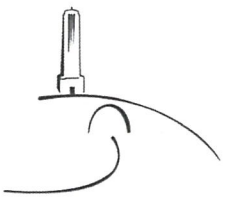
NZ TRANSPORT AGENCY
WAKA KOTAHI

Memorial Park Alliance



13 May 2013

CONSTRUCTION TRAFFIC MANAGEMENT PLAN

Buckle Street Tunnel

Reference Number:

UND-04-CON-MP Construction Traffic Management Plan Rev 1

Rev.	Status	Prepared by	Checked by	Date
1	Final	Ryan Dunn	Richard Galloway	13 May 2013

Name	Position	Date	Signature
Richard Galloway	Traffic Leader	13 May 2013	
Steve Croft	Construction Manager	13 May 2013	
Sam Wilkie	Certifying Traffic Engineer	13 May 2013	

DOCUMENT REGISTER

Copy Number	Held By:
01	Project Manager — Memorial Park Alliance
02	Environmental Compliance Specialist — Memorial Park Alliance
03	Construction Manager — Memorial Park Alliance
04	Stakeholder Manager — Memorial Park Alliance
05	Traffic Management Specialist — Memorial Park Alliance
06	Compliance Monitoring Officer — Wellington City Council
07	Compliance Monitoring Officer — MWH NZ Ltd (on behalf of NZTA)
08	Site Manager
09	Site Supervisor

Any additions or alterations to the Construction Traffic Management Plan arising during the course of the Project are to be documented and attached to this Plan. The Plan will be reviewed as required.

CONTENTS

1 INTRODUCTION

This Construction Traffic Management Plan (CTMP) has been prepared to identify and outline the manner in which construction traffic will be managed to ensure the safe and efficient performance of the road network, to minimise adverse effects on the existing community arising from construction traffic, and to provide the community with information about specific management methods to be employed during construction of the Buckle Street Tunnel.

1.1 Scope of Construction Traffic Management Plan

This CTMP covers the various parts of the site, phases of construction, levels of construction activity, associated traffic impacts and the traffic management requirements associated with construction of the Tunnel and operation of the State Highway 1 (SH1) diversion section of public road, between Sussex Street and Taranaki Street. This includes the intersections of the SH1 diversion road with Tory Street and Taranaki Street, and the improvements to the local road network required to support the tunnel. It does not include the Alliance's other anticipated projects of the Inner City Bypass optimisation or the Basin Reserve Bridge.

Manuals used for guidance in developing this CTMP, and specifically for compliance of site specific temporary traffic management plans (TTMP's)for the works include NZTA's Code of Practice for Temporary Traffic Management (CoPTTM), NZTA's Manual of Traffic Signs and Markings (MOTSAM) and Austroads Guides to Road Design and Traffic Management.

1.2 Legislative Requirements for Construction Traffic Management Plan

Preparation of a CTMP for the Tunnel construction activities is required by the National War Memorial Park (Pukeahu) Empowering Act 2012 (the Act), within conditions NZTA 14-18 of Schedule 3, Part 2 Conditions applying to exercise of designation; Traffic Management and Roading - Construction, Pages 67-69

This CTMP aims to address all of the potential traffic effects specified within the Act for the duration of the Tunnel construction activities. A copy of the conditions from the Act relevant to construction traffic management is included as Appendix A.

1.3 Construction Traffic Management Plan Objectives

The objectives of this CTMP are to:

- Ensure the specific requirements of Acts, Regulations, Bylaws and Consent Conditions in relation to construction traffic are adhered to;
- Detail the location, nature and duration of traffic associated with the Buckle Street Tunnel construction project;
- Outline methods to provide clear and timely communication with the community and any directly affected property owners over planned construction activities and associated traffic effects;
- Outline methods to ensure the effects on the level of service of general road users and restrictions on on-street parking are minimised, and safe and clearly defined pedestrian, cyclist and vehicle routes are maintained;
- Outline methods to ensure that potential impacts upon the physical conditions of any public roads are minimised and are in accordance with Road Controlling Authority (RCA) and community expectations;

- Outline methods to ensure that any potential nuisance effects (traffic delays, dust, noise etc.) of construction traffic are minimised;
- Outline methods to ensure that any potential health and safety/security effects of construction traffic upon both the public and site staff are minimised;
- Outline methods to ensure that construction staff are aware of all potential traffic effects and that traffic management requirements are successfully implemented; and
- Outline recording and monitoring procedures to ensure that any potential additional construction traffic effects are identified and responded to accordingly.

2 TRAFFIC MANAGEMENT ROLES AND RESPONSIBILITIES

Implementation of the traffic management requirements outlined within this plan will be the responsibility of all site staff. In this respect site staff will be required to undertake site induction and attend weekly toolbox meetings, which will include education of the potential traffic issues and required management protocols outlined within this plan.

Figure 1 shows a project team structure detailing the roles and responsibilities for traffic management for the project (including external consultation and TMP approvals).

Overall traffic management on site will be the responsibility of:

- Richard Galloway, Traffic Leader, 021 241 6911; and
- Temporary Traffic Management Engineer (yet to be appointed).

3 CONSULTATION

This CTMP has been prepared in consultation with the named parties in Condition NZTA 16 of Schedule 3, Part 2, including:

- The Road Asset Manager of the Wellington City Council (or his/her nominee);
- Emergency services (Police, fire and ambulance);
- Massey University;
- New Zealand Defence Force;
- The owners of the former Mt Cook Police Barracks, 13 Buckle Street;
- Tasman Garden Body Corporate;
- Wellington Tenths Trust and Port Nicholson Block Settlement Trust;
- Mt Cook School; and
- Wellington High School.

The schools, childcare centres, and any other educational activities consulted included Mt Cook School, Wellington High School and Massey University, being the only facilities of this type having frontage or access to roads affected by the Project.

The designs for the southern access lane, signage, and northern parking area have all been amended in response to issues raised during consultation. Specific comments and inputs received were addressed at stakeholder meetings. Records of these are contained in Appendix B.

Consultation between the project team and the above parties will continue throughout the construction phase of the Project and include advance notice of any major traffic disruptions or effects on access routes (pedestrian, cyclist and vehicular). This will include direct contact by phone, email or meeting, as well as more general letter drops. In addition, newspaper advertising and signage will continue to be used. Refer Section 4.11 for details of the communications process.

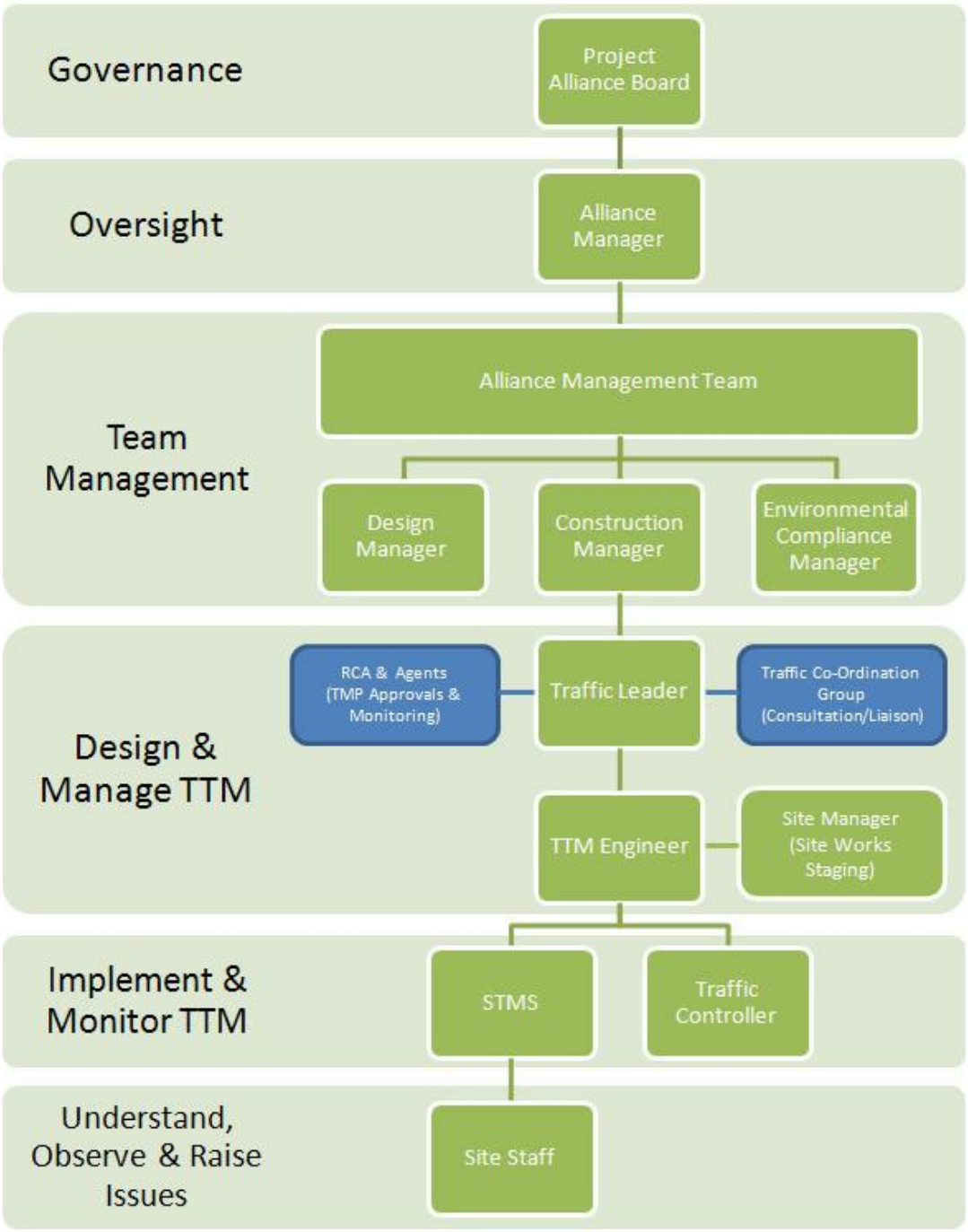


Figure 1: Project Traffic Management Responsibilities

4 TRAFFIC MANAGEMENT

4.1 Site Access

State Highway 1 (SH1) in the vicinity of Buckle Street is to be re-aligned through a Tunnel below the planned National War Memorial Park. While the Tunnel is being constructed, roughly in the location of the current alignment of Buckle Street, traffic will follow a temporary alignment along a SH1 diversion road. This SH1 diversion road will be located to the north of the current alignment for the duration of the Tunnel construction, at which point traffic will revert into the Tunnel and the SH1 diversion road dismantled for the creation of the Memorial Park.

The SH1 diversion road will start at Sussex Street on the Basin Reserve and be back on the alignment of the previous SH1 at Taranaki Street. The road maintains two westbound lanes, widening to three lanes at the intersections of Tory Street and Taranaki Street to accommodate right turns separate from through traffic.

The connection from Tory Street to Tasman Street will be severed during construction, and the vehicular link from the Basin Reserve (Sussex Street) to Buckle Street will also be removed. Once the tunnel is open, Tasman Street will be re-connected to Tory Street.

Access to the Mt Cook Barracks, Massey University, the National War Memorial and the Defence buildings will be maintained via Buckle Street. This road is meant for access to these sites and will only carry a small proportion of the through traffic which previously used Buckle Street. Tasman Street and Buckle Street can be accessed from Rugby Street.

Through creation of the SH1 diversion road and maintaining access to Buckle Street from Tasman Street, construction of the Tunnel is able to take place within a construction site completely separate from general traffic, occupying the space that previously accommodated SH1. This separation from general traffic provides the safest and fastest way to construct the tunnel.

Drawings UND-14-938 to 940 shows the indicative site layout relative to the SH1 diversion road, and examples of how construction vehicles will typically access the site for various phases of construction. Construction is to start at the Taranaki Street end, with excavation and construction of temporary retaining walls progressing east, followed by construction of the concrete floor, walls, then roof of the tunnel following behind.

Construction vehicles will enter the site from the SH1 diversion road travelling either via the Basin Reserve (Vivian Street / Kent Terrace / Basin Reserve) or Tory Street. Truck and trailer access via Tory Street is to be restricted. A large proportion of exiting vehicles will be travelling to the Southern Landfill in Happy Valley via the SH1 diversion road / Arthur Street / Karo Drive / Victoria Street / Brooklyn Road / Ohiro Road.

Up to six site access gates will be created, spread approximately every 50m along the SH1 diversion road, although only two or three will be in use at a time, dependant on the position of cranes and machinery on-site. An internal northern haul road allows construction vehicles to manoeuvre through the site.

Site access points will be supervised to ensure incoming vehicles comply with safety and other requirements, and that vehicles exit safely.

On public roads, construction traffic is to comply with the posted speed limit. A separate approved site specific TTMP will impose a 30km/h temporary speed limit on Buckle Street.

TUNNEL CONSTRUCTION PHASE

NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953
3. AERIAL MAP SOURCED FROM TERRALINK INTERNATIONAL (COPYRIGHT 2002–2005 TERRALINK INTERNATIONAL LIMITED AND ITS LICENSORS).

TARANAKI ST
MARTIN SQUARE
MARTIN SQUARE
TORY ST
TE PAPA ARCHIVES
MOUNT COOK SCHOOL
MEC PLANT HOUSE
NOISE FENCE
ENTRY/EXIT POINT AT 50m SPACING
UNDERPASS SITE BOUNDARY
SCHOOL CAR PARK
SITE ACCESS
SITE ACCESS
SITE ACCESS
SITE ACCESS
SH1 – DIVERSION
NORTHERN HAUL ROAD
SITE ACCESS
TUNNEL
CONCRETE BARRIER
SIGNALISED CROSSING
SITE ACCESS
SITE ACCESS
BUCKLE ST
RAISED CROSSING
SPEED HUMP
SPEED HUMP
SPEED HUMP
ZEBRA CROSSING
MT COOK POLICE BARRACKS (HISTORICAL)
NO U–TURN
NZDF
NATIONAL WAR MEMORIAL AND CARILLON
TARANAKI ST
TASMAN ST
SUSSEX ST

A3 SCALE 1: 1000
A1 SCALE 1: 500
0 10 20 30 40 50 (m)

Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
A	FOR INFORMATION	QDO'S		RD			

Tab UND–14–938
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Original Size A1

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Memorial Park Alliance

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MEMORIAL PARK ALLIANCE

UNDERPASS - 14 TEMPORARY WORKS
TUNNEL CONSTRUCTION
TRAFFIC MANAGEMENT PLAN

Approved NOT FOR CONSTRUCTION
Status FOR INFORMATION
Drawing Number UND-14-938
Revision A

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TUNNEL CONSTRUCTION PHASE

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TASMAN ST
SUSSEX ST

LEGEND
PROPERTY BOUNDARY
EXCAVATION

A3 SCALE 1: 1000
A1 SCALE 1: 500
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Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
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Original Size: A1

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MEMORIAL PARK ALLIANCE

UNDERPASS - 14 TEMPORARY WORKS
TUNNEL CONSTRUCTION
TRAFFIC MANAGEMENT PLAN

Approved: NOT FOR CONSTRUCTION
Status: FOR INFORMATION
Drawing Number: UND-14-939
Revision: A

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TUNNEL CONSTRUCTION PHASE

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LEGEND
- PROPERTY BOUNDARY
- EXCAVATION
- UNDERPASS CONCRETE WORKS

A3 SCALE 1: 1000
A1 SCALE 1: 500
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Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
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Original Size A1

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Revision A

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4.2 Minimising Construction Traffic

The construction methods and site access protocols to be employed on site are critical for minimising potential traffic impacts on the surrounding roading network. Measures proposed on site to minimise construction traffic are described as follows:

- On-site parking will be reserved only for those vehicles that need to travel to and from the site daily, with other staff required to use public transport, walk or cycle. Travel arrangements will be monitored to minimise single staff vehicle trips to site;
- Excavated waste material will predominately be transported on truck and trailer units;
- The internal northern haul road will allow construction vehicles to manoeuvre throughout the site without need to use the public road network.

4.3 Signage

A comprehensive on-road signage scheme is to assist the control of traffic flows around the construction area. Four types of signage are proposed:

- Regulatory signage (i.e. give-way, one-way);
- Guide signs (i.e. intersection direction signs);
- Permanent warning signs (i.e. school crossing); and
- Temporary traffic management signage (i.e. trucks crossing, new road layout)

In this regard, Appendix C shows the location and form of each sign proposed.

Regulatory, guide and permanent warning signs will be constructed and erected in accordance with the NZTA Manual of Traffic Signs and Markings (MOTSAM).

4.4 Temporary Traffic Management Plans

The duration and scale of the Project means TTMP's may be implemented for periods ranging from a few minutes to the full duration of the construction programme. Site specific TTMP's are documents that outline the TTM procedures to be implemented to ensure safety of both the public and site staff is maintained throughout the duration of each construction activity. Each site specific TTMP will be prepared to ensure construction activities are efficiently conducted using an approved methodology, with approved mitigation measures in place.

Construction of this Project is contained within a construction site separate from general traffic, as described in Section 4.1. As such there will not be a unique TTMP for every construction phase, and the intersections of the SH1 diversion road with Arterial Roads of Taranaki Street and Tory Street are not covered by TTMP's, unless required due to a lane closure or similar short term work activity on these roads.

Where appropriate, generic TTMP's will be used. In this regard, a generic site access TTMP is to be prepared for this project, specifying how construction vehicles are to access the site via the SH1 diversion road.

For all proposed works requiring site specific TTMP's, applications will be submitted by the Alliance to the appropriate requiring authority for approval prior to the works commencing. Each TTMP will describe the nature and extent of temporary traffic management at the work site, access provisions, types of vehicles, and how road users (including pedestrians and cyclists) will be managed by the use of temporary traffic management measures. An example of a site specific TTMP for installation of the construction site access gates is attached in Appendix D.

For the State Highway carriageway and footpath within 1m of the kerb, MWH New Zealand Ltd (MWH) is the approving authority on behalf of NZTA. For all local roads and footpaths (including those on a State Highway beyond 1m of the kerb) Wellington City Council (WCC) are the approving authority. The Wellington Traffic Operations Centre (WTOC) will be informed before and immediately after completion of temporary works on the State Highway, and both MWH and WCC will be consulted on traffic management matters through monthly meetings, with key issues to be raised earlier as appropriate.

Temporary traffic management plans will comply with the NZTA Code of Practice for Temporary Traffic Management (COPTTM). The signs and traffic control are temporary in nature and will be managed by the Temporary Traffic Management Engineer and Traffic Controllers. A Site Traffic Management Supervisor (STMS) will be on-site at all times when traffic management is in place and will undertake daily inspections and random audits of temporary traffic signage to ensure it is safe and complies with the approved traffic management plans.

Temporary traffic management signs are generally black text on orange background and are intended to convey information with respect to the Tunnel construction, and state the main requirements with respect to traffic controls and diversions in place. These signs will be removed at the end of construction of the Tunnel.

All traffic management plans will take account of:

- Council and NZTA COPTTM requirements;
- NZTA's Manual of Traffic Signs and Markings (MOTSAM) and Austroads Guides to Road Design and Traffic Management
- Specific requirements of this plan;
- Site specific details;
- Business and residential driveways;
- Other road users such as pedestrians, cyclists and mobility impaired users:
- Contingency plans; and
- Weather or emergency related risks

A proposed 30km/h temporary speed limit will be in place on Buckle Street to encourage lower traffic speeds. This will also help ingrain the slow speed behaviour sought for this environment once the Memorial Park is complete.

4.5 Timing

The table below provides an outline programme for the construction of the Tunnel. This will be updated as the construction methodology is refined. The anticipated construction duration is 675 days.

As the construction area is separated from general traffic, construction machinery such as cranes, excavators, piling rigs etc. will be delivered to and remain within the construction site. Therefore, the typical daily traffic generated to and from site on public roads is related to the delivery of materials or labour (such as delivery of people, construction materials and removal of excavated material). The overall programme is indicated below.

Tunnel Construction Phase	Duration (Days)	Start Date	Completion Date
Temporary Road and Services Diversion	253	1 Oct 2012	11 Sep 2013
Site Available – Environmental Controls & Archaeological Investigation	55	25 Feb 2013	15 May 2013
Drainage Works	250	04 Mar 2013	07 Mar 2014
Temporary Works Installations (Retaining Walls)	396	05 Mar 2013	06 Oct 2014
Construct Haul Road	25	25 Mar 2013	01 May 2013
Excavation & Ground Anchors	115	21 May 2013	31 Oct 2013
Tunnel Structure (Piling, Floor, Walls, Roof)	260	02 Aug 2013	03 Sep 2014
Pavement	140	22 Jan 2014	04 Sep 2014
Traffic Services i.e. signals, signage, line marking	162	27 Feb 2014	22 Oct 2014
Mechanical & Electrical Services	105	29 Apr 2014	24 Sep 2014
Urban & Landscaping	130	20 May 2014	20 Nov 2014
Hand Over & Completion (including Testing & Commissioning)	30	24 Sep 2014	30 Oct 2014
Tunnel Open to Traffic		30 Oct 2014	
Tunnel Works Completion			18 Dec 2014
Total	**675**	**1 Oct 2012**	**18 Dec 2014**

Various sections of the road network will experience more construction traffic than others, with vehicles entering site from the SH1 diversion road travelling via the Basin Reserve (Vivian Street / Kent Terrace / Basin Reserve) or Tory Street. Truck and trailer access via Tory Street is to be restricted. A large proportion of exiting vehicles travelling to the Southern Landfill in Happy Valley via the SH1 diversion road / Arthur Street / Karo Drive / Victoria Street / Brooklyn Road / Ohiro Road. The management of vehicle trips to and from site come under the control of the Temporary Traffic Management Engineer.

The most noticeable period of traffic generation will be during the excavation stage when an average of 80 truck and trailer loads of material will be removed each day. These equate to 160 truck and trailer movements, and will be accompanied by around 100 other truck trips (mostly single unit trucks with a wide range of sizes) each day. The daily traffic volumes will fluctuate depending on the phase of the construction activities and weather conditions. Total car and Ute movements are not generally expected to exceed 200 trips per day.

The rate of departure of the truck and trailer loads during the excavation phase is dependent on the rate of excavation of material on-site. The construction programme has informed the anticipated rate of extraction and therefore the anticipated number of 80 truck and trailer loads of material to be transported each day. With a consistent departure rate from site throughout the day, the project will contribute approximately one truck and trailer load leaving site towards Happy Valley cleanfill every 8-10 minutes, including during peak hour commuter traffic periods. Gatemen will be stationed on active site access gates at all times to safely control the movement of construction vehicles between site and public roads.

Standard hours of work will be 7:00am to 5:30pm weekdays and 7:00am to 3:00pm Saturdays. Night works will also occur as required, with works generally scaling down due to noise requirements between 11:00pm and 6:00am.

4.6 Alternative Vehicle Routes

With the closure of Tasman Street at the Buckle street end, and the prohibition of the left turn from the SH1 diversion road into Taranaki Street, motorists will be required to take alternative routes around the construction site to reach destinations further afield, as detailed in the diagram shown in Appendix E. Mostly affected will be motorists who usually use the Tory Street to Tasman Street route, who will now be directed along the alternative routes shown in blue and yellow.

In terms of the capacity of the proposed alternative routes and their ability to carry the additional re-routed traffic, Paramics micro-simulation traffic modelling was undertaken of the construction phase road network to determine the capacity constraints and travel time effects of the construction works, and inform selection of the most appropriate alternative routes. A comprehensive publicity drive will inform motorists of the recommended alternative routes, which predominately make use of the State Highway and Collector roads, which have ample capacity to accommodate diverted traffic, and provide for the shortest and most convenient detours which are reasonably practicable to provide, having regards to safety and efficiency.

The results of the Paramics modelling showed an increase in the average travel time across the modelled road network of 4 and 5 seconds/vehicle in the morning and evening peak periods respectively. This includes delay to otherwise unaffected traffic in the area resulting from extra traffic on the alternative routes. However, this change will not generally be noticeable except to the diverting vehicles themselves, and does not change the current road Levels of Service. The capacity and travel time for motorists using the SH1 diversion road is essentially unchanged, as the road typically follows the previous alignment and has no reduction in lanes.

The noticeable delays will be on the following alternative routes:

- Massey University to Taranaki Street (via Webb Street, Cuba Street and Abel Smith Street) — 1 ½ to 2 ½ minutes extra; and
- Vivian Street to Tasman Street and Massey University (via Kent Terrace, Basin Reserve and Rugby Street) — 2 to 3 ½ minutes extra.

Careful consideration of how this increase in travel time could be minimised included options such as installation of a bailey bridge across the Tory Street / Tasman Street link, keeping a pedestrian route open through the site, and shortening the construction period to minimise the time roads are closed/diverted. None of the options investigated were considered feasible.

As a result of the restriction on the left turn from the SH1 diversion road to Taranaki St, Haining Street is expected to have some increase in traffic flows heading from Tory St to Taranaki St south. The closure of Tory Street at the Buckle Street end over December 2012, which facilitated construction of the SH1 diversion road in this area, required vehicles that would normally turn right at Tory Street to redirect to Taranaki Street via Haining Street. During this time, Haining Street operated satisfactorily with a maximum observed queue length at the Taranaki Street intersection of five vehicles. With the left turn restriction at the SH1 diversion road / Taranaki St intersection potentially temporary in nature, should this turn be allowed, the volume of traffic on Haining Street will reduce below those levels experienced during the December 2012 construction period. The operational performance of Haining Street will be monitored bi-monthly during peak traffic periods, and immediately following any significant changes to the traffic management arrangements surrounding the site and if required, measures identified, and implemented to prevent significant congestion.

One other route likely to experience noticeable delay is the Brooklyn and Mt Cook bound traffic on the SH1 diversion road. Whilst the left turn restriction at Taranaki Street helps enforce the Primary Road network route to Brooklyn via Arthur Street / Victoria Street / Webb Street / Willis Street / Brooklyn Road, traffic that usually utilises the alternative SH1 / Taranaki Street route to Mt Cook, and then via Bidwell Street / Brooklyn Road to Brooklyn may experience less travel time delay should the left turn restriction at the SH1 diversion road / Taranaki Street intersection be removed.

There are no public bus routes through the affected sections of Buckle Street, Tory Street and Tasman Street. Public bus routes on Taranaki Street and between Cambridge/Kent Terrace and Adelaide Road do not require diversions, however may encounter minimal increases in journey times on the road network as a result of the construction works.

Buses which previously utilised Buckle Street to access the National War Memorial and Massey University campus will be required to divert via Rugby Street and Tasman Street once the SH1 diversion road is operational. Options for accommodating buses in this location or via alternative routes elsewhere are still being investigated in consultation with GWRC and bus companies.

4.7 Special Events & Emergencies

Consultation with the parties named in Section 3, and the Construction Traffic Coordination Group (Section 4.11) of this report will identify any planned events such as road works, parades, sports events and accidents, including those outside the immediate project area that will have an effect on the project works, particularly the temporary traffic management and alternative routes identified above. The TTM Engineer, STMS and TC will react and respond as necessary to such events, and implement or remove temporary traffic management as necessary in co-ordination with the RCA's. In the event of a crash or significant incident site staff will provide immediate assistance and where necessary, contact the relevant emergency services. Full support to those organisations will be provided to manage traffic whilst the incident is being brought under control.

Any new detour route required as a result of any temporal effects will be analysed in advance with the use of the Paramics model to determine link capacity and therefore its effectiveness as an alternative traffic route before approval is gained for its use by the RCA.

4.8 Existing Property Access

Existing vehicle access to adjacent properties and businesses has been maintained, achieving access via alternative routes in some instances. For example, property accesses on Tory Street and Tasman Street remain unchanged, and access to Massey University, the National War Memorial and the businesses on the southern side of the construction area is maintained via Buckle Street, although for some users, these destinations require use of the alternative routes detailed above. Access to Mt Cook School on the northern side of the construction area is achieved through construction of a new driveway access on Tory Street.

4.9 Safety

A detailed design Road Safety Audit has been undertaken of the enabling works, which identified some safety issues relevant to the detour routes detailed above. These issues included:

- Provision of diversion signage for the network changes as a result of the construction area;
- Use of Buckle Street as a diversion route during construction; and
- Safe provision for eastbound pedestrian and cyclists to cross Sussex Street

The Alliance has incorporated mitigation measures into the design to satisfy these issues, such as:

- Development of a comprehensive signage plan to provide clear and repeated directions to drivers for the alternative routes required (attached in Appendix C);
- Addition of speed humps along the length, and a raised crossing at the Taranaki Street end of Buckle Street; and
- Addition of a signalised pedestrian/cyclist crossing on Sussex Street, in line with the existing pathway

There are no known safety issues associated with the proposed alternative vehicle routes, and the amount of additional traffic on these routes is not considered to generate any additional safety concerns. Of note, discussions with NZTA and WCC have identified the desire for 'no left turn' signage to deter vehicles turning the wrong way down one-way streets. The signage plan attached in Appendix C details the signage placed in response to this safety risk.

The safety performance of these routes will be monitored throughout the construction period.

Perimeter site screening is not proposed, allowing road users a passing view of construction activities on-site. Site screens are however available should monitoring indicate any related safety issues.

4.10 Cyclist, Pedestrian and Mobility Impaired Accessibility

Footpaths will be maintained on the far side of each road surrounding the construction site. For public safety, no footpaths will be located directly adjacent to the construction site perimeter where space and crossing points could not be adequately provided.

Signage will clearly define identified pedestrian and cyclist access routes on the roads and footpaths adjacent to the construction works. The details of which are shown in Appendix F. Temporary ramps will bridge any changes in surface level to prevent tripping,

and pedestrian bridges will provide direct access over any trenches to ensure the safest and most direct routes for users are promoted and maintained.

Pedestrian paths and crossings will be provided in accordance with Council and NZ standards for ease of use by the mobility impaired.

A 3.7m wide shared path along the northern side of the SH1 diversion road (connecting with the existing shared path on Arthur Street west of the site) and 2.5m shared path along the southern side of Buckle Street surrounding the construction site will accommodate both pedestrians and off-road cyclists.

A new signalised pedestrian crossing on Sussex Street will be provided to maintain a safe and clearly identified route for those people travelling between Cambridge Terrace and Massey University, the National War Memorial and Tasman Street. This crossing also provides the shortest detour route for those people that travel between Tasman Street and Tory Street, who will now have to cross Sussex Street to access either road via the SH1 diversion road. This route is the shortest and most convenient for pedestrians and cyclists along desire lines between these areas, and the signalisation of the crossing ensures the safe progression of these users across the two lanes of approaching traffic on Sussex Street.

The standard of access will be monitored throughout construction with regular inspections involving walking, cycling and navigating a wheelchair through the area.

4.11 Parking

Parking for approximately 100 construction staff vehicles will occur within designated site compound areas on NZTA owned land at each of the following sites:

- Behind Plumbing World, 15-21 Abel Smith Street (approximately 20 spaces to the south of the building) accessed via Abel Smith Street and Kelvin Grove;
- Beside 175 Taranaki Street (approximately 40 spaces to the east of the building) accessed via Martin Square; and
- The corner of Buckle Street and Cambridge Terrace (approximately 70 spaces within and adjacent to the Armstrong Mitsubishi yard).

With up to 200 staff involved in the Project at peak, staff will be encouraged to avoid single occupant commuting. Encouragement of these travel modes is to ensure construction of the Project will not have any effects on on-street parking in the vicinity of the works. There are no proposed temporary restrictions to on-street parking, except for Massey University's private parking on Buckle Street. No on-street parking is to be removed on Tory Street. Any proposed temporary parking restrictions on detour routes outside the designation of the legislation for the project would be required to go through a Council resolution or TMP process prior to implementation.

4.12 Site Security

The site will be secured with a wire mesh boundary fence. Access points will be controlled by gatemen when in use. Outside of working hours, the site will be patrolled by security guards, who will monitor and report any traffic safety issues.

4.13 Communications

A communications relationship has been established between the Alliance and the WCC and NZTA communications teams. This will ensure that any public enquiries relating to this project received by the WCC and NZTA call centres are promptly directed to the Alliance project liaison representative. The project liaison representative will also be contactable at all times on 0800 020 086. Any comments, complaints or compliments will be quickly communicated to the relevant project staff. This line is operational 24 hours per day/seven days per week during the construction phase of the project.

Regular communications with the community and any directly affected property owners over planned construction activities and associated traffic effects will comprise a key management technique throughout the Project. As the works proceed regular contact will be maintained with the residents and stakeholders by the project liaison person to ensure they are aware of the nature and duration of the works occurring.

Establishment of a Construction Traffic Coordination Group provides an opportunity to advise road user groups of planned works and to listen to concerns and issues that may arise from construction.

This group comprises the following parties:

- The AA;
- Road Transport Forum;
- Emergency Services (Fire, NZ Police, Wellington Fee Ambulance);
- Taxi companies;
- NZTA and their Traffic Management Coordinators MWH New Zealand Ltd;
- Bus companies;
- Wellington City Council;
- Greater Wellington Regional Council; and
- Project team members.

Monthly meetings will maintain awareness of construction activities. Discussions will also occur with Cycle Advocates Network (Cycle Aware Wellington), Living Streets, and Disability Action.

In addition, communications activities proposed include:

- Publication of a newsletter, or similar;
- Newspaper advertising;
- Notification and consultation with individual property owners and occupiers within 200m of construction activities; and
- The NZTA project website.

The newsletters will outline progress to date with the construction works, a forecast for construction activities over the coming month, and notification of any potential construction traffic impacts upon the surrounding roading network.

Prior to the commencement of construction activities, signage will be erected on the surrounding road network to advise motorists, pedestrians and cyclists of the works being

undertaken and direct them to alternative routes for travel in the vicinity of the construction site. This is detailed in sections 4.3 and 4.6 above.

Information boards along the construction site perimeter fence will also inform commuters about the project works as well as a broad range of relevant information.

4.14 Clean Roads

Procedures to prevent the deposition of slurry, clay or other materials on roads by vehicles leaving the site will include:

- Sealing the internal site haul road;
- Provision of wheel cleaning facilities;
- Twice daily monitoring, and education of all construction staff/drivers to monitor for any material which may be accidently spilt onto public roads from construction traffic; and
- Maintaining a contingency of sweeper trucks on call at all times to clean up material which may be accidently spilt onto public roads.

Adherence to this plan will be included within site induction and weekly toolbox meetings as required to ensure all site staff are aware and practice the required clean roads protocols.

4.15 Dust

A Construction Air Quality (Dust) Management Plan will be prepared separately to this CTMP document. The key aspect, with respect to construction traffic, is sealing of the internal haul road.

4.16 Noise and Vibration

A Construction Noise and Vibration Management Plan will also be prepared separately to this CTMP document, and includes specific details relating to methods for the control of noise and vibration associated with the construction traffic, such as:

- The use of non-tonal reversing alarms on construction vehicles; and
- Selection of vibration equipment at the lower end of the vibration ranges specified

4.17 Pre-Condition Assessment

A pre-construction road condition survey has been carried out on specified local roads in the vicinity of the project. The report is attached in Appendix G.

The Alliance is responsible for undertaking monthly inspections to identify and repair any potholes and other damage on these roads, resulting from the construction of the Project as soon as practically possible.

5 MONITORING AND REPORTING

Monitoring of construction traffic and traffic management measures will occur to ensure compliance with the traffic management requirements outlined within this CTMP.

During the construction of the Tunnel, there is a requirement to minimise the impacts on travel times for members of the public. In order to ensure that the impacts on travel times are indeed minimised, there is a need to measure, monitor and report them. Specifically, the following monitoring will be undertaken for the Tunnel construction activities:

Monitoring Item	Monitoring Method	Monitoring Frequency	Reporting Requirements
Construction Traffic Movements	Gatemen to monitor active site accesses and control construction vehicle exits to public roads.	At all times	A record of any issues identified and remedial actions undertaken will be maintained within the site log.
Construction Traffic Speeds	On public roads drivers are to comply with the posted speed limit. Monitoring by existing GPS fleet systems where installed.	At all times – by construction staff & public	See Section 6 – Complaints Procedures for public road traffic speeds. Identified on-site issues are to be communicated to staff through tool box meetings and remedial actions undertaken will be maintained within the site log. Warning systems may be implemented.
Traffic Incidents /Complaints	Inspections/observations/ consultation	At all times – by construction staff, public, Council liaison	See Section 6 — Complaints Procedures. A record of any issues identified and remedial actions undertaken will be maintained within the site log.
Public Road Conditions	Road Inspections	Monthly inspection of public road surfaces – by Project Engineer	Any damage to public roads as a result of the construction works will be recorded and reported directly to relevant Council staff. Required remedial/maintenance plans will be developed and implemented by the Alliance in consultation with Council staff. A record of issues and remedial actions undertaken will be maintained within the site log.
Clean Roads	Road inspections	At all times – by gatemen.	A record of any issues identified and remedial actions undertaken will be maintained within the site log.
Traffic Delays	Random audits by Project Engineer, Traffic Controller delay observation, GPS travel time monitoring	At all times – particularly during temporary road and lane closures. GPS monitoring will be	Proposed continuous GPS monitoring systems will provide live journey times along key routes, generating reports and alerts when a particular journey time exceeds threshold i.e. maximum 2 minute average delay time. A record of breaches of the maximum delay

Monitoring Item	Monitoring Method	Monitoring Frequency	Reporting Requirements
		continuous throughout construction.	time will be maintained.
Temporary Traffic Management	Audits of temporary traffic management equipment	Daily – by temporary traffic management Engineer	A record of any issues identified and remedial actions undertaken will be maintained within the site log.

With the redistribution of traffic within the road network, monitoring of traffic delays is therefore particularly important. The Alliance has adopted a requirement that traffic delays of no more than two minutes are encountered as a result of construction activities. This two minute threshold can be extended to the maximum of five minutes permitted by COPTTM for special circumstances with RCA (NZTA or WCC as appropriate) approval through the TTMP process.

Provision of the proposed GPS-based solution to monitor travel times throughout the construction period will enable travel time increases or decreases to be identified across individual segments of the road network. Although this solution will be tailored for specific implementation on this project, it is comparable to the journey time website provided by AA, which utilises similar technology.

Delay calculations are undertaken by software providing 'real time' tracking of vehicles with GPS capable tracking devices installed. Generated reports can demonstrate:

- Normal flow prior to construction activities;
- Assessment of impacts on travel time as work phases change; and
- Normal flows after project completion

In the event that travel times approach or exceed a threshold (two minutes) in a particular segment of the route, alerts are received and effort required to improve the situation can be focussed to a specific area.

Unpredicted changes in travel time due to incidents such as, for example; traffic accidents, emergencies, natural disasters, and inclement weather may require alternative traffic management techniques. Examples of techniques that may be implemented to manage travel times across the network include:

- Implementation of active traffic management or removal of existing TTM;
- Signal phasing changes;
- Alternative detours (with RCA approval);and
- Road closures

The performance of this CTMP and the site specific TTMP's will be measured by monitoring of the following:

- The travel time as described above;
- The incidence of any safety issues for all road users around the site; and
- Audits of the temporary traffic management measures through the TMP process.

The effectiveness of the CTMP document and TTMP's will also be reviewed monthly in consultation with the Construction Traffic Coordination Group.

Records of all monitoring undertaken and any subsequent remedial actions will be maintained within the site log and can be made available for review by Council staff upon request.

6 COMPLAINTS PROCEDURES

Legitimate traffic complaints received will be taken seriously and matters raised shall be investigated and responded to as quickly as possible. The first point of contact for members of the public is the Project Liaison Representative on 0800 020 086.

Urgent matters can be raised directly with:

- Traffic Leader, Richard Galloway, 021 241 6911; or
- Temporary Traffic Management Engineer (yet to be appointed).

The standard procedure for complaints during construction requires maintenance of a permanent record of any complaints received alleging adverse effects from, or related to, the project works. The record shall include:

- The name and address (as far as practicable) of the complainant; and
- Identification of the nature of the complaint; and
- Location, date and time of the complaint of the alleged event; and
- Weather conditions at the time of the complaint (as far as practicable).

Details of the complaint will be immediately forwarded to the Stakeholder Manager and Site Supervisor. The Stakeholder Manager will then proceed to:

- Liaise directly with the complainant to confirm the issue and effects and discuss with any relevant staff;
- Liaise directly with the Project Engineer and Site Foreman to implement additional control measures on site immediately to prevent any on-going effects;
- Any additional traffic management measures required (e.g. additional signage, road sweeping, reduce extent of lane closure etc.) to prevent any on-going effects from the works will be maintained until the risk of further effects is removed;
- The Stakeholder Manager will liaise with the complainant to confirm the outcome of the investigations into the complaint, and any remedial measures undertaken to respond to the complaint;
- The incident will be communicated to site staff through the tool box meetings and within site management reporting to ensure awareness of the potential issues and that similar incidents do not occur through the site.

A record of any remedial actions undertaken will be maintained within the complaints record. This record shall be maintained on site and shall be made available to the Council Manager, upon request.

APPENDIX A — DESIGNATION CONDITIONS

Part 2—*continued*

Condition no	Conditions—Traffic management and roading: Construction
NZTA 14	The Agency shall not commence the undergrounding of part of Buckle Street until: (a) the Agency has prepared a Construction Traffic Management Plan (CTMP); and (b) a qualified traffic engineer has certified under subpart 5 of Part 2 that the methods provided for in the CTMP are consistent with the conditions of this designation relating to construction traffic management and provide for appropriate means to ensure as far as practicable those conditions of the designation are able to be met. The Agency may commence investigations and enabling works for the Project (including construction and use of the proposed at-grade diversion of Buckle Street and any other temporary roads) prior to the CTMP being certified.
NZTA 15	The CTMP prepared under Condition NZTA 14 shall address the following: (a) the staging of the works, including details of any proposals to work on multiple sections of the Project route concurrently: (b) details of construction yard access points where they gain access directly from a local road: (c) a general methodology for selecting detour routes so as to provide for the shortest and most convenient detours which it is reasonably practicable to provide, having regard to safety: (d) the potential effects on the detour routes selected and how these will be managed to seek to ensure safety for all road users: (e) any potential effects of the construction of the Project on on-street parking in the vicinity of the Project. The CTMP shall describe— (a) temporary traffic management measures required to manage impacts on road users during proposed working hours; and (b) delay calculations associated with the proposed closure/s and detour routes; and (c) the capacity of any proposed detour route(s) and their ability to carry the additional traffic volumes and any known safety issues associated with the detour route, including any mitigation measures the Agency proposes to put in place to address any identified safety issues; and (d) individual traffic management plans for intersections of the proposed Project with arterial roads; and

Part 2—*continued*

Condition no	Conditions—Traffic management and roading: Construction
	(e) measures to maintain, where practicable, existing vehicle access to adjacent properties and businesses; and
	(f) measures to maintain, where practicable, safe and clearly identified pedestrian and cyclist access on roads and footpaths adjacent to the construction works. Where detours are necessary to provide such access the Agency shall provide for the shortest and most convenient detours, which it is reasonably practicable to provide, having regard to safety; and
	(g) any proposed temporary changes in speed limit; and
	(h) any proposed temporary restrictions to on-street parking; and
	(i) provision for safe and efficient access of construction vehicles to and from construction site(s); and
	(j) the measures that will be undertaken by the Agency to communicate traffic management measures to affected road users and stakeholders.
NZTA 16	The CTMP shall be prepared in consultation with—
	(a) the Road Asset Manager of the Wellington City Council (or his or her nominee(s)); and
	(b) representatives of the following:
	(i) emergency services (Police, fire, and ambulance); and
	(ii) Massey University; and
	(iii) New Zealand Defence Force; and
	(iv) the owners of the former Mt Cook Police Barracks, 13 Buckle Street; and
	(v) Tasman Garden Body Corporate; and
	(vi) Wellington Tenths Trust and Port Nicholson Block Settlement Trust; and
	(vii) schools, childcare centres, and any other educational activities with frontage or access to roads that will be affected by works associated with the Project.
	Any comments and input received shall be clearly documented within the management plan, along with a clear explanation of where any comments have not been incorporated and the reasons why. A copy of the CTMP shall be provided to the Road Asset Manager.

Part 2—*continued*

Condition no	Conditions—Traffic management and roading: Construction
NZTA 17	The CTMP shall be consistent with the version of the NZTA Code of Practice for Temporary Traffic Management (COPTTM) which applies at the time the CTMP is prepared.
NZTA 18	The NZTA shall carry out random auditing of temporary road closure/s in accordance with COPTTM at regular intervals throughout the construction of the Project. The intervals shall be stated in the CTMP.
NZTA 19	Prior to the commencement of the undergrounding of Buckle Street, the Agency shall undertake a pre-construction condition survey of the carriageway/s of the following sections of local road— (a) the section of Tory Street and Tasman Street between the intersections with Vivian Street and Rugby Street (b) the section of Taranaki Street between the intersections with Vivian Street and Wallace Street (c) the section of Webb Street between Taranaki Street and Willis Street (d) any other section of local road where the Agency considers that the condition of the carriageway of that section of road may be materially affected by construction traffic generated by the Project— and submit it to the Manager and the Roading Asset Manager. The condition survey shall consist of a photographic or video record of the relevant sections of carriageway, and shall include roughness, rutting defects and surface condition. The Agency may commence investigations and enabling works for the Project (including construction and use of the proposed at-grade diversion of Buckle Street and any other temporary roads) prior to this survey being undertaken.
NZTA 20	The Agency shall carry out regular inspections of the sections of local road surveyed under condition NZTA 19 during construction, to ensure that all potholes and other damage resulting from the construction of the Project are repaired as soon as practicable.
NZTA 21	The Agency shall ensure that procedures are adopted to seek to prevent the deposition of slurry, clay or other materials on the roads identified in Condition NZTA 19 by vehicles leaving the construction site for the Project where such material is liable to cause a nuisance or hazard. Procedures shall include but not be limited to use of an on-site wheel wash.

APPENDIX B — WCC CONSULTATION RECORDS

17/01/2013

MEMORANDUM

Email: ryan.dunn@tdg.co.nz

To	Meeting Attendees
From	Ryan Dunn / Richard Galloway
CC	CC
Date	17/01/2013
Subject	Traffic Co-Ordination Group Meeting Minutes

Attendees:

Ben Young, Automobile Association	byoung@aa.co.nz
Miranda Greer, Community Liaison, MPA	miranda.greer@downer.co.nz
Raymond Malcolm, Greater WN Regional Council	raymond.malcolm@gw.govt.nz
Brent Blann, Mana Coach Services	brentb@manacoach.co.nz
Richard Hocken, NZ Police	richard.hocken@police.govt.nz
Stephen Harte, Wellington City Council	stephen.harte@wcc.govt.nz
Ryan Dunn, Traffic Engineer, MPA	ryan.dunn@tdg.co.nz
David Gedney, Civil Engineering Leader, MPA	david.gedney@urs.com
Brian Aspin, Community Relations Manager, MPA	brian.aspin@nzta.govt.nz
Richard Galloway, Traffic Leader, MPA	richard.galloway@tdg.co.nz
Dirk Botha, MWH Global	
Des O'Sullivan, NZTA	des.osullivan@nzta.govt.nz

Apologies:

Jason Wildman, MWH Global	jason.p.wildman@nz.mwhglobal.com
Ken Samson,NZTA	ken.samson@nzta.govt.nz
Ken Climo, NZ Police	ken.climo@police.govt.nz
Peter Stokes, NZ Police	peter.stokes@police.govt.nz
Nigel McCreight, Construction Manager, MPA	nigel.mcreight@downer.co.nz
Jon Varndell, Design Manager, MPA	jon.varndell@urs.com

Agenda Items:

1. Alliance Overview
2. Traffic Co-Ordination
3. Project Programme
4. Construction Traffic Management Plan
5. Local Roading Improvements
6. Dissemination of Information
7. Discussion on Issues to Date
8. Any Other Business
9. Next Meeting

File Name

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MEMORANDUM

1. Alliance Overview

Richard Galloway gave a brief overview of the Memorial Park Alliance team and objectives:

- June 2012 the tunnel construction project announced as part of the National War Memorial Park Project
- August 2012 the Memorial Park Alliance team tasked with delivery of the Tunnel project was formed, made up of NZTA, Downer, HEB Construction Ltd, URS and Tonkin & Taylor
- The Alliance structure promotes togetherness, with one goal, to deliver an outstanding project
- The completion date for the War Memorial Park is the centenary of the Gallipoli landings on ANZAC Day 2015
- The temporary road, constructed to allow the excavation of the tunnel under Buckle Street is almost open
- The Alliance is also tasked with delivering the Inner City Bypass (ICB) improvements and Basin Reserve Bridge (once consented) projects.

2. Traffic Co-Ordination

The purposes of the Traffic Co-Ordination Group were discussed; to disseminate information at once monthly meetings regarding the projects progress, identify major project transitions, and give the opportunity to raise issues and questions so that we can appropriately cater for all stakeholders needs, or seek appropriate alternatives.

3. Project Programme

David Gedney gave an overview of the Alliance projects' construction programme and key points:

- The temporary Buckle Street diversion road is due to open midnight Thursday 24th January
- The diversion road severs the link between Tory St and Tasman St during the construction period for the tunnel
- A new signalised pedestrian and cyclist crossing is provided across Sussex Street, linking Tasman Street with the new diversion road and Tory Street
- The first task for the tunnel construction is services diversion
- The tunnel construction will start proper February 2013 continuing through to December 2014
- The relocation of the Sisters of Compassion crèche is scheduled for December 2013
- Memorial Park construction is due for completion 2 April 2015, ready for the centenary celebrations of ANZAC day 25 April 2015.
- The Basin Reserve Bridge Board of Inquiry (BOI) process will commence near the end of February 2013, with a decision expected January 2014, and if approved, construction to start January 2014 running through to September 2016
- The ICB improvements are scheduled for construction between August 2013 through to July 2015, the length of construction period is dependent on the working hours
- The ICB is the project that gives the traffic benefits
- Mt Victoria tunnel duplication is programmed for 2019-2020, with Terrace Tunnel duplication beyond that

4. Construction Traffic Management Plan

A Construction Traffic Management Plan document is to be prepared, which sets out what we are doing with the Tunnel project, and how we propose to mitigate effects. A brief description of the content of the report was given by Richard Galloway:

- Construction is to start at the Taranaki Street end, with excavation progressing east, followed by construction of temporary retaining walls, and construction of the floor, walls then roof of the tunnel following behind
- Trucks will access the site off the new diversion road, through any one of up to eight access gates, and travel along a temporary haul road within the construction site

File Name

NZ TRANSPORT AGENCY WAKA KOTAHI
Memorial Park Alliance
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MEMORANDUM

- It is expected up to 80 truck and trailer loads of material is to leave site each day, travelling to Happy Valley cleanfill via Karo Drive, Victoria Street and Brooklyn Road
- Around 200 staff are to work on the project, including designers and office staff (around 120 expected on-site)
- Traffic management is important, this will be emphasised to staff regularly, and safety of all road users and site staff is paramount
- The traffic management will particularly focus on cyclists and pedestrians, as vehicles are well covered by existing processes
- Daily on-site safety briefings for staff
- Guidance to pedestrians and cyclists to enable a safe path around site
- Installation of the new signalised pedestrian crossing, operating on-call only, and linked to surrounding intersections
- There is a significant amount of surveillance from the Traffic Operations Centre (TOC) throughout the project via CCTV cameras along the route
- Pedestrian and cyclist routes are to be on opposite sides of the road from the site perimeter, on shared paths with signage to direct people
- Pre-construction road inspections have been undertaken, and the roads are to be kept clean and wheel washes implemented. The haul road will potentially be sealed to prevent dust and tracking material onto the public road
- Access gates along the diversion road will be supervised by a gate person to undertake all necessary checks (including health and safety) and assist safe exit of vehicles back onto the diversion road
- There will be 24 hour security on-site
- A comprehensive communication policy, backed up by people on roads handing out information prior to the opening of the temporary diversion road, and people on-site guiding pedestrians and cyclists around site on opening
- Mt Cook school currently supervise the crossing at Taranaki Street, and signage will also direct pedestrians to the north side to access the school and Tory Street

5. Local Roading Improvements

A number of local road traffic improvements are required by the legislation for the project. A report detailing these is to be prepared, features of this to date are:

- Multiple pedestrian and cycle routes through Memorial Park
- Bus manoeuvres into the Memorial Park from Tory and Tasman Street is still a work in progress in liaison with the Park designers
- The Park design incorporates Crime Prevention Through Environmental Design (CPTED) principles; the traffic lane offers passive surveillance, visual surveillance achieved with CCTV cameras and high level of lighting, an attractive environment to ensure people are always present
- There are no changes recommended to the Rugby Street/Tasman Street intersection

6. Dissemination of Information

In addition to the current communications with stakeholders, the following was agreed:

- Transfield Services are contact for overhead network for such things as crane delivery etc. (Alliance team already in contact with Wellington Cable Car)
- NZ Bus and other bus operators are to be notified through Raymond Malcolm GWRC of any diversions affecting services
- Ken Climo and Richard Hocken are the main contacts for NZ Police
- The AA could potentially advise of project within media and Directions magazine, however this will be managed by AA themselves

MEMORANDUM

7. Discussion on Issues to Date

In the course of the meeting a few questions were raised and issues discussed:

- For liaison on diversion and lane closures affecting bus services, could GWRC and all bus operators be informed with plenty of advance notice
- The ICB construction will require a different methodology for traffic management to keep traffic moving, looking to extend working hours for maximum effect which will minimise long term disruption and not slow vehicles down
- Options for this include removal of line marking and parking in areas, temporary line marking lane shifts to maintain same number of lanes, and concrete barriers with hoardings such that traffic management can be left out long term rather than removed each evening
- Ben Young (AA) enquired as to whether the Tunnel construction will result in any safety detriments over what currently exists on Buckle Street, to which the reply was there will be no change to safety, a variation to the existing situation will be the addition of the signalised pedestrian crossing on Sussex Street which improves safety for pedestrians, and a safety audit procedure has been undertaken, with issues identified addressed through design
- Raymond Malcolm (GWRC) requested that a bit of forward planning was undertaken when programming works to include impacts of events that shut down other areas of the city and creates extra traffic on outskirts, such as traffic route around construction site
- Richard Hocken (NZ Police) enquired as to what happens on ANZAC day between now and opening of the Memorial Park in 2015, to which the reply was access to the NZ War Memorial will be via Tasman Street, liaison has been on-going with the curator for ANZAC day preparations for 2013, and liaison was requested with NZ Police for accommodation of the VIP arrival timetable
- A general comment from Richard Hocken that communication to date has been excellent

8. Any Other Business

None

Meeting closed at 11:00am

9. Next Meeting

1:00pm Thursday 21 February.

An agenda and invites are to go out in advance.

Actions:	**Owner**
Liaise with GWRC on city wide events to incorporate in forward planning	RSG
Liaise with NZ Police to accommodate provision for VIP arrivals ANZAC day 2013	RSG
Confirm CCTV capabilities and lighting levels for Park design	DG
Liaise with GWRC on Wellington High School bus access via Tasman Street	RD
Liaise with MWH Global on proposed ICB traffic management methodology	RSG

File Name

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29/01/2013

MEMORANDUM

Email: ryan.dunn@tdg.co.nz

To	Meeting Attendees
From	Ryan Dunn / Richard Galloway
Date	29/01/2013
Subject	Wellington City Council CTMP Briefing Minutes

Meeting Commenced: 2:45pm

Attendees:

Steve Spence, Wellington City Council	steve.spence@wcc.govt.nz
Stephen Harte, Wellington City Council	stephen.harte@wcc.govt.nz
Soon Teck Kong, Wellington City Council	Soon.TeckKong@wcc.govt.nz
Ryan Dunn, MPA	ryan.dunn@tdg.co.nz
Richard Galloway, MPA	richard.galloway@tdg.co.nz

1. Construction Traffic Management Plan Overview

A draft version of the Construction Traffic Management Plan document was tabled at the meeting, which sets out traffic management associated with the Tunnel project, and how the MPA propose to mitigate effects. A brief description of the content of the report was given by Richard Galloway:

- Construction is to start at the Taranaki Street end and progress east
- Trucks will access the site off the new diversion road, through any one of up to eight access gates, and travel along a temporary haul road within the construction site
- It is expected up to 80 truck and trailer loads of material is to leave site each day, travelling to a cleanfill at or near Happy Valley via Karo Drive, Victoria Street and Brooklyn Road
- Around 120 staff are expected on-site
- Guide signage provided to pedestrians and cyclists to enable a safe path around site
- Installation of the new signalised pedestrian crossing on Sussex Street
- Pedestrian and cyclist routes on opposite sides of the road from the site perimeter, on shared paths
- Pre-construction road inspections have been undertaken, and the roads are to be kept clean and wheel washes implemented. The haul road will potentially be sealed to prevent dust and tracking material onto the public road
- Access gates along the diversion road will be supervised by a gate person to undertake all necessary checks (including health and safety) and assist safe exit of vehicles back onto the diversion road
- There will be 24 hour security on-site
- Mt Cook school currently supervise the crossing at Taranaki Street
- A traffic counter is in position on Haining Street to monitor traffic flows this week
- The project team are yet to meet representatives of Cycle Aware Wellington, Living Streets and Disability Action
- Deven Singh has previously been consulted on the pre-construction road inspections, and elected not to have a Council representative accompany the inspectors; a copy of their report is attached to the CTMP document

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MEMORANDUM

2. Initial Council Comment

In the course of the meeting a few questions were raised and issues discussed:

- Figure 1 of the report shows the location of the site in relation to the temporary diversion road, however needs more detail on site accesses shown;
- Currently there is a turning restriction on the diversion road preventing left turns to Taranaki St, and a lack of signage on Sussex Street to direct these left turning motorists to the alternative route via Rugby / Tasman St;
- Without a Contractor appointed to date for the cartage of the excavated material to landfill, can it be confirmed that truck and trailer units will be employed for this operation;
- Are there any peak hour restrictions on site traffic (mainly heavy vehicles) accessing the State Highway and turning into Victoria St i.e. travelling through Brooklyn;
- Are there any restrictions imposed for transport during school hours;
- Could material be stockpiled on-site and transported outside of peak traffic periods;
- What are the anticipated peak hour truck movements to/from site;
- The reason behind suggesting peak hour restrictions are that trucks are slow moving vehicles that add delay to general traffic flows, Council contracts would impose restrictions, and residents of Brooklyn have been vocal in the past regarding truck traffic on Brooklyn Road;
- What is the truck fleet size required to ensure adequate productivity on site;
- Justification is required as to why trucks are proposed to operate during peak traffic periods;
- NZTA Highways Network Operations (HNO) will be the authority to approve truck movements to/from the State Highway during peak traffic periods;
- Council Transport Assets staff will need to review the pre-construction road inspection report
- A permanent (post construction) 20km/h speed limit was agreed for the southern access lane (Old Buckle Street)

Comments / Actions	Comments	Owner
Figure 1 of report to be amended	Agreed	MPA
Turning restriction / Sussex St signage	Have approval from NZTA to allow left turn from temporary diversion road, however requires signal configuration before can proceed. Modelling indicates a 20% drop in traffic on slip lane as a result.	
Truck & Trailer units for transport	Truck & Trailer units confirmed for excavation cartage off-site	
Peak hour restrictions	None intended due to significant construction programme time pressures, constrained site prevents stockpiling, NZTA approval gained for peak hour SH access from site	
Peak hour truck movements	Approximately one truck & trailer movement every 8-10 minutes throughout the day, see section 4.5 of the CTMP document	
Truck fleet size	To be confirmed upon appointment of contractor	MPA
Review pre-construction road inspection report	Agreed	WCC

Meeting closed 4:30pm

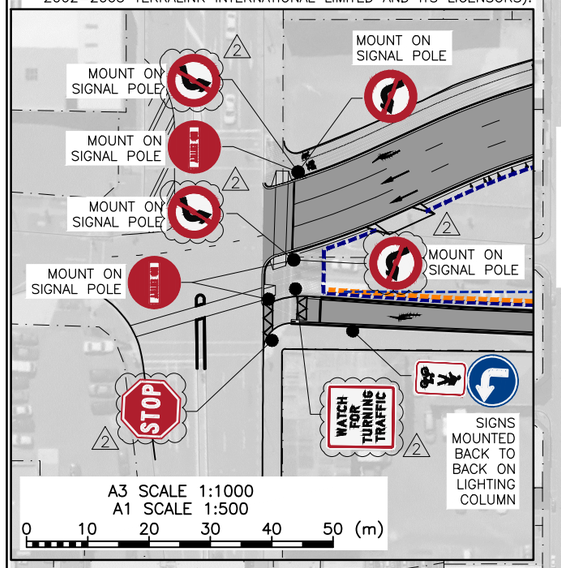
File Name

NZ TRANSPORT AGENCY WAKA KOTAHI
Memorial Park Alliance
Page 2

APPENDIX C — TRAFFIC MANAGEMENT SIGNAGE SCHEME

NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953
3. AERIAL MAP SOURCED FROM TERRALINK INTERNATIONAL (COPYRIGHT 2002–2005 TERRALINK INTERNATIONAL LIMITED AND ITS LICENSORS).



Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
2	REVISED CONSTRUCTION ISSUE	QDO'S	CJD	RG	RD	DG	01.02.13
1	FOR CONSTRUCTION	QDO'S	CJD	RG	PK	JV	18.01.13

Tab UND–03–020

Scales 1:2500 (A3) 1:1250 (A1)

Original Size A1

NZ TRANSPORT AGENCY WAKA KOTAHI

Memorial Park Alliance

This drawing is not to be used for construction purposes unless signed approved and issued For Construction

MEMORIAL PARK ALLIANCE

UNDERPASS - 03 TRAFFIC SERVICES

STAGE 1 SIGNAGE PLAN

Approved

Status FOR CONSTRUCTION

Drawing Number UND-03-020

Revision 2

Z:\CAD 01 WCI\01 CAD\01_Dwgs\03 Traffic Services\UNDERPASS (UND) Dwgs\UND–03–020.dwg PRINTED BY: QUENTINOS 11–Feb–13 4:11 p.m.

APPENDIX D — SITE SPECIFIC TTMP EXAMPLE

MWH New Zealand Ltd - State Highway Management
TMP Registration

the formula for better network management — an MWH solution

☑ Major ☑ Night Time ☐ Detours In Place ☑ Long Term ☑ Weekend **Authorised by TMC** ☑

Project No:	Z1449012	**TMP No:**	Wgn_8427
Date Received:	15-Jan-13	**By:**	E-mail
Reference:	TMD-MPA 5	**Expiry Date:**	07-Feb-13
Area:	Wellington	**SH:**	SH1
From RS:	1075 / 1.58	**To RS:**	1075 / 0.95
Direction:	Decreasing	**Closure:**	Lane
Location:	Buckle St (New Section)		
Affected Pty:	Wellington City Council		
Description:	Site access points (Contract 681N)		
Consent No:			
TTM Contractor:	All Traffic Management Services (ATMS)		
Main Contractor:	Memorial Park Alliance		
STMS:	Fiatepa Leti	**Tel:**	021 767 491
Plan Sheet No:	TMD-MPA 5		

Operational Times:

Start Date	End Date	Start Time	End Time	Time Breakdown
27-Jan-13	07-Feb-13	7:00 p.m.	5:00 a.m.	Times include TTM

Speed Limits:

Applied EEDs:

Engineering Exception Decision (EED) Application:	NA
Authorisation to Carry Out Planned Traffic Management:	Approved
Draft Media Advertisement Approval:	NA
Comments:	Weekend works is approved for Sunday nights only.
TMC Staff:	Danny Wood

Wednesday, 23 January 2013

Produced by MWH and powered by NM2
Page 1 of 1

MWH New Zealand Ltd - State Highway Management

TMP Authorisation

Attention: Haimona Leef
Fax:
CC To:
Email: haimz@atmsnz.co.nz

Reference:	TMD-MPA 5	**TMP No:**	**Wgn_8427**	*(when entered to NM2_TMP)*
		Project No:	Z1449012	

Date Received TMP:	15-Jan-13	**By:**	E-mail		
Area:	Wellington	**Affected Party:**	Wellington City Council		
SH:	SH1	**From RS:**	1075 / 1.58	**To RS:**	1075 / 0.95
Direction:	Decreasing	**Closure Type:**	Lane		
Location:	Buckle St (New Section)				
Expiry Date:	07-Feb-13	**Plan Sheet No:**	TMD-MPA 5		
Description:	Site access points (Contract 681N)				
Consent No:					
TTM Contractor:	All Traffic Management Services (ATMS)	**STMS:**	Fiatepa Leti (Tel: 021 767 491)		

Operational Times:

Start Date	End Date	Start Time	End Time	Time Breakdown
27-Jan-13	07-Feb-13	7:00 p.m.	5:00 a.m.	Times include TTM

Speed Limits:

Applied EED:

Approving Engineer / TMC

Subject to the following conditions:

- THIS APPROVAL MUST ACCOMPANY THE TMP SUBMITTED FOR THE TMP TO BE VALID
- You are required to inform WTOC (0800 869 286) before commencing your operations and immediately upon completion of your works when operating SH1 between Tawa to Wellington Airport or SH1 Coast Road, SH2 Rimutakas to Ngauranga or SH58 Paremata to Haywards
- Note the permitted times for your Temporary Traffic Management Operation.
- Note the permitted dates for your Temporary Traffic Management Operation.
- You are not permitted to carry out day time operations on Saturdays, Sundays, long weekends and/or Public Holidays.
- You are not permitted to carry out operations on the days before or during a long weekend and a Public Holiday.
- Please update the Traffic Management Coordinator of your scheduled operations for the following week via a weekly programme by 9am each THURSDAY. This programme MUST include a field indicating the approved TMP which is being used and speed restriction
- This TMP is endorsed on the basis that your operation conforms to the NZ Transport Agency Code of Practice for Temporary Traffic Management (COPTTM) requirements. The TMC accepts no responsibilty for failure in any way to meet the COPTTM requirements.

Wednesday, 23 January 2013

Produced by MWH using NM2
Page 1 of 3

MWH New Zealand Ltd - State Highway Management

TMP Authorisation

Attention: Haimona Leef
Fax:
CC To:

Email: haimz@atmsnz.co.nz

Reference: TMD-MPA 5

TMP No: Wgn_8427 *(when entered to NM2_TMP)*

Project No: Z1449012

- Please check the areas that you wish to inspect prior to your works to ensure that you can access them safely.

- The VMS is be utilised where possible to advise motorists of the closures ahead.

MWH New Zealand Ltd - State Highway Management

TMP Authorisation

Attention: **Haimona Leef**
Fax:
CC To:

Email: haimz@atmsnz.co.nz

Reference: TMD-MPA 5

TMP No: **Wgn_8427** *(when entered to NM2_TMP)*

Project No: Z1449012

This TMP is Approved on the Following Basis

1. To the best of the Approving Engineer's judgement, this TMP conforms to the requirements of the NZ Transport Agency's Code of Practice for Temporary Traffic Management.

2. This plan is approved on the basis that the activity, the location and the road environment have been correctly represented to the applicant. Any inaccuracy in the portrayal of this information is the responsibility of the applicant. The STMS for the activity is reminded that it is the STMS's duty to "Postpone, cancel or modify operations due to the adverse effects of traffic, weather or other conditions that affect the safety of this site" (reference A4.5).

Approving Engineer:

Signature 23/01/13 Date

Approving Eng: Danny Wood

Cert No: 26082

Acceptance by TMC:

Signature 23/01/13 Date

TMC: Danny Wood

Cert No: 26082

RCA consent (eg CAR/WAP) and/or RCA contract reference	Contract 681N

TRAFFIC MANAGEMENT PLAN (TMP) – FULL FORM

Use this form for complex activities. Refer to the NZ Transport Agency's Traffic control devices manual, part 8 Code of practice for temporary traffic management (CoPTTM), section E, appendix A for a guide on how to complete each field.

Organisations/ TMP reference	**TMP reference:** TMD-MPA 5 Contract 681N	**Contractor:** Memorial Park Alliance	**Principal** (Client): Memorial Park Alliance
	RCA: NZTA NZ TRANSPORT AGENCY WAKA KOTAHI		

	Road names and suburb	House no./RPs (from and to)	Road level	Permanent speed
Location details and road characteristics	New Buckle Street, Wellington (NZTA)	1075 D/1.586 to 1075 D/0.958	2	50

Traffic details (main route)	**AADT:** 17891	**Peak flows:** 5:30am to 9:00am 4:00pm to 7:00pm
Description of work activity	To install a level 2 lane closure to carry out the installation of site access points along the New Buckle Street which will be spaced at 50m apart.	

Aspects affected

Pedestrians affected? Yes ☐ No ☒	Property access affected? Yes ☐ No ☒	Traffic lanes closed? Yes ☒ No ☐
Cyclists affected? Yes ☒ No ☐	Restricted parking affected? Yes ☐ No ☒	Delays likely? Yes ☐ No ☒

	TSL details as required (List speed, length and location)	Times (From and to)	Dates (Start and finish)	Diagram ref. no.s (Layout drawings or traffic management diagrams)
Proposed TSL				
Attended day/night	N/A			
Unattended day/night	N/A			
Closure type	Lane closure (NZTA)	7:00pm – 5:00am	27-01-2013 to 07-02-2013	TMD-MPA 5 attached

Contact details						
	Name	**Business hours contact person**	**Mobile number**	**CoPTTM ID**	**Qualification**	**Expiry date**
Principal	Memorial Park Alliance	Richard Galloway	0212416911			
Engineers' representative	Memorial Park Alliance	Eliza Sutton	0210375057	14793	L2/3NP	May 2013
Contractor	Memorial Park Alliance	Ian Taylor	0274472802			
STMS	atms	Tepa Leti	021767491	28908	L2/3	28/02/2014

Planned work programme			
Start date	27th January 2013	**End date**	7th February 2013

Consider other significant stages, for example: • road closures • detours • no activity periods.	**Install closure:** 7:00pm to 8:00pm **Site active:** 8:00pm to 4:00am **Closure removal:** 4:00am to 5:00am

Proposed traffic management methods	
Setup	**Active:** It is proposed to install a level two left lane closure northbound direction to complete this work. The following closure will be installed with a work VMIA, a shadow VMIA and a VMS ute as pre warning tail pilot. A STMS will be onsite at all times. **FOR INSTALLATION OF CLOSURE:** **LOOP ONE:** All three vehicles will begin setup in the left hand lane northbound, First advanced warning TW-1.3 followed with a TW-7.1B(100) lane change. Next sign will be at the end of the worksite a TW-16. **LOOP TWO:** All three vehicles will use the exact same installment procedure as loop one but in the right lane. **LOOP THREE/FOUR:** All three vehicles will then loop and install a TW-16 on the either side of Buckle street heading towards Cambridge terrace. **LOOP FIVE:** The three vehicles will then loop for the installment of cones northbound. Starting with a lead-in and then into a taper. At the beginning of the taper a RG.34 will be installed and then another at the top of the taper, Once this has been done and the STMS is happy with the taper the work vehicle will then carry on coning out the needed work area. All local roads will be signed out as per TMP layout and as per COPTTM requirements. Upon completion of this site set up the STMS will undertake a drive over inspection to check the site is safe and complies with the approved traffic management plan. Once this has been done the STMS will then allow the physical works to commence.
Attended	As above

Unattended	Site will be returned to normal condition When works are complete within the time frames approved
Night work	This is intended for night work (AS PER SETUP)
Removal	Removal of temporary traffic management shall be in reverse order of the setup procedure. On completion the STMS shall carry out a final check and sign off before leaving site.

Positive traffic management measures

- Lane closure installed
- Advanced warning installed
- Cyclists/pedestrians to be assisted where required
- TOC to be advised 30 minutes prior to installation and removal of the site
- RCA to be notified to any changes of the TMP and to be added to worksheets

Contingency plans

Consider: • Weather • traffic delays exceeding 5 minutes • work running late • spills • passage of emergency vehicles on call • equipment for contingency on-site • working space extends beyond the original intention • others (to be identified by the applicant).	Where Traffic delays exceed 5 minutes from a lane being closed then a lane will be opened as soon as possible. Emergency vehicles will have clear passage past this site at all times. In the event of an accident the relevant emergency services will be notified immediately with full support provided to manage traffic while the incident is resolved. Later a debrief will be held, With improvement from all parties to ensure that any required improvements can be implemented. A STMS 1 will be on site at all times and will assist emergency personnel to clear off the road as fast as possible to ensure traffic flows are maximized and delays are minimized. Should delays occur all work will cease, Site returned to a safe condition and all delineation removed safely until delays clear. If the weather is bad works will be stopped and the site made safe. Works will continue on the next fine day.

Authorisations

Parking restriction(s) alteration authority	N/A
Traffic signal authorisation(s)	N/A
Road closure authorisation(s)	N/A
Bus stop relocation(s) – closure(s)	N/A

Notification prior to occupying worksite/Notification completed

Type of notification required	TOC to be informed when closure is being installed and then again before removal	**Notification completed**	Date: On day of closure Time:

EED applicable?

Yes ☐ No ☒ Attached? Yes ☐ No ☒	
Delay calculations/trial plan to determine potential extent of delays	
N/A	
Public notification plan	
Weekly roadworks report TOC to be notified	
On-site monitoring	
Attended (day and/or night)	STMS on site at all times
Unattended (day and/or night)	Site will be returned to normal condition No unattended site
Method for recording daily site TTM activity (eg CoPTTM on-site record)	
ATMS hazard identification	
Detours	
Route	N/A
Does road go into another RCA's roading network? Yes ☐ No ☒ If Yes, attach confirmation of acceptance from affected RCA.	
Alternative dates if activity delayed	
Work to be completed within time frames of TMP	
Special safety measures	
All visitors/contractors to be inducted and hazard ID completed PPE gear to be worn by all on site Toolbox meeting to be held prior to work commencing	
Portable traffic signals	
Make, model and description/number	
NZTA compliant? Yes ☐ No ☐	
Other information (eg liaison with emergency services, changes to parking controls, materials storage)	

Site specific layout diagrams	
Number	**Title**
TMD-MPA 5	Left ~~Right~~ lane closure

TMP preparation					
Prepared	Jade Ng (021-767-541)	Jade Ng	15-01-2013	L2/3NP	53266
	Name (STMS qualified)	*Signature*	*Date*	*Qualification*	*ID no.*
				Number of diagrams attached	1
TMP returned for correction (if required)					
	Name	*Signature*	*Date*	*Qualification*	*ID no.*

Engineer/TMC to complete following section when approval or acceptance required					
Approved by TMC/engineer (delete one)	DANNY WOOD 26082		23/01/13	L 3 (NP)	26082
	Name	*Signature*	*Date*	*Qualification*	*ID no.*
Acceptance by TMC (if required)	DANNY WOOD 26082		23/01/13	L 3 (NP)	26082
	Name	*Signature*	*Date*	*Qualification*	*ID no.*

Qualifier for engineer or TMC approval

This TMP is approved on the following basis:

1. To the best of the approving engineer's/TMC's judgment this TMP conforms to the requirements of CoPTTM.
2. This plan is approved on the basis that the activity, the location and the road environment have been correctly represented by the applicant. Any inaccuracy in the portrayal of this information is the responsibility of the applicant.
3. The STMS for the activity is reminded that it is the STMS's duty to postpone, cancel or modify operations due to the adverse traffic, weather or other conditions that affect the safety of this site.

CoPTTM Update Note – effective 10 December 2009

Layout for Level 2 Traffic Management - Revised

Permanent speed limit, or RCA designated Operating Speed			≤50 km/h	60 km/h	70 km/h	80 km/h	100 km/h
Traffic Signs							
A	Sign Visibility Distance (m)		60/50+	70/60+	80	100	120
B	Warning Distance (m)		100/75+	120/90+	140	160	200
C	Sign Spacing (m) ❖		50/35+	60/45+	70	80	100
Safety Zones							
D	Longitudinal (m) *		15	20	30	45	60
E	Lateral (m)						
	1. Behind Cones etc		1	1	1	1	1
	2. Behind Concrete Barrier		0.5	0.5	0.5	0.5	0.5
	3. Behind Other Barriers		As recommended by manufacturers				
Lane Widths		**30km/h**					
F	Minimum Lane Width (m)	2.75	3.0	3.0	3.25	3.25	3.5
Tapers							
H	Initial Taper Length Per Lane**		90/50+	100/60+	120	150	180
I	Subsequent Taper Length Per Lane ***		50	60	70	80	100
K	Minimum Distance between Tapers		50	60	70	80	100
Delineation Devices							
Spacing	**ALL** Tapers		2.5	2.5	2.5	2.5	2.5
	Approaches, between Tapers and around the Working Space		5	5	10	10	10
	At merge and diverge points for ramps and slip lanes, intersecting road entry and exit points, and site accesses points		2.5m for 10m either side of a change in alignment		2.5m for 20m either side of a change in alignment		

❖ *Where only one sign is erected in advance of the start of a cone taper the distance from the sign to the start of the taper must be 2xC*

* *A longitudinal safety zone is not required when a barrier completely protects the approach end of the site*

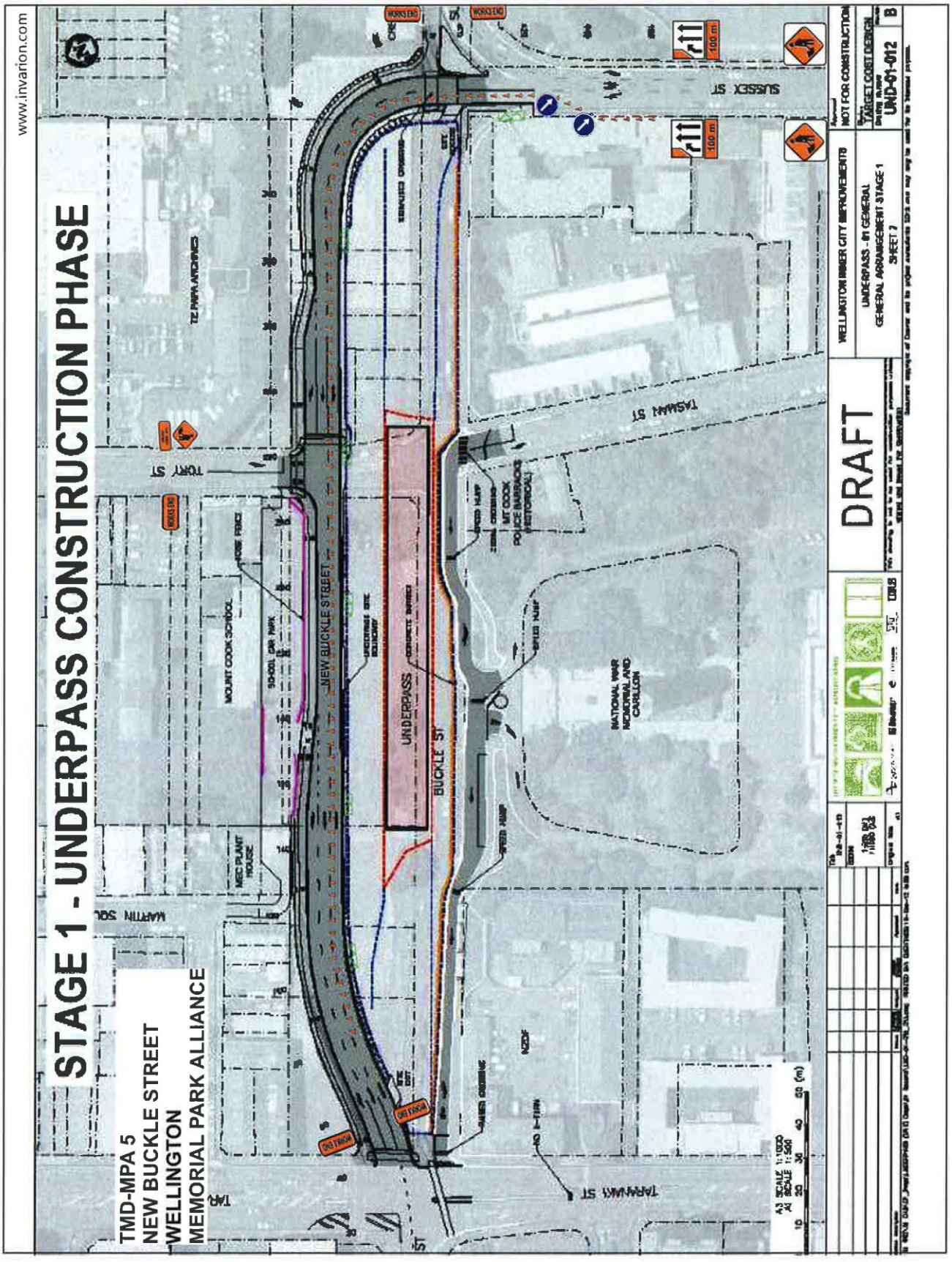
** *Taper length is based on a single lane shift of 3.5m*

*** *Only applicable where the taper is located a sufficient distance from a temporary speed limit for drivers to have slowed down to the temporary speed. Taper length is based on a single lane shift of 3.5m*

\+ *The longer distance is the desirable distance, the shorter distance is the minimum distance required*

Except for taper lengths and delineation device spacings, which are maximum values, the distances specified in the above table are minimum values.

Issued 22 December 2010 1·

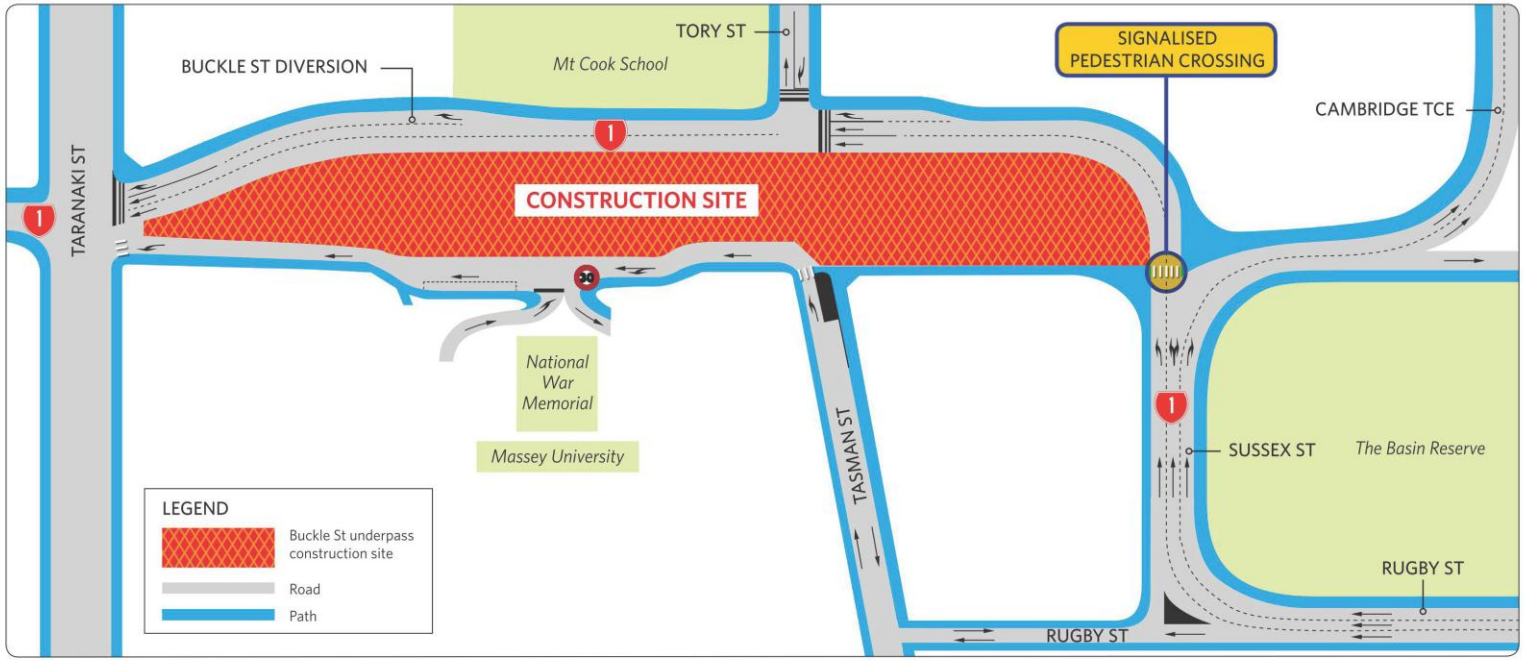

www.invarion.com
STAGE 1 - UNDERPASS CONSTRUCTION PHASE
TMD-MPA 5
NEW BUCKLE STREET
WELLINGTON
MEMORIAL PARK ALLIANCE
DRAFT
NOT FOR CONSTRUCTION
UNDERPASS - IN GENERAL
GENERAL ARRANGEMENT STAGE 1
SHEET 7
UND-01-012
B
NEW BUCKLE STREET
UNDERPASS
BUCKLE ST
TASMAN ST
SUSSEX ST
TORY ST
MOUNT COOK SCHOOL
SCHOOL CAR PARK
MET PLANT HOUSE
MT COOK POLICE BARRACKS (HISTORICAL)
NATIONAL WAR MEMORIAL AND CARILLON
NZDF
TE PAPA ARCHIVES
WORKS END
SPEED HUMP
100 m

APPENDIX E — ALTERNATIVE VEHICLE ROUTES

Stage 2: Buckle Street underpass closures and diversions

25 January 2013 – SH1 Diversion route opens and Tasman Street closes

Buckle Street traffic will be moved to the new SH1 diversion route. Tory Street will re-open and connect to the new diversion. Tasman Street will be closed at the Buckle Street end until late 2014 when the new underpass is expected to be open for use.



NZ TRANSPORT AGENCY WAKA KOTAHI

Memorial Park Alliance

Our contact details

Ph: 0800 020 086
Email: memorial.park@nzta.govt.nz
www.nzta.govt.nz/memorial-park

New Zealand Government

Stage 2: Alternative vehicle routes

NZ TRANSPORT AGENCY
WAKA KOTAHI

Memorial Park Alliance

Our contact details

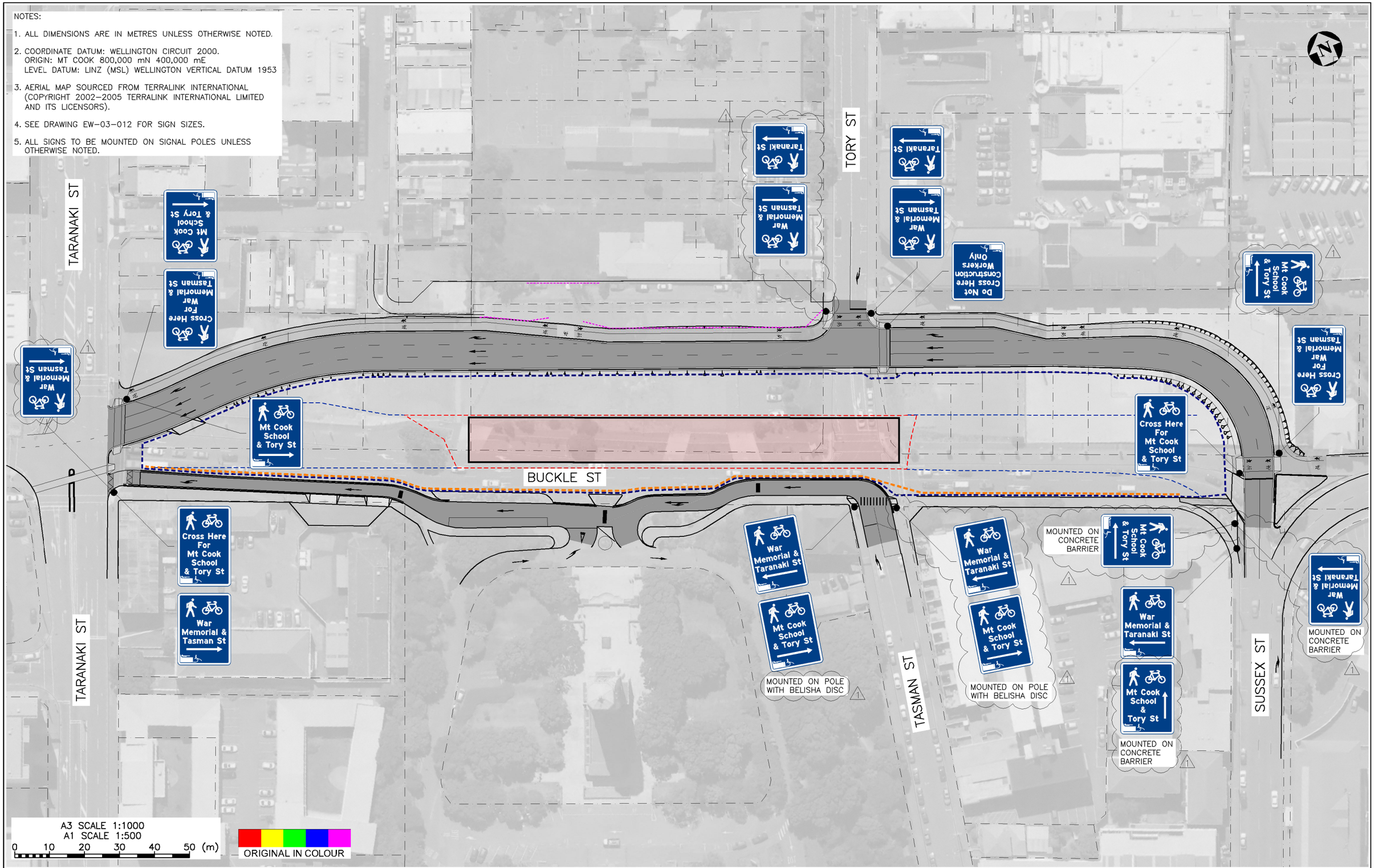
Ph: 0800 020 086
Email: memorial.park@nzta.govt.nz
www.nzta.govt.nz/memorial-park

New Zealand Government

APPENDIX F — PEDESTRIAN & CYCLIST SIGNAGE

NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. COORDINATE DATUM: WELLINGTON CIRCUIT 2000.
   ORIGIN: MT COOK 800,000 mN 400,000 mE
   LEVEL DATUM: LINZ (MSL) WELLINGTON VERTICAL DATUM 1953
3. AERIAL MAP SOURCED FROM TERRALINK INTERNATIONAL (COPYRIGHT 2002–2005 TERRALINK INTERNATIONAL LIMITED AND ITS LICENSORS).
4. SEE DRAWING EW–03–012 FOR SIGN SIZES.
5. ALL SIGNS TO BE MOUNTED ON SIGNAL POLES UNLESS OTHERWISE NOTED.



Rev	Revision Description	Drawn	Drawing Checked	Designed	Design Checked	Approved	Date
1	FOR CONSTRUCTION	QDO'S	CJD	RG	RD	DG	01.02.2013
A	FIRST ISSUE	QDO'S		RG			

Tab: EW–03–011
Scales: 1:1000 (A3) 1:500 (A1)
Original Size: A1

NZ TRANSPORT AGENCY WAKA KOTAHI
Memorial Park Alliance

This drawing is not to be used for construction purposes unless signed approved and issued For Construction

MEMORIAL PARK ALLIANCE

ENABLING WORKS - 03 TRAFFIC SERVICES

PEDESTRIAN / CYCLIST SIGN LOCATIONS

Approved

Status: **FOR CONSTRUCTION**

Drawing Number: **EW-03-011**

Revision: **1**

Z:\CAD 01 WCI\01 CAD\01_Dwgs\03 Traffic Services\ENABLING WORKS (EW) Dwgs\EW–03–011_012.dwg PRINTED BY: CJDD 1–Feb– 13 11:09 a.m.

APPENDIX G — PRE-CONSTRUCTION ROAD CONDITION

23 January 2013

Buckle Street Tunnel

PRE-CONSTRUCTION PAVEMENT CONDITION SURVEY

Rev.	Status	Prepared by	Checked by	Date
#	For Review	Andrew Prosser	Richard Galloway	23 January 2013

CONTENTS

1 INTRODUCTION

The Memorial Park Alliance has been established between NZTA, Downer, HEB, Tonkin & Taylor and URS.

The Alliance is tasked with the Buckle Street Tunnel and Basin Reserve Bridge, along with enhancements to the adjacent Inner City Bypass.

The construction of these assets will enable the creation of the National War Memorial Park and significantly improve traffic flows in the Basin Reserve area.

As required by the legislation empowering construction, the Alliance has completed an existing pavement condition survey of the local roads identified as being most likely to be used and affected by the transportation of machinery; materials; construction related staff; and/or the redesign and rehabilitation of existing road carriageway features.

The local roads included in the pre-construction pavement condition survey were;

- **Taranaki Street** (Bidwill Street to Vivian Street (State Highway 1))
- **Webb Street** (Willis Street to Taranaki Street)
- **Martin Square** (full length)
- **Haining Street** (Taranaki Street to Tory Street)
- **Frederick Street** (Taranaki Street to Tory Street)
- **Tory Street** (Buckle Street (State Highway 1) to Vivian Street)
- **Tasman Street** (Yale Road to Buckle Street)
- **Rugby Street** (Sussex Street to Tasman Street)

These roads are controlled and managed by Wellington City Council. A post construction pavement condition survey will also be undertaken once the tunnel is complete.

As a brief summary of the report and findings which follow, it was found that the existing road pavements are, on the whole, in a good condition with a significant proportion of the existing roads exhibiting little to no pavement wear. Only minor road surface faults and pavement damage were observed and recorded.

As a consequence of the survey's findings, there are no recommendations pertaining to the need to make any urgent pavement repairs.

2 METHODOLOGY

A pre-construction carriageway survey was carried out on Monday 3 December 2012 and involved two engineers.

The survey team examined the existing carriageways and recorded observed maintenance issues such as (but not limited to):

- potholes;
- seal surface flushing;
- edge break;
- pavement depression;

- cracking;
- gouging;
- blocked sumps and/or damaged stormwater features; and
- broken manhole covers and road furniture (including signs and other road safety features).

Photographs were also captured at certain key areas and along the full route.

Figure 1 shows the inspection area.

3 RESULTS

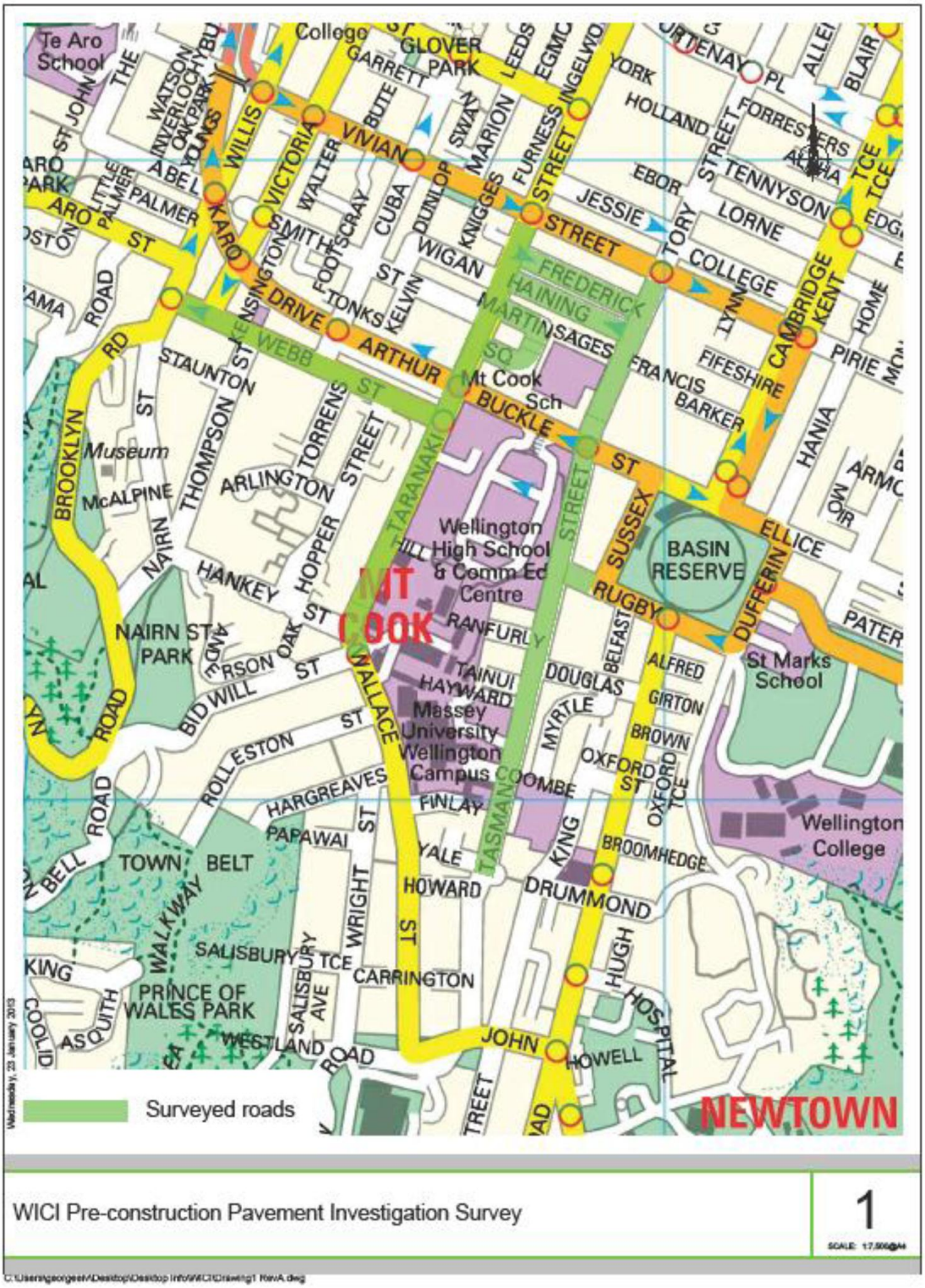
A full set of tabulated observations can be found in Appendix A of this report. Referenced photos are included on the accompanying CD.

As can be seen on the tabulated records, very few pavement faults or maintenance issues were observed along the roads surveyed. It is also noted that the majority of the faults identified have resulted when the roads had been last rebuilt and/or when service lids had been adjusted as part of the replacement or repair of buried services (such as stormwater, water and sewer mains).

It was also noted that Council contractors were working in Tasman Street at the time of the pre-construction pavement condition survey. This work appeared to involve the replacement of an existing water main along the centre of the road and the works appeared to also run the full length of this road. Similarly, several of the other surveyed roads also exhibited signs of recent trench reinstatement works with new asphaltic concrete surface pavement repairs. On the whole, the trench works appeared to be well constructed, with little to no noticeable deformation in the pavement shape or issues relating to the need to water proof the formed seal joints. While some minor rutting and pavement depression was noted along a couple of the surveyed roads, the scale and effects of these faults are considered to be negligible.

4 RECOMMENDATIONS

As previously reported, the planned Buckle Street tunnel works will have some effect on the surveyed roads, either involving design changes or the regular use/transportation of construction related or diverted vehicles. It is on this basis that the pre-construction pavement condition survey has considered the potential effects of these expected demands relative to ability of the roads to be able to support such activities.


Te Aro School
College
GLOVER PARK
GARRETT
VIVIAN
VICTORIA
WILLIS
ARO ST
ARO DRIVE
ARTHUR
WEBB ST
BUCKLE ST
TENNYSON
JESSIE
STREET
COLLEGE
FREDERICK
HAINING
MARTINSAGES SQ
Mt Cook Sch
Museum
McALPINE
ARLINGTON
TORRENS STREET
THOMPSON
STAUNTON
BROOKLYN RD
NAIRN
HANKEY
HOPPER
Wellington High School & Comm Ed Centre
MT COOK
NAIRN ST PARK
BIDWILL
ROLLESTON ST
HARGREAVES
PAPAWAI
TOWN BELT
WALKWAY
SALISBURY
PRINCE OF WALES PARK
WESTLAND
ASQUITH
WRIGHT
CARRINGTON
HOWARD
YALE
FINLAY
TAINUI
HAYWARD
Massey University Wellington Campus
WALLACE
TARANAKI
TASMAN
COOMBE
MYRTLE
DOUGLAS
BELFAST
RANFURLY
RUGBY
SUSSEX
BASIN RESERVE
ELLICE
DUFFERIN
ALFRED
GIRTON
BROWN
OXFORD ST
OXFORD TCE
St Marks School
Wellington College
BROOMHEDGE
KING
DRUMMOND
HUGH
HOSPITAL
JOHN
HOWELL
NEWTOWN
Surveyed roads
WICI Pre-construction Pavement Investigation Survey
1

As the survey noted little to no significant concerns, it is recommended that the condition of the existing road pavements is monitored at regular intervals during the construction sequencing of the planned improvement works.

5 CONCLUSION

Based on the findings of the pre-construction pavement condition survey it is concluded that the existing carriageway pavements and traffic features located on the defined road routes are currently well maintained and there are little signs of significant pavement deterioration and/or faults occurring. The overall frequency of the various faults or issues of concern identified during the survey was extremely low.

Based on these findings, the roads planned to improved and/or used by construction traffic during the anticipated contract period, are of a good condition; no remedial works are required; and that they have been assessed to be in a condition that can appropriately support the level of additional construction related traffic accordingly.

January 2013

APPENDIX A – PHOTOS, EXCEL SPREADSHEET

WICI PAVEMENT CONDITION SURVEY
3 December 2012 — Completed By A. Prosser and T. Rabel (Traffic Design Group Ltd)

Rugby Street

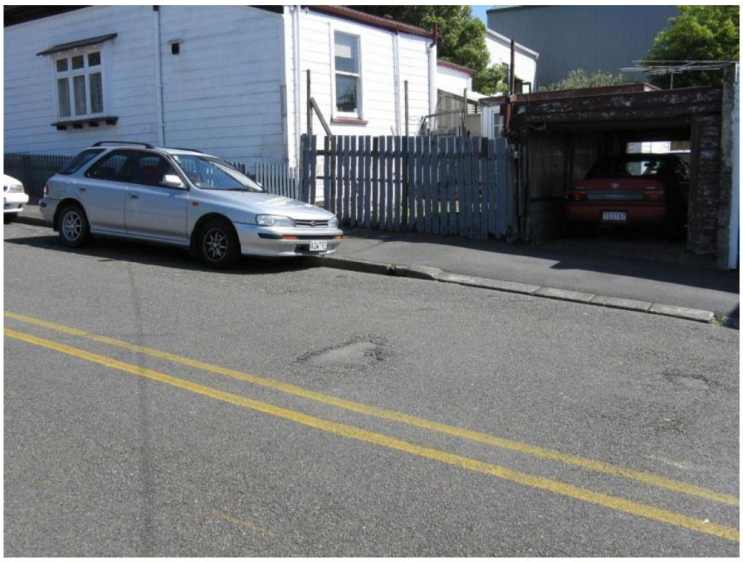
Item 1: Existing pavement repair at intersection with SH1

Item 2: Seal joint on Rugby Street and example of older pavement condition and previous repairs

Item 3: Pavement repairs and water main trench (full length of road). Repairs are in good condition.

Observation: Footpath repair on LHS (facing uphill). Good condition

Item 4: Existing pavement repair and water main trench (LHS). Well-constructed works



Item 5: Scabbing of existing seal on RHS – multiple small patches

Tasman Street

Item 6: Tiles broken on speed hump – probably due to recent stormwater trench works

Item 7: Tiles broken on 2nd speed hump – again probably due to recent stormwater trench works

Item 8: Several pavement repairs – joints are in good condition

Item 9: Minor slump at driveway to Seventh Day Adventist Church. Existing kerb and channel also broken / cracked.

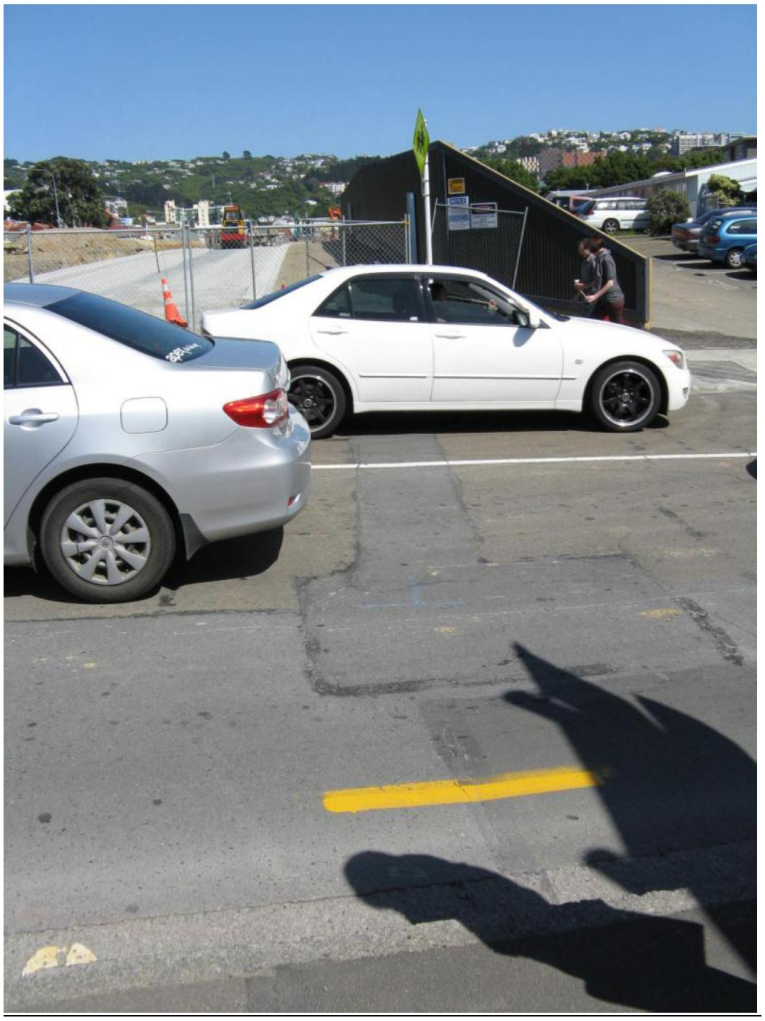
Item 10: Minor pavement and kerb damage at Tasman Street Vet Centre entrance.

Item 11: Minor driveway slump at 31/1 Tasman Street

Tory Street

Item 12: Pavement repair at centre of road – well constructed works

Item 13: water main trench crossing full width of road opposite by-pass road works position. Well-constructed trench repairs.



Item 14: minor pavement subsidence at repairs – slight deformation in pavement surface but seal joints are in good condition.

Item 15: pavement repair near coffee shop entrance – seal joints are in good condition. Broken kerb and channel at accessway.

Item 16: pavement subsidence at fire hydrant. Area has already been identified for repair by Council as indicated by yellow markings

Item 17: Recent trench works – well constructed and no faults

Item 18: Broken fire hydrant lid

Item 19: minor slump in pavement repair but remains waterproof

Frederick Street

Item 20: Longitudinal cracks in trench repair with poor seal joints

Haining Street

Item 21: Pavement damage / gouge

Item 22: Lateral trench repair – well constructed works

Item 23: Minor seal damage

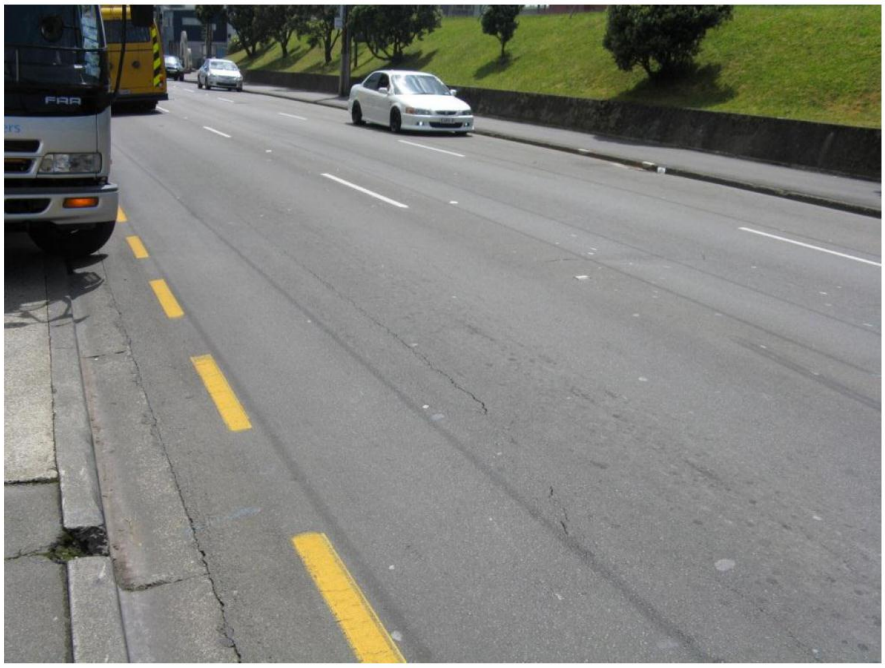
Martin Square

Item 24: Pavement replacement due to recent stormwater works – good shape and condition

Item 25: Damaged footpath at entrance to "The Print Room"

Item 26: Pavement failure – surface damage and potential shallow shear / basecourse problems.

Taranaki Street



Item 27: longitudinal cracking on existing pavement on RHS of road.

Item 28: lateral cracking on existing pavement adjacent to trench works

Webb Street

Item 29: Slump around fire hydrant lid

Item 30: well-constructed repair around Telecom lid

Item 31: broken concrete surround at fire hydrant lid

Job No:	11770/3	**Observers:**	Andrew Prosser, Thanura Rabel
Date:	3/12/2012		
Weather:	Fine		

Item No	Route Position (m)	Side	Length(m)	Width (m)	Defect Code	Comments
	Rugby Street	**START**	**at SH1**			**travelling west**
1	0.5	left	0.6	0.35	patch repair	Well-constructed repair with no sign of subsidence
2	3.4	both sides			seal joint	cracking and minor edge break
3	37.5	left	25	0.35	patch repair	Well-constructed repair with no sign of subsidence
4	38	centre	4	0.6	pavement repair / possible watermain works	Well-constructed repair with no sign of subsidence
5	60.3	centre	500	0.4	pavement repairs	signs of chip surface rutting/scabbing (predominantly on RHS)
6	87	**END**	**at Tasman Street**			
	Tasman Street	**START**	**at Yale Road**			**traveling north**
7	75	left	5	3	tiles broken on speed hump due to trench reinstatement works.	expect speed hump to be replaced as part of remedial works by trenching contractor
8	220	left	5	3	tiles broken on 2nd speed hump due to trench reinstatement works.	as above - expect speed hump to be replaced as part of remedial works by trenching contractor
9	504	Right	2	1	pavement repair	Well-constructed repair with no sign of subsidence
10	540.7	Right	2	0.5	pavement failure	minor driveway slump at entrance to Seventh Day Adventist Church
11	564.4	Right	1.5	0.5	pavement failure	minor driveway slump at entrance to Tasman Street Vet Centre

Item No	Route Position (m)	Side	Length(m)	Width (m)	Defect Code	Comments
12	641	Right	1	0.5	pavement failure	minor driveway slump at entrance to No 31/1 Tasman Street
	Tory Street	**START**	**at Buckle Street (SH1)**			**traveling north**
13	20	centre	3	1	pavement repair opposite temporary by-pass works	Well-constructed repair with no sign of subsidence
14	33	both sides	12	0.5	watermain trench / pavement repair	fairly new works and in good condition
15	49.3	right	1	1	minor pavement subsidence	Refer Photo
16	80.9	right	0.5	0.5	pavement failure around fire hydrant lid	Refer to Photo
17	137.4	right	1.5	2	Pavement failure	opposite Coffee shop - Refer to Photo
18	227.5	right			new stormwater trench	Well-constructed repair with no sign of subsidence
19	263.1	right			broken fire hydrant lid	Refer Photo
22	263.3	centre	1.5	0.9	Pavement failure	minor slump in trench repair refer to Photo
	280	**END**	**at Vivian Street (SH1)**			
	Frederick St	**START**	**at Tory Street**			**traveling west**
23	15	right	40	0.4	longitudinal cracking adjacent to pavement digout/repair and new kerb and channel works	Refer to photos
	204	**END**	**at Taranaki Street**			
	Haining Street	**START**	**at Taranaki Street**			**traveling east**
24	44	left	0.2	0.2	pavement damage	something dropped on pavement causing gouge - Refer to photo
25	131	both sides	6	0.5	lateral trench repair	well-constructed repair with no sign of subsidence
26	192.4	Left	0.5	0.2	minor seal damage	Refer to photo
	204	**END**	**at Tory Street**			
	Martin Square	**START**	**at Taranaki Street**			**traveling east**

Item No	Route Position (m)	Side	Length(m)	Width (m)	Defect Code	Comments
27	20.1	both sides	6	0.5	lateral trench repair	well-constructed repair with no sign of subsidence
28	47.4	both sides		full width	pavement replacement works due to stormwater pipe works	well-constructed repair with no sign of subsidence
29	57.2	left	2	2	damaged footpath at existing driveway	entrance to "The Print Room" - Refer to photo
30	183	left	20	0.5	Pavement failure on trench	Refer to photo
	263	**END**	**at Taranaki Street**			
	Taranaki Street	**START**	**at Buckle Street (SH1)**			**traveling south**
31	181	right	30	0.45	longitudinal cracking	Refer to photo
32	259.6	right	10	0.4	longitudinal cracking	Refer to photo
	280	**END**	**at Bidwell Street**			
	Webb Street	**START**	**at Taranaki Street (SH1)**			**traveling west**
33	49.8	Right	1	1	slump around fire hydrant lid	Refer to photo
34	67.9	centre	3	3	pavement repair around telecom manhole lid	Well-constructed repair with no sign of subsidence
35	119	Right	0.5	0.5	broken concrete surrounding Fire Hydrant lid	Refer to photo