Integrated Transport Assessment Guidelines

September 2015

Christchurch City Council

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Christchurch City Council
PO Box 73012, Christchurch,
New Zealand.
Tel: +64 3 941 8999
Fax: +64 3 941 8984
Web: http://www.ccc.govt.nz

Contents

**For easier navigation through this document and for links to external resources, these guidelines are best used in electronic format.*

Overview

1.0 How to use the guidelines

These guidelines have been prepared to assist applicants to prepare Integrated Transport Assessments (ITA's). The document is structured into three parts:

- Part 1 is an overview of an Integrated Transport Assessment, what it is, why and when it is required.
- Part 2 is the templates to assist applicants in developing their ITA proposal for submission.
- Part 3 is a tool kit referring applicants to the relevant information required for completing an ITA.

1.1 Background

Integrated Transport Assessments are a response to the need to better integrate land use and transport planning set out in the Canterbury Regional Policy Statement and Christchurch Transport Strategic Plan.

An Integrated Transport Assessment (ITA) is a comprehensive review of the potential transport impacts of a proposed development. It can assess all transport effects and opportunities ranging from a single site to whole new areas of subdivision, or development.

Traditionally, assessment of the transport impacts focussed on traffic impacts associated with vehicles and did not go far enough to assess the needs of other users of the transport network, namely pedestrians, cyclists and public transport passengers. An ITA covers all transport modes and considers whether a proposed development will be accessible by all modes and, if not, what needs to change to ensure that accessibility.

The key to successful ITA's is that they are prepared at the beginning of the planning process, ensuring relevant organisations are involved and that everything that needs to be included is agreed. Ensuring adequate time is spent on an appropriate level of analysis and sufficient information is included will avoid time delays and unnecessary costs as a proposal works through the consenting process.

These guidelines set out the Council's expectations of the ITA process, and the assessment that is required within an ITA. Although ITA's provide a more holistic transport assessment this does not necessarily result in a more onerous requirement. Not all the matters outlined in this document will be necessary for each development. It is not Council's intention that the ITA process is an onerous process, but rather is appropriate for the scale of the development. It is recommended that ITA's focus on the most significant effects of a development, therefore avoiding unnecessary over or under-assessment. The requirements of each ITA will be considered on a case by case basis depending on the size and scale of the development and the associated transport effects. Not all of the measures mentioned in these guidelines will apply to every ITA. The requirements for a basic ITA are less onerous than current traffic assessments.

These guidelines have been prepared to assist applicants and encourage them to engage with the Council at the earliest possible stage, to discuss the exact requirements of each ITA on a case by case basis.

1.2 What is an Integrated Transport Assessment?

Integrated Transport Assessments are one part of a range of reports prepared to support a development's resource consent application. The ITA focuses on providing factual information and an assessment of the transport-related effects and merits of a development proposal, and will be considered along with other reports as part of the assessment of a resource consent or plan change.

Transport and planning policy in Christchurch City has moved towards a more holistic view of transport that considers access by a range of modes.

An ITA is used to identify measures that may be required to reduce the adverse transport effects caused by a development, providing a link between the regulatory and funding processes which play an important role in integrating land use and transport.

1.3 Why is an Integrated Transport Assessment required?

The Land Use Recovery Plan (LURP) is the Government's land use plan to aid recovery for Greater Christchurch. It sets out changes to the Canterbury Regional Policy Statement (RPS) (Chapter 6) to ensure land use and transport is carefully integrated. Policy 6.3.4 of the RPS states that district plans must set a threshold for when ITAs will be required. The operative Replacement Christchurch District Plan contains thresholds for ITAs (see page 8 of this document).

ITA's give decision-makers the opportunity to assess how a development proposal supports strategies and policies designed to achieve integrated, highly accessible developments. The objectives of ITAs are supported by a variety of policy documents which are outlined in Appendix A (link to Appendix A).

1.4 What is the purpose of an Integrated Transport Assessment?

The main objective of an ITA is to ensure that an assessment of the accessibility of a proposal by walking, cycling, public transport and private motor vehicles is undertaken. It also assesses the effects a proposal may have on the transport network, and can help identify measures needed to ensure that any adverse effects are avoided, remedied or mitigated to an acceptable level. For plan changes an ITA seeks to ensure that sufficient consideration is given to the zoning or land use proposed so that the right type of activity occurs in the right place. For resource consents, ITAs help ensure that developments are cost-effective for the developer, attractive to future owners/tenants, and do not compromise the planning and operation of the transport network.

1.5 When is an Integrated Transport Assessment required?

An ITA is required with a Resource Consent application when the scale of the development reaches a threshold in relation to its scale/size. Rule 7.2.3.10 of the Transport Chapter of the District Plan requires that a basic ITA be submitted for developments which breach high trip generation thresholds. Table 7.1 under assessment matter 7.3.19 of the District Plan defines when a full ITA is required. In summary the thresholds for triggering an ITA (either a basic or full ITA) are in table 1 below:

Integrated Transport Assessment thresholds

Activity	Basic Assessment	Full Assessment
Education Activities (Schools)	More than 150 Students	More than 450 students
Education activity (pre-school)	More than 50 Children	More than 150 children
Education Activities (Tertiary Education and Research Activities)	More than 250 FTE Students	More than 750 FTE Students
Health care facility	More than 500m² GFA	More than 1000m² GFA
Industrial Activities (excluding Warehousing and Distribution Activities)	More than 5,000m² GFA	More than 10,000 m² GFA
Industrial Activities (Warehousing and Distribution Activities)	More than 10,000m ² GFA	More than 20,000 m² GFA
Office	More than 1750m² GFA	More than 4000 m² GFA
Residential activity	More than 60 residential units	More than 120 residential units
Retail Activities (excluding factory shops, retail park zones, trade suppliers and food and beverage outlets)	More than 500m² GLFA	More than 1000 m² GLFA and/or in a local or neighbourhood centre identified in Chapter 15, where the total area of development[1] over any three year period exceeds 1000 m² GLFA.
Retail Activities (factory shops, retail park zones, but excluding trade suppliers and food and beverage outlets)	More than 1000m² GLFA	More than 2000 m² GLFA
Mixed use and other activities (not listed above) All other activities (not covered by the thresholds above)	More than 50 vehicle trips per peak hour or 250 heavy vehicle trips per day (whichever is met first)[2] 'Peak hour' are those hours between 3pm and 7pm on a weekday.	More than 120 vehicle trips per peak hour or 1000 vehicle trips per day (whichever is met first). 'Peak hour' are those hours between 3pm and 7pm on a weekday.

All plan change applications and notices of requirement also require ITA's. The scale of the Plan Change or Notice of Requirement determines whether a basic or full ITA is required. This will be established during the scoping discussions with the Council.

NB. Most plan changes will need to provide a full ITA.

1.6 Assessment Types

There are two types of ITA that can be prepared:

- A basic Integrated Transport Assessment

A basic ITA is required for smaller scale proposals that are expected to have a noticeable impact on the transport network. The scale of these developments are not significant enough to justify the same level of assessment as that required for larger developments. As a result the requirements for a basic ITA are less than that of full ITA.

- A full Integrated Transport Assessment

A full ITA applies to larger developments that are deemed to have considerable transport effects and

1 Development refers to either consented or constructed developments

2 Excluding, until 30 April 2018, heavy vehicle trips for any quarrying activity in the Rural Quarry Zone that does not exceed the average daily heavy vehicle trip generation that existed for the 12 month period prior to 27 August 2014

where a more thorough assessment is needed. The assessment will focus on how the development complies with relevant transport policies, what the transport effects of the development are, and how these effects can be mitigated.

There will be occasions where resource consent applications are received for sites for which an ITA has already been prepared as part of a plan change. In these situations, the ITA for the resource consent is only expected to include aspects of the development that may have not been known when the ITA for plan change was submitted, or any aspects that have since changed (for example site access, road layout etc). In these situations, early pre-application meetings with Council staff are strongly encouraged to discuss the level of detail expected for the ITA.

If an ITA has already been approved for a site as part of a granted resource consent, then the high trip generator rule in the District Plan rule 7.2.3.10 does not apply to any development that is within the scope of that ITA and in accordance with the resource consent, unless the resource consent has lapsed.

All ITAs will be assessed against the assessment matters for rule 7.2.3.10 (section 7.3.19) of the District Plan Transport Chapter.

1.7 Scoping an Integrated Transport Assessment

The scoping of an ITA is an important first step and will occur during the pre-application meeting process. The scoping stage will determine the detail regarded for individual ITAs. The Council wants to ensure that ITAs focus on the most significant effects of a development, and avoid unnecessary over or under-assessment. Pre-application discussions result in a better understanding of what is required and are likely to lead to a smoother and faster consenting process with fewer requests for further information.

Council recommends that the first step for any developer or organisation requiring an ITA should be to arrange a pre-application meeting with the Council to discuss their proposals and seek feedback on whether an ITA will be required, and if so, its scope.

As a general guide, the transport issues that will be discussed at a pre-application meeting include:

- The type, nature, scale, design and proposed location of development;
- Whether an ITA is needed;
- The level of detail expected in the ITA;
- Whether the proposal is in line with relevant local transport and land use policy objectives (national and regional policies will be a consideration for larger developments); and
- General implications for the transport networks (public transport, walking, cycling and traffic).

Applicants should provide as much information as possible during the pre-application stages, so Council staff can make informed decisions on what will be required.

The scoping process identifies any existing transport network issues in the area. Full ITA's identify the most significant measures that can be included to address the impact of these issues and to help promote choice of access to the site, such as:

- New or modified infrastructure that may be required on the public networks for public transport, pedestrian, cycling, private vehicles and freight;
- Measures that can influence mode share and offer travel choice i.e. travel plans;
- Road, public transport, walking or cycling measures to be funded by the proposed development; and
- Access arrangements.

Early discussion with the appropriate agencies will ensure the developer is aware of what is required from the ITA and ensures that the Council and relevant organisations such as Environment Canterbury (responsible for the delivery of public transport services), New Zealand Transport Agency (NZTA) (the statutory agency responsible for constructing and managing state highways) and KiwiRail (responsible for constructing and managing the railway network) are aware of the proposal at an early stage. Any changes which may affect the networks managed by these organisations will need to be discussed. If an applicant is unsure as to whether consultation with other organisations is required, this should be discussed at the scoping stage. It is recommended that the outcomes from any discussions with stakeholder organisations should be made available to Council staff dealing with the application.

2.0 A basic Integrated Transport Assessment

Sample contents for a basic ITA and a guideline as to consider

Introduction

Briefly describe the site characteristics, existing site zoning, the proposed land use and its intensity, and relevant transport matters such as access arrangements and hours of operation (if known).

Description of existing land use and transport environment

Provide a map identifying existing roads surrounding and within the vicinity of the site or development area; showing any places of interest (commercial centres, community centres, parks etc) that will be referred to within the body of the ITA.

Identify the features of the existing transport network, including the following items where they are relevant to the proposal:

- existing walking and cycling networks;
- existing public transport service routes and frequencies;
- bus stops, bus lanes;
- safety of the road network in the immediate vicinity including crash history if relevant;
- existing classification and traffic volumes of roads and intersections in the immediate vicinity;

Describe the existing development on the site including any traffic implications or trip generation information available.

Traffic Volumes

District Plan Road Classification

Public Transport maps and timetabling

Road Safety

Accessibility of the proposal

Describe the accessibility of the proposal for all users and the suitability of this in serving the development. For each mode this should include:

Public transport

Describe how accessible the site is for public transport using the maps from Appendix C to assist in outlining the public transport accessibility of the site and the suitability of public transport to service the development.

Accessibility maps – Appendix C

Outline how the design of the development will encourage public transport use.
Consider the attractiveness, safety, distance and suitability of the walking routes to the nearest bus stop.

Connectivity principles – Appendix B

Walking and cycling

Describe accessibility to the site for pedestrians and cyclists. Use the accessibility maps from Appendix C to outline the walking and cycling accessibility of the site.

Accessibility maps – Appendix C

Outline how the design of the proposed development will encourage walking and cycling to nearby destinations (outlined in map from 'Descriptions of existing land use and transport environment' section)

Connectivity principles – Appendix B

Outline any safety implications in the immediate vicinity that may detract from walking or cycling to/from the development; both in terms of actual and perceived safety e.g. the need to cross a busy road and locations with poor lighting or graffiti where people may feel uncomfortable passing through.

CPTED guidance

Outline how the accessibility of the site for cycling will change as a result of the Council's new major cycleway programme. If there is an existing or proposed major cycleway close to the site, then this should be taken into account.

Cycleway map

Describe how the development will cater for mobility impaired accessing the site.

Mobility impaired access guidance

Private vehicles

Outline the accessibility of the development by private vehicles, and the location of arterial roads close to site.

Accessibility maps – Appendix C

Outline which roads surrounding the site are likely to see an increase in traffic as a result of the development. Describe the suitability of the proposed site access with respect to sight lines and operation.

District Plan rule - 7.2.3.7 - Access

District Plan rule - 7.2.3.4-6 - Loading

Travel characteristics

Describe the estimated number of trips which will be generated by each transport modes (public transport, walking, cycling and private vehicles, including heavy vehicles). Estimates can draw on the projected travel catchment of the development, comparing travel behaviour with similar existing developments and including the effect of proposed measures and site accessibility. Data (i.e. Census or Household Travel Survey) showing average mode share rates for different activities can be used as the basis for mode share estimations.

The Council will accept information from the TRIPS database to help inform travel demand characteristics.

- *NZTA Research Report 453*
- *Household Travel Survey*
- *Census data (travel to work)*
- *TRIPS database*

Transport effects

The effects of the development on the surrounding transport network should be evaluated. This includes:

- Impacts on the operation of public transport infrastructure (bus stops, super stops), and any vehicle and pedestrian/cyclist conflicts likely to arise from vehicle movements to and from the development.
- The impacts that any additional vehicle movements are likely to have on the capacity of the road network.
- For heavy vehicle trips per day, whether there are any effects from these trips on roading infrastructure.

Mitigation and options to influence travel choice

The ITA should identify any necessary mitigation measures that will be required to address any impacts on the transport network. These may be needed within a development area or site, and within the transport network surrounding the development site or area. Consideration should be given to the following matters:

- Any mitigation required to achieve convenient and safe operation of access points and loading areas for all users;

- *District Plan rule - 7.2.3.7 - Access*
- *District Plan rule - 7.2.3.4-6 - Loading*

- How the design and layout of the proposed activity maximises opportunities, to the extent practiable, for travel other than by private car.
- Where appropriate, the use of Crime Prevention Through Environmental Design (CPTED) principles and techniques to mitigate any safety issues for pedestrians or cyclists.

- *CPTED guidance*

Summary

A summary of the ITA should include the key findings and implications that the development proposal will have for transport including:

- Any key measures which have been or could be done to mitigate the transport effects;
- How the development has minimised the adverse effects on the safety and functionality of the transport network and surrounding environment.

2.1 A full Integrated Transport Assessment

Sample contents for a Full ITA and a guideline as to what should be considered

Executive summary

Prepare a short synopsis of the proposal, its effects and the planned mitigation and implementation measures identified through the ITA process. The executive summary should be short and concise, but detailed enough to be read as a stand-alone section, providing the planner with enough information to feel familiar with the development, the assessment of any transport effects and any recommended measures, **without needing to read the full report.**

Introduction

Describe the site characteristics, existing site zoning, the proposed land use and density, and relevant transport matters such as access arrangements or hours of operation (if known).

In the case of plan changes, provide information outlining any proposed roading infrastructure and any other unique transport elements specific to the proposal.

Keep the description brief, bearing in mind that a fuller description will be provided in a later section under 'Proposal' and a description will also be provided with the planning application.

Description of existing land use and transport environment

Provide a map identifying existing transport connections surrounding and within the vicinity of the site or development area, showing any places of interest that will be referred to within the body of the ITA.
Identify the features of the existing transport network, including the following items where they are relevant to the proposal:

- Existing road classification surrounding the site,
- Existing walking links and cycling networks,
- Existing public transport service routes and frequencies,
- Bus stops and bus lanes,
- Safety of the road network in the immediate vicinity. This should be done using the Kiwirap tool. A more detailed safety analysis should be undertaken for any vehicle and pedestrian access points using the Crash Analysis System (CAS).

Road Safety

- Traffic volumes on the surrounding road network in the vicinity of the development and any intersections that will be affected by the proposal. Include consideration of the existing peak-hour congestion in the vicinity of the site, level of service, turning volumes, and comparisons between peak and interpeak conditions.

Describe the existing development and provide an overview of the transport implications of the existing land use. Describe any land use characteristics that affect the proposal, including any known or approved future land use changes in the surrounding area that will affect assessment of the proposal.

District Plan road classification

Public transport maps and timetabling

Road safety

Traffic volumes

Plan change proposal

For plan changes, include information on any zoning proposed and the permitted activities in each zone. This information can be used to summarise the maximum potential of the proposal.

Provide an adequate site plan, detailing the road classification, cycling facilities, public transport provision within the development, cross sections of new roads, layout and internal vehicle circulation. Outline the pedestrian, cycle and vehicle access to the site and how they link in with existing and proposed infrastructure.

Proposed transport upgrades

Provide details of any proposed transport upgrades or changes within the vicinity of the development site. This can be done by contacting the relevant organisation i.e. the Council, Environment Canterbury or NZTA. There should be agreement at the scoping stage regarding which upgrades should be taken into consideration. Once this has been agreed then any future changes to upgrades should not retrospectively impact the application unless a condition specifically refers to infrastructure timing requirements. This could include:

- Any known intersection or road upgrades;
- Any planned changes to the network, such as cycle infrastructure, bus lanes, parking restrictions; and

Long Term Plan

- Any public transport upgrades such as service or frequency changes. For larger applications and plan changes, Environment Canterbury staff should be contacted to discuss public transport provision.

Future public transport provision

Whether the development will be staged. If the development is to be staged how will this correspond with planned transport upgrades?

Integration with strategic planning framework

Consideration should be given to the Christchurch Transport Strategic Plan (and the Accessible City chapter of the Christchurch Central Recovery Plan for developments within the Central City) to confirm if the proposal is consistent with transport policy. Larger developments or developments which have wider transport implications should also consider the Regional Land Transport Plan.

Particular consideration should be given to the following Actions of the Christchurch Transport Strategic Plan (CTSP):

1.3.1 – Integration of land use; (page 45 of CTSP)
1.3.3 – Influencing travel choice; (page 46 of CTSP)
2.1.2 – Rebuilding suburban centres; (page 51 of CTSP)
2.2.1 – Right location, right design, right function, right time; (page 52 of CTSP)
2.2.2 – Transit orientated development; (page 53 of CTSP)
2.3.1 – Safer system; (page 54 of CTSP)
4.1.1 – Reshape travel demand to reduce emissions and oil dependence; (page 61 of CTSP)

Accessibility of the proposal

This section should focus on the accessibility of the development for all users and the suitability of all modes serving the development. For each mode this should include:

Public transport

How will the design of the development encourage public transport use?
Use accessibility modelling to assess the public transport accessibility of the site and the suitability of this in serving the development;

Accessibility modelling

Accessibility modelling

Outline the attractiveness, safety, distance and suitability of the walking routes to the nearest bus stop;

Connectivity principles – Appendix B

Walking and cycling

Outline how the design of the proposed development will encourage walking and cycling to nearby destinations (outlined in map from 'Descriptions of existing land use and transport environment' section)

Connectivity principles – Appendix B

Use accessibility modelling to assess how accessible the development is for pedestrian and cycling;
Outline any safety implications in the immediate vicinity that may detract from walking or cycling to/from the development both in terms of physical safety e.g. the need to cross a busy road and areas where there is a risk of crime; and

CPTED guidance

Outline the provision of appropriate cycle parking and end-of-trip cycle facilities (showers, lockers etc) and how this compares with the District Plan requirements, the projected number of bicycle trips for the development and estimated future demand increase.
Outline how the accessibility of the site for cycling will change as a result of the Council's local cycle network and new major cycleway network. If there is an existing or proposed major cycleway close to the site, this should be mentioned.

Cycleway maps

Indicate how the development will cater for mobility impaired accessing the site.

Mobility impaired access guidance

Private vehicles

Outline how accessible the development is for private vehicles; use accessibility modelling to assess this.
Outline the suitability of the proposed site access with respect to sight lines and operation.

District Plan rule - 7.2.3.7 - Access

District Plan rule - 7.2.3.4-6 - Loading

Travel characteristics

Provide a breakdown of the likely number of trips which will be generated by the individual transport modes (public transport, walking, cycling, and private vehicles including heavy vehicles). This should take into consideration local context e.g. if a development is located near a public transport route then a larger percentage of public transport users would be expected. A travel survey or a range of travel surveys from appropriate locations (to be agreed at scoping stage) should be done for the existing or similar site(s) to give a clearer indication of expected modal split for the development.

The Christchurch Transport Model (CTM) allows for analysis of predicted mode share data. The Council supports using the CTM as a mode share prediction tool (where CTM is available to the applicant) used in conjunction with established mode share figures to give a clear understanding of expected modal trip numbers for the site.

Vehicle demand data

Household Travel Survey

Census data (travel to work)

Transport effects

Evaluate the effects of the development on the surrounding transport network.

- Impacts on the operation of the public transport system, and any vehicle and pedestrian/cyclist conflicts arising from vehicle movements to and from the development - considering both positive and negative effects.
- Some level of traffic modelling could be required. The extent of modelling analysis will depend on the size and significance of the development and its location within the surrounding road network. The level and extent of modelling will be determined at the scoping stage. For a Full ITA it is envisaged traffic modelling would assess the effects of the wider road network and consider the impact on any nearby road networks. Where required, modelling should be appropriate to assess both nearby intersections and wider network effects.

Modelling

- Impact of heavy vehicle movements on the surrounding network and area.
- Impact on the rail network if applicable. Where a development adjoins the rail network the design of the development should ensure that the operations of the rail network are not disrupted.
- Impacts of construction traffic. Where a development will require a significant amount of construction work then the effects of the construction process on the transport network should be assessed at a broad level.

Construction assessment – Appendix D

Mitigation and options to influence travel choice

The ITA should identify any mitigation measures necessary to address identified impacts on the transport network. These measures may be needed both within a development area or site and on the transport network surrounding the development site or area. Consideration should be given to:

- Any mitigation required to achieve convenient and safe operation of access points and loading areas for all users;

District Plan rule - 7.2.3.7 - Access

District Plan rule - 7.2.3.4-6 - Loading

- Any mitigation required to improve safety issues for pedestrians, cyclists or mobility impaired users. Outline what measures will be put in place to mitigate against these issues;

Cycle Design Guidelines

CPTED guidance

- How the design and layout of the proposed activity maximises opportunities, to the extent practiable, for travel other than by private car.
- The inclusion of travel demand management tools such as travel plans to reduce vehicle trips and associated effects; and

Travel Plans

- The adequacy of the surrounding public transport infrastructure and whether upgrades could be included within the proposed works, including bus stop facilities, real time information etc.
- A description of measures that will be put in place to mitigate against the effects of the construction process. These agreed measures will influence the Traffic Management Plan required for construction.

Construction assessment – Appendix D

- An indication of the approximate costs of the mitigation measures which have been considered.

Summary

A summary of the ITA outlining the key findings and implications that the development proposal will have for transport. This should also outline any key measures which have been, or could be, done to mitigate any transport effects, and how the development has minimised the adverse effects on the safety and functionality of the transport network.

Toolkit

There are a number of tools referred to in the templates for both basic and full ITA's. Further information on these tools can be found below.

Modelling

For full ITA's, developers are encouraged to use the Christchurch Assignment and Simulation Transportation model (CAST) which gives a high confidence level for assessing the impacts of reassignment on the city wide transport network, or Canterbury Transport Model (CTM), which is a four stage modelling tool. More information on the CAST models can be found *here.* Specific modelling requirements and tools can be determined during the scoping process.

Traffic volumes

Historic traffic count data from roads and intersections across Christchurch can be found on the Council's website for information on Council-owned roads and NZTA's website for state highway traffic data. Click *here* for the Council website or *here* for NZTA.

Long Term Plan

The *Long Term Plan* provides information regarding Council-funded infrastructure planned for delivery over a 10 year timescale.

Cycle Design Guidelines

The Council's *Cycle Design Guidelines* outline appropriate cycling facilities based on predicted users.

Vehicle demand data

NZTA Research Report 453 considers the number of trips generated by particular land use activities.

Future public transport provision

The Regional Public Transport Plan outlines Environment Canterbury's (ECan) aspirations for public transport provision in the Canterbury region.

Travel plans

A travel plan that is included as part of an ITA may be considered as a mitigation tool relating to the transport effects of a development. More information on travel plans can be found on the Council's travel plan factsheet.

Mobility-impaired access guidance

The access for mobility impaired to the proposed development and the surrounding area should be assessed to ensure that there is compliance with the *Council's Infrastructure Design Standards (Page 8.41)*

Development proposals should have regard to the Council's Equity and Access for People with Disabilities *Policy*, with particular reference to goal 4 relating to physical access.

NZ Standard 4121:2001 "Design for Access and Mobility – Buildings and Associated Facilities" offers further guidance on designing developments for the mobility-impaired.

District Plan road classification

The District Plan has a road classification system to ensure that a consistent approach is applied to each road based on its movement and 'place' function, taking into account the surrounding land uses.

Bus scheduling information

ECan provides bus route and timetabling information for public transport service in greater Christchurch on the *Metro Info website*. This information should be used to gather information regarding the existing services in the vicinity of a development proposal.

Toolkit

Road safety

New Zealand Transport Agency provides a comprehensive compilation of road safety crash and casualty data from the Christchurch area. Information from these reports should be included as part of an ITA to give an indication of road safety issues near a development site.

The Kiwirap model is available for developers as a tool to asses the safety impact of their development on the transport system. Further explanation of the tool and the tool itself can be found on the *Kiwirap website.*

Cycleway map

The major cycleway programme will provide a network of cycle routes across the city providing cyclists with a high level of safety and priority. These are designed to make cycling a safe and enjoyable means of transport in Christchurch. These major routes are supplemented by local and recreational cycleways. The locations of these routes can be found on the *Council's website* and should be used to inform the contents of an ITA.

District Plan rules for loading

Rules *7.2.3.3, 7.2.3.4, 7.2.3.5* and *7.2.3.6* in the Christchurch District Plan, Transport Chapter provides technical standards for loading areas.

Household Travel Survey

The Ministry of Transport conducts *ongoing surveys* of people's travel characteristics. The results of the surveys help to inform future transport decisions. The travel survey should be used to inform (along with other sources), the projected mode share split for a development. NOTE - The survey provides travel data for total trips

District Plan rules for cycle parking

Rule *7.2.3.2* in the Christchurch District Plan, Transport Chapter provides minimum cycle parking numbers and facilities for particular activities.

2013 Census (travel to work data)

The latest *Census data* provides information on the mode share of how people travel to work. NOTE – The Census provides travel data for commuter trips only

District Plan rules for access

Rules *7.3.2.7* and *7.2.3.8* of the District Plan, Transport Chapter have requirements relating to access way design.

CPTED guidance

Basic guidance on the seven principles of Crime Prevention Through Environmental Design produced by the Ministry of Justice.

TRIPS database

The TRIPS *database* operated by the Trips Database Bureau and provides a database of information relating to travel characteristics for developments.

Accessibility modelling

An NZTA research report exploring accessibility modelling has been produced and includes details on what models should include.

4.0 Appendix A – Strategic Context

The Resource Management Act (1991) places a strong emphasis on assessing the effect that development will have on the environment, ensuring that when an activity places significant adverse effects on the environment alternative locations or methods are sought.

Connecting New Zealand (Ministry of Transport) A key emphasis is to improve integration and give people access to all modes, allowing them to make effective transport decisions.

Canterbury Regional Policy Statement (2013) (Environment Canterbury) outlines the need for land use and transport to be carefully integrated, ensuring that transport systems promote positive contributions to consolidated urban forms and promoting increased accessibility and mobility. Policy 6.3.4 states that for substantial development, an ITA is required.

The Canterbury Regional Land Transport Plan (2015) (Canterbury Regional Transport Committee) seeks integrated land use measures to improve modal choice.

Greater Christchurch Transport Statement (2012) provides an overarching transport vision for Greater Christchurch.

Land Use Recovery Plan (2013) states a need for developments to make better use of infrastructure by ensuring that facilities are integrated with transport.

Regional Public Transport Plan (2014) (Environment Canterbury). The Canterbury Regional Public Transport Plan (RPTP) sets out the policy framework within which all of our public transport services operate in the region.

Christchurch Transport Strategic Plan (CTSP) (2012) (Christchurch City Council).

Two of the goals of the CTSP are 'improving access and transport choices' and 'creating safe, healthy and liveable communities'. The outcomes of this include:

- A transport system which provides people with access to economic, social and cultural activities;
- An increased proportion of journeys made by foot, cycle and public transport;
- Christchurch is prepared for the future challenges and opportunities of climate change;
- Transport safety is improved; and
- There is a range of travel options that meet the needs of people and business.

The CTSP states that enabling ITA's for substantial development will help achieve these goals and outcomes on a city-wide scale, over the medium to long term.

Christchurch District Plan (Christchurch City Council)
The district plan provides the legal framework for new development within Christchurch.
The Transport chapter of the proposed *Christchurch Replacement District Plan* has two objectives:

7.1.1 Objective - Integrated transport system

A integrated transport system for Christchurch District:

i. that is safe and efficient for all transport modes;
ii. that is responsive to the current recovery needs, future needs, and economic development;
iii. that supports safe, healthy and liveable communities by maximising integration with land use;
iv. that reduces dependency on private motor vehicles and promotes the use of public and active transport;
v. that is managed using the one network approach

7.1.2 Objective - Adverse effects from the transport network

Enable Christchurch's transport system to provide for the transportation needs of people and frieght whilst managing adverse effects from the transport system.

Other Relevant Documents:

Research Report 422 *Integrated Transport Assessment Guidelines* (2010) (New Zealand Transport Agency) offers national guidance on how an ITA should be implemented throughout New Zealand. It outlines what could be included as part of an ITA and what mechanisms should be put in place to ensure an ITA is an effective assessment tool.

4.1 Appendix B – Connectivity Guidance

The connectivity of a development is important for promoting the use of cycling, walking and public transport. Improving links to and within a development can have a significant impact on how to people access and use a development.

Pedestrian connectivity

- Locate building entrances in an obvious manner, close to the street frontage to reduce the distance pedestrians need to travel to access a building.
- Pedestrian routes should link the entrance-ways of the development to adjacent streets, neighbouring uses and transport infrastructure (e.g. car parks, bus stops, cycle parking). Pedestrian routes should be safe, attractively landscaped, direct, clearly marked, obstacle and step-free (or ramped).
- To increase pedestrian safety and security, ensure routes are well overlooked, well lit and relatively open. Pedestrian routes and the location of buildings and other landscaping elements along the path should avoid creating blind spots or hidden corners.
- Paths through car parks should include kerbs or wheel stops to protect them from encroachment by cars. Regard should be had to the orientation of parking aisles as this can affect the ease of pedestrian movement through a car park.
- The layout of buildings on a site should have regard to existing and potential pedestrian desire lines between key destinations.
- Consider separating vehicle and pedestrian access to a site to avoid the potential for conflict between different users.
- Ensure that the main entrances to buildings are readily visible from the street, are clearly identifiable and well articulated.
- Consider the need for weather protection in both the design of buildings and design of pedestrian routes. This could include the use of covered walkways, verandas, trees for shading, etc.
- Ensure that where pedestrian paths cross vehicle circulation routes that pedestrians have priority.

Public transport connectivity

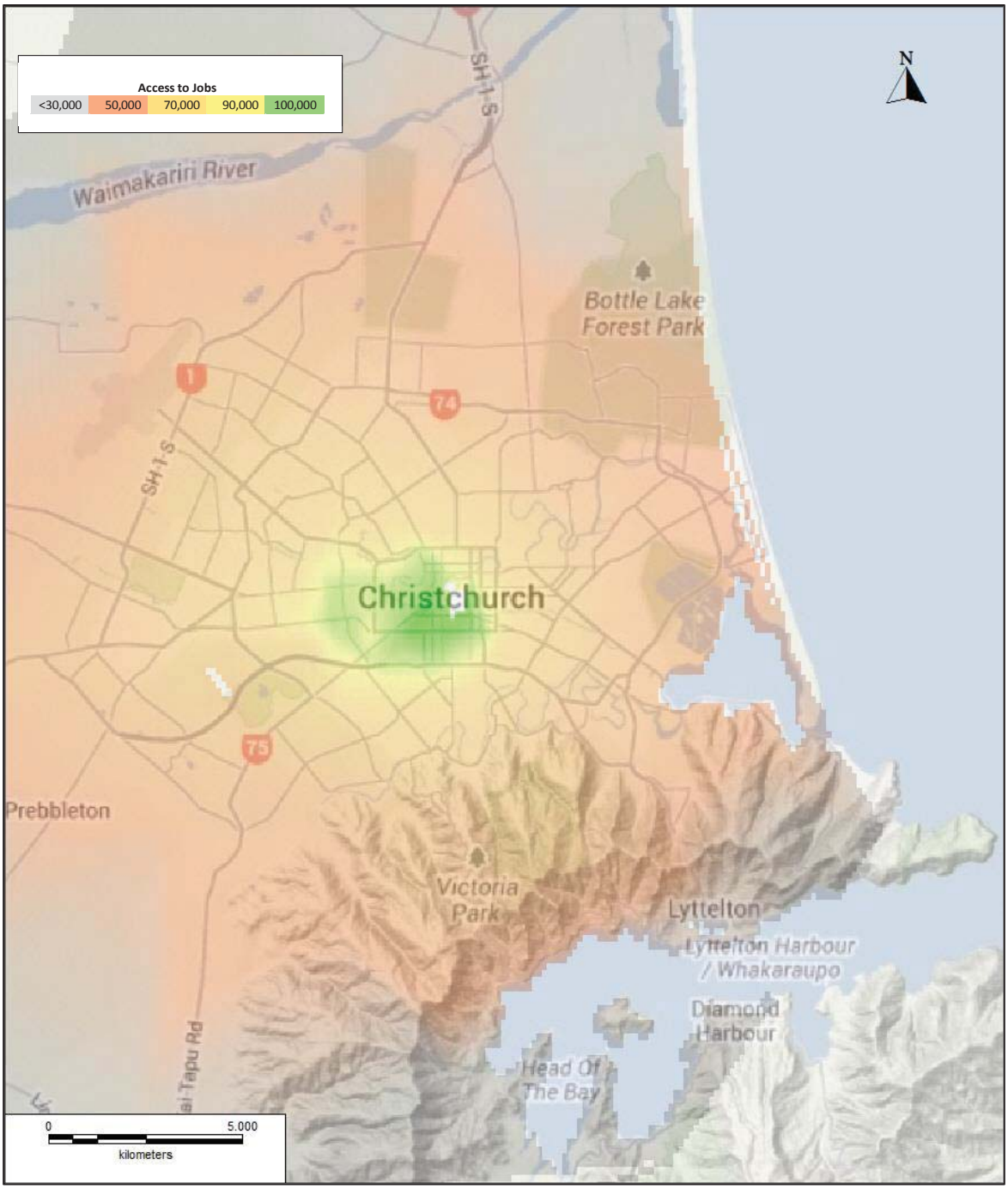
- The layout of the development should ensure that public transport facilities are well connected to it, with high quality pedestrian routes that connect waiting facilities with building entrances.
- Locate the main entrances to buildings so as to minimise the walking distance to public transport facilities;
- If waiting facilities are located in a public space, consider how the development can add to the quality of the experience; whether through provision of additional shelter, shade, seating and lighting or the location of retail activities that provide vibrancy to the area for a greater area of time, such as a dairy or café.
- The design of the development and its interface with public space should not compromise footpath widths around bus stops.
- Avoid creating shaded or wind-exposed areas in which public transport facilities are located. Avoid locating elements such as service areas next to bus stops.

Cycle connectivity

- Cycle facilities should be attractively designed and well lit.
- Locate cycle parking facilities where they are can be clearly seen by passers-by or occupants in surrounding buildings in accordance with CPTED principles.
- Staff cycle parking facilities should be located either within the building or as close as possible to the staff entrance.
- The route to all cycle parking should be clearly visible, safe, with ease of access e.g. dropped kerbs and where possible away from motor vehicle traffic.
- For appropriate developments (e.g. retail) cycle parking design and access should take into consideration larger cargo bikes and bikes with trailers.
- For larger developments, introduce traffic calming measures within car parks or along access roads to reduce vehicle speeds and create a safer environment for cyclists.

4.2 Appendix C – Accessibility Maps

A series of maps have been developed to help applicants describe how accessible their site for access to jobs and district centres for public transport, cycling and private vehicles.

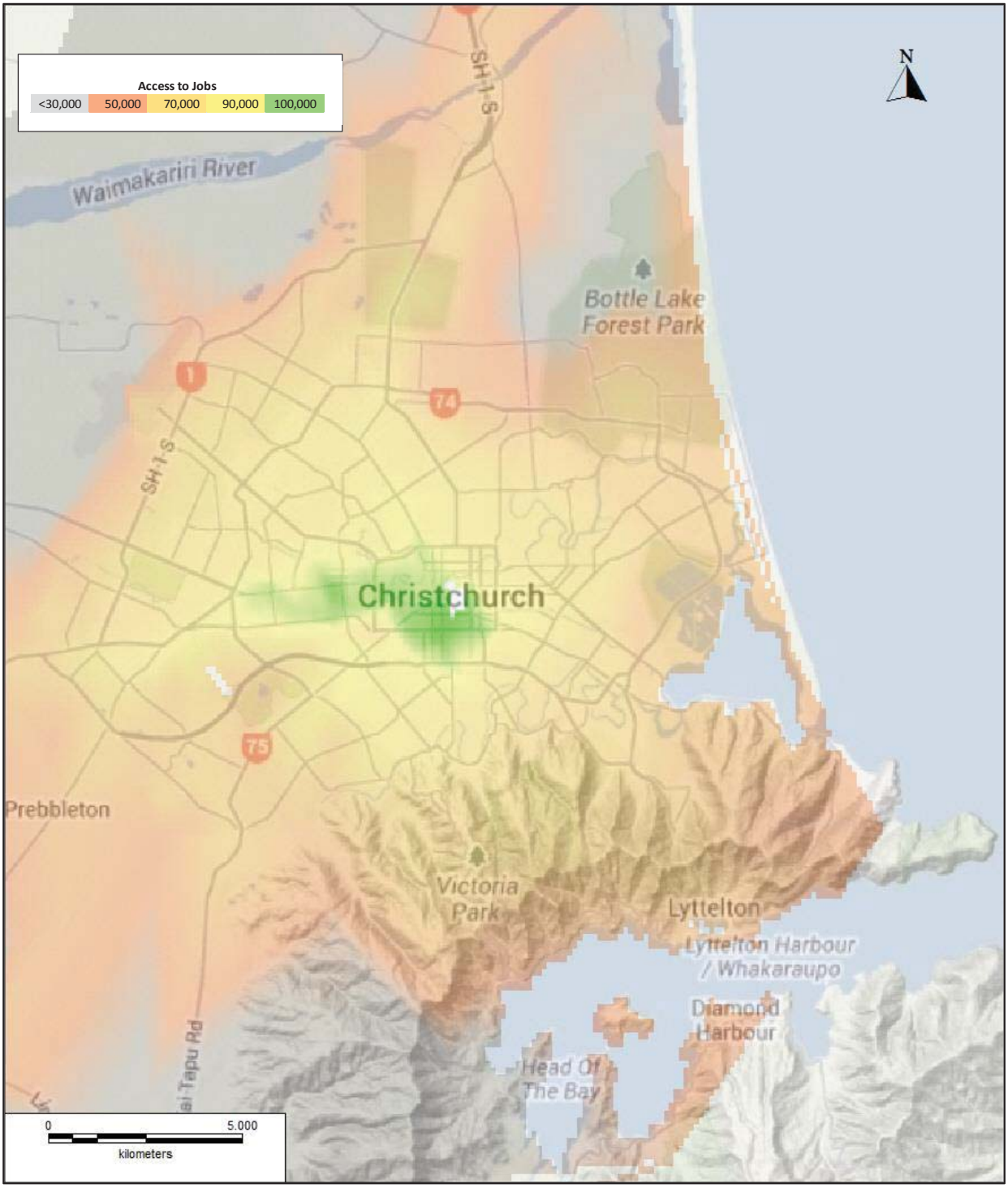


Accessibility to Jobs by Cycle

2016 AM Peak

Source: CTMv06 Travel Times with QTP Accessibility Interface

6 September 2013

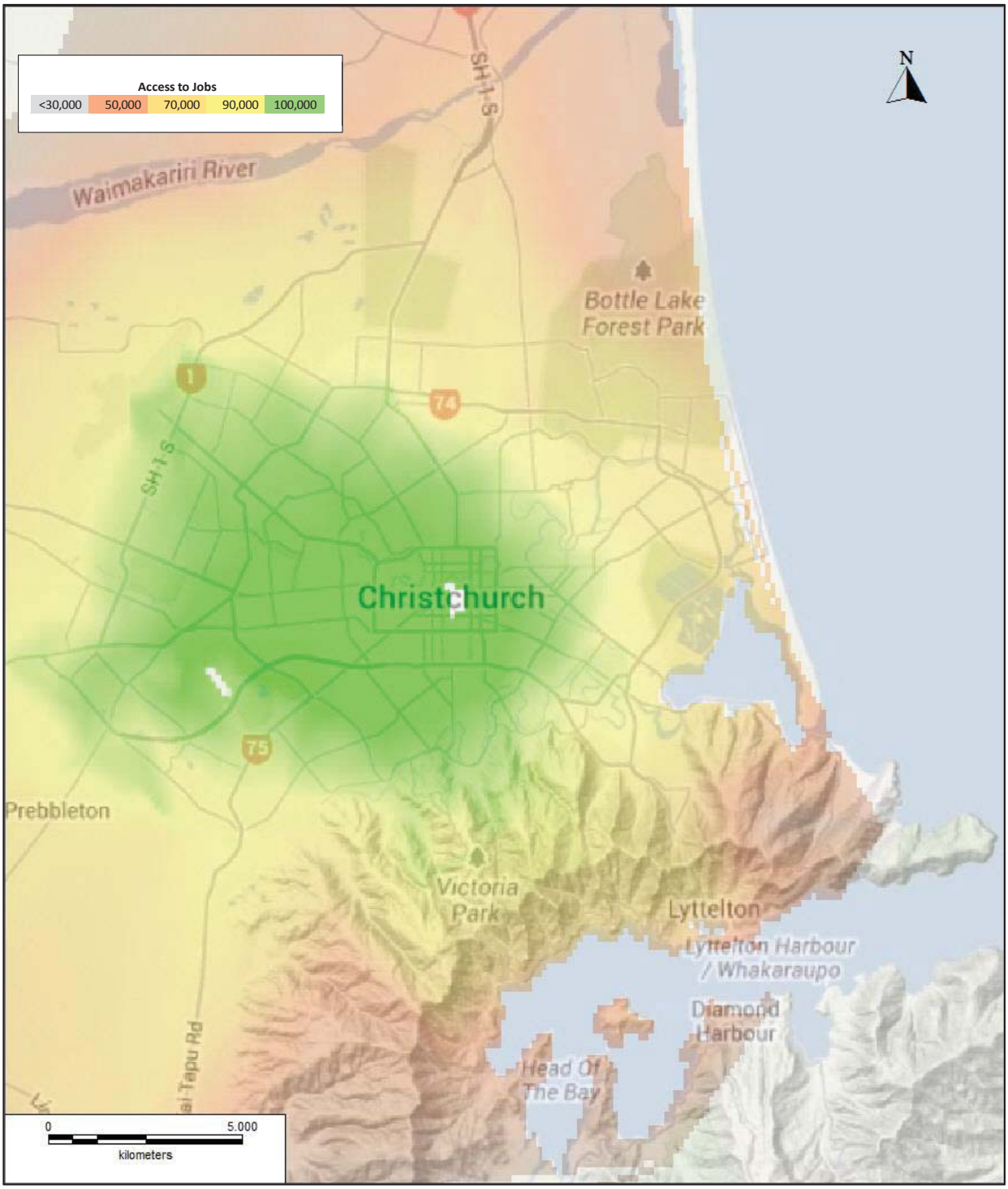


Accessibility to Jobs by Public Transport

2016 AM Peak

Source: CTMv06 Travel Times with QTP Accessibility Interface

6 September 2013

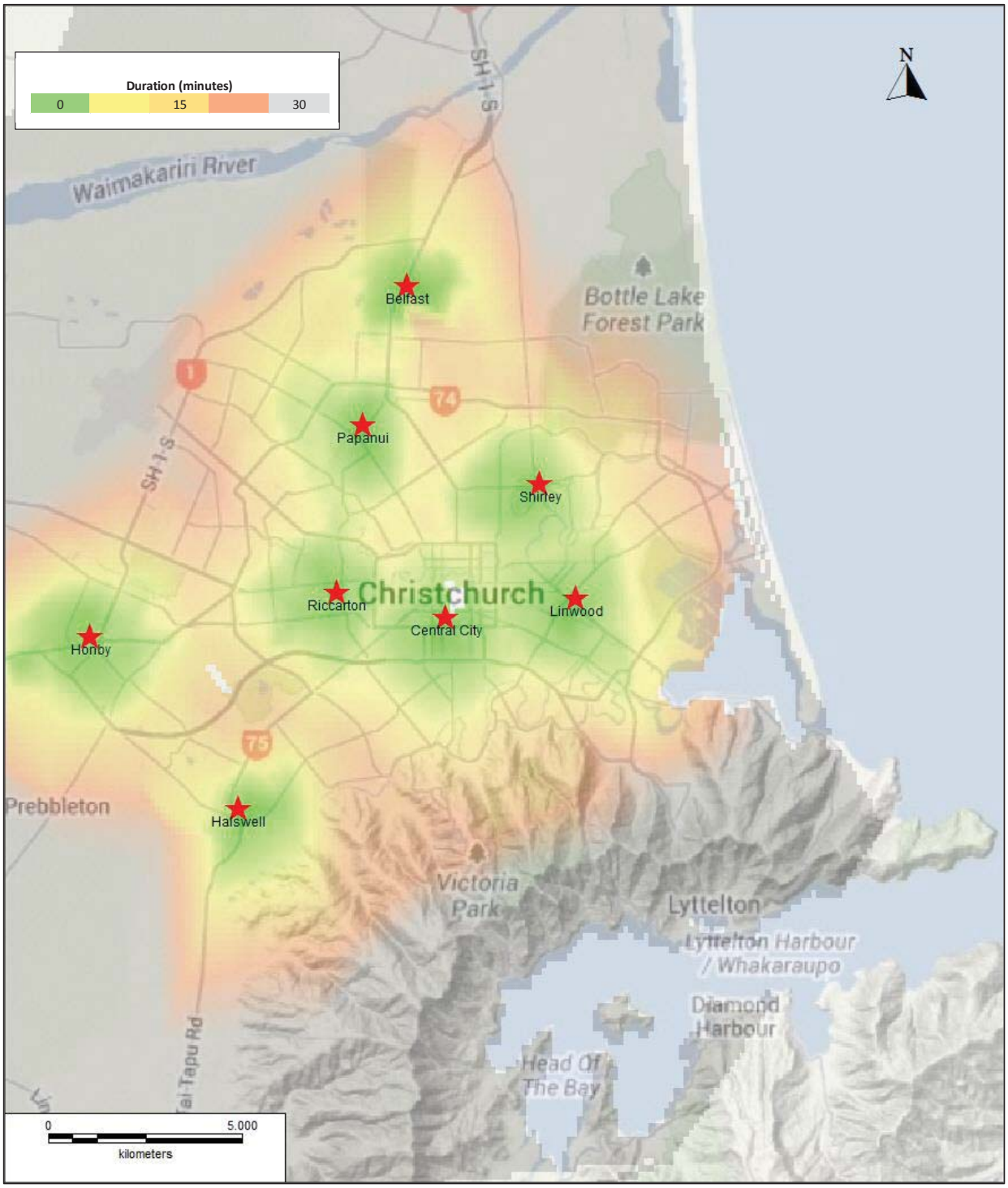


Accessibility to Jobs by Private Vehicle

2016 AM Peak

Source: CTMv06 Travel Times with QTP Accessibility Interface

6 September 2013

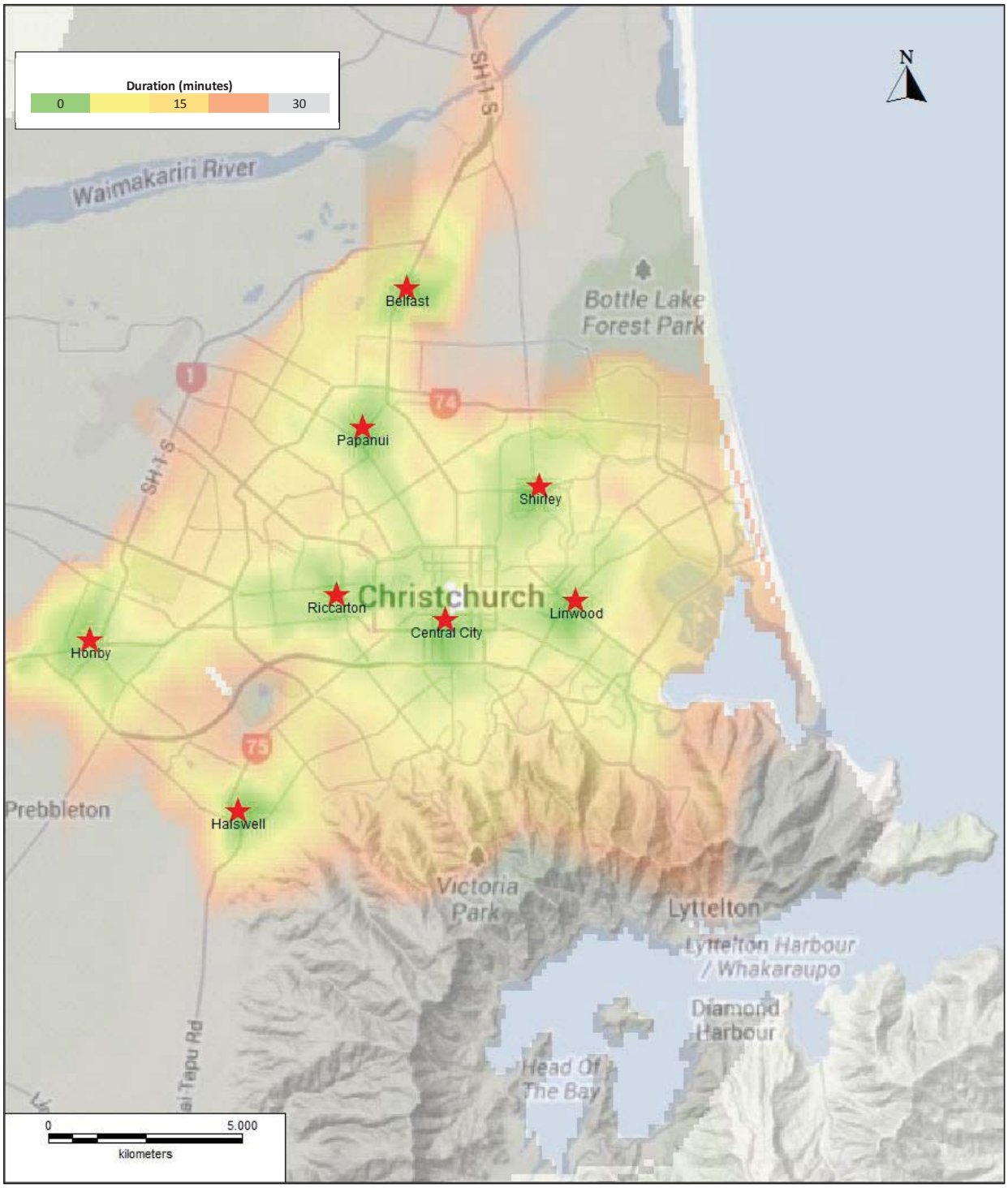


Accessibility to Key Activity Centres by Cycle

2016 AM Peak

Source: CTMv06 Travel Times with QTP Accessibility Interface

6 September 2013

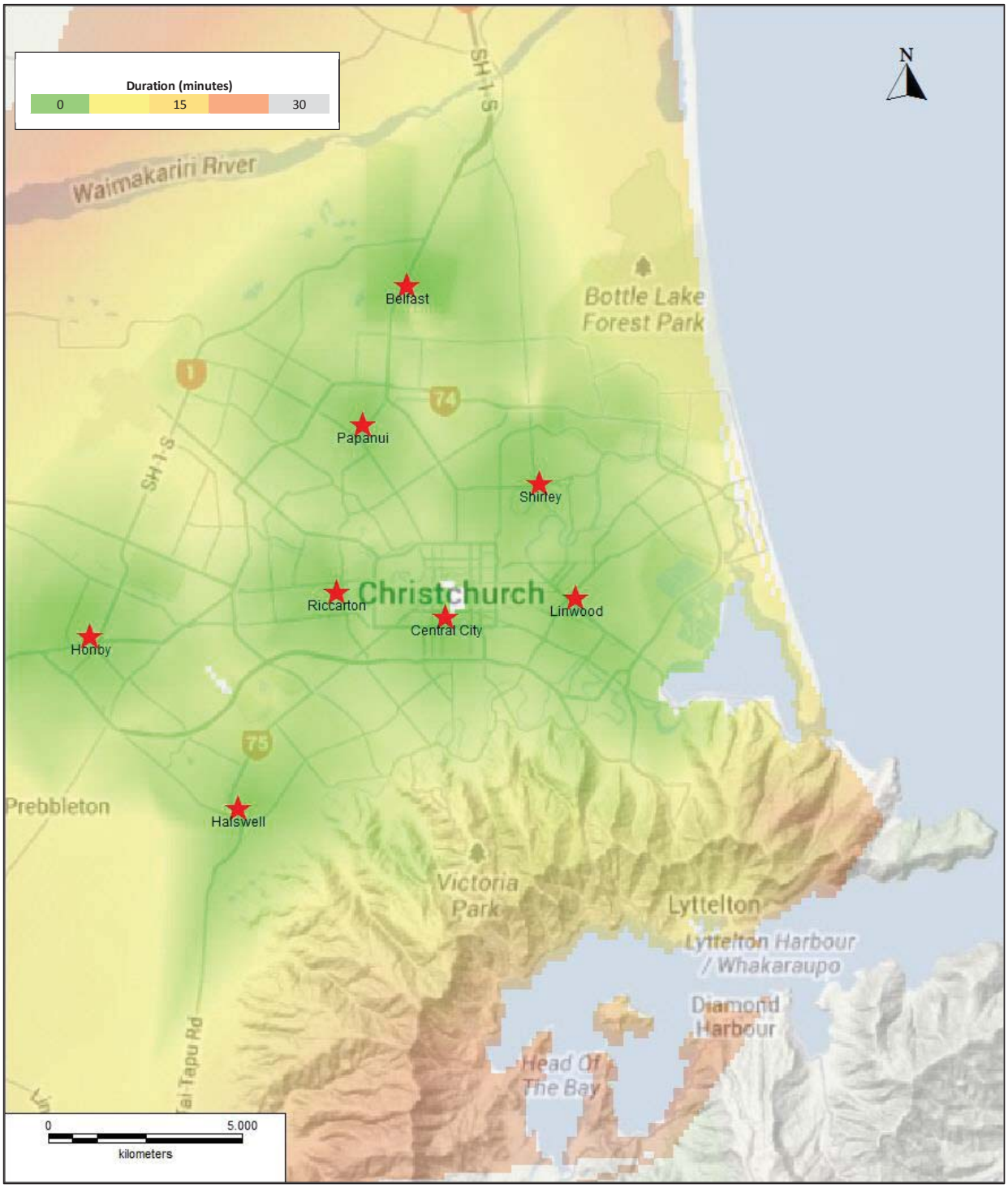


Accessibility to Key Activity Centres by Public Transport

2016 AM Peak

Source: CTMv06 Travel Times with QTP Accessibility Interface

6 September 2013

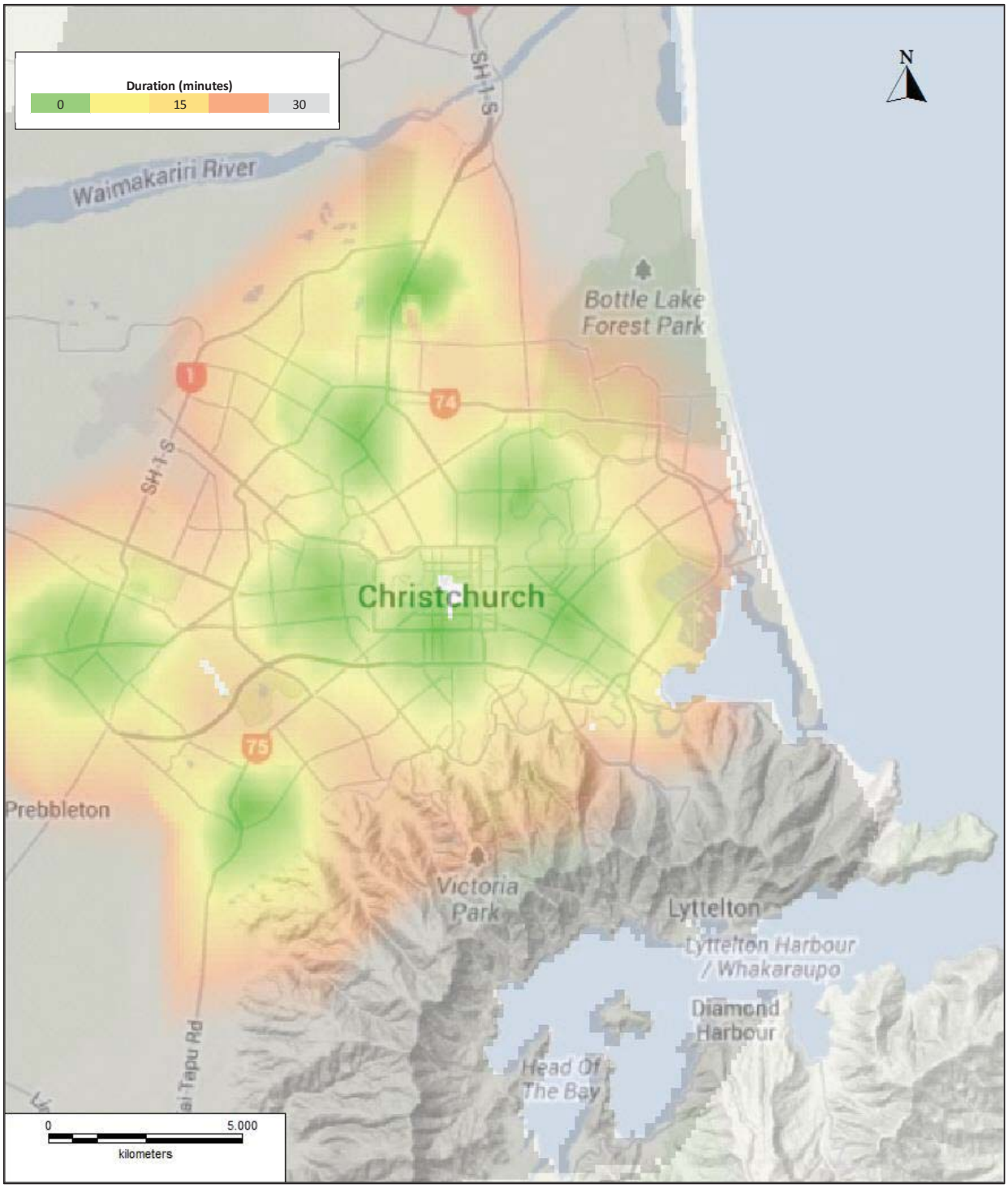


Accessibility to Key Activity Centres by Private Vehicle

2016 AM Peak

Source: CTMv06 Travel Times with QTP Accessibility Interface

6 September 2013

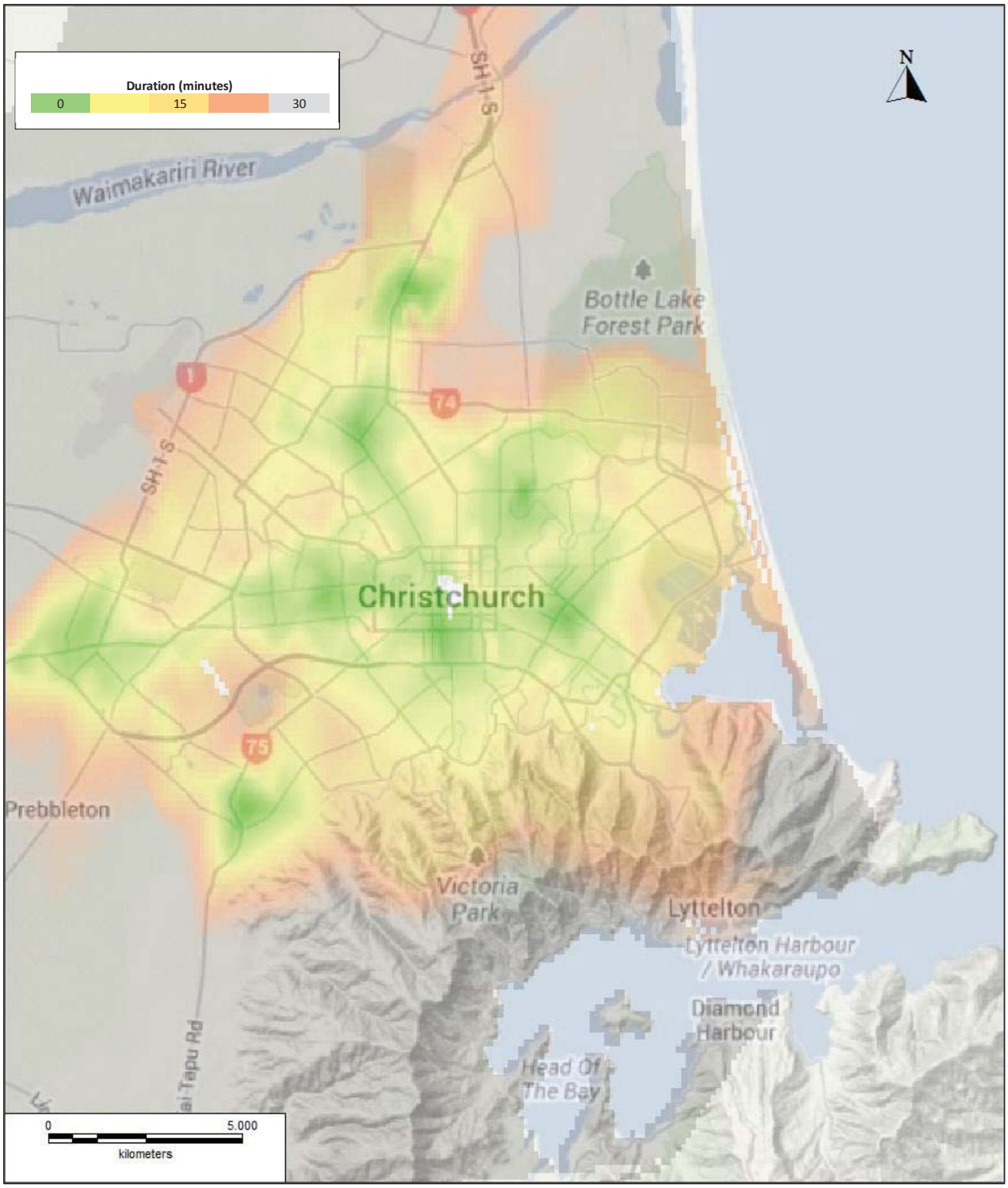


Accessibility to Key Activity Centres by Cycle

2016 Inter Peak

Source: CTMv06 Travel Times with QTP Accessibility Interface

6 September 2013

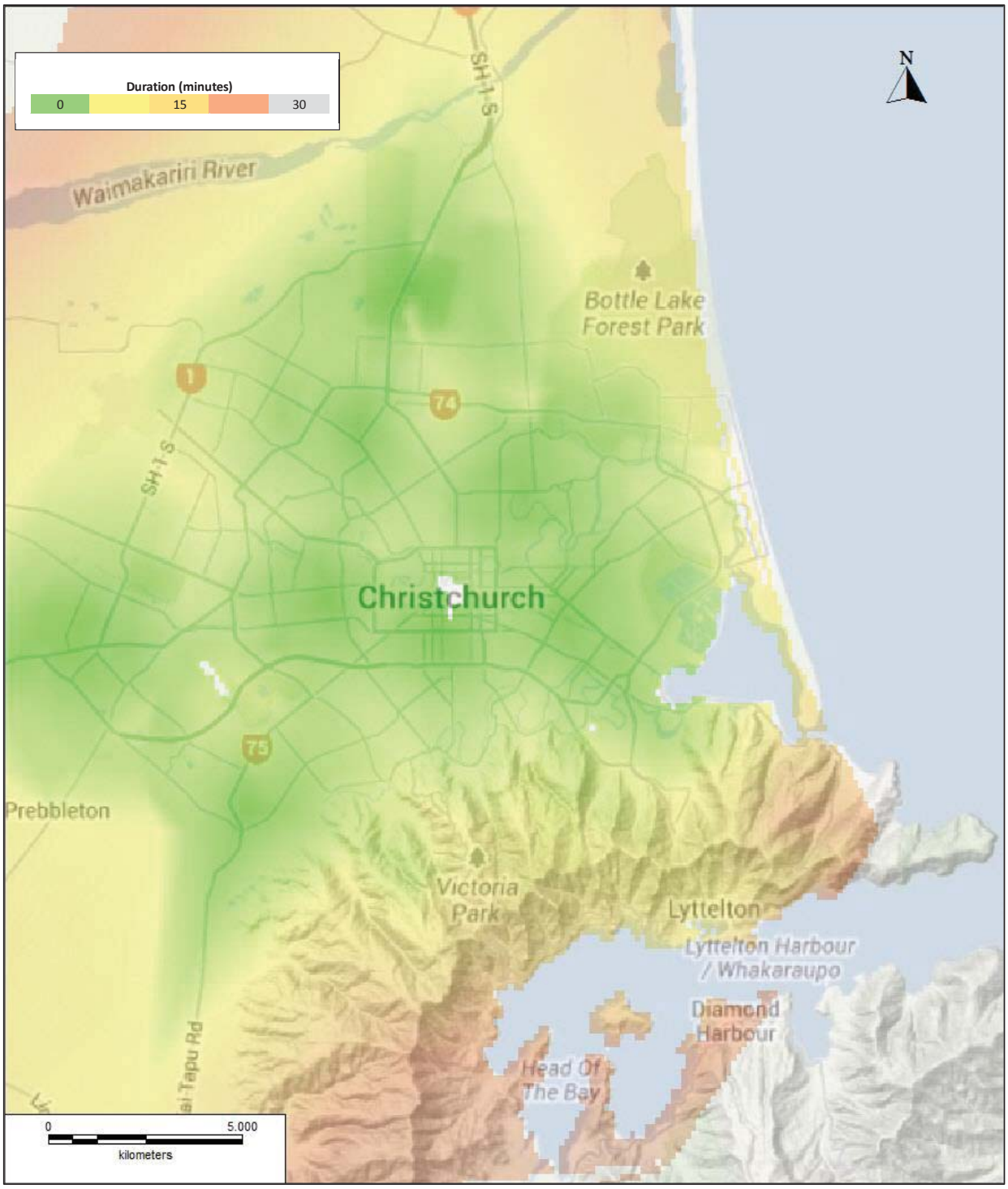


Accessibility to Key Activity Centres by Public Transport

2016 Inter Peak

Source: CTMv06 Travel Times with QTP Accessibility Interface

6 September 2013



Accessibility to Key Activity Centres by Private Vehicle

2016 Inter Peak

Source: CTMv06 Travel Times with QTP Accessibility Interface

6 September 2013

4.3 Appendix D – Construction Assessment

While it is acknowledged that construction work is an inevitable part of the development process, it is important that the transport effects are minimised. For developments requiring a significant level of construction it may be appropriate to consider the transport related impacts associated with the construction process. Such developments may generate a significant effect on the transport network as a result of two issues: increased traffic resulting from the delivery of construction materials and, due to the weight of construction vehicles, an increased amount of wear and tear on the road surface or an increase in loads carried by the structure of the road.

There is considerable congestion on parts of Christchurch's transport network and the rebuild is adding a large number of construction related trips. It is important that construction related trips are managed effectively to improve network efficiency, particularly at peak times. Improved management of construction movements will also minimise adverse effects for adjacent land uses. Avoiding use of local roads, unless necessary, and moving heavy vehicles outside of peak hours will benefit the city and the road network.

The construction assessment for an ITA should focus on the construction movements at a strategic level. Traffic Management Plans (TMP's) mitigate the operational effects on the transport network. However the TMP process does not consider the wider network effects of construction traffic.

Where a construction assessment has formed part of an ITA then any TMP will incorporate the agreed provisions of the construction assessment.

Issues which may be considered as part of a construction assessment may include, but are not limited to;

- An indication that construction traffic will use the appropriate network for journeys to the development. Where a development is not located on a strategic network then there should be an indication of how the road classification will be used for the final phase of journeys. This should include preferred route maps for construction vehicles which use the strategic freight network and include site access routes. To protect network efficiency, site access should occur on minor roads.
- An agreement that, where appropriate, construction movements occur outside peak times. If the amount of construction movements is known then this should also be included.
- The likelihood of any road closures during the construction period.
- Identification of opportunities to consolidate construction trips into the city, which may include:
- using a consolidation centre outside the city
- combining deliveries with neighbouring sites by sharing vehicles or sharing loads
- using pre-fabricated materials

Land Information New Zealand (LINZ), in collaboration with ECan, NZTA and the Council, has developed the Forward Works Viewer (FWV) to reduce the effects of construction traffic by ensuring that, where possible, the need for road closures is co-ordinated with neighbouring sites. By understanding the likely timing of construction we can better manage its effects. By engaging with the FWV system at the earliest opportunity, the TMP process is likely to be less problematic. The LINZ system can be a useful tool even when exact construction periods are not yet known.

forwardworks.co.nz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