41	29	22	25	71	221	375	684	798	747	688	664	660	724	720	845	877	823	627	371	253	156	90	55	10566
24-MAR-2(	43	26	30	31	59	176	376	599	743	795	745	741	767	842	807	1083	948	914	624	425	257	183	98	77	11389
25-MAR-2(	33	30	30	21	28	69	146	262	459	725	820	940	848	802	821	726	701	623	497	310	238	157	116	88	9490
26-MAR-2(	49	26	22	10	22	39	74	126	349	560	763	902	878	759	774	825	724	639	427	322	193	125	61	49	8718
27-MAR-2(	23	19	15	23	85	201	425	673	748	716	671	635	632	601	689	799	843	763	415	250	150	107	44	37	9564
28-MAR-2(	17	25	20	20	76	218	396	668	748	687	640	620	654	678	677	833	773	703	417	233	154	112	68	39	9476
29-MAR-2(	17	16	15	35	70	199	388	662	713	706	629	645	610	679	741	754	801	731	409	260	192	109	61	32	9474
30-MAR-2(	28	15	17	24	75	211	378	606	783	641	635	618	598	646	664	823	860	687	436	274	220	135	52	33	9459
31-MAR-2(	25	17	19	22	67	189	349	593	782	730	726	725	698	736	855	941	936	823	598	405	249	156	109	66	10816
01-APR-20	40	27	20	17	15	50	106	242	405	652	702	830	749	722	712	715	655	588	440	273	197	192	132	76	8557
02-APR-20	38	21	16	9	10	17	42	97	199	331	587	747	773	710	721	733	740	634	506	361	242	152	97	42	7825
03-APR-20	35	16	17	24	33	82	222	411	683	736	652	615	636	597	615	604	748	775	659	399	198	140	108	38	9043
04-APR-20	45	23	12	25	22	77	183	387	699	799	710	700	671	648	625	731	821	887	750	490	326	165	145	79	10020
05-APR-20	33	17	22	36	74	212	449	676	824	734	718	716	671	686	722	898	899	794	527	263	184	121	70	36	10382
06-APR-20	33	33	28	25	68	210	373	687	812	762	752	762	780	888	884	1030	965	811	591	457	287	197	118	63	11616
07-APR-20	35	29	16	16	27	63	160	213	383	673	864	939	960	882	857	709	661	561	331	255	181	95	118	48	9076
08-APR-20	27	12	16	13	28	84	139	259	538	815	937	922	879	919	1038	1115	1037	840	511	671	873	384	142	67	12266
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12-APR-20	15	22	19	19	78	192	378	609	670	726	741	731	743	677	735	751	853	756	432	245	160	106	39	35	9732
13-APR-20	35	24	22	27	79	192	363	621	663	713	711	729	703	697	721	797	892	737	491	273	191	132	55	44	9912
14-APR-20	35	22	19	43	54	164	293	602	651	744	789	781	856	755	838	869	924	797	548	354	202	107	70	64	10581
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25-APR-20	24	15	17	19	33	60	92	151	300	397	331	404	640	674	685	732	683	587	426	214	161	88	34	26	6793
26-APR-20	21	13	13	23	74	242	456	722	844	690	661	626	642	649	690	892	836	723	416	260	156	110	65	25	9849
27-APR-20	20	31	19	34	77	221	400	684	789	774	628	585	612	678	700	893	874	812	462	285	181	133	55	41	9988
28-APR-20	33	26	19	42	55	216	349	597	747	756	713	726	730	703	801	955	960	866	589	344	193	150	128	55	10753
29-APR-20	36	28	13	18	32	68	127	269	480	723	868	811	825	712	801	773	695	558	428	260	178	160	112	129	9104
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01-MAY-2(	25	18	25	26	76	222	408	640	789	651	591	602	588	531	605	757	800	740	380	225	143	86	47	30	9005
02-MAY-2(	17	16	21	30	87	208	410	660	734	679	633	595	579	632	659	736	823	715	394	228	179	119	58	37	9249
03-MAY-2(	23	19	19	29	85	229	424	639	794	730	612	604	605	609	690	814	877	794	460	295	172	105	88	34	9750
04-MAY-2(	23	19	13	35	69	182	392	652	770	673	650	613	614	639	740	860	813	685	423	229	165	121	51	49	9480
05-MAY-2(	21	22	22	27	63	165	344	615	758	688	658	682	705	722	760	926	894	805	545	322	164	124	86	63	10181
06-MAY-2(	32	16	13	13	45	71	113	252	490	736	880	864	756	723	706	615	711	585	390	255	181	139	97	73	8756
07-MAY-2(	51	28	25	11	20	55	74	136	308	503	670	784	767	696	724	701	695	572	357	215	145	100	46	26	7709
08-MAY-2(	21	19	16	40	86	209	372	674	702	632	586	557	563	553	611	690	837	678	319	201	121	82	41	30	8640
09-MAY-2(	26	17	21	23	70	222	386	654	758	693	632	604	631	641	672	773	857	684	384	231	131	100	63	30	9303
10-MAY-2(	19	19	10	28	67	231	379	645	764	707	653	671	615	657	743	738	828	808	435	275	183	90	63	30	9658
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13-MAY-2(	29	18	12	14	29	54	98	291	605	748	1064	971	866	843	819	758	729	647	462	307	220	161	92	60	9897
14-MAY-2(	57	19	9	4	19	27	55	111	320	570	805	879	852	811	913	860	874	609	378	276	221	80	21	33	8803
15-MAY-2(	10	14	9	26	67	190	428	637	751	678	585	581	625	554	617	733	737	646	340	197	120	84	25	18	8672

16-MAY-2(	8	19	7	24	68	191	360	632	786	672	608	603	602	599	639	793	789	646	375	217	162	93	24	23	8940
17-MAY-2(	8	16	8	18	71	209	399	676	781	643	682	606	601	612	660	875	890	744	451	263	185	101	40	29	9568
18-MAY-2(	11	19	10	20	67	199	399	658	792	685	614	638	660	653	639	846	879	752	399	294	224	116	26	31	9631
19-MAY-2(	16	18	9	40	71	185	348	575	738	699	663	685	689	724	796	866	864	720	495	347	187	126	67	52	9980
20-MAY-2(	24	20	8	10	19	58	70	243	482	675	814	832	759	671	670	644	626	506	343	227	162	130	99	52	8144
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22-MAY-2(	11	9	9	20	70	198	385	625	780	584	649	534	551	599	618	750	763	676	377	213	127	72	23	13	8656
23-MAY-2(	10	7	7	22	70	227	401	689	740	669	632	638	572	671	673	751	806	747	438	249	158	76	25	28	9306
24-MAY-2(	12	19	18	26	63	192	371	634	809	718	625	606	637	687	698	813	834	776	454	270	173	79	28	24	9566
25-MAY-2(	9	19	7	23	67	183	402	646	778	677	630	633	643	647	718	797	864	771	399	261	186	82	24	33	9499
26-MAY-2(	5	15	7	21	60	175	353	596	778	699	686	677	757	736	813	980	907	861	496	304	215	135	87	42	10405
27-MAY-2(	23	21	12	12	25	56	97	233	608	781	950	936	903	687	689	673	692	573	375	219	163	149	117	46	9040
28-MAY-2(	58	34	20	17	15	45	69	165	337	519	705	775	725	777	769	835	724	568	357	202	155	94	38	42	8045
29-MAY-2(	14	12	15	36	74	209	413	670	772	702	537	697	611	589	678	708	791	654	341	170	164	82	25	25	8989
30-MAY-2(	30	21	16	30	64	187	409	656	828	621	634	631	581	643	666	823	847	639	367	225	140	97	61	26	9242
31-MAY-2(	13	18	20	33	70	199	371	631	746	552	540	497	723	622	614	735	778	708	386	272	188	115	52	27	8910
01-JUN-20	18	17	20	30	62	209	397	667	862	704	634	664	665	662	763	862	877	758	416	252	137	123	72	22	9893
02-JUN-20	15	31	14	15	54	165	334	609	762	726	722	791	747	807	856	1059	930	899	522	397	213	168	82	57	10975
03-JUN-20	33	29	16	13	22	64	110	262	449	742	964	1013	905	880	831	893	866	581	397	247	170	137	153	109	9886
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07-JUN-20	12	11	22	24	67	211	397	628	795	761	658	619	649	572	698	897	908	757	398	256	150	83	62	32	9667
08-JUN-20	18	13	10	31	69	201	361	648	798	674	636	657	648	670	700	838	871	712	419	253	155	140	70	37	9629
09-JUN-20	14	23	20	26	63	185	354	586	726	699	706	699	724	687	786	933	958	761	502	300	202	146	78	50	10228
10-JUN-20	33	16	16	11	27	50	105	202	538	693	867	857	840	785	716	685	689	603	354	214	165	164	69	46	8745
11-JUN-20	35	25	10	10	16	35	93	189	263	510	638	713	755	681	724	781	696	512	317	209	144	59	19	15	7449
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21-JUN-20	24	15	24	29	67	197	431	650	751	726	637	613	690	704	736	869	904	757	462	284	162	125	62	37	9956
22-JUN-20	15	12	18	25	59	197	388	611	785	734	621	592	593	579	739	844	861	654	436	222	160	116	43	45	9349
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28-JUN-20	17	21	23	32	60	205	421	744	835	719	687	669	771	643	780	782	902	771	439	227	198	102	59	47	10154
29-JUN-20	19	12	11	37	66	184	400	672	860	912	784	697	750	826	935	809	894	780	451	290	178	138	75	51	10831
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01-JUL-20	22	17	11	18	21	51	88	200	463	680	856	867	890	790	798	801	707	590	458	404	294	158	119	73	9376
02-JUL-20	36	17	13	11	21	35	61	127	235	434	676	720	731	749	744	791	681	477	329	199	159	86	47	24	7403
03-JUL-20	10	11	14	19	61	180	357	520	577	610	601	632	626	630	636	630	741	670	315	172	121	102	46	20	8301
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05-JUL-20	16	10	17	23	66	208	332	633	622	721	699	727	651	647	731	787	928	744	420	228	163	107	54	30	9564
06-JUL-20	22	12	16	26	66	185	365	608	655	718	678	686	703	715	757	830	886	775	464	267	201	132	61	33	9861
07-JUL-20	20	13	12	17	67	167	296	541	580	708	789	759	814	805	876	914	967	794	587	344	248	142	89	53	10602
08-JUL-20	27	13	13	10	20	41	99	199	355	613	826	807	858	779	737	713	719	605	490	316	226	159	87	62	8774
09-JUL-20	36	17	21	10	13	35	60	100	213	449	606	688	698	637	664	636	583	460	305	198	129	66	35	39	6698
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11-JUL-20	24	17	23	31	79	202	371	591	635	688	688	677	649	669	678	769	818	677	391	223	142	98	59	41	9240
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16-JUL-20	35	21	23	9	22	49	66	114	267	476	714	800	774	765	770	772	687	573	374	207	184	67	29	31	7829
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18-JUL-20	25	13	11	34	56	221	389	625	786	651	634	626	633	640	634	822	890	707	391	253	154	99	60	20	9374
19-JUL-20	9	13	21	27	60	216	378	647	778	706	635	635	655	615	694	825	826	720	438	257	159	113	59	29	9515
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21-JUL-20	31	13	20	25	60	172	328	577	766	675	704	718	696	713	823	998	926	786	493	325	225	132	93	92	10391
22-JUL-20	39	18	14	14	20	42	73	172	431	628	787	867	776	744	699	716	693	585	448	320	209	142	111	68	8616
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25-JUL-20	17	10	18	29	71	200	385	647	787	663	656	637	613	658	704	802	790	665	364	225	159	170	84	36	9390
26-JUL-20	23	9	22	33	63	187	360	627	770	675	641	606	622	634	700	830	781	668	398	252	194	88	52	31	9266

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28-JUL-20	20	19	14	18	64	160	317	531	747	710	693	726	692	721	837	969	860	712	582	325	261	162	83	46	10269
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30-JUL-20	45	17	14	7	20	26	85	109	255	483	657	743	688	766	726	805	707	556	326	239	146	83	30	39	7572
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01-AUG-2	22	17	14	20	84	198	371	664	737	654	614	551	565	577	654	770	850	664	372	214	142	102	45	24	8925
02-AUG-2	15	11	15	22	64	168	357	616	736	625	605	578	593	556	622	840	760	620	335	234	148	110	42	45	8717
03-AUG-2	13	16	13	18	64	161	312	560	764	647	531	568	590	536	635	816	694	636	389	216	127	121	55	21	8503
04-AUG-2	17	19	10	24	56	175	307	562	685	713	705	696	694	701	747	864	874	721	523	300	180	136	75	50	9834
05-AUG-2	33	18	17	7	16	42	92	195	489	651	840	829	739	678	660	597	561	549	384	196	163	123	94	102	8075
06-AUG-2	55	21	12	10	15	20	78	140	252	450	560	697	656	681	658	662	624	503	312	213	120	82	57	23	6901
07-AUG-2	23	14	10	21	68	220	360	632	709	637	570	586	566	630	627	731	762	656	361	189	132	81	47	27	8659
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10-AUG-2	20	18	13	25	62	173	335	563	734	646	605	575	552	567	686	755	696	545	362	197	164	101	56	26	8476
11-AUG-2	19	21	14	26	54	173	331	569	735	744	737	661	708	688	757	886	849	801	557	317	191	134	93	59	10124
12-AUG-2	19	30	20	17	22	51	97	216	408	673	822	822	750	706	677	669	658	524	389	248	164	120	92	51	8245
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17-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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22-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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24-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
26-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
27-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
31-AUG-2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
01-SEP-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
02-SEP-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
03-SEP-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
04-SEP-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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06-SEP-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
07-SEP-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
08-SEP-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	